

# Bushfire Management Plan Coversheet

This Coversheet and accompanying Bushfire Management Plan has been prepared and issued by a person accredited by Fire Protection Association Australia under the Bushfire Planning and Design (BPAD) Accreditation Scheme.

## Bushfire Management Plan and Site Details

**Site Address / Plan Reference:** East of the Beach Central Precinct

**Suburb:** Eglinton

**State:** WA

**P/code:** 6034

**Local government area:** City of Wanneroo

**Description of the planning proposal:** Structure Plan application

**BMP Plan / Reference Number:** 60981/138,167

**Version:** R01 Rev 2

**Date of Issue:** 22/08/2022

**Client / Business Name:** Urban Quarter

Reason for referral to DFES	Yes	No
Has the BAL been calculated by a method other than method 1 as outlined in AS3959 (tick no if AS3959 method 1 has been used to calculate the BAL)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Have any of the bushfire protection criteria elements been addressed through the use of a performance principle (tick no if only acceptable solutions have been used to address all of the BPC elements)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Is the proposal any of the following special development types (see SPP 3.7 for definitions)?</b>		
Unavoidable development (in BAL-40 or BAL-FZ)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Strategic planning proposal (including rezoning applications)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Minor development (in BAL-40 or BAL-FZ)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
High risk land-use	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Vulnerable land-use	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If the development is a special development type as listed above, explain why the proposal is considered to be one of the above listed classifications (E.g. considered vulnerable land-use as the development is for accommodation of the elderly, etc.)?

Structure Plan application

**Note:** The decision maker (e.g. local government or the WAPC) should only refer the proposal to DFES for comment if one (or more) of the above answers are ticked "Yes".

## BPAD Accredited Practitioner Details and Declaration

<b>Name</b> Louisa Robertson	<b>Accreditation Level</b> Level 3	<b>Accreditation No.</b> BPAD 36748	<b>Accreditation Expiry</b> 28/02/2023
<b>Company</b> Strategen-JBS&G		<b>Contact No.</b> 08 9792 4797	

I declare that the information provided within this bushfire management plan is to the best of my knowledge true and correct

Signature of Practitioner *LM Robertson*

Date 22/08/2022

Urban Quarter  
Bushfire Management Plan Addendum (Structure Plan  
Application)

East of the Beach, Central Precinct  
Eglinton

22 August 2022

60981/138,167 Rev 2

JBS&G Australia Pty Ltd T/A Strategen-JBS&G



## Table of Contents

1.	Proposal details .....	1
1.1	Proposal.....	1
1.2	Purpose.....	1
1.3	Other plans/reports.....	1
1.4	Environmental considerations .....	2
1.5	Revegetation / Landscape Plans.....	2
2.	Bushfire assessment results .....	5
2.1	Assessment inputs.....	5
2.1.1	Vegetation classification .....	5
2.1.2	Effective slope .....	6
2.1.3	Pre-development inputs .....	6
2.1.4	Post-development inputs.....	7
2.2	Assessment outputs .....	10
2.2.1	Bushfire Hazard Level (BHL) assessment .....	10
3.	Identification of bushfire hazard issues.....	13
3.1	Bushfire context .....	13
3.2	Bushfire hazard issues .....	13
4.	Assessment against the bushfire protection criteria.....	16
4.1	Compliance table.....	16
5.	Responsibilities for implementation and management of the bushfire measures.....	19
6.	References .....	21
7.	Limitations .....	22

## List of Tables

Table 1:	Pre-development vegetation classifications/exclusions and effective slope .....	6
Table 2:	Post-development vegetation classifications/exclusions and effective slope.....	7
Table 3:	Bushfire hazard levels and characteristics .....	10
Table 4:	Compliance with the bushfire protection criteria of the Guidelines .....	16

## List of Figures

Figure 1:	Concept Plan (CLE 2021) .....	3
Figure 2:	Site overview.....	4
Figure 3:	Pre-development vegetation classification and effective slope .....	8
Figure 4:	Post-development vegetation classification and effective slope .....	9
Figure 5:	Pre-development BHL assessment .....	11

Figure 6: Post-development BHL assessment..... 12

## Appendices

- Appendix A Landscape Masterplan (Plan E 2021)
- Appendix B Vegetation plot photos and description
- Appendix C Local Government Firebreak Notice



## 1. Proposal details

### 1.1 Proposal

Urban Quarter is currently preparing a Structure Plan application to guide future urban development within the East of the Beach Central Precinct, Eglinton (the project area) located in the City of Wanneroo.

The Concept Plan is included in Figure 1 (CLE 2021). An overview of the project area and adjacent 150 m assessment area depicting current vegetation conditions is included in Figure 2.

### 1.2 Purpose

This report has been prepared as an addendum to the existing Bushfire Management Plan (BMP) which was prepared to support the previous stage of planning for the Central Precinct, being an amendment to the Alkimos Eglinton District Structure Plan (Strategen-JBS&G 2018a).

The previous BMP is a relatively comprehensive document and addresses the requirements of Policy Measure 6.3 of *State Planning Policy 3.7 Planning in Bushfire Prone Areas* (SPP 3.7; WAPC 2015) in detail. As the proposed Structure Plan is required to address the same policy measure of SPP 3.7, preparation of a refined reporting output (i.e. a BMP addendum) that addresses only the relevant changes made by the proposed Structure Plan (including any updated site/vegetation conditions) is considered appropriate to address SPP3.7 requirements.

Specifically, this BMP addendum provides an:

- updated Bushfire Hazard Level (BHL) assessment in relation to:
  - current day vegetation conditions within the project area and 150 m assessment area
  - anticipated post-development vegetation conditions within the project area and 150 m assessment area, based on Structure Plan detail
  - consideration of a 100 m wide low threat buffer extending into the undeveloped portion of the East of the Beach Western Precinct
- updated overview of bushfire hazard issues relevant to the project area and proposed Structure Plan design
- updated assessment of compliance in relation to the Bushfire Protection Criteria of *Guidelines for Planning Bushfire Prone Areas* (the Guidelines; WAPC 2017)
- updated overview of responsibilities for implementation of the bushfire management measures and compliance.

The previous District Structure Plan Amendment BMP (Strategen-JBS&G 2018a) is to be referred to when reviewing this report.

### 1.3 Other plans/reports

Other relevant reports that have been prepared for the project area and adjoining East of the Beach developments include:

#### East of the Beach Central Precinct

- Alkimos Eglinton District Structure Plan amendment:
  - BMP (Strategen-JBS&G 2018a)
  - Environmental Assessment Report (EAR; Strategen-JBS&G 2018b).
- Local Structure Plan:

- EAR (Strategen-JBS&G 2021).

#### **East of the Beach Western Precinct**

- Subdivision:
  - BMP (Strategen-JBS&G 2017).

#### **East of the Beach Eastern Precinct**

- Metropolitan Region Scheme and District Planning Scheme rezoning:
  - BMP (Strategen-JBS&G 2018c).

### **1.4 Environmental considerations**

Please refer to the District Structure Plan BMP (Strategen-JBS&G 2018a) which provides an overview of environmental values relevant to the project area.

### **1.5 Revegetation / Landscape Plans**

A Landscape Masterplan has been prepared for the project area (refer to Appendix A) which provides a conceptual overview of the proposed POS and drainage areas. As landscaping design is still in the early stages of development, a precautionary approach has been adopted within this BMP to classify the entirety of the POS and drainage cells in accordance with the existing vegetation (Class D Scrub), so that the worst-case BAL outcomes are considered early on in the planning process.



This plan has been prepared for general information purposes only and uses potentially uncontrolled data from external sources. CLE does not guarantee the accuracy of this plan and it should not be used for any detailed site design. This plan remains the property of CLE.

Consolidate Very Good - Excellent Vegetation Type with Adjacent Conservation Area

Sewer Pump Station Required in this Location

Managed Interface in Accordance with Bushfire Guidelines

Central POS  
(Potential retention of existing trees within POS subject to detailed engineering design.)

Consolidated Drainage

MITCHELL FREEWAY RESERVE

POS  
~2.04ha

POS  
~0.31ha

POS  
~0.65ha

POS  
~0.95ha

Existing Conservation Area

North Shore Christian Grammar

Connection

Rail

Connection

Drainage Associated with Rail Corridor

Reserve

EAST OF THE BEACH ESTATE

SHOREHAVEN

Future Urban by Others

**LEGEND**

- Subject Site (35.48ha)
- Neighbourhood Connector

**NDA - 21.1ha**







- Legend**
- Central Precinct boundary
  - Eastern Precinct boundary
  - Western Precinct boundary
  - Cadastral boundary
  - Rail reserve
- Legislated lands and waters (DBCAs)
- National Park
  - Bush Forever site (DOP)
- Geomorphic Wetlands (DBCAs)
- Resource enhancement
  - Multiple use
- Roads (MRWA)



Job No: 60981

Client: Urban Quarter

Version: A      Date: 08-Dec-2021

Drawn By: jcrute      Checked By: CT

Scale 1:7,000 at A3 ↑

0      100      200  
metres

Coord. Sys. GDA 1994 MGA Zone 50

**Lot 6 Central Precinct,  
Eglinton, WA**

**SITE OVERVIEW**

**FIGURE 2**

File Name: W:\Projects\1\Open\Urban Quarter\60981 East of the Beach Central Precinct BMP\GIS\Maps\R01\_RevA\60981\_02\_SiteOverview.mxd  
Image Reference: www.nearmap.com - Imagery Date: 14. November 2021.



## **2. Bushfire assessment results**

### **2.1 Assessment inputs**

#### **2.1.1 Vegetation classification**

Vegetation classifications and exclusions within the project area and surrounding 150 m have been assigned in accordance with the previous assessment carried out within the District Structure Plan Amendment BMP, in conjunction with a review of satellite imagery to detect any areas of vegetation that have been subject to modification/clearing since preparation of that report.

In addition, the vegetation classifications have been updated to reflect the methodology of the now current *AS 3959—2018 Construction of Buildings in Bushfire-Prone Areas* (AS 3959; SA 2018). This has resulted in the reclassification of all areas of Banksia Woodland from Class B Woodland, to Class D Scrub.

Georeferenced site photographs of the vegetation plots taken during the 2018 site inspection are provided in Appendix A.

##### **2.1.1.1 Justification for vegetation exclusions**

###### **100 m wide low threat staging buffer within the Western Precinct**

Although it is anticipated that the currently uncleared portion of the adjacent Western Precinct will be developed prior to construction of the Central Precinct, a 100 m wide low threat staging buffer has been considered at the north-west interface of the Central Precinct to demonstrate that the bushfire hazards within 100 m of the project area can be managed by the proponent at this location. If required to be implemented, the 100m wide staging buffer will remove any BAL impacts on the Central Precinct from temporary vegetation hazards within the Western Precinct.

