



AS3959 Bushfire Attack Level Assessment Report

This report has been prepared using the Simplified Procedure (Method 1) as detailed in Section 2 of AS3959-2018.

Site Details	
Address:	Stage 1 and 2, Lot 5131 Jandakot Road
Suburb:	Treeby WA 6164
Local Government Area	City of Cockburn
State:	Western Australia
Description of Building Works	Residential lots for Class 1 Dwellings

Report Details			
Report / Job Number:	2508-20	Report Version	1.0
Assessment Date:	21/08/2025	Report Date	8/09/2025
Assessor Details			
Name:	Rohan Carboon		
Accredited Practitioner	Rohan Carboon Level 3 - BPAD 23160		

Disclaimer:

This report has been prepared in good faith and is derived from sources believed to be reliable and accurate at the time of publication. Nevertheless, this publication is distributed on the terms and understanding that the author is not responsible for results of any actions taken based on information in this publication or for any error in or omission from this publication.

Notwithstanding the precautions adopted in this report, it should always be remembered that bushfires burn under a wide range of conditions. An element of risk, no matter how small always remains. The objective of the standard (AS 3959:2018) is 'to prescribe particular construction details for buildings to reduce the risk of ignition from a bushfire while the front passes' (Standards Australia, 2018). Building to the standard (AS 3959:2018) does not guarantee a building will survive a bushfire.

Site Assessment and Site Plans

The assessment of this development was undertaken on 21/08/2025 by Bushfire Safety Consulting Pty Ltd for the purposes of determining the Bushfire Attack Level for each lot and dwelling in accordance with AS 3959 – 2018 Simplified Procedure (Method 1). The Stage 1 and 2 subdivision development creates 131 urban residential lots and internal roads with stages developed to the north -west of the site. This assessment has been undertaken to provide BAL ratings for each lot in the subdivision stage (below) as outlined in the vegetation classification map.



Vegetation Classification

All vegetation within 150m of the subdivision stage was classified in accordance with Clause 2.2.3 of AS 3959-2018. There is no vegetation on the lots, the entire area has been cleared, roads and lots are under construction. Classified vegetation occurs within 100 metres north and south of the subdivision.

There are Public Open Spaces proposed in the subdivision and within 100 metres that have all been cleared and landscaped.

Each distinguishable vegetation plot with the potential to determine the Bushfire Attack Level is identified below and outlined in the Vegetation Classification Plan.

Photo ID: 1 Plot Number: 4 Vegetation classification or exclusion clause: Class D Scrub Description/justification of classification: Scrub vegetation 2-6 metres in height.	West Elevation 123°E (T) • -32.122475, 115.883348 ±3m ▲ 1m  21 Aug 2025, 3:02:36 pm
Photo ID: 2 Plot Number: 4 Class D Scrub Description/justification of classification: Scrub vegetation 2-6 metres in height.	West Elevation 89°E (T) • -32.122439, 115.883347 ±6m ▲ 1m  21 Aug 2025, 3:03:33 pm
Photo ID: 3 Plot Number: 4 Vegetation classification or exclusion clause: Class D Scrub Description/justification of classification: Scrub vegetation up to 3 m high.	West Elevation 121°E (T) • -32.122418, 115.883757 ±4m ▲ 0m  21 Aug 2025, 3:03:33 pm
Photo ID: 4 Plot Number: 5 Vegetation classification or exclusion clause: Class B Woodland Description/justification of classification: Mixture of eucalypts and banksia woodland to 12m with 10 - 30% foliage cover and grass on the ground.	South 180°S (T) • -32.118082, 115.886637 ±3m ▲ 6m  21 Aug 2025, 2:44:45 pm

