

**WOODLAND VISTA  
LOT 51 (No.575) FLYNN DRIVE, CARRAMAR**

**CITY OF WANNEROO**

**BUSHFIRE MANAGEMENT PLAN**

Issue 5: October 2016

Prepared for: **Woodland Consortium Pty Ltd**

Prepared by: Burgess Design Group  
101 Edward Street, Perth, 6000  
PO Box 8779, Perth Business Centre, W.A., 6849  
Telephone: (08) 9328 6411  
Facsimile: (08) 9328 4062  
Website: [www.burgessdesigngroup.com.au](http://www.burgessdesigngroup.com.au)  
Email: [reception@burgessdesigngroup.com.au](mailto:reception@burgessdesigngroup.com.au)

Project Planner: Mark Szabo  
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**DISCLAIMER**

Any representations, statements, opinions and advice whether expressed or implied within this document are based on information contained within the *Guidelines for Planning in Bushfire Prone Areas* (December 2015), the *Australian Standard for the construction of buildings in bushfire prone areas* (AS3959-2009), and an analysis of the land undertaken in 2013/2014.

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## Abbreviations:

APZ	-	Asset Protection Zone
AS3959-2009	-	Australian Standard: <i>Construction of Buildings in Bushfire Prone Areas</i> 3959-2009
BAL	-	Bushfire Attack Level
BHL	-	Bushfire Hazard Level
BMP	-	Bushfire Management Plan
Guidelines	-	<i>Guidelines for Planning in Bushfire Prone Areas</i> (December 2015)
HSZ	-	Hazard Separation Zone
SPP3.7	-	State Planning Policy 3.7 <i>Planning in bushfire Prone Areas</i> (December 2015)
Subject site	-	Lot 51 Flynn Drive, Carramar

## 1. INTRODUCTION

This Bushfire Management Plan (BMP) has been prepared on behalf of Woodland Consortium Pty Ltd, the registered landowner of Lot 51 Flynn Drive, Carramar (the subject site) (refer **Figure 1**), to support the 'Woodland Vista' Local Structure Plan (refer **Figure 2**).

This BMP demonstrates compliance with the policy measures of State Planning Policy 3.7 *Planning in Bushfire Prone Areas* (December 2015) (SPP3.7), and has been prepared in accordance with the WAPC's *Guidelines for Planning in Bushfire Prone Areas* (December 2015) (Guidelines).

The Site is located within a designated Bushfire Prone Area, being an area designated by the Fire and Emergency Services Commissioner under the *Fire and Emergency Services Act 1998* and shown on the DFES Map of Bushfire Prone Areas. The Bushfire Hazard Level applicable to the site has been assessed as 'moderate' to 'extreme'. The bushfire risk is considered to be manageable.

Bushfire risk management measures will be implemented in accordance with the acceptable solutions listed in Appendix 4 of the Guidelines as detailed herein. This includes establishing appropriate Asset Protection Zones (APZ) and Hazard Separation Zones (HSZ) or the use of Bushfire Attack Level (BAL) Construction Standards, as applicable, in accordance with Australian Standard: *Construction of Buildings in Bushfire Prone Areas* 3959-2009 (AS3959-2009).



