

Date: 30 October 2020

Our ref: 20PER-16814

Frasers Property Australia
Level 2, 3 De Vlamingh Avenue,
EAST PERTH WA 6004

Bushfire Attack Level (BAL) Assessment Report for Baldvis Parks, Baldvis

Site Details

Address: Baldvis Parks, Baldvis

Lots 127, 135, 149, 152, 161, 162, 187, 211, 212, 213, 214, 241, 245, 246, 247, 249, 257, 260, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 312, 313, 314, 315, 320, 321, 322, 323, 324, 326, 327, 328, 329, 331, 332, 334, 335, 336, 399, 413, 514, 880, 885, 996, 997, 1004, 1005, 1006, 1007, 1008, 1009, 1010, 1011

Suburb:	Baldvis, 6171	State	Western Australia
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Local Government Area:	City of Rockingham
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Description of building works:	Residential Development
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Report details

Report/Job number:	16814	Report version:	V2
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Assessment date:	29 October 2020	Report date:	30 October 2020
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Author:	James Leonard and Daniel Panickar	Review:	Daniel Panickar (BPAD Level 3 – 37802)
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SITE ASSESSMENT AND SITE PLAN

The assessment of the 61 subject lots was undertaken on 4 August 2020 and 29 October 2020 for the purpose of determining the Bushfire Attack Level (BAL) in accordance with *Australian Standard AS 3959-2018 Construction of Buildings in Bushfire Prone Areas* (SA 2018) Simplified Procedure (Method 1). An overview of the site is presented in Figure 1.

VEGETATION CLASSIFICATION

All vegetation within 100 m of the 61 subject lots was classified in accordance with Clause 2.2.3 of AS 3959-2018. Each distinguishable vegetation class with the potential to determine the BAL is identified below and presented in Figure 1.

It is currently assumed that areas of landscaped vegetation within the site and assessment area will be managed and maintained by Frasers Property (the developer) until replaced by residential dwellings and associated infrastructure or handed over to the City of Rockingham in the future.

Plot	1	Classification or Exclusion Clause	Class B woodland
		Photo Point 1 Classified vegetation within this plot is comprised of trees between 10 to 30 m tall with approximately 20 to 30% foliage cover. There is limited surface litter. Some grass and shrubs are present at the base of the trees. Slope under the vegetation has been assessed as upslope/ flat land.	 <p>04 Aug 2020, 14:46:30</p>
Plot	1	Classification or Exclusion Clause	Class B woodland
		Photo Point 2 Classified vegetation within this plot is comprised of trees between 10 to 30 m tall with approximately 20 to 30% foliage cover. There is limited surface litter. Some grass and shrubs are present at the base of the trees. Slope under the vegetation has been assessed as upslope/ flat land.	 <p>04 Aug 2020, 15:43:16</p>

Plot	2	Classification or Exclusion Clause	Class C shrubland
Photo Point 3		<p>Classified vegetation within this plot is comprised of shrubs <2 m high with greater than 30% foliage cover.</p> <p>Slope under the vegetation has been assessed as upslope/ flat land.</p>	 <p>150°SE (T) ● -32°18'47.7\", 115°49'27.2\" ±5m ▲ 9m</p>  <p>04 Aug 2020, 16:10:40</p>
Plot	3	Classification or Exclusion Clause	Class G grassland
Photo Point 4		<p>Classified vegetation within this plot is predominantly grassland with foliage cover from the over storey less than 10%.</p> <p>Slope under the vegetation has been assessed as upslope/ flat land.</p>	 <p>92°E (T) ● 32°19'0.84\"S, 115°49'36.21\"E ±5m ▲ 9m</p>  <p>04 Aug 2020, 15:01:22</p>
Plot	4	Classification or Exclusion Clause	Excluded under clause 2.2.3.2 (e) and (f)
Photo Point 5		<p>This plot has been excluded under Clause 2.2.3.2 (e) & (f) of AS 3959-2018. This area has been cleared for construction within Baldivis Parks Estate and is being maintained by the developer.</p>	 <p>47°NE (T) ● 32°19'4.18\"S, 115°49'33.71\"E ±4m ▲ 7m</p>  <p>29 Oct 2020, 08:13:44</p>

Plot	4	Classification or Exclusion Clause	Excluded under clause 2.2.3.2 (e) and (f)
		Photo Point 6	
		This plot has been excluded under Clause 2.2.3.2 (e) & (f) of AS 3959-2018. This area has been cleared for construction within Baldivis Parks Estate.	
Plot	4	Classification or Exclusion Clause	Excluded under clause 2.2.3.2 (e) and (f)
		Photo Point 7	
		This plot has been excluded under Clause 2.2.3.2 (e) & (f) of AS 3959-2018. This area comprises developed areas within Baldivis Parks Estate.	

