

# Bushfire management plan/Statement addressing the Bushfire Protection Criteria coversheet

Site address:

Site visit: Yes  No

Date of site visit (if applicable): Day  Month  Year

Report author or reviewer:

WA BPAD accreditation level (please circle):

Not accredited  Level 1 BAL assessor  Level 2 practitioner  Level 3 practitioner

If accredited please provide the following.

BPAD accreditation number:  Accreditation expiry: Month  Year

Bushfire management plan version number:

Bushfire management plan date: Day  Month  Year

Client/business name:

	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)?		
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 bushfire protection criteria elements)?		

Is the proposal any of the following (see <a href="#">SPP 3.7 for definitions</a> )?	Yes	No
Unavoidable development (in BAL-40 or BAL-FZ)		
Strategic planning proposal (including rezoning applications)		
High risk land-use		
Vulnerable land-use		

None of the above

**Note:** Only if one (or more) of the above answers in the tables is yes should the decision maker (e.g. local government or the WAPC) refer the proposal to DFES for comment.

Why has it been given one of the above listed classifications (E.g. Considered vulnerable land-use as the development is for accommodation of the elderly, etc.)?

The information provided within this bushfire management plan to the best of my knowledge is true and correct:

Signature of report author or reviewer



Date



# Bushfire Management Plan

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## ASP 60 Amendment (Mixed Use – Commercial)

Lots 46, 445, and 2241 Marmion Avenue,  
Alkimos

City of Wanneroo



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Prepared For:  
**Northern Corridor Developments Ltd**  
30 November 2020  
Version 2.0

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## Document Information

Prepared for: Northern Corridor Developments Ltd  
Project Name: ASP 60 Amendment (Mixed Use – Commercial)  
Address: Lots 46, 445, and 2241 Marmion Avenue, Alkimos  
Prepared by: Rohan Carboon  
Dr Karen Brown  
Bushfire Safety Consulting Pty Ltd

I hereby declare that I am a BPAD accredited bushfire practitioner.	
Accreditation No.	23160
Signature	
Date	30/11/2020



## Document Control

Bushfire Management Plan – ASP 60 Amendment (Mixed Use – Commercial)			
REPORT VERSION	PURPOSE	AUTHOR/REVIEWER AND ACCREDITATION DETAILS	DATE SUBMITTED
V1	Draft for Review	Dr Karen Brown Level 1 (BPAD 48364) Rohan Carboon Level 3 (BPAD 32160)	26/11/2020
V2	Final for submission	Rohan Carboon Level 3 (BPAD 32160)	30/11/2020

**Front cover photo:** Rezoning Proposal

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## EXECUTIVE SUMMARY

This Bushfire Management Plan (BMP) has been developed for Lots 46, 445 and 2241 Marmion Ave, Alkimos ('the site') to assess bushfire hazard levels on and surrounding the site to determine if it can accommodate land intensification consistent with commercial development. It has been prepared to support a re-zoning application for the lots from the current zoning of 'Mixed Use' to 'Commercial' development under the City of Wanneroo Adopted Structure Plan (ASP) No. 60. A BMP was previously undertaken for the development approval of a Residential Building Sales Office on Lot 445 for which change of zoning is sought, as well as a previous development stage at this site which incorporated Lot 2241. A new BMP is now required for the proposed ASP amendment and change of zoning for these lots.

Commercial and residential development exists to the east of the lots and there is development of residential areas currently occurring on land to the west and north of Lot 2241. There is a Public Open Space (POS) area containing native vegetation in development to the west, however it is less than 1 hectare and is separated from classified vegetation by a minimum of 100 metres, so is therefore classified as Low Threat under Exemption Clause 2.2.3.2 (b). An area of Class D Scrub exists to the south and south-west of the subject lots. A permit for future clearing of this existing native vegetation to the south of the lots has been obtained by the developer and will result in a LOW bushfire hazard rating for all lots for which ASP amendment is sought, once future development is complete. These elements significantly mitigate bushfire threat to the site.

Bushfire hazard levels are currently moderate to extreme on the site and surrounding area, predominately due to the proximity of existing Class D Scrub to the south-west of the lots. At post development, the site is exposed to low bushfire hazard due to the approved removal of this vegetation to the south-west by the developer. Areas of native vegetation present on Lot 46, and in a drainage reserve to the south of the site, are less than 1 hectare in size and will be greater than 100 metres from other classified vegetation and each other after the planned clearing. They will therefore be classified as Low Threat vegetation (Exclusion Clause 2.2.3.2(b)) once clearing to the south-west has been completed. Marmion Avenue road reserves provides separation from the vegetation in Lot 46 to Lots 445 and 2241, which further reduces the risk of bushfire to these lots prior to the clearing and development of Lot 46.

Post-development internal Asset Protection Zones (APZs) for the lots are unlikely to be required as none have bushfire hazard immediately adjacent to them, however this can be assessed and provided at future planning stages if required. Future buildings can be exposed to BAL ratings of BAL-29 or lower.

The area is reticulated and there is good vehicular access.

The BMP addresses Policy measure 6.2, 6.3 and 6.9 of SPP 3.7 because it demonstrates that compliance with the Bushfire Protection Criteria in the Guidelines for Planning in Bushfire Prone areas can achieve compliance at subsequent planning stages.

A further, more comprehensive Bushfire Management Plan complying with these policy clauses is required at future planning stages if the lots are still within the declared bushfire prone area.

## TABLE OF CONTENTS

EXECUTIVE SUMMARY .....	ii
1 PROPOSAL DETAILS.....	1
1.1 Application of SPP 3.7 .....	4
1.2 Guidelines for Planning in Bushfire Prone Areas V1.3 (2017) .....	4
2 ENVIRONMENTAL CONSIDERATIONS .....	6
2.1 Native Vegetation – modification and clearing .....	6
2.2 Revegetation/Landscape Plans.....	6
3 BUSHFIRE ASSESSMENT RESULTS.....	6
3.1 Assessment Inputs.....	6
3.1.1 Vegetation Classification.....	7
3.1.2 Effective Slope .....	11
3.2 Assessment Outputs.....	14
4 IDENTIFICATION OF BUSHFIRE HAZARD ISSUES .....	14
5 ASSESSMENT AGAINST THE BUSHFIRE PROTECTION CRITERIA.....	17
5.1 Siting and Design of Development .....	17
5.2 Vehicular Access .....	18
5.3 Water.....	18
6 RESPONSIBILITIES FOR IMPLEMENTATION AND MANAGEMENT OF THE BUSHFIRE MEASURES.....	20
7 CONCLUSION .....	21
REFERENCES .....	22

## TABLE OF TABLES

Table 1: Policy measures.....	4
Table 2: Summary of vegetation type and effective slope .....	14
Table 3: AS 3959. BAL ratings, heat flux thresholds and associated construction standard .....	17
Table 4: Compliance table.....	19
Table 5: Responsibility for bushfire measures .....	20

## TABLE OF FIGURES

Figure 1: Rezoning Proposal .....	2
Figure 2: Site Location .....	3
Figure 3: Bushfire Prone Areas .....	5
Figure 4: Pre-development Vegetation Classification Map .....	12
Figure 5: Post-development Vegetation Classification Map .....	13
Figure 6: Pre-development Bushfire Hazard Assessment .....	15
Figure 7: Post Development Bushfire Hazard Level .....	16
Figure 8: Spatial Representation of the Bushfire Management Strategies.....	19

## TABLE OF APPENDICES

Appendix 1: Asset Protection Zone Standards
Appendix 2: Vehicular Access Technical Requirements
Appendix 3: City of Wanneroo Firebreak and Fuel Load Notice
Appendix 4: Planned clearing of vegetation surrounding the site
Appendix 5: Additional planned clearing of vegetation surrounding the site
Appendix 6: Draft landscape plan for POS
Appendix 7: Development Approval for vegetation clearing

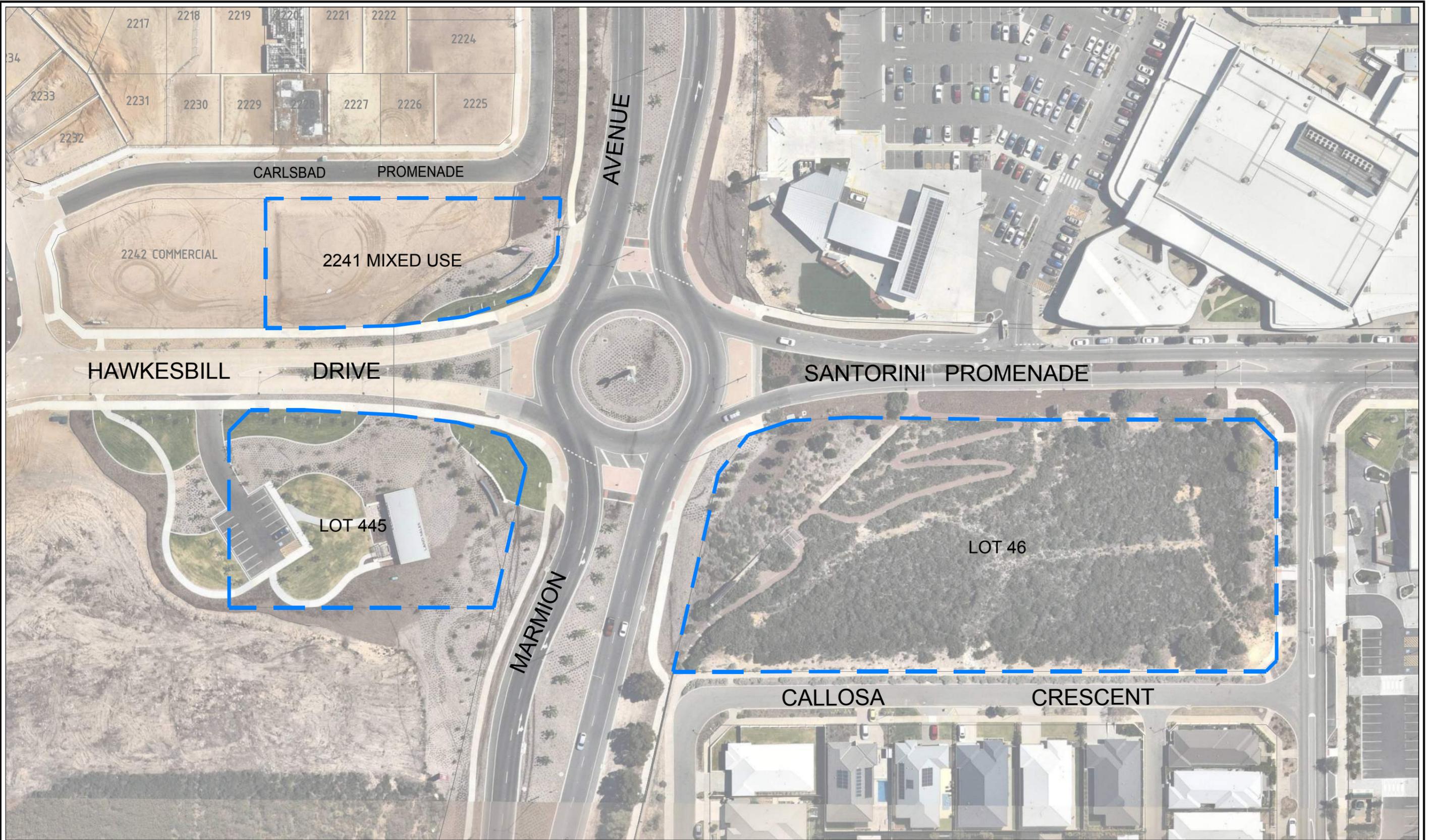
## 1 PROPOSAL DETAILS

The proposal is for a change of zoning under the City of Wanneroo Adopted Structure Plan (ASP) 60, from 'Mixed use' to 'Commercial' for Lots 46, 445, and 2241 Marmion Avenue, Alkimos (see Figure 1 for lot locations). Lot 46 is currently vacant and contains remnant native vegetation, while Lot 2241 has been cleared and is also vacant. Lot 445 has been developed and contains a sales office and surrounding landscaping.

