READY! SET! GO !

FLOOD PREPARATION

Prepare for Flooding Before it Occurs!

Floods are the most common natural disaster in the United States. In fact, flooding causes more than $2 billion in property damage every year.

Flooding is caused by a number of factors, but the two main concerns are rainfall intensity and duration. Intensity refers to the rate of rainfall, and duration is how long it rains.

During periods of intense rain – or extended periods of steady rain – even the smallest streams, creek beds or drains can overflow and cause flooding. Even if you live in a place where flooding is not typical, remember that anywhere it rains, it can flood.

Certain conditions, such as topography, new construction or erosion, can cause flooding to occur. In areas where it wasn't previously present. Areas near recent wildfires are particularly susceptible to flooding due to the loss of vegetation on the hillsides and natural waterways that become clogged with ash and debris.

The best preparation for possible flooding is to plan ahead. This brochure will show you some of the things you can do to protect your home, property and family. There are three simple steps you can take to help protect your home from floodwaters and debris: ***Ready, Set, and Go!***

READY – will teach you what you can do to prepare before flooding occurs. **SET** – will show you what to do if flooding is imminent. **GO!** – will give you the information you need to safely evacuate.

SAN BERNARDINO COUNTY FIRE
Public Information Office: 909-387-5950
Email: info@sbcfire.org
Website: www.sbcfire.org

Follow us on:

READY!

The most effective way to protect your property against flooding is to prepare before it rains. Preparations can consist of very simple home maintenance but, depending on your circumstances, may involve the construction of permanent drainage systems, walls or other measures to divert water, mud or debris.

Leaves and debris can clog drains and cause flooding. Clear drain areas around your home before the rain starts. Check curbside gutters and drains and, if they are clogged, alert local officials or other responsible parties.

Clear leaves and debris from gutters and check your roof for leaks.

How to Get Ready:

- If you live in a flood-prone area, consider making permanent changes to your home such as constructing retaining walls and raising your furnace and electrical panel above potential flood levels.
- Assemble an emergency supply kit as recommended by the American Red Cross.
- Go to www.sbcfire.org to sign up for Telephone Emergency Notification System (TENS) alerts.
- Consider purchasing flood insurance. Many homeowner policies do not cover flood damage.
- Create a list of items to take with you if you are asked to evacuate. In addition to your emergency supplies, consider items such as: keys, cash and credit cards; photos; insurance papers; computers; prescriptions; and pet supplies.
- Clear debris from roof gutters, downspouts and drains so water can flow and drain properly.
- Have a supply of sandbags and other flood prevention materials such as plastic sheeting, plywood and tarps.
- Check the roof for leaks or damage. Pay special attention to areas where separation could occur, such as around the chimney.

Floods After Wildfires:

Wildfires dramatically alter the natural landscape by removing vegetation and exposing soil to wind and rain. These changes substantially increase the risk of flash floods and debris flows, even in areas not usually prone to these hazards.

Normally, grasses, shrubs and trees slow rainfall and improve soil absorption. Leaf litter further protects the soil from erosive rainfall. Wildfires burn vegetation and leaf litter to ash, leaving the soil exposed and less able to absorb rain. The result is increased runoff which can produce flash floods and debris or mud flows. Creeks and streams can be easily overwhelmed by these flows, as can streets and homes located below hillsides. The increased flood risk may last five years or more until the vegetation is restored.

After a fire, vegetation that normally absorbs water is gone. Ash and debris can wash down and clog drainages causing flooding in areas below the fire.

Properly installed erosion control along slopes, or the installation of small diversion berms, can slow or redirect flows away from homes and streets. Planting or seeding areas which supported native vegetation does not increase the vegetation recovery rate.

In non-native landscaped areas, property owners may replace vegetation with appropriate fire-resistant, non-invasive plants. A local landscape professional can make recommendations for your particular area.

For more information on flooding and flood preparation:

San Bernardino County Fire: www.sbcfire.org
San Bernardino County Department of Public Works: www.sbcounty.gov/dpw/floodcontrol/default.asp
National Weather Service: http://www.wrh.noaa.gov/sgx/
Federal Emergency Management Agency (FEMA): www.ready.gov/floods
National Flood Insurance Program: www.floodsmart.gov

S E T !

When heavy rain has been forecast – or when heavy, steady rain is falling – monitor the news media, websites and social media sites for updated weather conditions. Practice "situational awareness." Know and understand what is going on around you so that if conditions worsen you can take the necessary actions to protect your home and family.

FLOOD TERMINOLOGY

FLOOD WATCH	Flooding is possible in your area.
FLOOD WARNING	Flooding in your area is imminent or already occurring.
FLASH FLOOD	A sudden, violent flood. Flash floods often come as a wave.

