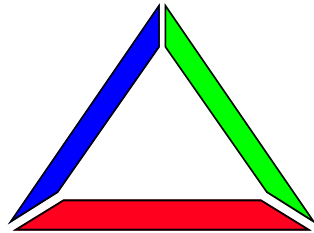


INFORMATION
ABOUT
FIRE AND FLOOD
SAFETY AND EMERGENCIES



Prepared by

The Jamestown Volunteer Fire Department
in Cooperation with
The Boulder County Wildfire Mitigation Group
and
Boulder City/County Office of Emergency Management

Revision: October 2010

(Original Version: October 1997;
Previous Revisions: May 2005 and March 2009)

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This booklet was originally developed in 1997 by Nancy Edelstein for the Jamestown Volunteer Fire Department (JVFD), with input and review by Chris Dye (1997 Chief, JVFD), Tim O'Dair (former Chief, JVFD), Craig Jones and Rich Grey (Colorado State Forest Service), Chris White (Boulder County Land Use Department), Larry Stern (Boulder City/County Office of Emergency Management), and Gary Fager and Dave Booton (Emergency Services, Boulder County Sheriff's Department).

Content was subsequently updated with a minor revision in May 2005, and then with a major revision in March 2009 by JVFD Fire Chief Rob Koehler, including a new section concerning creation of defensible space. The 2010 revision was done by Nancy Edelstein (and reviewed/approved by Fire Chief Rob Koehler) to clarify and extend some of the content.

Some information in this booklet is based on existing pamphlets and materials, including the following:

- *How Should You Burn Wood?*, a pamphlet produced by the Boulder County Energy Office.
- *Let's Retire Fire and Safe At Home— Fire Do's and Don'ts*, produced by the Federal Emergency Management Agency and the U.S. Fire Administration.
- *Town of Jamestown Flood Hazard Mitigation Plan* (issued April 1993), developed by the Town of Jamestown and the Colorado Department of Local Affairs, Division of Local Government, Office of Emergency Management Disaster Preparedness Improvement Grant Program.
- *Wildland Fire Dangers*, a pamphlet produced by the Wildland/Urban Interface Committee, Boulder County Firefighters Association.

The booklet was originally printed with funds provided under a grant from Boulder County and the Colorado State Forest Service. It was reprinted in May 2005 with funds provided under a grant from the Federal Emergency Management Administration (FEMA).

For more information, contact the Jamestown Town Office or the Jamestown Volunteer Fire Department (JVFD), Jamestown, CO at (303) 449-1806.

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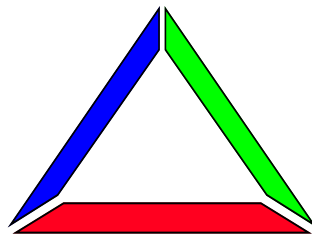
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SECTION 1: INTRODUCTION



NOTES

(Use this space to record any additional information that is specific to your particular situation and needs.)

ABOUT THIS BOOKLET

➤ **NOTE: The intent of this booklet is to provide basic fire and flood emergency information and pre-planning checklists that will significantly increase the probability of a positive outcome in the event of an emergency. This booklet is NOT intended to be a comprehensive nor educational source for fire, flood, and medical emergency information.**

In the confusion and excitement of an emergency, a feeling of panic may overwhelm basic common sense, and you may not think as clearly as in normal circumstances. Thus, you will react more by reflex at first—according to what you know, or what you have experienced, observed, or been told.

So being informed, doing pre-planning, and practicing evacuation procedures, as described in this booklet, are essential to the well being of all who live in our community, and of those who live in the surrounding area. This information (as well as practicing emergency procedures) can result in saving your life and the lives of your loved ones.

Therefore, we suggest that everyone take the time to do the following:

1. Review this entire booklet. Discuss it with family members and other occupants of your residence or employees of your business. In an emergency, you'll be surprised at how much you will remember from reading the information provided and, more importantly, practicing what you have read.
2. Customize the checklists as appropriate to your situation and needs.
3. Develop a building evacuation plan and designate a "Safe Meeting Place," one that is easily accessible, recognizable in the dark, away from the hazard area, and visible from the road on which firefighters, first responders, and other officials will approach.
4. Practice the building evacuation routes.
5. Store this booklet and the checklists in a place that is easily accessible in an emergency. (However, keep in mind that in an emergency situation when time is crucial, you may not have time to access and use this booklet—you may ultimately have to rely on what you have already learned and practiced. So again, we suggest that you read the entire booklet and practice the procedures.)
6. In the event of an emergency, use the "Contents" list on page 3 to access the appropriate information and checklists.

For more information, contact the Chief of the Jamestown Volunteer Fire Department (JVFD). The JVFD will make an effort to locate related classes that can be attended by the public, and can provide additional materials you may find useful.

The JVFD Fire Chief can also perform a free-of-charge fire safety inspection of your home or business, and provide recommendations that best suit your environment and needs. This includes the interior of your home as well as exterior fire mitigation (creation of "defensible space"), as described later in this booklet. For additional information, contact the Colorado State Forest Service, Boulder District, at (303) 442-0428.

PERSONS WITH SPECIAL NEEDS

Children

If you have children, it is imperative that you do the following:

- **Have a family discussion.** Discuss the basic safety information presented in this booklet.
- **Develop evacuation plans.** Develop a building evacuation plan and inform all family members. Plan and discuss at least 2 escape routes from each room. Determine a “Safe Meeting Place” and inform all family members. This place should be easily accessible, visible in the dark, away from the hazard area, and visible from the road on which firefighters, first responders, and other officials will approach.
- **Practice evacuation plans.** Practice both the building evacuation escape routes and meeting at the “Safe Meeting Place.” The evacuation practice should include staying below the smoke line (if necessary, crawling along the floor), and not opening a closed door that feels hot or has smoke leaking in around it. Review the evacuation plan and practice at regular intervals, perhaps every September when school starts.
- **Practice calling 911.** Talk about when it’s appropriate to call 911, and do a pretend call, practicing how to stay calm, speaking clearly (giving name, address, and the nature of the emergency), and staying on the phone until instructed to hang up by the 911 Operator. (Instruct the children that if the house is on fire, they should get out of the house immediately and call 911 from a neighbor’s house.)

To help you in your efforts to educate your children, special booklets and coloring books are available for different age groups. You may also want to obtain Child Rescue stickers and apply one to the inside of the window (lower left corner) of each child’s bedroom. For more information, contact the JVFD.

