

Tennessee Fire Adapted Communities Guide

A WILDLAND FIRE SAFETY GUIDE FOR TENNESSEE RESIDENTS



Information for residents of Tennessee to protect their homes and communities from the effects of wildfire.

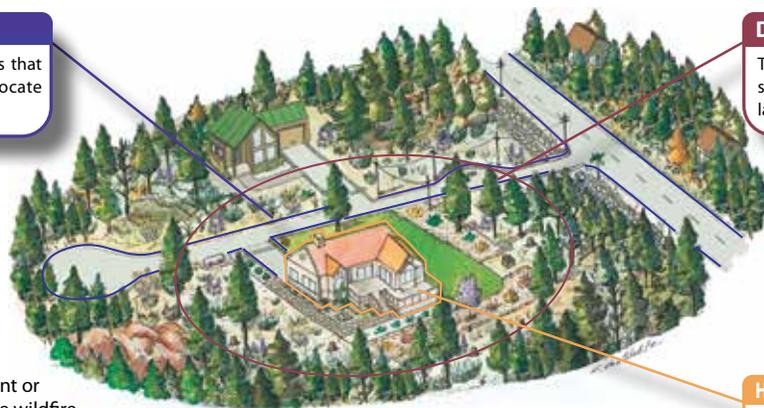
Wildfire threat reduction recommendations are presented for three areas around your home.

Access

This zone provides suggestions that help emergency responders locate your home in a timely manner.

Defensible Space

This zone pertains to the vegetation surrounding your home, both landscape plants and native plants.



Home and Construction Materials

This zone includes recommendations for home construction.

Contact your local fire department or Tennessee Division of Forestry for free wildfire safety guidelines. Information can also be obtained from www.BurnSafeTN.org and www.fireadapted.org.



Tennessee is at Risk for Wildfire

Photo courtesy of Tennessee City VFD

What is a Fire Adapted Community?

Communities in wildfire prone areas are learning what it takes to be fully prepared for wildland fire. A fire adapted community (FAC) incorporates people, buildings, businesses, infrastructure, cultural resources, and natural areas into the effort to prepare for the effects of wildland fire. Community leaders and residents accept responsibility for living in an area with wildfire hazards. They have the knowledge and skills and have adopted tools and behaviors to prepare in advance for their community's resilience in a wildfire prone environment.



Photo courtesy of Nathan Waters

The charred remnants of this trailer provides evidence of the wildfire potential throughout the area.

Fact: Flammable vegetation combined with hot, dry, windy weather creates an extreme fire hazard. Steep slopes and valleys make the conditions even worse.



Photo courtesy of Nathan Waters

Fact: Many homes and cabins in Tennessee are built and maintained in a manner that makes them easily ignitable during wildfires.



Photo courtesy of Nathan Waters

Fact: With only one way in and out of many areas, there is potential for people to be trapped by wildfires.



Photo courtesy of Nathan Waters

Fact: Many wildfires in Tennessee are due to hot ashes and embers from grills, campfires, fireplaces, and wood heaters, being discarded in woods or yard grass.



Photo courtesy of Dave Fiorella

CONCERNED ABOUT YOUR HOME?

On Page 17 and 18 is the "TDF Home Assessment Form". It will help you evaluate your landscaping, building materials and housekeeping practices. For more information, go to www.BurnSafeTN.org.



Photo courtesy of Nathan Waters

Who Wins, Who Loses...

Why do some houses survive a wildfire, while others are destroyed? Research findings prove that house survival during wildfire is not random, miraculous, or "dumb luck." Rather, it is how the house is built, the characteristics of the adjacent vegetation and other fuels, and routine maintenance that often determine which homes burn and which survive. Wildfire risk reduction activities are actions completed before a wildfire occurs which improve the survivability of people and the home. For additional wildfire safety information, go to www.BurnSafeTN.org and the Fire Adapted Communities website at www.fireadapted.org.

The homeowner is the most important person in preventing a house from being destroyed by wildfire. It is the actions that a homeowner takes before a wildfire occurs that are critical.

Wildfire can threaten your house in three ways...



Photo courtesy of Nathan Waters

CONTACT BY FLAMES

This type of threat occurs when vegetation and other fuels burning near the house produce flames that come in contact with the home and ignite it. Often, it happens when fire burns through a uniform layer of vegetation right up to the house. Direct contact by flames is probably what most homeowners visualize when they think of a house burning during a wildfire.



Photo courtesy of Nathan Waters

RADIANT HEAT

Radiant heat melted the vinyl siding on this house. Flames never came in contact with it. Radiant heat is produced by invisible thermal energy that travels out in all directions from a flame. When a house receives enough radiant heat for sufficient time, it will ignite. Sometimes radiant heat can break windows and allow burning embers to enter the house.



Photo courtesy of Mike Dannerberg

FLYING EMBERS

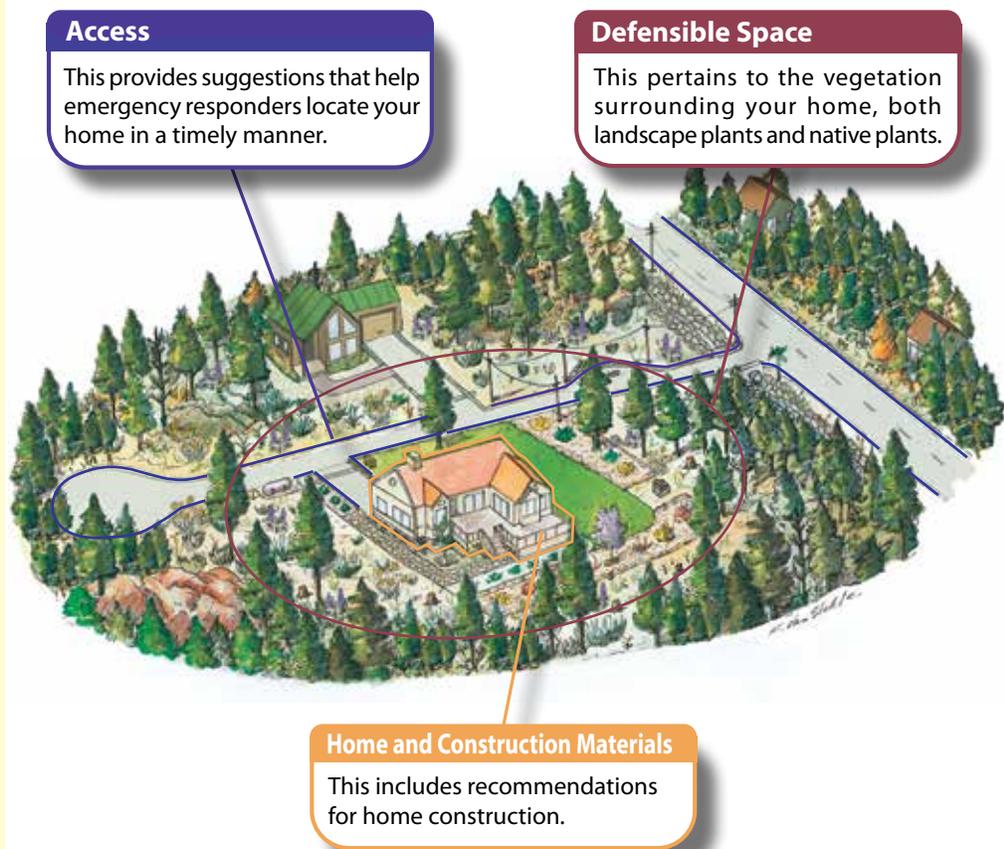
More houses burn due to flying embers than any other reason. If fire conditions are right, embers can be lofted high into the air and transported more than a mile. If these burning embers land on easily ignitable materials, this includes your home, a new fire can start.

HARDWOOD FOREST	PINE FOREST	GRASSLANDS
FLAME LENGTH 7 FEET 75 acres can burn with in one hour	FLAME LENGTH 12 FEET 340 acres can burn with in one hour	FLAME LENGTH 45 FEET 3000 acres can burn with in one hour
TRAVELS AT 1 MPH	TRAVELS AT 2 MPH	TRAVELS AT 5.5 MPH

Above are three types of vegetation common to Tennessee. These are computer generated estimates of how they would burn under certain conditions. These predictions assume a wind speed of 20 mph, flat terrain and typical moisture contents of living and dead vegetation in the spring. Importantly, frequent spotting can greatly increase spread rates shown.

What can homeowners do to reduce the wildfire threat?

Wildfire threat reduction recommendations presented for three areas around your home. Each one will be discussed in detail.



