BAL ASSESSMENTS | BUSHFIRE MANAGEMENT PLANS | CONSULTANCY

RUIC FIRE

BUSHFIRE MANAGEMENT PLAN

Subdivision Application

Lot 1981 Gnangara Road, Landsdale

Version: 1.0 Reference: 5372 July 2016

Project Number:	5372
Project Name:	Lot 1981 Gnangara Road, Landsdale
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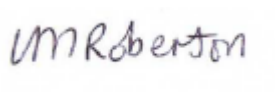

Author:
Date: 10/07/2016

Approved by:
Date: 10/07/2016

In the signing the above, the author declares that this Bushfire Management Plan meets the requirements of State Planning Policy 3.7. This report supersedes all previous Bushfire Management Plans for the site.

DISCLAIMER AND LIMITATION

This report is prepared solely for **Ricciardello Nominees Pty Ltd** (the 'proponent') and any future landowners of the subject lot(s)and is not for the benefit of any other person and may not be relied upon by any other person.

The mitigation strategies contained in this Bushfire Management Plan are considered to be prudent minimum standards only, based on the writer's experience as well as standards prescribed by relevant authorities. It is expressly stated that RUIC Fire and the writer do not guarantee that if such standards are complied with or if a property owner exercises prudence, that a building or property will not be damaged or that lives will not be lost in a bush fire.

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Further, the growth, planting or removal of vegetation; poor maintenance of any fire prevention measures; addition of structures not included in this report; or other activity can and will change the bushfire threat to all properties detailed in the report. Further, the achievement of the level of implementation of fire precautions will depend on the actions of the landowner or occupiers of the land, over which RUIC Fire has no control. If the proponent becomes concerned about changing factors then a new Fire Risk Management Plan should be requested.

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2. errors or omissions in this report except where grossly negligent; and

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1.0 Introduction

1.1 Subject Site

The site the subject of this Bushfire Management Plan (BMP) is Lot 1981 Gnangara Road, Landsdale. The site is located within the municipality of the City of Wanneroo. Figure 1A illustrates the subject site and its immediate surrounds.

The site is identified as being Bushfire Prone on the State Bushfire Prone Maps.

This BMP has been prepared as a requirement of Condition 2 of the WAPC Conditional Approval, Application No. 153019.

The proponent has not identified any relevant environmental considerations (wetlands, foreshores, Bush Forever sites, remnant vegetation, threatened species, ecological communities, nature reserves or coastal reserves) within the site or being affected by the development.

1.2 Development Description

The site is currently cleared of all vegetation.

Stage 1 of the development involves the subdivision of Lot 1981 into Lots 90 to 140 and includes Balance Lot 9003 (also known as Lot 52) (Figure 1B).

Stage 2 of the development involves the subdivision of Balance Lot 9003 (also known as Lot 52) into Lots 141 to 153 (Figure 1C).

Condition 1 of the WAPC Conditional Approval excludes 9003 (52) from the subdivision approval. This BMP has been prepared to include Lot 9003 (52) due to the anticipated future subdivision of this lot as Stage 2 of the development.

1.3 Previous Bushfire Assessments

There are no known previous bushfire assessments that have been undertaken for the site.

