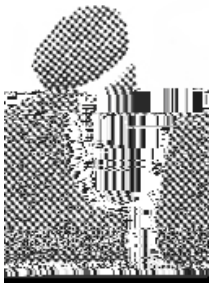
Guide To
Flood Protection
In Northeastern Illinois



Important Numbers

Police and fire emergencies: **911** Gas hazards: 1-888/642-6748 (1-888/NICOR4U)

Ambulance: **91**1 Electrical hazards: 1-800/334-7661 (1-800/EDISON-1)

Family meeting place after a flood: _____

Insurance agent: _____

Homeowner's insurance: Company: _____ Policy No. _____

Flood insurance: Company: _____ Policy No. _____

Neighbors: _____

_____

How to use this Guide

What's your situation now?

- Has a **flood watch or warning** just been issued or do you see flooding start? If so, go to Section 5, "During a Flood" on page 17. Later on, read section 6 on "After A Flood" to prepare for when you go back to your flooded property.

- Have you **just been flooded?** If so, start with section 6 "After A Flood" on page 20. Then look through the rest of this .

- If you're not in a rush and want to know **how to protect yourself from the next flood**, start on page 2.

If you would like more information on flood protection, visit the following websites:

- www.floods.org
- www.IllinoisFloods.org
- www.louisianafloods.org (although in Louisiana, it has many useful links)

Contents

People die of heart attacks, especially from exertion during a flood fight. Electrocution is a cause of flood deaths, claiming lives in flooded areas that carry a live current created when electrical components short out. Floods also can damage gas lines, floors, and stairs, creating secondary hazards such as gas leaks, unsafe structures, and fires.

Health: Floodwaters carry whatever was on the ground that the upstream runoff picked up, including dirt, oil, animal waste, and lawn, farm and industrial chemicals. Pastures and areas where cattle and hogs are kept can contribute polluted waters to the receiving streams. Overloaded sewer lines back up into low lying areas and some homes. Even though diluted by flood waters, raw sewage can be a breeding ground for bacteria, such as e coli, and other disease causing agents.

Another type of health problem comes after the water is gone. Stagnant pools become breeding grounds for mosquitoes, and wet areas of a building that have not been cleaned breed mold and mildew. A building that is not thoroughly and properly cleaned becomes a health hazard, especially for small children and the elderly. Another health hazard occurs when heating ducts in a forced-air system are not properly cleaned after inundation. When the furnace or air conditioner is turned on, the sediments left in the ducts are circulated throughout the building and breathed in by the occupants.

Buildings: Due to the relatively low velocities and shallow flood depths in the area, the most common type of building damage in

3. Flood Protection Laws

Development in floodprone areas is development in harm's way. New construction in the floodplain increases the amount of development exposed to damage and can aggravate flooding on neighboring properties.

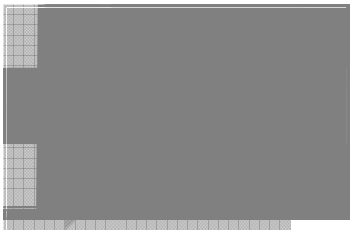
Development outside a floodplain can also contribute to flooding problems. Stormwater runoff is increased when natural ground cover is replaced by urban development. Development in the watershed that drains to a river can aggravate downstream flooding, overload the drainage system, cause erosion, and impair water quality. Accordingly, most communities have enacted several ordinances to protect people from activities that may cause flooding or drainage problems.

- **Before you build on, fill, alter, or regrade** your property, always check with your building department. A permit is probably needed to ensure that such projects do not cause problems on other properties.
- **Do not dump or throw anything into the storm sewers, inlets, ditches or basins**. Dumping in ditches, storage basins, and wetlands is a violation of local codes.
- **Every piece of trash** can contribute to flooding. Even leaves, grass clippings and branches can accumulate, plug storm drain inlets and channels, or kill vegetation and contribute to erosion. If your property is next to a ditch or storage basin, do your part and keep the banks clear of brush and debris.
- **If you see dumping or debris** in the ditches or basins, filling or construction near property lot lines, or filling or construction in a mapped floodplain without a permit sign posted, contact your building department. The debris or project may cause flooding on your property.

New buildings in the floodplain must be protected from flood damage. Local laws require that the lowest floor (including basement) of new residential buildings must be elevated above the base (or 100-year) flood level. There are additional local and state restrictions on filling, grading or building in a mapped floodway.

