

Bushfire Attack Level (BAL) Assessment Report for Lot 1000, corner of Berrigan Drive and Abundant Boulevard, Jandakot 6149

Site Details

Address: Lot 1000, corner of Berrigan Drive and Abundant Boulevard

Suburb: Jandakot 6149 **State:** Western Australia

Local Government Area: City of Cockburn

Description of building works: Commercial development- Class 6 building- Retail Complex

Report details

Report/Job number: 24PER8810 **Report version:** v1
Assessment date: 21/10/2024 **Report date:** 4/11/2024
Author: Lee Galer (BPAD 55096) **Review:** Eva Cronin (BPAD 45482)



SITE ASSESSMENT AND SITE PLAN

The assessment of the subject lots was undertaken on 21 October 2024 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* (AS 3959:2018) Simplified Procedure (Method 1). An overview of the site is presented in **Figure 1**.

VEGETATION CLASSIFICATION

All vegetation within 100 m of the subject site 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**.

Plot 1	Classification or Exclusion Clause	Class D Scrub
	Effective Slope	All upslopes and flat land (0 degrees)

Photo Point 1

This vegetation is representative of Class D Scrub due to the vegetation height, composition and the canopy cover.

The predominant vegetation are Banksia's which grow to heights of 10 m and 7 m respectively (WA Herbarium, 1998). The Banksia individuals in this plot are already mature and are approximately 6 m in height and therefore unlikely to grow any taller due to environmental conditions of this vegetation.

There are some emergent trees <10 m in height and grasses present. However, the sparse distribution of these trees does not affect the predominant vegetation structure and the foliage cover is between 10 and 30%.

This classification is in line with previous vegetation assessments in approved Bushfire Management Plans (BMPs) for the Structure Plan (ELA 2023a) and Subdivision (ELA 2023b) within Glen Iris Estate.

Slope under the vegetation has been assessed as upslope/flat land.



Plot 1	Classification or Exclusion Clause	Class D Scrub
	Effective Slope	All upslopes and flat land (0 degrees)

Photo Point 2

This vegetation is representative of Class D Scrub due to the vegetation height, composition and the canopy cover.

The predominant vegetation are Banksia's which grow to heights of 10 m and 7 m respectively (WA Herbarium, 1998). The Banksia individuals in this plot are already mature and are approximately 6 m in height and therefore unlikely to grow any taller due to environmental conditions of this vegetation.

There are some emergent trees <10 m in height and grasses present. However, the sparse distribution of these trees does not affect the predominant vegetation structure and the foliage cover is between 10 and 30%.

This classification is in line with previous vegetation assessments in approved Bushfire Management Plans (BMPs) for the Structure Plan (ELA 2023a) and Subdivision (ELA 2023b) within Glen Iris Estate.

Slope under the vegetation has been assessed as upslope/flat land.



Plot 2	Classification or Exclusion Clause	Class G Grassland
	Effective Slope	All upslopes and flat land (0 degrees)

Photo Point 3

Vegetation identified within this plot is grassland. This plot is expected to be developed in the future as per the Bushfire Management Plan:

Eco Logical Australia 2023. Bushfire Management Plan: Subdivision: Glen Iris Estate (ELA 2023b)

As the condition presents as Grassland currently, a worst case scenario has been applied in the event development has not progressed prior to commencement of the current proposal.

Slope under vegetation was assessed as upslope/ flat land.



Plot 2	Classification or Exclusion Clause	Class G Grassland
	Effective Slope	All upslopes and flat land (0 degrees)

Photo Point 4

Vegetation identified within this plot is grassland. This plot is expected to be developed in the future as per the Bushfire Management Plan:

Eco Logical Australia 2023. Bushfire Management Plan: Subdivision: Glen Iris Estate (ELA 2023b)

As the condition presents as Grassland currently, a worst case scenario has been applied in the event development has not progressed prior to commencement of the current proposal.

Slope under vegetation was assessed as upslope/ flat land.