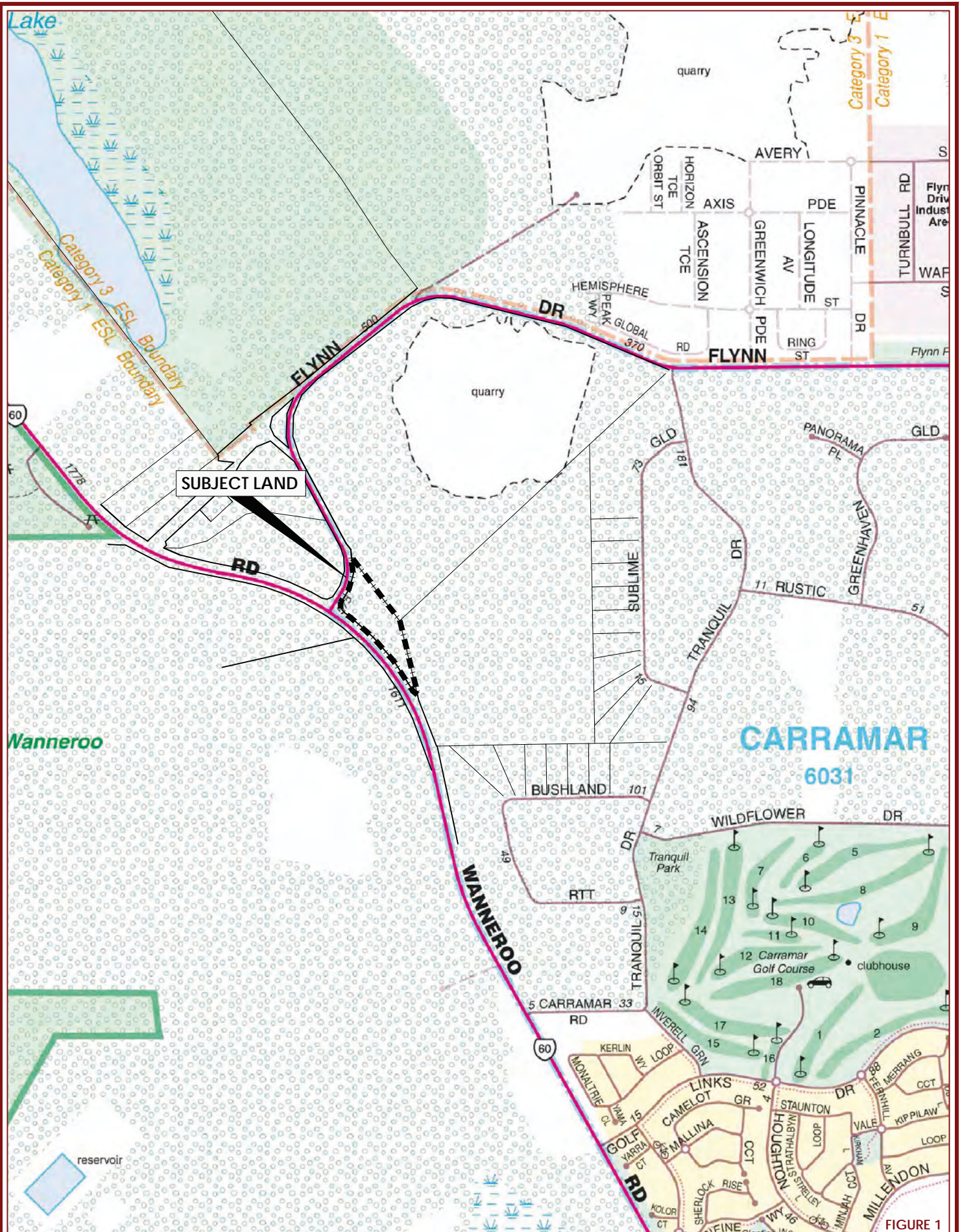


FIGURE 1



LEGEND

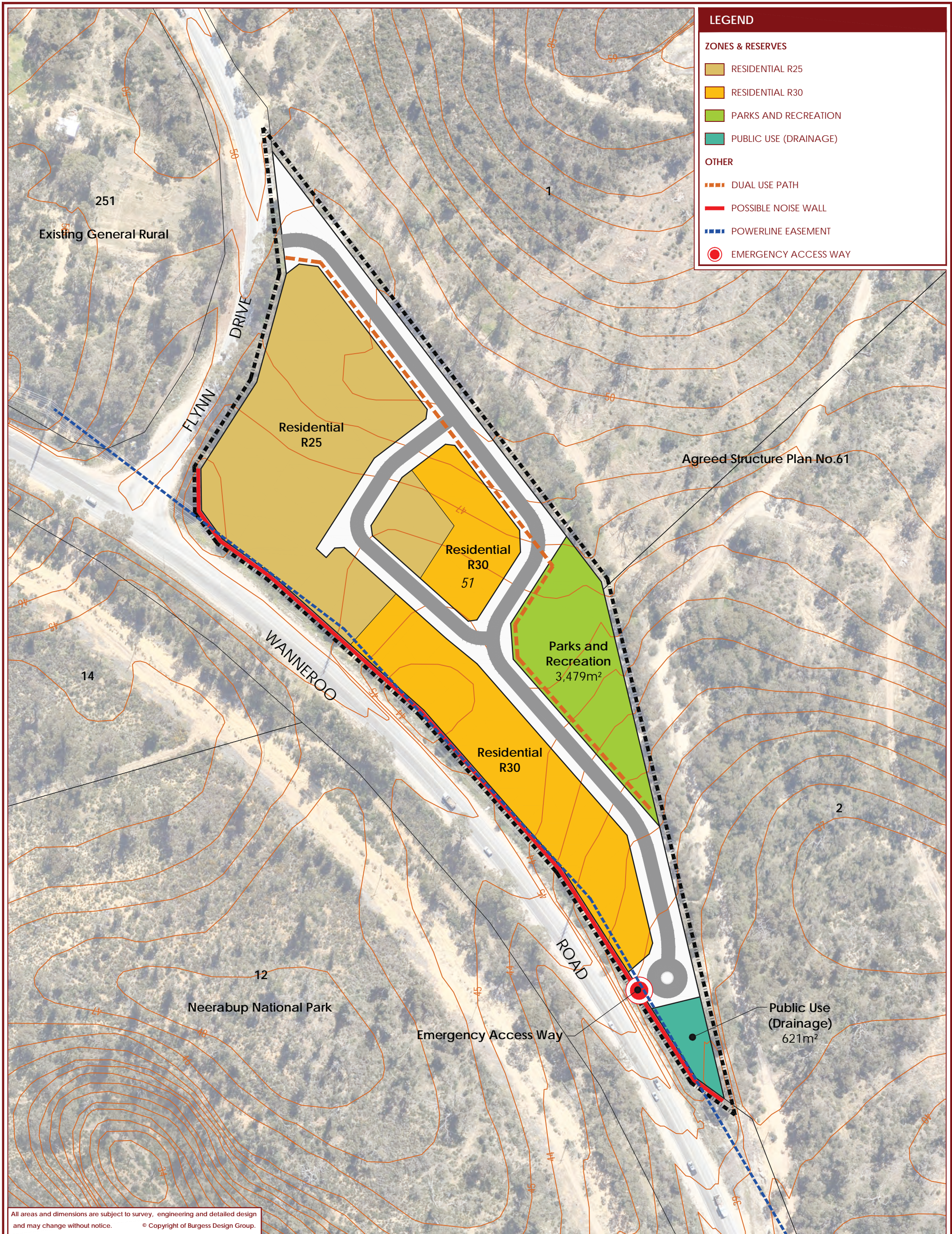
 Subject Site



NORTH  
Planner: KM  
Client: LAKESHORE BUILDERS

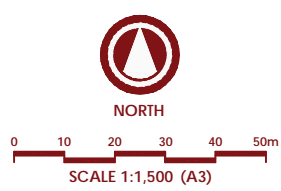
LOCAL LOCATION  
LOT 51 FLYNN DRIVE  
CARRAMAR  
CITY OF WANNEROO





LEGEND	
<b>ZONES &amp; RESERVES</b>	
<span style="display:inline-block; width:15px; height:10px; background-color: #c4a33d; border: 1px solid black;"></span>	RESIDENTIAL R25
<span style="display:inline-block; width:15px; height:10px; background-color: #f1c232; border: 1px solid black;"></span>	RESIDENTIAL R30
<span style="display:inline-block; width:15px; height:10px; background-color: #90d160; border: 1px solid black;"></span>	PARKS AND RECREATION
<span style="display:inline-block; width:15px; height:10px; background-color: #4db6ac; border: 1px solid black;"></span>	PUBLIC USE (DRAINAGE)
<b>OTHER</b>	
<span style="display:inline-block; width:15px; border-bottom: 2px dashed orange;"></span>	DUAL USE PATH
<span style="display:inline-block; width:15px; border-bottom: 2px solid red;"></span>	POSSIBLE NOISE WALL
<span style="display:inline-block; width:15px; border-bottom: 2px dashed blue;"></span>	POWERLINE EASEMENT
