

**BAL-ASSESSMENT
STAGE 3C, MAHALA, FORRESTDALE**

PREPARED FOR:

ANSTEY ROAD DEVELOPMENTS PTY LTD

AUGUST 2023

PREPARED BY:

Martinick Bosch Sell Pty Ltd

4 Cook Street

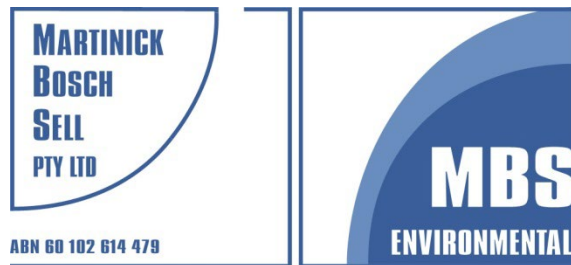
West Perth WA 6005

Ph: (08) 9226 3166

Email: info@mbsenvironmental.com.au

Web: www.mbsenvironmental.com.au

MBS
ENVIRONMENTAL



environmental and geoscience consultants

STAGE 3C, MAHALA FORRESTDALE BAL-ASSESSMENT REPORT

Distribution List:

Company	Contact name	Copies	Date
Anstey Road Development Pty Ltd	Jordan Williams, Development Manager	[01]	14 August 2023

Document Control for Job Number: LWPGAM

Document Status	Prepared By	Authorised By	Date
Final Report	Sue Brand	Matthew Todd	14 August 2023

Disclaimer, Confidentiality and Copyright Statement

This report is copyright. Ownership of the copyright remains with Martinick Bosch Sell Pty Ltd (MBS Environmental) and **Anstey Road Developments Pty Ltd**.

This report has been prepared for **Anstey Road Developments Pty Ltd** on the basis of instructions and information provided by **Anstey Road Developments Pty Ltd** and therefore may be subject to qualifications which are not expressed.

No person other than those authorised in the distribution list may use or rely on this report without confirmation in writing from MBS Environmental and **Anstey Road Developments Pty Ltd**. MBS Environmental has no liability to any other person who acts or relies upon any information contained in this report without confirmation.

This report has been checked and released for transmittal to **Anstey Road Developments Pty Ltd**.

This Technical Report:

- Enjoys copyright protection and the copyright vests in Martinick Bosch Sell Pty Ltd (MBS Environmental) and **Anstey Road Developments Pty Ltd** unless otherwise agreed in writing.
- This document may be used by:
 - Anstey Road Developments Pty Ltd and their consultants and contractors.
 - City of Armadale.
 - Purchasers of Lots in designated bushfire prone areas.
- May not be reproduced or transmitted in any form or by any means whatsoever to any person without the written permission of the Copyright holders.

TABLE OF CONTENTS

1.	PROPOSAL DETAILS	1
1.1	LOCATION	1
1.2	LAND USES AND PROPOSED DEVELOPMENT	1
1.3	AIMS AND OBJECTIVES	3
2.	ENVIRONMENTAL CONSIDERATIONS	4
2.1	NATIVE VEGETATION	4
2.2	REVEGETATION AND LANDSCAPING	4
3.	BUSHFIRE ASSESSMENT	5
3.1	VEGETATION CLASSIFICATION	5
3.1.1	Patch 1: Low-threat Vegetation	5
3.1.2	Patch 2: Non-vegetated Areas.....	6
3.2	EFFECTIVE SLOPE	8
3.3	RELEVANT FIRE DANGER INDEX	8
3.4	POTENTIAL FIRE IMPACTS	8
3.5	BUSHFIRE ATTACK LEVEL	8
3.5.1	Shielding.....	8
4.	COMPLIANCE AND JUSTIFICATIONS	9
4.1	SPP 3.7 OBJECTIVES AND APPLICATION OF POLICY MEASURES	9
4.2	BUSHFIRE PROTECTION CRITERIA.....	9
4.3	COMPLIANCE WITH RELEVANT DOCUMENTS	11
4.4	COMPLIANCE STATEMENT.....	11
5.	REFERENCES	12