Plot 3	Classification or Exclusion Clause	Excluded AS 3959-2018 2.2.3.2 (f)
	Effective Slope	-

Photo Point 5

This plot has been excluded under Clause 2.2.3.2 (f) of AS 3959: 2018. This is an area of low threat, maintained parkland located at Yarra Vista Park.



Plot	3	Classification or Exclusion Clause	Excluded AS 3959-2018 2.2.3.2 (e, f)
		Effective Slope	-

Photo Point 6

This plot has been excluded under Clause 2.2.3.2 (e) and (f) of AS 3959: 2018. This is an area of low threat, maintained vegetation and roads.



Plot	3	Classification or Exclusion Clause	Excluded AS 3959-2018 2.2.3.2 (e, f)
		Effective Slope	-

Photo Point 7

This plot is currently devoid of classifiable vegetation and is comprised of cleared areas. This area will contain the proposed Retail Complex, carparks and landscaped areas once developed.



Plot	3	Classification or Exclusion Clause	Excluded AS 3959-2018 2.2.3.2 (e, f)
		Effective Slope	-

Photo Point 8

This plot is currently devoid of classifiable vegetation and is comprised of cleared areas. This area will contain the proposed Retail Complex, carparks and landscaped areas once developed.



Plot 3	Classification or Exclusion Clause	Excluded AS 3959-2018 2.2.3.2 (e, f)
	Effective Slope	-

Photo Point 9

This plot has been excluded under Clause 2.2.3.2 (e) and (f) of AS 3959: 2018. This is an area of low threat, maintained vegetation and roads.



Plot 3	Classification or Exclusion Clause	Excluded AS 3959-2018 2.2.3.2 (f)
	Effective Slope	-

Photo Point 10

This plot has been excluded under Clause 2.2.3.2 (f) of AS 3959: 2018. This is an area of low threat, maintained grass located at Prinsep Park



Plot 4	Classification or Exclusion Clause	Excluded AS 3959-2018 2.2.3.2 (c)
	Effective Slope	-

Photo Point 11

This area has been excluded under 2.2.3.2 (c) of AS 3959: 2018. This plot of vegetation is less than 0.25 hectares, is further than 20m from the Retail Complex within the subject site and not within 20 m of other areas of classified vegetation.

This area will be modified to a low threat Public Open Space (POS) in the future once development occurs (ELA 2023b)



Plot	4	Classification or Exclusion Clause	Excluded AS 3959-2018 2.2.3.2 (c)
		Effective Slope	-

Photo Point 12

This area has been excluded under 2.2.3.2 (c) of AS 3959: 2018. This plot of vegetation is less than 0.25 hectares, is further than 20m from the Retail Complex within the subject site and not within 20 m of other areas of classified vegetation.

This area will be modified to a low threat Public Open Space (POS) in the future once development occurs (ELA 2023b)



RELEVANT FIRE DANGER INDEX

The fire danger index for this site has been determined in accordance with Table 2.1 of AS 3959: 2018.

Relevant Fire Danger Index			
FDI 40 ☐	FDI 50 ☐	FDI 80 ☒	FDI 100 ☐
Table 2.4.5	Table 2.4.4	Table 2.4.3	Table 2.4.2

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	Assessed Separation Distance (m)	Bushfire Attack Level (BAL)
1	Class D Scrub	All upslopes and flat land (0 degrees)	52 m	BAL-12.5
2	Class G Grassland	All upslopes and flat land (0 degrees)	54 m	BAL-LOW
3	Excluded AS 3959-2018 2.2.3.2 (e, f)	-	N/A	BAL-LOW
4	Excluded AS 3959-2018 2.2.3.2 (c)	-	33 m	BAL-LOW

DETERMINED BUSHFIRE ATTACK LEVEL (BAL)

The determined Bushfire Attack Level (highest BAL) for the proposed works has been determined in accordance with Clause 2.2.6 of AS 3959: 2018 relevant data from the site assessment shown in Figure 2 and Table 2.

