Fire Prevention and Evacuation Guidelines

for the

Wildland Urban Interface of Northern New Mexico & Santa Fe County

Provided as a Public Service by

The Tano Road Association

Fire Prevention and Evacuation Guidelines[1]

Always in case of fire, smoke, or any emergency
Call 911

If a wildfire approaches your home, it is your responsibility to be prepared!
These guidelines are for homeowners in the piñon/juniper forests in the high deserts in Northern New Mexico, an area designated as a "Wildland Urban Interface." These guidelines are intended to provide specific actions which, if taken, can help prevent or reduce the effects of fire on personal property, human life, and wildlife.

The information in this booklet does not guarantee complete safety from wildfires; it merely encourages the use of proven mitigation practices. These are guidelines, not "sure-fire" solutions, and each situation will require actions unique to the property or circumstance.

This 3rd Edition was prepared by the Tano Road Association in cooperation with the Santa Fe County Fire Department (SFCFD) and the City of Santa Fe Fire Department. The Tano Road area is served by the Tesuque Volunteer Fire District (TVFD) which is one of fifteen fire districts within SFCFD. The TVFD consists of community-minded volunteers who are on-call 24/7 to provide fire protection and emergency medical services to Tesuque Village, Rio en Medio, and the Tano Road area.

Santa Fe County Fire Department
35 Camino Justicia
Santa Fe, New Mexico 87508
Voice: 505-992-3070 ~ Fax: 505-992-3073

Be Prepared ~ This Can Happen to You!

Just imagine for a moment

. . . It is a late spring day, and typically windy. The winter has been especially dry. The Forest Service and the Santa Fe County Fire Marshall put out daily warnings about being careful with matches, smoking, camp fires, barbeques and even sparks from chainsaws. It is a time of high-alert for wildfire danger.

Bob and Carol are watching the news about nearby wildfires. They tense when hearing there is a piñon/juniper/grass wildfire about seven miles to the west. The prevailing winds are from the north and the west at this time of year. Forest fires create their own winds, and this one rages eastward at 35 mph. They live east of Camino de los Montoyas, just south of Tano Road in Santa Fe, New Mexico.

The air smells smoky. Carol glances out her window and shrieks. The sky has turned thick brownish gray, the wind is louder. There is a knock at the front door. It is a Santa Fe County Sheriff Deputy.

“Sir, for your safety, we request you evacuate immediately. The wildfire may be here in minutes, and there will be no emergency services for you. Please proceed to the Genoveva Chavez Recreation Center.” No time to waste, the deputy departed before Bob could ask questions. Carol wants to pack an overnight bag, but Bob tells her there is no time. During these two minutes, the wind has begun howling; smoke and embers fly through the air. They race to their car leaving everything behind including their dog and cat.

They cough from the smoke. It is difficult to see the road. He comes to a downed utility pole. Electrical wires are exposed and may be live. His SUV crawls over the pole and the wires. With effort, he makes it to Tano Road, and then races eastward to the highway. Yellow clad firefighters are directing traffic to go south. Carol sees a sign directing them to the Chavez Recreation center which serves as a shelter. They arrive at the Chavez Center and wait. Bob has his wallet, Carol her purse, nothing else.

At their house, flurries of red embers from surrounding trees and uncut Cheat grass blow under their west-facing deck, igniting it. On the south side, the dense branches of trees hanging close to the house ignite the firewood on their porch. On the east side, the coyote fence is ablaze, a blaze which soon reaches their house where the fence connects. The single-window panes are no match for the intense heat which ignites curtains and drapes. On the east side, near their driveway, the propane tank relief valve pops sending propane gas straight up which ignites. Vapor from improperly stored cans of gasoline in Bob's garage ignites. In minutes, the contents of their house and garage are destroyed.

Carol and Bob are safe, but homeless. Insurance will cover most of the house replacement, but they lost valuable records and proof of the contents of their home. It will be a slow and difficult process to validate just what was lost in the fire and even more tedious to obtain copies of critical documents.

Homeowner and Neighborhood Associations can work together with local fire fighting professionals to bring neighborhoods into a certain level of fire protection & prevention compliance by teaching,

The Three Steps to be FireWise:

(1) Prepare your Defensible Space;

(2) Prepare your Evacuation Plan; and

(3) Know how to Evacuate!

Q: I can defend my property. Why should I evacuate?

A: The ferocity and speed of a wildland fire is awesome. The fire can approach at a rate of 30, even up to 60 mph, much faster than you can react. Add to this the deafening roar, the suffocating smoke, and the intense heat that wildland fire brings to you. All lines of communication will be gone, even conversation will be impossible. Breathing may not be possible. The heat from flames, even at a distance[2], can set the interior of your house on fire. Evacuate when notified by the authorities. Listen to the news on your portable radio, check with neighbors, or evacuate when you see the fire coming.

Q: What can I do beforehand?

A: Refer to the guidelines in this booklet which tell you,

① how to protect your property from wildfire by creating a defensible space around your house;

② how to be ready to evacuate at all times;

③ how and when you should evacuate.

Wildfire is a natural part of the wildland environment. Wildfires can burn intensely, and are difficult to control. Add to these factors, the lingering drought and growing population in wildland areas, and we have an increasing potential loss of lives and property.

REMEMBER: if a wildfire approaches your home, it is your responsibility to be prepared! Do not assume that the fire department can protect your home in case of wildfire. During a major wildfire, it is unlikely that there will be fire fighting resources available to defend every home. Even with adequate resources, some wildfires may be so intense that there may be little that fire fighters can do to prevent a house from burning.

