

Land Use Planning Case Study

The benefits of perimeter roads in strengthening community resilience to bushfire



James Hird Estate, Hastings

Background

This case study demonstrates the benefits of including perimeter roads for subdivisions in areas at risk from bushfire. The site is a residential subdivision at the southern end of Hastings, abutting unmanaged vegetation that extends south of Warringine Creek, west of the Frankston-Flinders Road to the foreshore. The land is not covered by the Bushfire Management Overlay (BMO) but was referred to CFA as a subdivision that creates a road, under Clause 55 of the *Planning and Environment Act 1987*.

The effectiveness of bushfire mitigation measures requested by CFA can be clearly seen in the aftermath of the 2015 bushfires that impacted the area. The images below show that where CFA was not involved in early stages of the subdivision, bushfire had an uninterrupted path to the development. However, where perimeter road and vegetation management on the land between the hazard and the development was incorporated (in the final stage of the subdivision), this provided significant difference to the safety of the houses at the south-west edge of the development.

Issue

Stage 2 of the development initially proposed lots located directly adjacent to the bushfire risk to its south and west, with

the potential for residential buildings within Flame Zone. This is the highest level of exposure to the risk and means that buildings will have direct contact with flames, radiant heat and embers from the fire front. It creates life safety issues, as well as increasing the cost of building. CFA began discussions with the developer to reduce the overall community fire safety risk to an acceptable level.

Outcome

CFA was not involved in the early stages of the subdivision. Earlier developments initially placed a restriction on buildings within 3.6 – 6.9 meters of the boundary, depending on the size of the building, resulting in minimal defensible space and separation from the hazard. After discussions between CFA and developer, it was agreed that;

- In the areas where a perimeter ring road did not exist, a fire road access track be created between the properties and the bushland
- Stage 2, and subsequent development, would now incorporate a perimeter ring road, with additional vegetation management to occur between the road and the bushland; and
- Conditions were included for management of the vegetation between the development and the property

boundary, incorporating the following for the units adjacent to the bushfire hazard:

- › Managed lawn
- › Plants with a height of less than one metre to be planted within three metres of units.
- › Tree canopy coverage less than 50% of the remaining land.

By incorporating these bushfire mitigation measures, the bushfire hazard was now being managed for current and future residents.

Evidence of success

On 9 January 2015 bushfire impacted the area, spreading to the development from the bushland to the south. The consequences of this fire included the following:

- Fire crews used the perimeter ring road to fight the oncoming fire resulting in the protection of homes on the south-west edge of the development; and
- Where there was no perimeter road, significant loss of fences and impacts upon buildings occurred in the parts of the estate directly adjacent to the bushland.

For further information about CFA's involvement in subdivisions and the planning system go to www.cfa.vic.gov.au

Before the 2015 bushfire



Perimeter road provided as a result of CFA input

Image source: Google Earth

After the impact of the bushfire



Area impacted by bushfire Structures lost

Image source: CFA GIS



Area impacted by bushfire Structures lost

Image source: CFA GIS