Bushfire Attack Level Assessment

Rivermark Stage 2 Subdivision Area

Project No: EP19-105(51)

Bushfire Attack Level Assessment
Rivermark Stage 2 Subdivision Area

emerge
ASSOCIATES
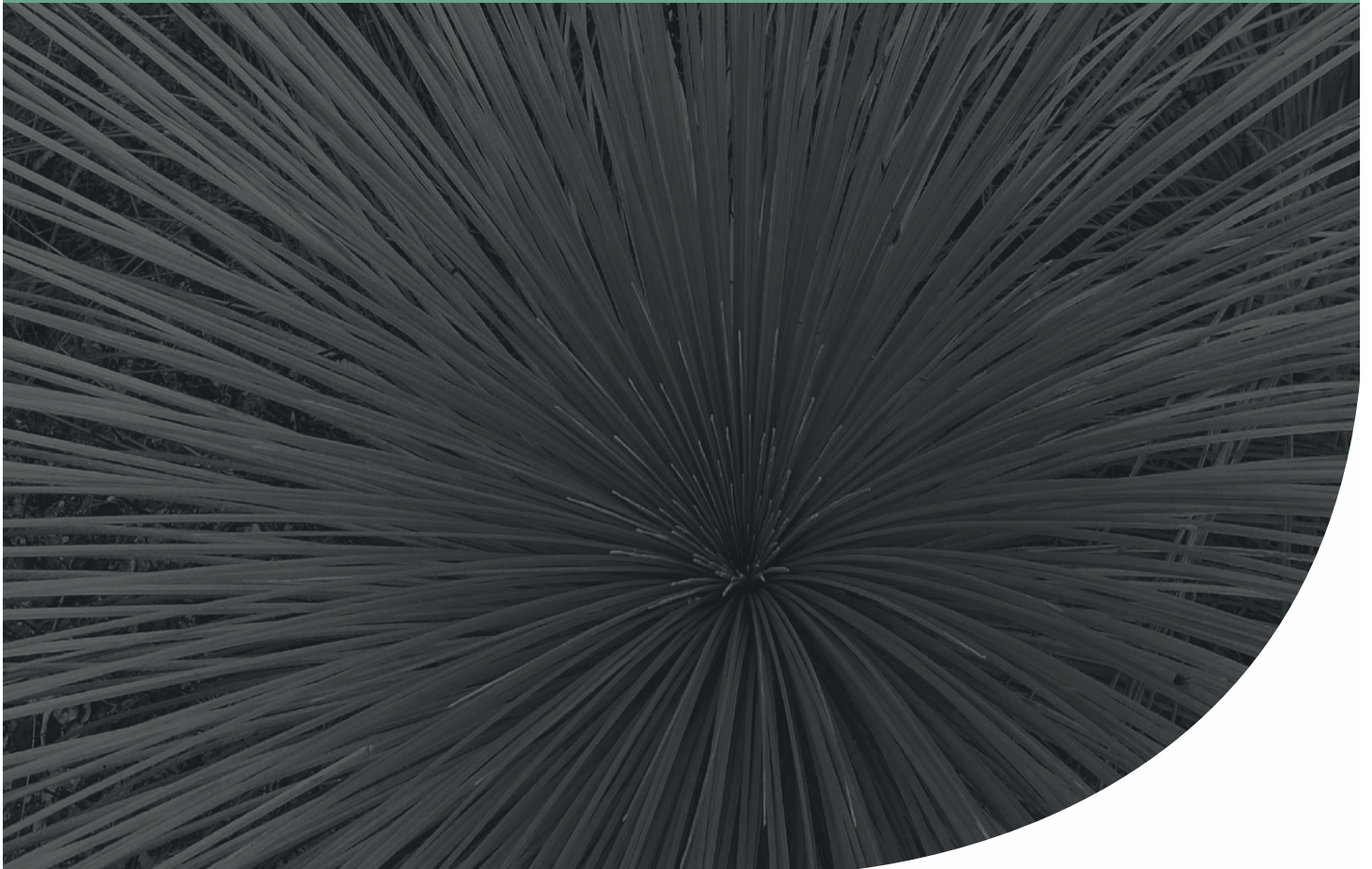
Document Control

Doc name:	**Bushfire Attack Level Assessment** **Rivermark Stage 2 Subdivision Area**			
Doc no.:	**EP19-105(51)—111a PPS**			
Version	**Date**	**Author**		**Reviewer**
1	January 2023	Pascal Scholz	PPS	Dana Elphinstone	DAE
	Report issued to client.				
A	September 2024	Connor Porter-Wilkinson	CPW	Kirsten Knox	KK
				Anthony Rowe	AJR
	Report issued to client.				