FIGURES

Figure 1:	Current Land Use, Stage 3C, Mahala, Forrestdale	1
Figure 2:	Site Location and Vegetation Classification as per AS 3959	2
Figure 3:	Low-threat Vegetation	6
Figure 4:	Non-vegetated Areas.....	7

TABLES

Table 1:	BAL-Analysis	8
Table 2:	Evidence of Compliance with SPP 3.7 Intent and Objectives.....	9
Table 3:	Compliance with Bushfire Protection Criteria	10

1. PROPOSAL DETAILS

Martinick Bosch Sell Pty Ltd (MBS Environmental, MBS) was commissioned by Anstey Road Developments Pty Ltd to prepare this bushfire attack level (BAL) assessment report to support the Subdivision Application process for Stage 3C, Mahala Forrestdale within the Mahala Estate (the Site, Stage 3C) within the City of Armadale. Stage 3C is located within a designated bushfire prone area, thus, the broad aim of the assessment process was to confirm the bushfire prone status, review and confirm potential site bush fire risks, and nominate BAL-ratings for any Lot that is located within 100 m of classified vegetation as defined by *AS 3959:2018 Construction of Buildings in Bushfire Prone Areas*.

The BAL-assessment process considers current site conditions along with the provisions of *State Planning Policy (SPP) 3.7 Planning in Bushfire Prone Areas* (Department of Planning, Lands and Heritage (DPLH), and the Western Australian Planning Commission (WAPC) (2015)) and *Guidelines for Planning in Bushfire Prone Areas* (the guidelines) (Department of Planning, Lands and Heritage, and the Western Australian Planning Commission, V1.4, 2021).

1.1 LOCATION

Stage 3C, Mahala is:

- Located approximately 22 km southeast of the Perth Central Business District within the City of Armadale.
- Approximately 850 m².
- Bounded by existing and planned residences within the broader Mahala subdivision to the north, south, east and west, with an area of public open space located across Ederle St to the south of eastern Lots.

1.2 LAND USES AND PROPOSED DEVELOPMENT

The site is currently vacant land engineered ahead of building (Figure 1, Figure 2).



Figure 1: Current Land Use, Stage 3C, Mahala, Forrestdale

Figure 2: Site Location and Vegetation Classification as per AS 3959

1.3 AIMS AND OBJECTIVES

The objective of the BAL-assessment process is to outline the BAL-rating for Stage 3C, along with any associated bushfire management methods. Accordingly, broad aims include:

- Reduce the occurrence of and minimise the impact of fire to the life and property of future building occupants and the environment.
- Allow easy access for fire-fighters if a fire does occur.
- Protect the landscape within the broader site as far as is possible.
- Document bushfire prevention requirements of the area to which it relates.

2. ENVIRONMENTAL CONSIDERATIONS

2.1 NATIVE VEGETATION

Stage 3C, Mahala, Forrestdale is in an area that was historically used for rural residential purposes, typically horse agistment, with land cleared of native vegetation with a grassy understorey remaining. Clearing of native vegetation within 150 m of Stage 3C has been completed during development of surrounding stages within Mahala and the Solaris subdivision across Anstey Rd to the north and northwest. Environmental values within 150 m of Stage 3C have been considered during earlier, higher level planning phases, with:

- No Bush Forever Sites within the Stage or broader development site boundary.
- No conservation category wetlands (CCW) or resource enhancement category wetlands (REW) as defined by the Geomorphic Wetlands of the Swan Coastal Plain Dataset within or in proximity to the Site.
- No Threatened or Priority Ecological Communities (TECs/PECs) or Declared Rare or Priority Listed flora and fauna within the Site or broader development area.