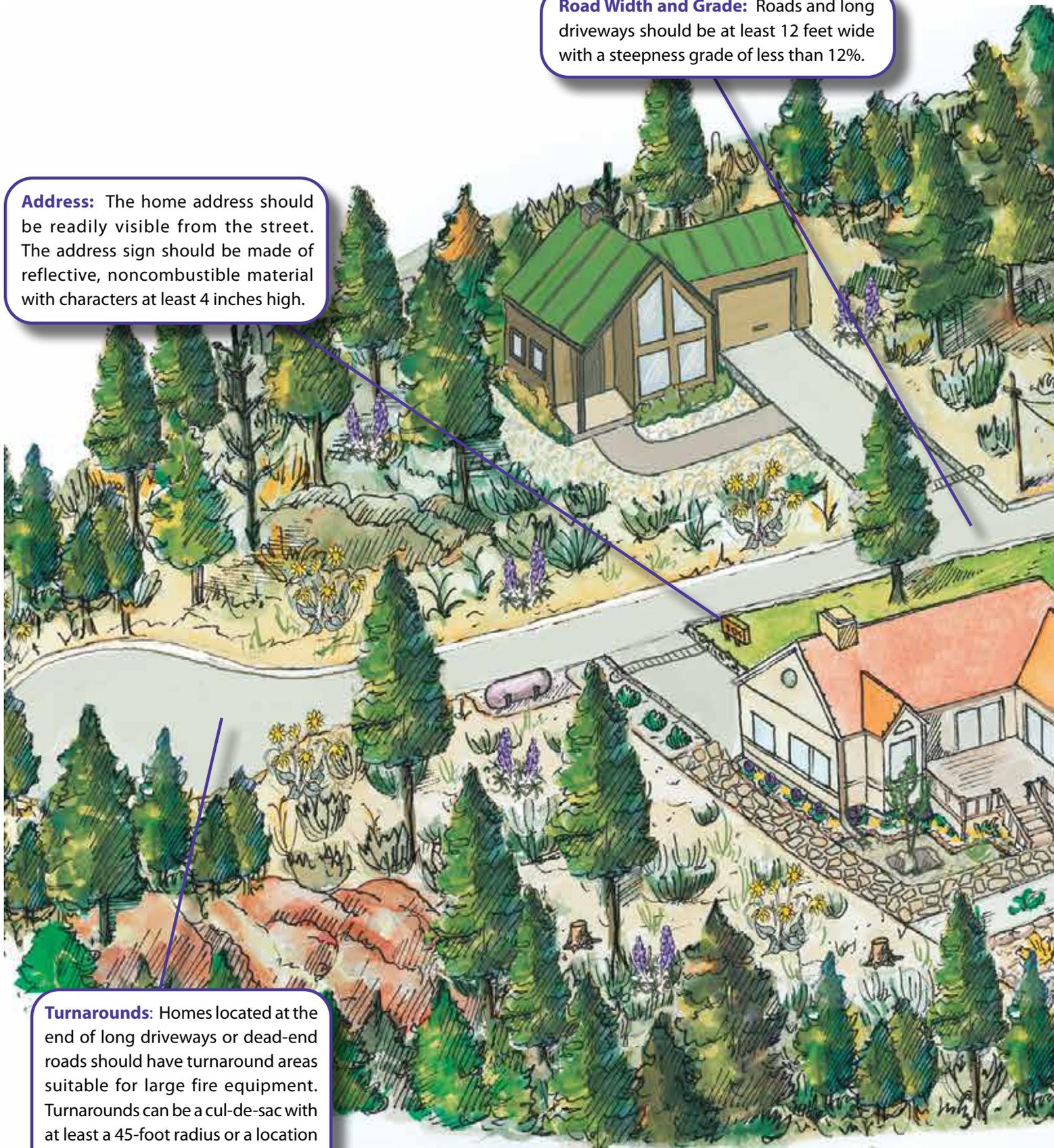
Contact your local fire department or Tennessee Division of Forestry for free wildfire safety literature. Information can also be obtained from www.BurnsafeTN.org, the Fire Adapted Communities website at www.fireadapted.org, Ready, Set, Go! at www.wildlandfirersg.org and Firewise USA® at www.firewise.org.

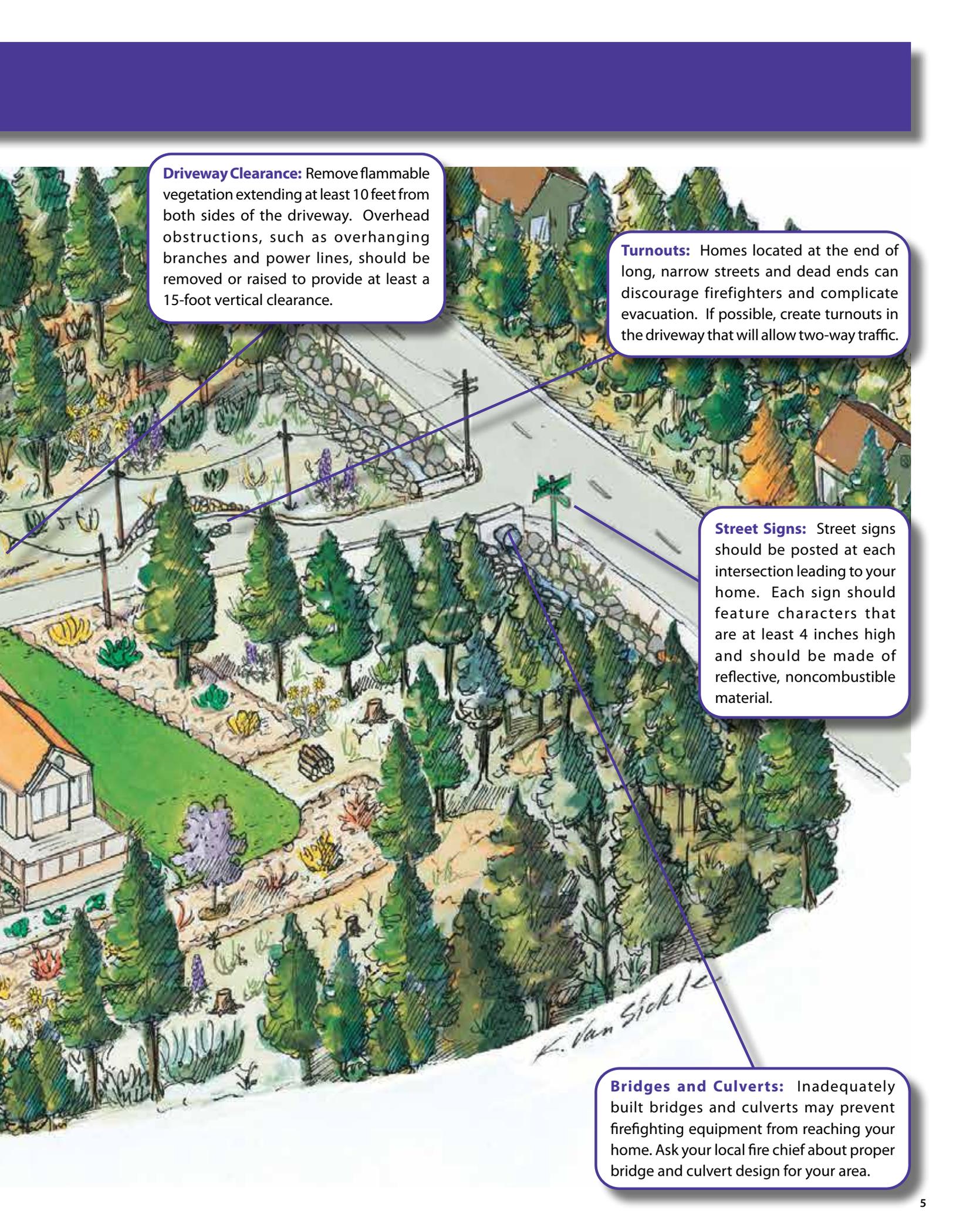
Access

Road Width and Grade: Roads and long driveways should be at least 12 feet wide with a steepness grade of less than 12%.

Address: The home address should be readily visible from the street. The address sign should be made of reflective, noncombustible material with characters at least 4 inches high.

Turnarounds: Homes located at the end of long driveways or dead-end roads should have turnaround areas suitable for large fire equipment. Turnarounds can be a cul-de-sac with at least a 45-foot radius or a location suitable for a three-point turn.





Driveway Clearance: Remove flammable vegetation extending at least 10 feet from both sides of the driveway. Overhead obstructions, such as overhanging branches and power lines, should be removed or raised to provide at least a 15-foot vertical clearance.

Turnouts: Homes located at the end of long, narrow streets and dead ends can discourage firefighters and complicate evacuation. If possible, create turnouts in the driveway that will allow two-way traffic.

Street Signs: Street signs should be posted at each intersection leading to your home. Each sign should feature characters that are at least 4 inches high and should be made of reflective, noncombustible material.

Bridges and Culverts: Inadequately built bridges and culverts may prevent firefighting equipment from reaching your home. Ask your local fire chief about proper bridge and culvert design for your area.

Home and Construction Materials

Eaves: The eaves of a home act as a heat trap for hot air and gases, greatly increasing the chance of ignition. Covering the underside of the eave with a soffit, or “boxing in” the eave, allows the heat to escape.