<span style="display:inline-block; width:10px; height:10px; border: 2px solid red; border-radius: 50%;"></span>	EMERGENCY ACCESS WAY

All areas and dimensions are subject to survey, engineering and detailed design and may change without notice. © Copyright of Burgess Design Group.



**PLAN 1: WOODLAND VISTA LOCAL STRUCTURE PLAN**  
**LOT 51 FLYNN DRIVE**  
**CARRAMAR**  
**CITY OF WANNEROO**



## 2. POLICY REQUIREMENTS

### 2.1 STATE PLANNING POLICY 3.7

SPP3.7 provides a foundation for planning in bushfire prone areas in Western Australia and sets out policy measures and information requirements to assess and plan for the mitigation of bushfire risk.

The Policy Measures of SPP3.7 apply where:

- Development is proposed within a designated bushfire prone area;
- The Bushfire Hazard Level (BHL) or Bushfire Attack Level (BAL) is or will be above 'Low'; and/or
- Development is proposed that may introduce a bushfire hazard.

SPP3.7 provides that strategic planning proposals shall be accompanied by the following information:

- The results of a BHL assessment;
- Where the lot layout is known, a BAL Contour Map;
- The identification of any bushfire hazard issues; and,
- Demonstration that compliance with the Guidelines can be achieved in subsequent planning stages.