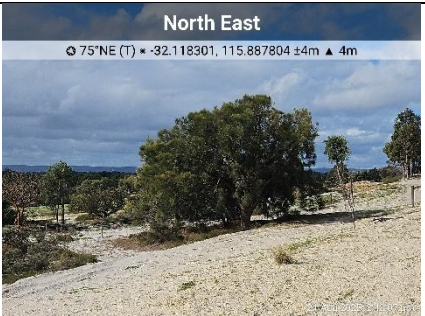
Photo ID: 5 Plot Number: 5 Vegetation classification or exclusion clause: Class B Woodland Description/justification of classification: Mixture of eucalypts and banksia woodland to 12m with 10 - 30% foliage cover and grass on the ground.	
Photo ID: 6 Plot Number: 5 Vegetation classification or exclusion clause: Class B Woodland Description/justification of classification: Banksia trees > 6m tall with open canopy and low shrubland.	
Photo ID: 7 Plot Number: 5 Vegetation classification or exclusion clause: Class B Woodland Description/justification of classification: Banksia trees > 6m tall with open canopy, grasses and low shrubland.	
Photo ID: 8 Plot Number: 6 Vegetation classification or exclusion clause: Class B Woodland Description/justification of classification: Mixture of eucalypts and banksia woodland to 12m with 10 - 30% foliage cover and low shrubs on the ground.	
Photo ID: 9 Plot Number: 6 Vegetation classification or exclusion clause: Class B Woodland Description/justification of classification: Banksia trees > 6m tall with 10-30% canopy and low shrubland.	

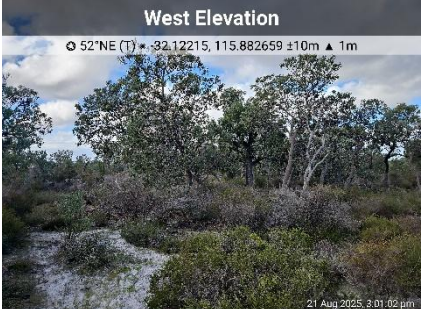
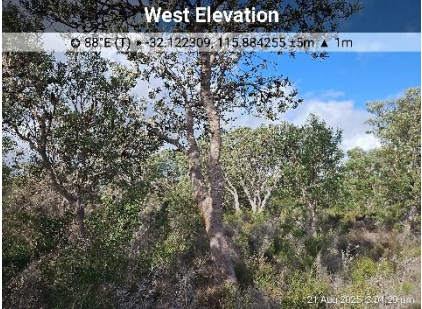
Photo ID: 10 Plot Number: 6 Vegetation classification or exclusion clause: Class B Woodland Description/justification of classification: Mixture of eucalypts and banksia woodland to 12m with 10 - 30% foliage cover and low shrubs on the ground.	 West Elevation 132°SE (T) • -32.121064, 115.883535 ±5m ▲ 1m 21 Aug 2025 2:58:02 pm
Photo ID: 11 Plot Number: 6 Vegetation classification or exclusion clause: Class B Woodland Description/justification of classification: Banksia trees > 6m tall with 10-30% canopy and low shrubland.	 West Elevation 52°NE (T) • -32.12215, 115.882659 ±10m ▲ 1m 21 Aug 2025 3:01:02 pm
Photo ID: 12 Plot Number: 6 Vegetation classification or exclusion clause: Class B Woodland Description/justification of classification: Mixture of eucalypts and banksia woodland to 12m with 10 - 30% foliage cover and low shrubs on the ground.	 West Elevation 46°NE (T) • -32.122276, 115.884571 ±10m ▲ 3m 21 Aug 2025 3:03:02 pm
Photo ID: 13 Plot Number: 6 Vegetation classification or exclusion clause: Class B Woodland Description/justification of classification: Mixture of eucalypts and banksia woodland to 12m with 10 - 30% foliage cover and low shrubs on the ground.	 West Elevation 68°E (T) • -32.122309, 115.884255 ±5m ▲ 1m 21 Aug 2025 3:03:59 pm
Photo ID: 14 Plot Number: 6 Vegetation classification or exclusion clause: Class B Woodland Description/justification of classification: Mixture of eucalypts and banksia woodland to 12m with 10 - 30% foliage cover and low shrubs on the ground.	 West Elevation 81°E (T) • -32.122222, 115.88549 ±4m ▲ 1m 21 Aug 2025 3:07:44 pm