2.2 REVEGETATION AND LANDSCAPING

Stage 3C will involve the construction of 19 Lots and is cleared of all vegetation (Figure 1), with no public open space to be created in this Stage, thus no revegetation or landscaping is expected. An area of landscaped public open space is present to the immediate southwest of the 10 eastern Lots that make up the Site.

3. BUSHFIRE ASSESSMENT

3.1 VEGETATION CLASSIFICATION

All vegetation within 150 m of Stage 3C was classified in accordance with Clause 2.2.3 of AS 3959:2018 *Construction of Buildings in Bushfire-prone Areas* based on the most recent visit to the site on 24 July 2023. Each distinguishable area of vegetation with the potential to determine any BAL-ratings is discussed and shown in Figure 3 and Figure 4, with the overall vegetation classification shown in Figure 2.

3.1.1 Patch 1: Low-threat Vegetation

Low threat vegetation is characterised as such based on its moisture content, fuel load and/or flammability. Examples of low threat vegetation includes grassland managed in minimal fuel condition, maintained lawns and public reserves, cultivated gardens and nature strips. These forms of low threat vegetation are subject to exclusion clause 2.2.3.2 (f) of AS 3959:2018. For Stage 3C, the low-threat vegetation includes:

- Maintained gardens or grassed areas in current rural residential Lots to the south and southwest in rural residential Lots facing Armadale Rd, as well the grass within the future school site across Hypatia Bvd, noting that the developer, Anstey Rd Developments, regularly undertakes slashing when grass within the broader development grows to heights where it could be considered classified vegetation. As the current growth is in response to current winter rains and the ground is a too wet for the equipment to carry that out safely, it will occur in spring 2023.
- The POS area across Ederle St to the southwest of the 10 eastern Lots.
- The line of trees associated with the streamline more than 100 m to the southeast. The plan is for this streamline to landscaped and maintained in a low threat condition as defined by AS 3959:2018.





Photo ID 2



Photo ID 3

Figure 3: Low-threat Vegetation

3.1.2 Patch 2: Non-vegetated Areas

Non-vegetated areas (Figure 4) are present in the form of cleared areas associated with:

- Current land use within the broader development site in the form of areas cleared and preliminary civil engineering works carried out.
- The presence of roads and other assets within and in proximity to the site.
- Residential Lots where building is completed or progressing within the broader Mahala development area as well as the Solaris Estate being developed by Cedar Woods across Anstey Rd to the north and northwest.

Patch 2 Classification or Exclusion Clause: Non-vegetated areas — Exclusion clause 2.2.3.2 (e)



Photo ID 4



Photo ID 5



Photo ID 6:

Figure 4: Non-vegetated Areas

3.2 EFFECTIVE SLOPE

Stage 3C, Mahala, Forrestdale is located on flat land, thus for the purposes of the BAL-assessment the slope that will apply is upslope or flat land.

3.3 RELEVANT FIRE DANGER INDEX

The fire danger index (FDI) for this site is FDI 80, as documented in Table 2.4.3 of AS 3959:2018, which is the nominated FDI for Western Australia.

3.4 POTENTIAL FIRE IMPACTS

The potential fire impacts to the Lots in this Stage include smoke and ember attack, with the BAL-analysis for each vegetated area summarised in Table 1. As all Lots are located more than 150 m from any classified vegetation, they are all rated BAL-Low.

Table 1: BAL-Analysis

Area	Vegetation Classification	Effective Slope	Separation Distance (m)	Maximum BAL-rating
1	Low-threat Vegetation	Flat land	N/A	BAL-Low
2	Non-vegetated Areas	Flat land	N/A	BAL-Low

3.5 BUSHFIRE ATTACK LEVEL

For buildings within bushfire prone areas, an ideal hazard separation zone of at least 100 m between vegetation and building walls that includes a 20 m asset protection zone is preferred. Where that is not possible, the requirements of AS 3959:2018 *Construction of Buildings in Bushfire Prone Areas* can be applied as an acceptable solution. As Stage 3C is not located within 150 m of any classified vegetation the preferred 100 m asset protection zone has been achieved will all Lots being rated BAL-Low. Note that no BAL-contour diagram has been prepared as there is no classified vegetation within 150 m of the Stage 3C, Mahala, Forrestdale boundary (Figure 2).