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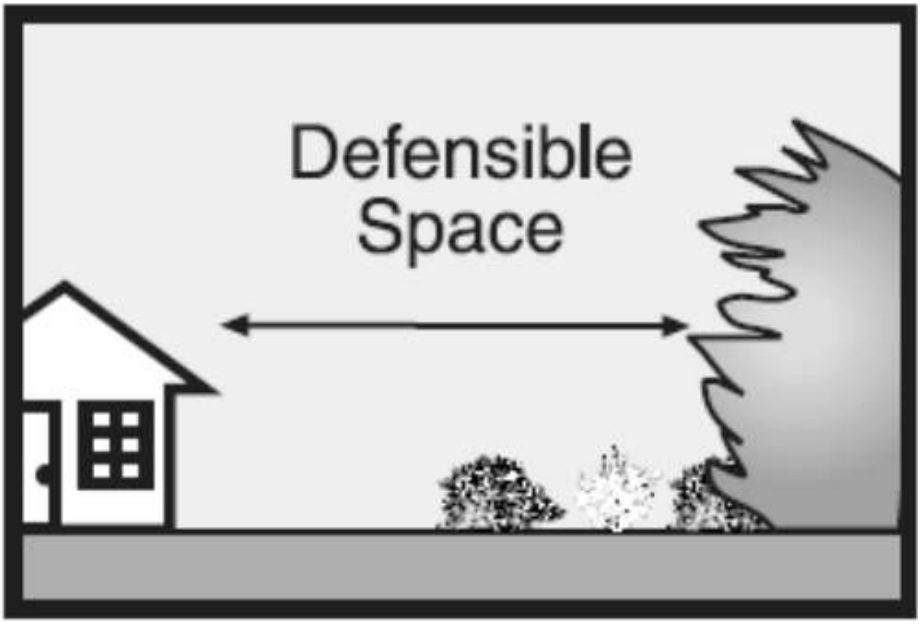
[2] Jack Cohen is a research physical scientist with the U.S. Forest Service, a nationally known expert on wildfires and a firefighter. He holds a B.S. degree in forest science. "At a very minimum, you want to make sure that there is no fire within 10 feet of your house and then no big flames within **100 feet**."

***STEP 1*: Prepare Your Defensible Space**

You many not be able to accomplish all measures listed in this booklet, but each will increase your home and family safety. Start with the easiest and least expensive actions. Begin closest to your house and move outward. Keep working on the more difficult items until you have completed your entire project.



Fact: Fire needs fuel, oxygen, and heat to spread, so reducing the amount of fuel around your home is your best defense against wildfire. Less fuel equals less heat; less heat equals less risk to your home. Your home ignition zone can be made safer by creating a *defensible space* around it. Multiple homes close together share this home ignition zone and must work together to create a safe, Fire Wise Community. To repeat, this can be best accomplished by reducing the amount of flammable vegetation surrounding a home thereby creating a *defensible space*.

Fact: Wildfire is most dangerous traveling uphill, traveling five times faster than on level ground, so understand your home site's location, overall terrain, grade and prevailing wind patterns.

Fact: Nearby arroyos are dangerous because they act as channels or "wind-tunnels" for ember-blowing winds.

Fact: Speed Counts! A house fire doubles in size every minute!

Fact: In recent California wildfires, most homes with non-flammable roofs and ample *defensible space* survived!

Begin by Helping the Firefighters ~ This is How

- ❏ Road signs should be visible; if not, clear the obstructions or call the county for assistance in removing obstructions.
- ❏ Mark your driveway and access roads clearly. Remove blocking vegetation and tree limbs.
- ❏ Use large, undecorated house numbers clearly visible night or day, from the street. Be sure to install the red and white fire dept designation numbers (also called Rural Addressing System) required for every house. If you live on a cul-de-sac with other residences, the red & white designation numbers for every residence should be clearly posted at the cul-de-sac entry.
- ❏ Ideally, your gate and driveway should be at least 14 feet wide and your gate opening at least 15 feet high to accommodate emergency vehicles.
- ❏ Ideally, there should be ample turnaround space in your driveway for fire trucks and ambulances, otherwise expect damage if emergency personnel must force their way in or must spend valuable time stringing fire hoses.
- ❏ Prominently mark the locations of your (a) well, (b) water storage tank, (c) water pressure tanks, (d) septic tank, and (e) propane tank so trucks will steer clear and equipment won't damage or be damaged.

❏ If your house is surrounded by fence, mark a section as a "breakaway" area for emergency vehicles to crash through if necessary. Breakaway zones give plain indication where emergency vehicles may enter; the cost of repairing a fence is small consideration when saving a home on fire.

❏ Install a red *Knox-Box*™ to store duplicates of your keys on your front door and gate. This allows instant access without forcible entry by firefighters. Call the Santa Fe County Fire Department for approval at 992-3070. Santa Fe County requires a Knox-box on gated entrances for firefighter entry. Then have the fire department inspect the Knox-box after installation; call the Knox Company at 800-552-5669 for information; check with your home-owner insurance agent for a reduced rate.

❏ Ideally, have at least two means of escape (doors and/or windows) in each room at ground-level.

Consider Your House By Itself

Fact: Your house is endangered by the big flames which typically last a minute or so, but danger also comes from the blizzard of blowing embers which can travel miles.

G Ideally, your house should be "self-defensible"; in other words, a structure that has a non-combustible roof and exterior.

G Do not keep combustible materials under decks or elevated porches .

- Decks, deck stairways, and portals can catch and trap embers blown from miles away. Screen over openings under decks with 1/8" or less wire mesh. Install risers or screens on open steps to decks to block embers.

- See that attic, eaves and foundation vents are screened entirely, and in good condition; use screens with mesh no larger than **1/8** inch; plug all holes in your house exterior to prevent entry of sparks and embers; pay special attention to eaves and soffits.
- Keep fuel and other flammable materials such as paint thinner in a detached shed or enclosures that are clearly marked, and at least 30 feet away from any structure.
- Use trellises of non-flammable metal.
- Remove branches hanging over your roof; remove debris from your roof, gutters and canales; remember, embers can travel several miles in windy conditions.
- Store your firewood at least 30 feet away from your house.
- Have your chimney maintained by a chimney-sweep annually. Cover chimney outlets with nonflammable mesh screens.
- Ashes from fireplaces and grills should be kept in a metal container until all embers are extinguished. The Tesuque landfill transfer station accepts ashes.
- Have ladders available for attic and roof access.
- Keep your fire extinguishers charged and available. Every 3 to 6 months, heft each fire extinguisher by picking it up and turning it upside down and back 3 or 4 times to redistribute the contents.
- Consider installing a water storage tank which could be invaluable to the firefighters in a wildfire emergency. This can be a water

catchments system (cistern), or replenished by your well. (See Appendix. Call SFCFD, 992-3070, for design and access details.)

- Consider installing a generator to operate your well pump in the event of power failure.
- Double-pane windows of tempered glass are recommended for reducing incoming heat that can torch the interior.
- Install a monitored smoke-heat detector outside every bedroom, averaging one for each 900 square foot area, each wired to a central alarm.