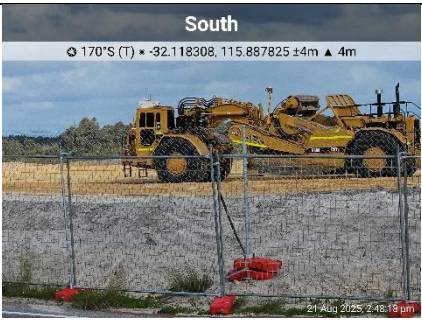
Photo ID: 15 Plot Number: 7 Vegetation classification or exclusion clause: Class C Shrubland Description/justification of classification: Mature vegetation dominated by low shrubland 0.5 – 1m in height.	
Photo ID: 16 Plot Number: 8 Vegetation classification or exclusion clause: Class G Grassland Description/justification of classification: Pasture grasses and weeds.	
Photo ID: 17 Plot Number: 11 Vegetation classification or exclusion clause: Exclusion Clause 2.2.3.2 (e) Description/justification of classification: Non vegetated area; cleared for roads and future housing lots	
Photo ID: 18 Plot Number: 11 Vegetation classification or exclusion clause: Exclusion Clause 2.2.3.2 (e) Description/justification of classification: Non vegetated area; roads and future housing lots	
Photo ID: 19 Plot Number: 11 Vegetation classification or exclusion clause: Exclusion Clause 2.2.3.2 (e) Description/justification of classification: Non vegetated area; future lots, roads.	

Photo ID: 20 Plot Number: 11 Vegetation classification or exclusion clause: Exclusion Clause 2.2.3.2 (e) Description/justification of classification: Non vegetated area; future roads and lots.	South 204°S (T) • -32.120064, 115.884594 ±12m ▲ 1m 
Photo ID: 21 Plot Number: 11 Vegetation classification or exclusion clause: Exclusion Clause 2.2.3.2 (e) Description/justification of classification: Non vegetated area; existing roads.	West 301°W (T) • -32.120814, 115.883913 ±5m ▲ 1m 
Photo ID: 22 Plot Number: 11 Vegetation classification or exclusion clause: Exclusion Clause 2.2.3.2 (e) Description/justification of classification: Non vegetated area; future housing lots.	West Elevation 49°NE (T) • -32.122523, 115.885801 ±3m ▲ 1m 
Photo ID: 23 Plot Number: 11 Vegetation classification or exclusion clause: Exclusion Clause 2.2.3.2 (e) Description/justification of classification: Non vegetated area; existing roads and housing.	North West 314°NW (T) • -32.11992, 115.884722 ±25m ▲ 2m 
Photo ID: 24 Plot Number: 11 Vegetation classification or exclusion clause: Exclusion Clause 2.2.3.2 (e) Description/justification of classification: Non vegetated area; existing roads, footpaths and housing.	North 16°N (T) • -32.11992, 115.884722 ±25m ▲ 2m 