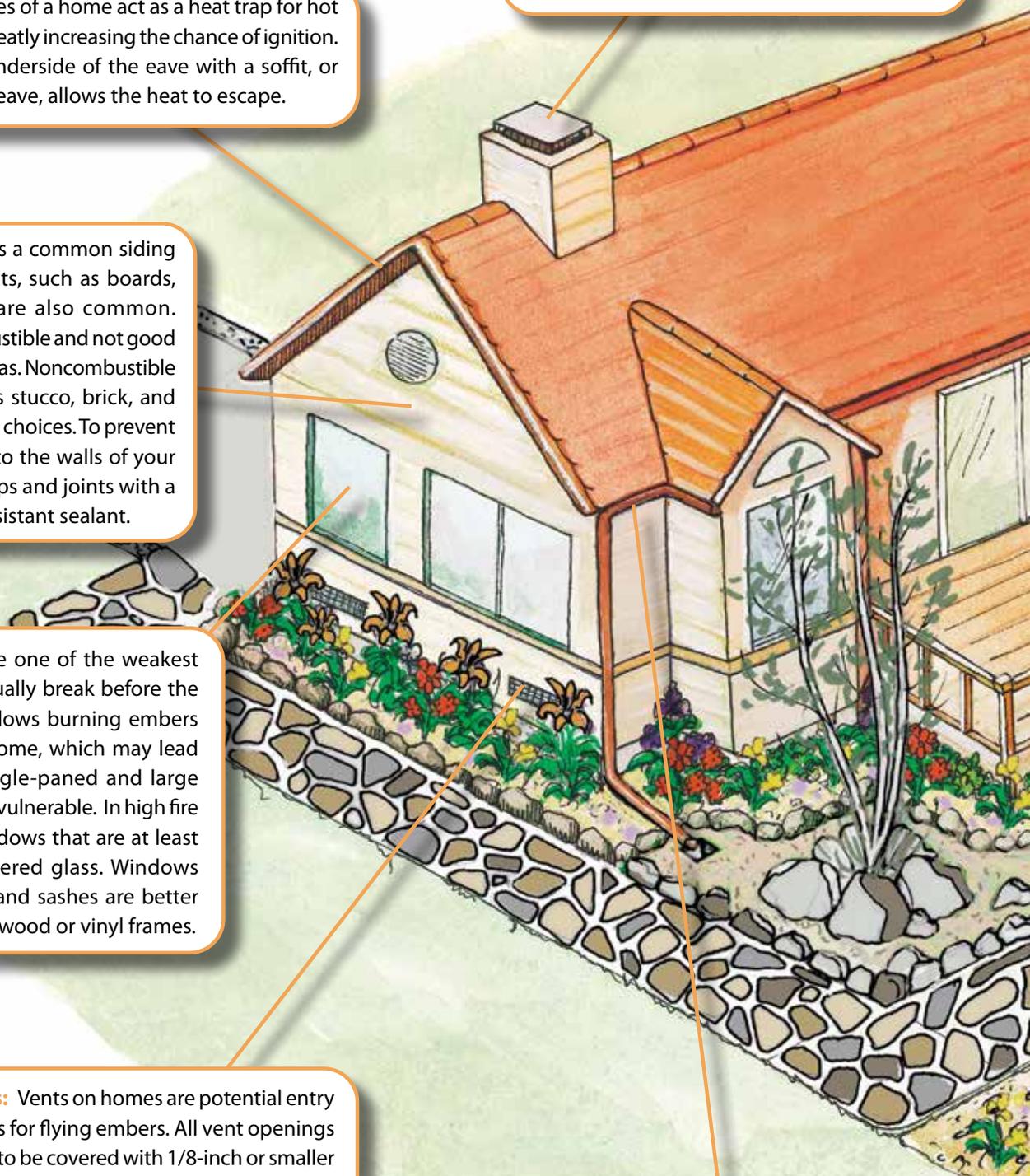
Chimneys: Chimney and stovepipe openings should be screened with 1/2-inch or smaller wire mesh or an approved spark arrestor cap.

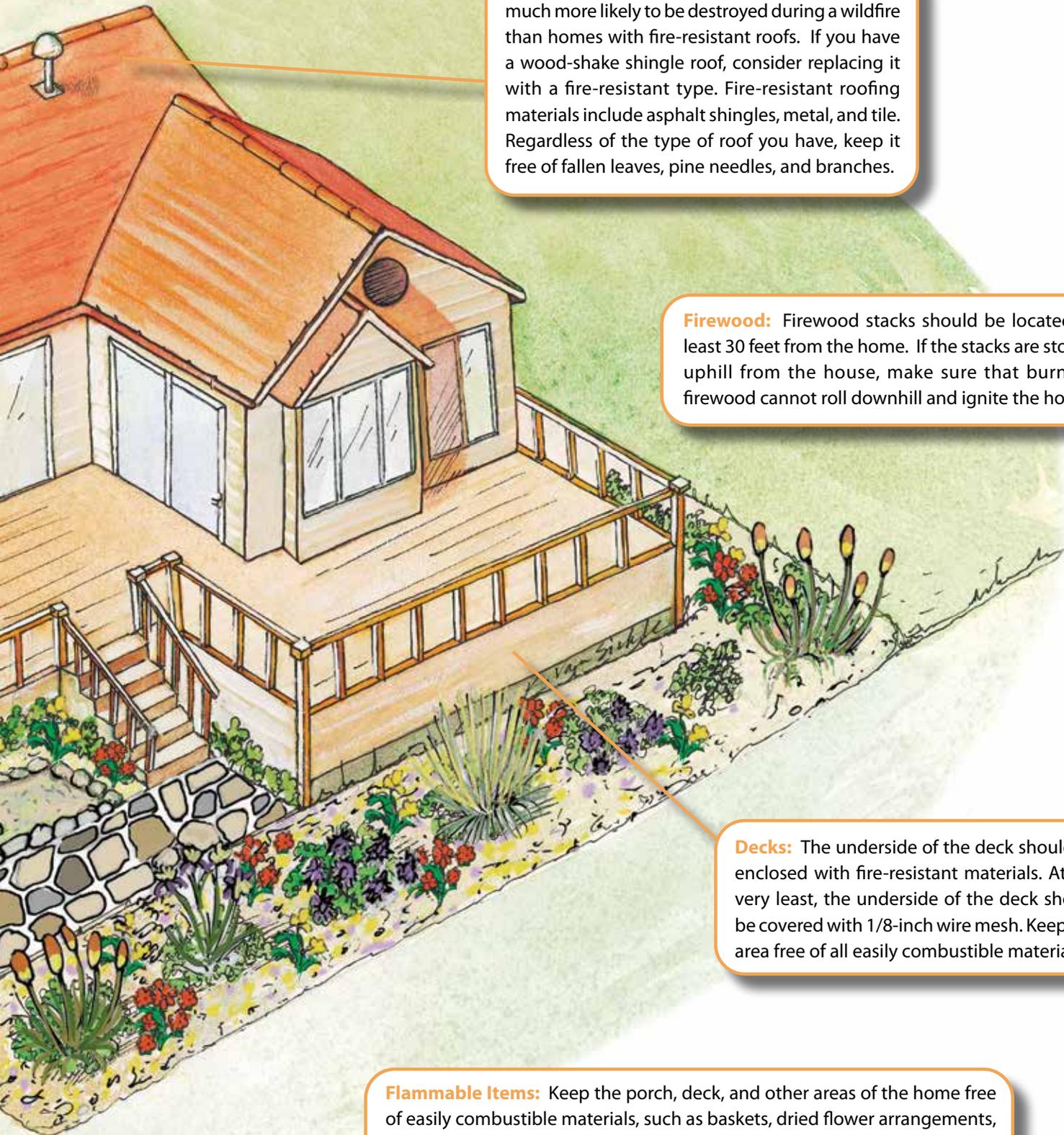
Exterior Siding: Vinyl is a common siding material. Wood products, such as boards, panels, and shingles, are also common. However, they are combustible and not good choices for fire-prone areas. Noncombustible siding materials, such as stucco, brick, and cement board, are better choices. To prevent embers from getting into the walls of your home, seal all seams, gaps and joints with a good quality ignition resistant sealant.

Windows: Windows are one of the weakest parts of a home and usually break before the structure ignites. This allows burning embers and heat to enter the home, which may lead to internal ignition. Single-paned and large windows are particularly vulnerable. In high fire hazard areas, install windows that are at least double-glazed or tempered glass. Windows with aluminum frames and sashes are better choices than those with wood or vinyl frames.

Vents: Vents on homes are potential entry points for flying embers. All vent openings need to be covered with 1/8-inch or smaller wire mesh. Do not use fiberglass or plastic mesh because they can melt or burn.

Rain Gutters: Rain gutters trap flying embers. Always keep your rain gutters free of leaves, pine needles, and debris. Check and clean them several times during the spring and fall fire seasons.





Roof: Homes with wood-shake shingle roofs are much more likely to be destroyed during a wildfire than homes with fire-resistant roofs. If you have a wood-shake shingle roof, consider replacing it with a fire-resistant type. Fire-resistant roofing materials include asphalt shingles, metal, and tile. Regardless of the type of roof you have, keep it free of fallen leaves, pine needles, and branches.

Firewood: Firewood stacks should be located at least 30 feet from the home. If the stacks are stored uphill from the house, make sure that burning firewood cannot roll downhill and ignite the home.

