



Bushland Protection Systems

Specialising in
**BUSHFIRE HAZARD
PLANNING & MITIGATION**

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19th November, 2020.

RE: Site specific Bushfire Hazard Assessment and Construction Ratings Report for allotments in Stages 8, 9, 12 & 13 of Brentwood Forest Estate, Bellbird Park.

This Bushfire Hazard Assessment Report is in relation to construction levels for the allotments in Stages 8, 9, 12 & 13 of Brentwood Forest Estate, Bellbird Park. A Bushfire Mitigation Plan was not produced at the time of ROL therefore no bushfire mitigation measures have been stipulated for the estate.

This plan is produced in accordance with the Ipswich Planning Scheme 1/06 – Part 11 Division 4 – *Bushfire Risk Areas*, which utilises the assessment methodology of the State Planning Policy 1/03, *Mitigating the Adverse Impacts of Flood, Bushfire and Landslide*.

The Reconfiguration of a Lot Plan for Stages 8-13, drawn by Veris, drawing No. 30258-CO01, Issue AC, dated 31/8/20, is included as Appendix 1 in this report.

The allotments are part of a residential estate that is supplied with reticulated water and has multiple access / egress options. The residential allotments are to be maintained with low ground fuel levels at all times and may include domestic gardens, lawns with grass kept under 100mm in height and scattered trees with discontinuous canopy.

As a guide to landscaping and gardening in a bushfire prone area, the document 'Landscaping for Bushfire' produced by the CFA Victoria, is a useful guide on plant selection, garden design and ongoing maintenance. It can be found at <https://www.cfa.vic.gov.au/plan-prepare/landscaping>.

1. Potential Bushfire Hazard Assessment

To the west are future stages 10 & 11 which will be cleared at the same time as Stage 9, providing a Low hazard rating. To the south are existing stages of the development consisting of managed residential allotments, which will also provide a Low hazard rating.

The bushland exposure are the open space areas to the north and east of the subject allotments. The bushland consists of grassy eucalypt vegetation over short gentle slopes of up to 10% with north and northeast aspects. The slopes go down into a small gully running through the open space area. The severity of bushfire hazard, as calculated in accordance with Appendix 3 of the State Planning Policy 1/03 (SPP1/03), would assign a vegetation score of 6 (grassy eucalypt), a slope score of 2 (undulating 5-10%) and an aspect score of 1 (north to east), equating to a severity of bushfire hazard score of 9 Medium (see Table 1).

Assessment of the bushland under the methodology of the SPP 7/17 – Bushfire Resilient Communities support document 2019, would assign a Vegetation Hazard Class (VHC) of 16.2 with associated fuel loads of up to 11.6t/Ha, over a slope of up to 6 degrees and with a Forest Fire Danger Index (FFDI) of 57, providing for a potential fire line intensity of up to 6884kw/m equating to a Medium hazard rating also.

Table 1

TOTAL HAZARD SCORE	SEVERITY OF BUSHFIRE HAZARD
13 or greater	High
6 to 12.5	Medium
1 to 5.5	Low

Section A3.24 and table A3.5 of the SPP 1/03 sets out inclusion zones when calculating a Potential Bushfire Hazard (PBH) level. Any land within 50 metres of medium PBH rated bushland is deemed to have a medium PBH rating. Any land within 100 metres of high PBH rated bushland is deemed to have a high PBH rating. Therefore lots 1-5, 55-59, 128-130, 167-170, 188-195 & 9003 would be assigned a Medium PBH rating. The remainder of the allotments in Stages 8, 9, 12 & 13 would be assigned a Low PBH rating.

2. Building Construction Requirements

The bushfire provisions of the National Construction Code (NCC) are applied to Class 1, 2 & 3 buildings and associated Class 10a buildings, located in designated bushfire prone areas. “Designated bushfire prone area means land which has been designated under a power in legislation as being subject, or likely to be subject, to bushfires” (*NCC Schedule 3 Definitions*).

The Ipswich City Council Planning Scheme, note 11.4.4B(5), states “*For the purposes of the Building Code of Australia, the Bushfire Risk Areas identified on Map OV1 are “Designated Bushfire Prone Areas” except where the land has been cleared and developed in accordance with clause 11.4.4(1)(a).* Map OV1 only maps areas of high or medium PBH.

For dwellings on Lots 1-5, 55-59, 128-130, 167-170, 188-195 & 9003, with a Medium PBH rating under the SPP1/03, the Ipswich City Council Planning Scheme, note 11.4.4B(5), requires the NCC and where relevant the Australian Standard for Construction of Buildings in Bushfire-Prone Areas (AS3959) to be addressed for these lots.

P2.7.5 of the NCC requires:- A Class 1 building or a Class 10a building or deck associated with a Class 1 building that is constructed in a designated bushfire prone area must, to the degree necessary, be designed and constructed to reduce the risk of ignition from a bushfire, appropriate to the –

- (a) Potential for ignition caused by burning embers, radiant heat or flame generated by a bushfire; and
- (b) Intensity of the bushfire attack on the building.

