

Bushfire Attack Level (BAL) Assessment Report

Site details

Address: Apsley Stage 18


Suburb: Mandogalup

Local Government Area: City of Kwinana

Description of Building Works: Construction of Class 1a dwellings

State: Western Australia

Report details

Project number	A23.122	Report version	0
Assessment date	14/05/2025	Report date	17/06/2025
Author	Hannah Cunningham	Review	<div>Daniel Panickar (L3 BPAD 37802)</div> <div></div>

Site Assessment and Site Plan

The assessment of the 30 subject lots was undertaken on 14/05/2025 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 30 subject 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.

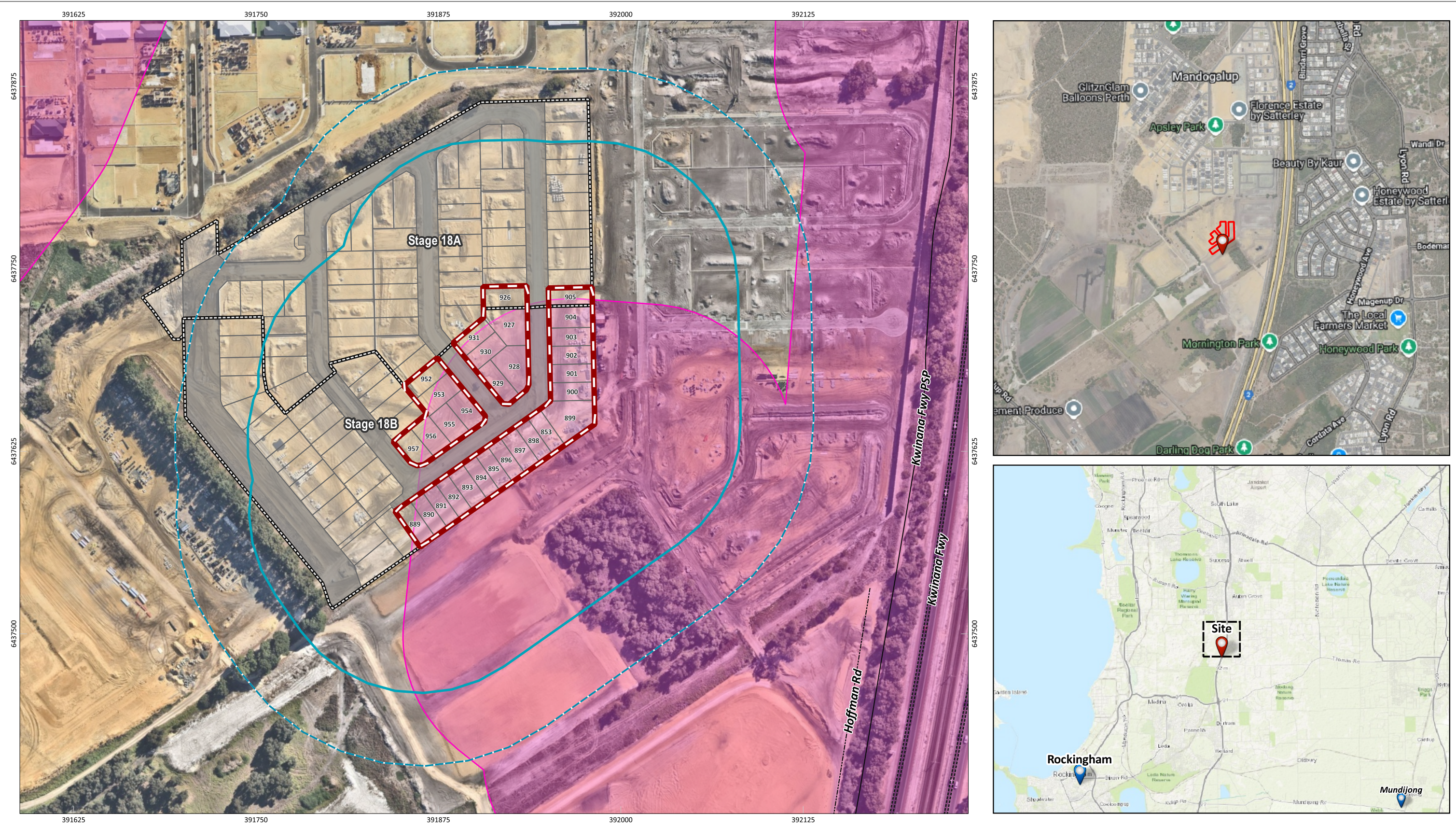


Figure 1: Site Overview

0

25

50

75

100 m

N

SCALE

1:2,500

SHEET SIZE

A3 COLOUR

PROJECT/REPORT NAME

BAL Report Apsley Stage 18
Mandogalup

CLIENT

QUBE

PROJECT NUMBER

A23.122

VERSION

0

DATA SOURCE

Nearmap Imagery (19 April, 2025)