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List of Abbreviations

Table A1: Abbreviations – General terms

General terms	
AHD	Australian Height Datum
APZ	Asset Protection Zone
AS 3959	*Australian Standard 3959-2018 Construction of buildings in bushfire prone areas*
BAL	Bushfire Attack Level
BMP	Bushfire Management Plan
BPAD	Bushfire Planning and Design
CoS	City of Swan
FDI	Fire Danger Index
FZ	Flame Zone

Table A2: Abbreviations – Organisations

Organisations	
DFES	Department of Fire and Emergency Services
OBRM	Office of Bushfire Risk Management
WAPC	Western Australian Planning Commission

Bushfire Attack Level Assessment
Rivermark Stage 2 Subdivision Area

1   Introduction

1.1   Background

This Bushfire Attack Level (BAL) Assessment has been prepared on behalf of Hesperia Pty Ltd (the proponent) to support the future construction of residential dwellings within Stage 2 of subdivision approval WAPC 158848 of the proponent's Rivermark residential development.
Stage 2 (herein referred to as the 'site') is located in Viveash within the City of Swan (CoS), to the north of Surrey Way, east of Cranwood Crescent, south of Harford Avenue and to the west of Eveline Road adjacent to the Midland Brick brickworks. Stage 2 includes the development of 15 residential lots ranging from 210 m^2 to 645 m^2 in size and an area of public open space (POS) to the south. The location of the site is shown in **Figure 1.**

Portions of the site are currently identified as a 'bushfire prone area' under the state-wide *Map of Bush Fire Prone Areas* as prepared by the Office of Bushfire Risk Management (OBRM 2021), see **Plate 1**. Where a Class 1, Class 2, Class 3 or Class 10a building is proposed to be located in a designated 'bushfire prone area', a BAL assessment in accordance with *Australian Standard AS 3959 – 2018 Construction of buildings in bushfire prone areas* (Standards Australia 2018) is required to support the building permit application to determine any related construction requirements.
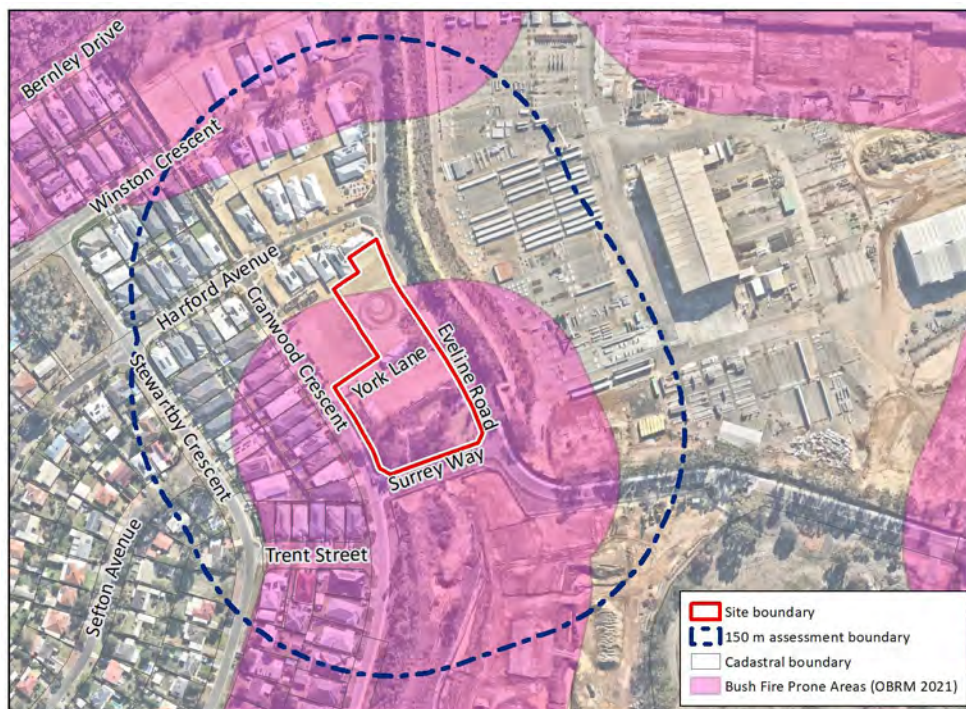
Plate 1: Areas within and surrounding the site identified as 'bushfire prone areas' (as indicated in purple) under the state-wide Map of Bush Fire Prone Areas (OBRM 2021).

