

Bushfire Attack Level (BAL) Assessment Report

Site details

Address:

Stage 1 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	Callan Baker Graduate Bushfire Consultant Bridie Gemmell BPAD L2 - 62640	Review	Dylan Wray BPAD L3 - 44656 

Site Assessment and Site Plan

The assessment of 22 lots (subject lots) within Stage 1 of The Brook Estate 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 22 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.

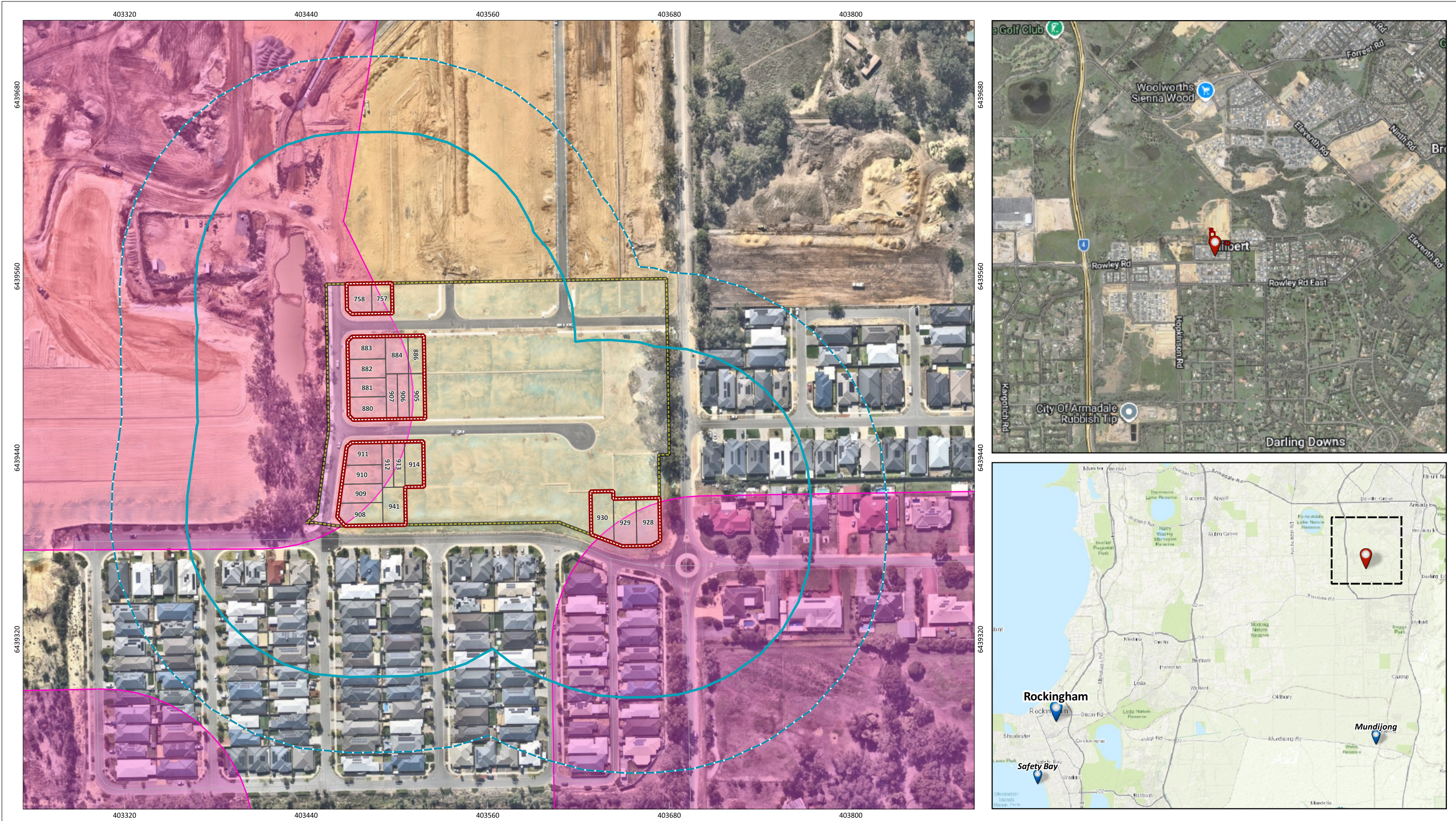
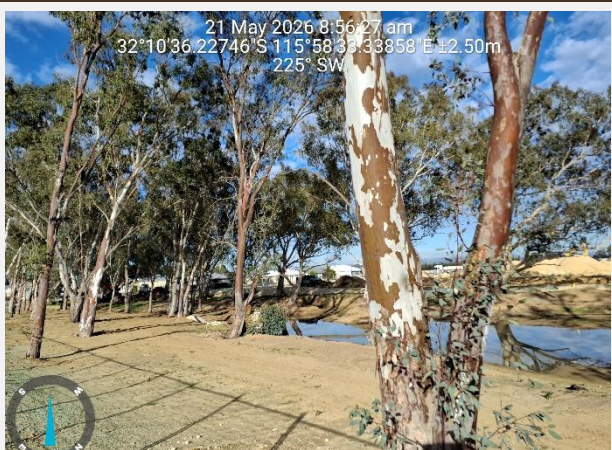