All lots are adjacent to Marmion Avenue and front on to either Hawksbill Drive or Santorini Promenade. They are surrounded by developed commercial and residential land to the east and cleared land that will be developed into residential housing in the near future to the north, west and south (Figure 2). A small area of native vegetation is present in a Public Open Space (POS) to the west and is classified as Low Threat Vegetation under Exemption Clause 2.2.3.2 (b) as it is less than one hectare in size and further than 100 metres from other classified vegetation (see Appendix 6). Further to the south, existing vegetation in the immediate 100 metre zone around the lots will be permanently removed prior to the development of the lots with clearing permits already granted (See Appendices 4, 5, and 7).

This Bushfire Management Plan (BMP) has been prepared to support the ASP amendment. It addresses future subdivision conditions by providing responses to the performance criteria in the *Guidelines for Planning in Bushfire Prone Areas* V1.3 (WAPC et.al. 2017). A BMP was previously undertaken for the development approval of a Sales Office on Lot 445 for which change of zoning is sought, as well as a previous development stage which incorporated Lot 2241.

If there is a bushfire within or near the site, implementing this BMP will reduce the threat to residents, property and emergency response personnel.



Location details: Lots 46, 445 & 2241 Marmion Avenue  
Alkimos

Assessment date: November, 2020

Prepared by: Bushfire Safety Consulting

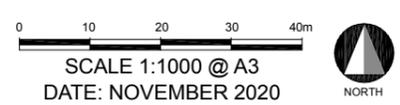
Accreditation level: Level 3 BPAD Practitioner

Accreditation number: BPAD 23160

Accreditation expiry date: 31st January, 2021

Date aerial photo: October 2020

### FIGURE 1 REZONING PROPOSAL



**LEGEND**  
 SUBJECT LAND

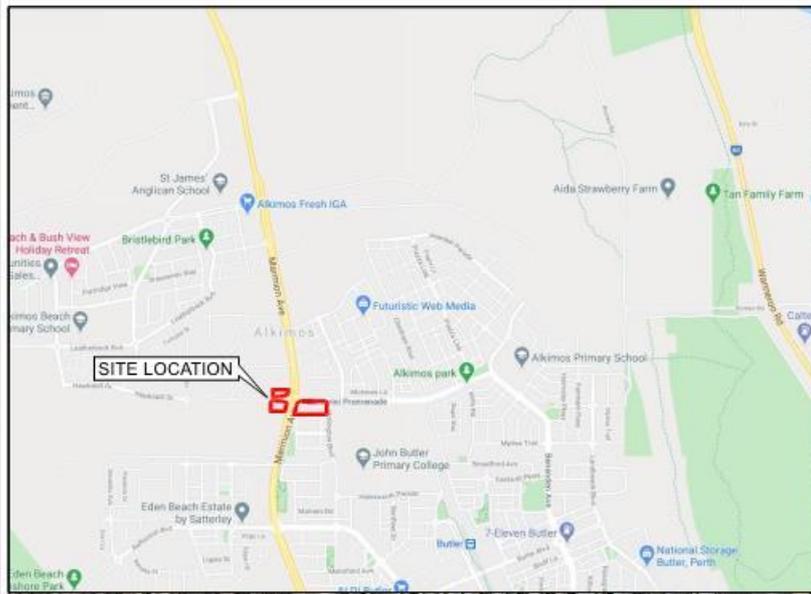
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Location details: Lots 46, 445 & 2241 Marmion Avenue  
Alkimos

Assessment date: August, 2020

Prepared by: Bushfire Safety Consulting

Accreditation level: Level 3 BPAD Practitioner

Accreditation number: BPAD 23160

Accreditation expiry date: 31st January, 2021

Date aerial photo: October 2020

**FIGURE 2**  
**SITE LOCATION**



LEGEND:  
 SUBJECT LAND

SOURCE OF PHOTOGRAPHY: NEARMAP



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## Policy and Guidelines

### 1.1 Application of SPP 3.7

The *State Planning Policy No. 3.7: Planning in Bushfire Prone Areas (SPP 3.7)* provides the foundation for land use planning to address bushfire risk management in Western Australia. It is used to inform and guide decision makers, referral agencies and land owners/proponents to help achieve acceptable bushfire protection outcomes.

The policy contains objectives and policy measures as well as reference to the Bushfire Protection Criteria as outlined in the Guidelines for Planning in Bushfire Prone Areas (WAPC 2017 V1.3; the Guidelines). The policy applies to this ASP amendment because the site is located in a designated bushfire prone area on the WA Map of Bushfire Prone Areas (Figure 3).

The following policy measures will need to comply with SPP 3.7:

*Table 1. Policy measures*

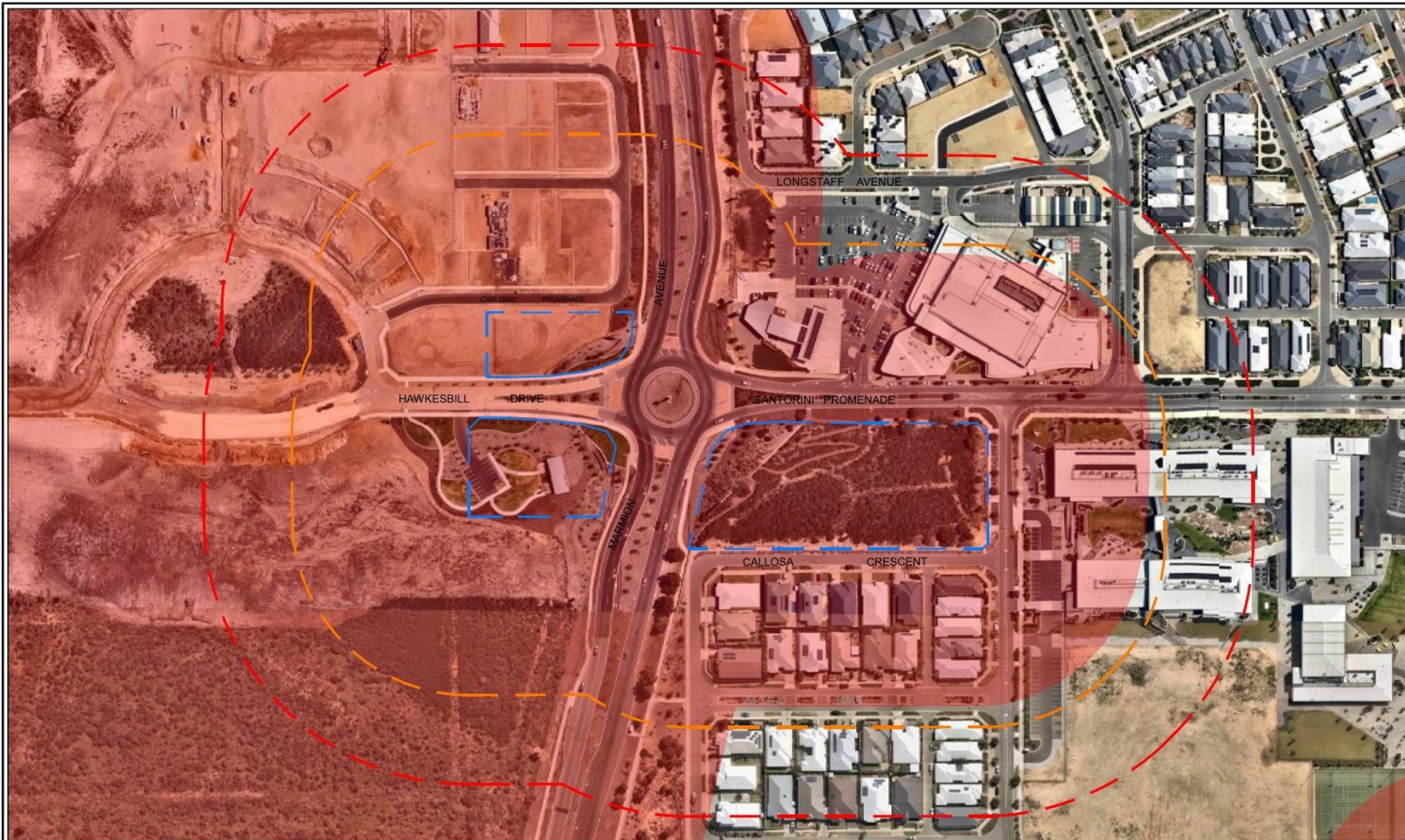
<b>Policy Measure 6.2</b>	The ASP amendment is located within a designated bushfire prone area (Figure 3) and will have a Bushfire Hazard Level above low and a Bushfire Attack Level rating above BAL-LOW.
<b>Policy Measure 6.3</b>	Policy 6.3 applies meaning that any strategic planning proposal be accompanied by: <ul style="list-style-type: none"> <li>- BHL assessment results</li> <li>- Identification of relevant issues; and</li> <li>- Demonstration of compliance with the guidelines</li> </ul>
<b>Policy Measure 6.9</b>	When making decisions on strategic planning proposals, the advice of the State/relevant agencies/authorities responsible for biodiversity conservation management and environmental protection be sought if substantial clearing of locally significant native vegetation is proposed.

The ASP amendment does not specifically create a zoning for a vulnerable development or a high-risk land use, however if any such land use is to be proposed, additional responses are triggered under *SPP 3.7* at future planning stages.

### 1.2 Guidelines for Planning in Bushfire Prone Areas V1.3 (2017)

The *Guidelines for Planning in Bushfire Prone Areas V1.3 (2017)* requirements are accommodated within this BMP.

The *Guidelines for Planning in Bushfire Prone Areas V 1.3(2017)* is intended to inform and guide decision makers, referral authorities and proponents to achieve acceptable bushfire protection outcomes, including expectations at the different stages of planning.



Location details: Lots 46, 445 & 2241 Marmion Avenue  
Alkimos

Assessment date: November, 2020

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Accreditation expiry date: 31st January, 2021

Date aerial photo: October 2020

**FIGURE 3**  
**BUSHFIRE PRONE AREAS**

0 10 20 30 40m  
SCALE 1:1000 @ A3  
DATE: NOVEMBER 2020



**LEGEND**

-  SUBJECT LAND
-  ASSESSMENT AREA (150m) FROM THE EXTERNAL BOUNDARY OF THE SUBJECT SITE
-  ASSESSMENT AREA (100m) FROM THE EXTERNAL BOUNDARY OF THE SUBJECT SITE
-  BUSHFIRE PRONE AREAS

SOURCE OF PHOTOGRAPHY: NEARMAP

## **2 ENVIRONMENTAL CONSIDERATIONS**

### **2.1 Native Vegetation – modification and clearing**

Clearing of native vegetation will be required for Lot 46 subject to the clearing permit process. The clearing of native vegetation on land owned by the developer to the south of the lots proposed to be re-zoned has been approved and will be conducted in the near future (see Appendices 4, 5 and 7).

### **2.2 Revegetation/Landscape Plans**

There are no landscape or revegetation details for the lots. Future plans, if developed, are required to consider bushfire threat issues and will need to be considered in future assessments and responses to the performance criteria in the *Guidelines for Planning in Bushfire Prone Areas V1.3* (WAPC et.al. 2017).

## **3 BUSHFIRE ASSESSMENT RESULTS**

Bushfires are common in the City of Wanneroo and local brigades respond to numerous bushfires in the district annually. Given the bushfire threat in the area, this BMP plays a critical role in ensuring that the re-zoning of the land and the inherent possibility of an increase in usage and intensity appropriately mitigates the risk from bushfire.

### **3.1 Assessment Inputs**

The methodology used to assess the site is outlined in the *Guidelines for Planning in Bushfire Prone Areas V1.3 (2017)*. There is no concept plan for the lots, only the broad land use permissibility under the proposed commercial zone as outlined in the City's District Planning Scheme. More details will be assessed at future development stages. The re-zoning of the site will potentially introduce greater intensification of the site resulting in a strategic level bushfire hazard assessment to assess the post development bushfire hazard rating and implications.

