

## Bushfire Attack Level (BAL) Assessment Report

Site details

Address: Stage 2 Claravale The Brook Estate

Suburb: Hilbert

State: Western Australia

Local Government Area: City of Armadale

Description of Building Works: Class 1a dwellings

Report details

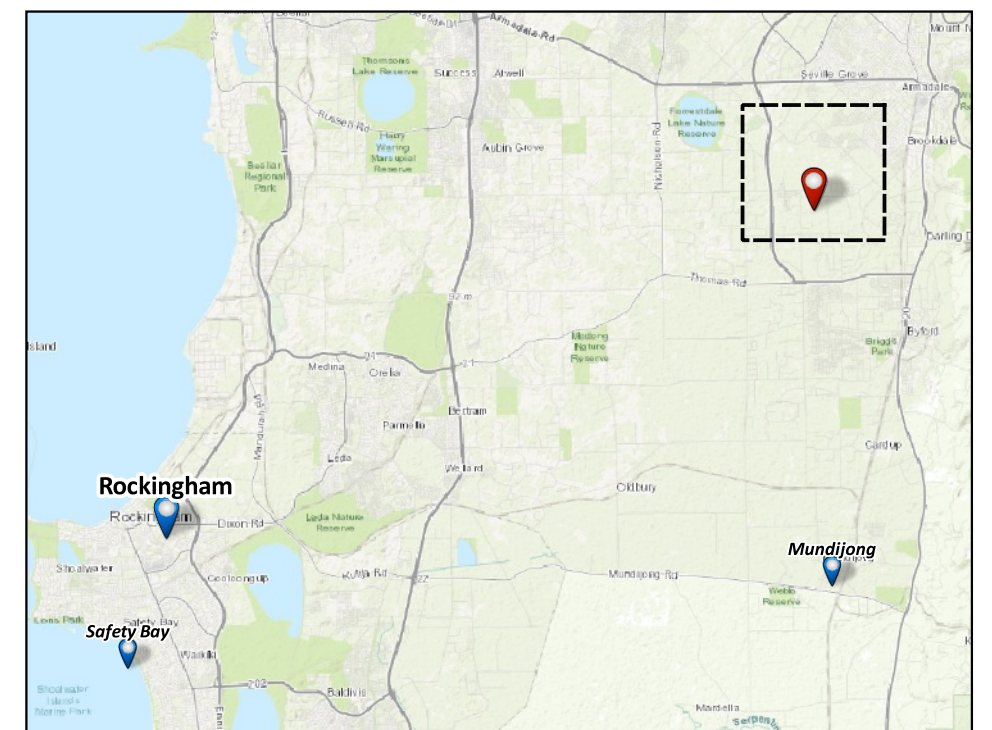
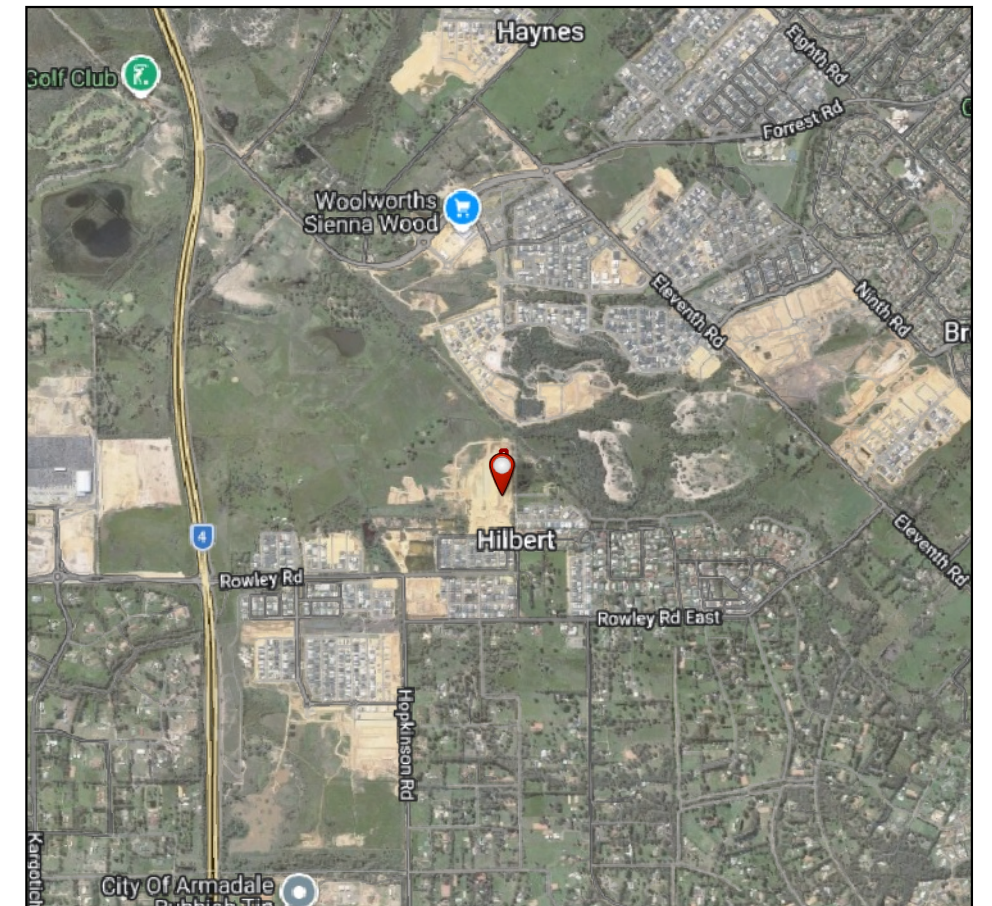
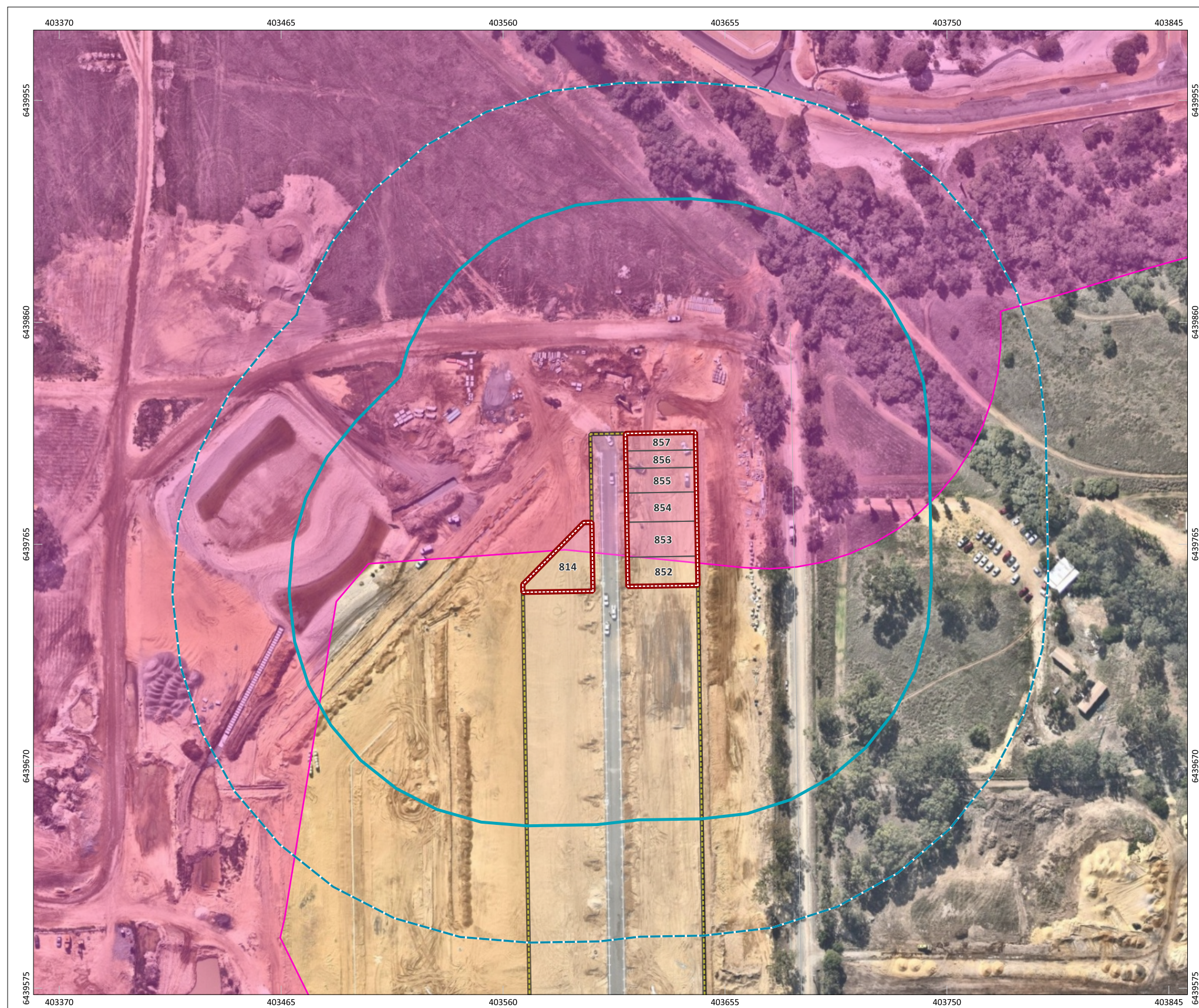
|                 |                                                                                                            |                |                                                                                                                                                                                                                               |
|-----------------|------------------------------------------------------------------------------------------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Project number  | A23.118                                                                                                    | Report version | 0                                                                                                                                                                                                                             |
| Assessment date | 21/05/2026                                                                                                 | Report date    | 5/06/2026                                                                                                                                                                                                                     |
| Author          | <div>Callan Baker<br/>Graduate Bushfire<br/>Consultant</div> <div>Bridie Gemmell<br/>BPAD L2 - 62640</div> | Review         | <div>Dylan Wray<br/>BPAD L3 - 44656</div> <div>BPAD<br/>Bushfire<br/>Planning &amp; Design<br/>Accredited Practitioner<br/>Level 3</div> |