Consider Your Landscape

- Reduce amount and types of fuels by creating a *fire-defensible space* of at least 30 feet around your house; 60 feet is better especially if your house is on a slope; consider hedges and privacy trees as part of your house, then compute the distance of the entire defensible space accordingly.
- Fire breaks like driveways, open expanses of lawn, and walkways can interrupt a fire's path.
- Thin out surrounding trees, but gradually so to acclimate yourself to the visual change. Best to remove the least attractive ones each year until your trees are spaced appropriately both for forest health and fire-defensible space, and esthetics.
- Tree canopies on level ground should be thinned to allow for an average clearance of 10 feet **between crowns of trees**. (See Appendix.)
- For trees taller than 30 feet, limbs and lower branches should be at least 8 feet above ground level. Tree limbs, branches should be at least 10 feet from the roof; tree limbs, branches should be at least 15 feet from a chimney.
- **Full** propane tanks are safe when at least 30 feet from any structure on the same elevation as the house and 10 feet away from vegetation.

- When not in use, BBQ gas grill tanks should be stored in the shed designated for flammable material.

- Fire, in any environment, follows a path controlled by the amount and type of fuel, the contours of the terrain, and wind velocity and direction. Fires start and burn rapidly in light fuels like dry grass which, in turn, provides a path to trees. Once at the base of a tree, fire can move into low branches and climb to the top or crown. This progression, known as **ladder fuels**, is how wildfires gain strength and power. A ladder fuel is vegetation that allows a fire to move from lower growing plants to taller ones. Prune lower piñon and juniper branches **3 to 6 feet from the ground up** because they link the grasses and shrubs as ladder fuels to the tree tops in a wildfire. Pruning cuts should be clean and smooth, avoiding flush cuts and stubs. A well pruned tree heals quickly while poor pruning results in scarring and possible disease. No more than one-third of a tree's live foliage should be removed at one time to avoid stressing the tree.

- Remove dead and diseased branches from trees to reduce the ability of fire reaching the crown.

- Remove all debris from around and under your trees except for the "duff" (matted needles) which is not fuel and provides for important moisture retention; vines and ground covers can build up a heavy underbrush of dead leaves and branches, which should be removed to lessen fuel for fire; mulch over bare soil to retain moisture.

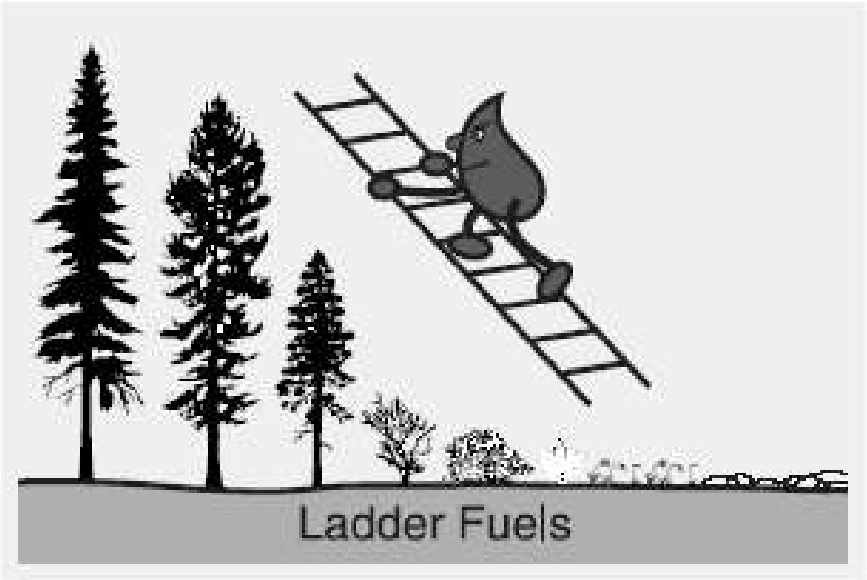
- Brush and cuttings from landscape maintenance create another fire hazard (if not chipped); this debris should be promptly disposed of leaving a clean, neat landscape.

- Fertilizing and pest control is important for maintaining healthy and, therefore, FireWise landscapes.

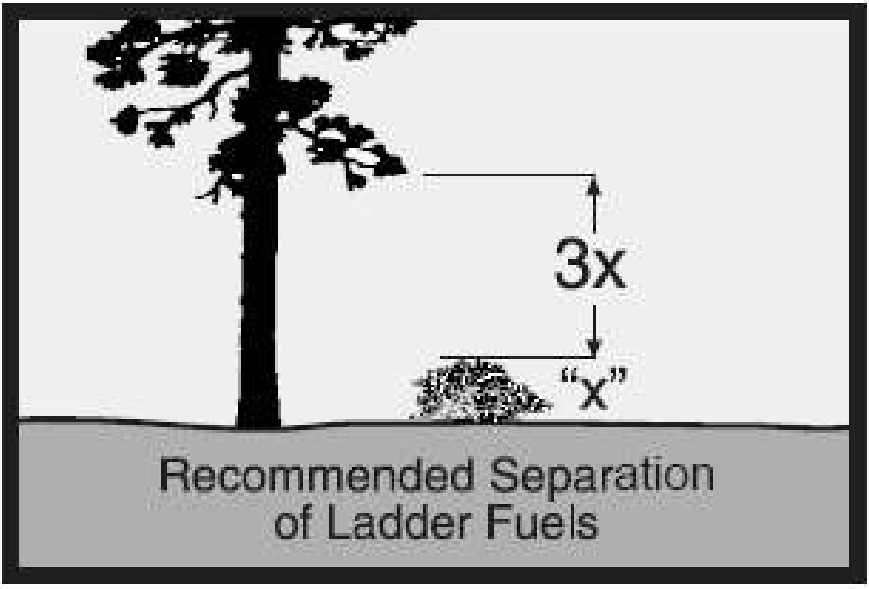
- Keep grass and weeds mowed.

- Space new trees and shrubs you plant "fire wisely"; those in the defensible area should be carefully spaced to create mini "firebreaks".

- Consider new plants for fire resistance, ease of maintenance, as well as visual enhancement of your property. Typical fire resistant plants grow close to the ground, have a low sap or resin content, grow without accumulating dead branches, needles or leaves, are easily maintained and pruned, and are drought-tolerant in some cases. Ask your nursery for suggestions.

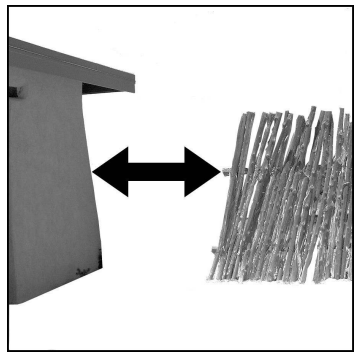


Ladder Fuels



Recommended Separation
of Ladder Fuels

- Avoid planting under roof eaves, vents, near gas meters, utility poles, propane tanks, or close to wooden fencing; plant in small, irregular clusters, not in large masses; break up the continuity of the vegetation with decorative rock, gravel, and stepping stone pathways which will slow fire spread.
- Plants nearest your home should be more widely spaced and smaller than those further away.
- Use a variety of plant species to support a mixed and healthy landscape; diversity of plants in the landscape will result in fewer insects and diseases and will better resist fires.
- Inspect your irrigation system regularly; check your garden hoses for damage; leave them connected to or near your spigots; make sure hose and nozzle can reach all parts of the house.
- Coyote fences are flammable and called "coyote fuses" by firefighters; a coyote fence should end several feet from any structure unless the fence is constructed of non-flammable material, or joined to the structure by non-flammable material such as metal, stone, adobe brick, or concrete.



