

Bushfire Attack Level (BAL) Assessment Report

Site details

Address:

Lot 703 Lisford Avenue

Suburb:

Two Rocks

State:

Western Australia

Local Government Area:

City of Wanneroo

Description of Building Works:

Construction of a Class 6 building (restaurant) and associated infrastructure

Report details

Project number	A24.014	Report version	0
Assessment date	30/01/2024	Report date	11/03/2024
Author	Bridie Farrar	Review	<div>Daniel Panickar (BPAD L3-37802)</div> <div><div><div></div><div>BPAD</div><div>Bushfire Planning & Design</div><div>Accredited Practitioner Level 3</div></div></div>

Site Assessment and Site Plan

The assessment of 703 Lisford Avenue, Two Rocks (the subject site) was undertaken on 30/01/2024 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; 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 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 in Table 1 and presented in Figure 2.

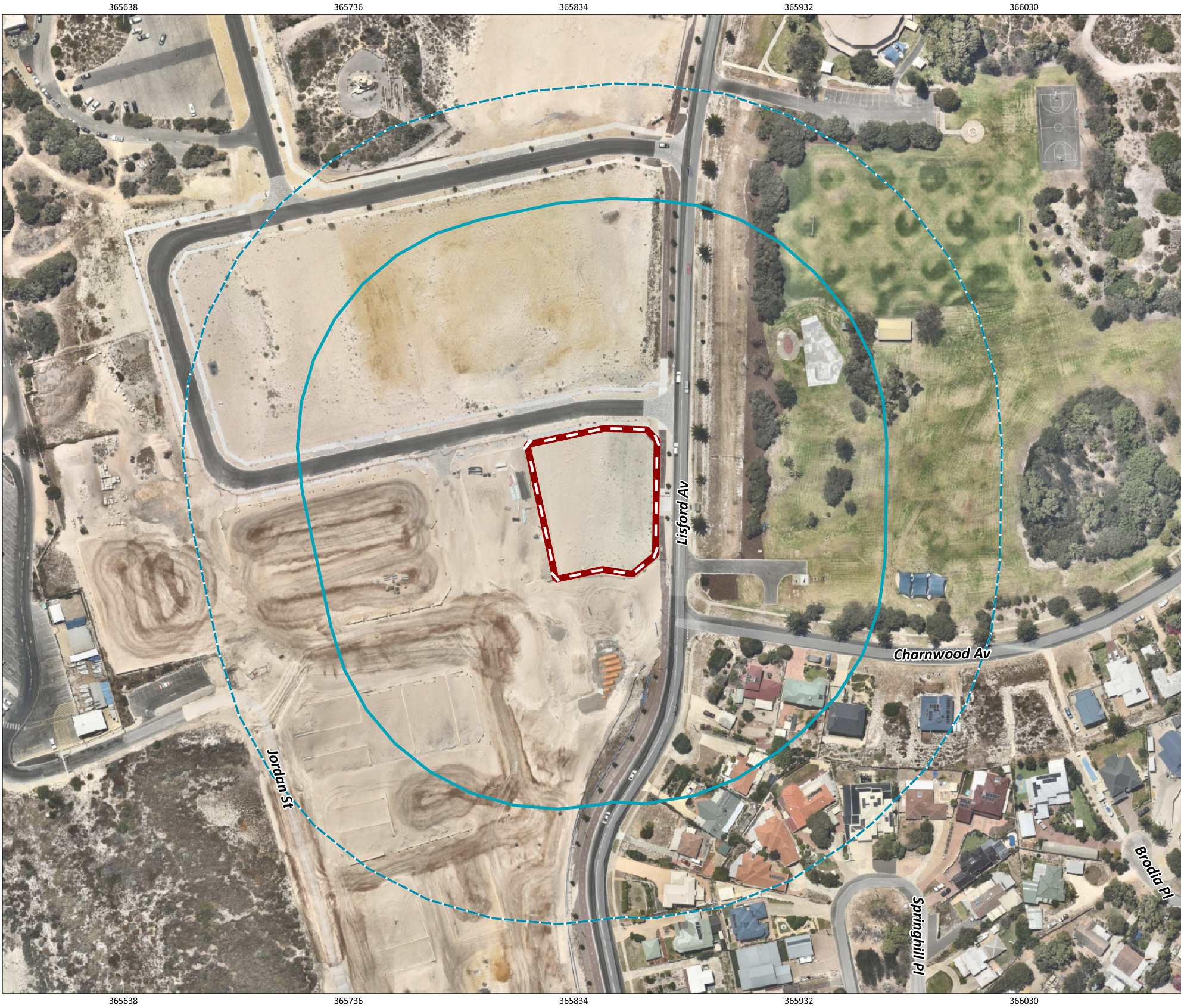


Figure 1: Site Overview

<div><div></div><div>0295887116 m</div></div> <div>SCALE 1:1,959</div> <div>SHEET SIZE A3 COLOUR</div>		PROJECT/REPORT NAME Bushfire Management Plan Lot 703 Lisford Avenue Two Rocks	
COORDINATE REFERENCE SYSTEM GDA2020 / MGA zone 50		CLIENT McDonald's Australia Limited C/- Planning Solutions	
DATA SOURCE LANDGATE AERIAL IMAGERY Summer 2023		PROJECT NUMBER A24.014	VERSION 0
		DRAWN BY / REVIEWED BY MD/BF	DATE 6/3/2024




- Legend
- Subject Site
 - Buffer 100m
 - Buffer 150m

No	Description	Drawn	Approved	Date
A	Original issue	MD	BF	6/3/2024

NOTES:
Cadastral boundary (LGATE-002). Base map ESRI
Topo. Townsites (LGATE-248).

