



Bushland Protection Systems

Specialising in
**BUSHFIRE HAZARD
PLANNING & MITIGATION**

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Lendlease
Attn: Anne Vu
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22nd April 2024

RE: Site specific Bushfire Hazard Assessment and Construction Ratings Report for allotments in Precinct 6-ROL 1, Yarrabilba.

This Bushfire Hazard Assessment and Construction Ratings Report is to allocate construction ratings for the allotments in Precinct 6-ROL 1, Yarrabilba (as shown in Appendix 1). Precinct 6-ROL 1 is subject to the approved 'Bushfire Hazard Assessment and Mitigation Plan for Precinct 6 ROL 1' (BMP), prepared by Bushland Protection Systems, dated 24/8/23.

This plan is produced in accordance with:

- Bushfire hazard assessment in accordance with the Logan Planning Scheme 2015, Section 8.2.3 – Bushfire Hazard Overlay Code and Sc6.2.6 – Planning Scheme Policy 6, based on State Planning Policy 7/17, support document – Bushfire Resilient Communities 2019, under the Planning Act 2016.
- The approved BMP for Precinct 6-ROL 1, prepared by Bushland Protection Systems, dated 24/8/24.
- AS3959-2018 – Construction of buildings in bushfire-prone areas

This report is based on the following drawing:

- Precinct 06 – Application One, Bushfire Hazard Assessment and Management Plan, Sheet 1 of 3, drawn by Lendlease, drawing no. YAR-P06-ROL1-BHA-230821, dated 21/8/23, included as Appendix 1 of this report.

The allotments are part of a residential estate that is supplied with reticulated water. 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.

1. Potential Bushfire Hazard Assessment

Precinct 6-ROL 1 is located in the north of Precinct 6, between two vegetation corridors, and consists of residential allotments, which will be cleared for development. The proposed lots will be managed and be assigned a Vegetation Hazard Class (VHC) 42.6, resulting in a 'Not Bushfire Prone Area' hazard rating. To the south is Precinct 6-ROL2 which will also provide a 'Not Bushfire Prone Area' hazard rating.

The 'linear park managed' areas shown in Appendix 2 are to be managed as outlined in Section 5 of this report and will provide a 'Not bushfire prone area' hazard rating.

To the north are areas of bushland and basins. Whilst the vegetation is a linear corridor the width and configuration are sufficient to warrant a bushfire hazard rating from proposed Lot 2001 north, as shown in Appendix 2. The bushland would be assigned a Vegetation Hazard Class (VHC) of 16.1 with associated fuel loads of up to 16t/Ha, over slopes of up to 2 degrees and a Forest Fire Danger Index (FFDI) of 54, providing for a potential fire line intensity of up to 8,486kW/m equating to a 'Medium' hazard rating.

With management over the stormwater basin adjacent to Stage 11(as outlined in Section 5 of this report), the remaining 'linear park unmanaged' area in the eastern corridor (from Lot 2001 south to Lot 476) forms a narrow linear corridor and is considered to have a low hazard rating due to its limited size and configuration.

To the south of the basin, the corridor (adjoining Precinct 6-ROL2) widens out again and would be assessable. The bushland would be assigned a VHC 16.1 with associated fuel loads of up to 16t/Ha, over slopes of up to 2 degrees and an FFDI of 54, providing for a potential fire line intensity of up to 8,486kW/m equating to a 'Medium' hazard rating.

To the northwest and west is a corridor of vegetation adjoining Precinct 6 which would be assigned a VHC 16.1 with associated fuel loads of up to 16t/Ha, over slopes of up to 2 degrees and an FFDI of 54, providing for a potential fire line intensity of up to 8486kW/m equating to a 'Medium' hazard rating.

Table Error! No text of specified style in document..1: Potential Bushfire Hazard Rating

POTENTIAL HAZARD CLASS	POTENTIAL FIRELINE INTENSITY
Not Bushfire Prone Area (Low)	<4,000 kw/m
Medium	4,000 to 20,000 kw/m
High	20,000 to 40,000 kw/m
Very High	>40,000 kw/m

The Bushfire Hazard Mapping also incorporates a 100 metre Potential Impact Buffer meaning that any land within 100 metres of a Potential Bushfire Hazard is also assigned the same rating as that bushland and triggers the Bushfire Code if Medium, High or Very High. Whilst having the same distance for all three levels of hazard is not considered a fit for purpose application, it is unfortunately what is legislated at this current time. Therefore, the proposed allotments 63-86, 107-129, 133-139, 162-172, 189-192, 200-206, 229-233, 237-251, 255-261, 289-295, 317-330, 400-405, 409, 410, 471-479, 490-500, 528, 529, 535, 536 & 563-567, as shown in Appendix 2, would be assigned a 'Medium' hazard rating, while the remainder of the allotments in Precinct 6 ROL 1 would be assigned a Low/No hazard 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 Logan Planning Scheme 2015, Table 5.7.1 – Building Work, Editor’s note, states “*Land identified in a bushfire hazard area on Bushfire hazard overlay map-OM-03.00 is a designated bushfire prone area for the Building Code of Australia and the Queensland Development Code.*” OM-03.00 only maps areas of Very High, High or Medium Potential Bushfire Hazard (PBH).

