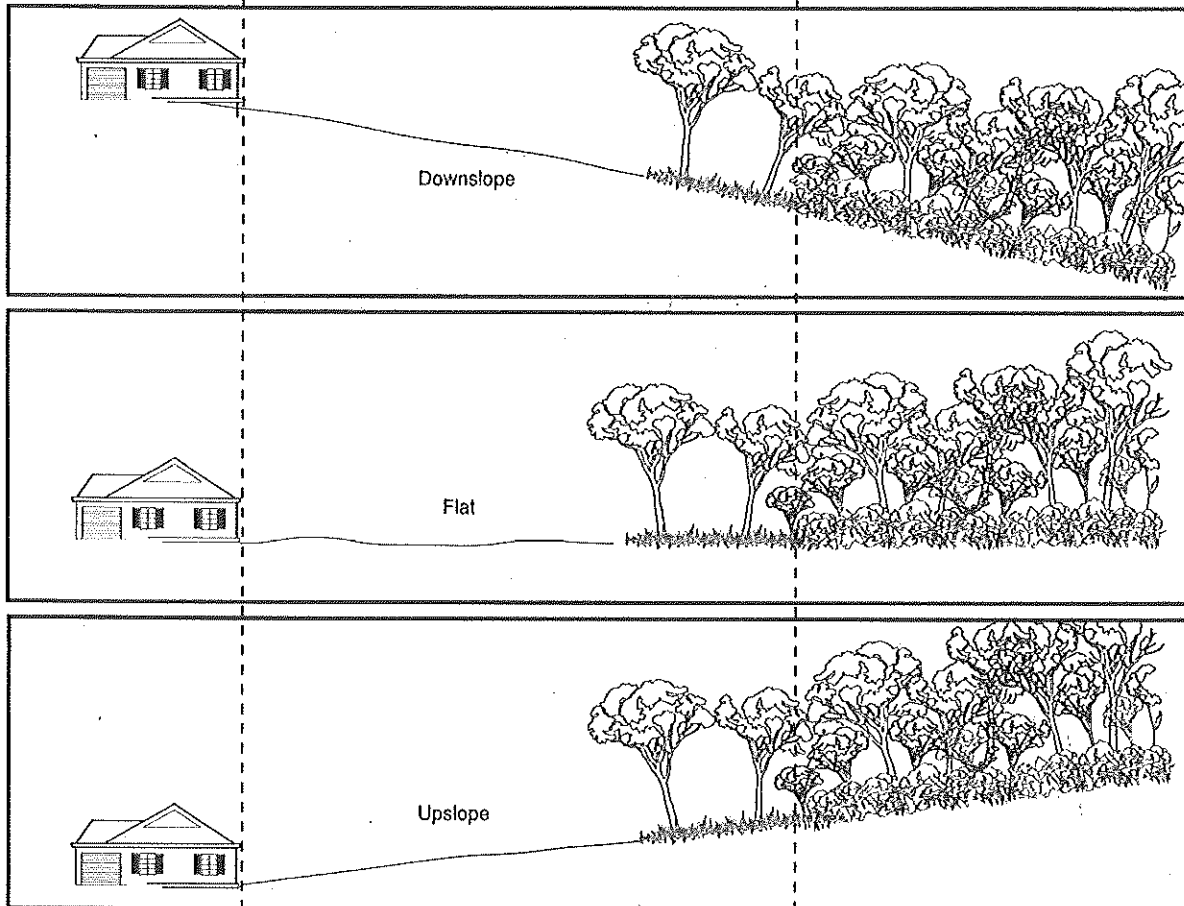


PROPERTY INSPECTION

Issues to consider:-

Slope

The greater the down-slope from the vegetation to the asset/dwelling the higher the risk. An up-slope from the vegetation to the asset/dwelling is regarded as a 0° slope.



Vegetation

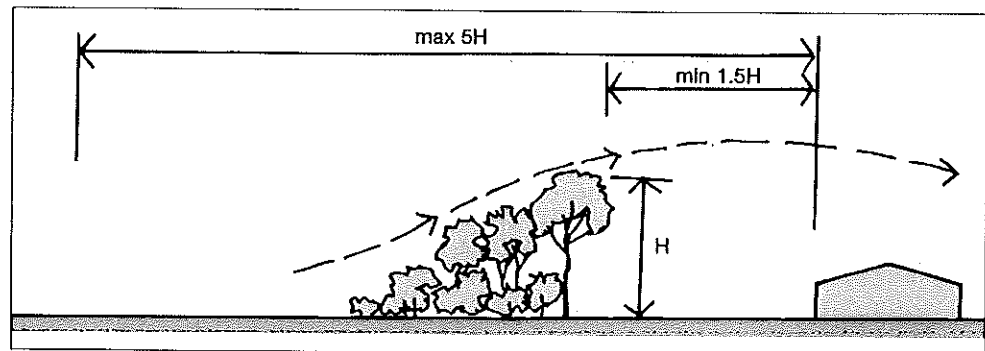
Different kinds of vegetation in close proximity to dwellings pose different levels of risk. Dense vegetation (forest), vegetation with a high level of dry, fine or volatile matter can present more of a threat (pine, eucalypt, grevillea).