Senior Citizens and the Physically Challenged

Persons over the age of 65 are at the greatest risk of dying in a fire; persons over the age of 80 die in fires at a rate of three times higher than the rest of the population. Some of the factors that may affect seniors and the physically challenged include the following:

- They may be less able to take the quick emergency action necessary in an emergency situation.
- They may be on medication that affects their ability to make quick decisions.
- Many live alone and, when an emergency occurs, there may be no one around to help.

Seniors and the physically challenged are particularly susceptible to hazards that can affect us all:

1. **Cooking**—A droopy sleeve can catch fire from the stove; a pot left on the burner can be forgotten; serious burns and scalds can be caused by hot tap water. (This can happen to anyone at any age.)
2. **Smoking**—A precariously balanced ashtray can drop to the floor unnoticed; smoking in bed.
3. **Heating**—The use of alternate heaters, like wood stoves or electric space heaters (often used because of heating costs), in operation near newspapers, curtains, or other combustibles.
4. **Wiring**—Wiring problems (ranging from old appliances with bad wiring to overloaded sockets) that can occur in the older homes that seniors often live in.

You can help these persons to prevent fires from occurring (and to protect themselves if one does occur) by assisting them to become informed about the basic information in this booklet, and by performing the safety checklists and procedures in this booklet for them, and/or arranging for a free in-home inspection and consultation by the JVFD.

WARNING!!!

Note the following:

- Fires and floods are unpredictable.
- Every fire and flood is different.
- Learning background information, doing careful pre-planning, and practicing the evacuation procedures are critical and will significantly improve your chances of survival.
- Even with a flood plan in place, as described later in this booklet, there is no guarantee that there will be time for any prior notification of a flood. When conditions may warrant during flood season, you should be aware of and monitor both the weather and creek levels, and be ready to take appropriate actions.
- Do NOT just rely on alerts from officials, for example, a reverse 911 phone call or the town fire siren or loudspeaker broadcast (see “FYI” below). You must stay alert to your particular surroundings and situation, and be prepared to act in the event of an emergency.

FYI . . .

In addition to the Boulder County reverse 911 phone call capability, Jamestown also now has a loudspeaker system (located at the fire hall) that can broadcast a message that can be heard throughout the entire town. The system has its own power source and is not dependent on electricity to operate.

Currently (as of October 2010), in addition to the test message broadcast on the first Monday of each month, there are 2 messages that are pre-recorded and ready for broadcast: one in the event of a wildfire and one in the event of a flood. The JVFD Fire Chief also has the capability to call the county dispatch and have them broadcast a specific message, for example, if a propane delivery truck rolls into the creek.

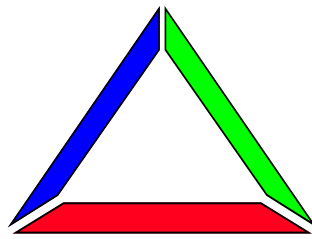
HOWEVER, be aware that “stuff happens”—in the Fourmile Canyon fire event, the reverse 911 system was inoperative for approximately 2 hours.

You are ultimately responsible
for the safety of yourself and your loved ones.

NOTES

(Use this space to record any additional information that is specific to your particular situation and needs.)

SECTION 2: FIRE SAFETY



NOTES

(Use this space to record any additional information that is specific to your particular situation and needs.)

FREQUENTLY ASKED QUESTIONS

Why call 911 first?

The answer is simple: “Better safe than sorry.” The longer you wait to call for help, the longer it will take for help to arrive. Fire can double in size every minute; seconds can make a difference.

The 911 operators are specially trained to ask you questions that will enable them to quickly assess the situation and determine the initial course of action, including what you should do, and which services should be dispatched to the scene. Stay calm, speak clearly, and stay on the phone until you are told to hang up. And don't worry about “bothering them” or being penalized for something that may turn out not to be an emergency. In this case, the call can simply be canceled. For such a “good intent call” you will not be charged or otherwise penalized.

We have a fire extinguisher so we're OK, right?

Well, that depends on a lot of things:

- **The size of the extinguisher**—This is indicated by a number on the extinguisher's label (for example, “2”) which represents the size of the fire (in square feet) for which the extinguisher will be effective—a size of “2” indicates 2 square feet. This may not be enough for much more than a small stovetop fire.
- **The type of extinguisher**—This is indicated by letters (for example, “A, B, C”) on the label of the extinguisher. These letters represent the types of fires/materials against which the extinguisher is effective:
 - A = common materials (wood, paper, etc.)
 - B = flammable liquids (grease, gasoline, etc.)
 - C = electrical
 - D = metals
- **The location(s) of the extinguisher(s)**—It is recommended that you have one extinguisher (of the appropriate size and type) on each floor, including one within easy reach of the cooking stove. Do **not** place an extinguisher directly over the cooking stove; do **not** place within reach of small children.

For correct operation of an extinguisher, read the directions carefully. (For more information, contact the JVFD or the extinguisher's manufacturer.) The usual operation is:

1. Pull pin.
2. Aim hose or nozzle at base of fire.
3. Squeeze handle to spray.
4. Keep spraying until the extinguisher is empty, otherwise the fire could re-ignite.

What about smoke detectors?

Follow these recommendations:

- **Minimum number:** 1 per floor. **Recommended number:** 1 per floor + 1 in each bedroom
- **Location:** on the wall, approximately 10-12 feet from the ceiling (see manufacturer's recommendations).
- **Fresh batteries:** Change the batteries every year when you turn the clocks back in the Fall (last weekend in October). Remember: “Change the clocks, change the batteries.”

What is the correct operation of a woodburning stove?

Follow these guidelines:

- Burn only clean, dry wood (that is, wood that has been cut and kept dry from 6 to 12 months, depending on the type of wood, piece size, stacking, and whether the wood is split or not).
 - Do **not** burn trash—this can result in hazards like the release of deadly gases from plastics.
 - Do **not** burn coal—it can burn with twice the intensity of wood and can destroy your wood stove, and your home!
 - Do **not** burn paper or cardboard, leftover Christmas tree branches, or wreaths—these can produce an intense fire that may ignite any creosote in the flue, and radiant heat that could ignite nearby combustible material.
 - Do **not** use flammable liquids to start a fire. Do **not** store flammable liquids anywhere near a fireplace or stove—vapors can travel across a room to the flame and then explode.
 - Do **not** use artificial logs held together by paraffin wax. (These are for use in fireplaces only, and can cause an explosion when added to a hot fire in a stove.)
- Use small fuel loads—less than half of the stove’s capacity. Before opening the doors to add logs, open the damper and air inlets of the stove for up to 30 seconds to avoid “backflashing” that can send flames out any stove opening. When placing another log on the fire, avoid hitting the back of the fireplace or the firebricks in the stove—they’re easily damaged. To pick up or move loose coals, use a good pair of leather gloves, tongs, or a shovel.