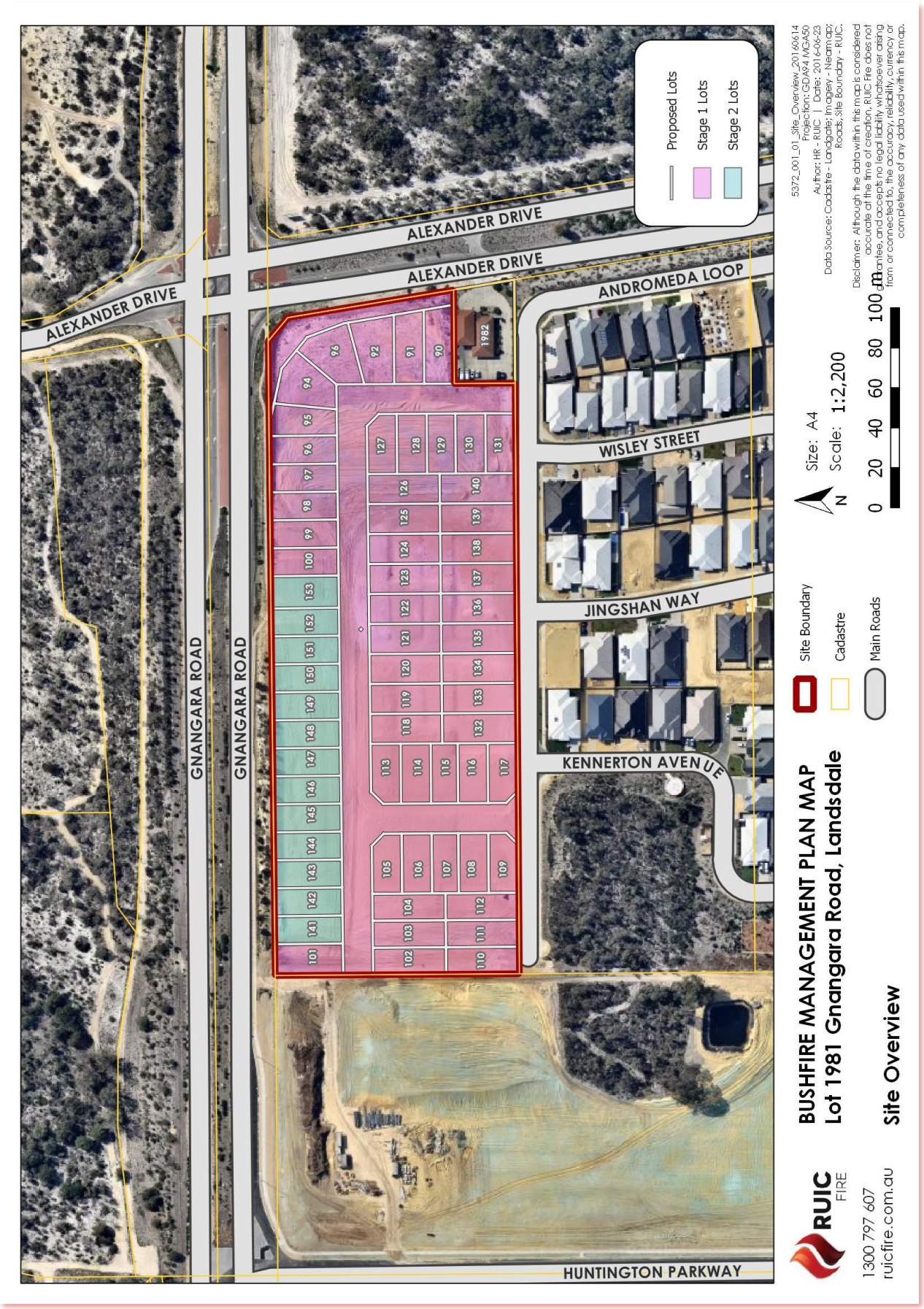


Figure 1A: Site Overview

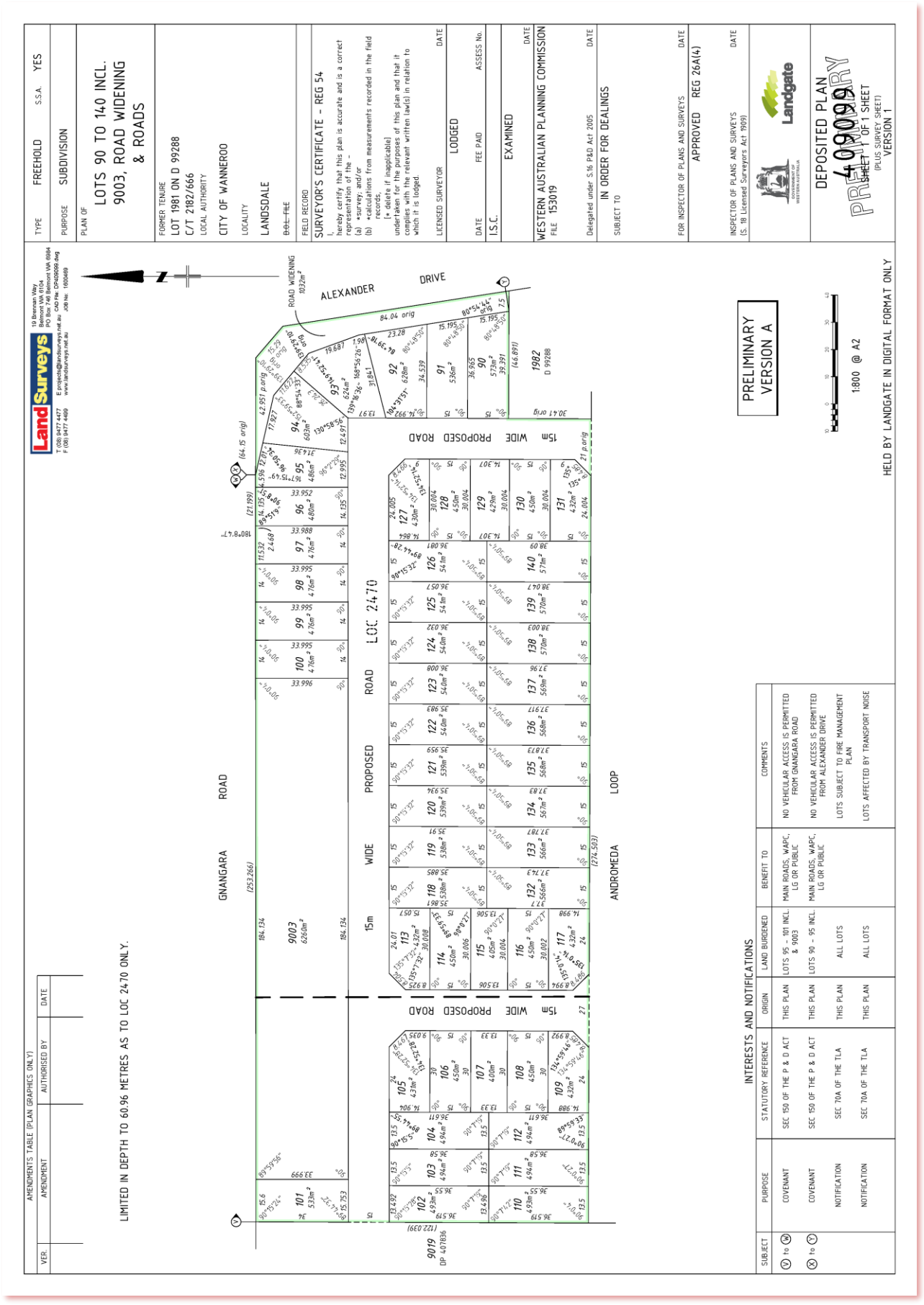


Figure 1B: Stage 1 - Deposited Plan 409099 (Lots 90 to 140 including Lot 9003).

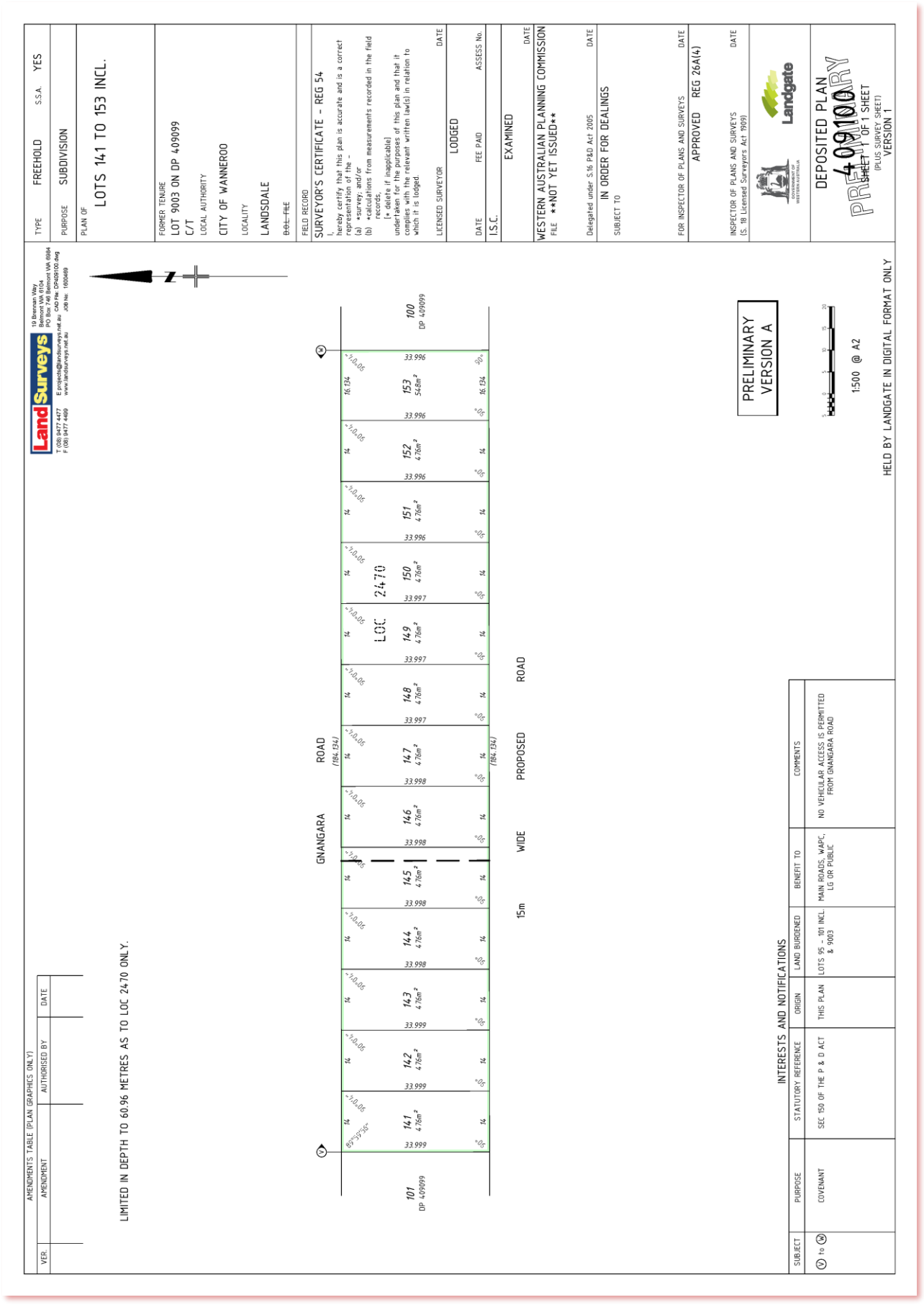


Figure 1C: Stage 2 - Deposited Plan 409100 (Lots 141 to 153).