Vegetation that forms a continuous line to a dwelling or asset will carry a fire to that dwelling/asset – try to encourage people to break the travel of fire by breaking up garden beds or gardens that edge drive-ways.

Evaluation of vegetation types is difficult, particularly as residents are often looking for species that are drought resistant. These are often the types of vegetation that have a higher oil content and are good at holding moisture back from leaves and extremities during dry conditions, making the plant more flammable.

Vegetation can have a dual role in bushfire – it can provide fuel for the fire but it can also act as a screen to protect buildings from embers and radiant heat and wind velocity developed from the fire.

Recommended location
of a barrier



Generally, these are some of the issues to look out for with trees;

- Bark that is loose and sheds allows fire to move into its canopy easily
- Shrubs and trees that harbour dead material
- Limbs and branches that hang close to the ground, again allow a ground fire to travel into the canopy; trim lower branches up to at least 2 metres
- What is the separation distance of the canopies between trees – it should be at a minimum of 2 metres, preferably more if the trees are young and still growing.

Trees and shrubs will be more volatile if they have narrow, finer leaves, their foliage is dense and connected and there is a lot of it (pine, tea tree etc).

Removal of ground fuel is important around a dwelling to prevent the movement of fire towards a dwelling (green lawn or bare earth). Fire breaks (road ways) can be very useful around a dwelling, particularly for slowing the spread of grass or ground fires.

- Non-flammable fencing is also particularly advantageous to slow the spread of a grass or ground fire.
- Vegetation under windows is particularly dangerous.
- Vegetation close to flammable construction such as decks, pergolas, timber walls, verandas etc also presents a threat.
- Tree branches should not overhang the roof-line of a dwelling.
- Be mindful of the run of fire to a dwelling from a fence to a garden bed to the dwelling
- Wood piles and collections of flammable material should be well away from the dwelling
- Fuel etc should be stored in sheds well away from the dwelling

Dwelling

The type of construction material will influence the ability of the structure to withstand a bushfire attack – hebel, brick, stone. Less complex designs are preferable (less areas where debris can collect).

Windows and glazing are particularly susceptible to radiant heat. Glazing in Australia has not been designed to a particularly high standard and windows have a tendency to crack and break easily particularly if in large panes. Thin glass will also allow a greater level of radiant heat to pass through and heat furnishings within the room (combustion can occur

within a room at an external radiant heat level of 10kW/m²). Windows fixture material (putty) is often also heat sensitive (windows can dislodge under quite low radiant heat levels)

- Smaller glass panes are less susceptible to breakage
- Metal screens with aperture $\leq 2\text{mm}$ can help deflect radiant heat (up to 40%) and flying debris
- Move garden beds away from large windows to reduce exposure to radiant heat
- Check fixture compounds and replace if necessary
- Shutters are also an option particularly in high hazard areas

Wooden decking, verandas, pergolas and outdoor furniture are easily ignited in a wildfire.

If decking is slatted (has gaps), debris is likely to accumulate underneath and will be easily ignited with embers from the fire. Furniture is usually some form of polymeric material or derivative and therefore is also highly flammable. These are best placed in a shed or inside during a fire event to avoid their ignition which can then easily ignite other products in proximity, or break windows etc.

Wooden veranda posts need to be protected from garden beds, if they have termite posts this is helpful.

Veranda's often collect considerable debris, it is important this is removed regularly as this is easily ignitable and again will cause windows to break or other timber to ignite.

All wooden exposed timber needs to be in good condition as splintering and fraying of timber and deteriorated paint will allow embers to become imbedded and ignite easily.

External timber can be repainted with intumescent (fire retardant) paint which is now more readily available.

If the house is of a vintage that has ventilation holes these need to also be screened with mesh as per the windows. Embers are easily carried into these cavities and will ignite fuel in the wall cavity. If a structure has a flammable lining (not double brick) then the lining can ignite and compromise the interior of the dwelling.

Gaps in the flashings or from the veranda leading into the roof cavity can also allow ember penetration and subsequent ignition of debris in the roof cavity and then the ceiling and wiring etc.

Roll-a-doors on garages need to have systems implemented to prevent the entry of embers around the door and into the garage. This is particularly important when the garage is connected to the dwelling.

Gutters – gutters need to be cleaned regularly to ensure material does not build up and is then available as fuel for a fire. Gutter guards may help but seeds and dirt will also need to be removed from the gutter to prevent further dry matter collection particularly in the summer months.

Any building built up off the ground is more susceptible to ignition from the sub-floor space. These areas should be enclosed with a non-combustible material or mesh to $\leq 2\text{mm}$.

Shade materials (eg shade cloth) should not connect to the dwelling and if they do, they should have a flammability index no greater than 5. This applies to polycarbonate roof sheeting also.

External doors should have draft excluders to prevent the entry of embers into the dwelling.