A BAL Contour map is not provided because the lot layout and roads are not confirmed. They will be provided at the next stage and a BAL contour plan will then be developed if the lots remain in the declared bushfire prone area.

Assessing bushfire threat at the site-specific level accounts for the predominant class of vegetation on the site and surrounding area for a minimum of 150 metres, as shown in Figure 4.

### 3.1.1 Vegetation Classification

Lots 445 and 2241, as well as all adjacent land to the subject lots, have been cleared of all classified vegetation. Lot 46 currently contains existing Class D Scrub and Class C Shrubland vegetation. An area of Class D Scrub is also present further to the south of the lots, however clearing of this area for future development has been approved and will be undertaken to a minimum of 100 metres from the site prior to development. To the east of Marmion Avenue are existing commercial and residential low-threat areas (**Figure 4**).

The existing vegetation class condition is mapped in Figure 4 and the post development vegetation plots are found in Figure 5 with plot descriptions below.

<p><b>Photo ID: 1</b></p> <p><b>Plot Number: 1</b></p> <p><b>Vegetation classification or exclusion clause:</b> Scrub (Class D)</p> <p><b>Description/justification of classification</b> Dense canopy of large shrubs to 4 metres high. Understorey consists of small shrubs and grasses.</p>	
<p><b>Photo ID: 2</b></p> <p><b>Plot Number: 1</b></p> <p><b>Vegetation classification or exclusion clause:</b> Scrub (Class D)</p> <p><b>Description/justification of classification</b> Dense canopy of large shrubs to 4 metres high. Understorey consists of small shrubs and grasses.</p>	
<p><b>Photo ID: 3</b></p> <p><b>Plot Number: 1</b></p> <p><b>Vegetation classification or exclusion clause:</b> Scrub (Class D)</p> <p><b>Description/justification of classification</b> Banksia trees, Xanthorrhoea and large shrubs to 4m in height. Understorey consists of small shrubs and grasses. 4m high staff shown in photo. Area for which clearing permit has been obtained and will be cleared of native vegetation for development in near future.</p>	

<p><b>Photo ID:</b> 4</p> <p><b>Plot Number:</b> 2</p> <p><b>Vegetation classification or exclusion clause:</b> Shrubland (Class C)</p> <p><b>Description/justification of classification</b> Low shrubs to 1.5 metres in height on Lot 46. Understorey consists of grasses and herbaceous weeds.</p>	
<p><b>Photo ID:</b> 5</p> <p><b>Plot Number:</b> 2</p> <p><b>Vegetation classification or exclusion clause:</b> Shrubland (Class C)</p> <p><b>Description/justification of classification</b> Low shrubs to 1.5 metres in height on Lot 46. Understorey consists of grasses and herbaceous weeds.</p>	
<p><b>Photo ID:</b> 6</p> <p><b>Plot Number:</b> 3</p> <p><b>Vegetation classification or exclusion clause:</b> Exemption Clause 2.2.3.2 (e)</p> <p><b>Description/justification of classification</b> Non-vegetated areas including cleared mineral earth.</p>	
<p><b>Photo ID:</b> 7</p> <p><b>Plot Number:</b> 3</p> <p><b>Vegetation classification or exclusion clause:</b> Exemption Clause 2.2.3.2 (e)</p> <p><b>Description/justification of classification</b> Non-vegetated areas including cleared mineral earth. Temporary Class D Scrub shown in background.</p>	

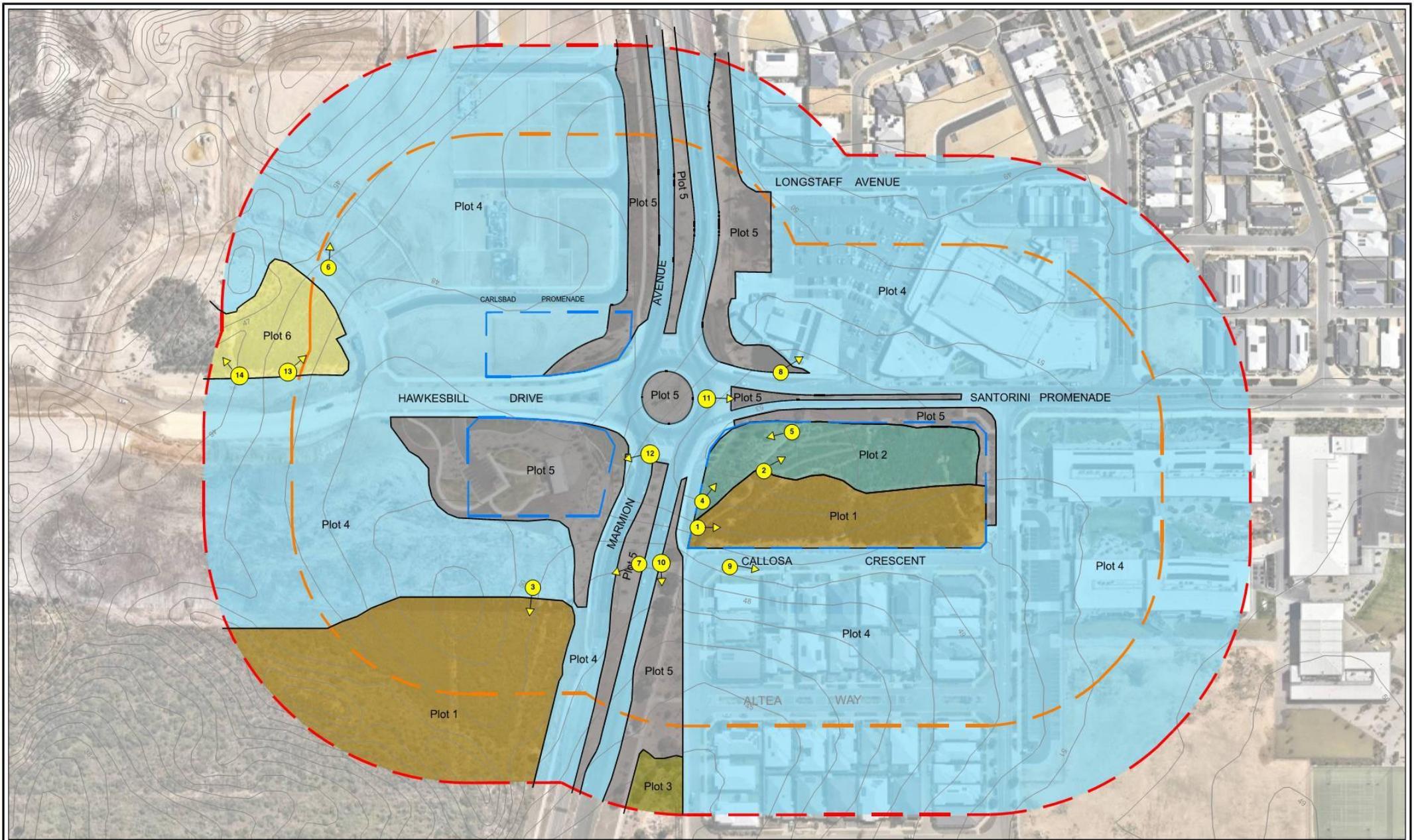
<p><b>Photo ID:</b> 8</p> <p><b>Plot Number:</b> 3</p> <p><b>Vegetation classification or exclusion clause:</b> Exemption Clause 2.2.3.2 (e)</p> <p><b>Description/justification of classification</b> Non-vegetated areas including buildings and carparks.</p>	
<p><b>Photo ID:</b> 9</p> <p><b>Plot Number:</b> 3</p> <p><b>Vegetation classification or exclusion clause:</b> Exemption Clause 2.2.3.2 (e)</p> <p><b>Description/justification of classification</b> Non-vegetated areas including buildings, roads and footpaths.</p>	
<p><b>Photo ID:</b> 10</p> <p><b>Plot Number:</b> 4</p> <p><b>Vegetation classification or exclusion clause:</b> Exemption Clause 2.2.3.2 (f)</p> <p><b>Description/justification of classification</b> Low threat vegetation including maintained road reserve.</p>	

<p><b>Photo ID:</b> 11</p> <p><b>Plot Number:</b> 4</p> <p><b>Vegetation classification or exclusion clause:</b> Exemption Clause 2.2.3.2 (f)</p> <p><b>Description/justification of classification</b> Low threat vegetation including maintained road reserve.</p>	
<p><b>Photo ID:</b> 12</p> <p><b>Plot Number:</b> 4</p> <p><b>Vegetation classification or exclusion clause:</b> Exemption Clause 2.2.3.2 (f)</p> <p><b>Description/justification of classification</b> Lot 445 showing existing sales office development with low threat landscaped garden in development.</p>	
<p><b>Photo ID:</b> 13</p> <p><b>Plot Number:</b> 5</p> <p><b>Vegetation classification or exclusion clause:</b> Exemption Clause 2.2.3.2 (b)</p> <p><b>Description/justification of classification</b> Area of shrubland in Public Open Space classified as Low threat vegetation as it is less than 1 hectare in size and greater than 100 metres from other classified vegetation.</p>	
<p><b>Photo ID:</b> 14</p> <p><b>Plot Number:</b> 5</p> <p><b>Vegetation classification or exclusion clause:</b> Exemption Clause 2.2.3.2 (b)</p> <p><b>Description/justification of classification</b> Area of shrubland in Public Open Space classified as Low threat vegetation as it is less than 1 hectare in size and greater than 100 metres from other classified vegetation.</p>	

### **3.1.2 Effective Slope**

There are no effective downslopes on the immediate boundaries of the lots. The only existing effective slope under classified vegetation within 100 metres of the lots occurs to the south and south-west, at downslope 4°. This area will be cleared prior to development of the lots.

The topography and effective slope are shown in Figure 4.



Location details: Lots 46, 445 & 2241 Marmion Avenue Alkimos  
 Assessment date: November, 2020  
 Prepared by: Bushfire Safety Consulting  
 Accreditation level: Level 3 BPAD Practitioner  
 Accreditation number: BPAD 23160  
 Accreditation expiry date: 31st January, 2021  
 Date aerial photo: October 2020