- **Call** the Santa Fe County Fire Department, 992-3070, for an appointment **for a free safety inspection**.

Winter Preparations Are Also Important

Q- It is winter. Why would I have to worry about wild fires at this time of year?

A- Fire is the "equal opportunity disaster". As long as there is fuel and favorable conditions, fire is not restricted by the season of the year. In winter, grasses are dormant, usually standing upright and dry and therefore can provide "flash fire" fuel which can spread rapidly underneath piñons and other resin-based conifers. This can ignite evergreens and result in a wild fire.

The thousands of dead piñon trees around Santa Fe, victims of a beetle infestation, won't pose as high a fire threat as grass. Once the needles have fallen off dead piñon trees, there's less chance of a catastrophic wildfire. Much of the abundant grass growing last year was cheat grass. It is an early maturing, early drying invasive species. Fire loves cheat grass.

New Mexicans often let cheat grass grow right up to their homes. But the first thing residents should be doing right now to prepare for the fire season is cut down all grass and weeds within a dozen feet of their homes. Embers from a fire can jump hundreds of yards, starting a spot blaze well away from the main one.

Q-If my irrigation system is off for the winter, how can I protect my property against winter grass fires?

A- The short answer is to water, water, water. A damp ground and upper stems that are moist is a good defense. In dry winters, monthly watering of trees and plantings is essential to prevent winter-kill. When you water, either by hand or by bringing up your drip irrigation system for a day, plantings benefit by increasing moisture content in the above ground woody stems and branches. This enhances the plant or tree resistance to rapid fire spread.

Q-If I detect a winter grass fire approaching, what should I do?

A- First **call 911** and report the exact location of the grass fire, extent of the fire and distance from any structure.

To protect your own property and structures, keep special "fire hoses" next to each frost-free water hydrant. This "fire hose" is an unconnected coil of garden hose of a specific color [to denote its special use] and fitted with *a fireman's nozzle* [3] so even in freezing weather it would be available to flow water. This "fire hose" is not to be used for any other purpose except in the event of a fire. As a result the hose would be free of any standing water which would have frozen, blocking the flow. The length of this hose should be sufficient to reach the remote areas of your property. If you have more than one frost-free hydrant, split the coverage accordingly.

Direct the fireman's nozzle to unburned grasses in front of the approaching grass fire to wet the ground and dormant grasses. This will help to create a fire break to stop the advance of the grass fire. Do not waste time trying to put out the fire itself but rather saturate the unburned grasses with water in front of the fire.

Q-What other preventive measures may I take?

A- Here are three:

1) After the hard freezes have put plants, trees and grasses to dormancy, mow down grasses and seed heads without bagging the cuttings but leaving the seed heads to re-germinate the next spring. If the cutting debris is heavy, hand rake, bag and remove, but the seed heads would still remain.

2) Rake, bag and remove leaves from deciduous trees. While leaves burn slowly, they are fuel.

3) Evaluate and clear the area around your house from fire hazards. Winter is an excellent time to see the growth patterns of trees, vines

[3] This special nozzle is made by GreenThumb for True Value Hardware Stores [available at Big Joes in Santa Fe] model #581126 and retails for $13.

& plantings and to make a pruning plan for “fire-safe” controlled growth.

Q-Do I need to remove the dead needles accumulating under the piñons?

A- Dead needles tend to layer and matt together in what is commonly called “duff”. Generally this material is not very flammable, is often moist and dense and holds moisture in the ground around the drip line of the tree. In short it is more beneficial to leave it. Of course there may be exceptions but the vertical dead or dormant grasses and plantings are much more likely to fuel a winter grass fire than the needle duff of the piñons.

Q- Is mulching a fire hazard?

A- Most mulch is not flammable and can result in a protective fire barrier around plants and trees. Just as the dense, moist needle duff of piñons has a low fuel flammability factor, proper mulching can achieve the effect of a “fire break” around trees and plantings. In an approaching winter grass fire, keeping the fire away from the drip line of a tree would greatly reduce the likelihood of fire reaching the branches or stems of trees or plants. However beware, piñon cuttings which have been shredded or chipped may have a higher flammability factor when used as mulch and therefore may actually add to the fire hazard around trees and plantings.

<u>STEP 2</u>: Prepare Your Evacuation Plan

Be ready!

G Keep a current list of all the items you need to evacuate.

G Consider Your Evacuation Exits. Have more than one escape route. Your regular exit may be blocked. Note the locations of all overhead high tension wires along your escape routes in case they fall and block your escape route.

G Prepare a "**Grab-&-Go Case**". Use this when traveling to a location where you know of the facilities available, where your immediate needs are simply while in transit. Pack an overnight bag with clothes and toiletries, flashlight and batteries, portable radio, bottles of water, prescription drugs, blankets, cell phone, a complete copy of your Off-Site Kit, safe-deposit key, and contact list.

G Assemble an "**Emergency Preparedness Kit**" to survive under extreme conditions when there is no evacuation center available or you do not know what facilities will be available at your destination. (See example in the Appendix.)

G Prepare a "**Keep-Offsite Kit**". This will be invaluable in the aftermath of any emergency. (See example in the Appendix.)

G Designate a specific meeting place for household members in case of separation during evacuation.

G Practice family fire drills and your fire evacuation plan; be sure that the meeting place and escape routes are understood by all family members. Have plans for a minimum of two fire escape routes; if you live on a one-way-in/one-way-out road, allow for extra time.

G Know all pertinent gate codes; leave gates open if you are forced to leave!!

G Keep the Yellow Evacuation note and bright green plastic tape for marking your house as unoccupied when you leave so First Responders can prioritize rescue efforts.

Consider Your Neighborhood

- In case escape routes are blocked, neighbors should develop a "buddy system" to look after children, pets, and the infirm.
- Designate a nearby "safe house" which is the most fire-defensible home in the area so neighbors who can not escape can congregate until the threat passes. (A safe house will be ideally on level ground, constructed of non-combustible material, surrounded by adequate fire-defensible space.)
- Develop a neighborhood call list (phone tree) so neighbors can check on and inform other neighbors in an emergency.