Local codes also require that substantial improvements to a building be treated as a new building. A substantial improvement is when the value of an addition, alteration, repair or reconstruction project equals or exceeds 50% of the value of the existing building. In the case of an addition, only the addition must be protected. In the case of an improvement to the original building, the entire building must be protected.

For example, if a house in the floodplain is flooded, has a fire, is hit by a tornado, or is otherwise damaged so that the value of the repairs equals or exceeds 50% of the value of the building before the damage, then the house must be elevated above the base flood level. In some communities, improvements are cumulated, so small projects add up to 50% over time.



Dry Floodproofing

This term covers several techniques for sealing up a building to ensure that floodwaters cannot get inside it. For dry floodproofing, all areas below the flood protection level are made watertight. Walls are coated with waterproofing compounds or plastic sheeting. Openings (doors, windows, and vents) are closed, either permanently, with removable shields, or with sandbags. Many dry floodproofed buildings do not look any different from those that have not been modified.

Dry floodproofing is only appropriate for buildings on concrete slab floors (without basements) and with no cracks. To ensure that the slab is watertight and sound, an engineering analysis is recommended.

The maximum flood protection level is two feet above the slab (see below, left). The walls and slab floor were not built to withstand the type of pressures exerted by deeper water. It is smarter to let deep water into your house than to risk losing your walls or floor (see below, right).

These walls were sealed with plastic sheeting covered by brick facing for projection from sunlight and punctures.

Dry floodproofing is not recommended for keeping surface water out of a basement. The water pressure can break the walls and floor.

Precautions: It is very tempting for the owner of a dry floodproofed building to try to keep the flood out if floodwaters get deeper than two or three feet. This can result in collapsed walls, buckled floors, and danger to the occupants.

It is difficult to waterproof a crawl space to protect it from underseepage. Basements should not be dry floodproofed to protect them from surface flooding because of the water pressure on the walls and floors. See page 14 on the basement protection berm for an alternative approach.

Many commercial waterproofing compounds are made to protect wood from rain, but they will not withstand the pressures of standing water. Some deteriorate over time, so check with the supplier to be sure the waterproofing compound is appropriate for sealing your basement walls from water. Installing closures and seals over doors and windows requires enough warning and having someone at the building who knows what to do.

Wet Floodproofing

Wet floodproofing means letting the water in and removing everything that could be damaged by a flood. There are several ways to modify a building so that floodwaters are allowed inside, but minimal damage is done to the building and its contents. These techniques range from moving a few valuable items to rebuilding the floodprone area.

In the latter case, structural components below the flood level are replaced with materials that are not subject to water damage. For example, concrete block walls are used instead of wooden studs and gypsum wallboard. The furnace, water heater, and laundry facilities are permanently relocated to a higher floor. Another approach

Basement Problems: Cracks

Groundwater can seep into your basement around pipes or through cracks in the walls or floor. This may be difficult to determine if the walls have been covered with paneling or other finishing. The best way to deal with a groundwater problem is to waterproof the walls and relieve the water pressure through a footing drain system and sump (see previous page). Footing drains are typically installed around the perimeter of the house, along the foundation. If this is not possible, drains can be installed on the interior of the basement, along the basement walls, and directed toward the sump pump pit.

Cracks can be repaired and the walls can be waterproofed from inside or outside. Waterproofing on the outside is more effective because groundwater pressure forces the sealer into the foundation. The best technique is to dig a ditch around the basement wall so that you can apply an epoxy sealant to the exterior walls. This can be done by the handyperson (many home maintenance manuals have instructions for this) or a commercial waterproofing company.

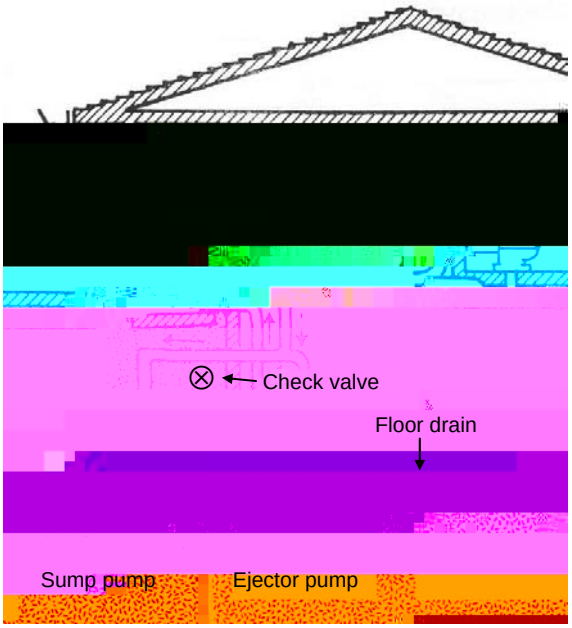
Precautions: Waterproofing alone is only recommended for groundwater problems. Surface