3.5.1 Shielding

The shielding provisions outlined in clause 3.5 of AS 3959:2018 will not apply to this stage of the development as all Lots within Stage 3C are rated BAL-Low.

4. COMPLIANCE AND JUSTIFICATIONS

4.1 SPP 3.7 OBJECTIVES AND APPLICATION OF POLICY MEASURES

The intent of *State Planning Policy (SPP) 3.7 Planning in Bushfire Prone Areas* (Department of Planning and Western Australian Planning Commission, 2015) is to ensure that bushfire risks are considered in a timely manner and that planning documents demonstrate the appropriate application of the various policy measures. Table 2 summarises the intent and objectives of SPP 3.7 and provides evidence of how Stage 3C, Mahala, Forrestdale complies.

Table 2: Evidence of Compliance with SPP 3.7 Intent and Objectives

SPP Reference	Description	Evidence of Compliance
Intent	<ul style="list-style-type: none"> Ensure that risks associated with bushfires are planned using a risk-based approach. 	<ul style="list-style-type: none"> Preparation of a BAL-assessment report in accordance with SPP 3.7. Hazard assessment indicates risks associated with bushland are manageable.
Objective 1	<ul style="list-style-type: none"> Avoid any increase in the threat of bushfire to people, property, and infrastructure. 	<ul style="list-style-type: none"> Hazard assessment indicates risks associated with bushland are manageable. All Lots within Stage 3C are rated BAL-Low as the closest classified vegetation is more than 150 m away.
Objective 2	<ul style="list-style-type: none"> Reduce vulnerability to bushfire. 	<ul style="list-style-type: none"> Hazard assessment indicates risks associated with bushland are manageable. All Lots within Stage 3C are rated BAL-Low as the closest classified vegetation is more than 150 m away.
Objective 3	<ul style="list-style-type: none"> Ensure that higher order strategic planning documents and proposals consider bushfire protection requirements at an early stage. 	<ul style="list-style-type: none"> Planning within the area is well progressed, with Stages 1 – 4 constructed and sales progressing, and engineering activities continuing within Stages 3C, 5, 8 and 10. Consideration of bushfire protection requirements were documented in the original Bushfire Management Plan (BMP) prepared by Bushfire Safety Consulting in 2020.
Objective 4	<ul style="list-style-type: none"> Achieve an appropriate balance between bushfire risk management and biodiversity conservation. 	<ul style="list-style-type: none"> Site environmental values have been considered during the early planning approvals process, with the presence of a reserve that retains some native vegetation in Stage 1 and other patches of vegetation to be retained in other Stages to the northeast of Stage 3C in proximity to Stages 5, 8 and 10.

4.2 BUSHFIRE PROTECTION CRITERIA

Table 3 demonstrates the Site's Compliance with Bushfire Protection Criteria, with all Lots within Stage 3C rated BAL-Low as they are not located within 150 m of classified vegetation (Figure 2).