The subject site is located within a designated bushfire prone area, and as such, is subject to the policy measures and information requirements of SPP3.7. A summary of compliance with the objectives and policy measures of SPP3.7 is provided in Table 1 overleaf.

<b>Table 1: Compliance with State Planning Policy 3.7</b>			
<b>Policy Measure</b>	<b>Compliance</b>		<b>Comments</b>
	<b>Y/N</b>	<b>Section</b>	
<b>SPP 3.7: Planning in Bushfire Prone Areas</b>			
<b>Policy objectives</b>			
5.1: Avoid any increase in the threat of bushfire	Y	4.0, 5.2	Bushfire management measures will avoid any increase to the threat of bushfire.
5.2: Identify and consider risks at all levels of planning	Y	All	Risks & management measures have been identified
5.3: Ensure bushfire management measures are considered at the strategic level	Y	5.0	Management measures form an integral part of the Structure Plan
5.4: Achieve a balance between environmental values, landscape character and bushfire management measures	Y	3.0	Management measures form part of an integrated strategy to maximise amenity and safety.
<b>Policy measures</b>			
6.1: Higher order strategic planning documents	N/A		
6.2: Strategic planning proposals, subdivisions and development applications	Y	3.0	The bushfire risk has been assessed as moderate to extreme, and will likely be above BAL-LOW
6.3: Information to accompany strategic proposals	Y	3.0, 4.0, 5.0	
6.4: Information to accompany subdivision applications	N/A		
6.5: Information to accompany development applications	N/A		
6.6: Vulnerable or high-risk land uses	N/A		None proposed
6.7: Strategic planning proposals, subdivision or development applications in areas where an extreme BHL and/or BAL-40 or BAL-FZ applies	N/A		
6.8: Advice of State/relevant authority/s for emergency services to be sought	N/A		
6.9: Advice of State/relevant authority/s for environmental protection to be sought	N/A		
6.10: Bushfire conditions may be imposed	Y	6.0	The WAPC is identified as being responsible for imposing suitable conditions.
6.11: Precautionary principle	N/A		The policy measures have been addressed.



### **3. ASSESSMENT OF BUSHFIRE RISK**

#### **3.1 BUSHFIRE HAZARD LEVEL ASSESSMENT**

A BHL Assessment, undertaken in accordance with the methodology set out in the Guidelines, can be found at **Figure 3**. Vegetation classifications were made following a physical site inspection, and in accordance with the methodology set out in AS3959-2009.

The BHL applicable to the site and its surrounds has been assessed as 'moderate' to 'extreme'. The BHL within the site can be managed for the life of the development through the implementation of appropriate vegetation management practices by the responsible landowners. The BHL of vegetation surrounding the site can be mitigated through the application of sufficient BAL construction standards and APZ's and HSZ's.

#### **3.2 BAL CONTOUR MAP**

As the site falls [partially] within an area of 'extreme' bushfire risk, an indicative BAL Contour Map has been prepared and can be found at **Figure 4**.

The BAL Contour Map demonstrates that the site is capable of being developed without requiring construction to BAL-40 or BAL-FZ standards. This is largely due to a risk-based approach to the design of development, whereby perimeter roads have been employed to maximise the separation to surrounding bushfire hazards.

#### **3.3 ANTICIPATED VEGETATION CHANGES**

##### **3.3.1 WITHIN THE SITE**

The majority of the site will be cleared as part of subdivisional works to accommodate urban residential land uses. Furthermore, the design, development and management of public roads, recreation areas and private lots shall have regard for bushfire risk. This is likely to have the effect of changing the BHL within the site to 'Low'.