Decks: The underside of the deck should be enclosed with fire-resistant materials. At the very least, the underside of the deck should be covered with 1/8-inch wire mesh. Keep this area free of all easily combustible materials.

Flammable Items: Keep the porch, deck, and other areas of the home free of easily combustible materials, such as baskets, dried flower arrangements, newspapers, pine needles, and debris. Pay special attention to the gap or seam where the deck meets the exterior wall as this is a place where fine organic material may collect providing an ignition source for embers.

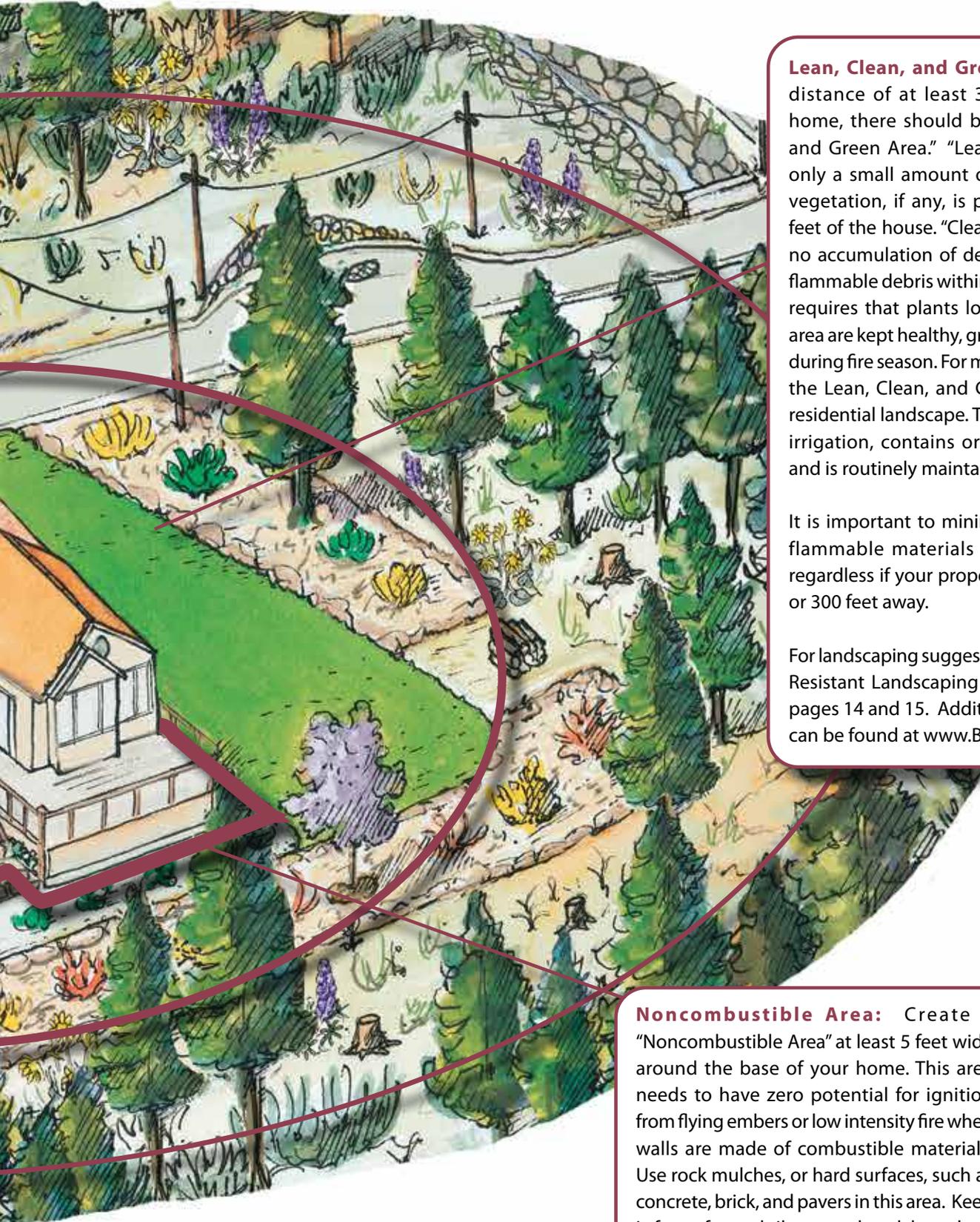
Defensible Space

Wildland Fuel Reduction

Area: The Wildland Fuel Reduction Area usually lies beyond the residential landscape area and is where mountain laurel, rhododendron, and other wild plants grow. Within this area:

- Remove all dead vegetation (dead shrubs and trees, dried grass, fallen branches, pine needles, etc.).
- Thin out thick shrubs and trees to create a separation between them.
- Remove “ladder fuels” by removing low tree branches, and removing or pruning the shrubs under the trees. Vines, especially Kudzu, can easily act as a ladder to allow fire to climb into trees and shrubs (Kudzu is a dangerous plant to simply have growing on the ground near your home, too!).





Lean, Clean, and Green Area: For a distance of at least 30 feet from the home, there should be a “Lean, Clean, and Green Area.” “Lean” indicates that only a small amount of live flammable vegetation, if any, is present within 30 feet of the house. “Clean” means there is no accumulation of dead vegetation or flammable debris within the area. “Green” requires that plants located within this area are kept healthy, green, and irrigated during fire season. For most homeowners, the Lean, Clean, and Green Area is the residential landscape. This area often has irrigation, contains ornamental plants, and is routinely maintained.

It is important to minimize or eliminate flammable materials near your home regardless if your property line is 10 feet or 300 feet away.

For landscaping suggestions, see “Ignition Resistant Landscaping in Tennessee” on pages 14 and 15. Additional information can be found at www.BurnSafeTN.org.

Noncombustible Area: Create a “Noncombustible Area” at least 5 feet wide around the base of your home. This area needs to have zero potential for ignition from flying embers or low intensity fire when walls are made of combustible materials. Use rock mulches, or hard surfaces, such as concrete, brick, and pavers in this area. Keep it free of woodpiles, wood mulches, dead plants, dried leaves and needles, flammable shrubs (such as juniper), and debris.

Ember Preparedness Checklist



- 1) **WOOD ROOFS** – Replace wooden shake and shingle roofs with fire resistant types such as composition, metal or tile.
- 2) **ROOF OPENINGS** – Plug openings and gaps in roofs with non-combustible materials.
- 3) **ROOF DEBRIS** – Keep roofs cleared of combustible debris such as pine needles or leaves.
- 4) **SKYLIGHTS** – Replace plastic ones with double pane types in which one layer is tempered glass.
- 5) **SPARK ARRESTER** – Install an approved spark arrester on chimneys or stove pipes.
- 6) **WINDOWS** – Replace single pane windows with multi pane tempered glass types. Close windows if wildfire is threatening.
- 7) **VENTS** – Cover attic, crawl space and eave vents with 1/8 wire mesh. Change plastic vent covers to heat resistant metal covers.
- 8) **RAIN GUTTERS** – Keep gutters free of combustible debris such as leaves and pine needles.
- 9) **SIDING** – Fill gaps in siding and trim with good quality caulk. Consider replacing siding with non-flammable construction materials.
- 10) **WOODPILES** – Store firewood and lumber out away from home, 30' if possible.
- 11) **PATIO FURNITURE** – Place combustible patio furniture inside house or garage if wildfire is threatening.
- 12) **DECK BOARDS** – Replace boards that are in poor condition or less than one inch thick. For wood decks place metal flashing against house. When replacing use one inch thick boards or cement boards.



- 13) DECK DEBRIS** – Keep gaps in the boards, on top of the deck and the area under the deck free of flammable debris.
- 14) DECK ACCESSORIES** – When wildfires threaten clear decks of all flammable items like news papers, wicker flower pots, dried plant and gas grills.
- 15) UNDER DECK** – Use a lattice and 1/8” metal mesh to screen in under the deck to prevent build-ups of flammable debris.
- 16) FLOWER BOXES** – Keep flower boxes well maintained and free of dead material. If wildfire threatens, remove wood flower boxes from house.
- 17) EAVES** – Box in eaves with ply wood or other non-flammable construction material.
- 18) FLOWERBEDS** – Landscape with less flammable plants, replace wood mulch next to house. Remove dead materials from flower beds and keep plants well hydrated.
- 19) VEHICLES** – When wildfire threatens, back vehicle into garage with windows up or park away from house.
- 20) GARAGE DOORS** – Adjust door or use trim to have as tight as gap as possible to minimize ember entry. Close door when wildfire threatens.
- 21) GARBAGE CANS** – Cover with lid and move away from improvements.
- 22) WOODEN FENCES** – Keep fences well maintained and utilize a non-combustible section or gate within 5’ of the house or garage.

Six Steps to Creating an Effective Defensible Space

The term “defensible space” refers to the area between a house and an oncoming wildfire where the vegetation has been managed to reduce the wildfire threat and allow firefighters to safely defend the house. In the event that firefighters are not available, defensible space also improves the likelihood of a home surviving without assistance.