### Site Assessment and Site Plan

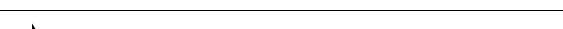
The assessment of 7 bushfire prone lots (subject lots) within Stage 2 of The Brook Estate (subject site) was undertaken on 21/05/2026 for the purpose of determining the Bushfire Attack Level (BAL) in accordance with *Australian Standard AS 3959: 2018 Construction of Buildings in Bushfire Prone Areas* (AS 3959: 2018; SA, 2018) Simplified Procedure (Method 1). An overview of the subject site is presented in Figure 1.

### Vegetation Classification

All vegetation within 100 m of the 7 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

|                                                                                     |                         |                                                                                                          |                  |
|-------------------------------------------------------------------------------------|-------------------------|----------------------------------------------------------------------------------------------------------|------------------|
|  |                         | PROJECT/REPORT NAME<br>Bushfire Attack Level (BAL) Report<br>Stage 2 Claravale The Brook Estate, Hilbert |                  |
| SCALE<br>1:1,900                                                                    | SHEET SIZE<br>A3 COLOUR | CLIENT<br>Parcel Property                                                                                |                  |
| COORDINATE REFERENCE SYSTEM<br>GDA2020 / MGA zone 50                                |                         | PROJECT NUMBER<br>A23.118                                                                                | VERSION<br>0     |
| DATA SOURCE<br>Nearmap (02 April 2026)                                              |                         | DRAWN BY / REVIEWED BY<br>JP/BG                                                                          | DATE<br>5/6/2026 |

**Legend**

-  Subject Site
-  Buffer 100m
-  Buffer 150m
-  Lot Boundary
-  Stage 2 Boundary

**Bush Fire Prone Area Planning (OBRM-023)**

-  Bushfire Prone Area 2



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**Table 1: Vegetation Classification**

|                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Plot 1</b></p>                                                                                                                                                                                                                                                                                                                                                                         | <p><b>Class A Forest</b></p>                                                                                                                                            |
| <p><b>Photo 1</b></p> <p>This plot consists of trees reaching up to 30 m in height at maturity. Overstorey canopy cover exceeds 30% and understorey vegetation structure is multi-tiered.</p> <p>The slope under this vegetation was assessed to be upslope/flat land.</p>                                                                                                                   |  <p>May 21, 2026 10:14:48 AM<br/>32°10'21.402"S 115°58'41.052"E ±3.80m<br/>248° W</p> |
| <p><b>Plot 1</b></p>                                                                                                                                                                                                                                                                                                                                                                         | <p><b>Class A Forest</b></p>                                                                                                                                            |
| <p><b>Photo 2</b></p> <p>This plot consists of trees reaching up to 30 m in height at maturity. Overstorey canopy cover exceeds 30% and understorey vegetation structure is multi-tiered.</p> <p>The slope under this vegetation was assessed to be upslope/flat land.</p> <p>Drone photography was used to capture this photo due to site access constraints.</p>                           |                                                                                      |
| <p><b>Plot 2</b></p>                                                                                                                                                                                                                                                                                                                                                                         | <p><b>Class G Grassland</b></p>                                                                                                                                         |
| <p><b>Photo 3</b></p> <p>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%.</p> <p>The slope under this vegetation was assessed to be upslope/flat land.</p> |  <p>May 21, 2026 9:59:52 AM<br/>32°10'28.359"S 115°58'42.34"E ±4.26m<br/>55° NE</p> |