DRAWN BY / REVIEWED BY

JP/HC

DATE

13/6/2025

Legend

Assessment area lots subject to SPP3.7

Buffer 100m

Buffer 150m

Subject site

Lots

Road

Bush Fire Prone Area Planning (OBRM-023)

Bushfire Prone Area 2

No	Description	Drawn	Approved	Date
A	Original issue	JP	HC	13/6/2025

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

WESTERN
ENVIRONMENTAL

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Designed and Automated by AC

Table 1: Vegetation Classification

<div>Plot 1</div> <div><p>Photo 1 (left of image)</p><p>Single areas of vegetation less than 1 ha in area and not within 100 m of other areas of vegetation</p></div>	<div>Excluded - clause 2.2.3.2 (b)</div> <div><div>North Elevation</div><div>☉ 185°S (T) ● 32°11'35"S, 115°51'13"E ±22ft ▲ 73ft</div></div>
<div>Plot 1</div> <div><p>Photo 2 (left of image)</p><p>Single areas of vegetation less than 1 ha in area and not within 100 m of other areas of vegetation</p></div>	<div>Excluded - clause 2.2.3.2 (b)</div> <div><div>North East Elevation</div><div>☉ 243°SW (T) ● 32°11'34"S, 115°51'15"E ±9ft ▲ 74ft</div></div>
<div>Plot 2</div> <div><p>Photo 3</p><p>This plot comprises areas which have been cleared for development</p></div>	<div>Excluded - clause 2.2.3.2 (e)</div> <div><div>North East Elevation</div><div>☉ 241°SW (T) ● 32°11'32"S, 115°51'11"E ±19ft ▲ 76ft</div></div>



Plot 2	Excluded - clause 2.2.3.2 (e)
<p>Photo 4</p> <p>This plot comprises areas which have been cleared for development.</p>	<p>North Elevation</p> <p>☼ 176°S (T) ● 32°11'31"S, 115°51'13"E ±16ft ▲ 75ft</p> 
Plot 3	Excluded - clause 2.2.3.2 (e)
<p>Photo 5</p> <p>This plot comprises areas which have been cleared for development.</p>	<p>North East Elevation</p> <p>☼ 238°SW (T) ● 32°11'31"S, 115°51'13"E ±16ft ▲ 79ft</p> 
Plot 3	Excluded - clause 2.2.3.2 (e)
<p>Photo 6</p> <p>This plot comprises areas which have been cleared for development.</p>	<p>North Elevation</p> <p>☼ 191°S (T) ● 32°11'31"S, 115°51'10"E ±19ft ▲ 73ft</p> 



Plot 2	Excluded - clause 2.2.3.2 (f)
<p>Photo 7</p> <p>Vegetation within this plot comprises a single row of trees. Vegetation appears to be well managed and WEPL understands that a landscaping plan for this area has been prepared to ensure that it will continue to be subject to low threat exclusions as per Clause 2.2.3.2 (f) of AS 3959: 2018.</p>	<p>South East Elevation</p> <p>☼ 319°NW (T) ● 32°11'36"S, 115°51'7"E ±7395ft ▲ 57ft</p> 
Plot 3	Excluded - clause 2.2.3.2 (f)
<p>Photo 8</p> <p>Vegetation within this plot comprises a single row of trees over herbs associated with a drain. Vegetation appears to be well managed and WEPL understands that a landscaping plan for this area has been prepared to ensure that it will continue to be subject to low threat exclusions as per Clause 2.2.3.2 (f) of AS 3959: 2018.</p>	<p>East Elevation</p> <p>☼ 252°W (T) ● 32°11'26"S, 115°51'9"E ±13ft ▲ 74ft</p> 