Unfortunately, when some homeowners hear the term “defensible space,” they envision a large expanse of bare ground surrounding their home. While this is certainly effective at increasing home survivability, it may be unacceptable for esthetic reasons and can contribute to soil erosion. Removing all vegetation is also unnecessary to achieve a safe, ignition condition.

Step One

Determine the size of an effective defensible space:

The size of the defensible space is usually expressed as a distance extending outward from the house in all directions. The recommended distance is not the same for every home. It varies depending on the dominant vegetation surrounding the home and steepness of slope. Use the Recommended Defensible Space Distance table to determine the right space for your home.

Once the recommended distance for defensible space is known, mark it by tying strips of cloth or flagging to shrubs. This becomes the “Defensible Space Zone.” Consult the Tennessee Division of Forestry “Hazard Brush Removal Guidelines” for more information.

If the Defensible Space Zone exceeds your property boundaries, seek permission from adjacent landowners before doing work on their property. It is important to note that the effectiveness of the Defensible Space Zone improves when entire neighborhoods implement defensible space practices.

Step Two

Remove dead vegetation:

Within the recommended Defensible Space Zone, remove:

- dead and dying trees
- dead native and ornamental shrubs
- dead branches
- dead leaves, needles, and twigs that are still attached to plants, draped on live plants, or lying on the ground within 30 feet of the house
- dried grass, weeds, and flowers



Remove all dead trees, dead branches, and dried grass from within the Defensible Space Zone.

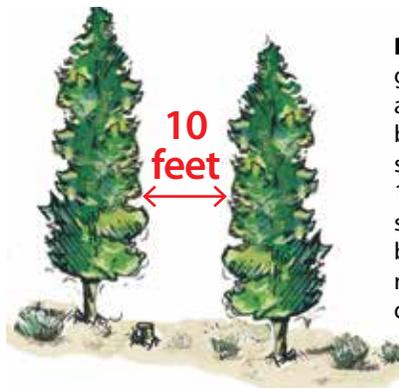
Step Three

Create a separation between trees and shrubs:

Within the Defensible Space Zone, native trees and shrubs, such as holly, mountain laurel, rhododendron, cedar and juniper should not occur in a dense stand. Dense stands of trees and shrubs pose a significant wildfire threat. Thin dense tree and shrub stands to create more space between them.



Dense trees and shrubs pose a high fire threat.

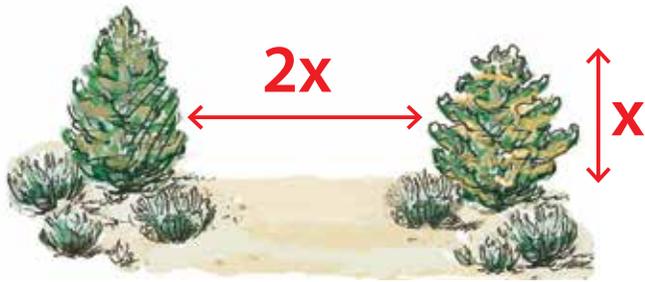


Pines and other Evergreens: On flat to gently sloping terrain, pines, hemlocks and other evergreen trees should be thinned to provide an average separation between canopies of at least 10 feet. For homes located on steeper slopes, the separation distance should be greater. When selecting trees for removal, consider cutting unhealthy, damaged, or weak trees.

DEFENSIBLE SPACE RECOMMENDED DISTANCES				
		STEEPNESS OF SLOPE		
		Flat to Gently Sloping 0 to 20%	Moderately Steep 21-40%	Very Steep +40%
VEGETATION TYPE	GRASSES <i>Wildland grasses, weeds, and widely scattered shrubs with grass understorey.</i>	30 feet	100 feet	100 feet
	FLAMMABLE SHRUBS <i>Shrubs: includes mostly small or tall shrubs and scattered trees, with grass or weed understorey.</i>	100 feet	150 feet	200 feet
	EVERGREEN TREES <i>Trees: includes forested areas consisting of mostly trees, with shrub or grass understorey.</i>	100 feet	150 feet	200 feet

Determine the percent slope which best describes your property.
Find the type of vegetation which best describes the wildland plants growing on or near your property.
Locate the number in feet corresponding to your slope and vegetation. This is your recommended defensible space distance.

PLEASE NOTE: The recommendations presented in this article are suggestions made by local firefighters experienced in protecting homes from wildfire. They are not requirements nor do they take precedence over local ordinances.



Mountain Laurel, Rhododendron, Holly, Cedar and Juniper: On flat to gently sloping terrain, individual shrubs or small clumps of shrubs within the Defensible Space Zone should be separated from one another by at least twice the height of the average shrub. For homes located on steeper slopes, the separation distance should be greater. For example, if the typical shrub height is 2 feet, then there should be a separation between shrub branches of at least 4 feet. In most instances, removing mountain laurel, pines and rhododendron is the preferred approach. They are very flammable plants.

Step Four

Create a separation between tree branches and lower growing plants:

If trees are present within the Defensible Space Zone, there should be a separation between the lower growing vegetation and the lowest tree branches. Vegetation that can carry a fire burning in low growing plants to taller plants is called "ladder fuel."

The recommended separation for ladder fuels is three times the height of the lower vegetation layer. Prune the lower tree branches, shorten the height of shrubs, or remove lower plants. Do not, however, remove more than one-third of the total tree branches. When there is no understory vegetation present, remove lower tree branches to a height of at least 2 feet above ground.

During a fire, this will help prevent burning needles and twigs that are lying on the ground from igniting the tree.

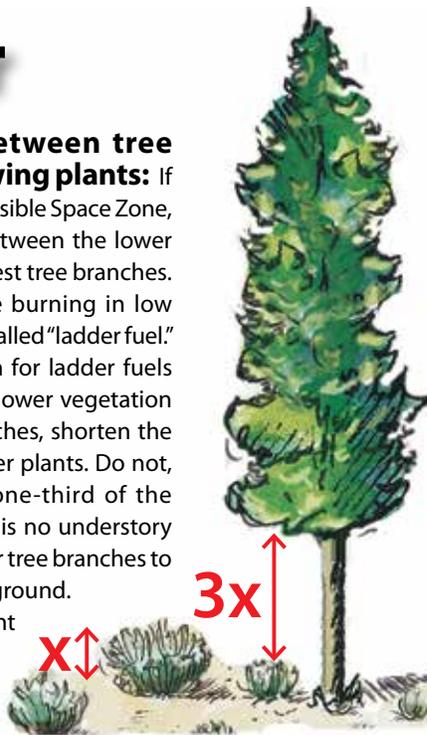


Photo courtesy of Leon Konz

Photo courtesy of Leon Konz

Area before and after fuel treatment. Removing this entire tree prevents a ground-level fire from reaching the deck or stairwells.

Step Five

Create a Lean, Clean, and Green Area extending at least 30 feet from the house:

There are two goals for the Lean, Clean, and Green Area. The first goal is to eliminate easily ignitable fuels, or "kindling," near the house. This will help prevent embers from starting a fire in your yard. The second goal is to keep fire intensity low if it does ignite near the house. By proper management of the fuels near the house, a fire would not be able to generate enough heat to ignite the home.

For most homeowners, the Lean, Clean, and Green Area is also the residential landscape. This area often has irrigation, is planted with ornamental vegetation, and is regularly maintained. It is important to minimize or eliminate flammable materials near your home regardless if your property line is 10 feet or 300 feet away.

Lean, Clean, and Green Area Tips

- Remove most or all flammable wildland plants, including pine trees, holly trees, mountain laurel, kudzu, rhododendron, cedar (junipers) and hemlocks. If you wish to retain a few of these as specimen plants, make sure they are free of dead wood and leaves, pruned to reduce the amount of fuel, and separated from adjacent brush fields.
- Select less flammable plants for the home landscape. Refer to "Ignition Resistant Landscaping in Tennessee" on the following page for helpful suggestions. Some rules of thumb in selecting landscape plants for the Lean, Clean, and Green Area are...
 - Shorter plants, less than 2 feet tall, are better choices than taller plants.
 - When green, herbaceous plants, such as grass and non-woody flowers, are better choices than shrubs and trees.
 - Deciduous shrubs and trees are better choices than evergreen types. Avoid planting juniper, pine, arborvitae, rhododendron, and mountain laurel.
 - Visit www.BurnSafeTN.org for more information.
- Emphasize the use of hard surfaces and mulches such as concrete, asphalt, brick, gravel or landscape pavers. Wood mulches should not be used within 5 feet of the house.
- Clear all flammable vegetation from within 10 feet of the propane tank.
- Remove tree limbs that are within 10 feet of the chimney, touching the house or deck, within 6 feet of the roof, or encroaching on power lines.
- Create a noncombustible area at least 5 feet wide around the base of the house. Emphasize the use of rock mulches and hard surfaces.