1.2   Aim of this report

This BAL assessment aims to assess classified vegetation and effective slope in accordance with Method 1 of AS 3959 in order to determine the applicable BAL ratings for all lots within the site. The outcomes of this assessment will be used to support the clearance of subdivision conditions for WAPC subdivision approval 158848 and the building permit application process.

1.3   Statutory policy and framework

The following key legislation, policies and guidelines are relevant to the preparation of a BAL assessment:

- *Fire and Emergency Services Act 1998*
- *Bush Fires Act 1954*
- *Planning and Development (Local Planning Scheme Amendment) Regulations 2015*
- *Building Regulations 2012*
- *State Planning Policy 3.7 Planning in Bushfire Prone Areas* (SPP 3.7) (WAPC 2015)
- *Guidelines for Planning in Bushfire Prone Areas version 1.4* (the Guidelines) (DPLH & WAPC 2021)
- *Australian Standard AS 3959 – 2018 Construction of buildings in bushfire prone areas* (AS 3959) (Standards Australia 2018).

Bushfire Attack Level Assessment
Rivermark Stage 2 Subdivision Area

2   BAL Assessment

A Method 1 BAL assessment has been completed for the site in accordance with AS 3959. This assessment considers the vegetation classification and effective slope for the site and surrounding 150 m (**Figure 2**). A BAL contour plan has been prepared in accordance with the Guidelines to demonstrate the determined BAL ratings (**Figure 3**).

AS 3959 specifies requirements for the construction of buildings in bushfire-prone areas in order to improve their resistance to bushfire attack from embers, burning debris, radiant heat, flame contact, and combinations of these attack forms. It provides six BAL ratings: BAL-LOW, BAL-12.5, BAL-19, BAL-29, BAL-40 and BAL-FZ, based on the radiant heat flux thresholds from vegetation within 100 m of a building. Each BAL rating is associated with specific national construction requirements, which have been summarised in **Table 1** below.

It is relevant to note that while buildings constructed to increased standards under AS 3959 are more likely to survive a bushfire than buildings that do not conform to these construction standards, building survival is not guaranteed.

Table 1: Summary of BAL ratings, heat flux thresholds and associated construction standards, as outlined within AS 3959

Bushfire 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	≤ 12.5 kW/m^2	Ember attack	3 & 5
BAL-19	> 12.5 kW/m^2 to ≤ 19 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 kW/m^2 to ≤ 29 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 kW/m^2 to ≤ 40 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	> 40 kW/m^2	Direct exposure to flames from fire front in addition to heat flux and ember attack	3 & 9

Not all vegetation is a classified bushfire risk. Vegetation and ground surfaces that are exempt from classification as a potential hazard are identified as a low threat under Section 2.2.3.2 of AS 3959.

2.1   Assessment inputs

The classification of vegetation within the site and the surrounding 150 m has been undertaken in accordance with AS 3959. The assignment of vegetation classifications is based on Section 2.2.3 and Table 2.3 of AS 3959 and generally considers the various fuel layers of different vegetation types. For example, fuel layers in a typical forest environment can be broken down into five segments as illustrated in **Plate 2** below.
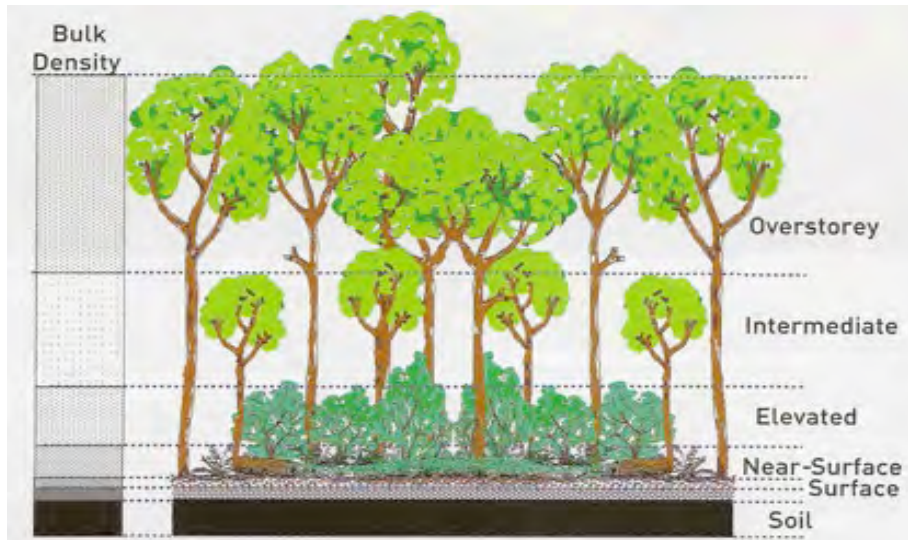
Plate 2: The fuel layers in a forest environment that could be associated with fire behaviour (Gould et al. 2007)