After loading, keep air inlets open wide enough to keep a flaming fire going for up to ½ hour; air inlets can be closed down some as the logs turn to embers. To remove ashes after burning, use an airtight fireproof container, and store them in this container for 1 week to ensure that all embers are dead.

- Do **not** have a slow-burning, smoldering fire—the major cause of creosote buildup and air pollution.
- While burning, look at your chimney or stove pipe. If the chimney or stove pipe is smoking, cut down on the size of the fuel load, or allow more air flow into the stove for complete combustion. If proper burning is taking place, there should be little or no smoke visible.
- Install a stovepipe thermometer; operate the stove between 300-500 degrees Fahrenheit. (Lower temperatures produce more creosote; higher temperatures may lead to chimney fires.)
- When the outside temperature is more than 50 °F, refrain from woodburning since most chimneys draw poorly and are smokey in these conditions.
- Have your stove and chimney inspected and cleaned frequently—minimally once in the beginning of the burn season and once mid-way through, more frequently depending on how much you use the stove. A good rule of thumb: 1/8 inch or more of soot inside the damper indicates the need for a complete cleaning,

If a chimney fire occurs, do the following:

1. Close off all stove air inlets and doors, and close the flue damper.
2. Evacuate the house.
3. Call 911 from a neighbor's house.

➡ WARNING!

Do **NOT** douse the stove with a bucket of water.

HOWEVER, you can get a glass full of water, open the stove door, toss the water into the firebox and quickly close and latch the stove door. (This will create a steam conversion and will slow the fire spread by cooling the flue pipe and the fuel inside the stove which, in turn, will decrease the chance of significant damage or home loss.)

OVERALL FIRE PREVENTION AND PRE-PLANNING CHECKLIST

Check off each item as you complete it. Keep the list and review it annually.

- Install smoke detectors as recommended: one per floor + one per bedroom.
Remember: In the fall, “Change the clock, change the batteries.”
- Install the appropriate size and type of fire extinguishers, one on each floor, especially near the cooking stove. Check the gauge on each extinguisher at least once a year.
- Obtain Child Rescue stickers and apply one to the inside window (lower left corner) of each child’s bedroom.

➡ NOTE: You may also wish to obtain a “Please save pets” sticker. Be aware, however, that this will be honored by firefighters only if possible.
- Develop a building evacuation plan and inform all family members or building occupants. Plan and discuss at least 2 escape routes from each room.
- Determine a “Safe Meeting Place” and inform all family members or building occupants. This place should be easily accessible, out of the hazard area, and visible from the road on which firefighters or other officials will approach.
- Practice the building evacuation escape routes and meeting at the Safe Meeting Place. The evacuation practice should include staying below the smoke line (if necessary, crawling along the floor), and not opening a closed door that feels hot or has smoke leaking in around it.
- Plan one or more evacuation routes away from the hazard site.
- Contact the JVFD and request an in-house evaluation and list of fire safety suggestions customized to your home. (This service is free of charge; donations accepted.)
- Contact the JVFD or the Colorado State Forest Service (303-442-0428) for an evaluation and suggestions regarding the grounds surrounding your home to create a “defensible space.”
- Have your wood burning stove and flue inspected each year and cleaned as necessary (frequency of cleaning varies according to amount of stove use, but a minimum of the beginning of winter and mid-way).

➡ NOTE: For insurance purposes, you may also want to make an itemized list (and/or take photographs or a video) of personal property, including furnishings, clothing, and valuables. Store this record off-premises, for example, at a friend’s house or in a bank safe deposit box.

IF A FIRE OCCURS

➡ **NOTE:** If the need to evacuate has been identified by authorities, you will be notified by one of several methods:

1. A reverse 911 phone in which your phone will ring and, upon answering it, you will hear a recorded message with instructions.
2. An in-person notification delivered door-to-door by a firefighter, sheriff's officer, or first responder.
3. A message broadcast over the loudspeaker located in front of the JVFD fire hall.

In the event of an evacuation, the Red Cross will provide services, including shelter and food, for the duration of the incident, whether days or weeks.

You will be notified by law enforcement officials when you can return to your home.

IN YOUR HOUSE

1. Get out and stay out! Go to the pre-determined Safe Meeting Place.
2. Call 911 from a neighbor's house.

➡ **NOTES:**

- On the average, you have under 3 minutes to escape and have a high probability of avoiding injury or death. There is no time to search the house for occupants; you may only have time to shout, "Get out of the house!" to other occupants.
 - When under stress, you may not think clearly; you will respond according to what you know and have experienced. Thus, pre-planning and practice (as described in this booklet) are critical!
-

IN YOUR NEIGHBOR'S HOUSE

1. Call 911 immediately and report what you see.
 2. Depending on your proximity to the fire, be prepared to evacuate as directed.
 3. Be prepared to assist the JVFD, if asked. For example, accounting for all occupants, or assisting with special circumstances.
-

IN THE SURROUNDING FOREST

1. Depending on your proximity to the fire, call 911 to ensure that it has been reported.
2. Prepare for possible evacuation.
3. Stay alert and be aware of conditions.
4. Follow the directions, if any, of firefighters or law enforcement officials—you will be instructed by officials either in reverse 911 phone call, a door-to-door notification by emergency responders, or over the town loudspeaker system.

➡ **NOTE:** The following is a link to the US Forest Service this provides the fire danger rating in the United States. It is usually a day behind but chances are if you have an extreme fire danger the day before you will have one on the day you check unless there is a form of precipitation that would change that.

http://www.fs.fed.us/land/wfas/fd_class.gif

EVACUATION CHECKLIST

The following pages are an evacuation checklist to be used in the event you are directed to evacuate.

Use the checklist as follows:

1. Review the list now and do the following:
 - Identify and obtain items you may need and do not now have available, for example, blankets, garden hoses, etc.
 - Customize the list to match your needs:
 - Fill in any blanks.
 - Add items under the “Other” sections.
 - Put a line through items that do not apply.
 - Highlight certain items that are priorities for you in case you are given only limited preparation time to evacuate.
2. Keep this list in a place that is easily accessible in the event of an emergency.
3. In the event that you must evacuate, go through the list, checking off each item as it is completed. Keep reviewing the list to see if you have missed an item.

⚠ WARNING!

This list assumes that you will be given advanced warning of the need to evacuate and will have time to prepare using the checklist. If this is not the case and you must evacuate immediately, DO AS DIRECTED. Even if it may be inconvenient to replace items when the evacuation and the emergency are over, your life is more important than material things!