Figure 1: Site Overview

026 027 028 029 030 031 032 033 034 035 036 037 038 039 040 041 042 043 044 045 046 047 048 049 050 051 052 053 054 055 056 057 058 059 060 061 062 063 064 065 066 067 068 069 070 071 072 073 074 075 076 077 078 079 080 081 082 083 084 085 086 087 088 089 090 091 092 093 094 095 096 097 098 099 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 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Table 1: Vegetation Classification

Plot 1	Class G Grassland
Aerial imagery depicts a grassy vegetated area to the southeast of the subject site. No recent photos are available of this plot; however it has been conservatively assumed to be unmanaged Class G Grassland, based on Google Streetview images available at the time of assessment. Given the plot is beyond 50 m from the subject site, it has no bearing on the BAL ratings contained in this BAL report.	 A Google Streetview image showing a grassy area with several trees and a fence. A small inset map in the bottom left corner shows the location relative to 'Gerald Russell Park' and 'Cypress Ave'. The text 'Google Maps' is visible in the bottom right corner.
Plot 2	Excluded - clause 2.2.3.2 (e)
Photo 1 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.	 A photograph of a cleared area with sparse, low-lying vegetation. A paved road is visible in the foreground. A compass rose is in the bottom left corner. Metadata text at the top reads: 'May 21, 2026 10:02:00 AM', '32°10'40.883"S 115°58'40.253"E ±3.89m', and '311° NW'.
Plot 2	Excluded - clause 2.2.3.2 (e)
Photo 2 Areas within the subject site cleared for development and devoid of vegetation. This plot has been excluded under clause 2.2.3.2 (e) of AS 3959:2018.	 A photograph of a cleared area with sparse, low-lying vegetation, similar to Photo 1. A paved road is visible in the foreground. A compass rose is in the bottom left corner. Metadata text at the top reads: '21 May 2026 8:55:52 am', '32°10'35.65504"S 115°58'34.10834"E ±3.50m', and '109° E'.

Plot 2	Excluded - clause 2.2.3.2 (e)
Photo 3 (Background of photo) Areas adjacent to the subject which have been cleared for development and are devoid of vegetation. This plot has been excluded under clause 2.2.3.2 (e) of AS 3959:2018. The vegetation within the foreground of the photo is beyond 100 m from the subject lots and, as such, excludable from this BAL assessment.	
Plot 2	Excluded - clause 2.2.3.2 (e)
Photo 4 Areas within the subject site which have been cleared for development and are devoid of vegetation. This plot has been excluded under clause 2.2.3.2 (e) of AS 3959:2018.	
Plot 3	Excluded - clause 2.2.3.2 (f)
Photo 5 Areas of vegetation to the west of the subject site comprising retained trees over a non-vegetated understorey. This plot has been excluded under clause 2.2.3.2 (f) of AS 3959:2018.	