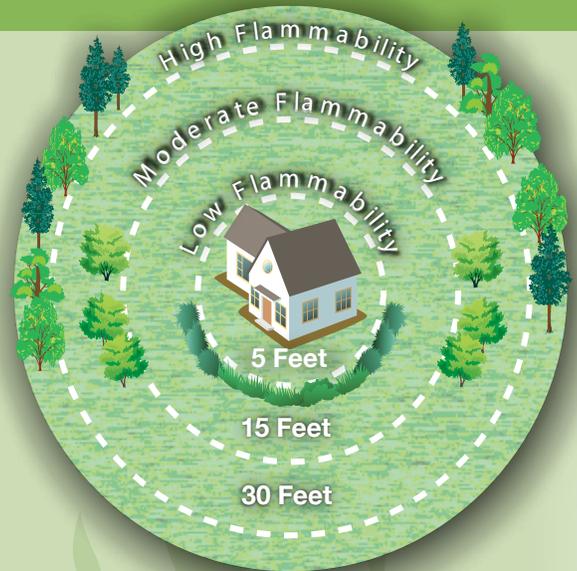
Step Six

Maintain the Defensible Space Zone: Maintaining a defensible space is an ongoing activity. Plants grow back and flammable vegetation needs to be routinely removed and disposed of properly. Before each fire season, reevaluate your property using the previous five steps and implement the necessary defensible space recommendations. Go to www.BurnSafeTN.org for more information on plant flammability.

Ignition Resistant Landscaping in TENNESSEE

Incorporate less flammable shrubs into your landscape:

- Select the “right plant for the right place,” by choosing plants that are well adapted to the specific conditions where they are to be planted. It is recommended planting native plants to Tennessee whenever possible. If you need more information, consult nursery personnel for guidance
- **Consider plant flammability.** The plants shown here are provided to give a general overview of what kinds of plants are flammable. Plants are listed in alphabetical order within each category (trees, shrubs, ground cover) - not by their intensity of flammability.
- Remember, there are no “fireproof” plants. All plants and organic mulches burn under dry conditions. **It is best to have a 5 foot distance around structures without anything that will burn** - use decorative rocks, gravel, pavers etc. Periodically remove dead or diseased material from plants. Pruning can increase a plant’s fire resistance.



More Flammable

General rules for more flammable plants.

Trees in this category should be at least 30 feet from structure and widely spaced so there is more than 15 feet between crowns. Shrubs should be no closer than 15 feet and widely spaced. Ground covers should be no closer than 5 feet; farther if siding is relatively flammable or ground cover is 1 foot high.

Planting the right plants and clearing away natural growing vegetation is important!

There are additional simple things that can be done to make your home more fire resistant. For a wealth of information for homes and entire communities go to the www.BurnSafeTN.org website.



Arborvitea



Bald Cypress



Eastern Redcedar



Hemlock



Hollies



Leyland Cypress



Pines



Pine Regeneration



Azaleas



Boxwood



Dead Kudzu



Mountain Laurel



Rhododendron



Yew



Vines (Vertical)



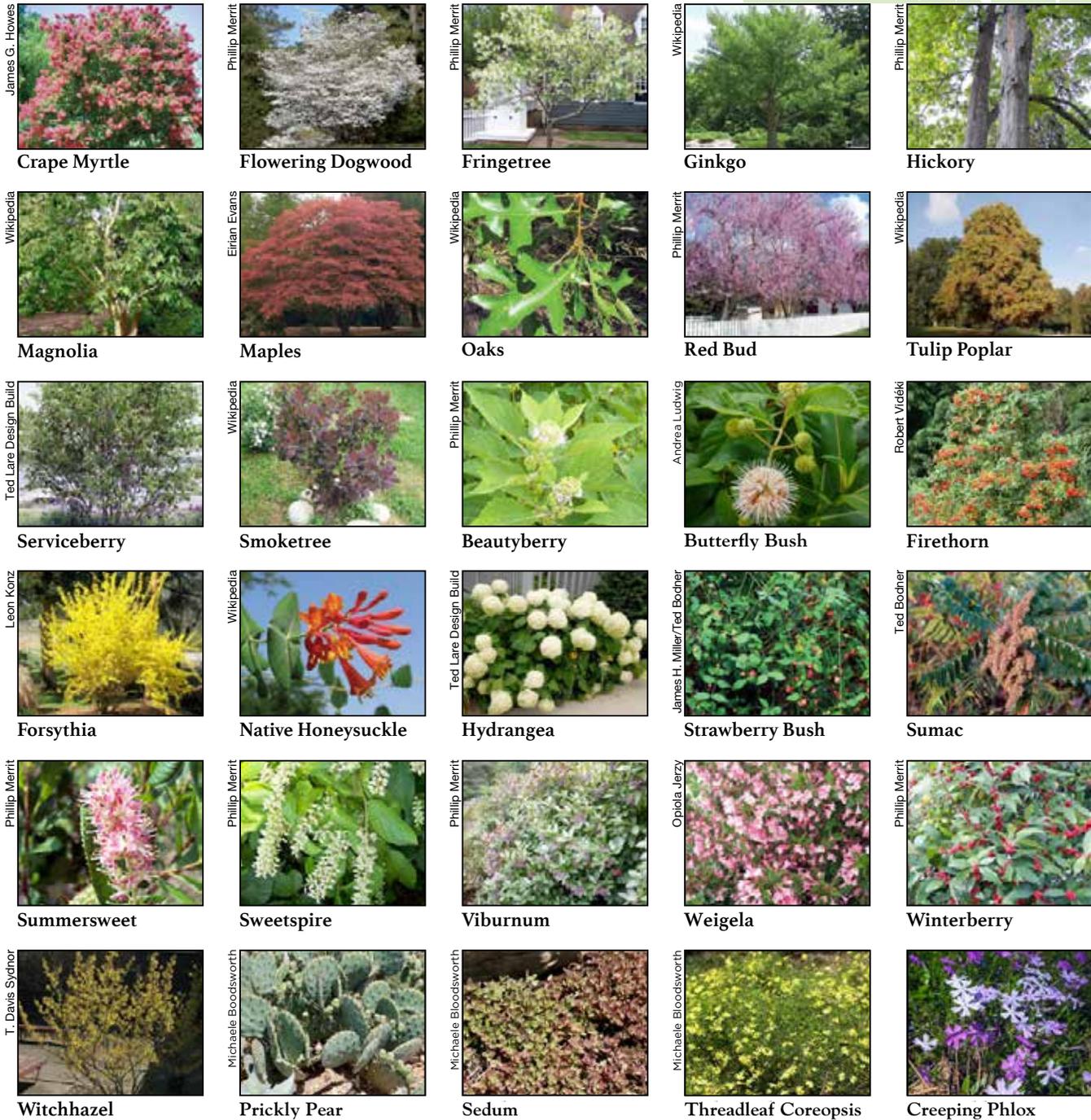
Dead Grass

The plants shown in this publication were categorized using various publications related to plant flammability, coupled with the personal experience of Tennessee professionals. To estimate the flammability of plant species not shown here, see “Preparing a Firewise Plant List for WUI Residents” at http://www.interfacesouth.org/products/fact_sheets/fire-in-the-interface-fact-sheets/preparing-a-firewise-plant-list-for-wui-residents-1/index_html or www.interfacesouth.org/products/decision-support-systems/flammability-key.html

Less Flammable

General rules for less flammable plants.

Keep mature, less flammable trees for shade. Crowns can be touching. Shrubs should be no closer than 6 feet. Ground covers should be no closer than 5 feet; farther if siding is relatively flammable or ground cover is over 1 foot high.



Acknowledgments: The photographs in this fact sheet were gathered from various sources. All copyrighted photographs in this publication were and used with the permission of the photographers.

The Tennessee Division of Forestry appreciates the significant contributions of Professor Wayne Clatterbuck and Urban Horticulture Specialist Beth Babbit of the University of Tennessee with identifying plants to include in this guide. In addition, Annie Hermansen-Baez of USDA Forest Service's InterfaceSouth provided assistance in locating photographs and provided the basic template of the Guide.