2.0 Spatial consideration of bushfire threat

2.1 Bushfire Fuels and Potential Bushfire Impact

The location and extent of AS 3959 vegetation structures, including clause 2.2.3.2 exclusions, within 100m of the site are mapped in Figure 2A and illustrated in the associated plates. Bushfire fuel loads are identified as consistent with AS 3959 Table B2 for radiant heat flux modelling purposes. All bushfire structures and fuel loads are assessed in their mature states (including revegetation and rehabilitation areas) unless otherwise identified.

All vegetation on site has been removed as part of the subdivision development.

Plot 1 – Class B Woodland

Plot 2 – Class C Shrubland

Plot 3 – Class B Woodland

Plot 4 – Exclusion 2.2.3.2(f) (in left of photo)

Plot 5 – Exclusion 2.2.3.2(f)

Plot 6 – Exclusion 2.2.3.2(f)

Plot 7 – Exclusion 2.2.3.2(f)
(Nature strip left of fenceline)

Plot 8 – Class B Woodland

Plot 9 – Class B Woodland

Plot 10 – Exclusion 2.2.3.2(e) & (f)
(Site and surrounding area cleared for development)

Plot 11 – Class C Shrubland (left of bollards)

Plot 12 – Exclusion 2.2.3.2(f) (Nature strip)

The following table outlines the worst case BAL for each of the Plots based on separation distance to the external property boundary.

Table 2A: Maximum existing BAL rating that applies to the site

Plot	Vegetation Classification	Effective Slope	Separation	BAL
Plot 1	Class B Woodland	Downslope 4°	14 m	BAL-40*
Plot 2	Class C Shrubland	Flat	11 m	BAL-29
Plot 3	Class B Woodland	Flat	40 m	BAL-12.5
Plot 4	Exclusion 2.2.3.2(f)	N/A	N/A	N/A
Plot 5	Exclusion 2.2.3.2(f)	N/A	N/A	N/A
Plot 6	Exclusion 2.2.3.2(f)	N/A	N/A	N/A
Plot 7	Exclusion 2.2.3.2(f)	N/A	N/A	N/A
Plot 8	Class B Woodland	Flat	45 m	BAL-12.5
Plot 9	Class B Woodland	Flat	70 m	BAL-12.5
Plot 10	Exclusion 2.2.3.2(f)	N/A	N/A	N/A
Plot 11	Class C Shrubland	Downslope 4°	21 m	BAL-19
Plot 12	Exclusion 2.2.3.2(f)	N/A	N/A	N/A

Notes:
* The existing worst case BAL applicable to the external site boundaries is BAL-40

Potential bushfire impact analysis was undertaken in accordance with AS 3959 Methodology 1 to determine the potential worst case scenario radiant heat impact on each of the lots in the proposed subdivision. In accordance with SPP 3.7, a BAL Contour Map has been prepared to illustrate the potential radiant heat impacts and associated BAL ratings for the assessment area after the development is completed (see Figure 2A).

With the implementation of 17 metre wide Asset Protection Zone for Lots 109, 111 and 112, the BAL for these lots would be reduced from BAL-40 to BAL-29. Therefore, all future lots in the development can achieve the maximum permitted BAL-29 as outlined in Table 2B.

Table 2B: Maximum BAL rating Post Development that applies to each lot

Lot	Initial BAL	Asset Protection Zone	Setback to achieve APZ	Revised BAL
130-131, 138-140	BAL-LOW	-	-	BAL-LOW
90-107, 113-115, 118-129, 133-137, 140-153	BAL-12.5	-	-	BAL-12.5
108, 116, 132	BAL-19	-	-	BAL-19
110, 117	BAL-29	-	-	BAL-29
109	BAL-40	17 m (from Plot 1 Class B Woodland)	1 m, southern lot boundary	BAL-29
111	BAL-40	17 m (from Plot 1 Class B Woodland)	3 m, southern lot boundary	BAL-29
112	BAL-40	17 m (from Plot 1 Class B Woodland)	3 m, southern lot boundary	BAL-29
Notes: * On completion of the development, the worst case BAL applicable to any lot is BAL-29				

1.4 Bushfire Hazard Issues

From the BAL Contour Map, the following bushfire hazard issues have been identified.

- Lots 90-129, 132-137 and 140-153 are subject to BAL-12.5 or higher. Section 4 of this report addresses the bushfire protection criteria relevant to the development.
- Lots 109, 111 and 112 are subject to BAL-40. Asset protection zones/ setbacks need to be installed to the widths identified in Table 2B to ensure future habitable buildings are constructed on maximum BAL-29 land.