Sanitary Sewer Backup Protection

The next three sections of this focus on protection measures that deal with sanitary sewer

Overhead Sewer: An overhead sewer is generally viewed as the most effective sewer backup protection measure. It acts like a standpipe but without the shortcomings. A sump is installed under the basement floor to intercept sewage flowing from basement fixtures and the basement floor drain. An ejector pump in the sump pushes sewage up above the flood level. From there it can drain by gravity into the sewer service line. Plumbing fixtures on the first floor continue to drain by gravity to the service line.

Unless the house is subject to overbank flooding, it is unlikely that the sewers will back up above ground level. If water does go higher, a check valve in the pipe from the ejector pump keeps it in the pipes. Backed up sewage is enclosed in the sewer pipes and doesn't overflow laundry tubs or basement toilets.



Overhead sewer arrangement

Although more dependable than a standpipe, an overhead sewer is more expensive. A plumbing contractor must reconstruct the pipes in the basement and install the ejector pump. It can cost $3,000 – $7,000.

Precautions: The ejector pump requires electricity to work, so battery backups are recommended. The basement is disrupted during construction and the ejector pump needs periodic maintenance. **This work requires a licensed plumber and a permit from your building department.**

Sewer Backup Valve: A backup valve stops the water in the sewer pipes. While not as foolproof as an overhead sewer, their installations are less disruptive of the basement.

Older versions of this approach were located in the basement floor and relied on gravity to close the valve. If debris got caught in the flapper, the valve did not close tight. Because of its unreliability, valves were discouraged and even prohibited in some communities. Today's systems are more secure. They include installing two valves in line, using better, more watertight materials, or counterweights that keep the valve open all the time so debris won't catch and clog it.

Larger valve systems are usually installed in a manhole in the yard, well away from the basement wall, so there is less disruption during construction and no concerns over breaking the pipes under the basement floor. The cost of this type of backup valve is comparable to the cost of an overhead sewer, in the $4,000 – $6,000 range.

Precautions: The ejector pump and the valve require maintenance. **This work requires a licensed plumber and a permit from your building department.**

Basement Protection Berm

Basements and the lower floors of split levels can be protected from surface water by construction of low walls around stairwells or using backfill. Waterproofed walls, sewer backup

Dealing with Contractors

Most building departments in northeastern Illinois require that certain work be done only by licensed contractors. Building departments usually have a register of licensed contractors, listed by their areas of expertise.

If you have been satisfied with work done by licensed local contractors, try them first. If they cannot help you, ask them for recommendations. If you must hire a contractor you do not know, talk to several contractors before you sign anything. Reputable contractors agree that you should take the following steps:

- Check several firms and their reputations: The Better Business Bureau, Home Builders Association, or building trades council are excellent sources.

- Look out for "special deals" or contractors who want to use your home as a "model home."

- Ask for proof of insurance: Worker's compensation and general liability insurance are essential. If the contractor is not insured, you may be liable for accidents on your property.

- Ask for references: Contractors should be willing to provide names of previous customers. Call some of the customers and ask if they would hire the contractor again.

- Ask for a written estimate and check it carefully.

- Ask for a contract: Never sign a blank contract or one with blank spaces. If a lot of money is involved, it may be worth your while to have the contract reviewed by a lawyer.

- Avoid cash payments: Beware if you are asked to pay cash on the spot instead of a check made out to the contracting company. A reasonable down payment is 10%–30% of the total cost of the project.

- Don't sign off before the job is finished: A reputable contractor will not threaten you or pressure you to sign if the job is not finished.

- Get your permits: Most plumbing work, home improvements, filling, fences, and other yard work require a permit from your building department to be sure that it meets code and will not cause a drainage problem on your neighbors.

- Get your inspections: When the project is finished make sure your contractor calls you and the building department to inspect work before it is covered over. Some will be hidden from view and you won't know if there is a problem until the next flood.

- Get help: If you are a victim of fraud or have problems with a less than reputable contractor, check with the Illinois Attorney General's Consumer Protection Division (312/345-2400 or www.illinoisattorneygeneral.gov/consumers/index.html). Your building department would also like to know of problems in case it needs to revoke a license.