“Quick Evac” Suggestions

The following evacuation checklist assumes that there is ample time for you to gather and pack up your pets and important/treasured/irreplaceable items in the event of an evacuation. However, in the Fourmile Canyon fire event, some residents had only minutes to evacuate. Careful pre-planning can be critical. For example:

- Pre-pack some items and store the containers together and in an easily accessible location for quick loading into car. These pre-packed containers may contain extra changes of clothing, necessary toiletries, etc. for each household member, as well as necessary items for each pet. You may also want to have containers with treasured items that aren’t used every day, such as irreplaceable family photo albums, as well as empty containers ready for you to throw in important papers/items and financial records. Check and refresh the containers once or twice a year.
- Keep some items in another location, for example, a friend’s house or bank safe deposit box.

HOWEVER, it may still come down to just “grab the kids and/or pets and leave immediately.” If that’s the case, then do so!

Forest Fire Evacuation Checklist

- Put on protective clothing: (Use cotton; synthetics can melt onto skin.)
 - cotton long-sleeved shirt, long pants, and cotton socks
 - sturdy boots/shoes (leather if possible)
 - cotton jacket
 - cotton handkerchief (to cover nose and mouth, if necessary)
- Clip a portable phone, if available, to your belt or pocket to maintain communication as you go through this checklist.

INSIDE OF HOUSE

Designate a collection place, perhaps by the front door, and begin to gather the following and put them in the collection place (check off each item as completed):

- Get pet's travel cage, if appropriate; gather pet's food, water, and _____.
- Put pet in cage if and when appropriate (do **not** wait until the last minute in case your pet becomes difficult to manage).
- Get empty suitcases and bags from _____.
- For each person, pack one change of additional clothing in one of the suitcases/bags and then stack the suitcases/bags in the collection place:
 - shirt heavy socks gloves
 - pants warm sweater hat
 - underwear jacket (heavy/waterproof) extra footwear
- Gather up the following valuables and put in suitcases/bags and then stack suitcases/bags in the collection place:
 - Purse, wallet, keys, checkbook and extra checks, if necessary.
 - Important papers (insurance policies, wills, etc.):
 - _____
 - _____
 - _____
 - _____
 - Other important and/or irreplaceable items (safe deposit box key or other keys, picture albums, or small antiques):
 - _____
 - _____
 - _____
 - _____
 - _____

(Cont'd on next page)

(Forest Fire Evacuation Checklist—Inside of House, Cont'd)

- In every room:
 - Close all windows; make sure all windows are unlocked.
 - Close all doors.
 - Turn on a light.
- For wood stove or fireplace: open damper AND close stove door.
- Make sure pets and all your selected items are packed into car.
- Put blankets in car, one for each person.
- If necessary, put filled drinking water bottles in car.
- Before you leave the house:
 - Turn on all outside lights: front door, deck, back door, _____.
 - Leave a note on the kitchen counter and/or door about where and how you can be reached.
 - Close all external doors; DO NOT LOCK DOORS.

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OUTSIDE OF HOUSE

- Turn the car so it's ready to go. Close car windows, and leave the key in the ignition.
DO NOT LOCK CAR DOORS.
- Move combustibles from around house to outside of defensible space—for example, move the barbecue grill, lawn furniture, and wood piles.
- Shut off gas/propane at the source; leave the propane tank lid open to indicate to firefighters that source is turned off.
- Connect hoses and fill with water any tubs, garbage cans, or other large containers. Place containers around the house. If possible: attach a hose to your cistern, if any, and a hose to the water heater.
- Place a ladder against the house in clear view.
- Close the garage door.
- If time, use outside hoses to spray down the house, siding, decks, and roof.

OTHER:

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(Use this space to record any additional information that is specific to your particular situation and needs.)

EMERGENCY FOREST FIRE SURVIVAL INFORMATION

To Survive in a Car:

➡ **NOTE: This is dangerous and should only be done in an emergency.** You CAN survive in the car AND it is less dangerous than trying to run from a forest fire on foot.

If you can drive:

- Roll up windows.
- Close air vents.
- Drive slowly with headlights on.
 - Watch for other vehicles and pedestrians.
 - Do not drive through heavy smoke.

If you must stop and park:

- Park away from the heaviest trees and brush.
- Turn headlights on.
- Turn ignition off.
- Roll up windows.
- Close air vents.
- Get on the floor and cover up with a coat or blanket (preferably not synthetic material).
- Stay in the car until the main fire passes. Do not run! Be aware of the following:
 - Engine may stall and not restart.
 - Air currents may rock the car.
 - Some smoke and sparks may enter the car.
 - Temperature will increase.
 - Metal gas tanks and containers rarely explode.

To Survive If Caught in the Open by a Forest Fire:

- Find temporary shelter, for example:
 - In a sparse fuel area, depression, and/or on the back side of a mountain. (Avoid canyons, natural “canyons,” and saddles.)
 - If a road is nearby, along the road cut or in the ditch on the uphill side.
 - Clear fuel away from the area while the fire is approaching.
 - Lie down and cover yourself with anything that will shield you from the fire’s heat.
 - Stay down until after the fire passes.
-

PROPERTY MITIGATION—CREATION OF “DEFENSIBLE SPACE”

Quick Facts

- Wildfire will find the weakest links in the defense measures you’ve taken to protect your home.
- Doing even small things to protect your home and property can enable them to withstand fire.
- Consider the measures below for all areas of your property, not just the immediate vicinity of the house.

A wildfire is unpredictable but oddly clever—in spite of there being a whole host of traditional defenses in place, it can find the one remaining weak link in a home's protection scheme, and then from there quickly gain the upper hand.

One critical factor has emerged as the primary determinant of a home's ability to survive wildfire: the creation of “defensible space” around the structure. In other words, removing, reducing, or modifying the vegetation (grasses, brush, trees, and other common forest fuels) that can feed a fire’s intensity. This will not only keep fire away from your home but can also restrict a fire on your property and keep it from damaging adjacent properties and lands.

Not only does defensible space enable your home to be more likely to withstand a wildfire but ultimately, in the most basic terms, defensible space is “room” for the firefighters to do their jobs.

Historically, creating defensible space involved thinning small areas of modified fuels immediately around a home within a larger area of dense fuels—creating a “cookie cutter” margin around the home. While somewhat helpful, this was determined to not provide adequate protection. Recently, the concept was expanded to define a series of 3 zones, each with different guidelines—with the most stringent closest to the home, and becoming gradually less stringent moving away from the home. (An illustration and description of the zones is contained in the next sub-section.)