NOTE: If the fire is overtaking your home and there is no escape route, it **might be** more dangerous to evacuate the house than remain in it. Your skin and lungs will burn faster than a house. Since the greatest danger is probably grass fire, the fire might pass so quickly that it won't ignite your house.

***STEP 3*: Know How to Evacuate!**

- G Keep an index card with your name, address, phone number and directions to your house under or attached to your telephone; this serves as an "at-hand" reminder of important information in case of panic when calling 911.
- G If you see smoke or flames, **call 911**.
- G Remain calm; be methodical.
- G Evacuate everyone not essential in protecting your home **including pets**. (Refer to "If You Have Time" below.)
- G Wear only cotton or wool clothes, long pants, long sleeved shirts, gloves and a handkerchief to cover your face.

and…..If You Have Time

- G Shut off propane tank or natural gas intake.
- G Remove combustible curtains and blinds from windows.
- G Place combustible furniture in the center of each room.
- G Prop a ladder, if possible, against the house to allow firefighters access to the roof.
- G Periodically check the roof and crawl spaces for embers, smoke or fire.
- G Fill sinks, bathtubs and other containers with water; do the same outside with garbage cans and buckets.
- G Soak rags, towels and blankets with water to help beat out embers or small fires.
- G Place remaining vehicles in the garage facing out, windows up **with the keys in the ignition**; close garage doors but leave unlocked; if possible, disconnect or disarm all automatic electric door openers.
- G Put blankets, water, and overnight bag in car; place all valuable papers and mementos in the car in a fire resistant box if available.
- G Remove flammable furniture from decks and porches.

G Turn on your radio and listen for the latest developments

….As You Evacuate

G Close all windows.

G Close all **doors**, inside and out, but **do not lock**.

G Leave lights on.

G **Do not** set your house **alarm**.

G Leave garden hoses connected.

G Place Yellow Evacuation notice on front door, and bright green tape on gate indicating you have evacuated.

G Leave all **gates open**.

G Contact a friend or relative and let them know your exact plans~ escape route, cell phone number, time of departure, estimated time of arrival, car license tag number, and names of those with you.

G When evacuating, drive, do not walk; strong wind carries blinding smoke and embers, and is loud. You can become confused, lost, and in danger.

G In Santa Fe, evacuate to Chavez Recreation Center; be sure to check-in so people can get in touch.

G Remember that firefighters sometimes must forcibly enter your house by breaking your security gate, doors, windows, or roof.

G **Remember your safety deposit key.**

G Remain calm.

APPENDIX

Questions to ask Yourself about Home Owners Insurance

1. Do I have enough coverage to protect my home or rebuild it?
2. Do I have enough coverage to protect the contents of my home?
3. Do I have an inventory and valuation of my possessions?
4. Do I review my policy annually for replacement values and deductibles?
5. Have I considered "special coverages" for unusual items?
6. Have I identified risks not covered by my policy?
7. Do I really understand my coverage?
8. Have I checked my carrier's references?
9. Have I checked my carrier with insurance rating agencies?

Assembling an Emergency Preparedness Kit

If you are cannot evacuate, or if you are uncertain about evacuation facilities, this list can help your family weather-out a disaster.Prepare at least three days worth of water, food, and personal hygiene for yourself, your family and your pets. Each member needs about a gallon of water per day. Food should have variety and include both canned and freeze-dried types. Military MREs (Meals-Ready-to-Eat) are usually easy to prepare and have a long shelf life. Include a change of warm clothing, shoes and socks as well as blankets or sleeping bags.

Emergency Preparedness Kit Contents

1. Water, 1 gallon of water per person per day, for drinking and sanitation
2. Food, at least a three-day supply of non-perishable food.
3. Battery-powered radio and a NOAA Weather Radio with tone alert, and extra batteries for both.
4. Cell phone, extra charged battery and charger.
5. A duplicate set of the "**Keep–Offsite Kit**".
6. Flashlight and extra batteries.
7. First Aid kit.
8. Car Fire Extinguisher.
9. Whistle to signal for help.

10. Dust mask or cotton t-shirt, to help filter the air.
11. Personal toiletries.
12. Moist towelettes for sanitation.
13. Wrench or pliers to turn off utilities.
14. Can opener.
15. Plastic sheeting and duct tape to shelter-in-place.
16. Unique family needs, such as medications, infant formula or diapers, and pet food.
17. Garbage bags and plastic ties for personal sanitation.
18. A sleeping bag or warm blanket for each person.

Except for the water supply, all of this can be stored in two or three medium-sized plastic utility tubs or bins. These are available in many different sizes, and can be put together in different combinations to fit into your car and in a convenient place in your home. ***Your " Keep-Offsite" Kit***

In a location other than your home, such as a **safety deposit box**, a packet [**Keep-Offsite Kit**] containing copies of important documents will make continuation or restoration of services manageable.

Be sure to include a complete copy of your Keep-Offsite Kit in your **Grab-&-Go Case** as well as your **Emergency Preparedness Kit**.

Your kit should contain:

1. Copies of your driver's license, all credit cards, insurance cards, HMO cards, Medicare cards.
2. Copies of will and/or trust documents, health care directives, powers of attorney, insurance policies, investment and bank statements, tax returns, Social Security cards, passports, citizenship and military records, deeds, vehicle titles and insurance, and other important legal documents and contracts.
3. Photos, inventory and valuations of personal belongings.
4. Photos of exterior landscaping and improvements.

5. If you have computer know-how and the equipment, scan all the above as images which can be “burned” into a CD; make copies of the CD and store as above.

