



CITY OF SAN RAFAEL WINTER WEATHER PREPAREDNESS

Important Phone Numbers

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| EMERGENCY..... | 9-1-1 |
| EMERGENCY INFORMATION HOTLINE..... | 485-5070 |
| To report flooding on San Rafael roads..... | 485-3372 |
| American Red Cross (Marin)..... | 721-2365 |
| CalTrans Highway Conditions..... | 800-427-7623 |
| Pacific Gas & Electric..... | 800-743-5000 |
| NWS 24-hour Weather Information Line..... | 831-656-1725 |

Sandbags

The City of San Rafael provides sandbags to residents at the City's fire stations: (directions to the stations can be found online at www.sanrafaelfire.org)

- Fire Station #1—1039 C Street - *bags only*
- Fire Station #2—210 Third Street - *sand & sandbags*
- Fire Station #4—46 Castro Avenue - *bags only*
- Fire Station #5—955 Point San Pedro Rd. - *sand & sandbags*
- Fire Station #6—650 Del Ganado Road - *bags only*
- Fire Station #7—3530 Civic Center Drive - *bags only*

Bags will be available to the community in the event of potential flooding. Residents are responsible for filling their own sandbags.

What is a flood?

Floods are the most common and widespread of all natural disasters--except fire. Most communities in the United States can experience some kind of flooding during and after winter storms, and heavy thunderstorms. Floods can be slow or fast-rising, but generally develop over a period of days. Winter storms in California can be deadly, causing flooding, flash floods, high coastal surf, and mudslides.

Emergency Information

1. Flood waters can be extremely dangerous. The force of 6 inches of swiftly moving water can knock people off their feet.
2. Roads may be closed because they have been damaged or are covered with water. Barricades are placed for your protection. If you come upon a barricade or a flooded road, go another way.
3. Flash flood waters move at very fast speeds and can roll boulders, tear out trees, destroy buildings, and obliterate bridges. Walls of water can reach heights of 10 to 20 feet and generally are accompanied by a deadly cargo of debris.
4. Cars can easily be swept away in just 2 feet of moving water. If a car stalls in flood water or flood waters rise around a car, it should be abandoned.
5. If you must walk or drive in areas that have been flooded, stay on firm ground. Flooding may have caused familiar places to change by eroding roads or walkways. It can hide debris and be very slippery.
6. Keep listening to the radio for news about what to do, where to go, or places to avoid. Keep a battery-operated radio at home. The all-news station in the San Francisco Bay Area is KCBS, 740-AM and 106.9 FM.
7. Simple weather radios (that broadcast only weather service reports) can be purchased for less than \$25.
8. If water might engulf the gas or electric outlets, turn them off at the meter.

Call 911 only in case of a life threatening emergency or fire. Do NOT call 911 for information.

For additional copies call the San Rafael Office of Emergency Services at (415) 485-3111 or email oes@cityofsanrafael.org.

Don't forget to sign up for our bi-monthly electronic emergency services newsletter at www.sroes.org.

1. Filling Sandbags

Sandbags, when properly filled and placed, will redirect storm and debris flows away from property improvements. Fill sandbags 1/2 full.

Filling bags with sand is recommended if readily available; however, sand is not mandatory, and any local soil may be used.

For a more durable bag with increased effective life, mix 10 parts of sand or soil with one part of cement. The materials can be mixed and placed dry. After all bags are in place, a light sprinkling of water is recommended. This technique is only effective with burlap sandbags and will not work with plastic sandbags.

2. Placing Sandbags

Fold top of sandbag down and rest bag on its folded top (see Fig 1).

It is important to place bags with the folded top toward the upstream or uphill direction to prevent bags from opening when water runs by them.

Care should be taken to stack sandbags in accordance with the illustrations. Place each sandbag as shown, completing each layer prior to starting the next layer. Limit placement to two layers unless a building is used as a backing or sandbags are pyramided (see Figs. 2-8).