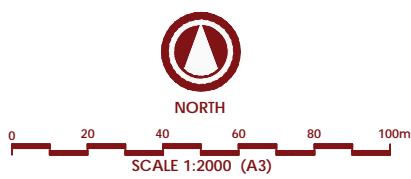
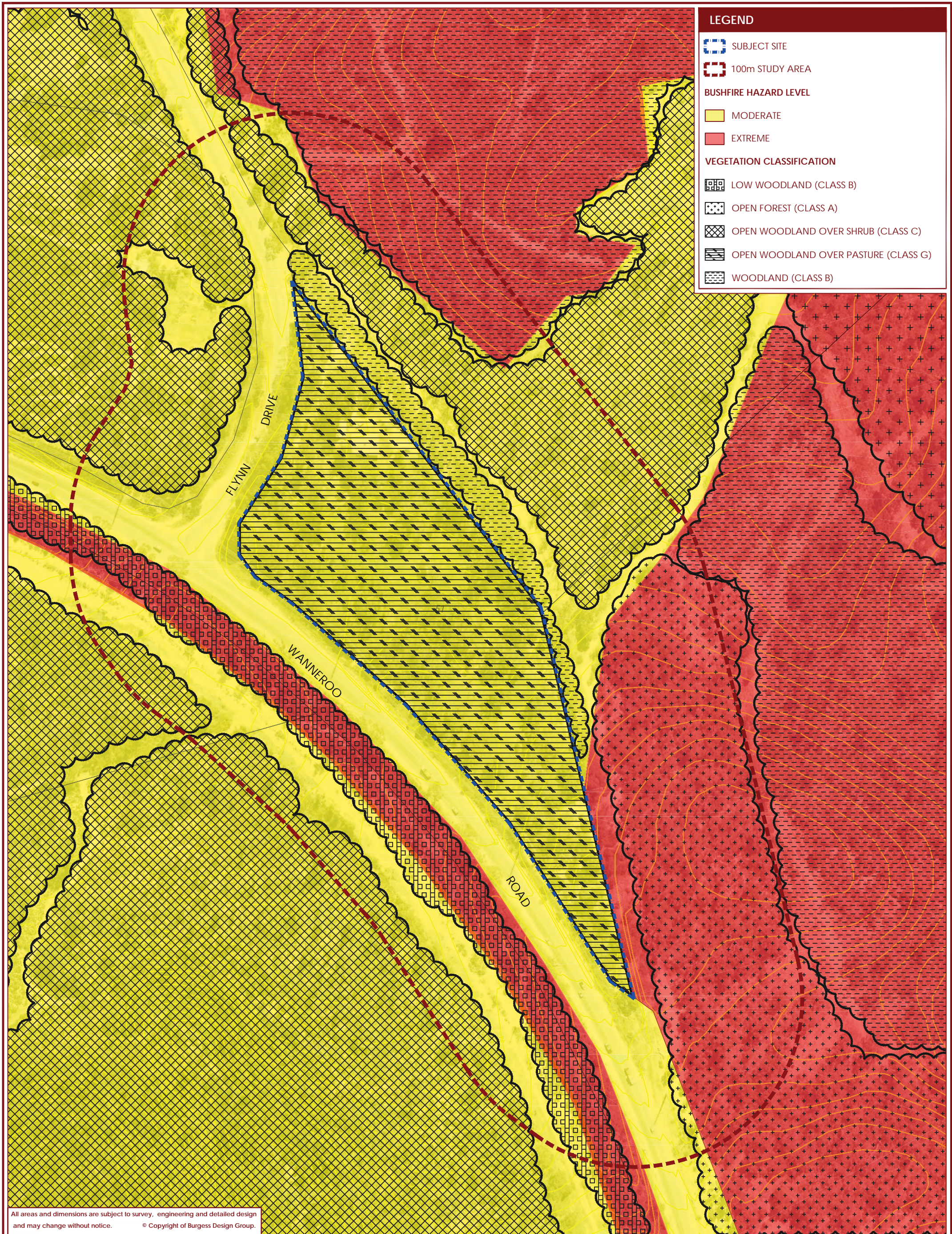
This will be considered as part of any future BAL Contour Assessments prepared to support subdivision applications over the site.

##### **3.3.2 SURROUNDING THE SITE**

Land abutting the eastern and north eastern boundaries of the site is zoned to accommodate 'Urban Development', and falls within the City of Wanneroo's Agreed Structure Plan No.61; which designates predominantly 'Special Residential' and 'Residential' land uses over the site. The development of that land for residential purposes will likely have the effect of reducing the bushfire risk to 'Low'. However, as this adjoining land falls outside of the Woodland Vista Local Structure Plan area, there is no mechanism to compel ongoing management of that land. As such, the bushfire risk can only be assessed in its current state.