More about Defensible Space

***Defensible space* is defined** as:

☞ an area around a structure where flammable materials and vegetation are cleared, or reduced, to slow the spread of wildfire towards the structure:

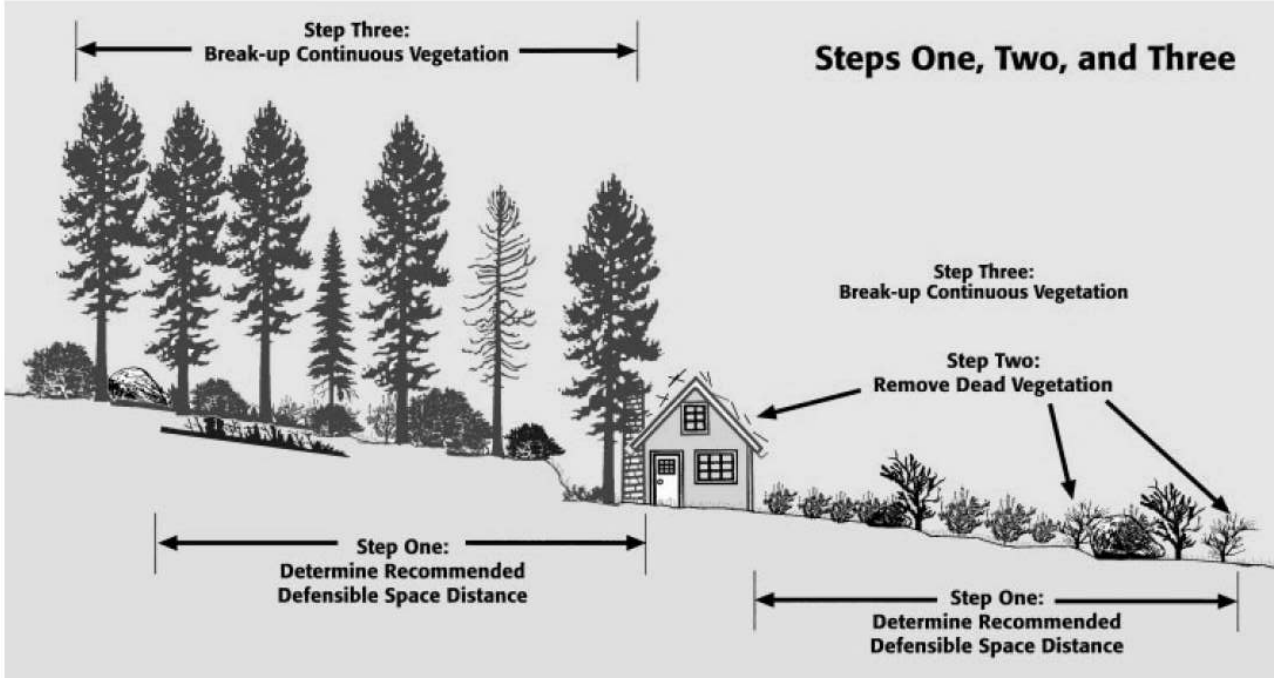
" **Defensible space** lessens the chance of a structure fire moving from the building to the surrounding forest,

" Your house is more likely to withstand a wildfire if grasses, brush, trees and other common forest fuels are trimmed, edited or maintained to reduce wildfire intensity,

" The actual design and development of your **defensible space** depends on several factors:

- materials used in the construction of your home,
- slope of the ground on which structures are built,
- surrounding topography, including sizes, types, and spacing of vegetation on your property.

" Furthermore, **defensible space** provides room for the firefighters to do their jobs.


Steps One, Two, and Three
Step Three:
Break-up Continuous Vegetation
Step Three:
Break-up Continuous Vegetation
Step Two:
Remove Dead Vegetation
Step One:
Determine Recommended
Defensible Space Distance
Step One:
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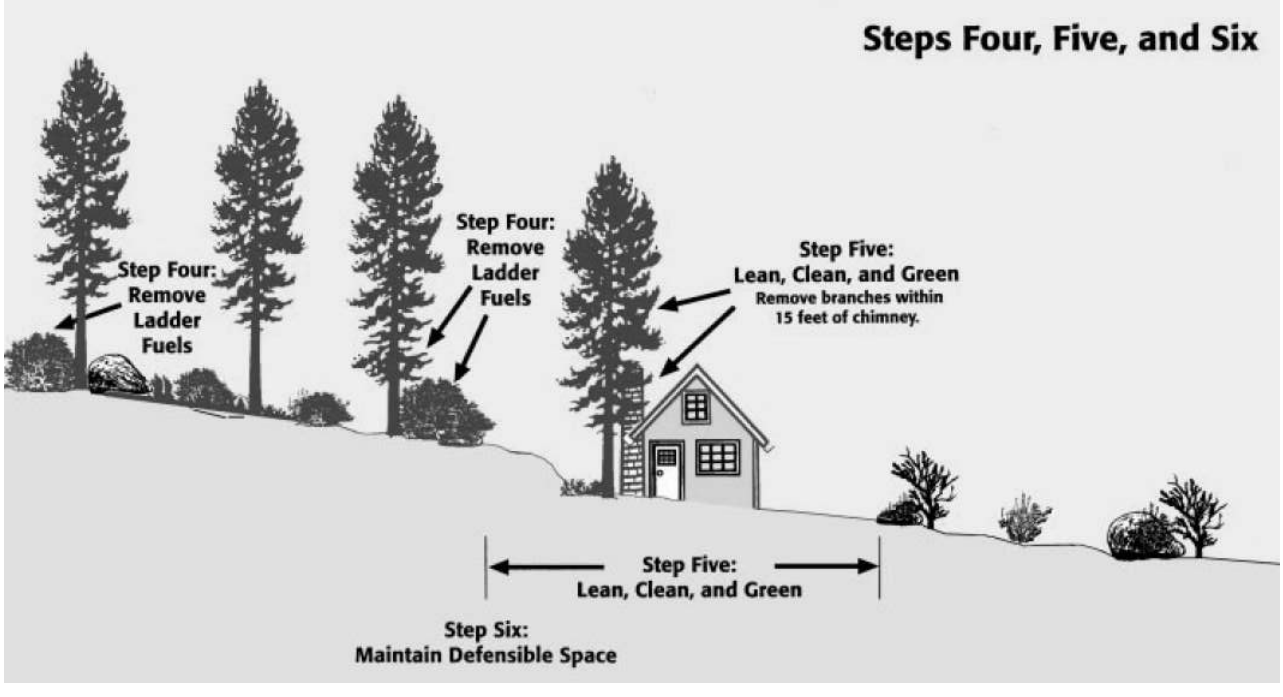
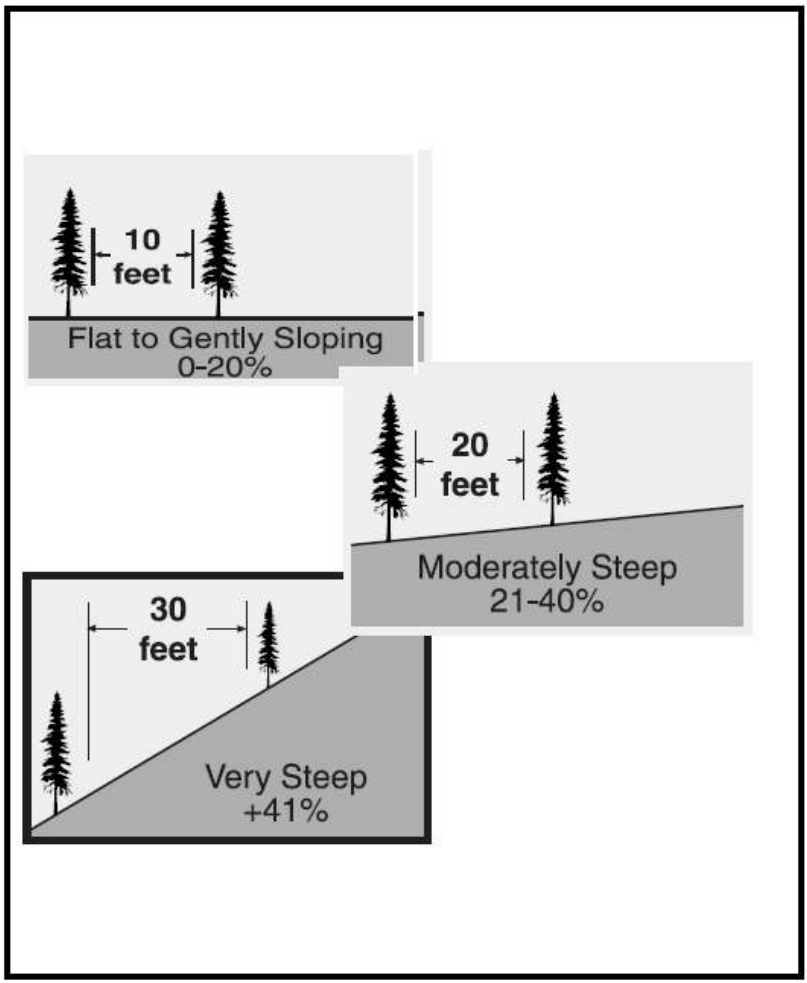
Defensible Space Distance