Section 3.10.5.0 (Qld variation) of the NCC is the deemed-to-satisfy provision and states:-

- (a) *Subject to (b), Performance Requirement P.2.7.5 is satisfied for—*
 - (i) *a Class 1 building; or*
 - (ii) *a Class 10a building or deck associated with a Class 1 building, located in a designated bushfire prone area if it is constructed in accordance with—*
 - (iii) *AS 3959; or*
 - (iv) *NASH Standard – Steel Framed Construction in Bushfire Areas.*
- (b) *The requirements of (a) do not apply when, in accordance with AS 3959, the classified vegetation is Group F rainforest (excluding wet sclerophyll forest types), mangrove communities and grasslands under 300 mm high.*

Where a Performance Solution is proposed, the relevant Performance Requirements must be determined in accordance with Sections A2.2(3) and A2.4(3) of the NCC as applicable. Section V2.7.2 of the NCC is a means to verify the appropriate risk of ignition from a bushfire in order to meet the requirement of P2.7.5. For further guidance refer to the Buildings in Bushfire Prone Area Verification Method Handbook available from the Australian Building Code Board.

These levels of construction are reliant on the recommendations of this report being implemented and maintained.

2.1. Lots 1-5, 55-59, 129, 130, 167, 170 & 188

Future dwellings on Lots 1-5, 55-59, 129, 130, 167, 170 & 188 are within 50 meters of the hazardous bushland with over 28 metres of separation.

In accordance with AS3959-2018 – Table 2.4.5 ‘*Determination of Bushfire Attack Level (BAL)-FDI 40 (1090K)*’, the vegetation class is woodland, distance from unmanaged vegetation is between 28 and 100 metres and slope is 5-10 degrees, which equates to a BAL-12.5 Bushfire Attack Level for the future dwellings on Lots 1-5, 55-59, 129, 130, 167, 170 & 188. A BAL-12.5 Bushfire Attack Level requires Sections 3 and 5 of AS3959-2018 to be applied.

2.2. Lots 128, 168, 169 & 193-195

Lots 128, 168, 169 & 193-195 are within 50 meters of the hazardous bushland to the north with a minimum 21 metres of separation provided by the roadway.

In accordance with AS3959-2018 – Table 2.4.5 ‘*Determination of Bushfire Attack Level (BAL)-FDI 40 (1090K)*’, the vegetation class is woodland and slope is 0-5 degrees. The distance between any dwellings and the northern lot boundary will determine the standard of construction required.

-) If the distance between the northern lot boundary and the dwelling is less than 7 metres, the Bushfire Attack Level for the proposed dwelling will equate to BAL-19. A BAL-19 level requires section 3 and 6 of AS3959-2018 to be applied.

-) If the distance between the northern lot boundary and the dwelling is between 7 and 50 metres, the Bushfire Attack Level for the proposed dwelling will equate to BAL-12.5. A BAL-12.5 level requires section 3 and 5 of AS3959-2018 to be applied.

Section 3.5 of AS3959-2009 states “*The construction requirements for the next lower BAL than that determined for the site may be applied to an elevation of the building where the elevation is not exposed to the source of bushfire attack.*” Therefore, the southern elevation of the proposed dwelling can be constructed to the next lower Bushfire Attack Level, unless the level is already at BAL-12.5.

2.3. Lots 189-192

Lots 189-192 are within 50 meters of the hazardous bushland to the northeast with a minimum 21 metres of separation provided by the roadway.

In accordance with AS3959-2018 – Table 2.4.5 ‘*Determination of Bushfire Attack Level (BAL)-FDI 40 (1090K)*’, the vegetation class is woodland and slope is 0-5 degrees. The distance between any dwellings and the north-eastern lot boundary will determine the standard of construction required.

-) If the distance between the north-eastern lot boundary and the dwelling is less than 7 metres, the Bushfire Attack Level for the proposed dwelling will equate to BAL-19. A BAL-19 level requires section 3 and 6 of AS3959-2018 to be applied.
-) If the distance between the north-eastern lot boundary and the dwelling is between 7 and 50 metres, the Bushfire Attack Level for the proposed dwelling will equate to BAL-12.5. A BAL-12.5 level requires section 3 and 5 of AS3959-2018 to be applied.

Section 3.5 of AS3959-2009 states “*The construction requirements for the next lower BAL than that determined for the site may be applied to an elevation of the building where the elevation is not exposed to the source of bushfire attack.*” Therefore, the south-western elevation of the proposed dwelling can be constructed to the next lower Bushfire Attack Level, unless the level is already at BAL-12.5.

2.4. Lot 9003

Lot 9003 is within 50 meters of the hazardous bushland to the north with a minimum 21 metres of separation provided by the roadway.