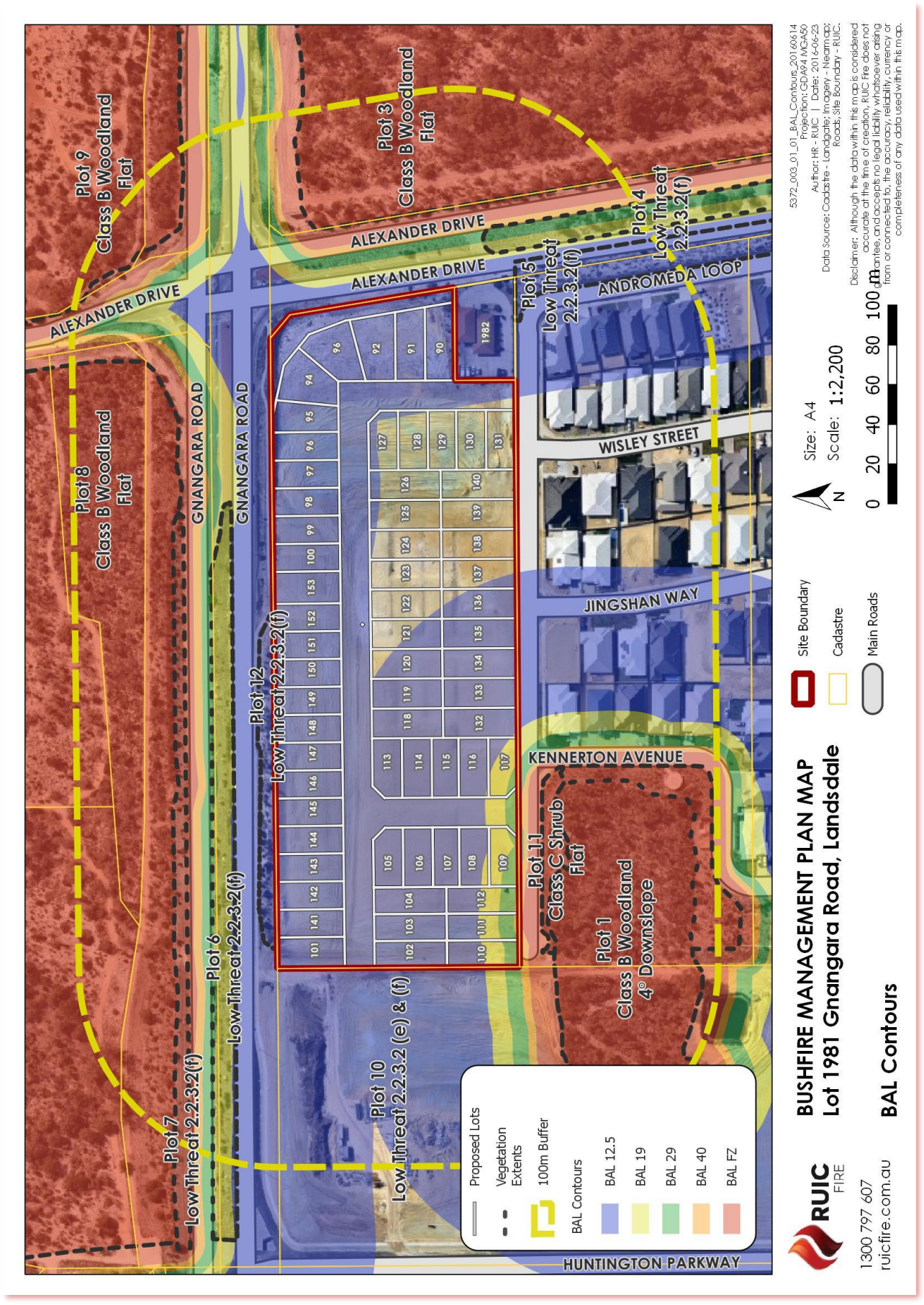


Figure 2A: BAL Contour Map

3.0 Proposal compliance and justification

3.1 State Planning Policy 3.7 – Planning in Bushfire Prone Areas (SPP 3.7)

SPP3.7 applies to all subdivision applications in designated bushfire prone areas.

3.1.1 Objectives

Policy Measure 5 contains the objectives of SPP3.7. The following demonstrates how the proposed development meets each of the objectives.

Objective 1: ***Avoid any increase in the threat of bushfire to people, property, and infrastructure. The preservation of life and management of bushfire impact is paramount.***

Development Response

Objective 1 is satisfied through the compliance of the proposed development with all required Policy Principles as detailed below and all GPBPA Performance Principles as detailed in Section 4 of this report.

Objective 2: ***Reduce vulnerability to bushfire through the identification and consideration of bushfire risks in decision-making at all stages of the planning and development process.***

Development Response

Objective 2 is satisfied through the appropriate identification and assessment of all relevant bushfire hazards as detailed in Section 2 of this report, specifically the BAL Contour Mapping.

Objective 3: ***Ensure that higher order strategic planning documents, strategic planning proposals, subdivision and development applications take into account bushfire protection requirements and include specified bushfire protection measures.***

Development Response

Objective 3 is satisfied through the compliance of the proposed development with all required Policy Principles as detailed below and all GPBPA Performance Principles as detailed in Section 4 of this report.

Objective 4: ***Achieve an appropriate balance between bushfire risk management measures and, biodiversity conservation values, environmental protection and biodiversity management and landscape amenity, with consideration of the potential impacts of climate change.***

Development Response

Objective 4 is satisfied through the appropriate consideration of all biodiversity and environmental assets as detailed in Section 1 of this report in the development of bushfire related risk mitigation strategies detailed in Section 4 of this report.

3.1.2 Policy Measures

3.1.2.1 Subdivision Applications

Policy Measure 6.2 requires that subdivision applications within designated bushfire prone areas and that have a BAL above BAL-LOW are to comply with Policy Measure 6.4.

3.1.2.2 Information to Accompany Subdivision Applications

Policy Measure 6.4 applies to subdivision applications. It requires certain information to be provided with such applications. The following outlines where the required information has been provided.

Table 3A: Compliance of the proposed development with the Policy Measures of SPP 3.7.

Policy Measure	Description	Development Response
a	A BAL Contour Map to determine the indicative acceptable BAL ratings across the subject site, in accordance with the Guidelines. BAL Contour Maps should be prepared by an accredited Bushfire Planning Practitioner	Figure 2A provides the BAL Contour Map.
b	The identification of any bushfire hazard issues arising from the BAL Contour Map;	Section 2.2 addresses the bushfire hazard issues.
c	An assessment against the bushfire protection criteria requirements contained within the Guidelines demonstrating compliance within the boundary of the subdivision site.	Section 4 provides an assessment of the development against the bushfire protection criteria.

3.1.2.3 Vulnerable or High Risk Land Uses

The proposed subdivision does not contain any vulnerable or high risk land uses.

3.1.2.4 Applications in BAL-40/BAL-FZ Areas

On completion of development, the developable portions of land would not be subject to BAL-40 or BAL-FZ as outlined in Section 2.1.

3.1.2.5 Advice of State/Relevant Authority/s for Emergency Services to be Sought

The proposed subdivision:

- Complies with the SPP3.7 Policy measures;
- Does not propose any additional/alternative measures; and
- Does not contain unavoidable development, vulnerable or high risk land uses.

Therefore, the advice of State/Relevant Authorities for Emergency Services is not required to be sought for this application.

3.1.2.6 Advice of State/Relevant Agencies/Authorities for Environmental Protection to be Sought

The proposed subdivision:

- Is not known to propose clearing of vegetation within environmentally sensitive areas protected under State or Federal legislation;
- Is not known to propose clearing of locally significant native vegetation; and
- Does not abut vegetated land managed by that authority.

Therefore, the advice of State/Relevant Agencies/Authorities for Environmental Protection is not required to be sought for this application.

3.2 Guidelines for Planning in Bushfire Prone Areas (Guidelines)

The Guidelines apply to subdivision applications located within designated bushfire prone areas. The Guidelines provide supporting information for implementation of SPP3.7. Specifically, they provide the Bushfire Protection Criteria to be address for all applications.

This report has also been developed in order to comply with the requirements of all referenced and applicable documents. No non-compliances have been identified.