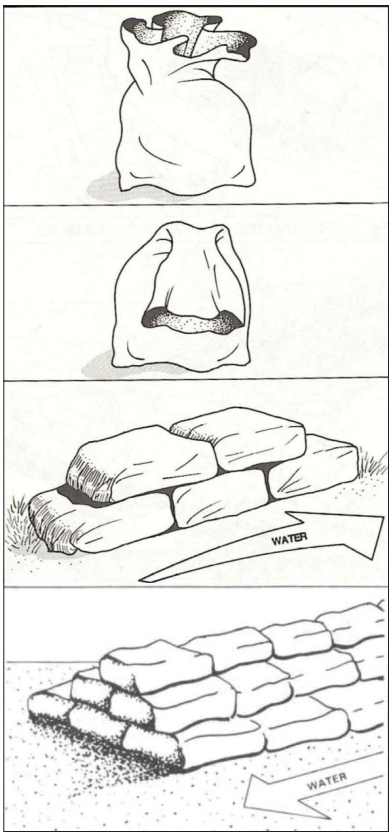
How to Get Set:

- Gather emergency supplies, evacuation items and review evacuation routes in case you are asked to evacuate.
- Be aware that flash flooding can occur during periods of heavy or extended rain. If there is any possibility of a flash flood in your area, move immediately to higher ground. Do not wait for an evacuation order.
- Fill the gas tanks in your vehicles.
- Bring in outside furniture that could be carried away by floodwaters.
- Move furniture and other valuables to high points – upper floors if possible – in your home.
- Fill and place sandbags if necessary.
- Monitor gutters, drains and other areas that could cause flooding. Clear away debris immediately to prevent clogging or damming.

Sandbags

Properly placed sandbags will redirect water, mud and debris but they will not completely seal out water. Sandbags should be used for low-flow protection (up to about two feet). San Bernardino County fire stations maintain only a limited supply of sandbags to be used during an emergency. Homeowners should not depend on that supply. Sand and sandbags can also be purchased at many home improvement and hardware stores. Purchase sandbags early and make them a part of your emergency supplies so they will be available if you need them.

- When possible, use close-weave burlap bags as sandbags.
- Fill sandbags half-full. Use sand if it is available, but any local soil may be used.
- Remove debris and obstructions from the area where the sandbags will be placed.
- When placing sandbags, fold the top of the sandbag down and rest the bag on its folded top.
- The half-filled bags should be placed lengthwise and parallel to the direction of the water flow. Step on the bags as they are placed to eliminate gaps.
- Place the sandbags to redirect water, mud or debris, not dam it.
- Do not place sandbags directly against the outer wall of a building. Wet bags can create added pressure on the foundation.
- Sandbags should be placed in staggered layers. Limit the layers to three unless the sandbags are braced or stacked in pyramids (see diagrams).
- It takes time to construct a wall of sandbags. Plan ahead! It is much easier to place sandbags before you are dealing with heavy runoff.



How Many Bags Do I Need?

For 100 lineal feet of a sandbag wall:

- One foot high: 600-800 bags, 10-13 cubic yards of sand
- Two feet high: 1,400-2,000 bags, 23-33 cubic yards of sand
- Three feet high: 2,200-3,400 bags, 37-57 cubic yards of sand

GO!

If flooding occurs, you are safest staying in your home if it is not being affected by floodwaters, mud or debris. If asked to evacuate, do so immediately and proceed to higher ground or an established shelter. If the water rises suddenly and you cannot evacuate, move to the second floor or, if necessary, the roof.

Two feet of water is enough to wash away a passenger vehicle.

During a Flood:

- Remember to take your emergency supplies and valuables.
- When asked to leave, evacuate to higher ground.
- Stay out of floodwaters and avoid moving water. Do not try to walk, swim or drive through moving water. As little as six inches of moving water can knock you off your feet. Two feet of water is enough to carry away a passenger vehicle.
- Stay away from downed power lines and piles of debris.

Do not attempt to walk, swim or drive through moving water or flooded areas as debris can be dangerous.

- Constantly monitor the news media and other information outlets for weather and emergency updates.
- When evacuating, be aware of stream channels, drain channels, canyons and other areas known to flood suddenly. Flash floods in these areas can occur without warning.
- Avoid parking or camping near streams, rivers or creeks. The water may rise very quickly.
- Use a secondary evacuation route if your primary route is blocked by water.

After the Flood

After evacuating, do not return until the flooding has subsided and authorities have reopened the area to residents. Even if you were not asked to evacuate, recently flooded areas can be very hazardous and extreme caution should be used.

- Stay away from areas damaged by floodwaters, mud or debris flows.
- Continue to monitor the media and other sources of information. Additional flooding could occur.
- Do not drive around barriers. Roadways may have been washed out, undermined or otherwise damaged by floodwaters.
- Stay on firm ground. If forced to walk through mud-covered areas, use a stick to gauge the depth of the mud in front of you.
- Avoid standing water. It may be contaminated by oil, gasoline or sewage, or electrically charged by underground or downed power lines.
- Flooding may have caused familiar places to change. Floodwaters can erode roads and walkways. The area may be very slippery and make walking difficult. Flood debris may hide animals, broken glass or other dangerous items.
- Use extreme caution when entering any buildings that were subjected to floodwaters, mud or debris. Floodwaters may have caused hidden damage, affected electrical systems or undermined the foundation.
- Remove wet contents immediately. Clean and disinfect everything that got wet and safely discard anything that actually absorbed flood water.

Do not enter a flooded area until it is safe to do so. Flooding can wash out or undermine roads.

- Throw out any food items that have come in contact with floodwater.
- Assume that drinking water is unsafe until you are told otherwise by authorities.
- Take photos of damage for insurance claims.
- Look for fire hazards: broken gas lines, flooded electrical circuits, etc.
- Cover broken windows, holes in the roof, etc. to prevent further damage.