



NSW RURAL FIRE SERVICE



The General Manager
The Council of the Shire of Hornsby
PO Box 37
HORNSBY NSW 1630

Your reference: DA/668/2018
Our reference: D18/6700

7 May 2019

Attention: Caroline Maeshian

Dear Caroline,

Reference is made to Council's correspondence dated 13 March 2019 seeking general terms of approval for the above application for integrated development in accordance with the *Environmental Planning and Assessment Act 1979*.

The additional information received from Travers bushfire & ecology, dated 29 April 19 and 07 May 2019, was not conclusive enough to demonstrate how the slope and fire behaviour to the east were to perform for further assessment of the proposal. Specifically, the information provided did not detail the survey levels and effective slopes under bush fire prone vegetation to the east for a distance of 140 metres and did not address the fire behaviour expected from the hazard to the east.

The following conclusions were drawn by the New South Wales Rural Fire Service (NSW RFS) based on observations on site and a detailed analysis of available contour data:

- There is an area on site that can be considered as flat for the purposes of assessment given the presence of cross slopes on both sides of the creek leading east of proposed Building G.
- The flame width has been confirmed as 35 metres on site due to narrowing of vegetation to the east before it widens to various widths, depending on the management of land both on private and public land. A fire coming from the east would have a reduced fire head leading towards the proposed development due to the narrowing of vegetation, thereby acting as a bottle neck.
- The bush fire prone vegetation to the east of the site is categorised as wet sclerophyll forest on the vegetation formations map. However, the vegetation to the east, on and off site, has been found to be extensively infested with lantana and exotic weeds during site inspection, which is considered to alter the fuel loads expected for a pristine wet sclerophyll forest. Therefore, a fuel load of 20 to 25 tonnes per hectare for dry sclerophyll forest, as proposed by the bush fire consultant, has been accepted in radiant heat modelling calculations.
- Radiant heat modelling undertaken for the flame width of the vegetation to be retained on and off site within 140 metres from the proposed footprints yields radiant heat levels of less than 10 kW/sqm for proposed Building G which is located closest to the bush fire hazard.

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The NSW RFS has therefore undertaken an independent assessment of the proposal to determine compliance with *Planning for Bush Fire Protection*. This response is a Bush Fire Safety Authority issued under Section 100B of the *Rural Fires Act 1997*, and is subject to the following conditions:

Asset Protection Zones

The intent of measures is to provide sufficient space and maintain reduced fuel loads so as to ensure radiant heat levels of buildings are below critical limits and to prevent direct flame contact with a building. To achieve this, the following conditions shall apply:

1. At the commencement of building works and in perpetuity, the entire property shall be managed as an inner protection area (IPA) as outlined within section 4.1.3 and Appendix 5 of *Planning for Bush Fire Protection 2006* and the NSW Rural Fire Service's document *Standards for asset protection zones*, except for the area marked as dry sclerophyll forest on site as per *Figure 2 – Verified location of watercourse, native forest & extent of weeds with LIDAR overlay* prepared by Travers bushfire & ecology dated 07 May 2019.

Water and Utilities

The intent of measures is to provide adequate services of water for the protection of buildings during and after the passage of a bush fire, and to locate gas and electricity so as not to contribute to the risk of fire to a building. To achieve this, the following conditions shall apply:

2. Water, electricity and gas shall comply with sections 4.1.3 and 4.2.7 of *Planning for Bush Fire Protection 2006*.

Access

The intent of measures for property access is to provide safe access to/from the public road system for fire fighters providing property protection during a bush fire and for occupants faced with evacuation. To achieve this, the following conditions shall apply:

3. Internal roads shall comply with following requirements of section 4.2.7 of *Planning for Bush Fire Protection 2006*:
 - Internal roads shall be two-wheel drive, sealed, all-weather roads.
 - The road shall have a minimum carriageway width of 5.5 metres kerb to kerb.
 - Traffic management devices shall be constructed to facilitate access by emergency services vehicles.
 - A minimum vertical clearance of 4 metres shall be provided to any overhanging obstructions, including tree branches.
 - Curves shall have a minimum inner radius of 6 metres and shall be minimal in number to allow for rapid access and egress.
 - Maximum grades shall not exceed 15 degrees and average grades shall not be more than 10 degrees.
 - Crossfall of the pavement shall not be more than 10 degrees.
 - Turning head configurations shall be provided as outlined in Figure A3.5 of *Pre Release Planning for Bush Fire Protection 2018*.
 - The internal road surfaces shall have a capacity to carry fully-loaded fire fighting vehicles (15 tonnes).

Design and Construction

The intent of measures is that buildings are designed and constructed to withstand the potential impacts of bush fire attack. To achieve this, the following conditions shall apply:

4. New construction for proposed Buildings E, F, G and Residential Aged Care (RAC) shall comply with Sections 3 and 5 (BAL 12.5) Australian Standard AS3959-2009 *Construction of buildings in bush fire-prone areas* or NASH Standard (1.7.14 updated) *National Standard Steel Framed Construction in Bushfire Areas – 2014* as appropriate and section A3.7 Addendum Appendix 3 of *Planning for Bush Fire Protection 2006*.

Evacuation and Emergency Management

The intent of measures is to provide suitable emergency and evacuation (and relocation) arrangements for occupants of special fire protection purpose developments. To achieve this, the following conditions shall apply:

5. A Bush Fire Emergency Management and Evacuation Plan shall be prepared consistent with *Development Planning- A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan December 2014*.

Landscaping

6. Landscaping to the site shall be managed in accordance with Appendix 5 of *Planning for Bush Fire Protection 2006*.

If you have any queries regarding this advice, please contact Matthew Apps, Development Assessment and Planning Officer, on 1300 NSW RFS.

Yours sincerely,



Kalpana Varghese
Team Leader, Development Assessment and Planning
Planning and Environment Services (East)