4.0 Bushfire Risk Management Measures

The bush fire risk mitigation strategies detailed in this report are designed to comply with the Bushfire Protection Criteria detailed in *Guidelines for Planning in Bushfire Prone Areas* (GPBPA) Appendix 4 (2015).

i. The notation (P3) refers to Performance Principle 3 of GPBPA Appendix 4.

ii. The notation (A3.1) refers to Acceptable Solution 3.1 of GPBPA Appendix 4.

iii. The notation (E3.1) refers to Explanatory Note 3.1 of GPBPA Appendix 4.

iv. Where discrepancy occurs between State and Local bushfire planning provisions the higher standard of mitigation has been selected.

4.1 Element 1 - Location

Intent: To ensure that strategic planning proposals, subdivision and development applications are located in areas with the least possible risk of bushfire to facilitate the protection of people, property and infrastructure.

Performance Principle (P1): The strategic planning proposal, subdivision and development application is located in an area where the bushfire hazard assessment is or will, on completion, be moderate or low, or a BAL–29 or below, and the risk can be managed. For minor or unavoidable development in areas where BAL–40 or BAL–FZ applies, demonstrating that the risk can be managed to the satisfaction of the Department of Fire and Emergency Services and the decision-maker.

Acceptable Solution A1.1 Development location

The strategic planning proposal, subdivision and development application is located in an area that is or will, on completion, be subject to either a moderate or low bushfire hazard level, or BAL–29 or below.

Development Response/Recommendations

As outlined in Figure 2A and Table 2B, the subdivision would ensure all future habitable buildings are, upon completion of development, located in an area subject to BAL-29 or lower.

4.2 Element 2 - Siting and design of Development

Intent: To ensure that the siting of development minimises the level of bushfire impact.

Performance Principle (P2): The siting and design of the strategic planning proposal, subdivision or development application, including roads, paths and landscaping, is appropriate to the level of bushfire threat that applies to the site. That it minimises the bushfire risk to people, property and infrastructure, including compliance with AS 3959 if appropriate.

Acceptable Solution A2.1 Asset Protection Zone (APZ)

Every building is surrounded by an Asset Protection Zone (APZ), depicted on submitted plans, which meets the following requirements:

a. Width: 20 metres measured from any external wall of the building or building envelope. Where the slope increases above 10 degrees, the APZ should be increased to ensure the potential radiant heat impact of a fire does not exceed 29kW/m². Where a full 20 metre

APZ is not possible, the APZ should be sufficient enough to ensure the potential radiant heat impact of a fire does not exceed 29kW/m²;

b. Location: within the boundaries of the lot on which the building is situated;

c. Fine fuel load: reduced to and maintained at 2 tonnes per hectare;

d. Trees (crowns) are a minimum distance of ten metres apart. A small group of trees within close proximity to one another may be treated as one crown provided the combined crowns do not exceed the area of a large or mature crown size for that species;

e. No tall shrubs or trees located within 2 metres of a building;

f. No tree crowns overhanging the building;

g. Fences and sheds within APZ are constructed using non-combustible materials (eg. iron, brick, limestone, metal post and wire); and

h. Sheds within the APZ should not contain flammable materials.

Development Response/Recommendations

The Asset Protection Zone (APZ) is a low fuel area immediately surrounding a building and is designed to minimise the likelihood of flame contact with buildings.

Features such as driveways, footpaths, roads, vegetable patches, lawn or landscaped garden (including deciduous trees and fire resistant plant species) may form part of asset protection zones. Areas of vegetation deemed Low Threat Vegetation and managed in a reduced fuel state inclusive of Public Open Space and nature strips may form part of a buildings defendable space. Isolated shrubs and trees may be retained within asset protection zones.

As shown in Figure 4A, the entire site will be managed as an APZ. During Stage 1, the balance title lot (Lot 90003 or Lot 52) which will be subdivided into Lots 141-153 during Stage 2 will also be maintained as an APZ.

In addition to the entire site being maintained as an APZ during both Stage 1 and Stage 2, the surrounding roads, footpaths and landscaped residential lots contribute to a further 20 metre APZ being achieved immediately adjacent to the external boundaries of the site. The only area where the full 20 metre external APZ cannot be achieved is along the western portion of the southern site boundary where the Plot 1 Woodland and Plot 11 Shrubland vegetation are located within 20 m of the site (see Figure 4A).

As detailed in Table 2B Lots 109, 111 and 112 require a 17 metre wide APZ to achieve BAL-29. As the Plot 1 vegetation located external to the site is located within 17 metres of the boundaries of these lots, future habitable buildings must be set back to achieve BAL-29 (see Table 2B for setbacks).

<u>Implementation</u>

i. Stage 1 and Stage 2 lots - APZs to be implemented prior to the clearance of Stage 1 subdivision for affected lots in accordance with Figure 4A and provisions c-h above.

ii. Stage 1 and Stage 2 lots - It is the responsibility of the developer to ensure the APZ standard is established.

iii. Stage 1 lots - It is the responsibility of the developer to ensure the APZ standard continues to be achieved post completion of the construction until each lot is sold.

iv. Stage 2 - It is the responsibility of the developer to ensure the APZ standard continues to be achieved post completion of the construction until the lots are subdivided in the future and sold to individual property owners.

v. Stage 1 and Stage 2 lots - It is the responsibility of the individual property owner to ensure the APZ standard continues to be achieved post completion of the construction once each lot has been sold.

Acceptable Solution A2.2 Hazard Separation Zone (HSZ)

Every building and its contiguous APZ is surrounded by a Hazard Separation Zone (HSZ), depicted on submitted plans, that meets the following requirements:

a. Minimum width: 80 metres, measured from the outer edge of the APZ, for any vegetation classified in AS 3959 as forests, woodlands, closed shrub, open shrub, mallee/mulga and rainforest; OR 30 metres, measured from the outer edge of the APZ, for unmanaged grassland;

b. Location: within the boundaries of the lot on which the building is situated or, where this is not possible or desirable, within the boundaries of the development precinct in which the building is proposed to be located; and

c. Fine Fuel load (Dead Material <6mm diameter and <3mm for live material): reduced to and maintained at between five and eight tonnes per hectare for jarrah/marri dominated forest and woodlands, below 12-15 tonnes per hectare in mallee heath and below 15 tonnes per hectare in karri forest.

Note: A HSZ may not be required if the proposed construction meets the standard appropriate to the BAL for that location, and does not exceed BAL–29.

Development Response/Recommendations

With appropriate boundary setbacks, no BAL on site exceeds BAL-29. Construction standards will be applied to relevant buildings in accordance with AS3959 as part of the Building Permit. In this regard a HSZ is not required for this subdivision.