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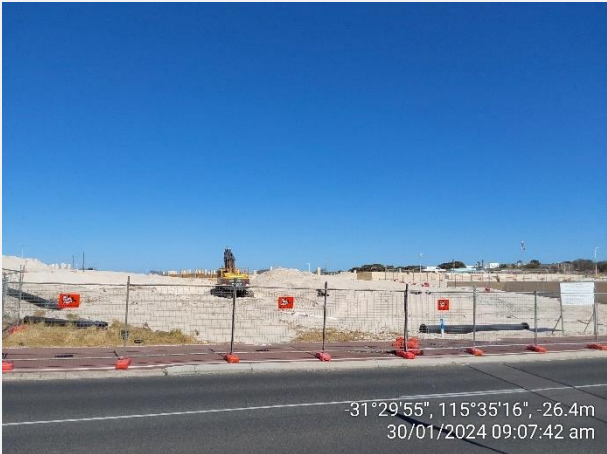


Table 1: Vegetation Classification

Plot 1	Class C Shrubland
<p>Photo 1</p> <p>Shrubs up to 2 m in height throughout this plot with some sparse trees with isolated canopies in the overstorey. Shrubs make up >30% of the overall cover with trees making up <10% of cover throughout the plot.</p> <p>The sparse tree cover is unlikely to significantly influence the potential bushfire within this area of vegetation.</p> <p>The slope under this vegetation was assessed to be upslope/flat land.</p>	 <p>31°29'48", 115°35'10", -20.2m 30/01/2024 09:28:10 am</p>
Plot 2	Excluded - clause 2.2.3.2 (e) & (f)
<p>Photo 2</p> <p>Areas adjacent to the subject site which have been cleared for development. These are devoid of vegetation.</p>	 <p>31°29'51", 115°35'14", -23.5m 30/01/2024 08:53:09 am</p>
Plot 2	Excluded - clause 2.2.3.2 (e) & (f)
<p>Photo 3</p> <p>Roads, shared paths and vegetation which is managed to a low-threat state in the areas surrounding the subject site.</p>	 <p>31°29'51", 115°35'15", -26.7m 30/01/2024 08:54:33 am</p>





Plot 2	Excluded - clause 2.2.3.2 (e) & (f)
<p>Photo 4</p> <p>Mowed lawns and trees with no understorey vegetation.</p>	
Plot 2	Excluded - clause 2.2.3.2 (e) & (f)
<p>Photo 5</p> <p>Managed green open spaces and playground equipment near the subject site. This vegetation is managed to a low-threat state.</p>	
Plot 2	Excluded - clause 2.2.3.2 (e) & (f)
<p>Photo 6</p> <p>Sporting field in the vicinity of the subject site which is managed to a low-threat state.</p>	



