

Bureau of Land Management
WILDLAND FIRE STRUCTURE PROTECTION GUIDE

Engine companies, assigned to the protection of structures from an approaching fire, often have time to take precautionary measures that could spell the difference between success and disaster. The goal is to defend the structure from an approaching wildfire. Anything that we can do to reduce the risks to firefighters, and increase the defensible space around the exposure, is worth doing. Don't be complacent. Even if the fire is a considerable distance away, the time to prepare is now. These pre-fire actions can be divided into three major functions: **Preparing the Structure**, **Defending the Structure** and **Providing for Firefighter Safety**.

Preparing the Structure

- Determine which side of the structure will receive the full heat and/or flame impingement from the fire. (Consider wind direction and slope).
- Remove, or scatter, all portable combustible materials, including: wooden patio furniture, stored firewood, leaf piles, portable planters with flammable vegetation, etc.
- Remove any threatening vegetation type fuels, both natural and ornamental, located on the fire approach side of the structure. Don't destroy landscaping unnecessarily, but consider that this material will function as a wick to extend the wildfire to the structure. Get rid of it, scatter it a safe distance away.
- Make certain that all structure doors and windows are closed.
- Ladder the structure (with the homeowner's equipment if possible).
- Check out the local water system. Rural locations often have poor water availability.
- Use homeowner garden hose water supply to keep the fire engine full. (A little water is better than no water).
- Shut off and protect LPG tanks. Before shutting off the electrical service, determine if the water system on the property is replenished by a submerged electric pump in a local well.
- If time permits, remove accumulated leaves and needles from roofs and rain gutters.

Defending the Structure

- Most structures that burn during wildland fires are the victim of combustible roofs and/or small individual fires started by flying embers carried by the wind.
- Guard against firebrand caused ignitions under shingles, under exposed roof

eaves, through attic or ground vents, or open doors or windows. (If you have relocated patio furniture or cut vegetation, make sure you don't place it where the wind can blow it into the windows and break them).

- Don't trust green vegetation, both natural and domestic. Just because it looks green, does not mean it won't burn fiercely and jeopardize the structure and firefighters safety.
- Lay a charged handline (1 1/2" min.) a reasonable distance (don't over do it). Place the nozzle where you anticipate the greatest need, (usually the windward side of the exposure).
- It is usually pointless to discharge water streams into the unburned vegetation adjacent to the structure, in advance of the fire. Normally the effects of wind and radiant heat counter any usefulness of the water pattern. Save the water to apply it to anticipated ignitions on the structure or to wet down a combustible roof.
- Consider burning-out the vegetation adjacent to the structure to eliminate the closest fuel. If you elect this tactic, timing and communication with other firefighting units and your supervisor are essential.
- If available, pretreat combustible portions of the structure with Class A Foam immediately prior to the fire's arrival.

Providing for Firefighter Survival

- Know where all members of your crew are at all times. Wear all personnel protective equipment at all times. Keep it with you, not stored in the fire engine.
- Pre-plan the actions of each crew member. Consider all the factors of LCES (Lookout, Communications, Escape Routes and Safety Zones), as well as the Ten Standard Firefighting Orders and 18 Watchout Situations.
- Place the engine correctly the first time (and back it in) so that it does not have to be moved during the heat of battle. If necessary, have firefighters use the apparatus or the structure itself as a safe refuge from heat and smoke. Don't park engines at the top of draws, chimneys or natural funnels. Keep fire engine doors and windows closed.
- Often during heavy fire activity pre-laid and pre-charged hose lines burn through without firefighters knowing it. If the pump is engaged and discharge gates open, all of your water may be pumped through a broken hose before anyone realizes what happened. Keep an operator at the pump to respond to water demands from the nozzle.
- Don't face an intense fire without a specific need or purpose. If the fire is too hot, retreat into the structure temporarily, then emerge and extinguish the burning exterior.