Plot 3	Excluded - clause 2.2.3.2 (f)
Photo 6 Areas of vegetation to the west of the subject site comprising retained trees over a non-vegetated understorey. This plot has been excluded under clause 2.2.3.2 (f) of AS 3959:2018.	 21 May 2026 8:58:13 am 32°10'34.38453"S 115°58'33.22362"E ±2.50m 206° SW
Plot 3	Excluded - clause 2.2.3.2 (f)
Photo 7 Residential areas south of the subject site which contain dwellings, roads and gardens which are established and maintained to a low-threat state. This plot has been excluded under clause 2.2.3.2 (f) of AS 3959:2018.	 May 21, 2026 10:05:01 AM 32°10'40.341"S 115°58'32.059"E ±14.28m 225° SW
Plot 3	Excluded - clause 2.2.3.2 (f)
Photo 8 Areas of vegetation to the west of the subject site comprising retained trees over a non-vegetated understorey. This plot has been excluded under clause 2.2.3.2 (f) of AS 3959:2018.	 May 21, 2026 10:02:31 AM 32°10'40.461"S 115°58'32.919"E ±4.01m 311° NW



Figure 2: Vegetation Classification

0255075100 m SCALE 1:2,400 SHEET SIZE A3 COLOUR		PROJECT/REPORT NAME Bushfire Attack Level (BAL) Report Stage 1 Claravale The Brook Estate, Hilbert		Subject Site Buffer 100m Buffer 150m Stage 1 Boundary Photos 2m Contours (DPIRD-072) 2m Vegetation Classification Class G - Grassland Excluded AS 3959: 2018 2.2.3.2 (e) Excluded AS 3959: 2018 2.2.3.2 (f)	
COORDINATE REFERENCE SYSTEM GDA2020 / MGA zone 50		PROJECT NUMBER A23.118		VERSION 0	
DATA SOURCE Nearmap (02 April 2026)		DRAWN BY / REVIEWED BY JP/BG		DATE 2/6/2026	

WESTERN ENVIRONMENTAL

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western.com.au

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 ☐ <i>Table 2.4.5</i>	FDI 50 ☐ <i>Table 2.4.4</i>	FDI 80 ☒ <i>Table 2.4.3</i>	FDI 100 ☐ <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 G Grassland	All upslopes and flat land (0 degrees)	<6	6-<8	8-<12	12-<17	17-<50
2	Excluded - clause 2.2.3.2 (e)	-	No separation distances required - BAL-LOW				
3	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
757	BAL-LOW	4
758	BAL-LOW	4
880	BAL-LOW	4
881	BAL-LOW	4
882	BAL-LOW	4
883	BAL-LOW	4
884	BAL-LOW	4
886	BAL-LOW	4
905	BAL-LOW	4
906	BAL-LOW	4
907	BAL-LOW	4
908	BAL-LOW	4
909	BAL-LOW	4
910	BAL-LOW	4
911	BAL-LOW	4
912	BAL-LOW	4
913	BAL-LOW	4
914	BAL-LOW	4
928	BAL-LOW	4
929	BAL-LOW	4
930	BAL-LOW	4
941	BAL-LOW	4