An assessment of existing vegetation within the site and surrounding 100 m was most recently undertaken on 2 August 2024 in accordance with AS 3959. **Table 2** below outlines the determined vegetation classifications and associated effective slope, and where relevant outlines the existing management practices that have informed the vegetation classification. The plots referenced in **Table 2** are also shown in **Figure 2**.

2.1.1   Assumptions

The BAL assessment includes the following assumptions:

- **Designated FDI**: 80
- **Flame temperature**: 1090 K
- **Effective slope beneath classified vegetation**: flat/upslope (see **Figure 2**)
- Areas of low threat vegetation outside the site will continue to be managed and/or considered to achieve low threat (in accordance with Section 2.2.3.2 of AS 3959) based on the existing maintenance regimes, and/or as per the CoS firebreak notice.
- Classified vegetation that has been identified to the south of the site has been assumed to remain in its current state (unless stated otherwise) and will therefore remain a bushfire hazard to development within the site. It is noted that future development within these areas will result in the removal and/or management of classified vegetation to a low threat standard; however, for the purposes of this BAL Assessment, all bushfire hazards are assumed to remain as such.
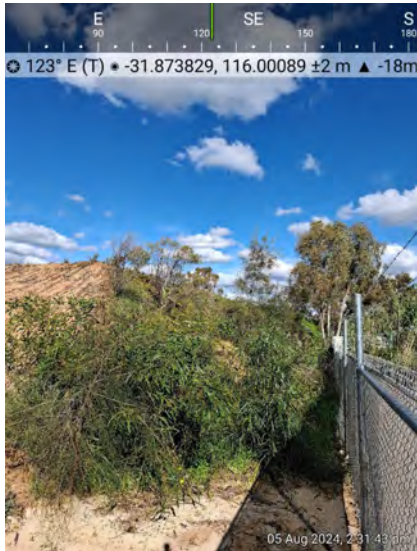
Bushfire Attack Level Assessment
Rivermark Stage 2 Subdivision Area

2.1.2   Vegetation Classification

All vegetation within 150 m of the site was classified in accordance with Clause 2.2.3 of AS 3959-2018. Each distinguishable vegetation plot with the potential to determine the BAL rating is identified in **Table 2** and shown in **Figure 2**.
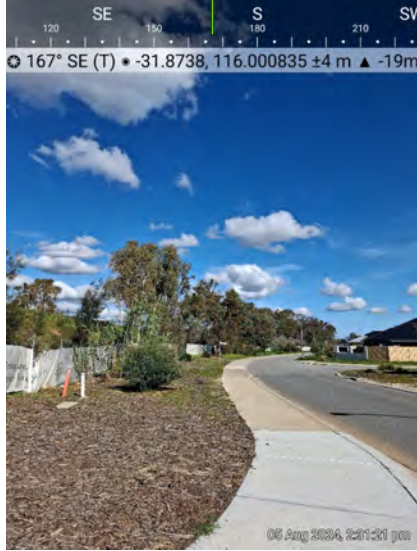
*Table 2: AS3959 Vegetation Classification (refer to **Figure 2**)*

Plot:	1	Photo ID:	1
Vegetation Classification or Exclusion Clause			
Forest (Class A) – Flat/upslope			
Description / Justification for Classification			
A strip of forest vegetation has been identified to the south of the site comprising of predominantly mature shrubs with juvenile eucalyptus trees. This strip has been assessed assuming its potential mature state, noting it will be removed as part of future stages of development.			

Plot:	2	Photo ID:	2
Vegetation Classification or Exclusion Clause			
Exclusion clause 2.2.3.2(e) – Non-vegetated			
Description / Justification for Classification			
Non-vegetated road pavement with low threat vegetation was identified within landscaped verges throughout the subdivision. The vegetation comprises planted species with mulch at the base of each plant or short lawn. Excluded under clauses 2.2.3.2(e&f).			