|                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Plot 2</b>                                                                                                                                                                                                                                                                                                                                                                        | <b>Class G Grassland</b>                                                                                                                                                   |
| <p><b>Photo 4</b></p> <p>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.</p> <p>The slope under this vegetation was assessed to be upslope/flat land.</p> <p>Drone photography was used to capture this photo due to site access constraints.</p> |                                                                                          |
| <b>Plot 3</b>                                                                                                                                                                                                                                                                                                                                                                        | <b>Excluded - clause 2.2.3.2 (e)</b>                                                                                                                                       |
| <p><b>Photo 5</b></p> <p>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.</p>                                                                                                                                                                                                |  <p>21 May 2026 8:52:49 am<br/>32°10'31.86056"S 115°58'36.32378"E ±2.00m<br/>280° W</p> |
| <b>Plot 3</b>                                                                                                                                                                                                                                                                                                                                                                        | <b>Excluded - clause 2.2.3.2 (e)</b>                                                                                                                                       |
| <p><b>Photo 6</b></p> <p>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.</p> <p>Drone photography was used to capture this photo due to site access constraints.</p>                                                                                                        |                                                                                        |

| Plot 4                                                                                                                                                                                                                                              | Excluded - clause 2.2.3.2 (f)                                                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Photo 7</b></p> <p>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.</p> |  <p>May 21, 2026 9:59:43 AM<br/>32°10'28.217"S 115°58'42.397"E ±3.26m<br/>252° W</p>   |
| Plot 4                                                                                                                                                                                                                                              | Excluded - clause 2.2.3.2 (f)                                                                                                                                            |
| <p><b>Photo 8</b></p> <p>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.</p> |  <p>May 21, 2026 10:00:39 AM<br/>32°10'32.584"S 115°58'42.252"E ±3.99m<br/>256° W</p> |



### 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 <input type="checkbox"/><br><i>Table 2.4.5</i> | FDI 50 <input type="checkbox"/><br><i>Table 2.4.4</i> | FDI 80 <input checked="" type="checkbox"/><br><i>Table 2.4.3</i> | FDI 100 <input type="checkbox"/><br><i>Table 2.4.2</i> |

### 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 A Forest                | All upslopes and flat land (0 degrees) | <16                                        | 16 - <21 | 21 - <31 | 31 - <42 | 42 - <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 (e) | -                                      | No separation distances required - BAL-LOW |          |          |          |           |
| 4    | 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 |
|--------------|------------|--------------------------------------------------------|
| 814          | BAL-LOW    | 4                                                      |
| 852          | BAL-LOW    | 4                                                      |
| 853          | BAL-12.5   | 3 and 5                                                |
| 854          | BAL-12.5   | 3 and 5                                                |
| 855          | BAL-12.5   | 3 and 5                                                |
| 856          | BAL-12.5   | 3 and 5                                                |
| 857          | 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.