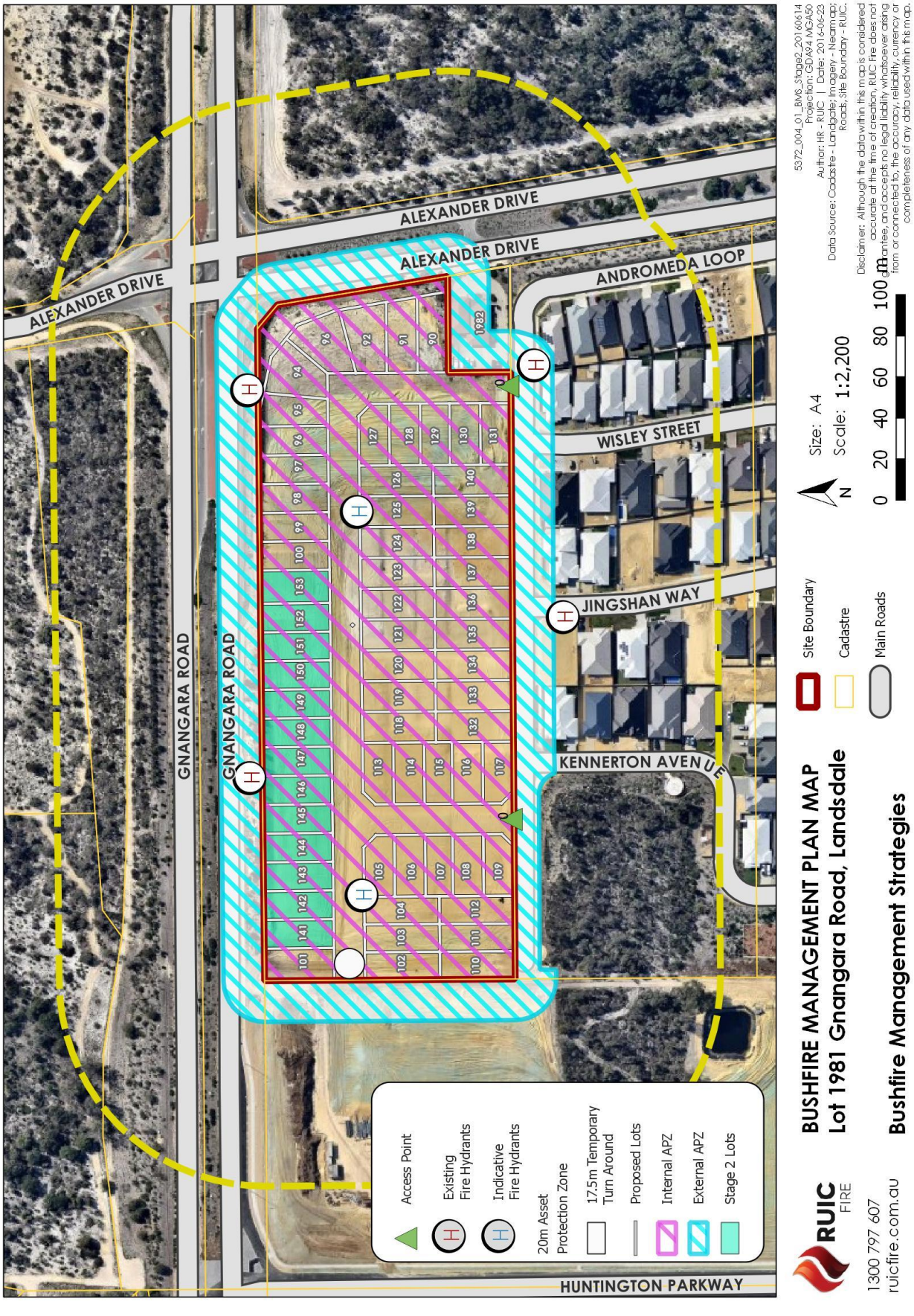


Figure 4A: Bushfire Management Strategies Map

4.3 Element 3 - Vehicular Access

Intent: To ensure that the vehicular access serving a subdivision/ development is safe in the event of a bush fire occurring.

Performance Principle (P3): The internal layout, design and construction of public and private vehicular access in the subdivision/development allows emergency and other vehicles to move through it easily and safely at all times.

The following outlines the Acceptable Solutions that are relevant to the proposal, identifies where a Performance Solution has been utilised instead of an Acceptable Solution, and where the Acceptable Solution is not relevant to the proposal and why.

	Solution	AS	PS	N/A	Comment
A4.1	Two Access Routes	☒	☐	☐	
A4.2	Public Road	☒	☐	☐	
A4.3	Cul-de-sacs (including dead-end road)	☒	☐	☐	
A4.4	Battle-axe	☐	☐	☒	
A4.5	Private Driveway longer than 50 metres	☐	☐	☒	
A4.6	Emergency Access Way	☐	☐	☒	
A4.7	Fire Service Access Routes	☐	☐	☒	
A4.8	Firebreak width	☒	☐	☐	

Acceptable Solution A3.1 Two access routes

Two different vehicular access routes are provided, both of which connect to the public road network, provide safe access and egress to two different destinations and are available to all residents/the public at all times and under all weather conditions.

Development Response/Recommendations

Figure 4B illustrates access available to the site. During both Stage 1 and Stage 2, the development achieves at least two different vehicular access routes, both connecting to the public road network to provide egress to two different destinations at all times.

The site can be accessed by three access points from Andromeda Loop. Andromeda Loop connects to Haga Parkway via Kennerton Avenue, providing access to the north and south via Huntington Parkway west of the site as well as via Alexander Drive east of the site.

Additional access will be provided when development within the western lots is completed.

Acceptable Solution A3.2 Public roads

A public road is to meet the requirements in Table 4A, Column 1.

Table 4A: Vehicular access technical requirements

Technical Requirement	Public road	Cul-de-sac	Private driveway	Emergency access way	Fire service access routes
Minimum trafficable surface (m)	6	6	4	6	6
Horizontal clearance (m)	6	6	6	6	6
Vertical clearance (m)	4	N/A	4.5	4.5	4.5
Maximum grade over <50m	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

Development Response/Recommendations

The development includes the construction of public roads as illustrated in Figure 1B. The public roads will comply with A3.2.

Implementation

i. Public roads are to be constructed prior to the clearance of subdivision for affected lots serviced by the public road.

ii. It is the responsibility of the developer to ensure the public road standard is established in accordance with Table 4A.

iii. It is the responsibility of Local and State Government (as appropriate) to ensure the maintenance of public roads vested within their jurisdiction.