Relevant Fire Danger Index

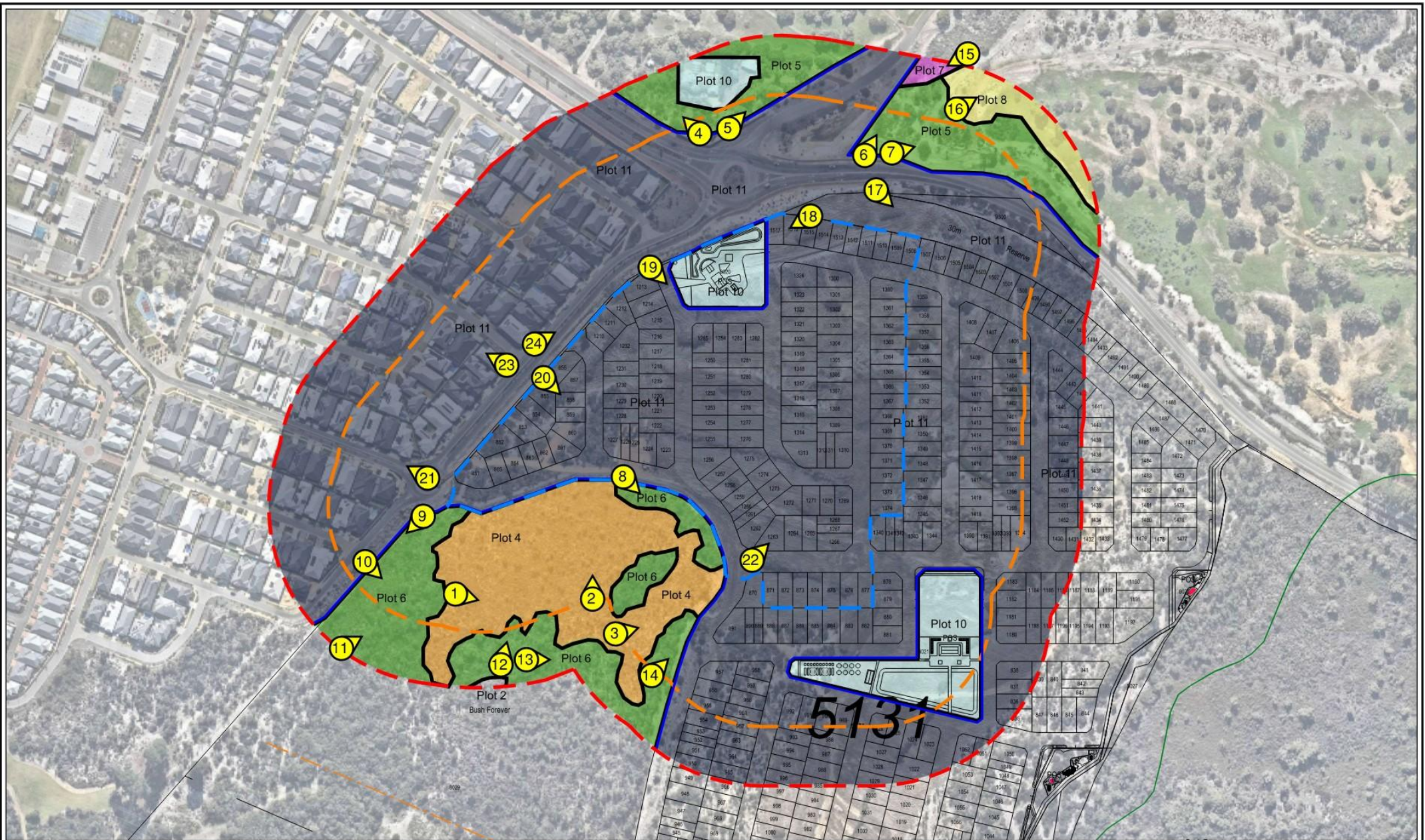
The fire danger index for this site has been determined in accordance with Table 2.1 in AS3959–2018.

Fire Danger Index:	Table
FDI : 80	2.5

Effective Slope

The effective slope under the classified vegetation is outlined in the following table.

Plot No.	Classified Vegetation	Effective slope
1	Class A Forest	Downslope 0-5°
2	Class A Forest	Flat/upslope
3	Class D Scrub	Downslope 0-5°
4	Class D Scrub	Flat/upslope
5	Class B Woodland	Downslope 0-5°
6	Class B Woodland	Flat/upslope
7	Class C Shrubland	Flat/upslope
8	Class G Grassland	Downslope 0-5°
9	Class G Grassland	Flat/upslope
10	Exclusion Clause 2.2.3.2 (f)	N/A
11	Exclusion Clause 2.2.3.2 (e)	N/A



Location details: Lot 5131 Jandakot Road
Treeby - Stages 1 & 2
Assessment date: August, 2025
Prepared by: Bushfire Safety Consulting
Accreditation level: Level 3 BPAD Practitioner
Accreditation number: BPAD 23160
Accreditation expiry date: 31st January, 2026
Date aerial photo: July, 2025