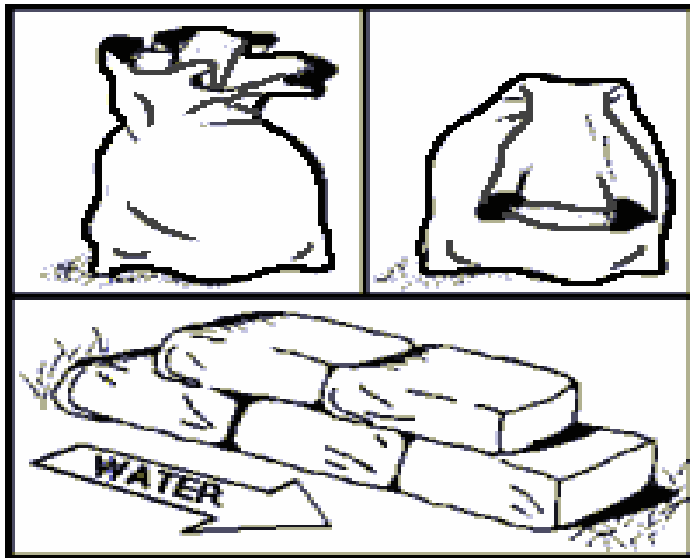


Fig. 1 Sandbag placement

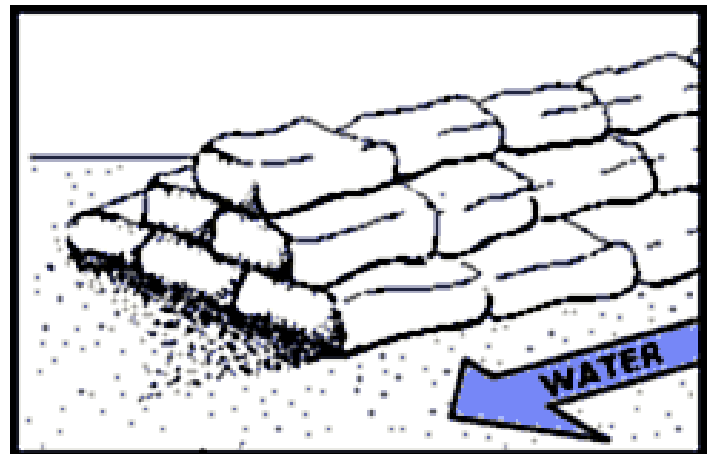


Fig. 2 Pyramid sandbag stacking

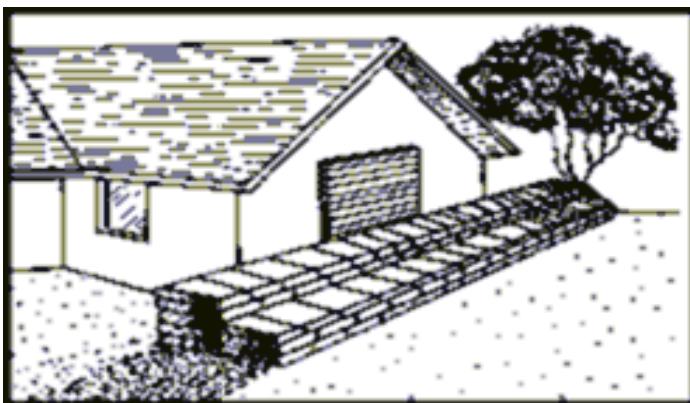


Fig. 3 Sandbag stacking against buildings

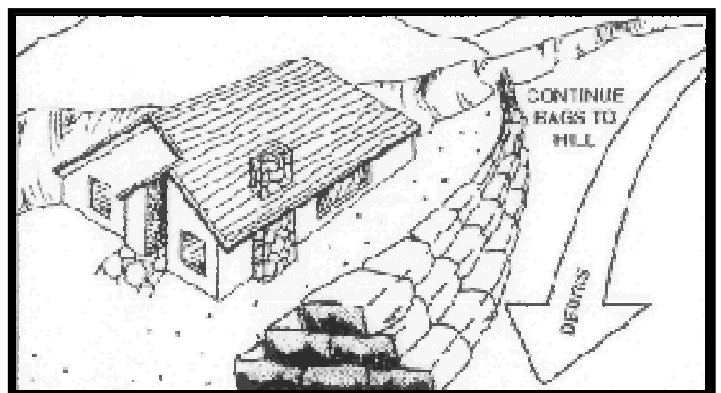


Fig. 4 Directing debris away from building

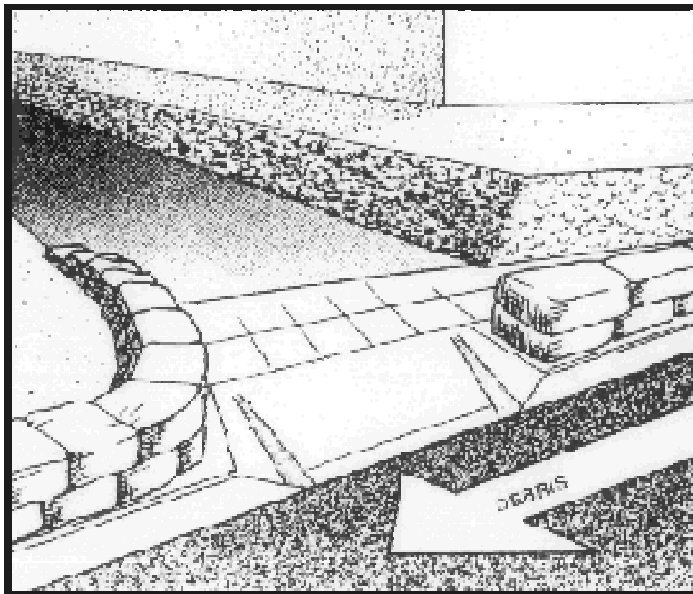


Fig. 5 Controlling debris/storm flows in streets

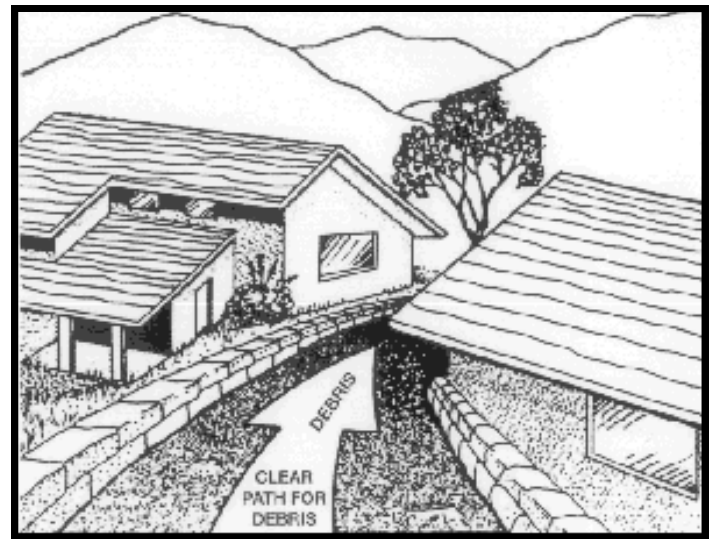


Fig. 6 Directing flows between buildings

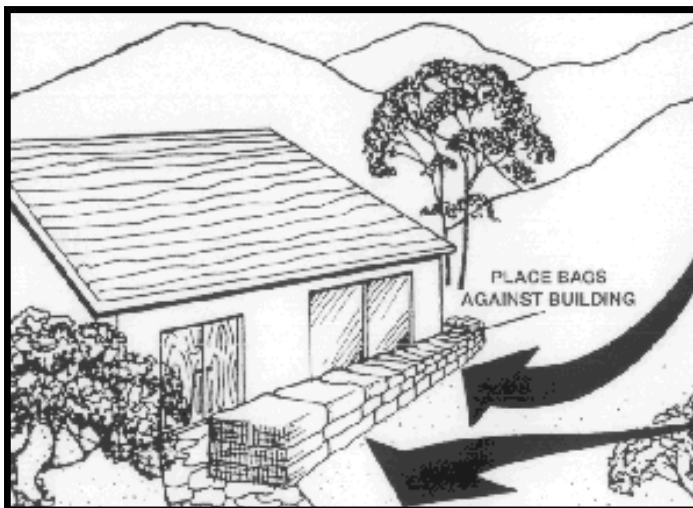


Fig. 7 Building protection

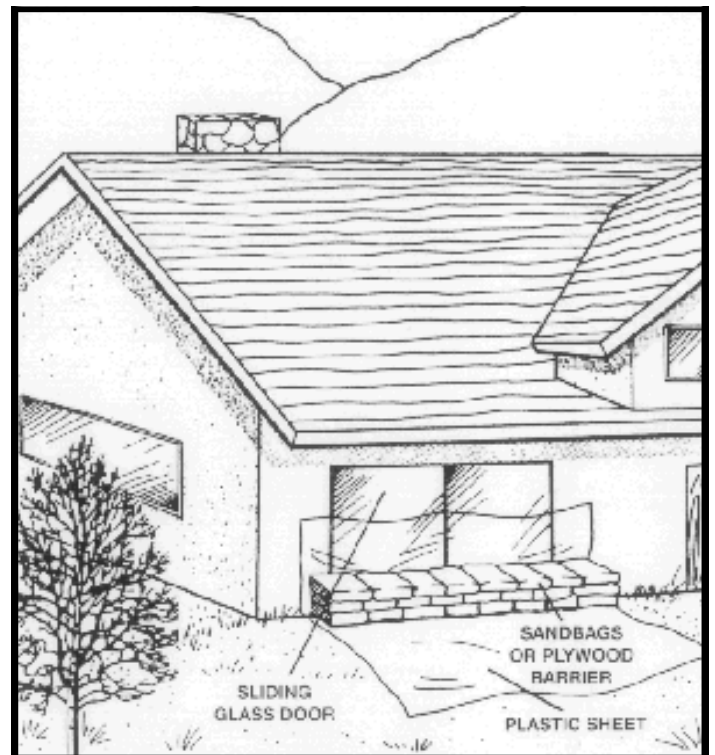


Fig. 8 Sliding glass door sealing

Limitations

1. Sandbags will not seal out water.
2. Sand and soil filled burlap sandbags deteriorate when exposed for several months to continued wetting and drying. If bags are placed too early, they may not be effective when needed.
3. Sandbags are basically for low-flow protection (up to two feet). Protection from higher flows requires a more permanent type of structure.

CAUTION - Do not use straw or bales of hay in lieu of sandbags. They do not perform as well as sandbags and may be washed away.

Preparing for flooding

If you live in a frequently flooded area (or even if you don't):

- ⇒ If your home is in the path of runoff, keep plywood, plastic sheeting, and lumber on hand to divert.
- ⇒ If your property can be protected by sandbags, consider getting sand and bags BEFORE the rainy season and stockpile as many filled bags as you think you may need.