###### **Rail reserve**

The rail reserve is currently in a non-vegetated condition and future revegetation by the Public Transport Authority (PTA) is expected to comprise locally occurring scrub type vegetation limited to a narrow corridor (approximately 10 – 12 m) on either side of the train line, which is consistent with landscaping further down in the line in Butler. In the context of a highly built-up landscape, this is not considered to represent a significant bushfire threat to surrounding development as once the surrounding land has been cleared, the rail vegetation will be largely isolated from any substantial areas of bushfire prone vegetation.

Exclusion of the rail corridor and placement of lots at the reserve interface is a consistent precedent within the surrounding area, including within the East of the Beach Western Precinct and within the suburb of Butler. Review of the DFES Map of Bush Fire Prone Areas shows that the rail reserve south of the project area (from the divergence with Mitchell Freeway reserve in Butler) is consistently not classified as being bushfire prone vegetation by the City of Wanneroo, therefore there is existing recognition of the limited risk associated with the rail reserve.

Bushfire prone areas within the portion of rail reserve adjoining the Central Precinct (see Plate 1) largely respond to land that has either recently been cleared for construction of the Western Precinct (given the map was last updated in 2021) or land set to be cleared for construction of future stages of the Western Precinct, and the Central Precinct. It is anticipated that on build out of these two subdivision sites that bushfire prone designation will largely be removed from the rail reserve (and sites themselves) with only the northern portion responding to vegetation retained within Central Precinct POS and uncleared future development land to the north of the Western Precinct. Given lots at the northern interface of the Central Precinct and Western Precinct will require a BAL construction response to these vegetation hazards (which are, outside of the POS, only temporary),



it is considered that the dwellings will be appropriately constructed to withstand impacts from the actual bushfire hazards.



**Plate 1: DFES Map of Bush Fire Prone Areas (2021)**

### 2.1.2 Effective slope

Effective slope has been assigned consistent with the District Structure Plan Amendment BMP. The northern POS will be retained in a vegetated state as Conservation POS; therefore, the current assessed effective slope of downslope >5-10° will remain post-development. It has been assumed that the remainder of POS will be largely subject to clearing and levelling as part of site earthworks, in which case these plots have been assigned an effective slope of flat/upslope.

### 2.1.3 Pre-development inputs

A summary of the assessed *pre-development* classified vegetation, exclusions and effective slope within the project area and adjacent 150 m are listed in Table 1 and illustrated in Figure 3.

**Table 1: Pre-development vegetation classifications/exclusions and effective slope**

Vegetation plot	Vegetation classification	Effective slope	Comments
1	Class D Scrub	Flat/upslope (0°)	Remnant banksia scrub that is flat/upslope. Includes vegetation external to the south, west and northwest boundaries of the project area.
2	Class D Scrub	Downslope >5-10°	Remnant banksia scrub internal to the project area and within the Mitchell Freeway Reserve with an effective downslope.
3	Class A Forest	Downslope >5-10°	Area of treed/tiered vegetation in the southeast portion of the project area and adjacent Mitchell Freeway Reserve.
4	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])	N/A	Areas of land which have been cleared to facilitate development within the adjoining land estates (East of the Beach Western Precinct to the west and Shorehaven Estate to the south); the cleared rail corridor adjoining the western site boundary; on-site rail stockpile area; and existing roads.

Vegetation plot	Vegetation classification	Effective slope	Comments
5	Excluded – Clause 2.2.3.2 [b]	N/A	Retained bushland to the southwest of the project area - <1 ha and not within 100 m of any other vegetation being classified vegetation.

#### 2.1.4 Post-development inputs

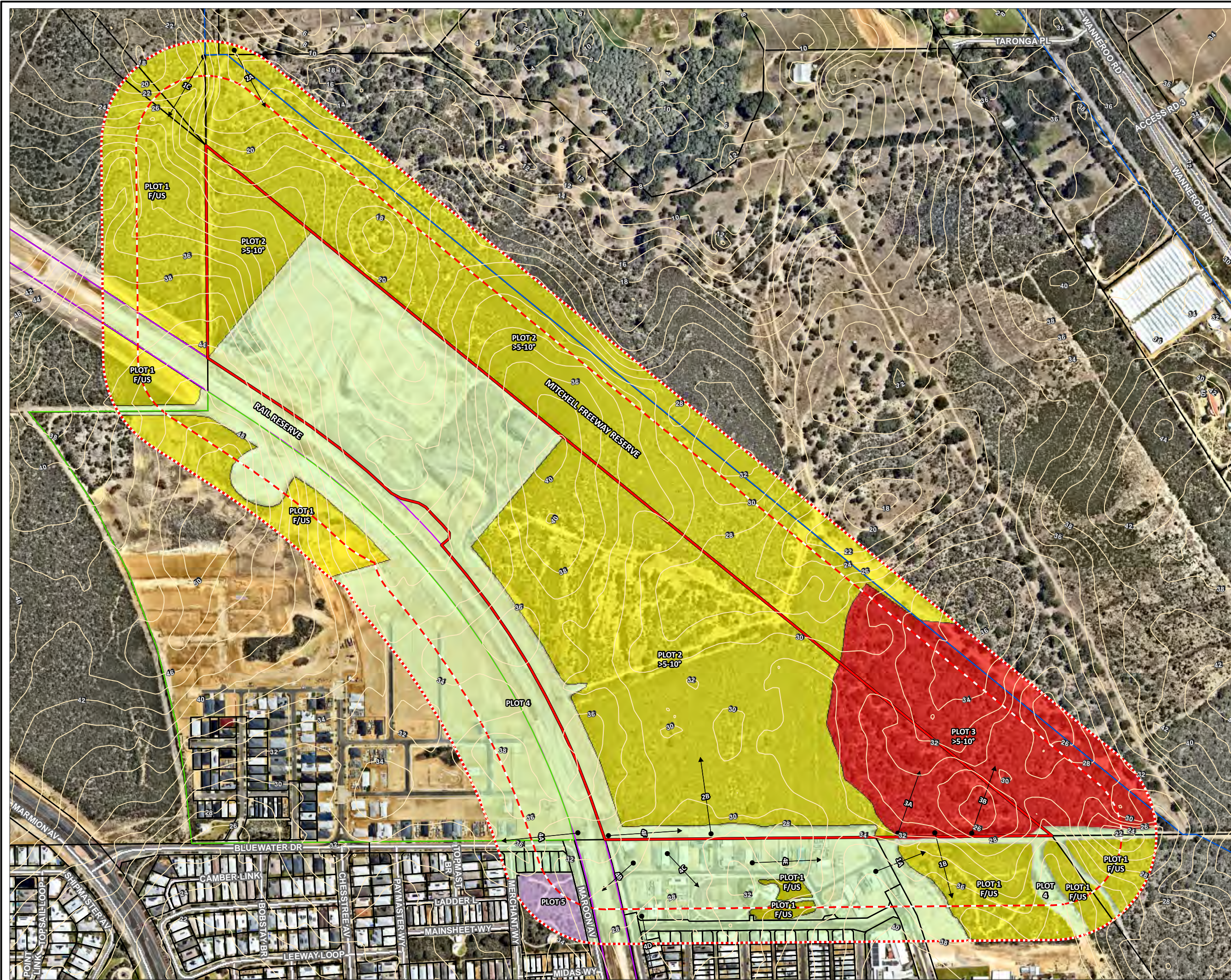
A summary of the potential *post-development* classified vegetation, exclusions and effective slope within the project area and adjacent 150 m are listed in Table 2 and illustrated in Figure 4.

A precautionary approach has been taken to assume the entirety of proposed POS and drainage areas will be fully vegetated with locally occurring species (i.e. Class D Scrub). It is acknowledged however that the POS cells (aside from the northern Conservation POS) are likely to comprise a combination unmanaged native vegetation as well as low threat/non-vegetated landscaping, including turf areas. The level of landscaping detail required to accurately classify/exclude the POS/drainage cells will be provided at subdivision stage of planning based on the provision of further detailed landscape plans.

**Table 2: Post-development vegetation classifications/exclusions and effective slope**

Vegetation plot	Vegetation classification	Effective slope	Comments
1	Class D Scrub	Flat/upslope (0°)	As for the pre-development assessment, with the inclusion of on-site POS and drainage cells. In the absence of detailed landscaping information, a precautionary approach has been taken to classify the entirety of these POS cells as Class D Scrub.
2	Class D Scrub	Downslope >5–10°	Remnant banksia scrub within the Mitchell Freeway Reserve and on-site banksia scrub vegetation that will be retained within the northern Conservation POS.
3	Class A Forest	Downslope >5–10°	Forest vegetation will be cleared within the south-eastern portion of the project area but will remain within the Mitchell Freeway reserve until this land is cleared for future freeway construction.
4	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])	N/A	As for the pre-development assessment.
5	Excluded – Clause 2.2.3.2 [b]	N/A	As for the pre-development assessment.
6	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])	N/A	Currently vegetated areas of the project area that will be cleared/modified to a low threat state as part of proposed development of roads and residential cells (also includes the 100 m wide low threat buffer within the undeveloped portion of the Western Precinct).

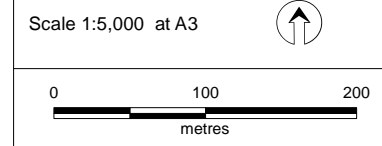




- Legend**
- Central Precinct boundary
  - 100m assessment area
  - 150m assessment area
  - Eastern Precinct boundary
  - Western Precinct boundary
  - Cadastral boundary
  - Rail reserve
- Vegetation classification
- Class A Forest
  - Class D Scrub
  - Clause 2.2.3.2 (b)
  - Clause 2.2.3.2 (e) & (f)
- Photo point directions
  - Topographic contours (mAHD)
  - Roads (MRWA)



Job No: 60981  
 Client: Urban Quarter  
 Version: A Date: 08-Dec-2021  
 Drawn By: jcrute Checked By: CT