As you read the guidelines presented here, don’t be overwhelmed. Yes, there are a lot of detailed guidelines. Mitigation is hard work and will take a few seasons to implement. But while you may not be able to accomplish all of the measures described here, even a few will increase your home's, and possibly your family's, safety. Perhaps the best approach is to start immediately around the house (zone 1) and then work your way through zones 2 and 3 (see Figure 1).

In the end, during a fire event it comes down to one choice for firefighters: *Can this home be saved, or not?* Defensible space can be the deciding factor.

This section provides background information and some guidelines you can use. For more information and help with creating a defensible space around your home, contact the JVFD.

About the 3 Fire Safety Zones

Figure 3 illustrates the 3 zones involved in creating defensible space.

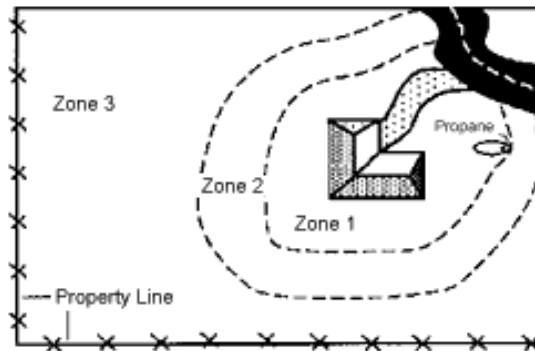


Figure 1. Forested property showing the three zones of fire safety surrounding a homesite or subdivision

The following is a description of each of the 3 zones:

- **Zone 1:** the original (“cookie cutter”) defensible space area. This is the area closest to the home and therefore the area of maximum modification and management. The size of zone 1 depends on the structure size and the slope of ground, as described in the next sub-section and illustrated in Figure 2.
- **Zone 3:** an area of standard forest management activities. Zone 3 has no specified size, but generally extends from the defensible space area to the property boundaries.
- **Zone 2:** a transitional area between zones 1 and 3. The size of this area is generally the same as in zone 1, but combined they should extend at least 75 to 100 feet from the house. Within this area, the intent is to “feather” or blend the heavy thinning of zone 1 into the more traditional forest cover of zone 3. Thus it eliminates a wall of dense, unthinned forest fuels around defensible space areas, while also enhancing safety and the aesthetics of the property.

What to Do

For Zone 1

The size of zone 1 depends on the structure size and the slope of ground. See Figure 2 for downhill, uphill, and side distances for specific slopes.

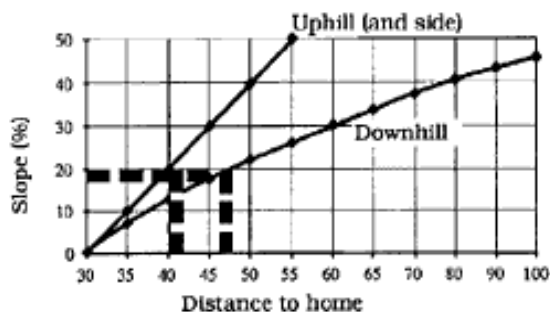


Figure 2. If your home is situated on a 20 percent slope, defensible space dimensions would be 40 feet uphill and to the sides of your home, and 47 feet on the downhill side

Zone 1 is divided into 3 segments: A, B, and C, as illustrated in Figure 3.

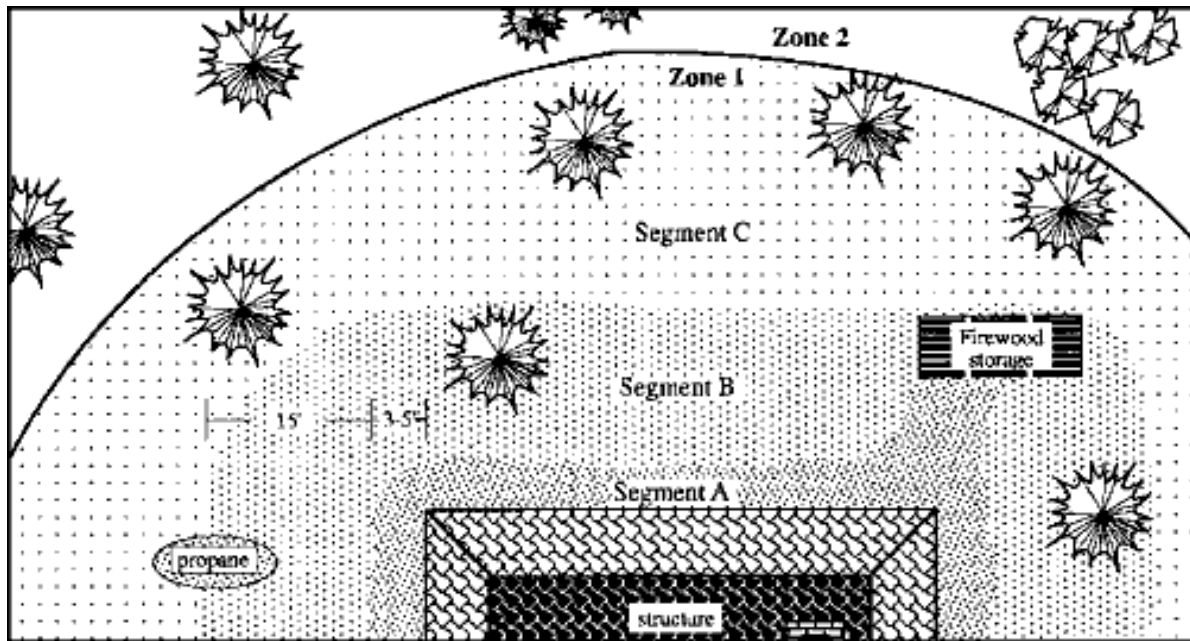


Figure 3. Segment A, segment B, and segment C of zone 1 and the edge between zones 1 and 2

This section provides mitigation guidelines for each of the 3 segments. An overall guideline for zone 1 is to leave NO dead trees, except possibly one or two widely-spaced trees at the outer edge of the zone. Be sure such trees cannot fall on the house. An occasional tree may be allowed closer to the house if it is topped to a maximum 10 to 15 feet.

Dispose of all slash in this area by piling and burning, chipping, or hauling away. (For more information on burning recommendations, contact the JVFD, the sheriff's office, or the Colorado State Forest Service [CSFS] district office.)