- ⇒ Inspect your property for any signs of erosion. Rain has a way of making small problems become BIG problems. Call the Marin County Stormwater Pollution Prevention Program (485-3363) for a copy of their erosion control brochures: *Tips for the Weekend Warriors* and *Repairing Streambank Erosion*.
- ⇒ Rake up and bag leaves as often as possible and ESPECIALLY before storms. Leaves clog up the storm drain inlets and are a principal source of most flood occurrences.
- ⇒ Clean all drains around your home, including roof gutters and downspouts, drain inlets and pipes, drainage ditches and driveway culverts BEFORE the rainy season and re-check between large storms.
- ⇒ If your basement is subject to flooding, consider installing a sump pump with generator back-up.

Make a plan and practice evacuation routes - Make a plan that includes information on the safest routes to shelters. Individuals living in flash flood areas should have several alternative routes. Keep your car fueled; if electric power fails, gas stations may not be able to operate.

Have personal comfort disaster supplies on hand at home and at work

- Flashlights and extra batteries
- Portable, battery-operated radio and extra batteries
- Emergency food (consider special diets) and water
- Warm clothing or blankets
- Cash and credit cards (if electric power fails, so do the ATM's)
- First aid kit and manual
- Nonelectric can opener
- Essential medicines
- Sturdy shoes