Table 3: Compliance with Bushfire Protection Criteria

Intent	Performance Principle	Stage 3C, Mahala, Forrestdale Solution
Element 1: Location		
Ensure subdivision and development applications are located in areas with the least possible risk of bushfire	<ul style="list-style-type: none"> Bushfire hazard assessment is or will on completion be moderate or low. BAL-rating is BAL-29 or lower. 	<ul style="list-style-type: none"> Hazard assessment indicates risks associated with bushland are manageable. All Lots within Stage 3C are rated BAL-Low as the closest classified vegetation is more than 150 m away.
Element 2: Siting and Design of Development		
Siting and design of development minimises the level of bushfire impact	<ul style="list-style-type: none"> Siting and design of development is appropriate to the level of bushfire threat and minimises risk to people, property, and infrastructure. 	<ul style="list-style-type: none"> This BAL-assessment has been prepared to support the building licence stage for Lot 97. All Lots within Stage 3C are rated BAL-Low as the closest classified vegetation is more than 150 m away.
Element 3: Vehicular Access		
Vehicular access servicing a subdivision is available and safe during a bushfire event	<ul style="list-style-type: none"> Internal layout, design and construction of public and private vehicular access and egress in the subdivision allow emergency and other vehicles to move easily and safely at all times. 	<ul style="list-style-type: none"> Access will be via the current and planned road network. Access to Anstey Road will be available to Emecheta St and Shikibu Way to Mistral Crt and Hypatia Bvd to the northeast, and to Ederle St and Boudicca Dr to the southwest, with other access/egress options available via Aquitaine Bvd to the southeast.
Element 4: Water		
Water is available to the subdivision, development, or land use to enable people, property, and infrastructure to be defended from bushfire	<ul style="list-style-type: none"> Subdivision is provided with a permanent and secure water supply that is sufficient for firefighting purposes. 	<ul style="list-style-type: none"> The site has been connected to scheme water, i.e., located within a reticulated area with hydrants compliant with Water Corporation design standards.
Element 5: Vulnerable Tourism Land Uses		
Bushfire protection for tourism land uses relevant to the characteristics of the occupants and/or the location, to preserve life and reduce the impact of bushfire on property and infrastructure.	<ul style="list-style-type: none"> Varies according to the type of tourism use, and will include: <ul style="list-style-type: none"> Suitable hazard separation from classified vegetation. Adequate vehicular access and egress in the event of a fire. Has a permanent water supply available for firefighting purposes. 	<ul style="list-style-type: none"> Not applicable – Stage 3C, Mahala, Forrestdale Mahala is a residential development.

4.3 COMPLIANCE WITH RELEVANT DOCUMENTS

Sections 4.1 and 4.2 demonstrate that the Site complies with SPP 3.7 (DPLH *et al*, 2015) and *Guidelines for Planning in Bushfire Prone Areas V1.4* (WAPC and DPLH, 2021). Lot owners must comply with relevant sections of the annual firebreak notice and bushfire information prepared by the City of Armadale, such as total fire bans and hazard reduction programs.

4.4 COMPLIANCE STATEMENT

This BAL-assessment report has been prepared in accordance with the requirements of SPP 3.7 *Planning in Bushfire Prone Areas* (Department of Planning and Western Australian Planning Commission, 2015) and *Guidelines for Planning in Bushfire Prone Areas* (Department of Planning, Lands, and Heritage, and Western Australian Planning Commission, V1.4, 2021). The BAL-assessment was undertaken in accordance with the simple procedure (Method 1) of AS 3959:2018. Information provided in this document is correct as of 14 August 2023.

Signed:

Date: 14 August 2023

Accreditation Number: 36638

Accreditation Expiry Date: 30 April 2024



5. REFERENCES

AS 3959:2018 Construction of Buildings in Bushfire Prone Areas, Standards Australia, NSW.

Bushfire Safety Consulting, (2020), *Bushfire Management Plan – Subdivision Stages 1-4, Lots 50, 51, 53, 55 & 58 Anstey Road, Forrestdale*, unpublished report prepared for LWP Property Group.

Department of Planning, Lands and Heritage and the Western Australian Planning Commission, (2021), *Guidelines for Planning in Bushfire Prone Areas - V1.4*, Western Australian Planning Commission, Perth, Western Australia.

Department of Planning and Western Australian Planning Commission, (2015), *State Planning Policy 3.7 Planning in Bushfire Prone Areas*, Western Australian Planning Commission, Perth Western Australia.