**FIGURE 2 - VEGETATION
CLASSIFICATION MAP
(BAL CONTOUR MAP)**

0 20 40 60 80 100 120 140m
SCALE 1:3000 @ A3
DATE: AUGUST 2025



LEGEND

- SUBJECT SITE
- ASSESSMENT AREA (150m) FROM THE EXTERNAL BOUNDARY OF THE SUBJECT SITE
- ASSESSMENT AREA (100m) FROM THE EXTERNAL BOUNDARY OF THE SUBJECT SITE

SOURCE OF PHOTOGRAPHY: NEARMAP

- PLOT 1 - FOREST - DOWNSLOPE 0-5
- PLOT 2 - FOREST - FLAT / UPSLOPE
- PLOT 3 - CLASS D SCRUB - DOWNSLOPE 0-5
- PLOT 4 - CLASS D SCRUB - FLAT / UPSLOPE
- PLOT 5 - CLASS B WOODLAND - DOWNSLOPE 0-5
- PLOT 6 - CLASS B WOODLAND - FLAT / UPSLOPE
- PLOT 7 - CLASS C SHRUBLAND - FLAT / UPSLOPE
- PLOT 8 - CLASS G GRASSLAND - DOWNSLOPE 0-5
- PLOT 9 - CLASS G GRASSLAND - FLAT / UPSLOPE
- PLOT 10 - EXCLUSION CLAUSE 2.2.3.2(f)
- PLOT 11 - EXCLUSION CLAUSE 2.2.3.2(e)

Determined Bushfire Attack Level

The determined Bushfire Attack Level (highest BAL) for the lots and future dwellings has been determined in accordance with clause 2.2.6 of AS3959-2018 using the above analysis.

Potential Bushfire Impacts

The predicted radiant heat flux levels into the site from the assessment are outlined below in Table 1 and the BAL Contour Plan.