Table 2: BAL Assessment summary

BAL	Affected lots	Construction sections to be consulted in AS 3959-2018
BAL-12.5	Determined Bushfire Attack Level for: Class 6 building on Lot 1000, corner of Berrigan Drive and Abundant Boulevard, Jandakot	3 and 5

Note: This BAL assessment is for a Class 6 building that is not required to be constructed to the standards set out in AS 3959-2018 and the BAL assessment is restricted to planning approvals. This BAL rating is based on the information current at the date of this document and is valid for 12 months.

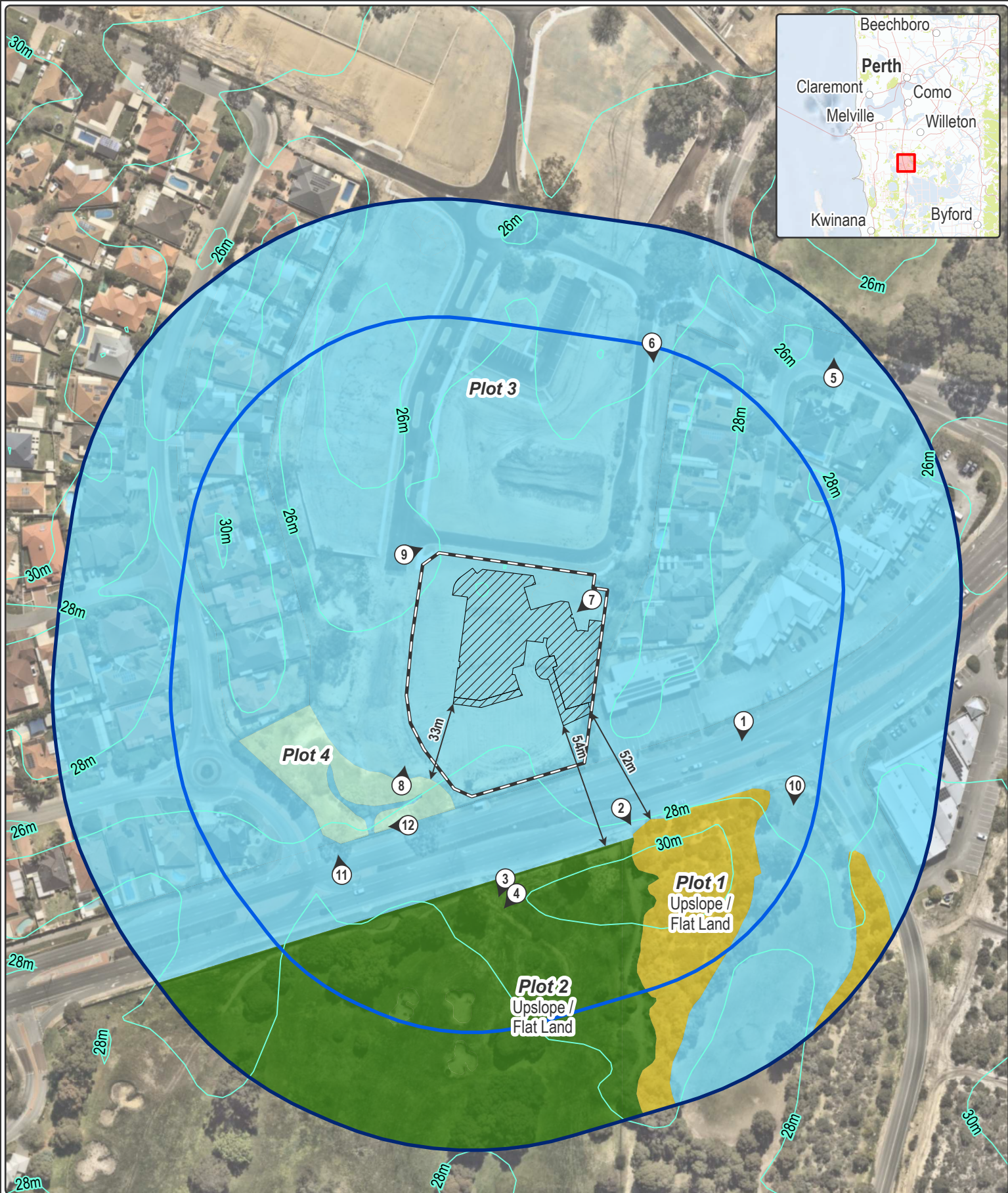


Figure 1: Vegetation Classification

- Subject site
- 100m site assessment
- 150m site assessment
- Photo location
- Contour (2m)
- Building footprint including alfresco