Coord. Sys. GDA 1994 MGA Zone 50

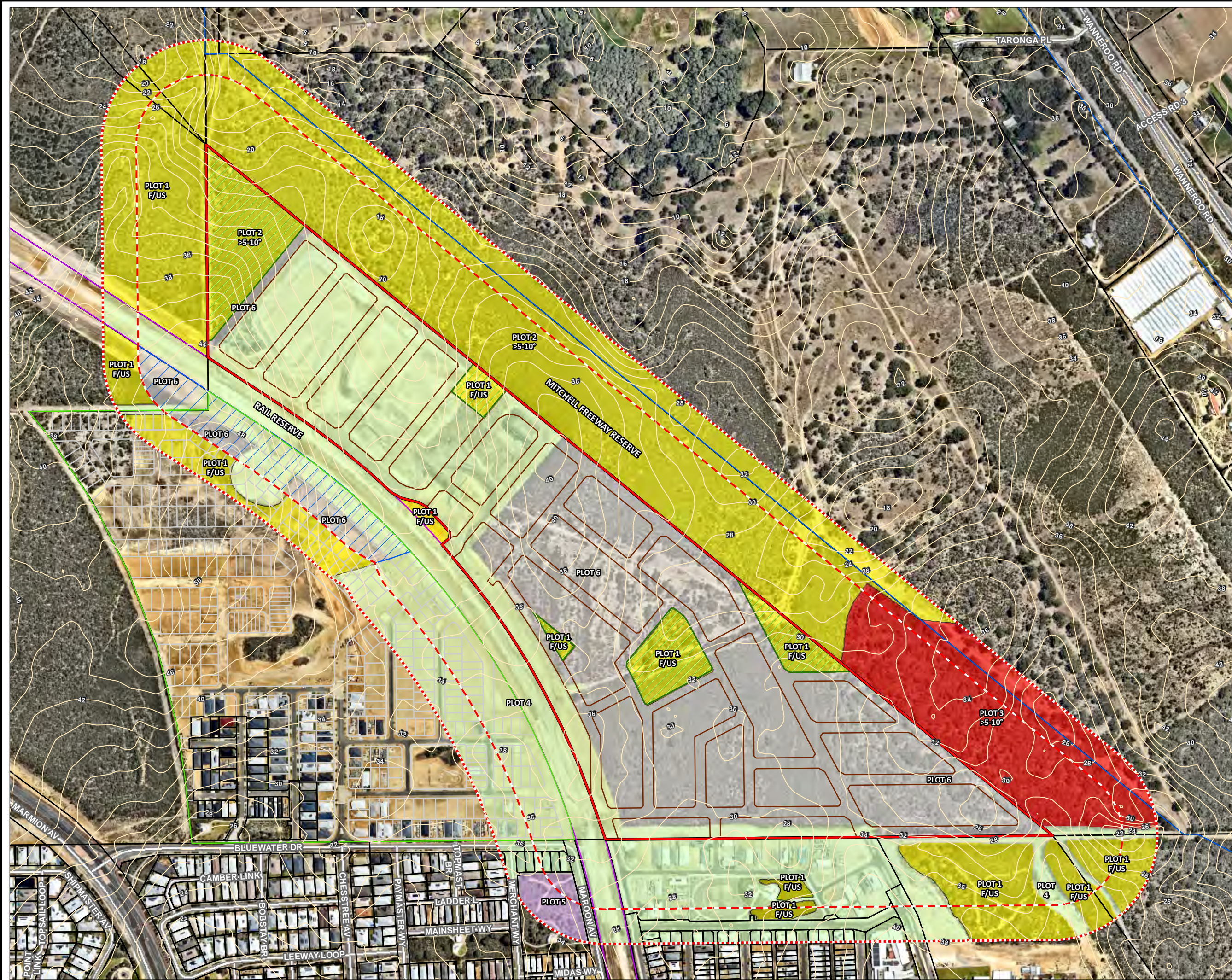
**Lot 6 Central Precinct,  
 Eglinton, WA**

**PRE-DEVELOPMENT  
 VEGETATION CLASSIFICATION  
 AND EFFECTIVE SLOPE**

**FIGURE 3**

File Name: W:\Projects\1\Open\Urban Quarter\60981 East of the Beach Central Precinct BMP\GIS\Maps\R01\_RevA\60981\_03\_PreDevVegClass.mxd  
 Image Reference: www.nearmap.com © Imagery Date: 14. November 2021.





- Legend**
- ▭ Central Precinct boundary
  - - - 100m assessment area
  - · - · - 150m assessment area
  - ▭ Eastern Precinct boundary
  - ▭ Western Precinct boundary
  - ▭ Cadastral boundary
  - ▭ Rail reserve
  - ▭ Residential development
  - ▭ POS
  - ▭ Drainage (rail corridor)
- Vegetation classification**
- ▭ Class A Forest
  - ▭ Class D Scrub
  - ▭ Clause 2.2.3.2 (b)
  - ▭ Clause 2.2.3.2 (e) & (f)
  - ▭ Area to be modified to non-vegetated and low threat state
- Other features**
- Indicative future subdivisions
  - Topographic contours (mAHD)
  - Roads (MRWA)



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 Version: A Date: 08-Dec-2021  
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Scale 1:5,000 at A3   
  
 metres

Coord. Sys. GDA 1994 MGA Zone 50

**Lot 6 Central Precinct,  
 Eglinton, WA**

**POST-DEVELOPMENT  
 VEGETATION CLASSIFICATION  
 AND EFFECTIVE SLOPE**

**FIGURE 4**



## 2.2 Assessment outputs

### 2.2.1 Bushfire Hazard Level (BHL) assessment

Pre and post-development vegetation extents have been assigned a bushfire hazard level in accordance with the methodology detailed in Appendix Two of the Guidelines, as outlined in Table 3.

**Table 3: Bushfire hazard levels and characteristics**

Bushfire hazard level	Characteristics*
Extreme	<ul style="list-style-type: none"> <li>Class A Forest</li> <li>Class B Woodland (05)</li> <li>Class D Scrub</li> <li>Any classified vegetation with a greater than 10° slope.</li> </ul>
Moderate	<ul style="list-style-type: none"> <li>Class B Low woodland (07)</li> <li>Class C Shrubland</li> <li>Class E Mallee/Mulga</li> <li>Class G Grassland, including sown pasture and crops</li> <li>Class G Grassland: Open woodland (06), Low open woodland (08), Open shrubland (09)</li> <li>Vegetation that has a low hazard level but is within 100 metres of vegetation classified as a moderate or extreme hazard, is to adopt a moderate hazard level.</li> </ul>
Low	<ul style="list-style-type: none"> <li>Low threat vegetation may include areas of maintained lawns, golf courses, public recreation reserves and parklands, vineyards, orchards, cultivated gardens, commercial nurseries, nature strips and windbreaks</li> <li>Managed grassland in a minimal fuel condition (insufficient fuel is available to significantly increase the severity of the bushfire attack). For example, short-cropped grass to a nominal height of 100 millimetre</li> <li>Non-vegetated areas including waterways, roads, footpaths, buildings and rock outcrops.</li> </ul>
*Vegetation classifications from AS 3959-2018 Table 2.3.	

#### 2.2.1.1 Pre-development

The pre-development bushfire hazard levels have been mapped within the project area and adjacent 150 m wide assessment area. The bushfire hazard levels have been assessed on the basis of the vegetation discussed in Section 2.1.3 (i.e. the current pre-development extent of vegetation within and surrounding the project area).

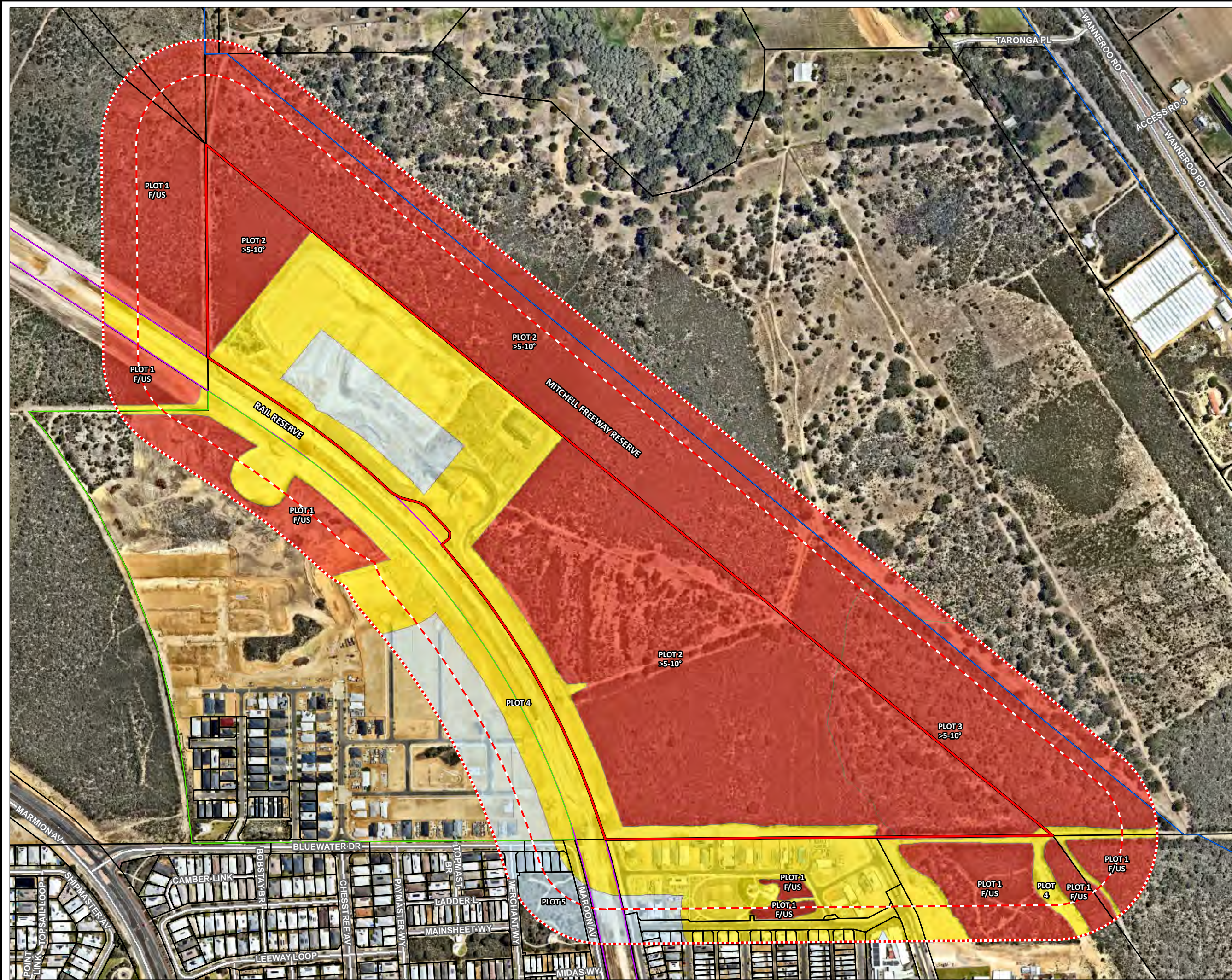
The pre-development BHL assessment (refer to Figure 5) shows that based on the existing vegetation, the project area contains land with Low, Moderate and Extreme bushfire hazard levels.

#### 2.2.1.2 Post-development

The potential post-development bushfire hazard levels have been mapped to demonstrate that the future bushfire hazard levels will be acceptable for future development to occur within the project area. The bushfire hazard levels have been assigned on the basis of the vegetation discussed in Section 2.1.4 and the future anticipated vegetation extent within and surrounding the project area.

The post-development BHL assessment (refer to Figure 6) demonstrates that all future habitable development will be located on land with either a Low or Moderate bushfire hazard level. There are several interfaces between potentially classifiable vegetation within POS/drainage and urban development cells that will need to be considered at future stages as part of detailed design. Consideration of separation between habitable development and classified vegetation within the Mitchell Freeway will also need to be considered at future planning stages to ensure BAL-29 can be achieved.





