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Bushfire Attack Level (BAL) Assessment Report

Site details	
Address: Stage 3 Claravale The Brook Estate	
Suburb: Hilbert	**State:** Western Australia
Local Government Area: City of Armadale	
Description of Building Works: Class 1a dwellings	

Report details			
Project number	**A23.118**	**Report version**	1
Assessment date	21/05/2026	**Report date**	17/07/2026
Author	Callan Baker Graduate Bushfire Consultant Bridie Gemmell BPAD L2 - 62640	**Review**	Dylan Wray BPAD L3 - 44656 BPAD Bushfire Planning & Design Accredited Practitioner Level 3

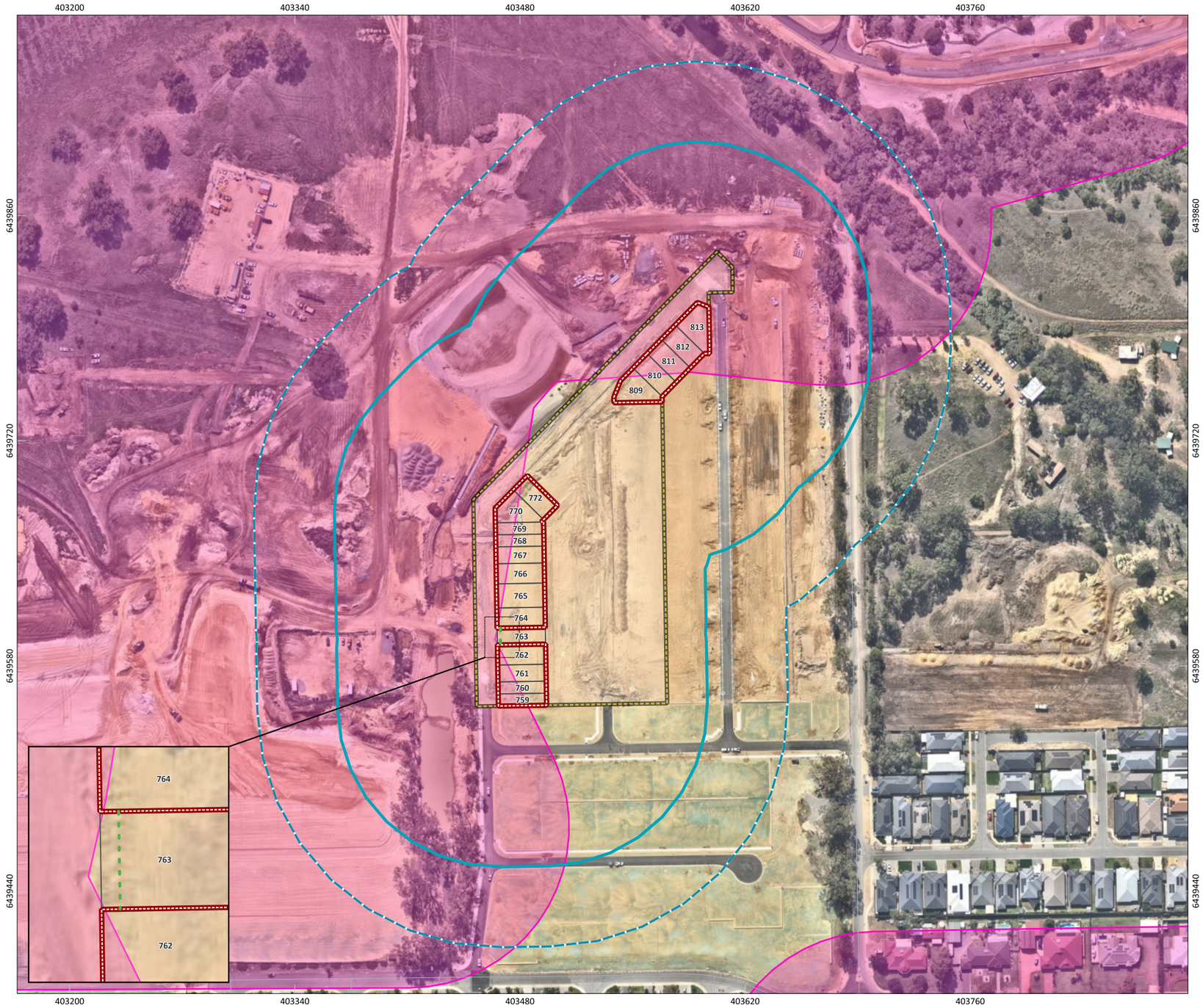
Site Assessment and Site Plan

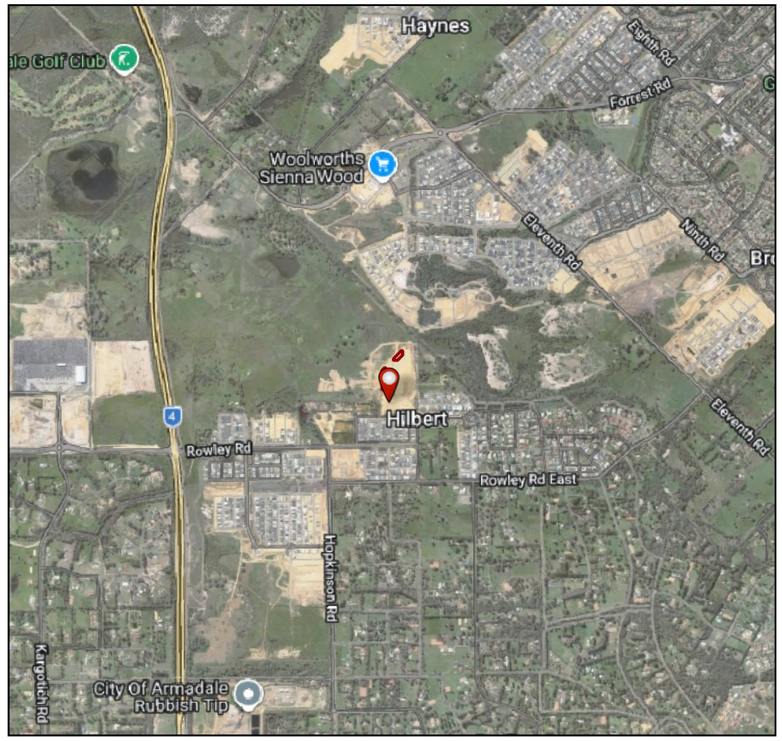
The assessment of 17 bushfire prone lots (subject lots) within Stage 3 of The Brook Estate (subject site) was undertaken on 21/05/2026 for the purpose of determining the Bushfire Attack Level (BAL) in accordance with *Australian Standard AS 3959: 2018 Construction of Buildings in Bushfire Prone Areas* (AS 3959: 2018; SA, 2018) Simplified Procedure (Method 1). An overview of the subject site is presented in Figure 1.

Lot 763, despite being bushfire prone, has not ben included in this assessment given the intersection of the bushfire prone area mapping and the lot boundary is fully contained with the R35 2 m minimum setback (Figure 1). This ensures that any future dwelling on this lot will be sited in an area which is not bushfire prone.

Vegetation Classification

All vegetation within 100 m of the 17 bushfire prone 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 in Table 1 and presented in Figure 2.