RELEVANT FIRE DANGER INDEX

A blanket rating of FDI 80 is adopted for Western Australia, as outlined in Australian Standard (AS) 3959-2018 and endorsed by Australasian Fire and Emergency Service Authorities Council (AFAC).

POTENTIAL BUSHFIRE IMPACTS

The potential bushfire impact to the site / proposed development from each of the identified vegetation plots are identified below, Table 1 and Figure 1.

Table 1: BAL Analysis AS 3959-2018

Plot	Vegetation Classification	Effective Slope	Separation distances required				
			BAL-FZ	BAL-40	BAL-29	BAL-19	BAL-12.5
1	Class B woodland	Upslope/ flat land	<10	10-<14	14-<20	20-<29	29-<100
2	Class C shrubland	Upslope/ flat land	<7	7-<9	9-<13	13-<19	19-<100
3	Class G grassland	Upslope/ flat land	<6	6-<8	8-<12	12-<17	17-<50
4	Excluded under Clause 2.2.3.2 (e) & (f)	N/A	No separation distances required – BAL-LOW				

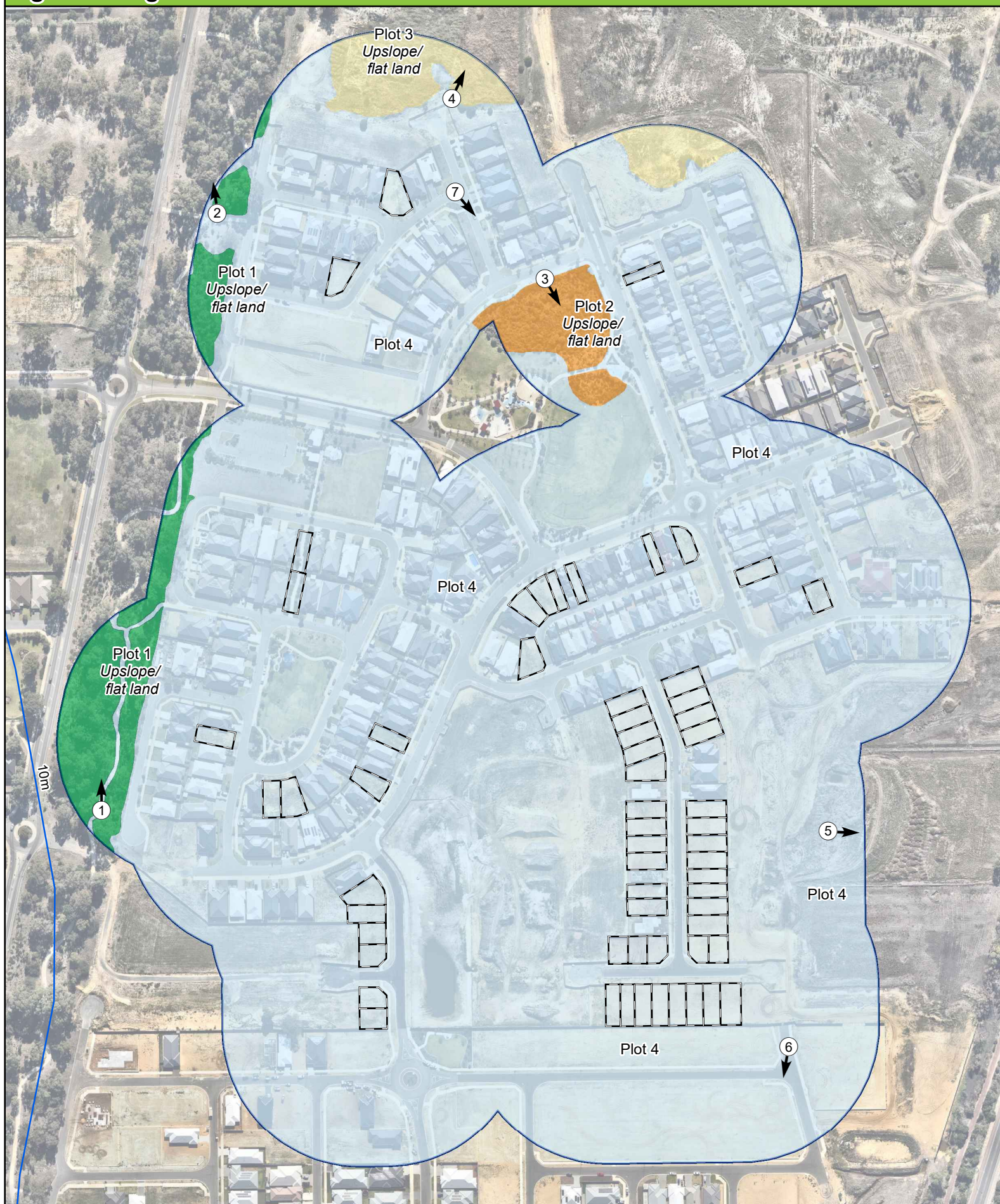
DETERMINED BUSHFIRE ATTACK LEVEL (BAL)