As Lots 63-86, 107-129, 133-139, 162-172, 189-192, 200-206, 229-233, 237-251, 255-261, 289-295, 317-330, 400-405, 409, 410, 471-479, 490-500, 528, 529, 535, 536 & 563-567 have a ‘Medium’ hazard rating, the Logan Planning Scheme 2015, Table 5.7.1 – Building Work, Editor’s note, requires the National Construction Code (NCC) and where relevant the Australian Standard for Construction of Buildings in Bushfire-Prone Areas (AS3959) to be addressed.

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.

For the most accurate results, assessment Method 2 has been utilised in accordance with AS3959-2018. Input values include the slopes, fuel loads and distances outlined above. Method 2, determined the following:

- If the distance between the ‘Medium’ rated bushland and the building is between 12.2 - 18 metres, the Bushfire Attack Level (BAL) for the proposed dwelling will equate to BAL-19. A BAL-19 level requires Sections 3 and 6 of AS3959-2018 to be applied.
- If the distance between the ‘Medium’ rated bushland and the building is between 18 - 100 metres, the Bushfire Attack Level for the proposed dwelling will equate to BAL-12.5. A BAL-12.5 level requires Sections 3 and 5 of AS3959-2018 to be applied.
- If the distance between the unmanaged bushland and the building is greater than 100 metres, the Bushfire Attack Level for the proposed dwelling will equate to BAL-LOW. A BAL-LOW level requires no specific construction standards under AS3959-2018 in relation to bushfire.

These levels of construction are reliant on the recommendations of this report and the approved 2023 BMP being implemented and maintained.

2.1. Lots 63-72, 74-86, 107-119, 121-128, 133-139, 162-172, 189-192, 200-206, 229-233, 237-251, 255-261, 289-295, 317-330, 400-405, 409, 410, 471-479, 490-500, 528, 529, 535, 536 & 563-567

Future dwellings on Lots 63-72, 74-86, 107-119, 121-128, 133-139, 162-172, 189-192, 200-206, 229-233, 237-251, 255-261, 289-295, 317-330, 400-405, 409, 410, 471-479, 490-500, 528, 529, 535, 536 & 563-567 are within 100 metres of ‘Medium’ rated bushland but with over 18 metres of separation. Therefore, the future buildings on these lots are to be constructed in accordance with a BAL-12.5, requiring sections 3 and 5 of AS3959-2018 to be applied.

2.2. Lot 73

Only part of Lot 73 is within 100 metres of the ‘Medium’ rated bushland and the BAL rating will depend on the position of the building. Therefore, if the dwelling is less than 2.5 metres from the rear (west) lot boundary, the Bushfire Attack Level for the proposed dwelling will equate to BAL-12.5, requiring sections 3 and 5 of AS3959-2018 to be applied. If the dwelling is 2.5 metres or more from the rear lot boundary, then the dwelling has a ‘Low’ hazard rating and a BAL does not apply.

2.3. Lot 120

The future dwelling on Lot 120 is required to have a minimum 2.5 metre building setback from the northeast lot boundary, providing a minimum separation of 15 metres from the bushland.

Section 3.5 of AS3959-2018 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 southwest elevation of the proposed building can be constructed to BAL-12.5 Bushfire Attack Level, requiring Sections 3 and 5 of AS3959-2018 to be applied, while the remainder of the building must be constructed to a BAL-19, requiring Sections 3 and 6 of AS3959-2018 to be applied.

2.4. Lot 129

Only part of Lot 129 is within 100 metres of the 'Medium' rated bushland and the BAL rating will depend on the position of the building. Therefore, if the dwelling is less than 2 metres from the northwest side lot boundary, the Bushfire Attack Level for the proposed dwelling will equate to BAL-12.5, requiring sections 3 and 5 of AS3959-2018 to be applied. If the dwelling is 2 metres or more from the northwest side lot boundary, then the dwelling has a 'Low' hazard rating and a BAL does not apply.

2.5. Remaining Lots

Future dwelling on the remaining lots in Precinct 6-ROL1, not identified in Sections 2.1 to 2.4 above, have a 'Low' hazard rating.

Under the Logan Planning Scheme 2015, Table 5.7.1 – Building Work, Editor's note, a site with a low PBH rating does not require assessment under the NCC 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

This Bushfire Hazard Assessment and Construction Ratings Report is to allocate construction ratings for the allotments in Precinct 6-ROL 1, Yarrabilba (as shown in Appendix 1). Future dwellings are to be constructed in accordance with AS3959-2018 as outlined in Section 2 of this report. These levels of construction are reliant on the recommendations of this report and the approved 2023 BMP being implemented and maintained.

The allotments are part of a residential estate that is supplied with reticulated water. 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.

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.