Develop an emergency communication plan - family members may become separated from one another during floods. Have a plan for getting back together. Ask an out-of-state relative or friend to serve as the "family contact." After a disaster, it's often easier to call long distance. Make sure everyone in the family knows the name, address, and phone number of the contact person. Teach children how and when to call 9-1-1, police, fire department, and which radio station to tune to for emergency information.

NFIP—Flood Insurance

Individuals and business owners can protect themselves from flood losses by purchasing flood insurance through National Flood Insurance Program. Homeowner's policies do not cover flood damage. Information is available through local insurance agents.

Mitigation pays off...

Mitigation includes any activities that prevent an emergency, reduce the chance of an emergency, or lessen the damaging effects of unavoidable emergencies. Investing in mitigation steps *now* such as constructing barriers and purchasing flood insurance will help reduce the amount of structural damage to your home and financial loss should a flood or flash flood occur.

Additional Resources

San Rafael Public Works – Weather & Tide Information: www.cityofsanrafael.org/weather

Marin County Flood Control District: <http://www.co.marin.ca.us/depts/pw/main/floodcontrol.cfm>

Marin County Real-Time Precipitation & Stream Gauges: <http://marin.onerain.com/home.php>

National Weather Service - San Francisco Bay Office: <http://www.wrh.noaa.gov/mtr/>

Federal Emergency Management Agency (FEMA) Disaster Information: <http://www.fema.gov/hazard/types.shtm>



For more information contact:
San Rafael Office of Emergency Services
1039 C Street
San Rafael, CA 94901
415/ 485-3111
oes@cityofsanrafael.org
www.sroes.org