Plot 2	Excluded - clause 2.2.3.2 (e) & (f)
<p>Photo 7</p> <p>Areas adjacent to the subject site which have been cleared for development. These are devoid of vegetation.</p>	 <p>-31°29'55", 115°35'16", -26.4m 30/01/2024 09:07:42 am</p>
Plot 2	Excluded - clause 2.2.3.2 (e) & (f)
<p>Photo 8</p> <p>Residential buildings, roads, footpaths and gardens which are managed to a low-threat state.</p>	 <p>-31°29'55", 115°35'16", -26.7m 30/01/2024 09:08:18 am</p>
Plot 2	Excluded - clause 2.2.3.2 (e) & (f)
<p>Photo 9</p> <p>Areas adjacent to the subject site which have been cleared for development. These are devoid of vegetation.</p>	 <p>-31°29'58", 115°35'14", -22.2m 30/01/2024 09:10:27 am</p>



Plot 2	Excluded - clause 2.2.3.2 (e) & (f)
<p>Photo 10</p> <p>Residential buildings, roads, footpaths and gardens which are managed to a low-threat state.</p>	 <p>31°29'58", 115°35'14", -19.3m 30/01/2024 09:11:21 am</p>
Plot 2	Excluded - clause 2.2.3.2 (e) & (f)
<p>Photo 11</p> <p>Areas adjacent to the subject site which have been cleared for development. These are devoid of vegetation.</p>	 <p>31°29'52", 115°35'9", -21.8m 30/01/2024 09:16:16 am</p>