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	Excluded - clause 2.2.3.2 (b)	-	No separation distances required - BAL-LOW				
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 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
853	N/A	-	BAL-LOW	4
889	N/A	-	BAL-LOW	4
890	N/A	-	BAL-LOW	4
891	N/A	-	BAL-LOW	4
892	N/A	-	BAL-LOW	4
893	N/A	-	BAL-LOW	4
894	N/A	-	BAL-LOW	4
895	N/A	-	BAL-LOW	4
896	N/A	-	BAL-LOW	4
897	N/A	-	BAL-LOW	4
898	N/A	-	BAL-LOW	4
899	N/A	-	BAL-LOW	4
900	N/A	-	BAL-LOW	4
901	N/A	-	BAL-LOW	4
902	N/A	-	BAL-LOW	4
903	N/A	-	BAL-LOW	4
904	N/A	-	BAL-LOW	4
905	N/A	-	BAL-LOW	4
926	N/A	-	BAL-LOW	4
927	N/A	-	BAL-LOW	4
928	N/A	-	BAL-LOW	4
929	N/A	-	BAL-LOW	4
930	N/A	-	BAL-LOW	4
931	N/A	-	BAL-LOW	4
952	N/A	-	BAL-LOW	4
953	N/A	-	BAL-LOW	4
954	N/A	-	BAL-LOW	4
955	N/A	-	BAL-LOW	4
956	N/A	-	BAL-LOW	4



Proposed Building/Asset	Plot Most Affecting BAL Rating	Separation Distance	BAL Rating	Construction sections to be consulted in AS 3959: 2018
957	N/A	-	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.



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.



Appendix B

Landscaping Plans



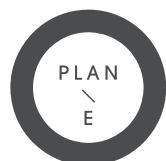
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PEEL MAIN DRAIN STAGE 15 & 18 MASTERPLAN



LEGEND

- | | |
|-----------------------|---|
| 01 PEDESTRIAN PATH | 06 SHELTER WITH TABLE SETTING |
| 02 CYCLING PATH | 07 TODDLER / JUNIOR NATURA PLAY AND
FEATURE ARTWORKS |
| 03 OPEN TURF AREA | 08 SEATING NODE |
| 04 LOW SHRUB PLANTING | |
| 05 DRAINAGE BASIN | |



LANDSCAPE ARCHITECTS

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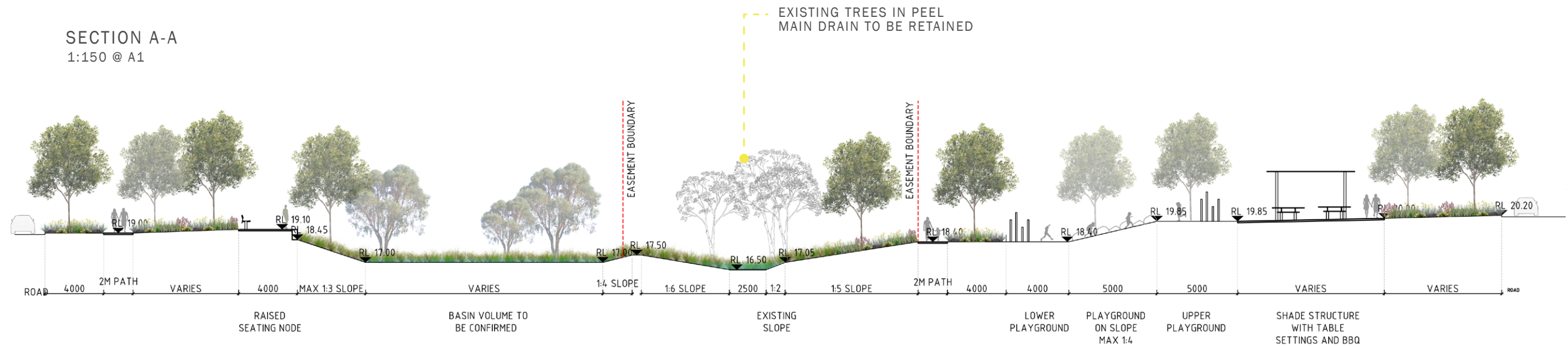
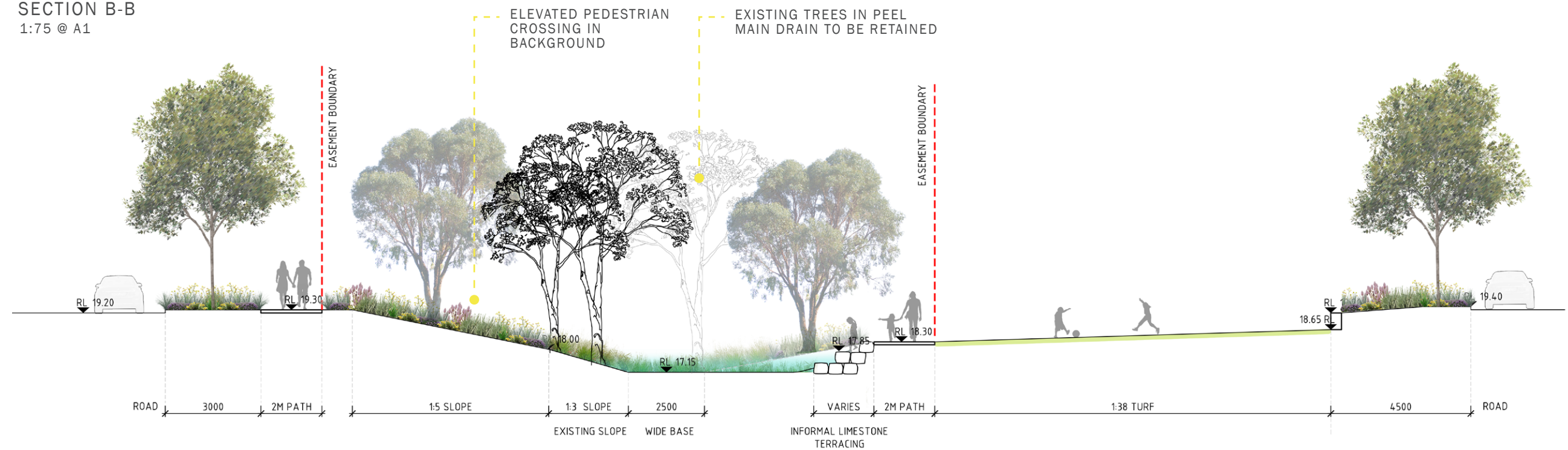
PEEL MAIN DRAINAGE STAGE 15 & 18