The determined Bushfire Attack Level (highest BAL) for the 61 subject lots has been determined in accordance with Clause 2.2.6 of AS 3959-2018 using the above analysis, Table 2 and Figure 2.



Table 2: BAL assessment summary

BAL	Affected lots	Construction sections to be consulted in AS 3959-2018
BAL-FZ	Nil	N/A
BAL-40	Nil	N/A
BAL-29	Nil	N/A
BAL-19	Nil	N/A
BAL-12.5	Determined Bushfire Attack Level for: Lots 127, 135, 161, 187, 399, 413 and 514.	3 and 5
BAL-LOW	Determined Bushfire Attack Level for: Lots 149, 152, 162, 211, 212, 213, 214, 241, 245, 246, 247, 249, 257, 260, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 312, 313, 314, 315, 320, 321, 322, 323, 324, 326, 327, 328, 329, 331, 332, 334, 335, 336, 880, 885, 996, 997, 1004, 1005, 1006, 1007, 1008, 1009, 1010 and 1011.	3 and 4





Figure 1: Vegetation classification

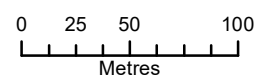


Legend

-  Lots
 100m Assessment Area
 Contours (5m)

Vegetation Classification

-  Class B woodland
-  Class C shrubland
-  Class G grassland
-  Excluded under clause 2.2.3.2 (e) & (f)