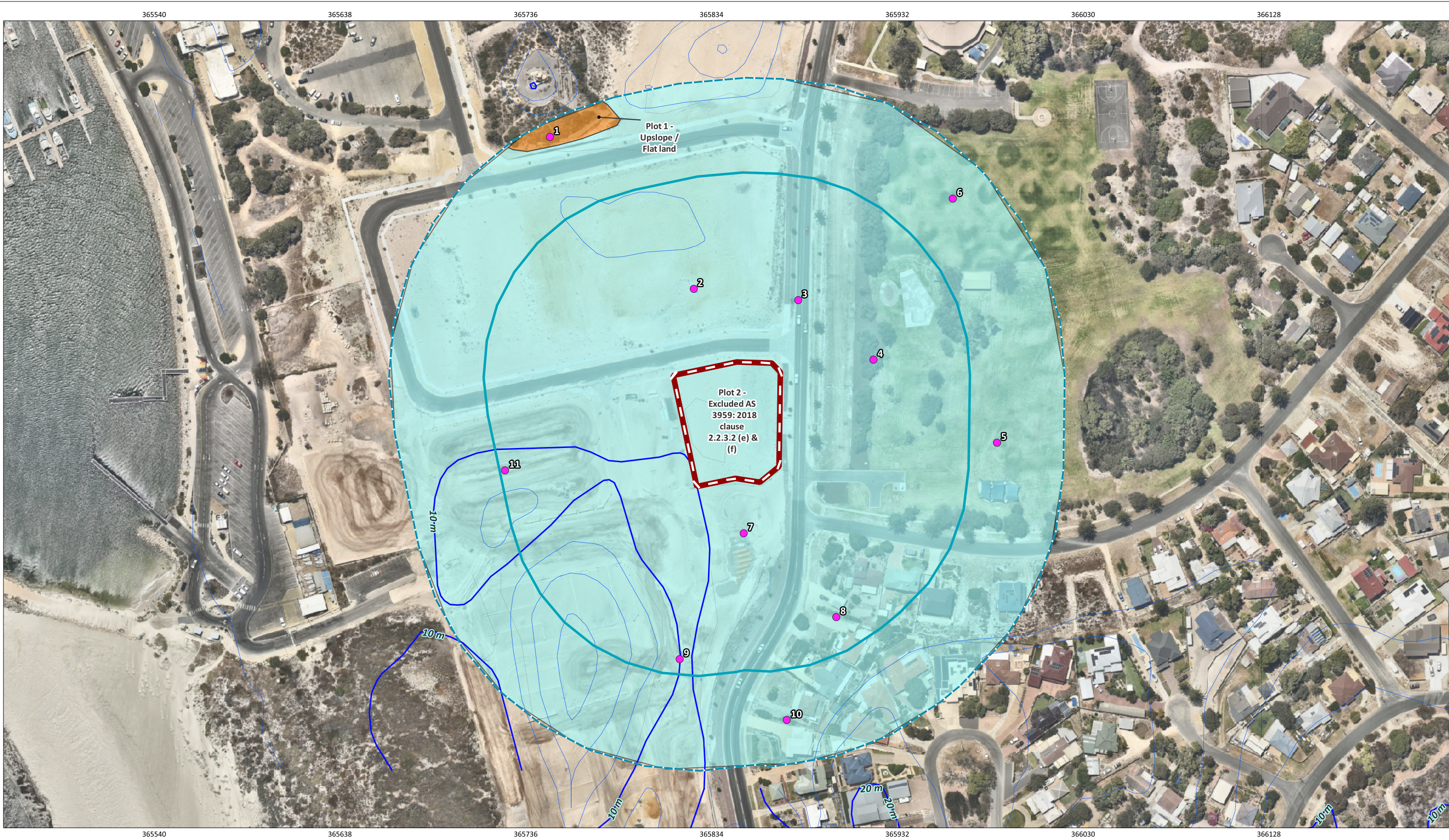


Figure 2: Vegetation Classification

0

29

58

87

116 m

PROJECT/REPORT NAME

Bushfire Management Plan
Lot 703 Lisford Avenue Two Rocks

CLIENT

McDonald's Australia Limited C/- Planning Solutions

PROJECT NUMBER

A24.014

VERSION

0

DRAWN BY / REVIEWED BY

MD/BF

DATE

6/3/2024

Legend

Subject Site

Buffer 100m

Buffer 150m

Class C - Shrubland

Excluded AS 3959: 2018 2.2.3.2

Photos

2m Contours (DPIRD-072)

5m

Each 2m

No	Description	Drawn	Approved	Date
A	Original Issue	MD	BF	6/3/2024

NOTES:

Cadastral boundary from LANDGATE 2022. Label corresponds to the vegetation association number.

WESTERN ENVIRONMENTAL

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Designed and Automated by AC

Relevant Fire Danger Index

The Fire Danger Index for this site 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"/> <i>Table 2.4.5</i>	FDI 50 <input type="checkbox"/> <i>Table 2.4.4</i>	FDI 80 <input checked="" type="checkbox"/> <i>Table 2.4.3</i>	FDI 100 <input type="checkbox"/> <i>Table 2.4.2</i>

Potential Bushfire Impacts

The potential bushfire impact to the site / proposed development 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 C Shrubland	All upslopes and flat land (0 degrees)	<7	7 - <9	9 - <13	13 - <19	19 - <100
2	Excluded - clause 2.2.3.2 (e) & (f)	-	No separation distances required - BAL-LOW				