- Legend**
- Central Precinct boundary
  - 100m assessment area
  - 150m assessment area
  - Eastern Precinct boundary
  - Western Precinct boundary
  - Cadastral boundary
  - Rail reserve
- Hazard level
- Extreme
  - Moderate
  - Low
- Roads (MRWA)



Job No: 60981  
 Client: Urban Quarter  
 Version: A Date: 08-Dec-2021  
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Scale 1:5,000 at A3

Coord. Sys. GDA 1994 MGA Zone 50

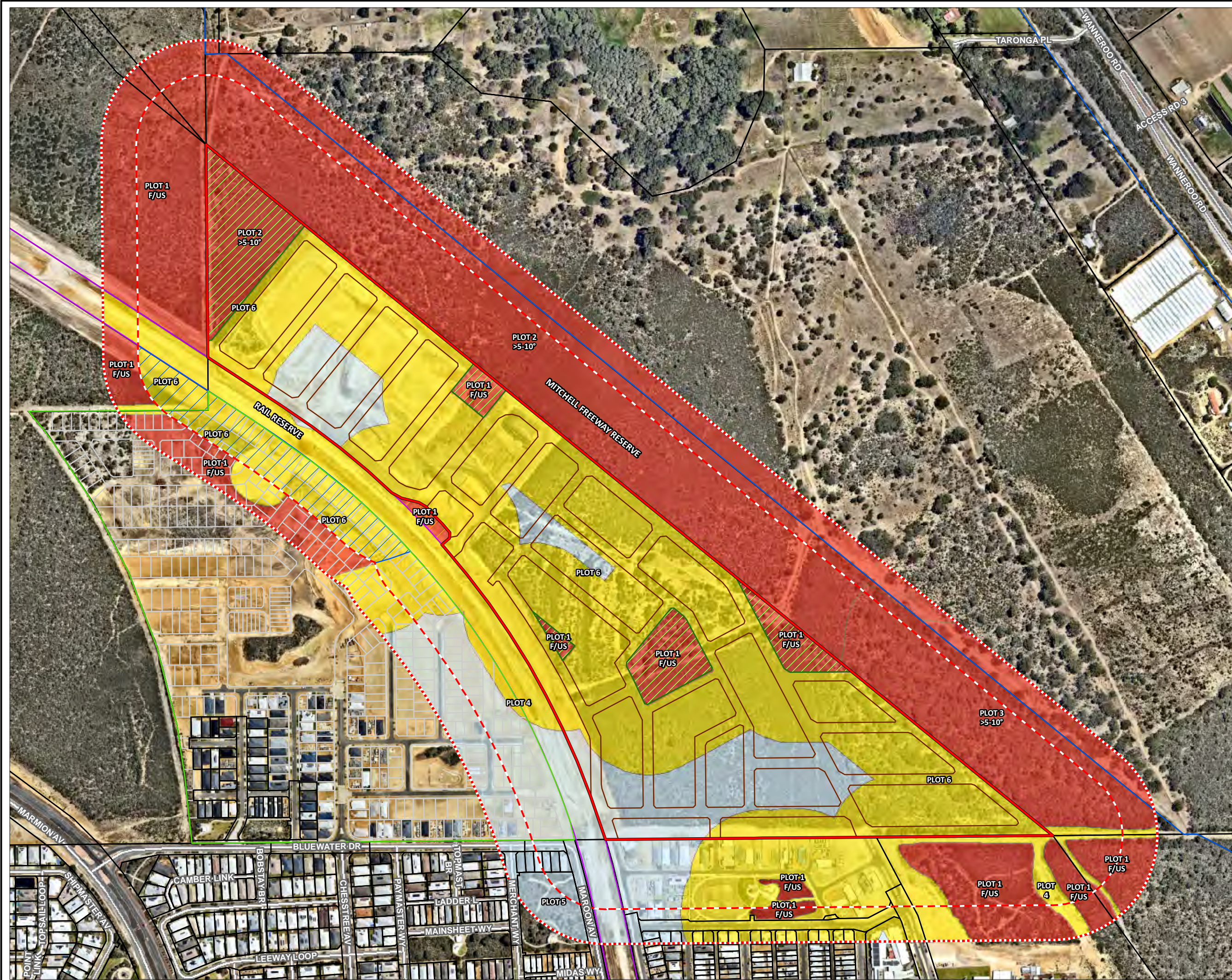
**Lot 6 Central Precinct,  
 Eglinton, WA**

**PRE-DEVELOPMENT  
 BHL ASSESSMENT**

**FIGURE 5**

File Name: W:\Projects\1\Open\Urban Quarter\60981 East of the Beach Central Precinct BMP\GIS\Maps\R01\_RevA\60981\_05\_PreDevBHLs.mxd  
 Image Reference: www.nearmap.com © Imagery Date: 14. November 2021.





- Legend**
- Central Precinct boundary
  - 100m assessment area
  - 150m assessment area
  - Eastern Precinct boundary
  - Western Precinct boundary
  - Cadastral boundary
  - Rail reserve
  - 100m wide low threat staging buffer
  - POS
  - Drainage (rail corridor)
  - Residential development
- Hazard level**
- Extreme
  - Moderate
  - Low
- Indicative future subdivisions
  - Roads (MRWA)



Job No: 60981  
 Client: Urban Quarter  
 Version: A      Date: 08-Dec-2021  
 Drawn By: jcrute      Checked By: CT

Scale 1:5,000 at A3 ↑  
 0      100      200  
 metres

Coord. Sys. GDA 1994 MGA Zone 50

**Lot 6 Central Precinct,  
 Eglinton, WA**

**POST-DEVELOPMENT  
 BHL ASSESSMENT**

**FIGURE 6**

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 Image Reference: www.nearmap.com © - Imagery Date: 14. November 2021.



### 3. Identification of bushfire hazard issues

#### 3.1 Bushfire context

An overview of bushfire context in relation to the project area is provided within the Structure Plan amendment BMP (Strategen-JBS&G 2018a). Since that BMP was prepared, bushfire risk to the project area has been reduced in the south-western quadrant through clearing of vegetation within the East of the Beach Western Precinct development area. The rail reserve corridor immediately abutting the western cadastral boundary has also been cleared in preparation for construction works for the Yanchep Rail Extension and the northern portion of the project area has been cleared to accommodate the Eglinton Rail stockpile. Potential bushfire impact at the eastern interface of the project area, adjoining the Mitchell Freeway Reserve, will be managed to achieve BAL-29 or lower through provision of one or a combination of low threat areas, including perimeter road interfaces, possible low threat POS and R-code setbacks into residential lots .

#### 3.2 Bushfire hazard issues

The bushfire hazard issues detailed in the previous District Structure Plan amendment BMP have been revised to be made relevant to the proposed Structure Plan and have consideration of the current on-ground clearing extent discussed above.

Bushfire hazard issues to be considered at future planning stages include:

1. Recent clearing on adjoining land

Since the previous BMP was prepared, the rail corridor along the western cadastral boundary has been cleared for construction of the Yanchep rail extension. Clearing and construction within the Western Precinct has also commenced. The northern portion of the Western Precinct currently remains vegetated and BAL impacts from this temporary vegetation hazard will need to be considered if not cleared prior to construction occurring within the Central Precinct, given this vegetation is within 100 m of the project area. To alleviate any potential BAL impacts, the post-development vegetation and BHL mapping makes provisions for a 100 m wide low threat staging buffer that can be implemented, if required.

2. On-site Conservation POS

On completion of development, vegetation within the northern POS cell is expected to be fully retained for conservation purposes. This vegetation has been assessed as Class D Scrub with an effective down slope of >5-10° (Plot 2). In order for the adjacent habitable development to achieve BAL-29, a minimum separation distance of 17 m is required. This will largely be achieved within the fringing road reserve but may require additional separation to be established within the POS, and/or the interfacing residential lots via habitable building setbacks (e.g. R-code enforced). A detailed BAL Contour assessment will be carried out at the subdivision stage of planning to further refine the separation requirements at this interface and the proposed design response.

3. On-site POS/drainage

It is expected that the remainder of POS/drainage areas will ultimately comprise a combination of low threat/non-vegetated areas and classifiable vegetation on completion of development. However, the extent of exclusions within on-site POS is unable to be accurately determined until detailed design stage. Therefore, as a precautionary measure, the post-development BHL assessment assumes that all POS/drainage areas will consist entirely of Class D Scrub, which constitutes an Extreme bushfire hazard level. This classification is based on the potential for vegetation retention and possible re-planting with locally occurring species. This conservative

approach has been adopted to inform future development stages of the potential impacts of any classified vegetation retained within POS/drainage areas so that an appropriate design response can be implemented.

The Indicative Subdivision Concept Plan includes several direct interfaces between POS/drainage cells and residential cells. Future stages of planning are to ensure that sufficient separation exists between any classified vegetation retained/introduced into POS cells and the adjacent habitable development areas to achieve BAL-29 or lower. Assuming as a worst case, that the vegetation is consistent with Class D Scrub, the potential setbacks required to achieve BAL-29 are as follows (to be confirmed through detailed BAL Contour map analysis and review of Landscaping Plans at the subdivision stage):

Vegetation classification	Effective slope	Separation to achieve BAL-29
Class D Scrub	Flat/ Upslope	13 m
	Downslope >0 to 5°	15 m
	Downslope >5 to 10°	17 m

Low threat landscaping as per AS 3959 Clause 2.2.3.2 (f) may be incorporated into the POS cells to ensure the separation necessary to achieve BAL-29 is provided. Some POS/drainage cells may also be excludable under other clauses of AS 3959 due to the limited size of the unmanaged vegetation and distance from other areas of classified vegetation (i.e. under Clauses 2.2.3.2 [b],[c] and [d]).

A Landscape Plan will be required at future planning stages to confirm areas of classified vegetation and exclusions within POS/drainage areas.

#### 4. Interface with Mitchell Freeway reserve

The eastern cadastral boundary of the project area has a direct interface with Class D Scrub and Class A Forest vegetation within the Mitchell Freeway Reserve. Future detailed design will ensure that there will be separation sufficient to achieve BAL-29 for interfacing residential development through preparation of a BAL Contour map. This separation is anticipated to be provided by a combination of perimeter roads, low threat POS, and R-Code setbacks within individual lots. The current BHL mapping indicates that the following separation distances between habitable development and freeway vegetation will be required to achieve BAL-29:

Vegetation classification	Effective slope	Separation to achieve BAL-29
Class A Forest	Downslope >5 to 10°	33 m
Class D Scrub	Downslope >5 to 10°	17 m

The freeway reserve vegetation has currently been assigned a precautionary effective downslope of >5–10 degrees in relation to the project area, due to the undulating terrain. It should be noted this is a conservative assessment and a more detailed analysis of vegetation classification and effective slope will be carried out at subdivision stage to further refine the required width of the necessary separation distances and resultant BALs.