**FIGURE 4**  
**PRE-DEVELOPMENT VEGETATION CLASSIFICATION MAP**

0 20 40 60 80m  
 SCALE 1:2000 @ A3  
 DATE: NOVEMBER 2020



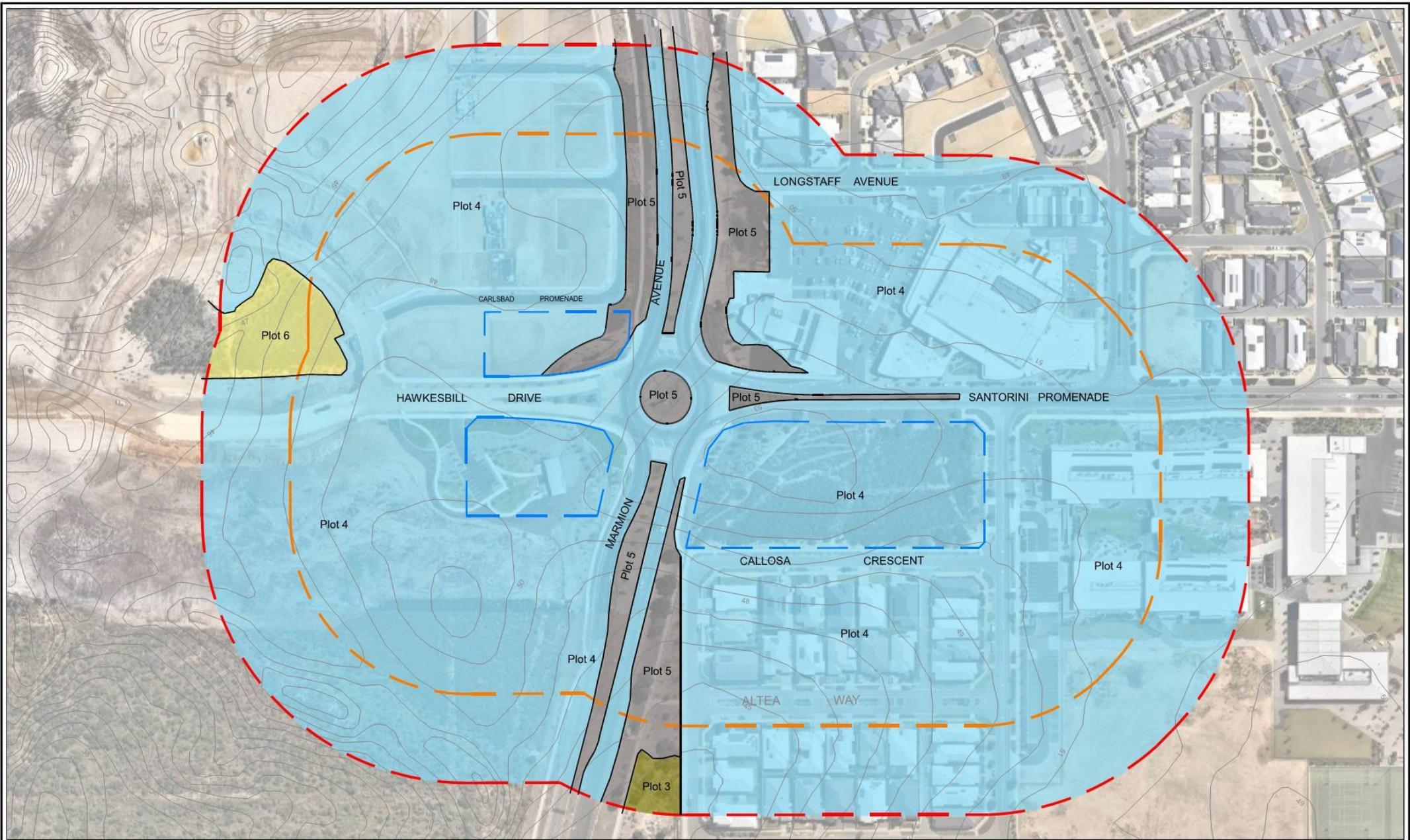
**LEGEND**

- SUBJECT LAND
- ASSESSMENT AREA (150m) FROM THE EXTERNAL BOUNDARY OF THE SUBJECT SITE
- ASSESSMENT AREA (100m) FROM THE EXTERNAL BOUNDARY OF THE SUBJECT SITE
- PHOTO LOCATION & DIRECTION

SOURCE OF PHOTOGRAPHY: NEARMAP

- PLOT 1 - CLASS D SCRUB
- PLOT 2 - CLASS C SHRUBLAND
- PLOT 3 - CLASS B WOODLAND
- PLOT 4 - EXCLUSION CLAUSE 2.2.3.2(e)
- PLOT 5 - EXCLUSION CLAUSE 2.2.3.2(f)
- PLOT 6 - EXCLUSION CLAUSE 2.2.3.2(b)

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**FIGURE 5**  
**POST-DEVELOPMENT VEGETATION**  
**CLASSIFICATION MAP**

0 20 40 60 80m  
SCALE 1:2000 @ A3  
DATE: NOVEMBER 2020



**LEGEND**

-  SUBJECT LAND
-  ASSESSMENT AREA (150m) FROM THE EXTERNAL BOUNDARY OF THE SUBJECT SITE
-  ASSESSMENT AREA (100m) FROM THE EXTERNAL BOUNDARY OF THE SUBJECT SITE

-  PLOT 1 - CLASS D SCRUB
-  PLOT 2 - CLASS C SHRUBLAND
-  PLOT 3 - CLASS B WOODLAND
-  PLOT 4 - EXCLUSION CLAUSE 2.2.3.2(e)
-  PLOT 5 - EXCLUSION CLAUSE 2.2.3.2(f)
-  PLOT 6 - EXCLUSION CLAUSE 2.2.3.2(b)

SOURCE OF PHOTOGRAPHY: NEARMAP



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### 3.2 Assessment Outputs

A pre and post development Bushfire Hazard Level assessment was undertaken according to the *Guidelines for Planning in Bushfire Prone Areas V1.3 (2017)* and the results are found in Table 2 and Figures 6 and 7.

*Table 2. Summary of vegetation type and effective slope*

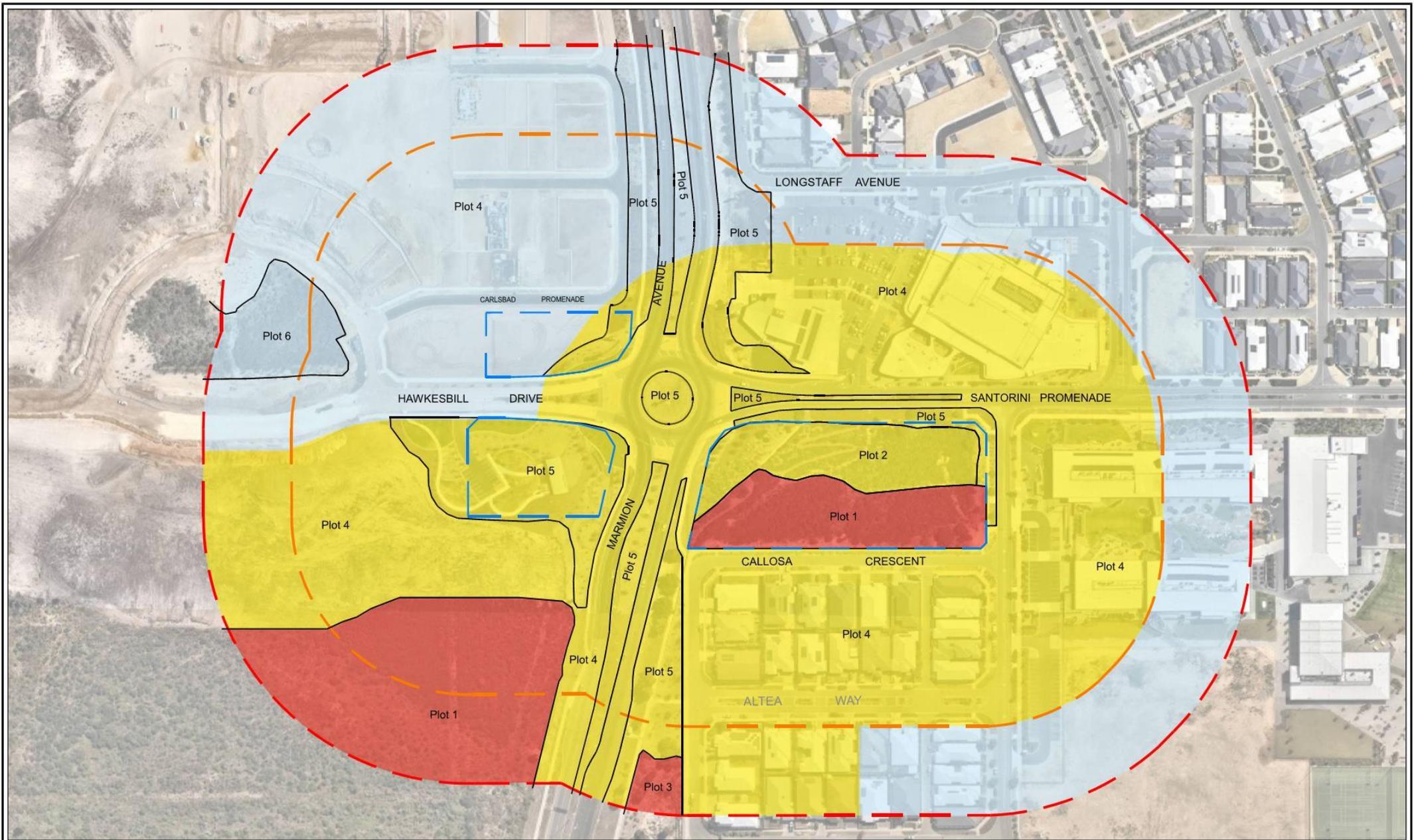
Vegetation Area/ Plot	Applied Vegetation Classification	Effective Slope under the Classified Vegetation (degrees)	Hazard Level
1	Class D Scrub	Downslope 4	Extreme
2	Class C Shrubland	Upslope	Moderate
3	Class B Woodland	Downslope 3	Extreme
4	Exemption Cause 2.2.3.2 (e)	N/A	Low
5	Exemption Cause 2.2.3.2 (f)	N/A	Low
6	Exemption Cause 2.2.3.2 (b)	N/A	Low

## 4 IDENTIFICATION OF BUSHFIRE HAZARD ISSUES

Lots 445 and 2241 are currently classified as having moderate bushfire hazard due to their proximity to the vegetation on Lot 46 and to the south of the lots. Lot 46 has a hazard level of moderate to extreme due to the presence of Class D Scrub and Class C Shrubland vegetation. Post-development, the entire site is classified as low bushfire hazard as no classified vegetation will remain on Lot 46 or within 150 metres. A clearing permit has been granted to remove vegetation on land owned by the developer to the south-west. When this vegetation is removed prior to development of the subject sites, the vegetation remaining on Lot 46 then becomes classified as Low Threat (Exclusion Clause 2.2.3.2b) as it is less than 1 hectare in size and will be greater than 100 metres from other classified vegetation. The pre-development bushfire hazard ratings are found in Figure 6. The post development Bushfire Hazard ratings (Figure 7) shows the removal of all moderate and extreme hazard within and surrounding the site due to the approved removal of all classified vegetation to the south-west of the site.

Lots 46 and 2241 have existing perimeter public roads on all boundaries, while lot 445 has perimeter public roads to the north and east. These provide good interface design on these boundaries. Internal design details will be provided at the next stage and the final design will ensure BAL ratings on interface lots will achieve BAL-29 or lower.

An existing major public road (Marmion Avenue) provides good access to the north and south, while Santorini Promenade and the extension of Hawksbill Drive will provide good east/west access. A reticulated water supply will service all lots. A summary of the issues is outlined in the post development bushfire hazard ratings at Figure 8.



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Alkimos  
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Date aerial photo: October 2020