Steps Four, Five, and Six
Step Four:
Remove
Ladder
Fuels
Step Four:
Remove
Ladder
Fuels
Step Five:
Lean, Clean, and Green
Remove branches within
15 feet of chimney.
Step Five:
Lean, Clean, and Green
Step Six:
Maintain Defensible Space

Recommended Separation Distances Between <u>Tree Canopies</u>

Separation is determined by steepness of slope.

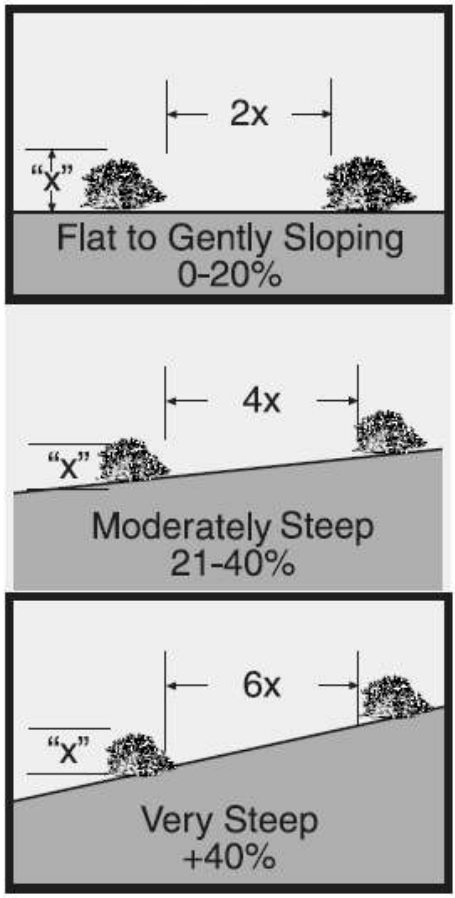


Measure distance between outer branches.

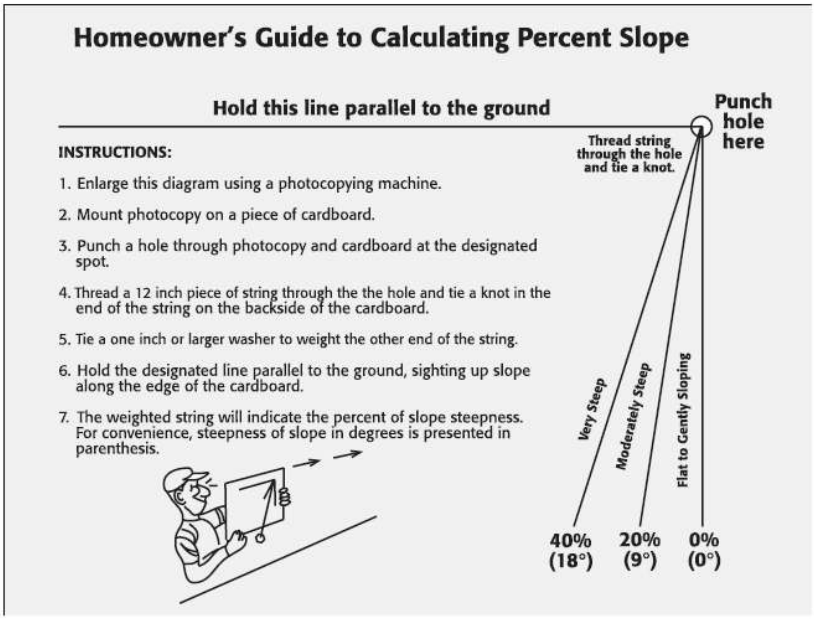
Recommended Spacing for <u>Shrubs and Small Conifers</u>

Note: separation distances are measured between canopies (outermost branches) and not between trunks;

"x" equals height of the shrubs.



Example: If your house is on a **10% slope [0 to 20%] and the brush is 4 feet tall**, the **separation distance** would be **2 times the shrub height or 8 feet.**



We value the landscapes surrounding our homes, so the excuses for not creating a defensible space vary:

① Some believe "wild fire won't happen to me";

② others think the costs outweigh the benefits;

③ some fail to implement defensible space practices simply because of a lack of knowledge or misconceptions;

④ others have a perception that an effective defensible space will result in an unattractive landscape that will not compliment the home or contribute to the value of the property;

☝ **Remember,** as an adjacent landowner, your failure to cooperate by not creating an effective defensible space may pose a threat to a nearby property owner's house….and you could be the victim of the same nearby attitude!