#### 5. Interface with classified vegetation to the southeast

The south-eastern portion of the project area is located in proximity to Class D Scrub vegetation. As per above, a BAL Contour assessment at the subdivision stage of planning will be required to demonstrate that the perimeter roads provide sufficient separation for the residential lots to achieve BAL-29. The likely separation distance required to achieve BAL-29 is:

Vegetation classification	Effective slope	Separation to achieve BAL-29
Class D Scrub	Flat/upslope	13 m

#### 6. Interface with the rail reserve

The conceptual cell layout includes residential areas having a direct interface with the rail reserve. It is expected that the rail corridor will be revegetated along the berms with scrub species, consistent with adjacent areas of rail reserve (e.g. adjacent to Butler station). Given the narrow extent of vegetation and distance between the proposed residential cell and any permanent bushfire prone vegetation in the surrounding area, this vegetation is not considered to present a significant bushfire hazard and will maintain exclusion under AS 3959 Clauses 2.2.3.2 (e) and (f), as discussed previously in Section 2.1.1.1.

#### 7. Temporary on-site vegetation hazards

As the project area contains existing bushfire prone vegetation, including Class A Forest and Class D Scrub, staged construction at subdivision stage is to consider the BAL impacts from adjacent future stages that have not yet been developed. Low threat staging buffers may need to be implemented around the current stage of development to ensure there is no residual BAL impact from temporary vegetation that has not yet been cleared or landscaped to achieve a low threat state. This requirement will be included as part of subdivision stage BMP requirements and implemented as part of the BMP compliance process via condition of subdivision approval.

#### 8. Provision of two access routes

Two access routes are required for the Central Precinct and will ultimately be delivered via primary access to Marmion Avenue in the southwest (via Bluewater Drive) and future access connections via the proposed Neighbourhood Connector to the north (through future development land) and southeast (to the future Alkimos Drive and Mitchell Freeway). Two access routes will need to be made available during staging of subdivision development.

Based on the above information, bushfire hazards within and adjacent to the project area and the associated bushfire risks are considered readily manageable through standard management responses outlined in the Guidelines and AS 3959. These responses will be factored into proposed development as early as possible at all stages of the planning process to ensure a suitable, compliant and effective bushfire management outcome is achieved for protection of future life, property and environmental assets.



## 4. Assessment against the bushfire protection criteria

### 4.1 Compliance table

An assessment against the bushfire protection criteria is provided in Table 4. Technical requirements for implementation and management of the relevant bushfire management measures are provided within the District Structure Plan Amendment BMP (Strategen-JBS&G 2018a).

**Table 4: Compliance with the bushfire protection criteria of the Guidelines**

Bushfire protection criteria	Method of compliance	Proposed bushfire management strategies	Compliance achievable at future planning stages
	Acceptable solutions		
Element 1: Location	A1.1 Development location	The post-development BHL assessment (Figure 6) identifies that on completion of development, all developable land will comprise either a Low or Moderate bushfire hazard level.	✓
Element 2: Siting and design	A2.1 Asset Protection Zone	<p>APZ setbacks may be required for lots at the interface with classified vegetation within POS/drainage, Mitchell Freeway, and on-site temporary vegetation hazards. An APZ may also be required within the northern Conservation POS cell to provide sufficient separation to the interfacing lots.</p> <p>The APZ/setback requirements will be determined/clarified at subdivision stage through a detailed review of vegetation classifications and effective slope and a BAL Contour assessment. All APZs/setbacks will need to be established and maintained in accordance with Schedule 1 of the Guidelines.</p>	✓
Element 3: Vehicular access	A3.1 Two access routes	<p>The Central Precinct will ultimately be provided with multiple access routes, as detailed below.</p> <p>Marmion Avenue is the nearest major existing access road and is located approximately 850 m southwest of the Central Precinct. Access to this arterial route will be provided primarily by Bluewater Drive which abuts the southern boundary of the Western Precinct.</p> <p>Access to the north will ultimately be provided via the Neighbourhood Connector to future residential development areas located between the project area and Pipidiny Road.</p> <p>The future Alkimos Drive, to the south of the project area, will facilitate access to Mitchell Freeway in the southeast and Marmion Avenue in the southwest.</p> <p>Two access routes are to be provided during staging of subdivision development.</p>	✓
	A3.2 Public road	Future public roads are to be constructed in accordance with the standards of the Guidelines.	✓

Bushfire protection criteria	Method of compliance	Proposed bushfire management strategies	Compliance achievable at future planning stages
	Acceptable solutions		
	A3.3 Cul-de-sac (including a dead-end-road)	The conceptual development design includes a single dead-end road adjacent to the southern boundary of proposed rail corridor drainage. This road is compliant in terms of length (approximately 60 m) and will be provided with a compliant cul-de-sac head. The cul-de-sac is considered to be unavoidable due to the residential cell and drainage reserve abutting the rail reserve and inability to continue the road along the full perimeter of the project area. Any temporary cul-de-sacs constructed during staged subdivision are to comply with the requirements of the Guidelines.	✓
	A3.4 Battle-axe	Any battle-axe lots proposed as part of future subdivision design are to comply with requirements of the Guidelines. As battle-axes should be avoided in bushfire prone areas, it is recommended that battle-axe lots are not proposed at interfaces with bushfire prone vegetation.	✓
	A3.5 Private driveway longer than 50 m	Any private driveways longer than 50 m are to be constructed in accordance with Guideline requirements. However, it is not anticipated that any of the residential lots would be of a size that would require habitable buildings to be located more than 50 m from a public road.	✓
	A3.6 Emergency access way	Based on the conceptual development design, the proposed development is not considered to require Emergency Access Ways (EAWs) to provide through access to a public road. If development and vehicular access construction is to be staged, any proposed temporary EAW is to be constructed to the relevant technical requirements of the Guidelines.	✓
	A3.7 Fire service access routes (perimeter roads)	Based on the conceptual development design, the proposed development is not considered to require fire service access routes (FSARs) to achieve access within and around the perimeter of the project area to access the predominant bushfire hazards. If development and vehicular access construction is to be staged, temporary FSARs may be required at interfaces with bushfire prone vegetation and are to be constructed to the relevant technical requirements of the Guidelines.	✓
	A3.8 Firebreak width	Each stage of development is required to comply with the requirements of A3.8 and the City of Wanneroo Firebreak Notice as amended (refer to Appendix C). During staged development, 3 m wide perimeter firebreaks are to be installed immediately inside and around all external boundaries of balance lots greater than 4000 m <sup>2</sup> in area. On completion of the development, proposed residential lots will be less than 4000 m <sup>2</sup> in area and will comprise cultivated gardens and maintained lawns. Therefore, firebreaks will not be required for these lots. POS areas containing classified vegetation that are larger than 4000 m <sup>2</sup> in area may require 3 m wide perimeter firebreaks. Public roads or FSARs bordering the perimeter of the POS areas would provide sufficient and permanent firebreaks at these boundaries. Maintained and living turfed areas may also provide a suitable alternative to formal firebreaks. Consultation with	✓

Bushfire protection criteria	Method of compliance	Proposed bushfire management strategies	Compliance achievable at future planning stages
	Acceptable solutions		
		the City is required to determine formal firebreak requirements for POS at future planning stages. Firebreaks may not be suitable within the Conservation POS for environmental reasons.	
Element 4: Water	A4.1 Reticulated areas	The proposed development will be connected to a reticulated water supply in accordance with Water Corporations Design Standard 63 requirements.	✓
	A4.2 Non-reticulated areas	The proposed development will be provided with a reticulated water supply – A4.1 applies.	N/A
	A4.3 Individual lots within non-reticulated areas (Only for use if creating 1 additional lot and cannot be applied cumulatively)	The proposed development will be provided with a reticulated water supply – A4.1 applies.	N/A

## 5. Responsibilities for implementation and management of the bushfire measures

This BMP addendum has been prepared as a strategic guide to demonstrate how development compliance will be delivered at future planning stages in accordance with the Guidelines. Aside from the preparation of future BMPs to accompany future subdivision and development applications where appropriate, there are no further items to implement, enforce or review at this strategic stage of the planning process.

Future BMPs prepared for subsequent subdivision and development applications are to meet the relevant commitments outlined in this strategic level BMP, address the relevant requirements of SPP 3.7 (i.e. Policy Measures 6.4 and 6.5 respectively) and demonstrate in detail how the proposed development will meet the relevant acceptable solutions or performance requirements of the Guidelines. Future BMPs are to include the following detailed information:

- proposed lot layout, including any public open space (POS) and drainage areas
- detailed landscaping design/plans in regard to POS and drainage areas, consistent with the provisions of this BMP
- post development classified vegetation extent and effective slope
- BAL contour map demonstrating that proposed development areas will achieve BAL-29 or lower (may require nomination of APZs)
- width and alignment of compliant APZs/setbacks
- confirmation of how bushfire management will be addressed during development staging
- proposed approach to fuel management or AS 3959 application in response to on-site POS/drainage
- vehicular access provisions, including demonstration that a minimum of two access routes will be achieved for each stage of development in accordance with Acceptable Solution A3.1
- water supply provisions with regards to reticulated water
- future requirements for any future vulnerable land uses, such as provision of a Bushfire Emergency Evacuation Plan (if relevant)
- future requirements for any future high-risk land uses, such as provision of a Bushfire Risk Management Plan (if relevant)
- provisions for notification on Title for any future lots with a rating of BAL-12.5 or greater as a condition of subdivision
- compliance requirements with the current City's annual firebreak notice as amended
- construction of Class 1, 2, 3 or associated 10a buildings in accordance with AS 3959 to the assessed BAL rating
- requirements for BMP compliance reports as conditions of subdivision
- compliance with acceptable solutions or performance principles of the bushfire protection criteria
- proposed implementation and audit program outlining all measures requiring implementation and the appropriate timing and responsibilities for implementation.

On the basis of the information contained in this BMP, Strategen-JBS&G considers the bushfire hazards within and adjacent to the project area and the associated bushfire risks are readily manageable through standard management responses outlined in the Guidelines and AS 3959. Strategen-JBS&G considers that on implementation of the proposed management measures, the project area will be able to be developed with a manageable level of bushfire risk whilst maintaining full compliance with the Guidelines and AS 3959.



## 6. References

CLE Town Planning + Design (CLE) 2021, Concept Plan, Central Precinct, Lot 6 Taronga Place, Eglinton (Plan No. 3109-242F-01), CLE Town Planning + Design, Perth.

Plan E 2021, *Landscape Masterplan, Taronga East, Eglinton, Local Structure Plan*, Plan E, Perth.

Standards Australia (SA) 2018, Australian Standard AS 3959–2018 *Construction of Buildings in Bushfire-prone Areas*, Standards Australia, Sydney.

Strategen-JBS&G 2017, *Bushfire Management Plan – East of the Beach Western Precinct Subdivision application*, Strategen-JBS&G, Perth/Bunbury.