If any dwellings are constructed on Lot 9003; In accordance with AS3959-2018 – Table 2.4.5 ‘*Determination of Bushfire Attack Level (BAL)-FDI 40 (1090K)*’, the vegetation class is woodland and slope is 0-5 degrees. The distance between any dwellings and the northern lot boundary will determine the standard of construction required.

-) If the distance between the northern lot boundary and the dwelling is less than 7 metres, the Bushfire Attack Level for the proposed dwelling will equate to BAL-19. A BAL-19 level requires section 3 and 6 of AS3959-2018 to be applied.

- J) If the distance between the northern lot boundary and the dwelling is between 7 and 50 metres, the Bushfire Attack Level for the proposed dwelling will equate to BAL-12.5. A BAL-12.5 level requires section 3 and 5 of AS3959-2018 to be applied.

Section 3.5 of AS3959-2009 states “*The construction requirements for the next lower BAL than that determined for the site may be applied to an elevation of the building where the elevation is not exposed to the source of bushfire attack.*” Therefore, the southern elevation of the proposed dwelling can be constructed to the next lower Bushfire Attack Level, unless the level is already at BAL-12.5.

2.5. Remaining Lots

The remainder of the allotments in Stages 8, 9, 12, & 13 not identified in Sections 2.1-2.4 of this report are assigned a Low PBH rating.

Under the Ipswich Planning Scheme 1/06 – Part 11 Division 4 – *Bushfire Risk Areas*, a site with a low PBH rating does not require assessment under the Building Code of Australia or under the Australian Standard (AS3959) for *Construction of Buildings in Bushfire Prone Areas* and therefore no specific level of construction would be required in relation to bushfire.

3. Summary

The Bushland open space is a very sensitive ecosystem and could be altered drastically if not cared for properly. Residents can assist in maintaining this fragile ecosystem by preventing unwanted fires from encroaching into the parkland, ensure that dumping of rubbish does not degrade the area and that exotic plant species do not invade the bushland. Hot fires on a regular basis will degrade the bushlands biodiversity.

It would be recommended that residents with a Medium PBH rating, prepare a ‘Bushfire Survival Plan’, which is available from the Rural Fire Service Queensland website at www.ruralfire.qld.gov.au. The ‘Bushfire Survival Plan’ document provides information on Bushfire Danger Ratings, Community Warning Information, how to prepare your property, what to do in the event of a bushfire and what to expect. The Bushfire Survival Plan should be updated annually. Further information is also available through the Prepare•Act•Survive brochure also available on the Rural Fire Service website. For further information contact your local Fire Brigade for assistance or phone 1300 369 003.

This Bushfire Hazard Assessment Report is in relation to construction levels for the allotments in Stages 8, 9, 12 & 13 of Brentwood Forest Estate, Bellbird Park.

If you require any further assistance, please do not hesitate to contact this office.



Brett Bain,
Lead Bushfire Consultant.



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Fire is a part of nature. Its effects can be catastrophic and fire can never be totally eliminated, however there are steps that can be taken to reduce the chances of uncontrolled fires occurring and the risk to life, property and the environment, in the event of uncontrolled fires. This is what we concentrate on, how the threats from bushfire can be minimised. There are many methods to do so, however deciding which method/s is best to use can be a complex decision to make. There are so many factors to consider such as ecological values, biodiversity, fire history, availability of resources, cost effectiveness and public awareness just to name a few. No guarantees can ever be given when dealing with Mother Nature, with ever increasing complexities it has now become a specialist field to be able to create plans to try and minimise the risk from bushfire. Ultimately it is a community responsibility to protect the environmental values, life and property in their area

COMPANY PROFILE

Bushland Protection Systems Pty Ltd (BPS) is a leading Bushfire Management Consultancy firm in Queensland, with many clients, ranging from private landowners to multi-national companies and Government bodies.

BPS consultants began operating as Bushfire Management Consultants with the introduction of the Gold Coast Bushfire Management Strategy in 1998 and spread their operations across the state with the implementation in 2003 of the State Planning Policy for mitigating the adverse impacts of flood, bushfire and landslide.

During that time over 3400 projects have been successfully completed, including large residential estates such as Coomera Waters, Spring Mountain, Pacific Pines, Coomera Springs, Observatory, Highland Reserve, Delfin Woodlands & Yarrabilba as well as commercial or Government project sites such as Paradise Country, Wacol Police Academy, Numinbah Correctional Facility, Silkwood Steiner School, Canon Hill Community Links Project & Griffith University.

With a strong background in bush fire fighting and involvement with numerous industry bodies, Bushland Protection Systems continues to deliver realistic and cost effective advice and solutions to provide higher levels of safety for the community, improve wildfire suppression and mitigation options for emergency services and land managers, while maintaining and improving environmental values for the future.

Our Consultants are registered with the Rural Fire Association of Queensland (RFAQ) as Level 2 Accredited Bushfire Practitioners.