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Home Wildfire Risk Assessment Form

Date of Assessment: _____ Property Address: _____

Resident Name: _____ Property Owner: _____

ASSESSMENT ITEMS	COMMENTS / MITIGATION RECOMMENDATIONS
1. OVERVIEW OF SURROUNDINGS:	
<p>How is the structure positioned in relationship to severe fire behavior? Consider fuel type: grass, shrub, forest. Type of site: flat, mid-slope, ridge, saddle, etc. Is the building set back 30' from property line and at least 30' from steep slope, if on ridge top? If slope is more than 15% may need special precautions. Are there any special local weather conditions? Are other structures at least 30' away? Do neighboring properties pose problems?</p>	
2. CHIMNEY TO EAVES:	
<p>Chimney: Spark arrestors should be present and made of welded or woven wire and have less than 1/2-inch opening. Is vegetation within 10 feet?</p>	
<p>Inspect the roof: Noncombustible? Shingles missing? Are shingles flat with no gaps? What is roof made of - asphalt or wooden shingles, tin, clay tiles, etc? Is roof free of litter such as leaves and pine needles?</p>	
<p>Gutters: Present? Noncombustible? Covered? Are gutters free of leaves, needles, etc.?</p>	
3. EAVES TO FOUNDATION:	
<p>Eaves: No vegetation should be in contact with them. They should be boxed or enclosed to reduce surface area. No accumulation of leaves, pine needles, etc?</p>	
<p>Inspect windows and screens: Metal screens? Multi-paned windows? Picture windows facing vegetation. Glass should be tempered. Potential for collection of firebrands? Window trim material should be nonflammable.</p>	
<p>Walls and attachments: Noncombustible? Will they collect litter? Concrete, brick, block, stucco are good. Vinyl melts. Logs are pretty good unless heat source (shrubs, flammable chairs, etc.) nearby or embers can accumulate.</p>	



<p>Decks: (combustible materials?) All open and lattice areas should have 1/8-inch metal screening. Should be free of leaves and other flammables.</p>	
<p>Fences: Flammable fences should not be directly attached to garage or house.</p>	
<p>Flammable materials: Are leaves, pine needles, chairs, cushions, etc. next to or under the structure?</p>	
<p>Combustible materials: Are there some near or on the structure where walls meet roof or decking surfaces.</p>	
<p>Crawl space, attic vents, soffits: Vents for attic, subfloor, soffits should be screened with corrosion-resistant wire mesh not exceeding 1/8 inch.</p>	
<p>Nooks and crannies and other small spaces: Do all appear to be in excellent condition and protected with nonflammable sealant or screening?</p>	
<p>4. FOUNDATION TO IMMEDIATE LANDSCAPED AREA (usually about 30' from house)</p>	
<p>Landscaped (managed) vegetation: Consider separation distances, maintenance, plant selection. Consider ignition resistant landscaping practices. Minimum of 5' area next to house should be gravel, rock, dirt, etc. (NO MULCH). Are flammable plants spaced satisfactorily?</p>	
<p>Propane Tanks: Are they 30' from house and 10'-15' clearance around them?</p>	
<p>Vehicles, RVs, lawn mowers, wood piles: Consider how vehicles, RVs, and lawn mowers are stored. Wood piles should be at least 30' from house.</p>	
<p>5. IMMEDIATE LANDSCAPED AREA EXTENT OF THE HOME IGNITION ZONE (from about 30' - 200' from house)</p>	
<p>Inspect vegetation clearance and crown separation: Are there grasses, forests, brush, that could lead fire to house? Are the plants thick and flammable? Are ladder fuels present? Pine trees, laurel, rhododendron are particularly flammable. If in a dense pine or hemlock forest, should have at least 20' between treetops.</p>	

Wildfire Hazard Mitigation Checklist for Homeowners

WILDFIRE DOESN'T HAVE TO BURN everything in its path. In fact, cleaning your property of debris and maintaining your landscaping are important first steps to helping minimize damage and loss.

The work you do today can make a difference. Follow these simple action steps now and throughout the year to prepare and help reduce the risk of your home and property from becoming fuel for a wildfire:

- ✓ Cover exterior attic vents with metal wire mesh no larger than 1/8 inch to prevent sparks from entering the home.
- ✓ Remove dead vegetation from under your deck and within 10 feet of the house.
- ✓ Remove anything flammable stored underneath decks or porches.
- ✓ Screen or box-in areas below patios and decks with wire mesh to prevent debris and combustible materials from accumulating.
- ✓ Remove flammable materials (firewood stacks, propane tanks, dry vegetation) within 30 feet of your home's foundation and outbuildings, including garages and sheds. If it can catch fire, don't let it touch your house, deck or porch.
- ✓ Keep your lawn hydrated and maintained. If it is brown, cut it down to reduce fire intensity. Dry grass and shrubs are fuel for wildfire. from becoming fuel for a wildfire.
- ✓ Don't let debris and lawn cuttings linger. Dispose of these items quickly to reduce fuel for fire.
- ✓ Enclose under-eave and soffit vents or screen with metal mesh to prevent ember entry.
- ✓ Clear leaves, Pine needles from gutters, eaves, porches and decks. This prevents embers from igniting your home.
- ✓ Wildfire can spread to treetops. If you have trees on your property, prune so the lowest branches are 6 to 10 feet from the ground.
- ✓ Inspect shingles or roof tiles. repair those that are loose or missing to prevent ember penetration.

Learn more about how to keep your family safe and reduce your home's risk from wildfire damage, visit <http://www.burnsafetn.org> or contact your nearest State Forestry Office.



A SAMPLING OF HOME ASSESSMENT ITEMS

Walls made of wood products such as boards, panels, or shingles are combustible. Vinyl melts, brick, cement, masonry or stucco are more fire-resistant.

8

Are gutters, eaves, and the roof free of leaves, pine needles, and other debris?

7

What is the roof made of? Asphalt shingle, metal, slate, clay or terracotta tile, cement and concrete products are best. Wooden shingles are more prone to burn.

9

Spark arrestors should be welded or woven wire and have less than 1/4 inch opening. No vegetation within 10'.

1

Is the deck clear of combustible items such as baskets, dried flower arrangements, and flammable furniture?

2

Inspect within 30' of the house. Plants should be sparse and the low flammability variety. Keep woodpiles, propane tanks and combustible material from house and outbuildings.

6

Do open and lattice areas have 1/8 inch metal screening? Is the area underneath decks free of leaves and other flammables?

4

Are windows multi-paned, tempered and covered with metal screens?

3

Is there 3-5 feet of nonflammable area next to house? No grass, wood chips, pine straw, etc.

5

A Firewise home assessment simply means inspecting a variety of items. Assessments are not complicated and take only a small amount of time to complete. A few of the items include vegetation type, steepness of the home site, how close your neighbor's house is to yours, and if there's a wood pile or propane tank within 30' feet of your house. The photo above shows additional items that are included in a home assessment. You can get an assessment form from the Tennessee Division of Forestry and at www.BurnSafeTN.org, plus your local fire department may have a copy. Also, feel free to ask for a free home inspection!

Tennessee Department of Agriculture, Division of Forestry



Create Your Own Wildfire Action Plan

As you implement the Firewise standards outside your home, it is also important to prepare your family. Your **Wildfire Action Plan** must be prepared with all members of your household well in advance of a fire.

Use these checklists to help you prepare your Wildfire Action Plan. Each family's plan will be different, depending on their situation. Once you finish your plan, rehearse it regularly with your family and keep it in a safe and accessible place for quick implementation.

For more information go to www.WildlandFireRSG.org.



GET READY PREPARE YOUR FAMILY

- Ensure that Firewise practices are in place
- Create a **Family Disaster Plan** that includes meeting locations and communication plans and rehearse it regularly. Include in your plan the evacuation of large animals such as horses.
- Have fire extinguishers on hand and train your family how to use them.
- Ensure that your family knows where your gas, electric and water main shut-off controls are and how to use them.
- Plan several different evacuation routes.
- Designate an emergency meeting location outside the fire hazard area.
- Assemble an emergency supply kit as recommended by the American Red Cross.
- Appoint an out-of-area friend or relative as a point of contact so you can communicate with family members who have relocated.
- Maintain a list of emergency contact numbers posted near your phone and in your emergency supply kit.
- Keep an extra emergency supply kit in your car in case you can't get to your home because of fire.
- Have a portable radio or scanner so you can stay updated on the fire.
- Evacuate as soon as you are set!
- Alert family and neighbors.
- Dress in appropriate clothing (i.e., clothing made from natural fibers, such as cotton, and work boots). Have goggles and a dry bandana or particle mask handy.
- Ensure that you have your emergency supply kit on hand that includes all necessary items, such as a battery powered radio, spare batteries, emergency contact numbers, and ample drinking water.
- Stay tuned to your TV or local radio stations for updates, or check the fire department Web site.
- Remain close to your house, drink plenty of water and keep an eye on your family and pets until you are ready to leave.

INSIDE CHECKLIST

- Shut all windows and doors, leaving them unlocked.
- Remove flammable window shades and curtains and close metal shutters.
- Remove lightweight curtains.
- Move flammable furniture to the center of the room, away from windows and doors.
- Shut off gas at the meter. Turn off pilot lights.
- Leave your lights on so firefighters can see your house under smoky conditions.
- Shut off the air conditioning.

GET SET AS THE FIRE APPROACHES



Photographer Unknown

OUTSIDE CHECKLIST

- Gather up flammable items from the exterior of the house and bring them inside (e.g., patio furniture, children's toys, door mats, etc.) or place them in your pool.
- Turn off propane tanks.
- Don't leave sprinklers on or water running - they can waste critical water pressure.
- Leave exterior lights on.
- Back your car into the driveway. Shut doors and roll up windows.
- Have a ladder available.
- Patrol your property and extinguish all small fires until you leave.
- Seal attic and ground vents with pre-cut plywood or commercial seals if time permits.

IF YOU ARE TRAPPED: SURVIVAL TIPS

- Shelter away from outside walls.
- Bring garden hoses inside house so embers don't destroy them.
- Patrol inside your home for spot fires and extinguish them.
- Wear long sleeves and long pants made of natural fibers such as cotton.
- Stay hydrated.
- Ensure you can exit the home if it catches fire (remember if it's hot inside the house, it is four to five times hotter outside).
- Fill sinks and tubs for an emergency water supply.
- Place wet towels under doors to keep smoke and embers out.
- After the fire has passed, check your roof and extinguish any fires, sparks or embers.
- Check inside the attic for hidden embers.
- Patrol your property and extinguish small fires.
- If there are fires that you can not extinguish with a small amount of water or in a short period of time, call 911.