Strategen-JBS&G 2018a, *Bushfire Management Plan – East of the Beach Central Precinct, Alkimos Eglinton District Structure Plan amendment*, Strategen-JBS&G, Perth/Bunbury.

Strategen-JBS&G 2018b, *Environmental Assessment Report – East of the Beach Central Precinct, Alkimos Eglinton District Structure Plan amendment*, Strategen-JBS&G, Perth/Bunbury.

Strategen-JBS&G 2018c, *Bushfire Management Plan – East of the Beach Eastern Precinct, Rezoning application*, Strategen-JBS&G, Perth/Bunbury.

Strategen-JBS&G 2021, *Environmental Assessment Report – East of the Beach Central Precinct, Local Structure Plan*, Strategen-JBS&G, Perth/Bunbury.

Western Australian Planning Commission (WAPC) 2015, *State Planning Policy 3.7 Planning in Bushfire Prone Areas*, Western Australian Planning Commission, Perth.

Western Australian Planning Commission (WAPC) 2017, *Guidelines for Planning in Bushfire Prone Areas, Version 1.3 August 2017*, Western Australian Planning Commission, Perth.

## 7. Limitations

### Scope of services

This report ("the report") has been prepared by Strategen-JBS&G in accordance with the scope of services set out in the contract, or as otherwise agreed, between the Client and Strategen-JBS&G. In some circumstances, a range of factors such as time, budget, access and/or site disturbance constraints may have limited the scope of services. This report is strictly limited to the matters stated in it and is not to be read as extending, by implication, to any other matter in connection with the matters addressed in it.

### Reliance on data

In preparing the report, Strategen-JBS&G has relied upon data and other information provided by the Client and other individuals and organisations, most of which are referred to in the report ("the data"). Except as otherwise expressly stated in the report, Strategen-JBS&G has not verified the accuracy or completeness of the data. To the extent that the statements, opinions, facts, information, conclusions and/or recommendations in the report ("conclusions") are based in whole or part on the data, those conclusions are contingent upon the accuracy and completeness of the data. Strategen-JBS&G has also not attempted to determine whether any material matter has been omitted from the data. Strategen-JBS&G will not be liable in relation to incorrect conclusions should any data, information or condition be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed to Strategen-JBS&G. The making of any assumption does not imply that Strategen-JBS&G has made any enquiry to verify the correctness of that assumption.

The report is based on conditions encountered and information received at the time of preparation of this report or the time that site investigations were carried out. Strategen-JBS&G disclaims responsibility for any changes that may have occurred after this time. This report and any legal issues arising from it are governed by and construed in accordance with the law of Western Australia as at the date of this report.

### Environmental conclusions

Within the limitations imposed by the scope of services, the preparation of this report has been undertaken and performed in a professional manner, in accordance with generally accepted environmental consulting practices. No other warranty, whether express or implied, is made.

The advice herein relates only to this project and all results conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose.

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## Appendix A Landscape Masterplan (Plan E 2021)





**TARONGA EAST, EGLINTON**

SITE PLAN

**LOCAL STRUCTURE PLAN - CONSOLIDATED MASTERPLAN**

AUGUST 2021

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**POS 01 - CONSERVATION AND DRAINAGE**

- TOTAL AREA 20,350m<sup>2</sup>
  - ESTABLISHMENT IRRIGATION ALLOWANCE: 30% ALLOWANCE TO VERGES AND BATTERS TO A MAXIMUM AREA OF 6105M<sup>2</sup>.
  - LONG TERM IRRIGATION ALLOWANCE : NIL NON-IRRIGATED SPACE
- POS TO INCLUDE RETAINED VEGETATION (CONTRIBUTING TO THE 3% REQUIREMENT), REVEGETATION PLANTING TO TIE INTO THE ADJACENT CONSERVATION POS, MEANDERING PATHWAYS, SHELTER, SEATING OPPORTUNITY WITH SCREENING PLANTING TO PUMP STATION. ALLOWANCE HAS BEEN MADE FOR 1:1, 1:5 AND 1:100 YEAR DRAINAGE EVENTS.

**POS 02 - POCKET PARK**

- TOTAL AREA 3,100m<sup>2</sup>.
  - ESTABLISHMENT IRRIGATION ALLOWANCE FOR TREES AND PLANTING: 755m<sup>2</sup>
  - PERMANENT IRRIGATION ALLOWANCE FOR TURF: 950m<sup>2</sup>, 30% OF AREA
- POS WILL INCLUDE A FOCAL ART FEATURE LOCATED TO CORNER OF PARK, NEW SHADE TREES, TURF AREAS AND NATIVE PLANTING. FORMAL AXIAL PATHWAY AND ARBOR STRUCTURE PROVIDE PASSIVE RECREATIONAL AMENITY. FORMAL WALLED DRAINAGE BASIN FOR UP TO THE 1:5 EVENT ALSO INCLUDED TAKING DRAINAGE FROM THE CENTRAL CATCHMENT. TURF AREA WILL TAKE THE 100 YR EVENT DRAINAGE.

**03 POS 03 - LOCAL PARK**

- TOTAL AREA 9,395m<sup>2</sup>.
  - ESTABLISHMENT IRRIGATION ALLOWANCE FOR TREES AND PLANTING: 2,250m<sup>2</sup>
  - PERMANENT IRRIGATION ALLOWANCE FOR TURF: 2,615m<sup>2</sup>, 28% OF AREA
- CENTRAL POS TO PROVIDE A FOCAL ACTIVE SPACE FOR THE ESTATE. POS AMENITY TO INCLUDE MULTI-USE TURF AREA, NATURE PLAY ADVENTURE PLAYGROUND, MULTI USE HARD COURTS/ YOUTH SPACE WITH SEATING AND SHADE STRUCTURE NODES. INTENTION FOR EXISTING VEGETATION AND 'WINDROW' TREES TO BE RETAINED (PENDING DETAILED ENGINEERING) WITH A PEDESTRIAN PATH NETWORK WEAVING THROUGH THE PARK AND EXISTING BUSHLAND.

**04 POS 04 - LOCAL PARK WITH DRAINAGE**

- TOTAL AREA 6,515m<sup>2</sup>.
  - ESTABLISHMENT IRRIGATION ALLOWANCE FOR TREES AND PLANTING: 1,955m<sup>2</sup>
  - LONG TERM IRRIGATION ALLOWANCE : NIL NON-IRRIGATED SPACE
- POS TO INCLUDE DAMPLAND PLANTING FORMING A BUFFER TO THE NORTH & FUTURE FREEWAY EXTENTION. PERIPHERAL PATH TO CONNECT TO GREATER PEDESTRIAN NETWORK WITH POTENTIAL EXERCISE NODES. ALLOWANCE FOR 1:1, 1:5 AND 1:100 YEAR DRAINAGE EVENTS. SEAT NODES AND SHADE TREES ALSO PROVIDED.

**05 STREET TREES & BUFFER PLANTING**

- TOTAL AREA 5,7620m<sup>2</sup>.
  - ESTABLISHMENT IRRIGATION ALLOWANCE FOR TREES AND PLANTING: 5,7620m<sup>2</sup>.
- STREET TREES AND UNDERPLANTING TO FORM VEGETATED BUFFER AND INTERFACE TO FUTURE FREEWAY EXTENSION AND LOW PLANTING TO ENGINEERED BATTERS. POTENTIAL VERGE SWALES TO BE INCLUDED WHERE POSSIBLE. REFER SHEET M3.101 & M3.102 FOR SPECIES LIST.

**06 STREET TREES**

- STREET TREES PROVIDED AS PART OF FRONT YARD PACKAGES BY DEVELOPER. SPECIES PROPOSED TO INCREASE SHADE CANOPY TO STREETS AND REDUCE URBAN HEAT ISLAND EFFECT. SPECIES TO BE INSTALLED AS PER CITY OF WANNEROO STREET TREE PREFERRED SPECIES, REFER SHEET M3.101 FOR PROPOSED SPECIES.

**LEGEND**

- PATHWAY
- ⊠ SHADE STRUCTURE
- TURF (IRRIGATED)
- GARDEN BED
- ⊕ PROPOSED EXISTING TREES TO RETAIN (FROM TREE SURVEY)
- POS TREES
- STREET TREES (INSTALLED BY THE DEVELOPER, IRRIGATED FOR ESTABLISHMENT ONLY)
- PROPOSED EXISTING VEGETATION TO BE RETAINED
- ▭ INDICATIVE 1:1 YEAR TOP WATER LEVEL
- ▭ INDICATIVE 1:5 YEAR TOP WATER LEVEL
- PROPOSED BORE LOCATION