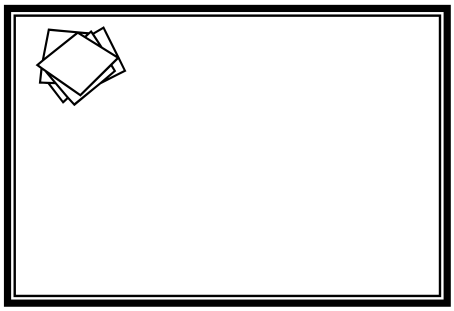
Insurance

Flood insurance: Flood insurance is highly recommended. Remember, even if the last storm or flood missed you and even if your home has been floodproofed, the next flood could be worse. Most homeowners insurance policies do not cover property for flood damage.

Almost all of the communities in northeastern Illinois participate in the National Flood Insurance Program. Local insurance agents can sell a flood insurance policy under rules and rates set by the Federal government. Any agent can sell a policy and all agents must charge the same rates.

Any house can be covered by a flood insurance policy. It does not matter if it is in the mapped floodplain or out of it. Detached garages and accessory buildings are covered under the policy for the lot's main building. Separate coverage can be obtained for the building's and for its (except for money, valuable papers, and the like). The generally includes everything that stays with a house when it is sold, including the furnace, cabinets, built-in appliances, and wall-to-wall carpeting.

There is no coverage for things outside the house, like the driveway and landscaping. Renters can buy contents coverage, even if the owner does not buy structural coverage on the building.



Some people have purchased flood insurance because it was required by the bank when they got a mortgage or home improvement loan. You may only have structural coverage (because that's all that banks require). During the kind of flooding that happens in northeastern Illinois, there may be more damage to the furniture and contents than there is to the structure.

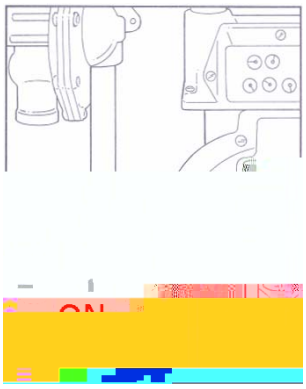
Sewer backup insurance: Several insurance companies have sump pump failure or sewer backup coverage that can be added to a homeowner's insurance policy. Each company has different amounts of coverage, exclusions, deductibles, and arrangements. Most are riders that cost extra. Most exclude damage from surface flooding that would be covered by a National Flood Insurance policy. The cost varies from nothing to up to about $75 for a rider on your homeowner's premium.

Basements, split levels and bilevels: There is limited coverage for basements and the below grade floors of bilevels and trilevels. The National Flood Insurance Program defines "basement" as "any area of the building, including any sunken room or sunken portion of a room, having its floor below ground level (subgrade) on all sides." This includes split levels and bilevels.

Coverage under building or structural coverage is limited to specific items needed for the operation of the building, such as a furnace, water heater, clothes washer and dryer. There is very limited coverage for finishings, such as wallpaper and carpeting, and contents. Flood insurance only covers damage when there is a general condition of surface flooding in the area.

5.

Gas: Floodwaters may knock out pilot lights and silt may get into burners. To prevent a fire and safety hazard, you should turn off the gas before you leave. There is a valve next to the gas meter. If the valve handle is parallel to the pipe, the gas is on. You may need a pair of pliers or a wrench to turn the valve. Turn it 90 degrees (a quarter turn) so the handle is perpendicular to the pipe to shut the gas off.



To turn off the gas

1. There is a valve next to the gas meter. If it is parallel to the pipe, the gas is on.
2. Use pliers or a wrench and turn it 90 degrees.
3. To be sure the gas is off, write down the numbers on all the dials on the meter.
4. Check the dials at least 5 minutes later. If the numbers have changed, the valve is not closed.

Most gas meter valves have a hole in the handle that lines up with a hole in the valve body when the gas is shut off. This hole is used by the gas company to lock or seal the valve closed when the building is vacant. When the holes are lined up, you know that the gas supply has been shut off. If you have any doubts, play it safe and call your gas company.

Fuel oil tanks: If you have a fuel oil or propane tank, turn off the fuel valve at the tank.

Gas or oil leaks: Check for leaky fuel pipes by smelling for gas. A chemical that has a disagreeable, distinctive odor is added to natural gas and propane to tell you if there is a leak. If you have any doubts, have a professional check for you. Do not use open flames.

Make sure the valve that leads to each appliance is closed. If you find any pipes that moved or any area that smells like gas, brush soapy water on each pipe connection (as illustrated). The pressure in the pipes will make bubbles appear where there is a leak.