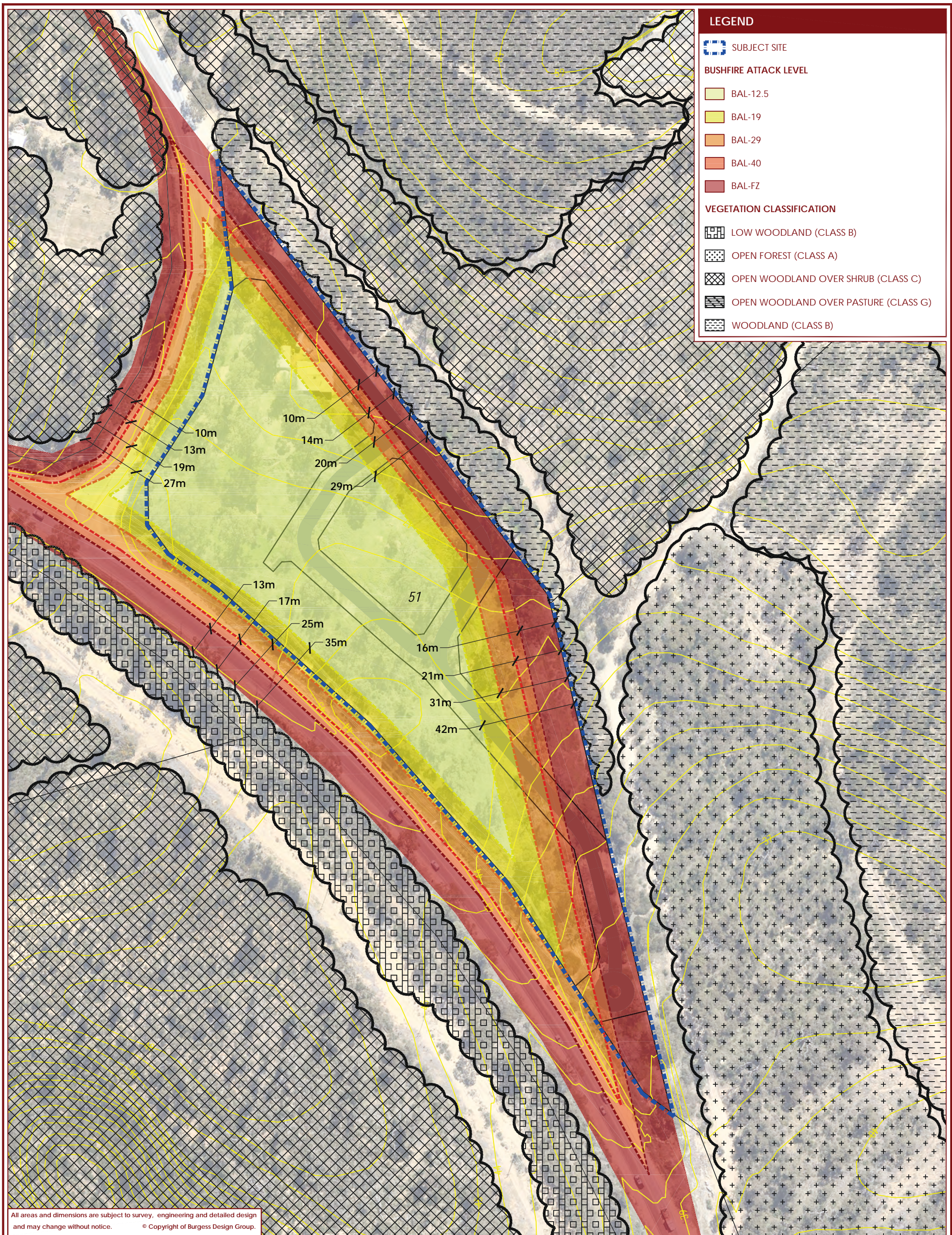
Land abutting the north western boundary of the site is zoned 'General Rural', and land to the west of the site is reserved for 'Parks and Recreation'. No change is anticipated to vegetation within that land.





**FIGURE 3: BUSHFIRE HAZARD LEVEL ASSESSMENT**  
**WOODLAND VISTA LSP, LOT 51 FLYNN DRIVE**





**FIGURE 4: BUILDING ATTACK LEVEL CONTOUR PLAN**  
**WOODLAND VISTA LSP, LOT 51 FLYNN DRIVE**  
**CARRAMAR**



## 4. BUSHFIRE PROTECTION CRITERIA

A summary of compliance with the Bushfire Protection Criteria listed at Appendix 4 of the Guidelines is provided in **Table 2** below.