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Table 2: AS3959 Vegetation Classification (refer to Figure 2)(continued)

Plot:	2	Photo ID:	3

Vegetation Classification or Exclusion Clause

Exclusion clause 2.2.3.2(e) – Non-vegetated

Description / Justification for Classification

Non-vegetated road pavement with low threat vegetation identified within landscaped verges. The vegetation comprises planted species with mulch at the base of each plant or short lawn.

Excluded under clauses 2.2.3.2(e&f).

Plot:	2	Photo ID:	4

Vegetation Classification or Exclusion Clause

Exclusion clause 2.2.3.2(e) – Non-vegetated

Description / Justification for Classification

Recently cleared, non-vegetated mineral earth for future development is excluded under clause 2.2.3.2(e).

Plot:	2	Photo ID:	5

Vegetation Classification or Exclusion Clause

Exclusion clause 2.2.3.2(e) – Non-vegetated

Description / Justification for Classification

Non-vegetated road pavement with low threat vegetation identified within landscaped verges throughout the subdivision. The vegetation comprises planted species with mulch at the base of each plant or short lawn.

Excluded under clauses 2.2.3.2(e&f).

Bushfire Attack Level Assessment
Rivermark Stage 2 Subdivision Area

Table 2: AS3959 Vegetation Classification (refer to Figure 2)(continued)

Plot:	3	Photo ID:	6
Vegetation Classification or Exclusion Clause			
Exclusion clause 2.2.3.2(f) – Low threat vegetation			
Description / Justification for Classification			
The POS area south of the site, low-threat vegetation is preserved. Trees are well-maintained, with no low branches and minimised canopy overlap. The fine fuel load is reduced to minimal fuel conditions.			

Plot:	3	Photo ID:	7
Vegetation Classification or Exclusion Clause			
Exclusion clause 2.2.3.2(f) – Low threat vegetation			
Description / Justification for Classification			
The POS area south of the site, low-threat vegetation is preserved. Trees are well-maintained, with no low branches and minimised canopy overlap. The fine fuel load is reduced to minimal fuel conditions. Bordering planting zones feature manicured lawn, not over 100mm high. This vegetation will continue to be managed in a low-threat state.			

Plot:	3	Photo ID:	8
Vegetation Classification or Exclusion Clause			
Exclusion clause 2.2.3.2(f) – Low threat vegetation			
Description / Justification for Classification			
The POS area south of the site, low-threat vegetation is preserved. Trees are well-maintained, with no low branches and minimised canopy overlap. The fine fuel load is reduced to minimal fuel conditions. Bordering planting zones feature manicured lawn, not over 100mm high. This vegetation will continue to be managed in a low-threat state. Lots to the north are entirely non-vegetated. Excluded under clauses 2.2.3.2(e&f).			

Bushfire Attack Level Assessment
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Table 2: AS3959 Vegetation Classification (refer to Figure 2)(continued)

Plot:	3	Photo ID:	9

Vegetation Classification or Exclusion Clause

Exclusion clause 2.2.3.2(f) – Low threat vegetation

Description / Justification for Classification

Non vegetated road with abutting low threat vegetation in the verge to the southeast of the site comprising a single line of trees with largely cleared understorey. The understorey has been slashed and mulched to maintain a height of less than 100 mm. Vegetation in this area will be managed to a low threat standard in perpetuity.

Excluded under clauses 2.2.3.2(e&f).

Plot:	3	Photo ID:	10

Vegetation Classification or Exclusion Clause

Exclusion clause 2.2.3.2(f) – Low threat vegetation

Description / Justification for Classification

Low threat vegetation to the east of the site comprises a narrow strip of vegetation with a largely cleared understorey planted for the purposes of a windbreak. The understorey grasses have been slashed to maintain a height of less than 100 mm where present. Vegetation in this area will be managed to a low threat standard in perpetuity.

Plot:	3	Photo ID:	11

Vegetation Classification or Exclusion Clause

Exclusion clause 2.2.3.2(f) – Low threat vegetation

Description / Justification for Classification

Low threat vegetation to the north east of the site comprises a narrow strip of vegetation planted for the purposes of a windbreak. The understorey grasses have been slashed to maintain a height of less than 100 mm where present. Vegetation in this area will be managed to a low threat standard in perpetuity.