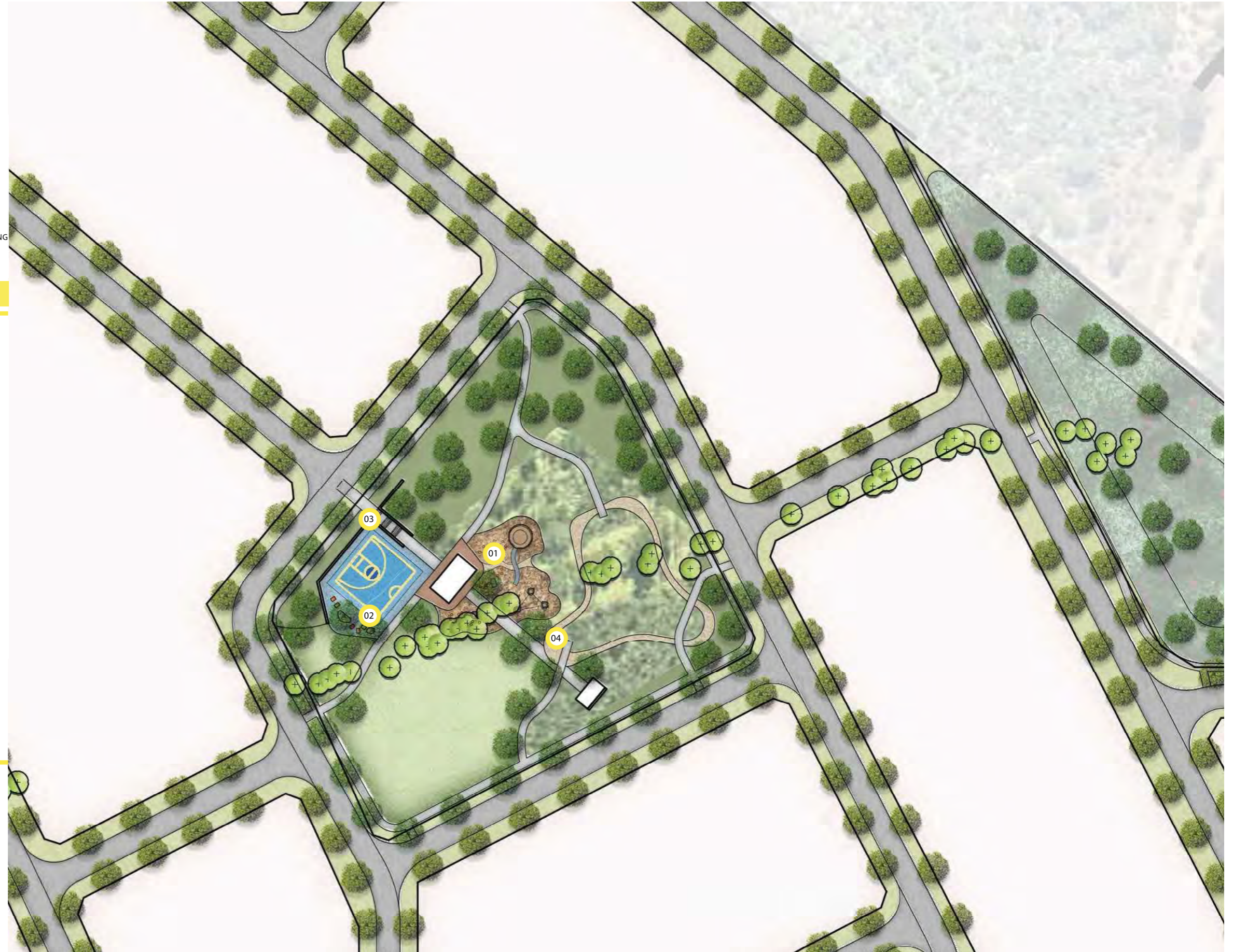
**POS 03 - LOCAL PARK**

- TOTAL AREA 9,395m<sup>2</sup>.
- ESTABLISHMENT IRRIGATION ALLOWANCE FOR TREES AND PLANTING: 2,250m<sup>2</sup>
- PERMANENT IRRIGATION ALLOWANCE FOR TURF: 2,615m<sup>2</sup>, 28% OF AREA

CENTRAL POS TO PROVIDE A FOCAL ACTIVE SPACE FOR THE ESTATE. POS AMENITY TO INCLUDE MULTI-USE TURF AREA, NATURE PLAY ADVENTURE PLAYGROUND, MULTI USE HARD COURTS/ YOUTH SPACE WITH SEATING AND SHADE STRUCTURE NODES. INTENTION FOR EXISTING VEGETATION AND 'WINDROW' TREES TO BE RETAINED (PENDING DETAILED ENGINEERING) WITH A PEDESTRIAN PATH NETWORK WEAVING THROUGH THE PARK AND EXISTING BUSHLAND.

**LEGEND**

-  CONCRETE PATHWAYS
-  SHADE STRUCTURE
-  TURF (IRRIGATED), MULTI-USE KICK-ABOUT AND PICNIC SPACE
-  NATIVE & WATERWISE GARDEN BED
-  PROPOSED EXISTING TREES TO RETAIN (FROM TREE SURVEY)
-  POS TREES TO PROVIDE SHADE
-  STREET TREES (INSTALLED BY THE DEVELOPER, IRRIGATED FOR ESTABLISHMENT ONLY)
-  PROPOSED EXISTING VEGETATION TO BE RETAINED, PROPOSED PATHWAYS TO BE LOCATED ALONG ANY DEGRADED AREAS.
-  01 NATURE PLAY ADVENTURE PLAYGROUND
-  02 MULTI USE HARD COURTS/ YOUTH SPACE WITH SEATING
-  03 STEPS TO ASSIST WITH LEVEL CHANGE
-  04 WALK TRAIL WEAVING THROUGH EXISTING BUSHLAND.



**TARONGA EAST, EGLINTON**

LANDSCAPE MASTERPLAN

**LOCAL STRUCTURE PLAN - LANDSCAPE MASTERPLAN**

AUGUST 2021

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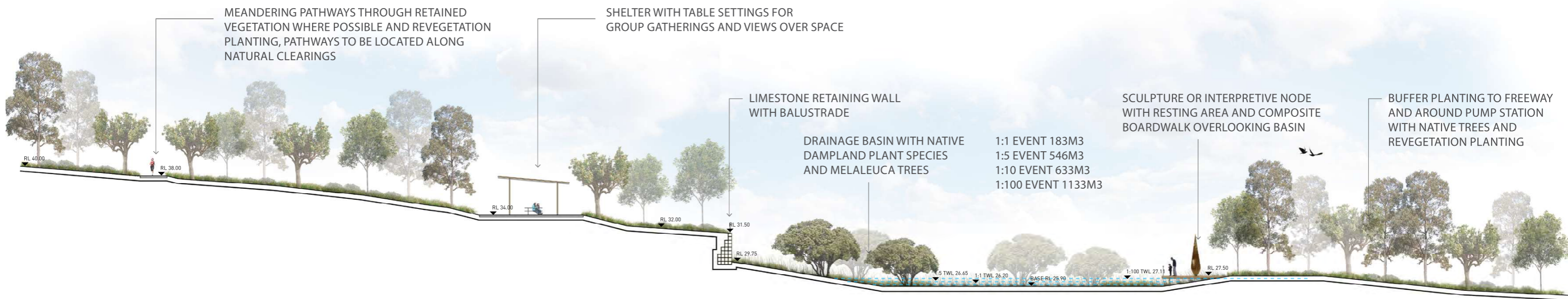
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SECTION A-A POS 1

TARONGA EAST, EGLINTON

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LOCAL STRUCTURE PLAN - LANDSCAPE SECTIONS

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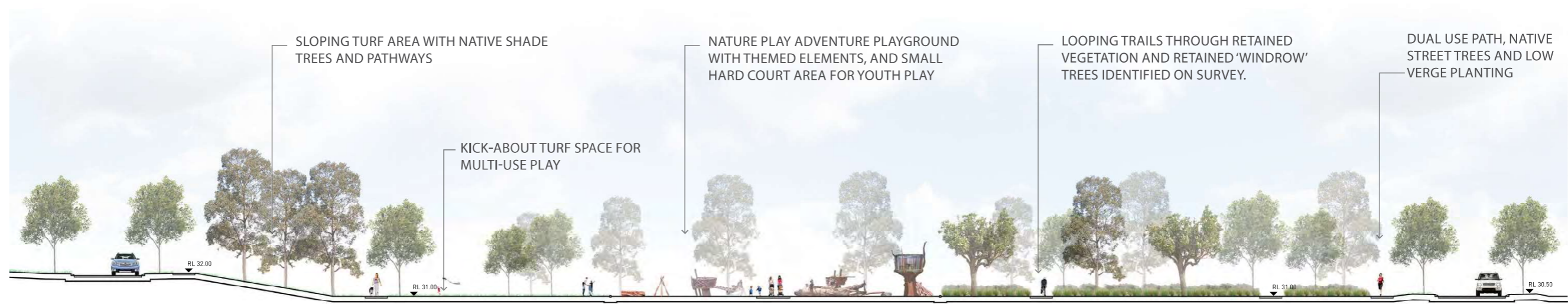


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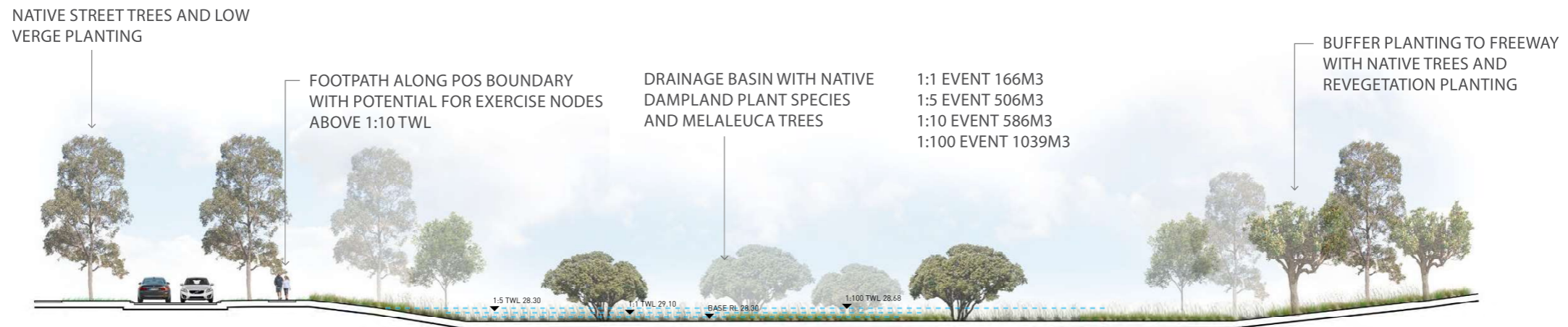
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SECTION B-B POS 3



SECTION C-C POS 4

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PROPOSED STREET TREES



AGONIS FLEXUOSA



CORYMBIA FICIFOLIA



CALLISTEMON VIMINALIS



EUCALYPTUS TODTIANA

PROPOSED POS TREES



AGONIS FLEXUOSA



ALLOCASUARINA FRASERIANA



BANKSIA ATTENUATA



CORYMBIA CALOPHYLLA



CORYMBIA MACULATA



EUCALYPTUS GOMPHOCEPHALA



EUCALYPTUS RUDIS



MELALEUCA LEUCADENDRA

TARONGA EAST, EGLINTON

PREPARED FOR URBAN QUARTER

LOCAL STRUCTURE PLAN - PLANTING PALETTE

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POS SPECIES - DRAINAGE BASINS 1:1 AREAS



BAUMEA ACUTA



FICINIA NODOSA



JUNCUS KRAUSSII



LEPIDOSPERMA GLADIATUM



LOMANDRA MICRANTHA



MEEBOLDA CANUS

POS SHRUB SPECIES - LOW



ACACIA SALIGNA PROSTRATE



BANKSIA NIVEA



CARPOBROTUS VIRESCENS



CALOTHAMNUS QUADRIFIDUS  
'EMERALD CARPET'



CONOSTYLIS CANDICANS



DIANELLA REVOLUTA



LEUCOPHYTA BROWNII



GREVILLEA THELEMANIANA



MYOPORUM INSULARE  
'COASTAL CARPET'



PATTERSONIA OCCIDENTALIS



SCAEVOLA AEMULA



WESTRINGIA DAMPIERI



## POS SHRUB SPECIES

---



BANKSIA BIRTHDAY CANDLES



CALOTHAMNUS QUADRIFIDUS



CALLISTEMON PERTH PINK



CALLISTEMON LITTLE JOHN



GREVILLEA NED KELLY



GREVILLEA APRICOT GLOW



HAKEA LAURINA



KENNEDIA COCCINEA



MELALEUCA NESOPHILA



MELALEUCA PULCHELLA



PITOSPORUM MISS MUFFET



SCAEVOLA CRASSIFOLA

TARONGA EAST, EGLINTON

PREPARED FOR URBAN QUARTER

LOCAL STRUCTURE PLAN - PLANTING PALETTE

AUGUST 2021

JOB NO. 1612805

M3.103

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## REVEGETATION SHRUB SPECIES

---



ACACIA SALIGNA



BANKSIA MENZEISSII



CALOTHAMNUS SANGUINES



DARWINEA CITRIODORA



EUCALYPTUS UTILIS



GREVILLEA BIPINNATIFIDA



GREVILLEA BRONZE RAMBLER



HAKEA LISSIOCARPA



HAKEA TRIFURCATA



JACKSONIA FURCELLATA



MELALEUCA HUEGELII



RICINOCARPA CYANESCENS



## Appendix B Vegetation plot photos and description





Photo ID: 1a



Photo ID: 1b



Photo ID: 1c

<b>Plot number</b>		Plot 1
<b>Vegetation classification</b>	<b>Pre-development</b>	Class D Scrub
	<b>Post-development</b>	Class D Scrub
<b>Description / justification</b>		Coastal scrub and shrubland, less than 6m height. Vegetation has a continuous horizontal and vertical fuel structure.