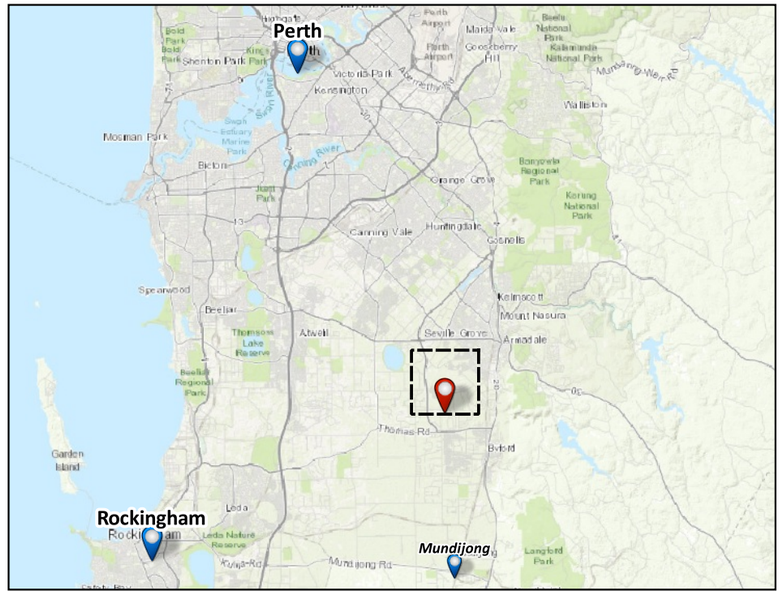


Figure 1: Site Overview

N

0 50 100 150 m

PROJECT/REPORT NAME	Bushfire Attack Level (BAL) Report Stage 3 Claravale The Brook Estate, Hilbert
SCALE	1:2,800
SHEET SIZE	A3 COLOUR
CLIENT	Parcel Property
COORDINATE REFERENCE SYSTEM	GDA2020 / MGA zone 50
PROJECT NUMBER	A23.118
VERSION	0
DATA SOURCE	Nearmap (2nd April 2026)
DRAWN BY / REVIEWED BY	SC/CB
DATE	17/7/2026

Legend

- Subject Site
- Buffer 100m
- Buffer 150m
- Lot Boundary
- Stage 3 Boundary
- R35 front of lot setback (2m)

Bush Fire Prone Area Planning (OBRM-023)

- Bushfire Prone Area 2

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\\TVSNAS01\DataMgmt\GIS\Project Data\2023\A23.118\Stage3\BAL_2\A23.118_S3BAL.qgz

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Table 1: Vegetation Classification

Plot 1	Class F Rainforest
Photo 1 Areas of vegetation southwest of the subject site which contain trees with water in the understory. This plot has been classified as class f rainforest.	
Plot 1	**Class F Rainforest**
Photo 2 Areas of vegetation southwest of the subject site which contain trees with water in the understory. This plot has been classified as class f rainforest.	
Plot 2	**Class G Grassland**
Photo 3 This plot is dominated by grasses in the understorey. Some trees are present in this plot, however these are restricted to wind breaks along property fencelines or are sparsely spread throughout the plot with isolated canopies. Canopy cover was assessed to be less than 10%. The slope under this vegetation was assessed to be upslope/flat land.	

Plot 2	Class G Grassland
Photo 4 This plot contains unmanaged grasses exceeding 100 mm in height. This photo was taken using a drone and represents the extent of the unmanaged grassland to the north of the site. The slope under this vegetation was assessed to be upslope/flat land. Drone photography was used to capture this photo due to site access constraints.	
Plot 3	**Excluded - clause 2.2.3.2 (a)**
Photo 5 This photo is representative of the plot of classifiable vegetation located to the north of the subject site. It is located outside the 100 m survey area and has therefore been excluded under clause 2.2.3.2 (a) of AS 3959:2018.	
Plot 3	**Excluded - clause 2.2.3.2 (a)**
Photo 6 This photo was taken using a drone is representative of the plot of classifiable vegetation located to the north of the subject site. It is located outside the 100 m survey area and has therefore been excluded under clause 2.2.3.2 (a) of AS 3959:2018.	

Plot 4	Excluded - clause 2.2.3.2 (e)
Photo 7 Areas within the subject site cleared for development and is devoid of vegetation. This plot has been excluded under clause 2.2.3.2 (e) of AS 3959:2018.	

Plot 4	Excluded - clause 2.2.3.2 (e)
Photo 8 Areas within the subject site cleared for development and is devoid of vegetation. This plot has been excluded under clause 2.2.3.2 (e) of AS 3959:2018. Drone photography was used to capture this photo due to site access constraints.	

Plot 5	Excluded - clause 2.2.3.2 (f)
Photo 9 Areas of vegetation to the east of the subject site which contain managed vegetation with a cropped understory maintained to a low-threat state. This plot has been excluded under clause 2.2.3.2 (f) of AS 3959:2018.	