Vegetation classification

- Class D Scrub
- Class G Grassland
- Excluded as per clause 2.2.3.2 (e) and (f)
- Excluded as per clause 2.2.3.2 (c)

0 20 40 80
Metres

Datum/Projection:
GDA 1994 MGA Zone 50
24PER8810-OK Date: 31/10/2024



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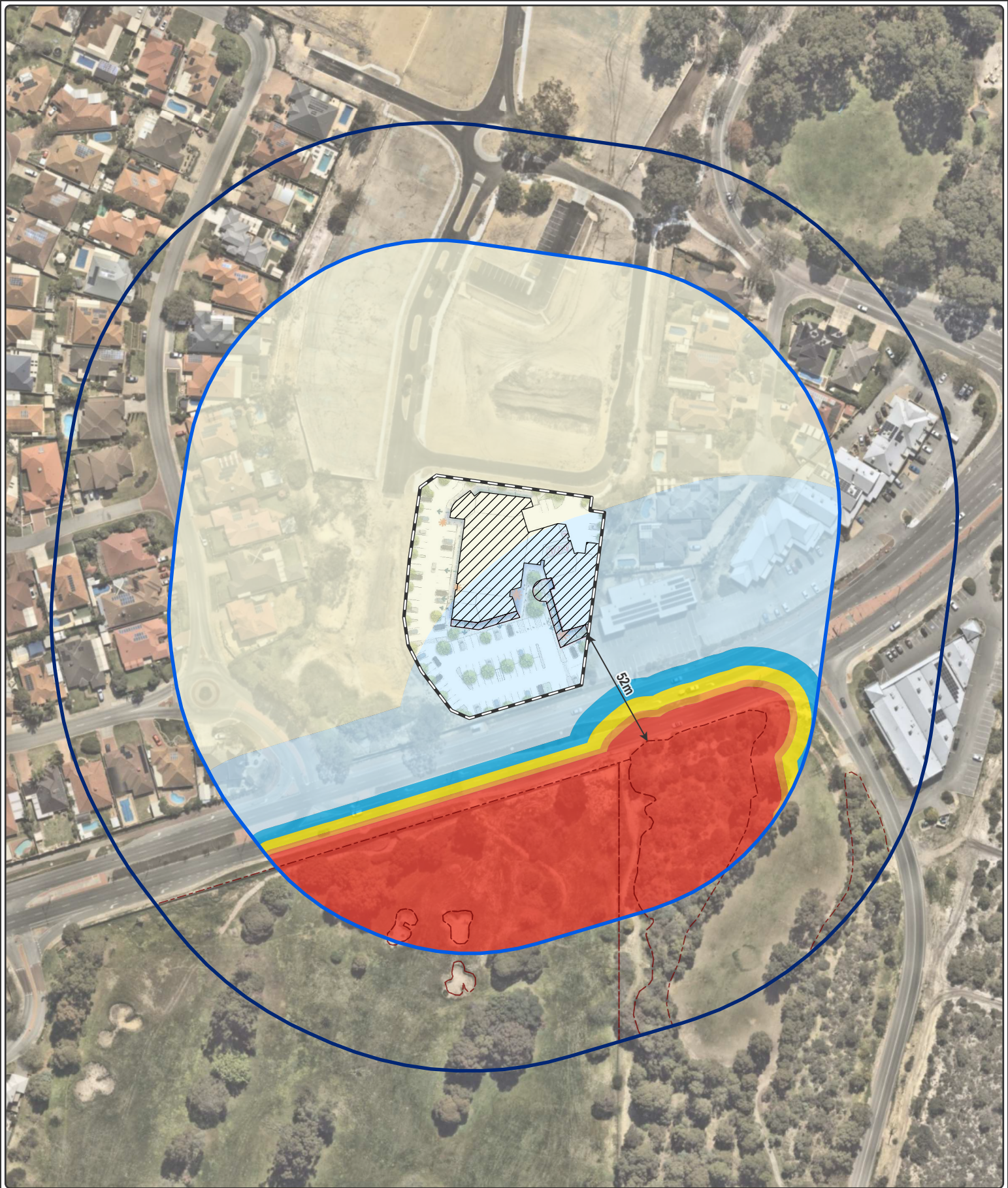