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



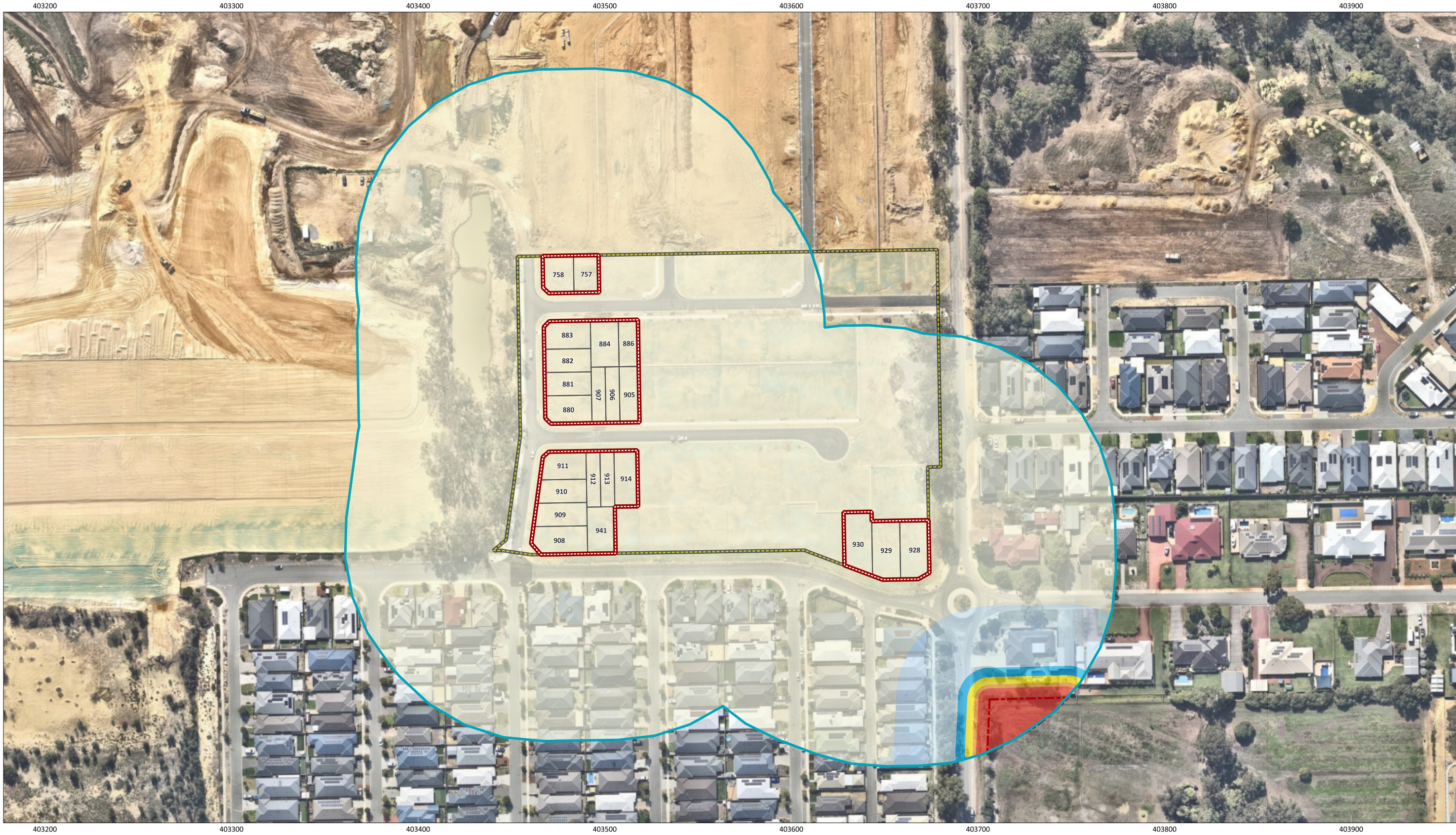


Figure 3: Bushfire Attack Level (BAL) Contours

026 0 25 50 75 100 m		PROJECT/REPORT NAME Bushfire Attack Level (BAL) Report Stage 1 Claravale The Brook Estate, Hilbert		Legend Subject Site Buffer 100m Lot Boundary Stage 1 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	$\leq 12.5 \text{ kW/m}^2$	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.