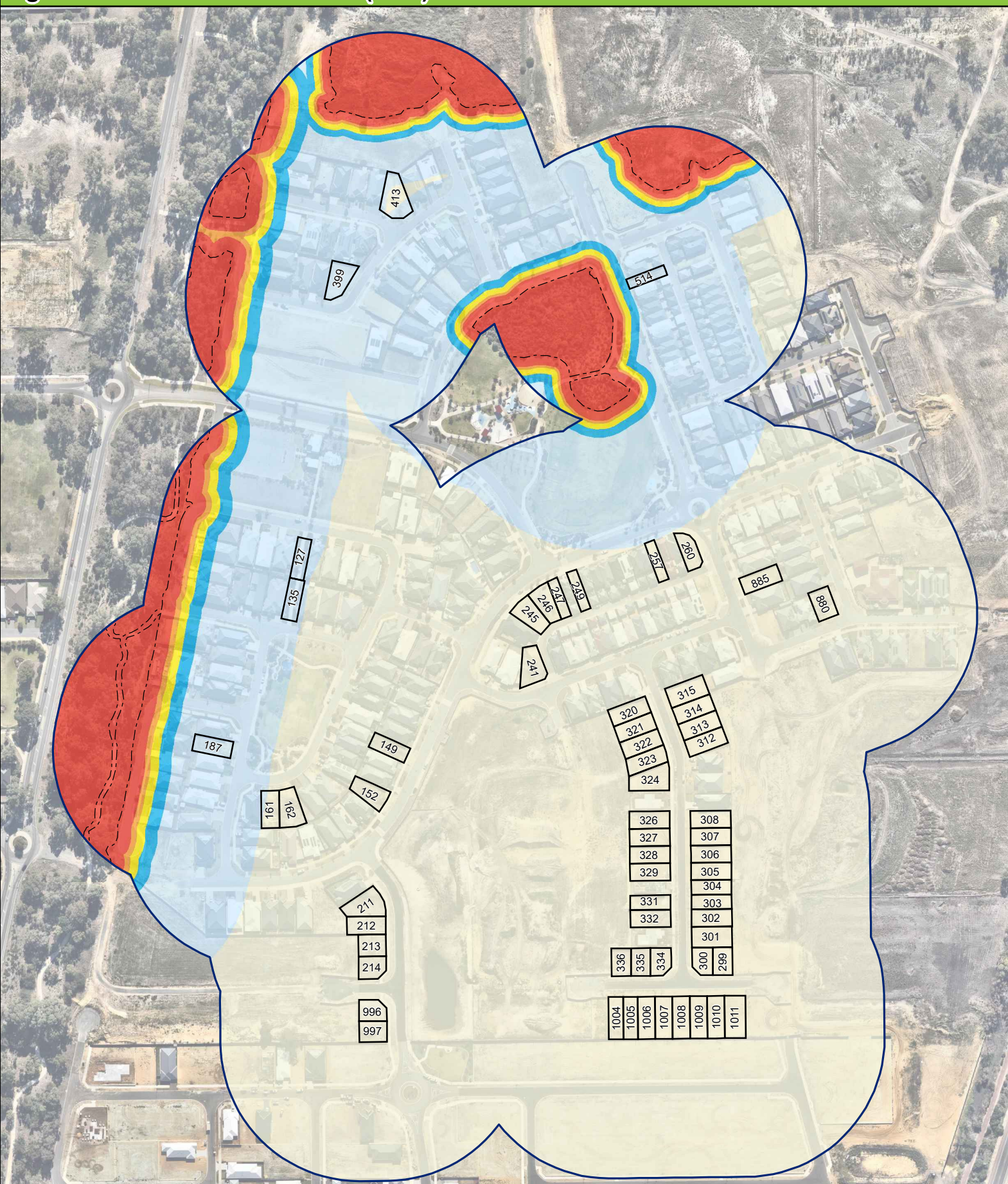
Datum/Projection:
GDA 1994 MGA Zone 50






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by: SM Date: 29/10/2020

Figure 2: Bushfire Attack Level (BAL) Contour

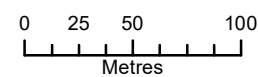


Legend

-  Lots
 100m Assessment Area
 Bushfire Hazard Interface

Bushfire Attack Level (BAL) Contour

- BAL - FZ
- BAL - 40
- BAL - 29
- BAL - 19
- BAL - 12.5
- BAL - LOW



Datum/Projection:
GDA 1994 MGA Zone 50



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by: SM Date: 29/10/2020

Appendix A – Additional Information / Advisory Notes

This assessment was undertaken as per AS 3959-2018. It is important that the current version of AS 3959, is consulted for construction purposes.

This BAL rating is based on the information current at the date of this letter and is valid for 12 months from the date of this letter.

Bushfire Attack Level (BAL) as set out in the Australian Standard 3959 Construction of Buildings in Bushfire-Prone Areas (AS 3959), as referenced in the Building Code of Australia.

Bushfire Attack Level (BAL)	Classified vegetation within 100 m of the site and radiant heat flux exposure thresholds	Description of predicted bush fire attack and levels of exposure	Construction Section as per AS 3959
BAL-LOW		There is insufficient risk to warrant specific construction requirements.	4
BAL-12.5	≤12.5 kW/m ²	Ember attack	3 and 5
BAL-19	>12.5 kW/m ² ≤19 kW/m ²	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing radiant heat flux.	3 and 6
BAL-29	>19 kW/m ² ≤29 kW/m ²	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing radiant heat flux	3 and 7
BAL-40	>29 kW/m ² ≤40 kW/m ²	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing radiant heat flux with the increased likelihood of exposure to flames.	3 and 8
BAL-FZ	>40 kW/m ²	Direct exposure to flames from fire front in addition to radiant heat flux and ember attack	3 and 9

Source: “AS 3959 - 2018 Construction of buildings in bushfire-prone areas” published by Standards Australia, Sydney