Table 1: BAL Inputs and BAL Ratings

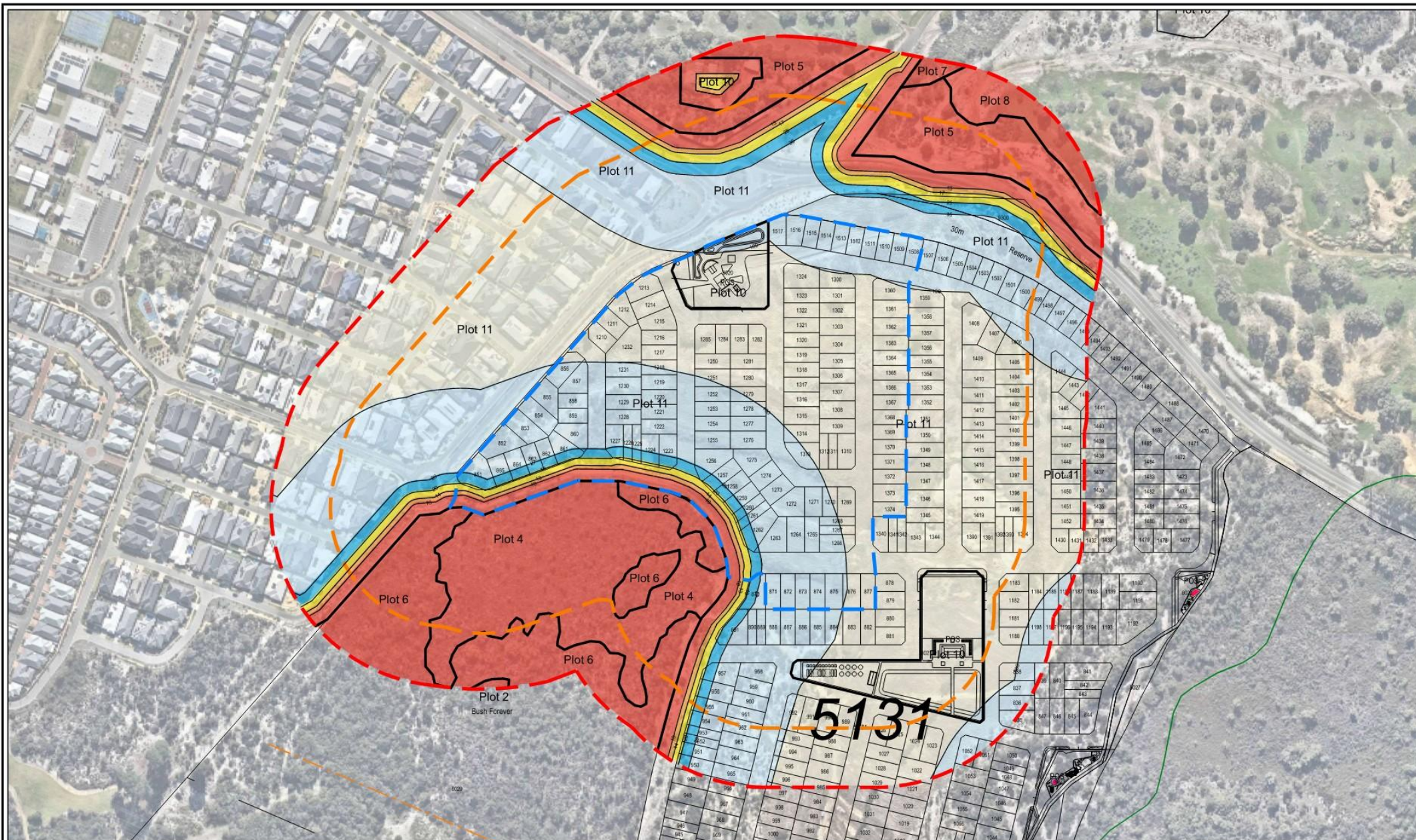
Lots	Vegetation Class	Plot No.	Slope	Setback Distance		BAL Rating
				External	Internal	
851	Class D Scrub	4	Flat/Upslope	18 metres	1	BAL-19
852	Class D Scrub	4	Flat/Upslope	41 metres	0	BAL-12.5
853	Class D Scrub	4	Flat/Upslope	41 metres	0	BAL-12.5
854	Class D Scrub	4	Flat/Upslope	43.5 metres	0	BAL-12.5
855	Class D Scrub	4	Flat/Upslope	54 metres	0	BAL-12.5
856	Class D Scrub	4	Flat/Upslope	80 metres	0	BAL-12.5
857	Class D Scrub	4	Flat/Upslope	71.6 metres	0	BAL-12.5
858	Class D Scrub	4	Flat/Upslope	59 metres	0	BAL-12.5
859	Class D Scrub	4	Flat/Upslope	46.6 metres	0	BAL-12.5
860	Class D Scrub	4	Flat/Upslope	22 metres	0	BAL-19
861	Class D Scrub	4	Flat/Upslope	18 metres	1	BAL-19
862	Class D Scrub	4	Flat/Upslope	16 metres	1	BAL-19
863	Class D Scrub	4	Flat/Upslope	16 metres	1	BAL-19
864	Class D Scrub	4	Flat/Upslope	16 metres	1	BAL-19
865	Class D Scrub	4	Flat/Upslope	16 metres	1	BAL-19
871	Class D Scrub	4	Flat/Upslope	30 metres	0	BAL-12.5
872	Class D Scrub	4	Flat/Upslope	42 metres	0	BAL-12.5
873	Class D Scrub	4	Flat/Upslope	55 metres	0	BAL-12.5
874	Class D Scrub	4	Flat/Upslope	67 metres	0	BAL-12.5
875	Class D Scrub	4	Flat/Upslope	80 metres	0	BAL-12.5
876	Class D Scrub	4	Flat/Upslope	95 metres	0	BAL-12.5
877	Class D Scrub	4	Flat/Upslope	>100 metres	0	BAL-LOW
1210 -1217	Class B Woodland	6	Flat/Upslope	>100 metres	0	BAL-LOW
1218	Class B Woodland	6	Flat/Upslope	96.6 metres	0	BAL-12.5
1219	Class B Woodland	6	Flat/Upslope	84 metres	0	BAL-12.5
1220	Class B Woodland	6	Flat/Upslope	71.6 metres	0	BAL-12.5
1221	Class B Woodland	6	Flat/Upslope	59 metres	0	BAL-12.5
1222	Class B Woodland	6	Flat/Upslope	46.6 metres	0	BAL-12.5
1223	Class B Woodland	6	Flat/Upslope	18 metres	2	BAL-19
1224	Class B Woodland	6	Flat/Upslope	18 metres	2	BAL-19
1225	Class B Woodland	6	Flat/Upslope	18 metres	2	BAL-19
1226	Class B Woodland	6	Flat/Upslope	18 metres	2	BAL-19