**FIGURE 6**  
**PRE-DEVELOPMENT BUSHFIRE**  
**HAZARD LEVEL RATINGS**

0 20 40 60 80m  
SCALE 1:2000 @ A3  
DATE: NOVEMBER 2020



**LEGEND**

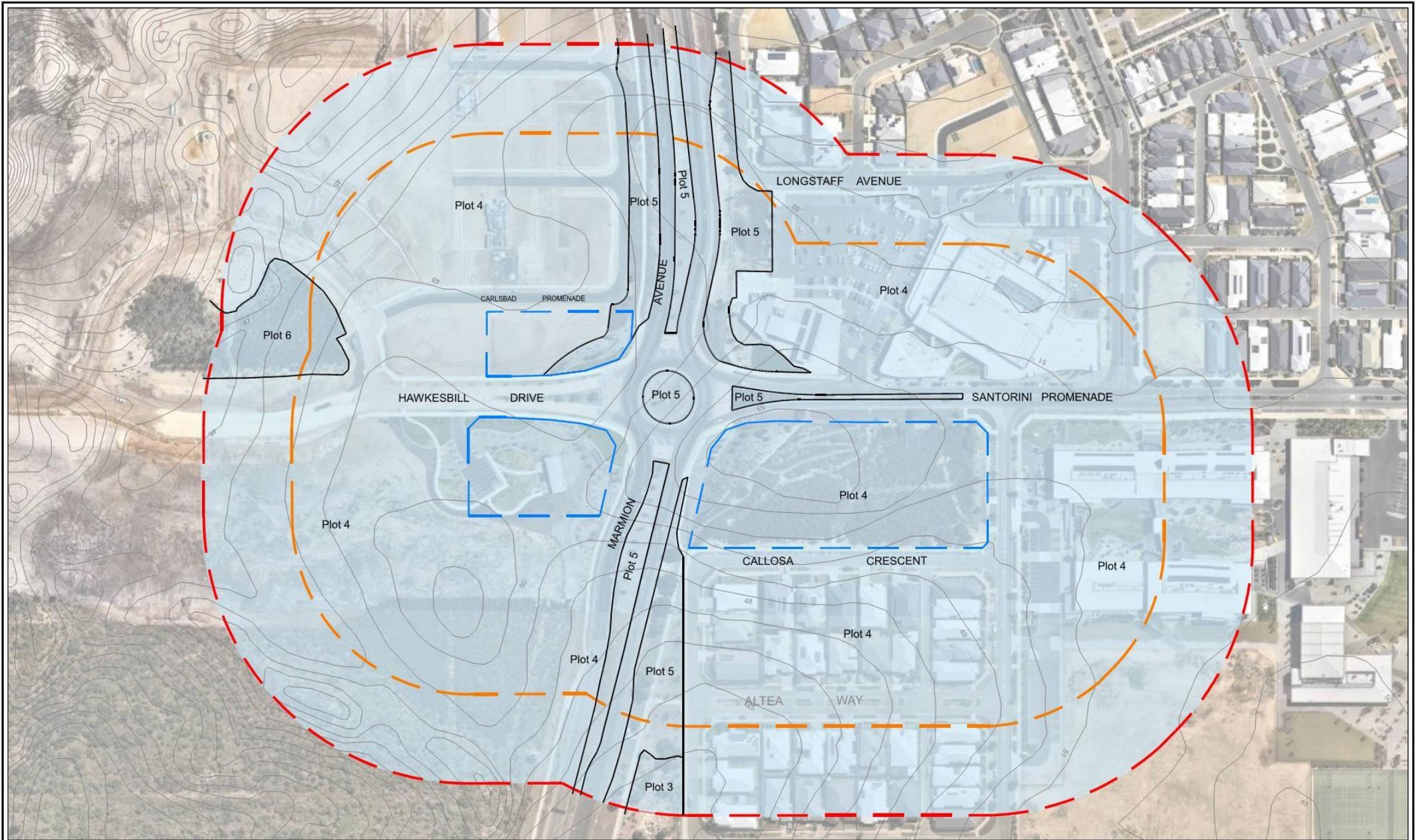
-  SUBJECT LAND
-  ASSESSMENT AREA (150m) FROM THE EXTERNAL BOUNDARY OF THE SUBJECT SITE
-  ASSESSMENT AREA (100m) FROM THE EXTERNAL BOUNDARY OF THE SUBJECT SITE

SOURCE OF PHOTOGRAPHY: NEARMAP

**BUSHFIRE HAZARD LEVEL**

-  EXTREME
-  MODERATE
-  LOW





Location details: Lots 46, 445 & 2241 Marmion Avenue  
Alkimos  
Assessment date: November, 2020  
Prepared by: Bushfire Safety Consulting  
Accreditation level: Level 3 BPAD Practitioner  
Accreditation number: BPAD 23160  
Accreditation expiry date: 31st January, 2021  
Date aerial photo: October 2020

**FIGURE 7**  
**POST-DEVELOPMENT BUSHFIRE**  
**HAZARD LEVEL RATINGS**

0 20 40 60 80m  
SCALE 1:2000 @ A3  
DATE: NOVEMBER 2020



**LEGEND**

-  SUBJECT LAND
-  ASSESSMENT AREA (150m FROM THE EXTERNAL BOUNDARY OF THE SUBJECT SITE)
-  ASSESSMENT AREA (100m FROM THE EXTERNAL BOUNDARY OF THE SUBJECT SITE)

**BUSHFIRE HAZARD LEVEL**

-  EXTREME
-  MODERATE
-  LOW

SOURCE OF PHOTOGRAPHY: NEARMAP



## 5 ASSESSMENT AGAINST THE BUSHFIRE PROTECTION CRITERIA

Concept plans for the future development of the lots are yet to be developed at the ASP amendment stage (Figure 1). This report therefore outlines strategies and commitments on how compliance with the Bushfire Protection Criteria can be achieved based on the broad rezoning proposal. A BMP specific to the detailed design will be required at the next stage of planning.

Acceptable solutions are achievable at the site, but performance solutions could also be proposed at subdivision application or development application stages, depending on the final proposal and circumstances.

The compliance table (**Table 4**) outlines strategies and commitments to achieve compliance with the Bushfire Protection Criteria at future planning stages, reflecting the rezoning proposal provided at this stage and as required under policy measure 6.3 of SPP 3.7.

### 5.1 Siting and Design of Development

Upon completion of the development and approved associated vegetation clearing to the south-west, the subject lots and surrounding area to 150 metres will be exposed to a low bushfire hazard level. Vegetation present on Lot 46 is classified as Low Threat (Exclusion Clause 2.2.3.2b) once the vegetation to the south-west is cleared as it is less than 1 hectare and will be greater than 100 metres from other classified vegetation. Future buildings can be exposed to BAL-29 or lower.

AS 3959:2018 Construction of buildings in bushfire prone areas has six categories of Bushfire Attack Level, namely BAL-LOW, BAL-12.5, BAL-19, BAL-29, BAL-40 and BAL-FZ based on heat flux exposure thresholds. The BAL rating for a site requires a specific assessment of vegetation and of topographic slopes. Each BAL rating is associated with appropriate construction standards that apply as a minimum for buildings in bushfire-prone areas (as per AS 3959). The categories of BALs have been summarized in Table 3 below.

*Table 3: AS 3959. BAL ratings, heat flux thresholds and associated construction standard*

Attack Level (BAL)	Classified vegetation within 100 m of the subject building and heat flux exposure thresholds	Description of the predicted bushfire attack and levels of exposure	Construction section (within AS 3959)
BAL-LOW	See Section 2.2.3.2 of AS 3959	There is insufficient risk to warrant specific construction requirements	4
BAL-12.5	$\leq 12.5 \text{ kW/m}^2$	Ember attack	3 & 5
BAL-19	$> 12.5 \text{ kW/m}^2$ to $\leq 19 \text{ kW/m}^2$	Increasing levels of ember attack and burning debris ignited by windborne embers blown together with increasing heat flux	3 & 6
BAL-29	$> 19 \text{ kW/m}^2$ to $\leq 29 \text{ kW/m}^2$	Increasing levels of ember attack and burning debris ignited by windborne embers blown together with increasing heat flux	3 & 7
BAL-40	$> 29 \text{ kW/m}^2$ to $\leq 40 \text{ kW/m}^2$	Increasing levels of ember attack and burning debris ignited by windborne embers blown together with the increased likelihood of exposure to flame	3 & 8
BAL-FZ	$\leq 40 \text{ kW/m}^2$	Direct exposure to flames from fire front in addition to heat flux and ember attack	3 & 9

The precise siting and design will be outlined in the next phase of planning. The site is assessed in the post development bushfire hazard level rating (**Figure 7**) to demonstrate that future development can be accommodated on the site consistent with the broad proposed land uses.

A detailed BAL assessment/s will be undertaken at future stages of planning to respond to the bushfire risk posed at the time of development. This will ensure the provision of appropriate mitigation measures such as APZs to ensure future dwellings are not exposed to a BAL rating greater than BAL-29, in accordance with SPP 3.7 and the Guidelines (WAPC and DFES 2017). Building construction standards of future buildings may need to increase, depending on the determined BAL rating as outlined in Table 3.

These design features, including compliance with AS 3959 where appropriate, will minimize the bushfire risk to people, property and infrastructure.

## **5.2 Vehicular Access**

All subject lots are bordered by a major transport road (Marmion Avenue) which provides good access to the north and south. Lots 445 and 2241 front on to Hawksbill Drive which provides additional access to the east, as well as to the west in the near future due to the construction of a planned extension. Lot 46 has access to Santorini Promenade, Hollington Boulevard and Callosa Crescent.

The design of the internal road network (if any) will be determined as part of future planning stages and will meet the applicable requirements of the Guidelines including public roads to a trafficable standard to allow safe egress and ensuring at least two forms of access in the event of a bushfire. The site will have multiple public road access routes consistent with traffic volume. All public roads in the vicinity of the site comply with minimum standards for public roads outlined in Appendix 2.

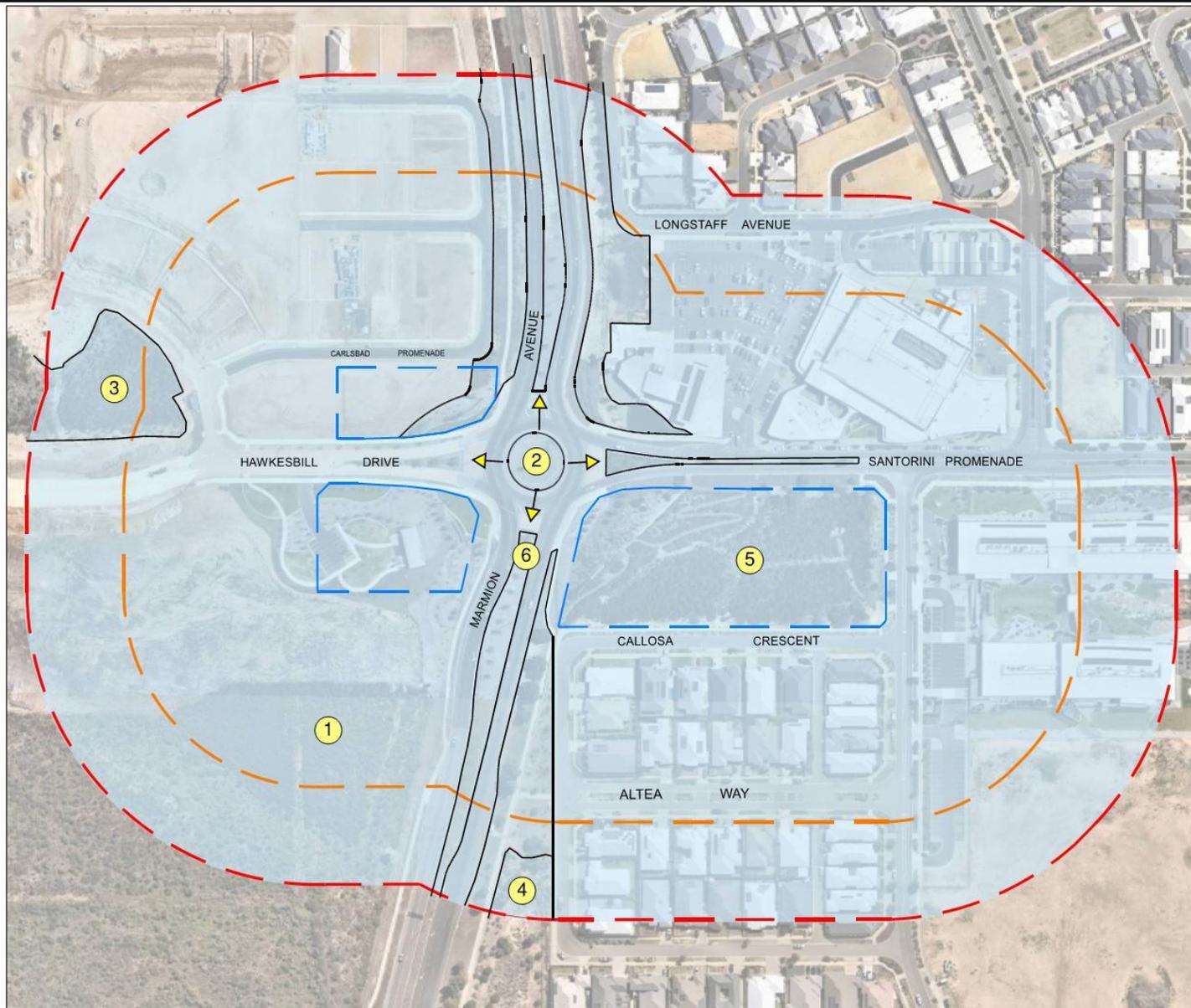
Where staged implementation of development occurs prior to construction of all proposed public roads, temporary secondary access will be provided to ensure two external access options are available.

## **5.3 Water**

Fire services require ready access to an adequate water supply during fire emergencies. All lots have access to a reticulated water supply and can meet the required Water Corporation and DFES specifications.