To mitigate zone 1, use these guidelines:

- **Segment A (3 to 5 feet wide, immediately adjacent to the structure).**
 - Generally (and especially if the house is sided with wood, logs, or other flammable material), nothing should be planted here.
 - If the house has non-combustible siding, widely-spaced foundation plantings of low growing shrubs are acceptable. Do not plant shrubs directly under windows or next to foundation vents. Be sure there are no areas of continuous grass adjacent to the shrubs in this area.
 - Do not store firewood or other combustible materials in this area.
 - Enclose/screen in decks.
 - Do not use the area under the deck for storage.
 - Decorative rock or gravel creates an attractive, easily maintained nonflammable ground cover. Extend gravel coverage underneath decks.

- **Segment B (extending out approximately 15 feet from segment A).**
 - Allow about 10 feet between tree crowns in this area.
 - Prune trees so that lowest branches are 8 to 10 feet above the ground.
 - Remove all “ladder fuels” beneath the trees. (Ladder fuels are small shrubs, trees, and tree limbs that could allow a fire to climb into the tree tops.)
 - Isolated shrubs may remain, provided they are not under tree crowns. Prune shrubs periodically to maintain vigorous growth and low form.
 - Remove all dead stems from trees and shrubs annually.
 - Mow grasses (or remove with a weed-eater) as needed throughout the growing season to keep them low, a maximum of 6 inches high. This is extremely critical in the fall when grasses dry out and cure, or in the spring before they green up.
 - Locate firewood in the outer portion of this segment. Stack firewood uphill from the house, not below, and do not stack beneath trees. Keep grasses cleared away from firewood stacks.
 - Locate propane tanks in the outer portion of this segment, where service trucks can reach them but, if possible, on a contour away from structures. Keep grasses cleared away from propane tanks, or, ideally, locate tanks on gravel pads. Do not screen propane tanks with shrubs or trees.
- **Segment C (the outer segment of zone 1, running from the outer edge of segment B to the edge between zone 1 and zone 2).**
 - Thin and prune trees and shrubs as described for segment B. Within the outer portions of this zone, small groups of trees and widely-separated individual trees may be left unpruned for landscape purposes.
 - Cut or mow as needed to keep grass height at a maximum of 8 inches. Again, this is critical in the fall and early spring.

For Zone 2

The size of zone 2 is based on the size of the structure size and the slope of the ground—basically the same distances as those of zone 1. The total treated area for zones 1 and 2 combined should extend at least 75 to 100 feet from the house, especially on the downhill side. Because zone 2 acts as additional protection for the structure, forms an aesthetic buffer, and provides transition between zones, it is necessary to blend the requirements for zones 1 and 3.

To mitigate zone 2, use these guidelines:

- Limit the number of dead trees in this zone. Wildlife only need 2 or 3 per acre. Be sure that these trees cannot fall onto the house or block access roads or driveways.
- The inner portion of the zone should be thinned essentially as for zone 1, segment C. Tree density can gradually increase until it reaches that of zone 3. A good rule of thumb for tree spacing the outer portions of this zone is 4 to 6 feet between tree crowns (see Figure 4).

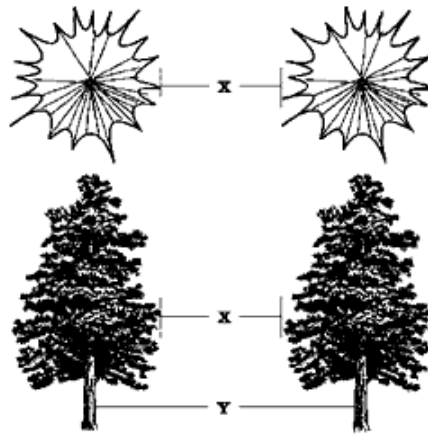


Figure 4. X = crown spacing ; Y = stem spacing
 (Do not measure between stems for crown spacing
 - measure between the edges of tree crowns)

- Prune trees to a height of about 8 feet at the inner portion of the zone, gradually decreasing to a height of about 5 feet at the outer portions of the zone. The closer the proximity to zone 3, the higher number of unpruned trees that can be left in this zone.
- Mowing is generally not necessary in zone 2 except under trees, such as spruce where low-growing branches have been left for aesthetic purposes.
- Dispose of slash through piling and burning (**drop off at Elyisan Park, when permissible**), or chipping. A few small, widely distributed brush piles may be left for wildlife purposes no more than 2 or 3 per acre. Small amounts of slash can be lopped and scattered for decomposition. If lop and scatter is used, do not leave continuous areas or large concentrations of slash. (For information on burning slash piles contact the JVFD, the sheriff's office, or the local office of the Colorado State Forest Service.)

For Zone 3

This zone is of no specified size—basically it extends from the edge of zone 2 to your property line.

To mitigate zone 3, use these guidelines:

- Specific forest thinning in zone 3 is dictated by the landowner's objectives for their land. However, most thinnings are done from “below” (leaving the biggest and best trees) and on an individual tree selection basis. Thinnings sanitize and improve the forest stand by removing trees that have been damaged, attacked by insects, infected by disease, or are of poor form or low vigor. (For more information about thinning the trees on your property, see the CSFS publication *Landowner Guide to Thinning* or contact the JVFD.)
- Tree spacing depends on the species being managed and factors, such as susceptibility to wind bending or to damage from heavy snow. Use these guidelines:
 - For ponderosa pine and Douglas-fir, a good rule of thumb for stem spacing is the tree diameter +7. For example, if the average tree to be left after thinning is an 8-inch diameter ponderosa pine, then the spacing between trees should be $8 + 7 = 15$, as measured between tree stems).
 - For lodgepole pine and Engelmann spruce, the stem spacing guide is diameter + 5.

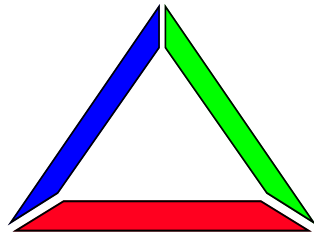
- While pruning is generally not necessary in zone 3, it does help reduce ladder fuels within the tree stand, thus enhancing fire safety. At the very least, it's a good idea to prune those trees along trails and fire access roads.
- A greater number of dead trees for wildlife can remain in this zone, but generally only 2 or 3 per acre are necessary for good wildlife habitat. Make sure that dead trees and snags pose no threat to power lines or fire access roads.
- Mowing is not necessary in zone 3.

Any approved method of slash treatment is acceptable for this zone, including piling and burning, chipping, or lop-and-scatter.

NOTES

(Use this space to record any additional information that is specific to your particular situation and needs.)

SECTION 3: FLOOD SAFETY



NOTES

(Use this space to record any additional information that is specific to your particular situation and needs.)