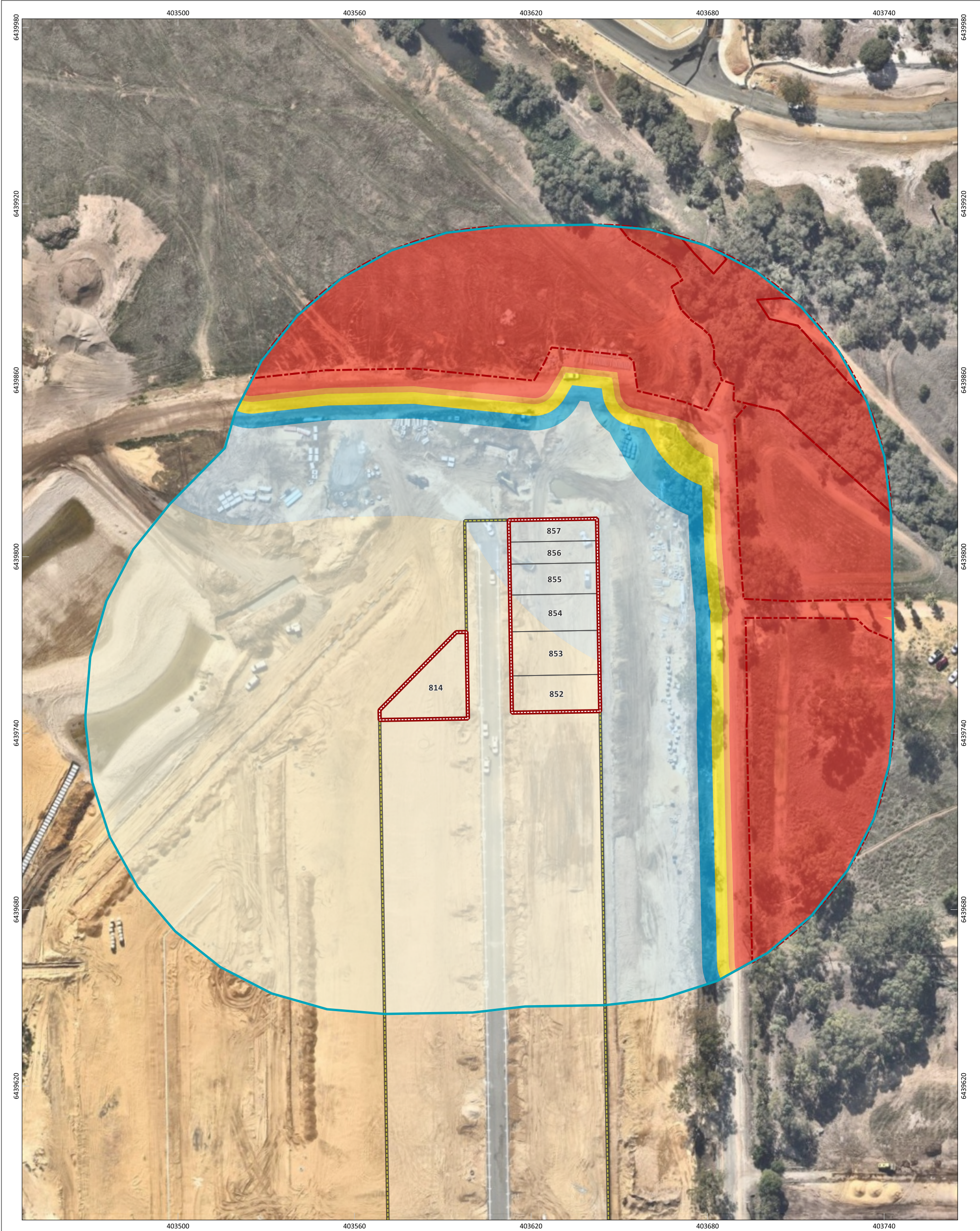


Figure 3: Bushfire Attack Level (BAL) Contours

0

10

20

30

40 m

N

SCALE

1:1,200

SHEET SIZE

A3 COLOUR

COORDINATE REFERENCE SYSTEM

GDA2020 / MGA zone 50

DATA SOURCE

Nearmap (02 April 2026)

PROJECT/REPORT NAME

Bushfire Attack Level (BAL) Report  
Stage 2 Claravale The Brook Estate,  
Hilbert

CLIENT

Parcel Property

PROJECT NUMBER

A23.118

VERSION

0

DRAWN BY / REVIEWED BY

JP/BG

DATE

5/6/2026

Legend

Subject Site

Buffer 100m

Lot Boundary

Stage 2 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 |
|-----------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| <b>BAL-LOW</b>              |                                                                                                  | There is insufficient risk to warrant specific construction requirements.                                                                                                        | 4                                   |
| <b>BAL-12.5</b>             | $\leq 12.5 \text{ kW/m}^2$                                                                       | Ember attack                                                                                                                                                                     | 3 and 5                             |
| <b>BAL-19</b>               | $>12.5 \text{ kW/m}^2 \leq 19 \text{ kW/m}^2$                                                    | Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing radiant heat flux.                                                     | 3 and 6                             |
| <b>BAL-29</b>               | $>19 \text{ kW/m}^2 \leq 29 \text{ kW/m}^2$                                                      | Increasing levels of ember attack and burning debris ignited by windborne embers together with increasing radiant heat flux                                                      | 3 and 7                             |
| <b>BAL-40</b>               | $>29 \text{ kW/m}^2 \leq 40 \text{ kW/m}^2$                                                      | 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                             |
| <b>BAL-FZ</b>               | $>40 \text{ kW/m}^2$                                                                             | 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.