Table 4: Compliance Table

Bushfire Protection Criteria	Method of compliance	Proposed bushfire management strategies
	Acceptable Solutions	
<b>Element 1: Location</b>	AQ1.1 Development Location	The development is located in an area that will on completion be subject to a bushfire hazard rating level of LOW (Figure 7). A BAL rating of BAL-29 or lower for development lots can be achieved.
<b>Element 2: siting and Design</b>	A2.1 Asset Protection Zone (APZ)	Internal lot APZs are unlikely to be required for the site as there are no adjacent bushfire hazards, however this can be assessed and APZs provided at future planning stages if required. Any future APZ can be managed in accordance with the requirements of the standards in Appendix 1.
<b>Element 3: Vehicular Access</b>	A3.1 Two access routes	All lots have access to Marmion Avenue which provides good access to the north and south. Additional access to the east and west is provided by Santorini Promenade and a planned extension of Hawksbill Drive. This existing network of roads provides a minimum two access and egress routes to and from the site.
	A3.2 Public Road	All surrounding roads comply with minimum public road standards, as will any proposed roads, as outlined in Appendix 2.
	A3.3 Cul-de-sac	There are unlikely to be any cul-de-sacs proposed. Standards are outlined in Appendix 2.
	A3.4 Battle-axe	There are unlikely to be any battle-axes proposed. Standards are outlined in Appendix 2.
	A3.5 Private drive-way longer than 50 metres	It is unlikely that future internal driveways will be longer than 50 metres in length. If required, the driveway standards are outlined in Appendix 2.
	A3.6 Emergency access way	There are unlikely to be any emergency access ways proposed. Standards are outlined in Appendix 2.
	A3.7 Fire Emergency access routes	There are unlikely to be any fire emergency access ways proposed. Standards are outlined in Appendix 2.
	A3.8 Firebreak width	Compliance can be achieved at future development stages (Appendix 3).
<b>Element 4: Water</b>	A4.1 Reticulated areas	The site will have a reticulated water supply and can comply with Water Corporation and DFES requirements.
	A4.2 Non-reticulated areas	Not applicable
	A4.3 Individual lots within non-reticulated areas	Not applicable



## REQUIREMENTS

1. Scrub vegetation to the south-west of the site is temporary and a clearing permit has been granted to remove the vegetation prior to development. All subject lots will be surrounded by predominately developed land and will have a low bushfire hazard rating when native vegetation to the south-west of the lots has been cleared.
2. The lots will be connected to the existing public road network in multiple locations providing multiple access options to multiple destinations.
3. Permanent classified vegetation occurs north-west of the site in a future Public Open Space area and is classified as Low threat - Exemption Clause 2.2.3.2 (b) as it is less than 1 hectare in size and is greater than 100 metres from other classified vegetation.
4. Permanent Class B Woodland occurs in a small drainage reserve to the south of the lots, however once clearing to the south-west is completed prior to development, it will be classified as Low Threat - Exemption Clause 2.2.3.2 (b) as it is less than 1 hectare in size and will be greater than 100 metres from other classified vegetation.
5. Vegetation on Lot 46 is less than 1 hectare and will be greater than 100 metres from other classified vegetation post-development when scrub to the south-west is cleared prior to development. This will result in a Low Threat classification - Exemption Clause 2.2.3.2 (b).
6. Marmion Avenue road reserve provides separation from native vegetation currently present on Lot 46 from both Lots 445 and 2241. This reduces bushfire hazard to these lots prior to the clearing and development of Lot 46.
7. The area is provided with a reticulated water supply and future development of the lots can comply with required water supply standards.

 SUBJECT LAND  
 LOW BUSHFIRE HAZARD LEVEL

 **bushfire**  
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 Science. Culture. Solutions.  
 PO BOX 84 STONEVILLE WA 6081  
 Mbl: 0429 949 262  
 www.bushfiresafetyconsulting.com.au

0 20 40 60 80 100m  
 SCALE 1:2300 @ A3  
 DATE: NOVEMBER 2020

Location details: Lots 46, 445 & 2241  
 Marmion Ave, Alkimos  
 Assessment date: October, 2020  
 Prepared by: Bushfire Safety Consulting  
 Accreditation level: Level 3 BPAD Practitioner  
 Accreditation number: BPAD 23160  
 Accreditation expiry date: 31st January, 2021  
 Date aerial photo: September 2020

FIGURE 8 - SPATIAL REPRESENTATION OF BUSHFIRE MITIGATION STRATEGIES

## 6 RESPONSIBILITIES FOR IMPLEMENTATION AND MANAGEMENT OF THE BUSHFIRE MEASURES

Table 5 outlines the broad ongoing responsibilities, actions and associated works that need to be undertaken by the future Developer / Proponent or Land Owner and the City of Wanneroo. An accredited Bushfire Planning Practitioner will need to be engaged at Subdivision Application and/or Development Application stages to update the BMP and assess the development against all of the bushfire protection criteria and SPP 3.7.

*Table 5. Responsibility for bushfire measures*

<b>DEVELOPER / PROPONENT / LANDOWNER</b>	
<b>SUBDIVISION OR DEVELOPMENT APPLICATION STAGE AND ONGOING MANAGEMENT</b>	
1	Update the Bushfire Management Plan to demonstrate full compliance with relevant sections of SPP 3.7 and the Guidelines for Planning in Bushfire Prone Areas.
2	Ensure the site complies with the City of Wanneroo’s Firebreak and Fuel Load Notice as published.
3	Ensure any future construction of buildings comply with AS 3959:2018 as and when required.
4	Update the Bushfire Management Plan if requested by the City of Wanneroo if it has reason to believe site conditions have substantially changed, or new methodologies or practice are adopted as identified in future revisions of the “Guidelines”.
<b>CITY OF WANNEROO – ONGOING MANAGEMENT</b>	
5	Maintain public roads to appropriate standards and ensure compliance with the City of Wanneroo’s Fire Control and Fuel Load Notice.
6	Provide fire prevention and preparedness advice to landowners upon request, including the <i>Homeowners Bush Fire Survival Manual, Prepare, Act, Survive</i> (or similar suitable documentation) and the City of Wanneroo Fire Control and Fuel Load Notice.

## 7 CONCLUSION

This plan provides an assessment of the site’s existing and post development Bushfire Hazard Level (BHL) ratings and is consistent with the objectives and policy measures of SPP3.7 and the Guidelines for Planning in Bushfire Prone Areas V1.3. The Bushfire Hazard Level provides a measure of the likely intensity of a bushfire on the site. One lot currently contains Class D Scrub and Class C Shrubland vegetation, while temporary areas of Class D Scrub exist to the south-west of the site. Areas of vegetation in and around the site are rated as extreme, with moderate hazard existing within 100 metres of these areas, including on Lots 445 and 2241. Post development removes the areas of moderate and extreme hazard, with all lots containing low hazard only (**Figure 7**).

The provision of internal APZs are unlikely to be required but can be provided at future planning stages if assessed as being required. BAL-29 will not be exceeded at the site.

It is expected that this Bushfire Management Plan will be updated at the next stage of planning and will examine in greater detail the four Bushfire Protection Elements outlined in the Guidelines for Planning in Bushfire Prone Areas if the individual lots are still designed as bushfire prone. The BMP complies with Policy measure 6.2 and 6.3 of SPP 3.7 because it demonstrates that compliance with the Bushfire Protection Criteria in the Guidelines for Planning in Bushfire Prone areas can be complied with at subsequent planning stages.

## REFERENCES

Department of Fire and Emergency Services (DFES), 2014, *The Home Owner's Bushfire Survival Manual*, [https://www.dfes.wa.gov.au/safetyinformation/fire/bushfire/BushfireManualsandGuides/DFES\\_Bushfire-Homeowners\\_Survival\\_Manual.pdf](https://www.dfes.wa.gov.au/safetyinformation/fire/bushfire/BushfireManualsandGuides/DFES_Bushfire-Homeowners_Survival_Manual.pdf), Department of Fire and Emergency Services, Government of Western Australia.

Standards Australia, 2018, *Construction of buildings in bushfire-prone areas (Amendments 1-3)*, AS 3959-2018, Standards Australia International Ltd, Sydney.

Western Australian Planning Commission (WAPC), 2015, *State Planning Policy No. 3.7: Planning in Bushfire Prone Areas (SPP3.7)*, December 2015, Western Australian Planning Commission and Department of Planning WA, Government of Western Australia.

Western Australian Planning Commission (WAPC), 2017, *Guidelines for Planning in Bushfire Prone Areas*, December 2017 V1.3, Western Australian Planning Commission and Department of Planning WA, Government of Western Australia.



## APPENDICES

- Appendix 1: Asset Protection Zone Standards
- Appendix 2: Vehicular Access Technical Requirements
- Appendix 3: City of Wanneroo Firebreak and Fuel Load Notice
- Appendix 4: Planned clearing of vegetation surrounding the site
- Appendix 5: Additional planned clearing of vegetation surrounding the site
- Appendix 6: Draft landscape plan for POS
- Appendix 7: Development Approval for vegetation clearing

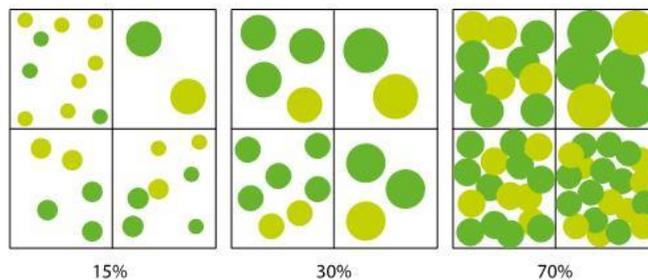
## Appendix 1: Guidelines for Planning in Bushfire Prone Areas - Asset Protection Zone Standards

### ELEMENT 2: SITING AND DESIGN OF DEVELOPMENT

#### SCHEDULE 1: STANDARDS FOR ASSET PROTECTION ZONES

- **Fences:** within the APZ are constructed from non-combustible materials (e.g. iron, brick, limestone, metal post and wire). It is recommended that solid or slatted non-combustible perimeter fences are used.
- **Objects:** within 10 metres of a building, combustible objects must not be located close to the vulnerable parts of the building i.e. windows and doors.
- **Fine Fuel load:** combustible dead vegetation matter less than 6 millimetres in thickness reduced to and maintained at an average of two tonnes per hectare.
- **Trees (> 5 metres in height):** trunks at maturity should be a minimum distance of 6 metres from all elevations of the building, branches at maturity should not touch or overhang the building, lower branches should be removed to a height of 2 metres above the ground and or surface vegetation, canopy cover should be less than 15% with tree canopies at maturity well spread to at least 5 metres apart as to not form a continuous canopy.

Figure 18: Tree canopy cover – ranging from 15 to 70 per cent at maturity

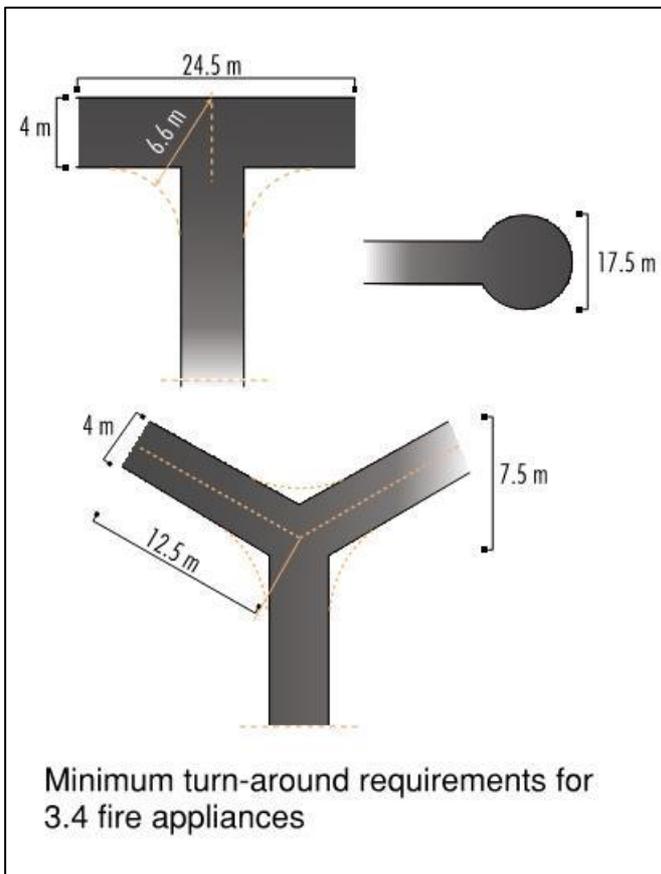


- **Shrubs (0.5 metres to 5 metres in height):** should not be located under trees or within 3 metres of buildings, should not be planted in clumps greater than 5m<sup>2</sup> in area, clumps of shrubs should be separated from each other and any exposed window or door by at least 10 metres. Shrubs greater than 5 metres in height are to be treated as trees.
- **Ground covers (<0.5 metres in height):** can be planted under trees but must be properly maintained to remove dead plant material and any parts within 2 metres of a structure, but 3 metres from windows or doors if greater than 100 millimetres in height. Ground covers greater than 0.5 metres in height are to be treated as shrubs.
- **Grass:** should be managed to maintain a height of 100 millimetres or less.