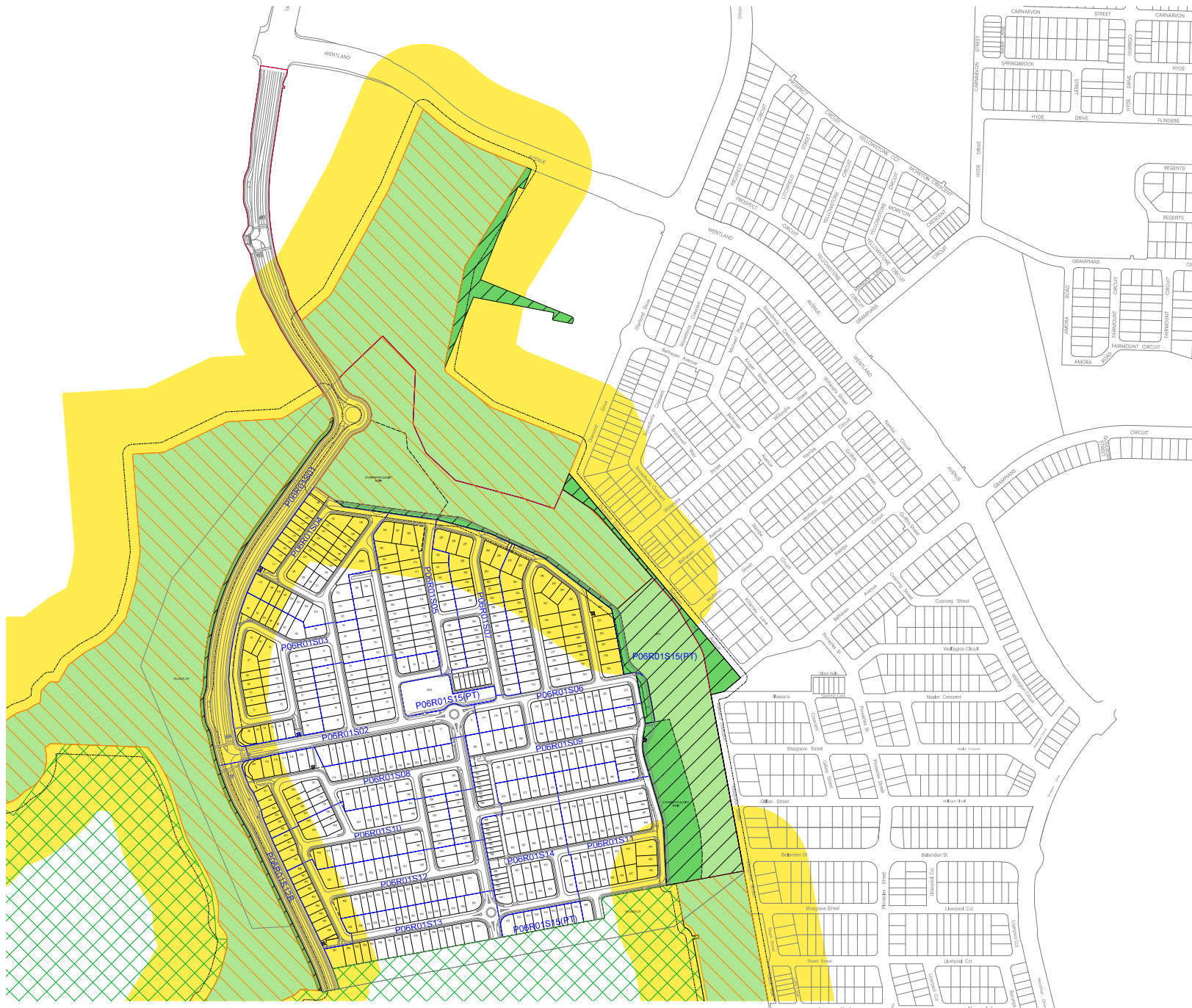
If you require any further assistance, please do not hesitate to contact this office.



Brett Bain, MDIA, MRFAQ
Lead Bushfire Consultant.

- PRECINCT SIX - APPLICATION ONE BOUNDARY
- STAGE BOUNDARY
-  LOW BUSHFIRE HAZARD RATING
-  MEDIUM BUSHFIRE HAZARD RATING
-  MANAGED BUFFER - LATER APPLICATIONS
-  POTENTIAL BUSHFIRE IMPACT ZONE
-  LINEAR PARK MANAGED
-  LINEAR PARK UNMANAGED
-  MINIMUM BUILDING SETBACKS

PREPARED BY LENDLEASE ON BEHALF OF
BUSHLAND PROTECTION SYSTEMS



PRECINCT 06 - APPLICATION ONE BUSHFIRE HAZARD ASSESSMENT AND MANAGEMENT PLAN

NOTES: This plan is indicative only, and specific uses, road alignment, boundaries, setbacks, and building layout shown may vary due to detailed design consideration. ©2023 Lendlease Communities (Australia). All rights reserved. Except as permitted by Lendlease, no part of this publication may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the permission of Lendlease.





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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 3500 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.