<b>Table 2: Compliance with the Bushfire Protection Criteria</b>			
<b>Acceptable Solutions</b>	<b>Explanatory Notes</b>	<b>Compliance</b>	
		<b>Y/N</b>	<b>Comment</b>
<b>Element 1: Location</b>			
Development is located in an area where the BHL is or will be 'low' or 'moderate' and the risk is manageable.			
<b>A1.1:</b> Development is located in an area where the BHL is or will be 'low' or 'moderate', or the BAL classification is BAL-29 or below.	Development, other than 'minor' or 'unavoidable' development, will not be permitted within an extreme BHL area, or be subject to BAL-40 for BAL-FZ construction standards	Y	The bushfire risk can be managed through the application of appropriate BAL construction standards; maintaining the necessary separation distance from classified vegetation; and, maintaining suitable Asset Protection Zones (APZ).
<b>Element 2: Siting and Design</b>			
Siting and design of development minimises the level of bushfire impact			
<b>A2.1: APZ</b> Every building is surrounded by a 20m minimum APZ, or such a distance that is sufficient to ensure the potential radiant heat impact does not exceed 29kW/m <sup>2</sup> .	The APZ is a low fuel area surrounding habitable or specified buildings designed to minimise the likelihood of direct flame contact.	Y	The proposed development will be able to meet the acceptable solutions.
<b>A2.2: HSZ</b> Every building and its APZ is surrounded by an 80m (30m for unmanaged grassland) minimum HSZ; or buildings are constructed to appropriate BAL construction standards.	A HSZ should be provided to diminish fire intensity as it approaches development	Y	The proposed development will be able to meet the acceptable solutions through application of BAL construction standards.
<b>Element 3: Vehicular Access</b>			
Vehicular access to and from a development is available and safe during a bushfire event			
<b>A3.1: Two Access Routes</b> Two different access routes are provided, allowing safe access to the public road network and egress to two different destinations.	Two points of access must be provided to allow safe access and egress in the event one becomes blocked.	Y	Development provides two points of access to the public road network, one to Flynn Drive in the form of a public subdivisional road, and another to Wanneroo Road in the form of an emergency access way.
<b>A3.2: Public Road</b> Roads shall meet the standards set out in Table 4, Column 1 of the Guidelines.	All public roads to allow safe use by two wheel drive vehicles and fire appliances.	Y	The proposed development will be able to meet the acceptable solutions.
<b>A3.3: Cul-de-sac</b> A cul-de-sac shall not exceed 200 metres in length, or 600 metres provided no more than 8 lots are serviced and an emergency access way is provided.	Cul-de-sac subdivision layouts are not favoured in bushfire prone areas because they do not provide access in different directions.	Y	The proposed development includes a cul-de-sac accessed from an internal subdivisional road measuring approximately 150m in length. An emergency access way is provided at the end of this cul-de-sac for access to Wanneroo Road in the event of a bushfire emergency.

<b>Table 2: Compliance with the Bushfire Protection Criteria</b>			
<b>Acceptable Solutions</b>	<b>Explanatory Notes</b>	<b>Compliance</b>	
		<b>Y/N</b>	<b>Comment</b>
<b>A3.4: Battle-axe</b> Battle-axe legs should be avoided in bushfire prone areas. Where no alternative exists, development shall meet the standards set out in A3.4 of the Guidelines	Battle-axe legs should be avoided because they do not provide two way access.	N/A	No battle-axe legs are proposed
<b>A3.5: Private Driveway</b> A private driveway is to meet the requirements of A3.5 of the Guidelines	Driveways longer than 50 metres must meet the standards to allow fire appliances to gain access.	N/A	
<b>A3.6: Emergency Access Way</b> An access way that does not provide access to a public road is to be avoided in bushfire prone areas. In no alternative exists, an emergency access way may be provided subject to the requirements of A3.5 of the Guidelines	An emergency access way is not a preferred option. However, where no alternative exists, one may be used to provide alternative access and egress in the event of a bushfire emergency.	Y	The proposed emergency access way shall be constructed in accordance with standards set out in the Guidelines.
<b>3.7: Fire Service Access Routes</b> Fire service access routes provide access within and around the edge of a subdivision and provide a direct link with the public road network. Such routes shall comply with the standards set out in A3.7 of the Guidelines.	Fire service access routes should be established to separate bushfire prone areas from developed areas and to provide access for fire suppression and prevention work.	N/A	Note: Public roads (proposed & existing) abut the site along most boundaries.
<b>3.8: Firebreak Width</b> Lots greater than 0.5ha shall have an internal firebreak as specified by the local firebreak notice issued by the local government		Y	The proposed development will comply with the annual firebreak notice issued by the City of Wanneroo.
<b>Element 4: Water</b> Sufficient water is available to the development to enable people, property and infrastructure to be defended from bushfire.			
<b>A4.1: Reticulated Areas</b> Development is provided with a reticulated water supply.	Reticulated water supply is provided in accordance with the Water Corporation's No.63 Water Reticulation Standard' or equivalent.	Y	The development will be serviced with reticulated water to a sufficient standard.
<b>A4.2: Non-Reticulated Area</b> Water tanks shall be provided to the specifications of A4.2 of the Guidelines	Where reticulated water is not available, tater tanks, to a sufficient capacity, shall be provided.	N/A	
<b>A4.3: Individual lots within a non-reticulated area</b> Single lots to provide 10,000 litre capacity tank		N/A	

## **5. BUSHFIRE RISK MANAGEMENT MEASURES**

### **5.1 SITING OF DEVELOPMENT AND BAL CONSTRUCTION STANDARDS**

Future habitable and specified buildings shall be located such that they fall outside of any areas with an 'extreme' BHL and/or achieve a BAL classification of BAL-29 or below.