GO EARLY!

By leaving early, you give your family the best chance of surviving a wildfire. You also help firefighters by keeping roads clear of congestion, enabling them to move more freely and do their job.

WHEN TO LEAVE Leave early enough to avoid being caught in fire, smoke or road congestion. Don't wait to be told by authorities to leave. In an intense wildfire, they may not have time to knock on every door. If you are advised to leave, don't hesitate!

WHERE TO GO Leave to a predetermined location (it should be a low-risk area, such as a well-prepared neighbor or relative's house, a Red Cross shelter or evacuation center, motel, etc.)

HOW TO GET THERE Have several travel routes in case one route is blocked by the fire or by emergency vehicles and equipment. Choose an escape route away from the fire.

WHAT TO TAKE Take your emergency supply kit containing your family and pet's necessary items.

EMERGENCY SUPPLIES CHECKLIST

- Three-day supply of water (one gallon per person per day).
 - Non-perishable food for all family members and pets (three-day supply).
 - First aid kit.
 - Flashlight, battery-powered radio, and extra batteries.
 - Extra set of car keys, credit cards, cash/traveler's checks.
 - Sanitation supplies.
 - Extra eyeglasses or contact lenses.
 - Important family documents and contact numbers.
 - Map marked with evacuation routes.
 - Prescriptions or special medications.
 - Family photos and other irreplaceable items.
 - Easily carried valuables.
 - Personal computers (info on hard drives and disks).
 - Chargers for cell phones, laptops, etc.
- Note: Keep a pair of old shoes and a flashlight handy in case of a sudden evacuation at night.



Photo courtesy of Nathan Waters

Write up your Wildfire Action Plan and post it in a location where every member of your family can see it. Rehearse it with your family.

My Personal Wildfire Action Plan

During High Fire Danger days in your area, monitor your local media for information on brush fires and be ready to implement your plan. Hot, dry and windy conditions create the perfect environment for a wildfire.

Important Phone Numbers:

Out-of-State Contact: _____ Phone: _____

Work: _____

School: _____

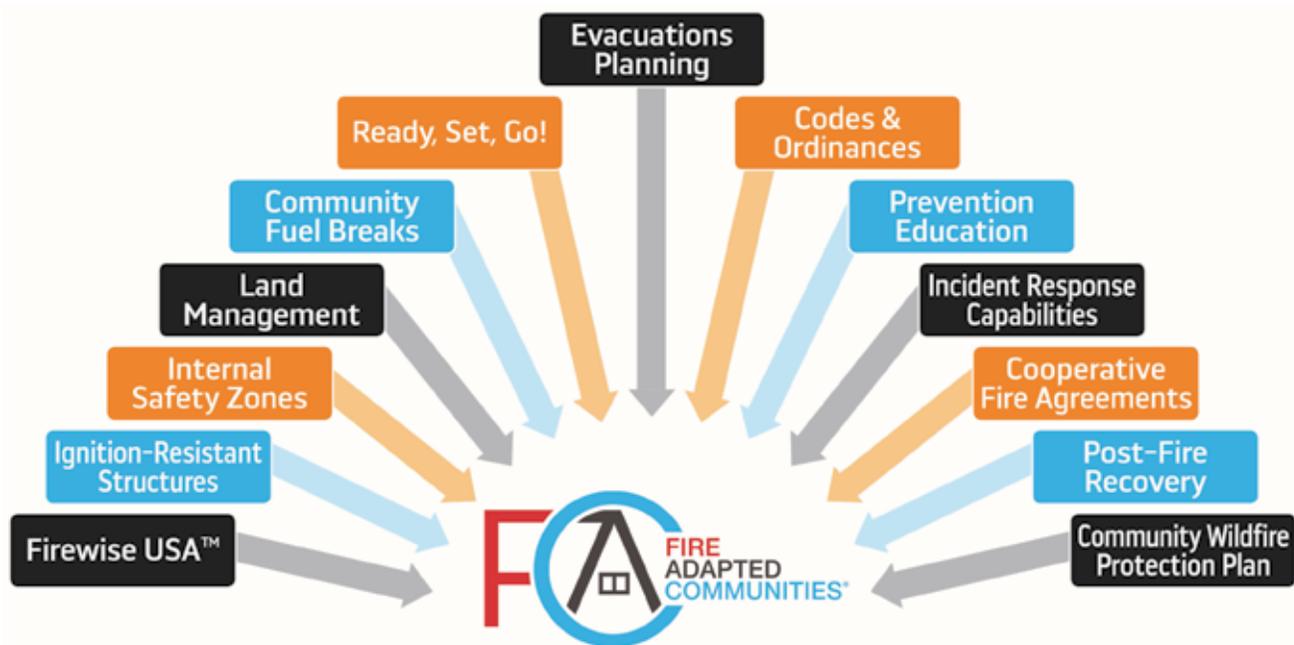
Other: _____

Evacuation Routes: _____

Where to go: _____

Location of Emergency Supply Kit: _____

Notes: _____



A fire adapted community accepts fire as part of the natural landscape. The community understands its fire risk, and takes action before a wildfire to minimize harm to residents, homes, businesses, parks, utilities, and other community assets.

These collective actions empower all residents to be safer in their environment.

The Fire Adapted Communities strategy is a collaborative approach that connects all those who play a role in wildfire risk reduction with comprehensive resources. Use of these programs and tools can significantly reduce wildfire threats.

www.fireadapted.org

FIREWISE USA teaches communities to identify wildfire hazards and develop mitigations at the local level. NFPA's Firewise USA program encourages local solutions for safety by involving homeowners in taking individual responsibility for preparing their homes from the risk of wildfire. Firewise is a key component of Fire Adapted Communities. The program is co-sponsored by the USDA Forest Service, the US Department of the Interior, and the National Association of State Foresters.
www.firewise.org

READY, SET, GO! The Ready, Set, Go! Program seeks to develop and improve the dialogue between fire departments and the residents they serve. Engaging in this dialogue is particularly important for the fire service, because national studies have shown that firefighters are uniquely respected in their communities and can project a trusted voice to the public preparedness appeal. They can also explain what fire resources are available during an event and the role that individuals can play in preparedness and early evacuation – if called for by their local officials – to increase the safety of residents and responding firefighters to a wildland fire. The RSG! Program works in complimentary and collaborative fashion with Firewise and other existing wildland fire public education efforts. It amplifies their preparedness messages to individuals to better achieve the common goal we all share of fire-adapted communities. When firefighters encourage residents to take personal responsibility for preparing their property and family for WUI/wildland fire, residents become an active part of the solution to the problem of increasing fire losses.
www.wildlandfirersg.org

TENNESSEE DIVISION OF FORESTRY: The division provides guidance and assistance to the citizens and fire departments of Tennessee in all phases of wildfire suppression, prevention, safety, education and hazard mitigation. Across the state many Tennesseans are moving away from crowded urban areas to rural homes. In many instances these homes are built in the wildland environment. This situation is referred to as the "Wildland-Urban Interface" (WUI). Wildfires that occur in the WUI also threaten and sometimes destroy homes and other improvements. The Division of Forestry is actively working with communities and local fire departments to educate and inform homeowners about how they can mitigate this risk.
www.burnsafetn.org

INTERNATIONAL ASSOCIATION OF FIRE CHIEFS: The International Association of Fire Chiefs (IAFC) represents the leadership of firefighters and emergency responders worldwide; our members are the world's leading experts in firefighting, emergency medical services, terrorism response, hazardous materials spills, natural disasters, search and rescue, and public safety policy.
www.iafc.org

INSTITUTE FOR BUSINESS & HOME SAFETY: The IBHS mission is to conduct objective, scientific research to identify and promote the most effective ways to strengthen homes, businesses and communities against natural disasters such as wildfires and other causes of loss.
disastersafety.org

INTERNATIONAL CODES COUNCIL: Wildfire season has begun. Is your property ready? To help you prepare, the International Code Council offers many recommendations for your home and community.
www.iccsafe.org/about-icc/safety/wildfire-safety

APPALACHIAN RESOURCES CONSERVATION AND DEVELOPMENT DISTRICT: Our mission is to conserve natural resources and improve rural economies through community leadership and enhanced educational opportunities. We work tirelessly to preserve our heritage, promote local growers/producers and protect the lands of past generations so that future generations may be able to enjoy the natural wonders our region has to offer. The council provides funding and resources for community development throughout Tennessee.
arcd.org

US FOREST SERVICE: The agency's mission is to sustain the health, diversity, and productivity of the nation's forests and grasslands to meet the needs of present and future generations.
www.fs.fed.us

NATIONAL PARK SERVICE: The National Park Service preserves unimpaired the natural and cultural resources and values of the National Park System for the enjoyment, education, and inspiration of this and future generations. The Park Service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world.
www.nps.gov

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