Plot 5	Excluded - clause 2.2.3.2 (f)
Photo 10 Areas of vegetation to the east of the subject site which contain managed vegetation with a cropped understory maintained to a low-threat state. This plot has been excluded under clause 2.2.3.2 (f) of AS 3959:2018.	

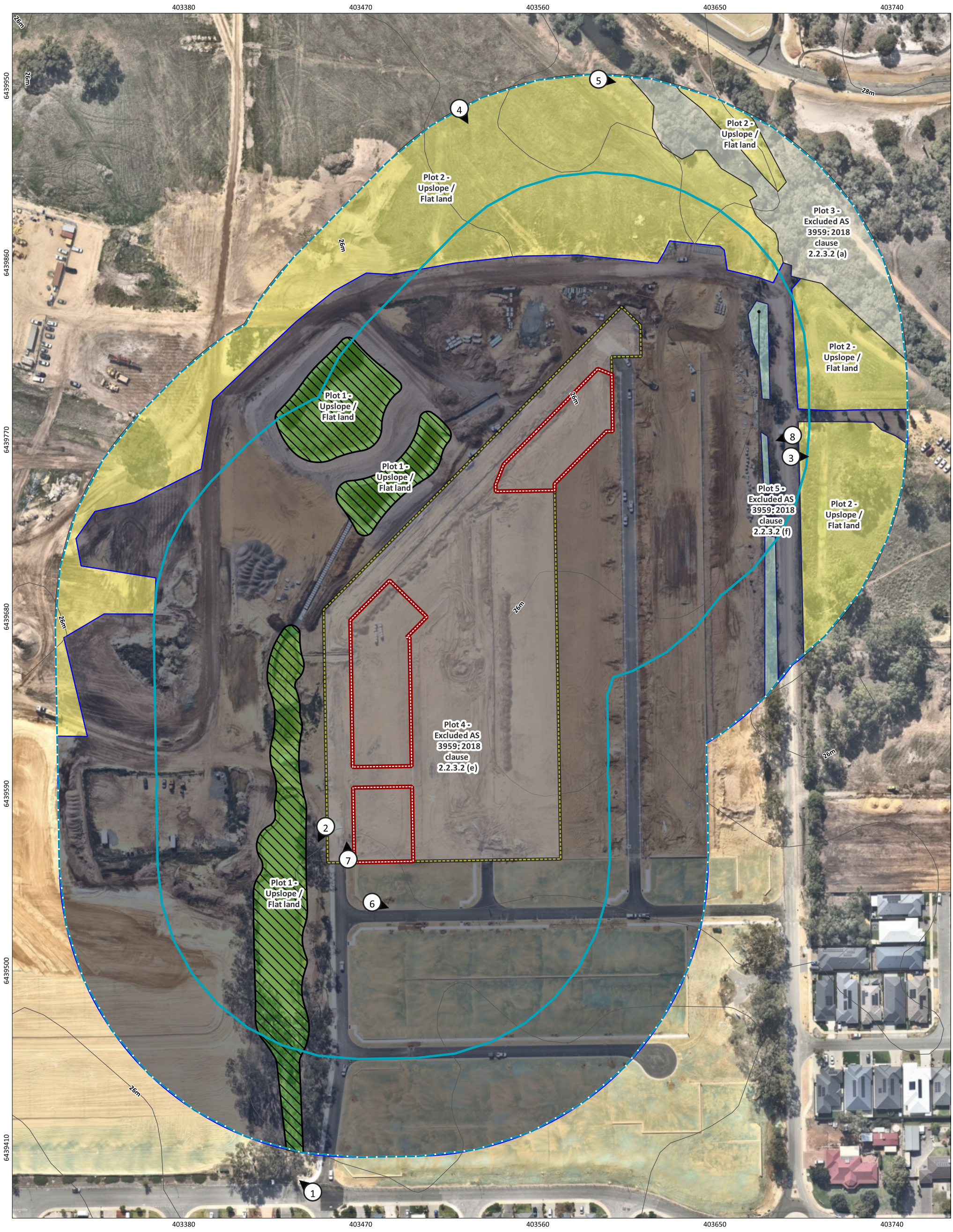

Figure 2: Vegetation Classification

N

0 10 20 30 40 m

PROJECT/REPORT NAME: Bushfire Attack Level (BAL) Report Stage 3 Claravale The Brook Estate, Hilbert		
SCALE: 1:1,800	SHEET SIZE: A3 COLOUR	CLIENT: Parcel Property
COORDINATE REFERENCE SYSTEM: GDA2020 / MGA zone 50	PROJECT NUMBER: A23.118	VERSION: 0
DATA SOURCE: Nearmap (2nd April 2026)	DRAWN BY / REVIEWED BY: SC/CB	DATE: 17/7/2026

Legend

- Subject Site
- Buffer 100m
- Buffer 150m
- Stage 3 Boundary
- Classification Informed by the Landscape Plan
- Photos

2 metre contours (DPIRD-072)

- 2m

Vegetation Classification

- Class F - Rainforest
- Class G - Grassland
- Excluded AS 3959: 2018 2.2.3.2 (a)
- Excluded AS 3959: 2018 2.2.3.2 (e)
- Excluded AS 3959: 2018 2.2.3.2 (f)

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Relevant Fire Danger Index

The Fire Danger Index for the subject lots has been determined in accordance with Table 2.1 of AS 3959: 2018 and is presented in Table 2.

Table 2: Fire Danger Index (FDI)

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

Potential Bushfire Impacts

The potential bushfire impact to the subject lots from each of the identified vegetation plots are identified below in Table 3.