**APPENDIX 2: Vehicle Access Technical Requirements**

<b>TECHNICAL REQUIREMENTS</b>	<b>1 Public road</b>	<b>2 Cul-de-sac</b>	<b>3 Private driveway</b>	<b>4 Emergency access way</b>	<b>5 Fire service access routes</b>
Minimum trafficable surface (m)	6*	6	4	6*	6*
Horizontal clearance (m)	6	6	6	6	6
Vertical clearance (m)	4.5	N/A	4.5	4.5	4.5
Maximum grade <50 metres	1 in 10	1 in 10	1 in 10	1 in 10	1 in 10
Minimum weight capacity (t)	15	15	15	15	15
Maximum crossfall	1 in 33	1 in 33	1 in 33	1 in 33	1 in 33
Curves minimum inner radius (m)	8.5	8.5	8.5	8.5	8.5

\*Refer to E3.2 Public roads: Trafficable surface



## Appendix 3 – City of Wanneroo Firebreak and Fuel Load Notice

### Protect your home and property from bushfires

NOTICE TO ALL OWNERS OR OCCUPIERS OF LAND IN THE DISTRICT OF THE CITY OF WANNEROO REGARDING FIREBREAKS.

The City of Wanneroo hereby gives notice pursuant to Section 33 of the **Bush Fires Act 1954** to all owners or occupiers of land in its district that they are required on or before 15 November, or within 14 days of becoming the owner or occupier of the land if that occurs after the 15 November, to annually plough, cultivate, scarify, or otherwise clear firebreaks as specified in this Notice and thereafter up to, and including the 30 April, annually, to maintain the firebreaks clear of flammable matter.

- 1. Land having an area of 2000m<sup>2</sup> or more**  
A firebreak not less than 3 metres wide and 3 metres high immediately inside and around all external boundaries of the land must be cleared.
- 2. Land having an area of less than 2000m<sup>2</sup>**  
A firebreak not less than 2 metres wide and 2 metres high immediately inside and around all external boundaries of the land must be cleared.
- 3. Buildings**  
A firebreak not less than 3 metres wide immediately around all external walls of every building must be cleared. Whenever a firebreak is cleared by burning the provisions of the Act and Regulations made thereunder must be observed. If pursuant to Item (2) of this Notice, mowing or slashing is carried out the height of vegetation thereafter must not exceed, as far as is reasonably practicable, 20mm over the entire area of the firebreak. The use of chemicals is subject to all restrictions imposed by the Department of Agriculture. Attention is drawn to the Flammable Liquids Regulations made under the Explosives and Dangerous Goods Act 1961, which requires a site on which flammable liquid is stored to be totally cleared of all flammable material for a minimum distance of 5 metres surrounding the site.

If it is considered to be impracticable for any reason to comply with the provisions of this Notice, application may be made not later than the 1st day of November annually to the Council or its authorised officer for permission to provide alternative fire protection measures. If permission is not granted the requirements of this Notice must be complied with.

**Penalty**  
An owner or occupier of land who fails or neglects in any respect to comply with the requirements of this Notice is liable to a maximum fine of \$5,000.

#### DATES TO REMEMBER

- Firebreaks must be cleared by **15 November (AND KEPT CLEAR UNTIL APRIL 30)**
- Burning permits required all year round
- Burning prohibited between **1 December to 31 March**

#### When and how to obtain a fire permit

Permits are available from the City of Wanneroo at the following locations:

**WANNEROO ANIMAL CARE CENTRE**  
Located at the rear of the Ashby Operations Centre, 1204 Wanneroo Road, Ashby  
The City's Rangers / Fire Control Officers are available to issue permits 7 days a week\* from 4pm - 6pm  
\*Except Good Friday

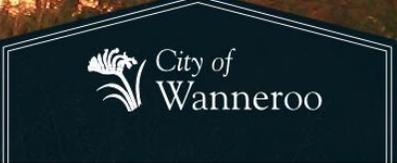
**CITY OF WANNEROO CIVIC CENTRE**  
23 Dundeebar Road, Wanneroo  
The City's Fire Control Officers / Permit Issuing Officers are available to issue permits Monday to Friday 9am - 4pm

#### NEED ADVICE?

Further advice about how to protect your home, constructing firebreaks, and when and how to burn off, is available from the City of Wanneroo during office hours on 9405 5000.



### PROTECT YOUR HOME AND PROPERTY FROM BUSHFIRES



City of Wanneroo  
23 Dundeebar Road, Wanneroo, WA 6065  
Locked Bag 1, Wanneroo, WA 6946  
T : (08) 9405 5000 F : (08) 9405 5499  
After Hours : 1300 13 83 93  
E : enquires@wanneroo.wa.gov.au  
wanneroo.wa.gov.au

## Keeping your home safe from fire

There are a number of ways you can help keep your home safe from fire:

- Install smoke detectors in your home
- Clear vegetation away from the walls of your home
- Clear all rubbish and flammable material from around your home to create a 20 metre circle of safety
- Store firewood, timber, petrol, and kerosene well away from your home
- Prior to summer, clean all leaves and debris from your gutters
- Don't have flammable trees such as conifers near buildings
- Have branches trimmed that overhang the house or powerlines
- Fit wire insect screens or shutters to windows and glass doors

If a firebreak is impractical along your boundary for environmental or other reasons notify the City of Wanneroo by 1 October to obtain permission to install firebreaks in alternative positions, or of a different nature.

### ALTERNATIVE METHODS OF REDUCING FIRE HAZARDS ON VACANT LAND

- For urban land less than 2000m<sup>2</sup>, if mowing or slashing is carried out, the height of the vegetation must not exceed, as far as is reasonably practical, 20mm over the entire area of the firebreak
- The use of chemicals is subject to all restrictions imposed by the Department of Agriculture
- Mulching • Disposal at an authorised rubbish tip site

## When and how to burn

### NO BURNING FROM 1 DECEMBER - 31 MARCH

Burning off - that is, bush/running fire including grass, on any land is totally prohibited between 1 December and 31 March. Fire permits for burning material other than garden rubbish are required all year round.

A person in control of the fire must stay with the fire until it is completely extinguished.

### GARDEN RUBBISH AND REFUSE

The burning of garden refuse is permitted between the hours of 6pm and 11pm, provided the fire danger rating is not VERY HIGH, SEVERE, EXTREME or CATASTROPHIC or a TOTAL FIRE BAN has been declared.

Fire danger rating signs are located at the following locations:

- Corner of Joondalup Drive and Wanneroo Road
- Wanneroo Road, south of the Yanchev Beach Road turn off
- Wanneroo Road, Carabooda • Marmion Avenue, Jindalee
- Neaves Road, Mariginiup • Old Yanchev Road, Pinjar
- Gngangara Road, Landsdale • Country Side Drive, Two Rocks

Other points to remember when burning garden refuse and rubbish are:

- All bush and flammable material must be thoroughly cleared within two metres of all points of the site of the fire
- The material must be on the ground, and be no more than one metre wide and one metre high

Only one heap may be burnt at any one time  
Incinerators may be used providing:

- The incinerator is properly constructed and designed to prevent the escape of sparks of burning material
- The incinerator is situated not less than two metres away from a building or fence
- An area of two metres surrounding the incinerator is clear of all flammable material

### BARBECUES

Only gas or electric barbecues may be lit during VERY HIGH, SEVERE, EXTREME or CATASTROPHIC fire danger rating or declared TOTAL FIRE BAN. The lighting of solid fuel barbecues is not permitted on these days.

### SMOKE NUISANCES

City of Wanneroo residents are advised to be mindful of smoke issues associated with any burning that they conduct. Steps should be taken to avoid undue smoke impact to neighbours and adjacent roads. Smoke across roadways can severely impact motorists' visibility and therefore road safety. Issues of smoke nuisance are regulated by the Waste Avoidance and Resource Recovery Act 2007.

### CAMPFIRES

Campfires must not be lit on VERY HIGH, SEVERE, EXTREME or CATASTROPHIC fire danger days or declared TOTAL FIRE BAN. A person must remain in attendance at the site during the whole time the fire is burning. The user must extinguish the fire using water or earth before leaving the area.

## Hints for safer burning

- Don't light a fire on a hot or windy day
- Don't burn more than you can control
- Let your neighbours know you'll be burning material
- Make sure smoke and sparks will not affect your neighbour's washing or enter open windows
- Cut or rake long grass around trees, building and fences before burning
- Burn against the wind
- On a sloping block, burn from the top down
- Keep a hose or spray pack at hand to dampen down fierce fires
- If in doubt, don't burn material yourself - call the Volunteer Fire Brigade
- Stay with the fire until it is completely extinguished
- Where possible, don't burn any closer than 20 metres from your home or other buildings

## Penalties

Under the Bush Fires Act 1954, failing to comply with regulations can result in a fine ranging from \$250 to \$250,000 or imprisonment.

Failure to maintain 2/3 metre firebreak as per firebreak order	\$250
Offence relating to lighting fire in the open air	\$250
Setting fire to bush during prohibited burning times	\$250
Failure of occupier to extinguish bush fire	\$250
Major offences result in Court action with fines ranging from \$250 to \$250,000 or imprisonment for 14 years.	

### THE BIGGEST PENALTY OF ALL

The biggest penalty of all would be losing your loved ones or home to fire. Please ensure you, your family and your home are kept safe by taking the necessary precautions.

## Special rural and residential land

Owners and occupiers of special rural and special residential land should be aware of their responsibilities to take bush fire prevention measures, while ensuring they do not contravene Town Planning Scheme provisions which control the removal of vegetation in Special Residential and Special Rural Zones.