If you find a leak, turn off the gas. Unscrew the pipe connection, clean the joint, and apply pipe joint compound or pipe tape (available at hardware stores) on the threads. Screw the pieces back together tightly. Turn on the gas and check the connection again with soapy water. If you have a leak, or you are not sure your system is safe, turn off the gas and call a professional immediately.

If you find any pipes that smells like gas, brush soapy water on each pipe connection. The pressure in the pipes will make bubbles appear where there is a leak.

Water. Since your water faucets are usually turned off, you shouldn't have to worry about turning all the water to the house off. However, if your washing machine is in the basement, or if the floodwaters around your house could be several feet deep, the floodwaters could get into the water lines through the appliances. If you have the time, turn off the water to the house. There should be a valve near the water meter, similar to a faucet knob. Turn it all the way clockwise.

6. After a Flood

If you've been flooded, your home and its contents may look beyond hope, but many of your belongings can be restored. If you do things right, your flooded home can be cleaned up, dried out, rebuilt, and reoccupied sooner than you think.

You should get a copy of (ARC4477), published jointly by the American Red Cross and the Federal Emergency Management Agency. Copies of the book are available free from your local Red Cross chapter or you can see it at www.redcross.org/services/disaster/ (go to "after a disaster," then "floods").

Here are some of the first things you can do after a flood. The next steps are explained (along with more details) in .

Ask for help. Many people can do a lot of the clean up and repairs discussed in this guide. But if you have technical questions or do not feel comfortable doing something, get professional help. If there is a federal disaster declaration, a telephone "hotline" will often be publicized to provide information about public, private, and voluntary agency programs to help you recover.

Step 1. Take Care of Yourself First

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Step 2. Give Your Home First Aid

Read the safety precautions on the back cover of this guide. Each year about 150 people die because of floods. Many of those fatalities are due to electrocution or other accidents that occur

Steps to File Your Flood Insurance Claim

Step 1. Contact your agent to report your loss: Have ready the name of your insurance company (your agent may write policies for more than one company), policy number and a phone number and/or e-mail address where you can be reached. If you get in touch with your agent or company representative directly, they will advise you how to file your notice of claim. Otherwise, you must send a written notice to your insurance company with your policy number.

Step 2. Separate your property: Your policy requires you to separate damaged property from undamaged property. But don't throw anything away before an adjuster has seen it. If local officials require damaged items to be thrown out, take photos before disposing of them and keep samples for the adjuster to see (for example, cut out a piece of wall-to-wall carpet). Do all you can to protect undamaged property.

Step 3. Make a list of damaged contents: If you have contents coverage, make a list of damaged property. List the quantity of each item, a description, brand name, where purchased, its cost, model and serial number (if appropriate) and your estimate of the loss amount. Attach your bills, receipts, photos and any other documents.

Step 4. List areas of structural damage: As you look over your property, make a list of any areas of structural damage you want to point out to the adjuster. If you have damage estimates prepared by one or more contractors, provide them to the adjuster since they will be considered in the preparation of your repair estimate.

When the adjuster comes: Generally, your adjuster will contact you within 48 hours after receiving your notice of loss. However, depending on local conditions and the severity of flooding, it may take more time. Once the adjuster reaches you, a time will be set for the adjuster to view your property.

During the visit to your property, the adjuster will take measurements and photographs and note the flood damage. This is called "scoping" a loss. Your adjuster will be an experienced claims professional and will notice many points of damage you could overlook. However, you are encouraged to point out all damage you have noticed.

The adjuster uses the knowledge gained from the visit(s) − and the documentation you provided − to complete a detailed estimate of damage. You will get a copy. You may ask the adjuster for an advance or partial payment. If you have a mortgage, your mortgage company will need to sign to sign building property advance check.

Your official claim for damage is called a Proof of Loss. It includes a detailed estimate to replace or repair the damaged property. It must be fully completed, signed, and in the hands of your insurance company within 60 days after the loss occurs. In most cases, the adjuster, as a courtesy, will provide you with a suggested Proof of Loss. However, you are responsible for making sure that it is complete, accurate and filed in a timely manner. Be sure to keep a copy of the Proof of Loss and all supporting documents for your records.

Flood Safety

Outdoors

Do not walk through flowing water. Drowning is the number-one cause of flood deaths. Currents can be deceptive; six inches of moving water can knock you off your feet. Use a pole or stick to ensure that the ground is still there before you go through an area under water.

Do not drive through a flooded area. More people drown in their cars than anywhere else. Don’t drive around road barriers; the road or bridge may be washed out. A car can float in as little as two feet of water (see page 2).

Stay away from power lines and electrical wires. The number two flood killer after drowning