BACKGROUND INFORMATION

➔ **CAUTION:** Regardless of any plans or early warning systems, there is no guarantee that there will be any early warning of a flood. Therefore, when conditions may warrant during flood season, you should be aware of and monitor both the weather and creek levels, and be ready to take appropriate actions. You are ultimately responsible for the safety of yourself and your loved ones.

Jamestown is highly vulnerable to flooding. In past years (1894, 1913, 1955, 1965, and 1969), weather conditions, topography, hydrology, and geography have combined to create hazardous situations that have caused significant property damage and have effectively isolated the town from county or state assistance for days, even weeks.

Floods can occur during the period of May through September and could involve one of the following flood types:

- **Slow-rising flood**—a slow, steady rise in the creek level; flood is of long duration. There is usually ample warning so loss of life is rare but property damage can be severe. Results from one of the following:
 - Snow melt accompanied by heavy spring rains.
 - General rain event that occurs over a wide geographic area for several days, totally saturating the shallow soil and increasing surface runoff on the steep mountain slopes.
- **Flash flood**—a sudden rise in creek level of short duration and with little or no warning. Results from intense summer thunderstorms or a cloudburst.

Technological advances can provide real-time data about a potential flood. For example, radar can predict and approximate the amount of precipitation from a thunderstorm or cloud burst. Likewise, flood gauges are an excellent source of data indicating that water levels are rising. However, by the time the rising water has tripped the sensors and notified Emergency Services that a flood is imminent, the time in which people have to get to higher ground is significantly reduced.

So the question for Jamestown is not “Will a flood occur?” The question is “When will it occur and how will the town respond?” Thus, it is crucial that Jamestown residents be aware of the flood threat, the pre-flood precautions available, and the actions to take during and after a flood incident, as described in this section.

FLOOD PROTECTION

While there is no flood control structure on either the James Creek or the Little James Creek (and is unlikely to be in the future due to costs and other factors), effective flood hazard mitigation in Jamestown involves the following three actions:

- **Participation in the National Flood Insurance Program (NFIP)**—established by the U.S. Congress, the NFIP enables all individual property owners to purchase flood insurance at reasonable rates. It also requires communities to adopt and administer local floodplain management measures aimed at protecting lives and new construction from future flooding (the latter is a requirement for participation in the NFIP). Jamestown joined the NFIP in 1983.
- **Floodplain management**—enforcement of the effective use of land in flood hazard areas (mandated by participating in the NFIP) as dictated by Jamestown Ordinance No. 3, Series 1999. If you are unsure if your home is in the floodplain, contact the JVFD or the Jamestown Town Clerk.
- **Emergency preparedness and flood warning**—largely undertaken by the Jamestown Volunteer Fire Department (JVFD) through the following:
 - Receiving and relaying flood warnings from the Boulder County Multi-Agency Coordination System (MACS) network—a warning and forecasting system of electronic rain gauges, stream gauges, and computerized weather monitoring systems. (However, most of the gauges are below Jamestown and may not provide adequate warning of an imminent flood danger to Jamestown.)
 - Implementing the Jamestown Flood Evacuation Plan (in place since 1987), if time, including a reverse 911 phone call or a broadcast message from the emergency loudspeaker located in front of the fire hall.

You can also implement flood proofing techniques to keep water away from your home or business, for example, floodwalls, levees, and structural sealing that involve special treatment for openings such as doors, windows, driveways, and so forth. (For more information, consult a professional engineer to ensure that the closure system being planned can withstand the pressures of a flood and is in compliance with the Jamestown Ordinance No. 3, Series 1999.)

The JVFD has also established a plan for sandbagging, including stockpiling the required burlap or specially-designed plastic sandbags, sand, and plastic sheeting beforehand.

➡ **NOTE:** Although people immediately want to sandbag when a flood is imminent, effective sandbagging involves a very specific procedure and setup, and can be very expensive and time-consuming to implement. It should be considered only as part of an overall flood response plan, or as a last resort for certain buildings or areas.

JAMESTOWN FLOOD WARNING AND EVACUATION PLAN

During flood season (May through September), members of the JVFD monitor creek levels and meteorological conditions that are conducive to flood threat although these conditions can be monitored by everyone. If conditions warrant, JVFD officials will initiate the Jamestown Flood Warning and Evacuation Plan. This plan consists of these major components:

- **Reverse 911 phone calls**
- **Flood Mode Levels**
- **Resources Available (JVFD firefighters and sheriff's department personnel)**

➡ **CAUTION:** While there is a plan in place, as described in this section, there is no guarantee that there will be time for any prior notification of a flood. When conditions may warrant during flood season, you should be aware of and monitor both the weather and creek levels, and be ready to take appropriate actions. You are ultimately responsible for the safety of yourself and your loved ones.

Weather Monitoring Websites

You can access the following websites for current information specifically for Jamestown:

- Weather forecast from the National Oceanic and Atmospheric Administration (NOAA, a federal agency)

<http://forecast.weather.gov/MapClick.php?CityName=Jamestown&state=CO&site=BOU&textField1=40.1161&textField2=-105.39>

- Specific warnings from NOAA, such as Red Flag high fire danger, flooding danger, high wind events, etc.

http://forecast.weather.gov/showsigwx.php?warnzone=COZ035&warncounty=COC013&firewxzone=COZ215&local_place1=Jamestown+CO&product1=Hazardous+Weather+Outlook

- Weather Underground (a commercial weather information network that originated at the University of Michigan)—providing real-time information gathered from the world's largest network of personal weather stations (almost 10,000 stations in the US and over 3,000 across the rest of the world) that provides our site's users with the most localized weather conditions available. (This site has other quick information that can be accessed.)

<http://www.wunderground.com/cgi-bin/findweather/getForecast?query=80455&wuSelect=WEATHER>

For information from the National Weather Service about the Denver/Boulder area in general, go to <http://www.crh.noaa.gov/den/>

Flood Mode Levels

In conjunction with Boulder County Emergency Services, the JVFD has identified and defined levels of alert, including tasks to be performed for each level, as described below.