Table 3: Method 1 BAL Calculation (BAL Contours)

Plot	Vegetation classification	Effective slope	Separation distances required (m)				
			BAL-FZ	BAL-40	BAL-29	BAL-19	BAL-12.5
1	Class F Rainforest	All upslopes and flat land (0 degrees)	<6	6-<9	9-<13	13-<19	19-<100
2	Class G Grassland	All upslopes and flat land (0 degrees)	<6	6 - <8	8 - <12	12 - <17	17 - <50
3	Excluded - clause 2.2.3.2 (a)	-	No separation distances required - BAL-LOW				
4	Excluded - clause 2.2.3.2 (e)	-	No separation distances required - BAL-LOW				
5	Excluded - clause 2.2.3.2 (f)	-	No separation distances required - BAL-LOW				

Determined Bushfire Attack Level (BAL)

The determined Bushfire Attack Level (highest BAL) for the subject lots has been determined in accordance with Clause 2.2.6 of AS 3959: 2018. Relevant data from the subject site assessment is shown in Figure 3 and Table 4.

Table 4: BAL Assessment Summary

Affected Lot	BAL Rating	Construction sections to be consulted in AS 3959: 2018
759	BAL-12.5	3 and 5
760	BAL-12.5	3 and 5
761	BAL-12.5	3 and 5
762	BAL-12.5	3 and 5
764	BAL-12.5	3 and 5
765	BAL-12.5	3 and 5
766	BAL-12.5	3 and 5
767	BAL-12.5	3 and 5
768	BAL-12.5	3 and 5
769	BAL-12.5	3 and 5
770	BAL-12.5	3 and 5
772	BAL-12.5	3 and 5
809	BAL-12.5	3 and 5
810	BAL-12.5	3 and 5
811	BAL-12.5	3 and 5
812	BAL-12.5	3 and 5
813	BAL-12.5	3 and 5

Note: This BAL rating is based on the information current at the date of this document and is valid for 12 months.