Photo ID: 2a (in right of photo)



Photo ID: 2b

Plot number		Plot 2
Vegetation classification	Pre-development	Class D Scrub
	Post-development	Class D Scrub
Description / justification		Coastal scrub and shrubland, less than 6m height. Vegetation has a continuous horizontal and vertical fuel structure.





Photo ID: 3a (background)

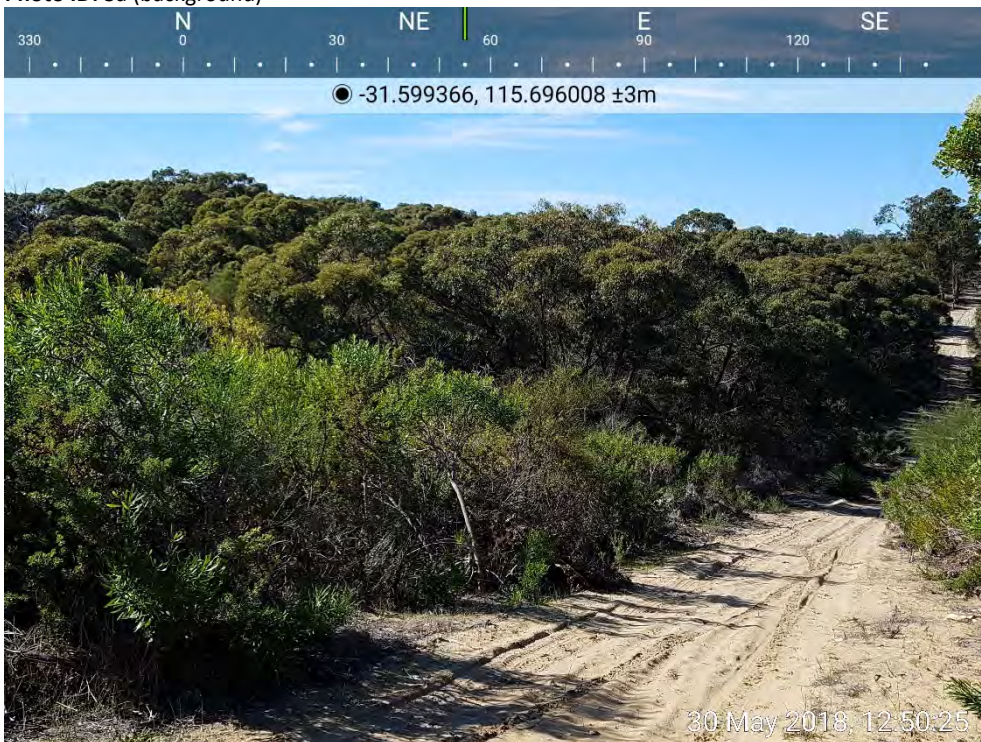


Photo ID: 3b (background)

<b>Plot number</b>		Plot 3
<b>Vegetation classification</b>	<b>Pre-development</b>	Class A Forest
	<b>Post-development</b>	Class A Forest
<b>Description / justification</b>		Vegetation has a tiered structure with a dense scrub understorey and eucalypt canopy with foliage cover exceeding 30%. The vegetation will be reduced to low threat within the bounds of the subject lot to accommodate future urban development. It is expected that this vegetation will be largely removed from within the Mitchell Freeway reserve on future construction of the road.





**Photo ID: 4a (Vegetation has now been cleared)**



**Photo ID: 4b (Vegetation has now been cleared)**



**Photo ID: 4c (Vegetation has now been cleared)**



**Photo ID: 4d**



**Photo ID: 4e**



**Photo ID: 4f (Vegetation has now been cleared along southern perimeter of project area)**

<b>Plot number</b>		Plot 4
<b>Vegetation classification</b>	<b>Pre-development</b>	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])
	<b>Post-development</b>	Excluded – Non-vegetated and Low threat (Clause 2.2.3.2 [e] and [f])
<b>Description / justification</b>		Portions of the assessment area that have been recently cleared to facilitate construction of the Western Precinct; adjacent rail corridor; cleared areas within the north of the project area and developed land to the south (Shorehaven and Northshore Christian Grammar School). The photos above include areas that contained vegetation during the 2018 assessment but have since been cleared. A revised site inspection at the subdivision stage of planning will include photos of these now low-threat areas.



## Appendix C Local Government Firebreak Notice



# IMPORTANT FIRE MITIGATION NOTICE

**Fire mitigation measures must be in place by 1 NOVEMBER and maintained until 30 APRIL EACH YEAR.**

This is a requirement under the Bush Fires Act 1954 Section 33.

Failure to comply with this Notice may incur penalties of up to \$5,000 and the works required by this Notice will be carried out at the expense of the owner/occupier.

## Fire management requirements for land **LESS** than 4000sqm

- Maintain grasses and inflammable materials with the exception of living trees on the entire property to a height of no more than 50 millimetres. The entire property is required to be maintained below 50 millimetres from 1 November each year until 30 April the following year.

**OR**

- A 3 metre wide trafficable firebreak as close as possible to all external boundaries of the property must be installed by 1 November each year and maintained until 30 April the following year.
  - If it is not possible to install the firebreak adjacent to the external boundary of the property due to naturally occurring obstacles, it is acceptable to install the firebreak around the obstacle. If this requires the firebreak to be greater than 5 metres away from the external boundary, a firebreak variation is required.
  - Ensure a minimum vertical clearance of 4 metres is maintained along the firebreaks to enable vehicles to drive along the firebreaks without access being obstructed.
- Where a property is affected by an approved bushfire management plan, property owners must still comply with all requirements in this Notice and with any additional requirements outlined within that plan.

## Fire management requirements for land **GREATER** than 4000sqm

- A 3 metre wide trafficable firebreak as close as possible to all external boundaries of the property must be installed by 1 November each year and maintained until 30 April the following year.
  - If it is not possible to install the firebreak adjacent to the external boundary of the property due to naturally occurring obstacles, it is acceptable to install the firebreak around the obstacle. If this requires the firebreak to be greater than 5 metres away from the external boundary, a firebreak variation is required.
  - Ensure a minimum vertical clearance of 4 metres is maintained along the firebreaks to enable vehicles to drive along the firebreaks without access being obstructed.
- Install and maintain a 20 metre bare earth area around all hay stacks and/or fuel dumps.
- Where a property is affected by an approved bushfire management plan, property owners must still comply with all requirements in this Notice and with any additional requirements outlined within that plan.



## All vacant land **GREATER** than 4000sqm

- A 3 metre wide trafficable firebreak as close as possible to all external boundaries of the property must be installed by 1 November each year and maintained until 30 April the following year.
- Ensure a minimum vertical clearance of 4 metres is maintained along the firebreaks to ensure vehicles can drive along the firebreaks without being impeded by tree branches.
- If the land is an area of 50,000sqm (5 hectares) or greater, the grass must be maintained on the land to a height no greater than 50 millimetres for a distance of 10 metres from any firebreak.

## Frequently asked questions

### I live in a residential area, does this notice apply to me?

Yes. All City of Wanneroo property owners must comply with the Bush Fires Act 1954.

Please refer overleaf for fire management requirements to be in place by 1 November to ensure your property is compliant.

Most properties under 1000sqm will automatically comply if gardens are maintained.

### How will inspections be carried out?

Inspections will be carried out by trained Fire Control Officers who are authorised to enter a property by foot, vehicle, quad bike and /or drone.

### Do I need a Bushfire Survival Plan?

If you live in, on or near bushland, you are at risk from a bushfire and developing a bushfire survival plan is critical.

Visit the Department of Fire and Emergency Services website for information on how to develop a plan for your property [dfes.wa.gov.au](http://dfes.wa.gov.au)

### I am concerned my neighbour's property is not compliant, what can I do?

All properties are required to be compliant by 1 November.

If you think your neighbour's property does not comply with the requirements as outlined in this Notice, please contact the Community Safety and Emergency Management team on **9405 5000**.

### I own a vacant lot, do I need a firebreak?

Yes. A 3 metre wide trafficable firebreak as close as possible to all external boundaries of the property must be installed by 1 November each year and maintained until 30 April the following year.

### I am unable to meet the requirements outlined, what should I do?

If it is considered impracticable for any reason to implement any of the requirements of this Notice, an application for a firebreak variation must be made to the City of Wanneroo by no later than 18 October of each year.

If permission is not granted, the requirements of this Notice must be complied with.

Visit the City's website [wanneroo.wa.gov.au/firebreakvariation](http://wanneroo.wa.gov.au/firebreakvariation) to apply for a variation.

### Where can I learn more about this Notice and bushfire management?

Visit the City's website [wanneroo.wa.gov.au/fireinformation](http://wanneroo.wa.gov.au/fireinformation) to learn more.

**Please note**, in addition to the requirements of this Notice, if a City of Wanneroo Fire Control Officer considers further works are necessary to reduce the risk of bushfire, Landowners will be notified via letter to the address shown on the City of Wanneroo rates record for the relevant land.



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**Document Status**

Report version	Rev No.	Purpose	Author	Reviewed and Approved for Issue	
				Name	Date
Draft Report	Rev A	For client review	Louisa Robertson (BPAD 36748, Level 3)	Zac Cockerill (BPAD 37803, Level 2)	18 June 2021
Final Report	Rev 0	Issued for use to support the Structure Plan application	Louisa Robertson (BPAD 36748, Level 3)	Zac Cockerill (BPAD 37803, Level 2)	2 July 2021
Final Report	Rev 1	Concept Plan updated; Issued for use to support the Structure Plan application	Louisa Robertson (BPAD 36748, Level 3)	Louisa Robertson (BPAD 36748, Level 3)	4 August 2021
<b>Final Report</b>	<b>Rev 2</b>	<b>Revised as per Schedule of Modifications</b>	<b>Louisa Robertson (BPAD 36748, Level 3)</b>	<b>Louisa Robertson (BPAD 36748, Level 3)</b>	<b>22 August 2022</b>