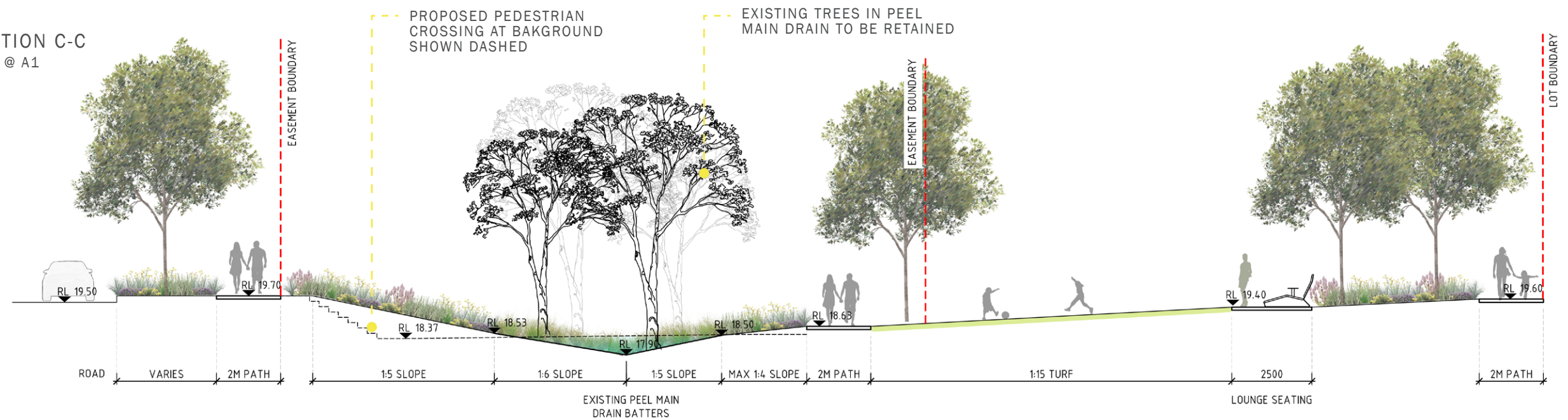
PREPARED FOR QUBE PROPERTY GROUP
FEBRUARY 2024

C1.101

REV C
1:500 @ A1



SECTION A-A
1:150 @ A1SECTION B-B
1:75 @ A1

SECTION C-C
1:75 @ A1SECTION D-D
1:75 @ A1