2.2   Assessment outputs

A BAL Contour Plan (see **Figure 3**) has been prepared to outline the BAL ratings applicable to the lots within the site. It is based on the determined vegetation classifications and associated effective slopes and using the BAL distances detailed in Table 2.5 of AS 3959. Based on the outcomes of the BAL assessment:

- Six (6) lots are exposed to a BAL rating of BAL-LOW
- Nine (9) lots are exposed to a BAL rating of BAL-12.5.

Individual BAL ratings for each lot are shown on **Figure 4**.

2.3   Construction of buildings and ongoing management

2.3.1   Construction of buildings

Appendix A specifies the BAL rating applicable to each building in the form of a BAL certificate and can be used to support the building permit process. Construction requirements for each BAL rating are specified in AS 3959 and summarised in **Table 1**. It is noted that for buildings with a BAL-LOW rating, there is an insufficient risk from bushfire to warrant specific construction requirements, as outlined in Section 4 of AS 3959.

2.3.2   Ongoing management

All lot owners will be responsible for maintaining their own property to a low threat standard in accordance with the principles of the asset protection zone standards detailed in the Guidelines, and as per the requirements of the CoS Fire Hazard Reduction Notice (as published). Advice to lot owners on maintaining their property to a low threat standard can be provided by the CoS.

The proponent will be responsible for the maintenance of their undeveloped landholdings to the north and south of the site to a low-threat standard in accordance with Section 2.2.3.2 of AS 3959 (as indicated by **Figure 2**), and in line with the CoS Hazard Reduction Notice requirements. Management of these areas may include:

- Install and maintain an asset protection zone.
- Clearing of vegetation.
- Regular maintenance including removal of weeds and dead material.
- Low pruning of trees (branches below 2 m in height removed where appropriate).
- Application of ground covers such as mulch or non-flammable materials.
- Regularly mowing/slashing of grass to less than 100 mm in height.

Areas of POS identified in the subdivision approval have been formally landscaped in consultation with the CoS and will be managed in a minimal fuel condition in perpetuity.

3 Certification by Bushfire Consultant

3.1 Accreditation

This BAL assessment has been prepared by Emerge Associates who have been providing bushfire risk management advice for more than ten years, undertaking detailed bushfire assessments (and associated approvals) to support the land use development industry.

3.2 Declaration

I declare that the information provided is true and correct to the best of my knowledge.

Signature:

Name: Anthony Rowe

Company: Emerge Associates/Envision Bushfire Protection

Date: 9 September 2024

BPAD Accreditation: 36690

4   References

4.1   General references

Department of Planning, Lands and Heritage, and Western Australian Planning Commission, (DPLH & WAPC) 2021, *Guidelines for Planning in Bushfire Prone Areas Version 1.4*, Perth, Western Australia.

Standards Australia 2018, *AS 3959:2018 Construction of buildings in bushfire-prone areas*, Sydney.

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

4.2   Online references

Department of Water 2008, *LIDAR derived 1 m elevation contours* dataset, Government of Western Australia.

Office of Bushfire Risk Management (OBRM) 2021, Map of Bush Fire Prone Areas, viewed December 2022, https://maps.slip.wa.gov.au/landgate/bushfireprone/

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Figures

Figure 1: **Site Location**

Legend:
- Site boundary
- 100 m assessment boundary
- 150 m assessment boundary
- Cadastral boundary
- Approved Subdivision Layout (WAPC Ref. #158848)

Plan Number:
EP19-105(51)--F327a
Drawn: GAR
Date: 14/08/2024
Checked: CPW
Approved: KK
Date: 05/09/2024

Scale: 1:3,500@A4
GDA 1994 MGA Zone 50

Metres: 0 30 60

N

Project: Bushfire Attack Level Assessment
Rivermark Stage 2 Subdivision Area
Client: Hesperia Pty Ltd