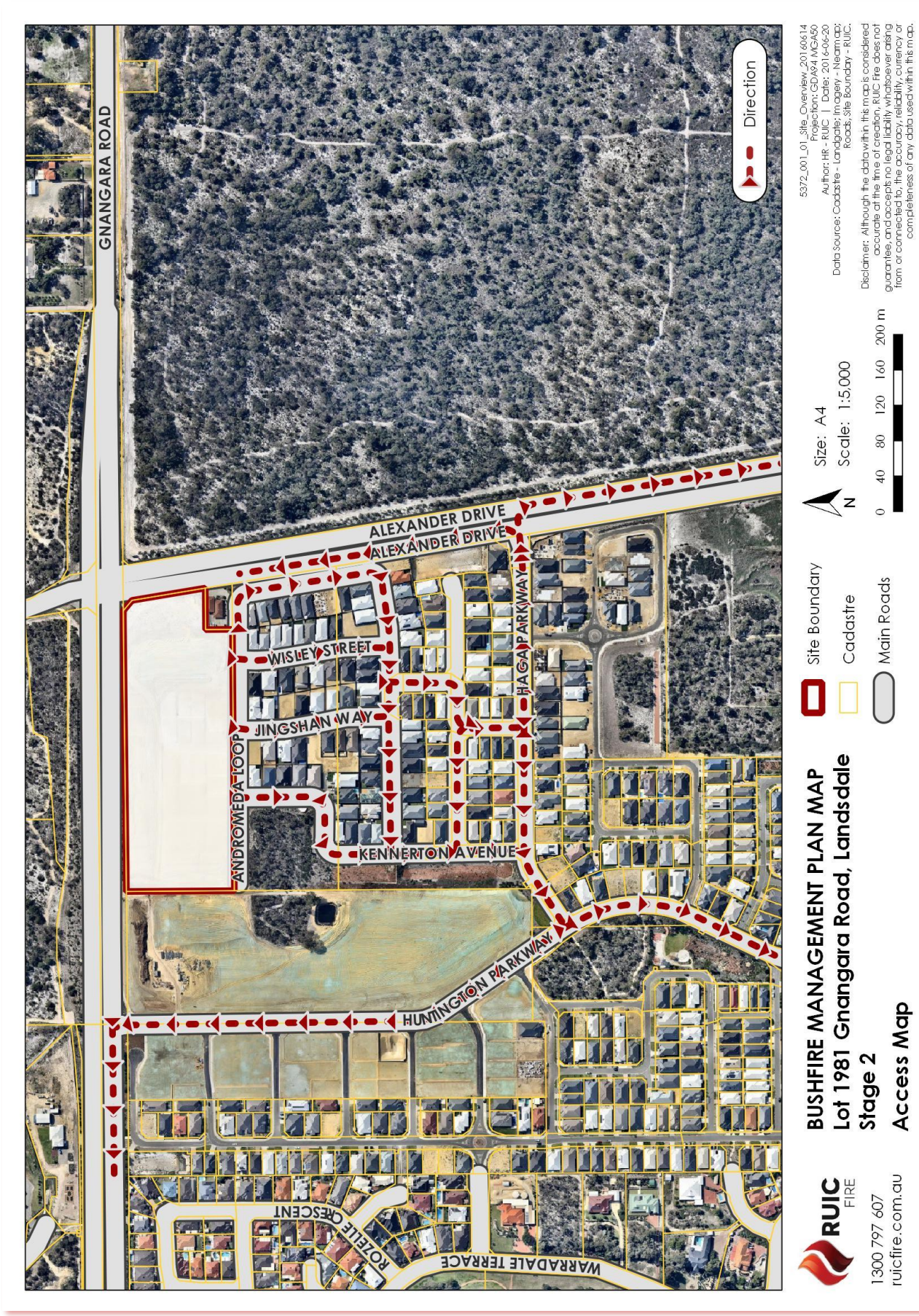


Figure 4B: Site Access

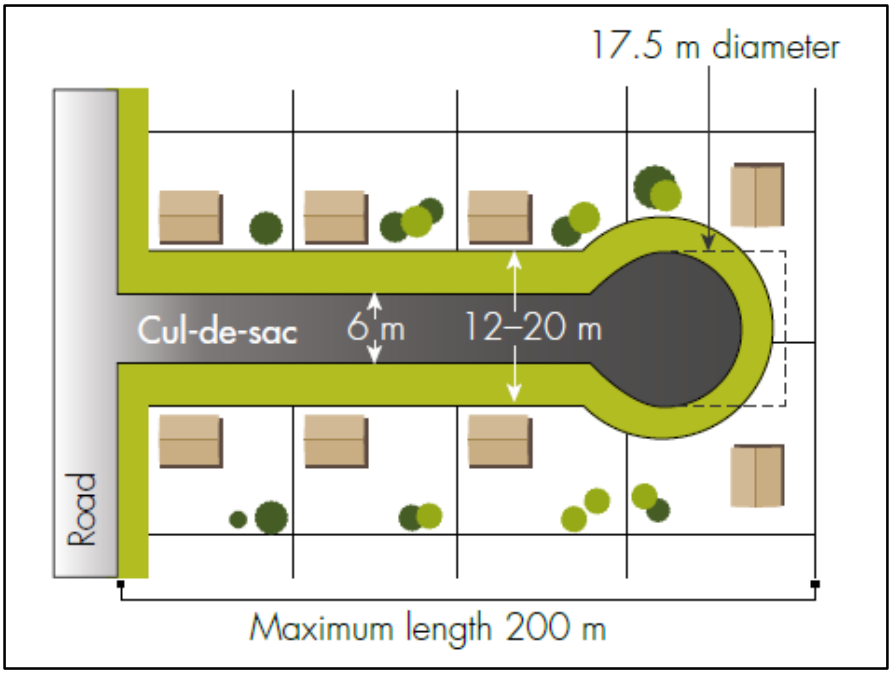
Acceptable Solution A3.3 Cul-de-sac (including a dead-end road)

A cul-de-sac and/or a dead end road should be avoided in bushfire prone areas. Where no alternative exists (i.e. the lot layout already exists and/or will need to be demonstrated by the proponent), the following requirements are to be achieved:

a. Requirements in Table 4A, Column 2;

b. Maximum length: 200 metres (if public emergency access is provided between cul-de-sac heads maximum length can be increased to 600 metres provided no more than eight lots are serviced and the emergency access way is no more than 600 metres); and

c. Turn-around area requirements, including a minimum 17.5 metre diameter head.



Source: Guidelines for Planning in Bushfire Prone Areas, Appendix 4, Fig. 18

Development Response/Recommendations

The subdivision does not include any permanent cul-de-sacs. One (1) temporary cul-de-sac will be installed on the western side of the subdivision until such a time as the land to the west is developed (see Figure 4A). The temporary cul-de-sac is to comply with Table 4A, Column 2. The temporary cul-de-sac will be less than 200 m in length.

Implementation

i. To be implemented prior to the clearance of subdivision for affected lots that the temporary cul-de-sac services.

ii. It is the responsibility of the developer to ensure the temporary cul-de-sac meets the required standard in accordance with Table 4A.

iii. It is the responsibility of the developer to ensure the temporary cul-de-sacs continue to meet the required standard.

Acceptable Solution A3.4 Battle-axe

Battle-axe access leg should be avoided in bushfire prone areas. Where no alternative exists, (this will need to be demonstrated by the proponent) all of the following requirements are to be achieved:

a. Requirements in Table 4A, Column 3;

b. Maximum length: 600 metres; and

c. Minimum width: six metres.

Development Response/Recommendations

The proposed development does not include any battle-axe lots; A3.4 is not applicable.

Acceptable Solution 3.5 Private Driveway longer than 50 metres

A private driveway is to meet all of the following requirements:

a. Requirements in Table 4A, Column 3;

b. Required where a house site is more than 50 metres from a public road;

c. Passing bays: every 200 metres with a minimum length of 20 metres and a minimum width of two metres (i.e. the combined width of the passing bay and constructed private driveway to be a minimum six metres);

d. Turn-around areas designed to accommodate type 3.4 fire appliances and to enable them to turn around safely every 500 metres (i.e. kerb to kerb 17.5 metres) and within 50 metres of a house; and

e. Any bridges or culverts are able to support a minimum weight capacity of 15 tonnes.

f. All-weather surface (i.e. compacted gravel, limestone or sealed).