Figure 2: Bushfire Attack Level (BAL) Contours

Subject site 100m site assessment 150m site assessment Bushfire hazard interface Building footprint including alfresco Distance to nearest plot	Bushfire Attack Level (BAL) BAL - FZ BAL - 40 BAL - 29 BAL - 19 BAL - 12.5 BAL - LOW	0 20 40 80 Metres Datum/Projection: GDA 1994 MGA Zone 50 24PER8810-OK Date: 23/10/2024 N A TETRA TECH COMPANY
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1. References

Eco Logical Australia (ELA) 2023, Bushfire Management Plan: *Scheme Amendment: Glen Iris Estate* (ELA 2023a) Perth.

Eco Logical Australia (ELA) 2023, Bushfire Management Plan: *Subdivision: Glen Iris Estate* (ELA 2023b) Perth.

Standards Australia (SA), 2018, *Construction of buildings in bushfire-prone areas, AS 3959-2018*. SAI Global, Sydney.

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	$\leq 12.5 \text{ kW/m}^2$	Ember attack	3 and 5
BAL-19	$>12.5 \text{ kW/m}^2 \leq 19 \text{ kW/m}^2$	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing radiant heat flux.	3 and 6
BAL-29	$>19 \text{ kW/m}^2 \leq 29 \text{ kW/m}^2$	Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing radiant heat flux	3 and 7
BAL-40	$>29 \text{ kW/m}^2 \leq 40 \text{ kW/m}^2$	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	$>40 \text{ kW/m}^2$	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

Bushfire Attack Level (BAL) Certificate

Determined in accordance with AS 3959: 2018

Site Details

Address:	Lot 1000, Corner of Berrigan Drive and Abundant Boulevard		
Suburb:	Jandakot, 6164	State:	WA
Local Government Area:	City of Cockburn		
Use of building	Local Centre	Main BCA class:	Class 6
Report / Job Number:	24PER8810	Report Date:	4/11/2024

Determination of Highest Bushfire Attack Level

AS 3959 Assessment Procedure	Vegetation Classification	Effective Slope	Separation Distance	BAL
Method 1	Class D scrub	Upslope / Flat	52m	BAL - 12.5

Practitioner Details

I hereby certify that I have undertaken the assessment of the above site and determined the Bushfire Attack Level stated above in accordance with the requirements of AS 3959: 2018.