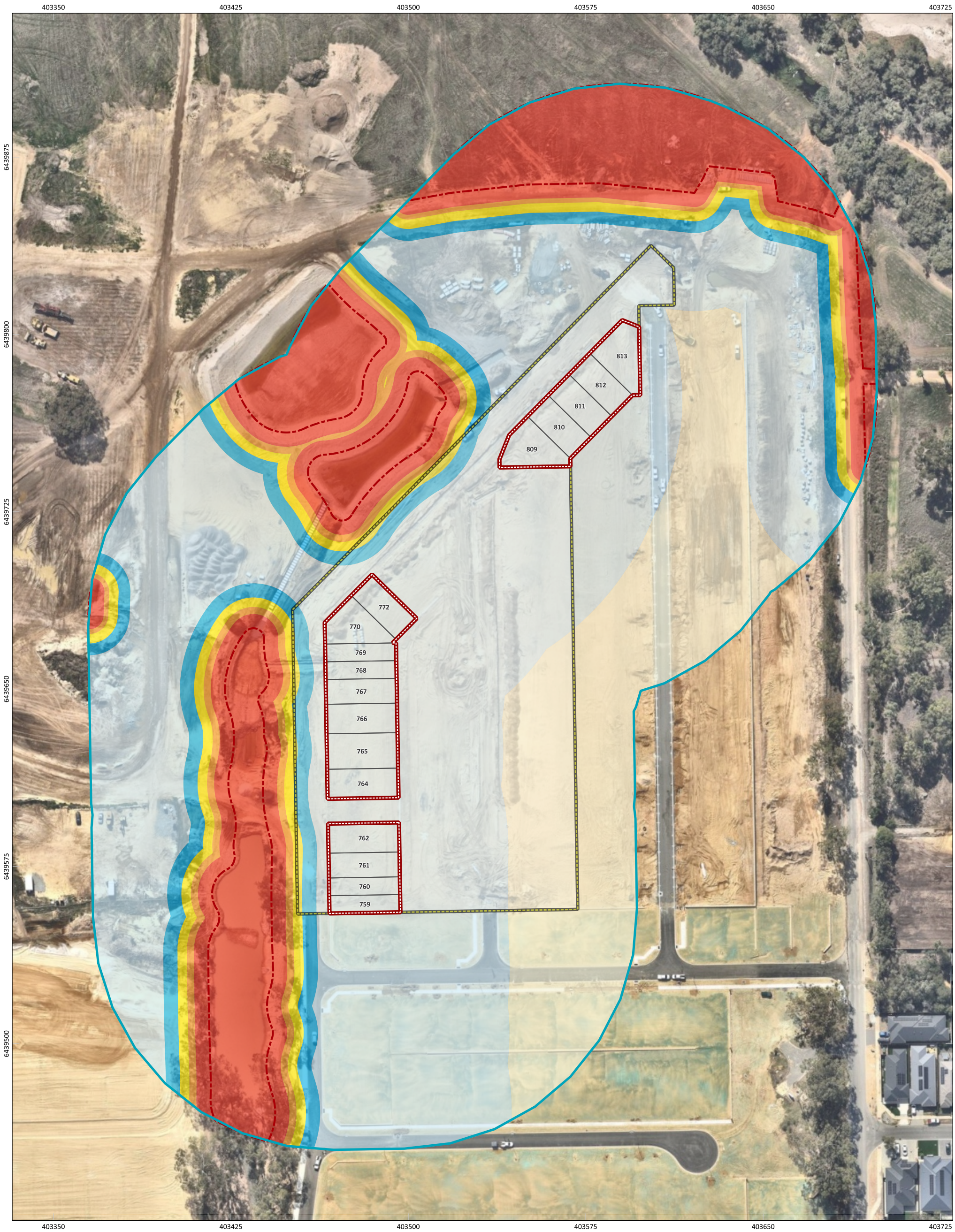

Figure 3: Bushfire Attack Level (BAL) Contours

N

0 10 20 30 40 m

PROJECT/REPORT NAME: Bushfire Attack Level (BAL) Report Stage 3 Claravale The Brook Estate, Hilbert			
SCALE: 1:1,500	SHEET SIZE: A3 COLOUR	CLIENT: Parcel Property	
COORDINATE REFERENCE SYSTEM: GDA2020 / MGA zone 50		PROJECT NUMBER: A23.118	VERSION: 0
DATA SOURCE: Nearmap (2nd April 2026)		DRAWN BY / REVIEWED BY: SC/CB	DATE: 17/7/2026

Legend

- Subject Site
- Buffer 100m
- Lot Boundary
- Stage 3 Boundary
- Bushfire Hazard Interface

Bushfire Attack Level (BAL)

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

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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 subject 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.