emerge ASSOCIATES
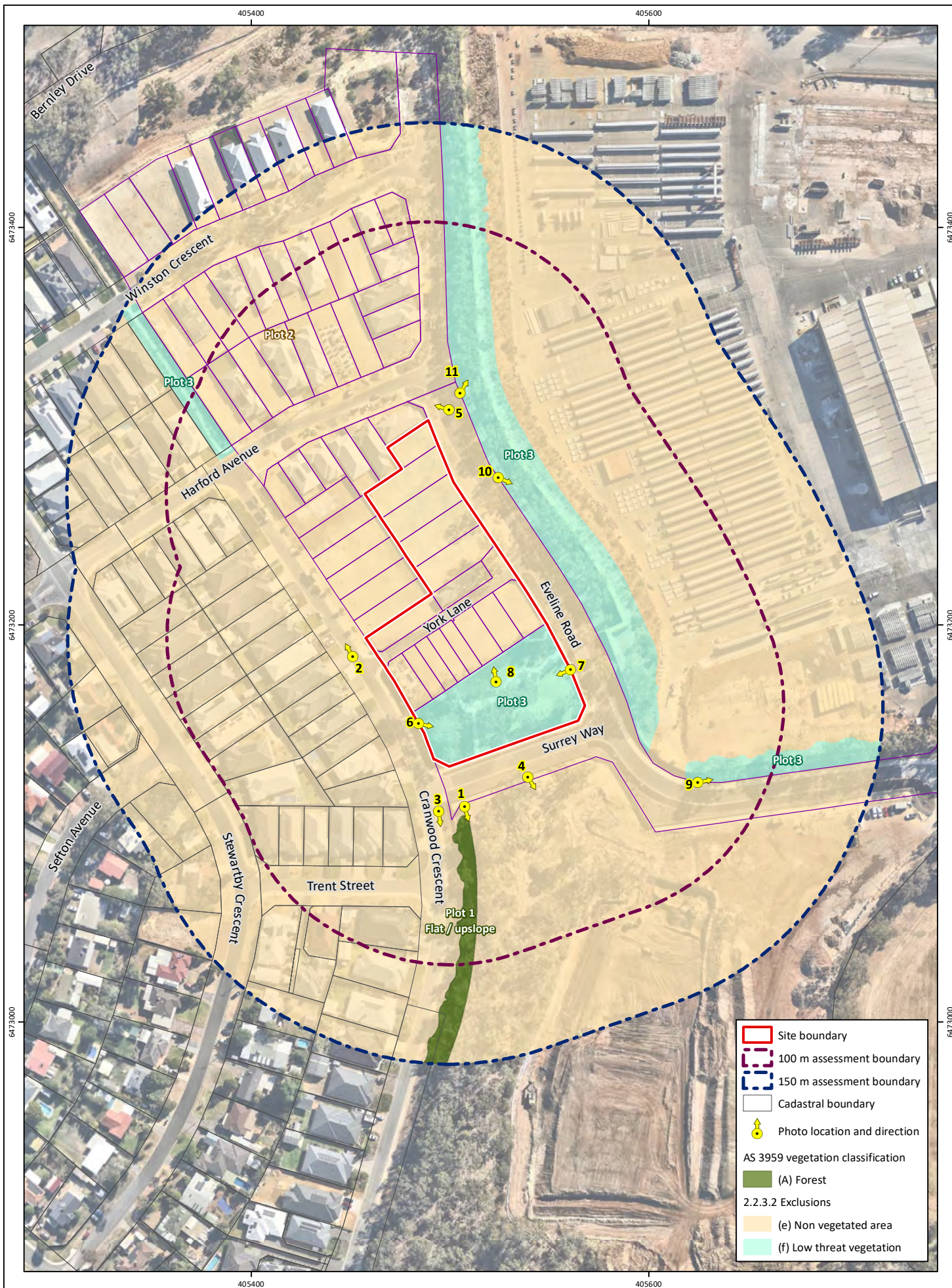
Figure 2: AS 3959 Vegetation Classifications and Effective Slope

| Project: | Bushfire Attack Level Assessment Rivermark Stage 2 Subdivision Area |
| Client: | Hesperia Pty Ltd |

Plan Number: **EP19-105(51)--F328a**

Drawn:	GAR
Date:	14/08/2024
Checked:	CPW
Approved:	KK
Date:	05/09/2024

N

Scale: 1:2,500@A4

GDA 1994 MGA Zone 50

Legend:
- Site boundary
- 100 m assessment boundary
- 150 m assessment boundary
- Cadastral boundary
- Photo location and direction