☝ **Remember**, fire safety is not stripping away everything from around the home. Although dead leaves can allow fire to spread, removing all leaf litter depletes the soil of nutrients. And, though pruning is a sound way to eliminate ladder fuels, improper pruning damages plants and trees and disrupts the environmental balance of the property. Landscapes that are easy to maintain are more desirable than complex arrangements that may be neglected. Over time, plants grow and spread, mulches dry out, leaves and pine needles accumulate. All this contributes to the fuels which can accelerate a wildfire. Creating a Fire Wise landscape is a process that should take place logically and incrementally.

☝ **Remember**, continuous fuels provide wildfire a path along which to grow and spread. Interrupting a potential fire's fuel-path is the primary objective in maintaining a FireWise property. A FireWise landscape is a healthy landscape - one whose plants are durable, fire resistant, compatible with the terrain and climate, and well-maintained. As trees grow, careful pruning preserves their appearance, structural integrity; pruning has an additional benefit of maintaining a tree's ability to resist fire.So, while you many not be able to accomplish all measures, each will increase your home and family safety. Start with the easiest and least expensive actions. Begin closest to your house and move outward. Keep working on the more difficult items until you have completed your entire project. You are the person who must determine how much to do to meet equally important objectives of protecting home, environment, and esthetic value.

☝ **Remember** to space trees or tree clusters depending on the grade and slope in your defensible space:

> 0% - 20% slope – 10 feet separation; 21% - 40% slope – 20 feet separation; 41% and above – 30 feet separation.

An easy demonstration of fire on a slope is to light a match and hold it level for a couple of seconds, then point the flame downward and observe how the flame lengthens and gets hotter. (Next page)

Break up continuous vegetation to make smaller, natural fire line breaks where possible. It may be necessary to replant flammable plant materials with other plant materials to prevent soil erosion. Maintain your defensible space and re-evaluate your wild fire defense strategy annually.☝ **Remember**, even from a distance, the heat from a wildfire may be enough to ignite the furnishings inside your house. Tempered or dual pane windows and sliding glass doors can reduce the potential of breakage from windblown debris and reduce the amount of heat transmitted from the wildfire to the interior of your home. Ideally, windows 30 inches or larger diameter should be of tempered glass.Blowing embers are a real and dangerous threat, and can ignite in uncovered nooks and crannies in and around your house. Again, | Remove all standing dead trees from within your defensible space.

| Remove downed dead trees within your defensible space that have recently fallen, but are not embedded in the soil.

| Remove all dead shrubs, dried grasses, dried wildflowers from defensible space.

| Remove all dead needles, leaves, and twigs still attached to trees and shrubs that you can reach.

Report Known External Water Sources

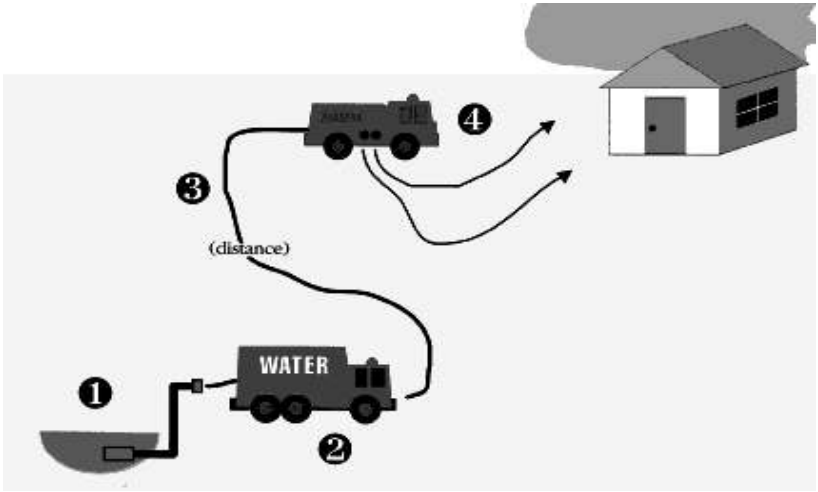
Although the Fire Department brings water tender trucks (tankers), each carries only between 1,000 to 1,500 gallons of water, not nearly sufficient for fighting a wildfire or multiple house fires.

If you have or know of an external source of water such as a swimming pool or 10,000+ gallon water tank, please **notify the fire department** at 992-3070. These can be invaluable in fighting fires.

Below ground cisterns manufactured from linear polyethylene in one piece, seamless construction with a minimum storage supply of 2,500 gallons can be invaluable to a pumper truck.

Warning: Smaller cisterns will collapse under pumping pressure.

As a result, notifying the fire department of your external water source will permit knowledgeable professionals to inspect, certify and document the location of your water source for future use.



How An External Water Source Works

[1] A dry hydrant (non-pressure connection for a fire-hose) has been installed at a dependable water source. The approach area must be planned to have a natural or prepared surface to hold the extra weight of a water tender.

[2] With two pumps available (in this case one on a water tender and on the attack engine) the water tender connects directly to the intake on to the attack engine.

[3] Insert additional pumps into the line as necessary to assure an adequate supply of water reaches the attack engine.

[4] The attack engine receives the water from the water tender and directs it to the attack lines used against the fire.

How Does a House Ignite?

A house can ignite when exposed to very high temperatures even if the flames do not come in direct contact with the structure ~ this is called radiation heat transfer. Ignition of your home by "heat radiation" is more likely when it is exposed to a very large fire within close range for a sustained period of time. By creating a **defensible space** around your house, and choosing building materials that can withstand high temperatures, your home is less likely to ignite by radiation heat transfer. The chance of ignition increases under the following conditions:

~ increasing flame size;
~ the greater the surface area of the structure exposed to the flames;
~ the longer the duration of the exposure to fire;
~ the smaller the distances between the flames and the structure.

Ignition of a house by convective heat transfer [radiation] requires the fire or super-heated air to come in direct contact with the structure. Even a very small flame can ignite a house if it comes in contact with the house for a long enough period of time.

By clearing even small amounts of vegetation away from your home, choosing nonflammable siding and deck material, plugging and screening apertures around your house, and building on a minimal slope, your home is much less likely to ignite by convective heat transfer.

Request additional guidance from your local New Mexico State Forestry office or Forest Fire Department, and from your local fire department at 992-3070.

The TRA thanks New Mexico State University web site
www.cahe.nmsu.edu/defensible_zone/
and
www.firewise.org for checklists and graphics[4].

Our special thanks to Santa Fe County Fire Marshal Hank Blackwell, City of Santa Fe *Wildland/Urban Interface Specialist* Michelle "Shelley" Nolde, and former Tesuque Fire Prevention Officer J. B. Toups for their invaluable assistance in preparing this booklet.

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