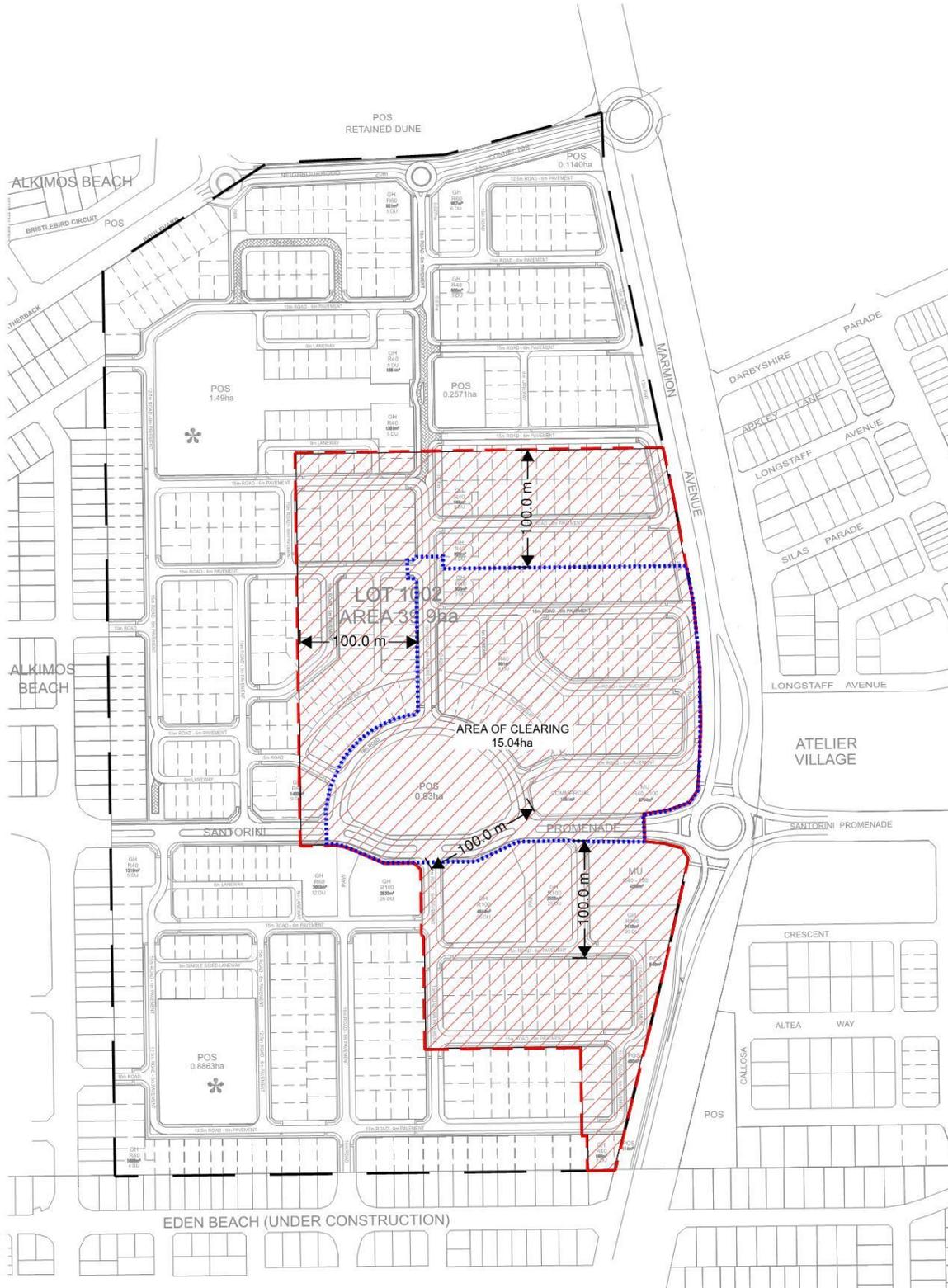
These special rural zones were created in areas of natural flora, and the Scheme recognises the importance of preserving the natural environment in these areas. Anyone found cutting down, lopping or damaging trees in these areas without City approval may be guilty of an offence.

However, bush fire prevention, including the installation of firebreaks, is essential regardless of the zoning of the land.

Below are some guidelines for installing firebreaks in special rural zones to prevent bush fires, while minimising damage to the natural environment.

- A 3 metre wide and 3 metre high firebreak should be cleared around the perimeter of special rural or special residential lots
- These firebreaks need not be strictly around the perimeter, but may deviate according to the flora
- The firebreak does not have to be ploughed but can instead be created by clearing and removing all flammable material
- Care should be taken to avoid damaging or removing significant trees and shrubs
- Avoid the build up of undergrowth and leaf litter

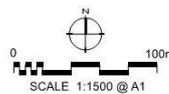
**Appendix 4 – Planned clearing of vegetation surrounding the site**



**PROPOSED EXTENT OF CLEARING (AS AMENDED)  
LOT 1002 MARMION AVENUE  
ALKIMOS**

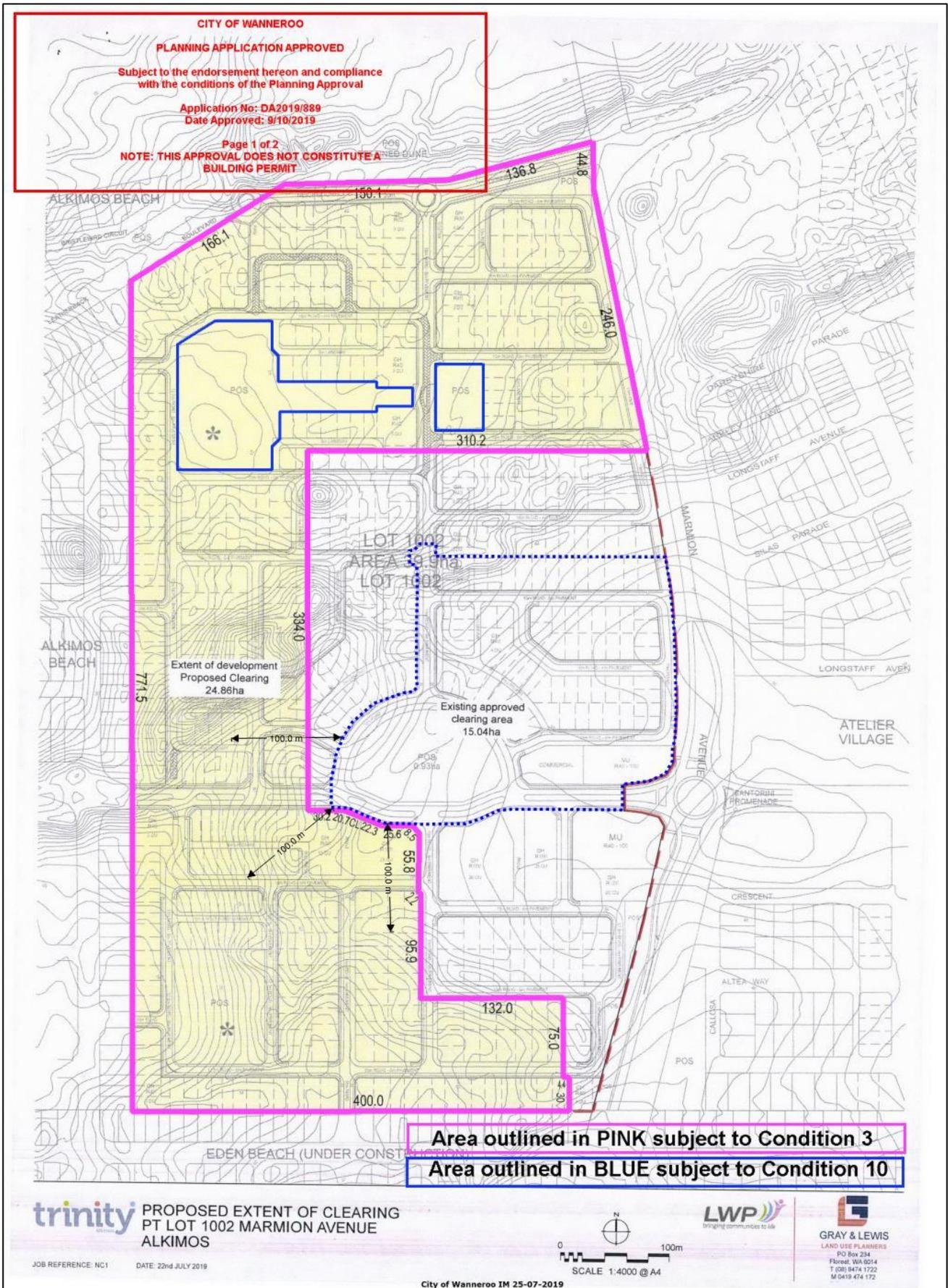
JOB REFERENCE: NC1      DATE: 17th MAY 2018

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South Perth, WA 6151  
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F (08) 9474 1172  
perth@graylewis.com.au

**Appendix 5 – Additional planned clearing of vegetation surrounding the site**



Appendix 6 – Draft landscape plan for the POS



## Appendix 7 – Development Approval for vegetation clearing



**LOCKED BAG 1**  
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Application Number : DA2019/889  
Enquiries Officer : Ben Sharman

9 October 2019

Gray & Lewis Landuse Planners  
Po Box 234  
FLOREAT WA 6014

### CITY OF WANNEROO DEVELOPMENT APPROVAL METROPOLITAN REGION SCHEME FORM 2

<b>Land Parcel Details:</b>	Lot: 1002 DP: 61236
<b>Property Details:</b>	2561 Marmion Avenue ALKIMOS
<b>Registered Owner(s):</b>	Northern Corridor Developments Ltd
<b>Application Date:</b>	11 July 2019
<b>Application Received:</b>	25 July 2019
<b>Development Description:</b>	Vegetation Clearing

The City advises that Development Approval has now been **granted** under the provisions of the City of Wanneroo District Planning Scheme No. 2 and the Metropolitan Region Scheme. This Approval is subject to compliance with the following conditions:

1. This approval only relates to the **Vegetation Clearing**, as highlighted on the approved plans. It does not relate to any other development on the lot.
2. The applicant shall undertake adequate measures to minimise any impacts of dust and sand drift from the site.
3. The clearing boundary as shown on the approved plan shall be adequately fenced to the satisfaction of the City of Wanneroo prior to works commencing.
4. Prior to clearing the site, a dust management plan is to be prepared in accordance with the Department of Water and Environmental Regulation guidelines, and endorsed by the City.
5. All green waste associated with the approved works shall be removed from site within 30 days from the date of works commencing.
6. Hours of work shall be limited to 0700 to 1700 on weekdays, and 0800 to 1700 on Saturdays. No work is permitted on Sundays and public holidays.
7. All stormwater shall be collected and retained on site. Erosion control measures shall be implemented to ensure no sand runoff onto the road reserve.
8. Any damage or removal of a City asset by the contractor shall be replaced or repaired at the cost of the applicant/owner.

DA2019/889

Page 1 of 2

9. No burning of cleared vegetation shall be permitted without prior written approval from the City. The Applicant shall refer to the Department of Water and Environmental Regulation guidelines for alternative methods of treating cleared vegetation.
10. Prior to clearing of the site, the vegetation as identified and highlighted on the approved plan/s shall be fenced off for protection to the satisfaction of the Manager Strategic Land Development.

#### FOOTNOTES

1. This is a Development Approval only and is issued under District Planning Scheme No. 2 and the Metropolitan Region Scheme. It is the applicant's responsibility to comply with all other applicable legislation and obtain all the required approvals, licenses and permits prior to commencement of the development.
2. This Development Approval does not take into account any restrictive covenants that may apply to the land. It is the proponent's responsibility to ensure that the development will not result in a conflict with any other contractual obligations relating to the land.
3. If the development has not substantially commenced within two (2) years of the date of approval, or another period specified in this approval, the approval will lapse and have no further effect. Where the approval has lapsed, no development can be carried out without the further approval of the Council.
4. If an applicant is aggrieved by this determination there is a right of review by the State Administrative Tribunal in accordance with Part 14 of the Planning and Development Act 2005. An application to the Tribunal must be made within twenty eight (28) days of the date of the determination.
5. Adequate measures in place to minimise any impacts of dust and sand drift from the site include all requirements as stipulated within the Department of Environmental Regulation's 'A guideline for managing the impacts of dust and associated contaminants from land development sites, contaminated sites remediation and other related activities'.

Unless otherwise specified, all conditions shall be complied with, by and at the cost of the owner, to the specification and satisfaction of the City, before the development is occupied. Thereafter, maintenance and compliance with conditions of approval shall continue to the City's satisfaction.

Unless otherwise specified through the conditions above, this approval requires development to be undertaken in accordance with the enclosed approved plans. Should any minor variation to the approved plans be proposed on the submission of a building permit, such variation may only be permitted under this Development Approval at the City's discretion and to the satisfaction of the Manager Approval Services.

Should you have any further queries relating to this advice, please contact Ben Sharman from the City of Wanneroo Planning and Sustainability Directorate on 9405 5823.



Alex Jarvis  
**A/SENIOR PLANNER, APPROVAL SERVICE**  
City of Wanneroo

DA2019/889

Page 2 of 2