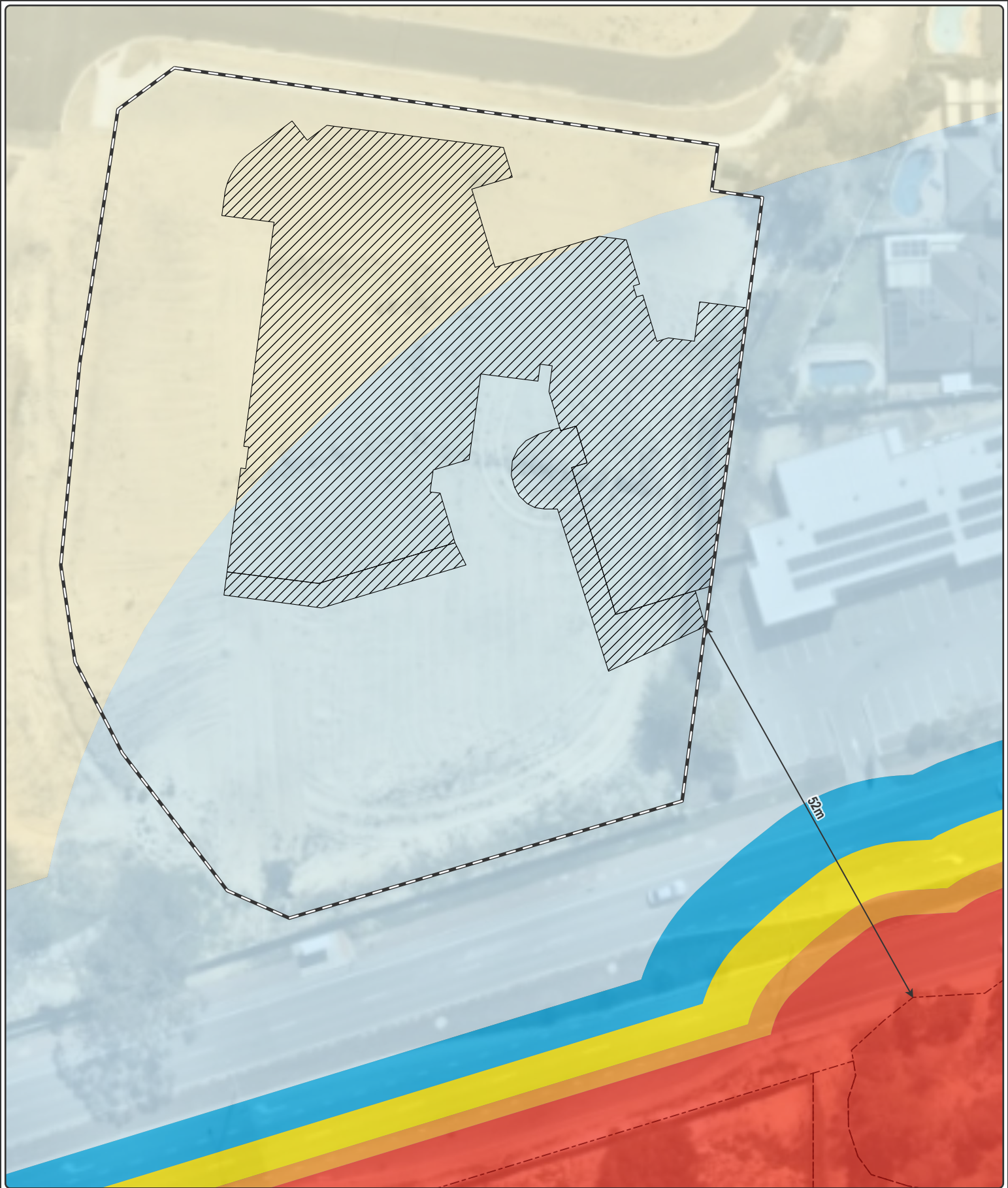
Name
Eva Cronin
Eco Logical Australia

Signature:


Certificate Date:
4/11/2024



Accreditation No: BPAD 45482
Accreditation Expiry: August 2025



Bushfire Attack Level (BAL) Certificate - Lot 1000, Corner of Berrigan Drive and Abundant Boulevard (BAL - 12.5)

-  Subject site

 100m site assessment

 Building footprint including alfresco

 Distance to nearest plot

 Bushfire hazard interface
- Bushfire Attack Level (BAL)**

 BAL - FZ

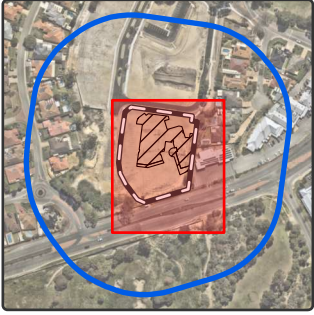
 BAL - 40

 BAL - 29

 BAL - 19

 BAL - 12.5

 BAL - LOW



051020

Metres

Datum/Projection:

GDA 1994 MGA Zone 50

24PER8810-OK

Date: 23/10/2024

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