Table 1: BAL Inputs and BAL Ratings

1227	Class D Scrub	4	Flat/Upslope	18 metres	2	BAL-19
1228	Class B Woodland	6	Flat/Upslope	49 metres	0	BAL-12.5
1229	Class B Woodland	6	Flat/Upslope	61.8 metres	0	BAL-12.5
1230	Class B Woodland	6	Flat/Upslope	74 metres	0	BAL-12.5
1231	Class B Woodland	6	Flat/Upslope	89 metres	0	BAL-12.5
1232	Class B Woodland	6	Flat/Upslope	>100 metres	0	BAL-LOW
1250	Class B Woodland	6	Flat/Upslope	>100 metres	0	BAL-LOW
1251	Class B Woodland	6	Flat/Upslope	90 metres	0	BAL-12.5
1252	Class B Woodland	6	Flat/Upslope	77 metres	0	BAL-12.5
1253	Class B Woodland	6	Flat/Upslope	65.5 metres	0	BAL-12.5
1254	Class B Woodland	6	Flat/Upslope	54 metres	0	BAL-12.5
1255	Class B Woodland	6	Flat/Upslope	39.5 metres	0	BAL-12.5
1256	Class B Woodland	6	Flat/Upslope	19.5 metres	2	BAL-19
1257	Class B Woodland	6	Flat/Upslope	18 metres	2	BAL-19
1258	Class B Woodland	6	Flat/Upslope	18 metres	2	BAL-19
1259	Class B Woodland	6	Flat/Upslope	18 metres	2	BAL-19
1260	Class B Woodland	6	Flat/Upslope	18 metres	2	BAL-19
1261	Class B Woodland	6	Flat/Upslope	18 metres	2	BAL-19
1262	Class B Woodland	6	Flat/Upslope	18 metres	2	BAL-19
1263	Class B Woodland	6	Flat/Upslope	23 metres	0	BAL-19
1264	Class B Woodland	6	Flat/Upslope	49.6 metres	0	BAL-12.5
1265	Class B Woodland	6	Flat/Upslope	64 metres	0	BAL-12.5
1266	Class B Woodland	6	Flat/Upslope	77 metres	0	BAL-12.5
1267	Class B Woodland	6	Flat/Upslope	80 metres	0	BAL-12.5
1268	Class B Woodland	6	Flat/Upslope	82 metres	0	BAL-12.5
1269	Class B Woodland	6	Flat/Upslope	>100 metres	0	BAL-LOW
1270	Class B Woodland	6	Flat/Upslope	87.6 metres	0	BAL-12.5
1271	Class B Woodland	6	Flat/Upslope	73 metres	0	BAL-12.5
1272	Class B Woodland	6	Flat/Upslope	52 metres	0	BAL-12.5
1273	Class B Woodland	6	Flat/upslope	46 metres	0	BAL-12.5
1274	Class B Woodland	6	Flat/upslope	47 metres	0	BAL-12.5
1275	Class B Woodland	6	Flat/upslope	50 metres	0	BAL-12.5
1276	Class B Woodland	6	Flat/upslope	54 metres	0	BAL-12.5