➡ **NOTE: In the event of a flood or potential flood, do NOT cross the creek or nearby street. Grab whatever you need to stay dry and immediately head to higher ground. Houses (and even pets) can be replaced, but people cannot.**

- **Flood Mode 0:** Normal operations and monitoring in effect.
- **Flood Mode 1:** The meteorological potential of a flood-producing storm is being observed. Rain may or may not be occurring; stream levels are substantially below flood levels.
- **Flood Mode 2:** The possibility of flooding in the near future is recognized. Boulder Communications (911) notifies affected agencies (like the JVFD) to mobilize for possible flood warning. The JVFD begins monitoring rain gauge and stream levels, as well as weather updates on the 911 radio channel and the 24-hour weather radio channel. The Floodplain Residents' Phone List (Hazard Zones A through C) is assigned to specific JVFD members.
- **Flood Mode 3:** Flood warning is issued for specific areas with estimated levels of severity; affected hazard areas are notified to execute appropriate warning and evacuation measures. JAMESTOWN LOUDSPEAKER WILL SOUND AN ALERT. The JVFD Incident Command System is initiated, and a Command Post is set up at the Jamestown Elementary School. Fire trucks and personnel are stationed on the north side of James Creek and at the school, if possible. Rain gauges and stream levels are monitored and documented.
- **Flood Mode 4:** FLOODING IS OCCURRING. The JVFD makes assessments of resident rescue requirements and Evacuation Center (Jamestown Elementary School) needs; the status of roads, bridges, and the water plant are documented. Structure and utility damage control are initiated with sandbagging, mobilizing heavy equipment, and the use of civilian volunteers. The JVFD notifies the County concerning the resource status in town.

FLOOD EMERGENCY CHECKLISTS

Checklist 1: Steps to Take Today

- ❑ Make an itemized list of personal property, including furnishings, clothing, and valuables. Photographs and/or a video of your home and belongings are suggested. (These will assist an adjuster in settling claims that will prove uninsured losses, which are tax deductible.)
- ❑ Store your valuable papers (insurance policies, etc.) and the list/photographs/video of your belongings in a safe place, for example, a bank safe deposit box.
- ❑ Identify the safest route from your home or business to high, safe ground if you need to evacuate in a hurry.
- ❑ Obtain and keep in working order: a battery-powered portable radio, emergency cooking equipment, and flashlights.
- ❑ If appropriate, stockpile materials such as sandbags, plywood, plastic sheeting, and lumber to be used to protect private property.
- ❑ Be aware of weather conditions and flooding potential.
- ❑ BUY FLOOD INSURANCE. Most homeowners' insurance policies do not cover flood damage. For more information, contact your insurance agent. Generally, there is a 5-day waiting period for a NFIP (National Flood Insurance Program) policy to become effective, so don't wait until the last minute to apply.

Checklist 2: When the Flood Happens

The safety of your family is the most important consideration. Since floodwaters can rise very rapidly, you should be prepared to evacuate before the water level reaches your property.

- ❑ Keep a battery-powered radio tuned to a local station, and follow all emergency instructions.
- ❑ If you're caught in the house by suddenly rising waters, move to the second floor and, if necessary, to the roof. If time, take warm clothing, a flashlight, and a portable radio with you. Then, wait for help—do **not** try to swim to safety. Rescue teams will be looking for you.
- ❑ If you're caught outside of the house, remember, floods are deceptive. Try to avoid flooded areas, and do **not** attempt to walk through floodwaters.
- ❑ If, and only if, time permits, do the following:

⚠ WARNING! This is NOT recommended. THE most important thing to do when a flood is actually happening is to see to your safety and the safety of your loved ones by immediately moving to higher ground.

- ❑ Turn off all electrical utilities at the main power box. Do not touch any electrical equipment unless it is in a dry area and you are standing on a piece of dry wood while wearing rubber gloves and rubber-soled boots or shoes.
- ❑ Shut off gas/propane at the source; leave the propane tank lid open to indicate to firefighters that the source is turned off.

- ❑ Move valuable papers and other contents of your home to upper floors or higher elevation.
- ❑ Fill bathtubs, sinks, and jugs with clean water in case regular supplies are contaminated. (Sanitize these items by first rinsing with bleach and then rinsing thoroughly.)
- ❑ Bring outdoor possessions inside the house or tie them down securely. This includes lawn furniture, garbage cans, tools, signs, and other moveable objects that might be swept away.

Checklist 3: After the Flood

If your home or business has suffered flood damage, immediately call the agent or broker who handles your flood insurance so they can submit a loss form to the NFIP and get an adjuster to inspect your property as soon as possible. The JVFD will inspect all structures affected by flooding prior to the homeowner entering.

- ❑ Prior to entering a building, check for structural damage. Make sure it is not in danger of collapsing. Turn off any outside gas lines at the tank, and let the house air for several minutes to remove foul odors or escaping gas.
- ❑ Upon entering a building, do NOT use open flame as a source of light since gas may still be trapped inside; a batter-powered flashlight is ideal.
- ❑ Watch for electrical shorts or live wires before making certain that the main power switch is turned off. Do not turn on any lights or appliances until an electrician has checked the system for short circuits.
- ❑ Cover broken windows and holes in the roof or walls to prevent weather damage.
- ❑ Proceed with immediate cleanup measures to prevent any health hazards. Perishable items that pose a health problem should be listed and photographed before discarding. Throw out any food and previously opened medicines that have come into contact with flood waters.
- ❑ Water for drinking and food preparation should be boiled vigorously for 10 minutes (until the public water system has been declared safe). Or disinfect by mixing ½ teaspoon of liquid commercial bleach with 2½ gallons of water, let stand for 5 minutes before using. The flat taste can be removed by pouring the water from one container into another or adding a pinch of salt. In an emergency, water may be obtained by draining a hot water tank, which stores 30+ gallons (minimum) of water.
- ❑ Refrigerators, sofas, and other hard goods should be hosed off and kept for the adjuster's inspection. A good deoderizer for cleaning kitchen appliances is to add 1 teaspoon of baking soda to 1 quart of water. Any partially damaged items should be dried and aired; the adjuster will make recommendations as to their repair or disposal. Take pictures of the damage to the building and its contents.
- ❑ Take all wooden furniture outdoors but keep it out of direct sunlight to prevent warping. A garage or carport is a good place for drying. Remove drawers and other moving parts as soon as possible, but do not pry open swollen drawers from the front. Instead, remove the backing and push the drawers out.
- ❑ Shovel out mud while it's still moist to give walls a chance to dry. Once plastered walls have dried, brush off loose dirt. Wash with a mild soap solution and rinse with clean water; always start at the bottom and work up. Ceilings should be done last. Special attention at this early stage should also be paid to cleaning out the heating and plumbing systems.
- ❑ Remove mildew from dry wood with a solution of the following:

- 4-6 tablespoons of trisodium phosphate (TSP)
 - 1 cup of liquid chlorine
 - 1 gallon of water.
- Flooded basements should be drained and cleaned as soon as possible, However, structural damage can occur by pumping water out too quickly. After the flood waters have subsided, draining the basement should be done in stages, about 1/3 of the water volume per day. (The JVFD will provide this service.)