Development has been designed to minimise bushfire risk and maximise separation to bushfire hazards through the strategic use of existing and proposed perimeter roads, and the siting of Public Open Space. Public roads, recreational areas and private lots shall be developed to minimise BHL's.

When the final lot layout and/or location of buildings are known, a final assessment should be completed to determine the appropriate BAL classification/s that will be applicable under AS3959-2009.

### **5.2 VEGETATION MANAGEMENT & BIODIVERSITY VALUE**

#### **5.2.1 BIODIVERSITY VALUE**

Bayley Environmental Services prepared two Environmental Assessment Reports (March 2006 and December 2011) to support the preparation of the Woodland Vista Local Structure Plan. The reports conclude that vegetation on the site is considered to be degraded to completely degraded, and provides no significant habitat for native animals. Some large-sized Tuart and Jarrah trees are present on site and may be retained where suitable, likely over a parkland cleared turf understory, or other managed landscaping.

The biodiversity values of the site are not considered to be in conflict with bushfire management requirements.

#### **5.2.2 VEGETATION MANAGEMENT**

Vegetation shall be managed such that its assessed level of bushfire risk does not increase. This includes the implementation of suitable APZ's and HSZ's, which shall be maintained in a low-fuel state, as specified in the Guidelines.

Private landowners shall be responsible for maintaining vegetation within their lot boundaries, and the Local Government shall be responsible for managing vegetation within public road reserves, recreation areas, and any other land vested in it.

### **5.3 VEHICULAR ACCESS**

The proposed development will be serviced by an internal subdivisional road that gains access to the public road network at two points; to Flynn Drive at the northern end of the site via a subdivisional road; and, an emergency access way to Wanneroo Road at the southern end of the site.

Main Roads has confirmed that it has no objections to the proposed emergency access way to Wanneroo Road.



## 6. RESPONSIBILITIES

A summary of responsibilities is provided in **Table 3** below:

<b>Table 3: Responsibilities</b>	
<b>Implementation</b>	<b>Ongoing Management</b>
<b>Developer</b>	
<ul style="list-style-type: none"> <li>• Ensure that the BMP is made available to all parties listed as having a responsibility under the Plan.</li> <li>• Review and update the Plan as the proposal progresses through the planning stages.</li> <li>• Ensure the construction of public roads and emergency access ways meets the applicable standards.</li> <li>• Ensure that reticulated water supply meets the applicable standards.</li> <li>• Ensure that public open space is developed in a low fuel state such that it has a 'Low' BHL.</li> <li>• Comply with the Annual Firebreak Notice for land owned by the developer.</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure that POS is maintained such that the assessed bushfire risk does not increase for the developer's maintenance period (usually for two years).</li> </ul>
<b>Future landowners/purchasers/proponents</b>	
<ul style="list-style-type: none"> <li>• Implement an appropriate APZ &amp; HSZ, as applicable, in accordance with the Guidelines.</li> <li>• Construct any private driveways over 50m in length to the appropriate standard under the Guidelines.</li> <li>• Comply with the Annual Firebreak Notice.</li> <li>• Ensure all new habitable buildings and specified buildings are constructed in accordance with the applicable BAL Construction Standard as set out in AS3959-2009.</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain any vegetation within the lot boundaries such that the assessed bushfire risk does not increase.</li> <li>• Where subsequent development is proposed, review and update the Plan to ensure bushfire management measures remain effective.</li> </ul>
<b>City of Wanneroo</b>	
<ul style="list-style-type: none"> <li>• Make a copy of this BMP available to landowners.</li> <li>• Enforce the annual Firebreak Notice.</li> <li>• Enforce the requirements of this BMP.</li> <li>• Assess any proposed development against the requirements of this BMP and the regulatory framework.</li> </ul>	<ul style="list-style-type: none"> <li>• Develop and maintain district bushfire fighting services and facilities.</li> <li>• Maintain areas of POS, road reserves, and any other vested land such that the assessed bushfire risk does not increase.</li> </ul>
<b>Western Australian Planning Commission</b>	
<ul style="list-style-type: none"> <li>• Impose conditions of subdivision requiring notifications on titles advising the lot is subject to a Bushfire Management Plan</li> </ul>	