Development Response/Recommendations

The proposed development would not include any private driveways longer than 50 metres; A3.5 is not applicable.

Acceptable Solution 3.6 Emergency Access Way

An access way that does not provide through access to a public road is to be avoided in bushfire prone areas. Where no alternative exists (this will need to be demonstrated by the proponent), an emergency access way is to be provided as an alternative link to a public road during emergencies. An emergency access way is to meet all of the following requirements:

a. Requirements in Table 4, Column 4;

b. No further than 600 metres from a public road;

c. Provided as right of way or public access easement in gross to ensure accessibility to the public and fire services during an emergency; and

d. Must be signposted.

Development Response/Recommendations

The proposed development does not include emergency access ways; A3.6 is not applicable.

Acceptable Solution 3.7 Fire Service Access Routes (Perimeter Roads)

Fire service access routes are to be established to provide access within and around the edge of the subdivision and related development to provide direct access to bushfire prone areas for fire fighters and link between public road networks for firefighting purposes. Fire service access routes are to meet the following requirements:

a. Requirements Table 4, Column 5;
b. Provided as right of ways or public access easements in gross to ensure accessibility to the public and fire services during an emergency;
c. Surface: all-weather (i.e. compacted gravel, limestone or sealed)
d. Dead end roads are not permitted;
e. Turn-around areas designed to accommodate type 3.4 appliances and to enable them to turn around safely every 500 metres (i.e. kerb to kerb 17.5 metres);
f. No further than 600 metres from a public road;
g. Allow for two-way traffic and;
h. Must be signposted.

Development Response/Recommendations

The proposed development does not include fire service access routes; A3.7 is not applicable.

Acceptable Solution A3.8 Firebreak width

Lots greater than 0.5 hectares must have an internal perimeter firebreak of a minimum width of three metres or to the level as prescribed in the local firebreak notice issued by the local government.

Development Response/Recommendations

The balance title lot for Stage 1 (being Lot 9003 or Lot 52) is not required to have a fire break installed in accordance with the requirements of A3.8 as this area will be maintained as an APZ as detailed in A2.1.

On completion of Stage 2, all lots within the development will be less than 0.5 hectares in area, therefore firebreaks will not be required.

4.4 Element 4 – Water

Intent: To ensure that water is available to the subdivision, development or land use to enable people, property and infrastructure to be defended from bushfire.

Performance Principle (P4): The subdivision, development or land use is provided with a permanent and secure water supply that is sufficient for firefighting purposes.

The following outlines the Acceptable Solutions that are relevant to the proposal, identifies where a Performance Solution has been utilised instead of an Acceptable Solution, and where the Acceptable Solution is not relevant to the proposal and why.

	Solution	AS	PBS	N/A	Comment
A4.1	Reticulated Areas	☒	☐	☐	
A3.2	Non-reticulated Areas	☐	☐	☒	
A3.3	Individual lots within non-reticulated areas	☐	☐	☒	

Acceptable Solution A4.1 Reticulated areas

The subdivision, development or land use is provided with a reticulated water supply in accordance with the specifications of the relevant water supply authority and Department of Fire and Emergency Services.

Development Response/Recommendations

The site will be serviced by reticulated scheme water and firefighting hydrants, satisfying Acceptable Solution A4.1. The locations of existing and indicative future firefighting hydrants are shown on Figure 4A.

Acceptable Solution A4.2 Non-reticulated areas

Water tanks for firefighting purposes with a hydrant or standpipe are provided and meet the following requirements:

a. Volume: minimum 50,000 litres per tank;
b. Ratio of tanks to lots: minimum one tank per 25 lots (or part thereof);
c. Tank location: no more than two kilometres to the further most house site within the residential development to allow a 2.4 fire appliance to achieve a 20 minute turnaround time at legal road speeds;
d. Hardstand and turn-around areas suitable for a type 3.4 fire appliance (i.e. kerb to kerb 17.5 metres) are provided within three metres of each water tank; and
e. Water tanks and associated facilities are vested in the relevant local government.

Development Response/Recommendations

The site is serviced by reticulated water supply; A4.2 is not applicable.

Acceptable Solution A4.3 Individual lots within non-reticulated areas (Only for use if creating one additional lot and cannot be applied cumulatively)

Single lots above 500 square metres need a dedicated static water supply on the lot that has the effective capacity of 10,000 litres.

Development Response/Recommendations

The site is serviced by reticulated water supply; A4.2 is not applicable.

5.0 Implementation and Enforcement

Table 5A: Developer Schedule of Works

Strategy	Implementation		Maintenance	
	Responsible	Time Frame	Responsible	Time Frame
Amendments to BMP	Any amendments to this BMP shall be approved by the relevant Jurisdiction Having Authority			
Asset Protection Zone	Developer	Prior to clearance of Stage 1 subdivision	Developer until lots are sold. Individual land owners thereafter.	Ongoing
Hazard Separation Zone	N/A	N/A	N/A	N/A
Construction to AS 3959	Individual Land Owners & Local Government	On construction of all habitable buildings	Individual Land Owners	Ongoing
Cul-de-sacs (temporary)	Developer	Prior to clearance	Developer until western lots developed, then local government	Ongoing
Battle Axes	N/A	N/A	N/A	N/A
Private Driveways & Turnaround Area	N/A	N/A	N/A	N/A
Emergency Access Ways	N/A	N/A	N/A	N/A
Fire Service Access Routes	N/A	N/A	N/A	N/A
Firebreaks	N/A	N/A	N/A	N/A
Firefighting Water (hydrants)	Developer (if required)	Prior to clearance	Water Corporation	Ongoing
Firefighting Services & Response	DFES and Local Government	Ongoing	DFES and Local Government	Ongoing
Fuel Load Reduction and Fire Break Notice	Local Government	In accordance with firebreak notice	Local Government	In accordance with firebreak notice
Inspection and Issue of Works Orders or Fines	Local Government	Ongoing	Local Government	Ongoing

6.0 References

Standards Australia. (2009). AS 3959:2009 Construction of buildings in bushfire prone areas: SAI Global.

WAPC. (2015a). State Planning Policy 3.7 Planning in Bushfire Prone Areas. Western Australian Planning Commission & Department of Planning.

WAPC. (2015b). Guidelines for Planning in Bushfire Prone Areas. Western Australian Planning Commission, Department of Planning & Department of Fire and Emergency Services.

WAPC. (2015c). Guidelines for Planning in Bushfire Prone Areas Appendices. Western Australian Planning Commission, Department of Planning & Department of Fire and Emergency Services.

WAPC. (2015d). Planning Bulletin 111/2015 Planning in Bushfire Prone Areas. Western Australian Planning Commission.