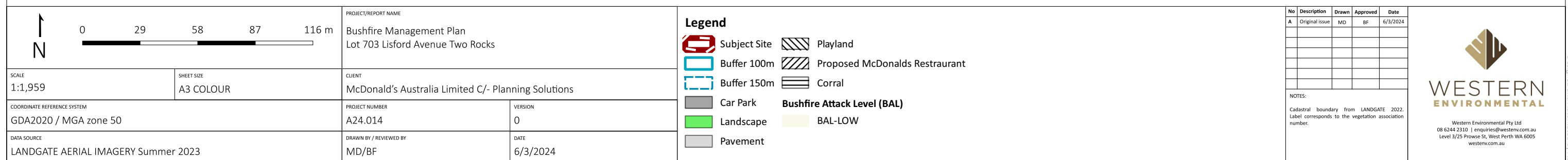
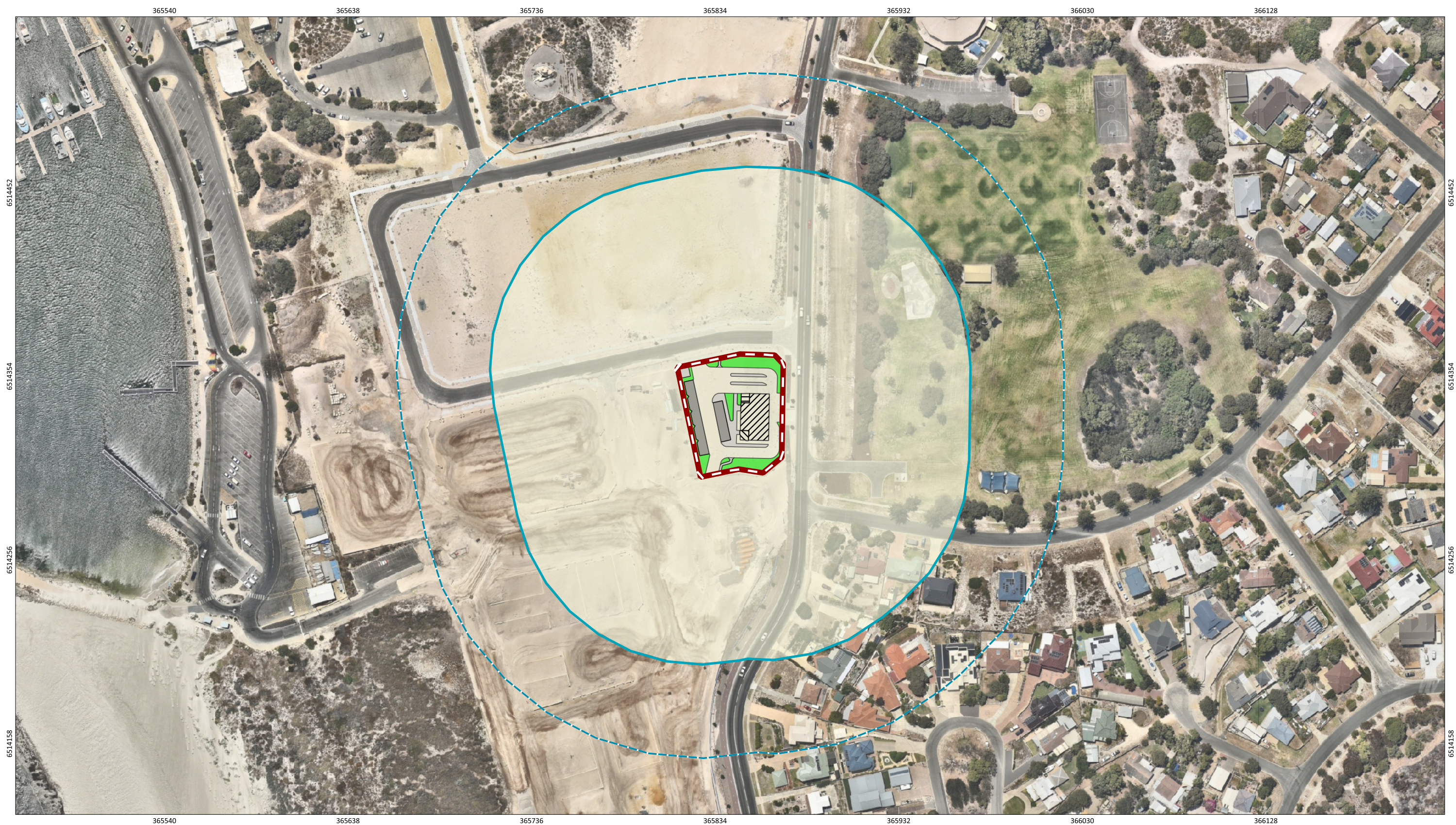
Determined Bushfire Attack Level (BAL)

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 3 and Table 4.

Table 4: BAL Assessment Summary

Proposed Building/Asset	Plot Most Affecting BAL Rating	Separation Distance	BAL Rating	Construction sections to be consulted in AS 3959: 2018
Restaurant	Plot 1	>100 m	BAL-LOW	3

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



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.