Table 1: BAL Inputs and BAL Ratings

1277	Class B Woodland	6	Flat/upslope	66.7 metres	0	BAL-12.5
1278	Class B Woodland	6	Flat/Upslope	77.8 metres	0	BAL-12.5
1279	Class B Woodland	6	Flat/Upslope	89 metres	0	BAL-12.5
1280 -1285	Class B Woodland	6	Flat/Upslope	>100 metres	0	BAL-LOW
1300	Class B Woodland	5	Downslope 0-5°	97 metres	0	BAL-12.5
1301 -1312	Class B Woodland	5	Downslope 0-5°	>100 metres	0	BAL-LOW
	Class B Woodland	6	Flat/upslope	>100 metres		
1313	Class B Woodland	6	Flat/Upslope	87 metres	0	BAL-12.5
1314	Class B Woodland	6	Flat/Upslope	89.6 metres	0	BAL-12.5
1315 - 1323	Class B Woodland	6	Flat/Upslope	>100 metres	0	BAL-LOW
	Class B Woodland	5	Downslope 0-5°			
1324	Class B Woodland	5	Downslope 0-5°	97 metres	0	BAL-12.5
1360	Class B Woodland	5	Downslope 0-5°	96.6 metres	0	BAL-12.5
1361 -1374	Class B Woodland	6	Flat/Upslope	>100 metres	0	BAL-LOW
	Class B Woodland	5	Downslope 0-5°			



Location details: Lot 5131 Jandakot Road
Treeby - Stages 1 & 2
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Date aerial photo: July, 2025

FIGURE 3
BAL CONTOUR MAP

0 20 40 60 80 100 120 140m
SCALE 1:3000 @ A3
DATE: AUGUST 2025



LEGEND

- SUBJECT SITE
- ASSESSMENT AREA (150m) FROM THE EXTERNAL BOUNDARY OF THE SUBJECT SITE
- ASSESSMENT AREA (100m) FROM THE EXTERNAL BOUNDARY OF THE SUBJECT SITE

SOURCE OF PHOTOGRAPHY: NEARMAP

INDICATIVE BUSHFIRE ATTACK LEVELS

- BAL LOW
- BAL 12.5
- BAL 19
- BAL 29
- BAL 40
- BAL FLAME ZONE

Appendix 1: Additional Information / Advisory Notes

A Bushfire Attack Level (BAL) Assessment is a means of measuring the severity of a buildings potential exposure to ember attack, radiant heat and direct flame contact from a bushfire event, and thereby determining the construction measures required for the dwelling.

The method used to determination of the BAL rating, and subsequent building construction standards, are directly referenced from Australian Standard *AS3959-2018 Construction of buildings in bushfire prone areas*.

The BAL rating is determined through the identification and assessment of the following parameters:

- Fire danger Index (FDI) rating; assumed to be FDI-80 for Western Australia
- All classified vegetation **within 100m** of the subject building
- Separation distance between the building and the classified vegetation
- Slope of the land under the classified vegetation

AS3959-2018 has six (6) levels of BAL, based on the radiant heat flux exposure to the building, and also identifies the relevant sections for building construction as detailed below;

Bushfire Attack Level (BAL)	Classified Vegetation within 100m of the site and heat flux exposure thresholds	Description of predicted bushfire attack and levels of exposure	Construction Sections (within AS3959)
BAL-LOW	See Clause 2.2.3.2	There is insufficient risk to warrant specific construction requirements	4
BAL-12.5	$\leq 12.5 \text{ kW/m}^2$	Ember attack	3 & 5
BAL-19	$> 12.5 \text{ kW/m}^2$ to $\leq 19 \text{ kW/m}^2$	Increasing levels of ember attack and burning debris ignited by windbourne embers together with increasing heat flux	3 & 6
BAL-29	$> 19 \text{ kW/m}^2$ to $\leq 29 \text{ kW/m}^2$	Increasing levels of ember attack and burning debris ignited by windbourne embers together with increasing heat flux	3 & 7
BAL-40	$> 29 \text{ kW/m}^2$ to $\leq 40 \text{ kW/m}^2$	Increasing levels of ember attack and burning debris ignited by windbourne embers together with increasing heat flux with the increased likelihood of exposure to flames	3 & 8
BAL-FZ	$> 40 \text{ kW/m}^2$	Direct exposure to flames from fire front in addition to heat flux and ember attack	3 & 9