AS 3959 vegetation classification
- (A) Forest

2.2.3.2 Exclusions
- (e) Non vegetated area
- (f) Low threat vegetation

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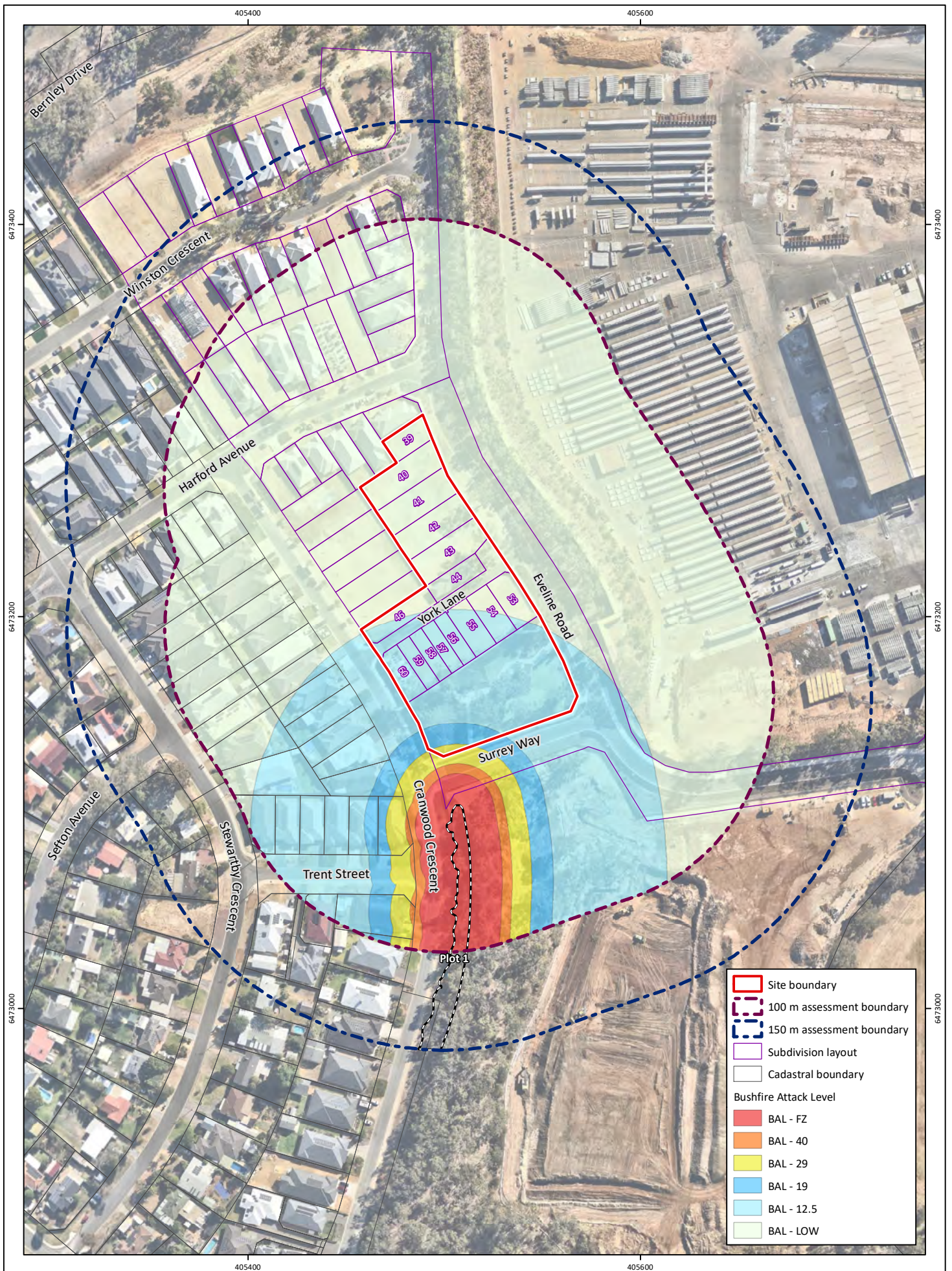
Figure 3: Bushfire Attack Level Contour Plan

Legend

- Site boundary
- 100 m assessment boundary
- 150 m assessment boundary
- Subdivision layout
- Cadastral boundary

Bushfire Attack Level
- BAL - FZ
- BAL - 40
- BAL - 29
- BAL - 19
- BAL - 12.5
- BAL - LOW

Map labels: Bernley Drive, Winston Crescent, Harford Avenue, Sefton Avenue, Stewartby Crescent, Trent Street, Cranwood Crescent, Surrey Way, York Lane, Eveline Road, Plot 1

Plan Number: EP19-105(51)--F329a
Drawn: GAR
Date: 14/08/2024
Checked: CPW
Approved: KK
Date: 05/09/2024

Scale: 1:2,500@A4
GDA 1994 MGA Zone 50

0 25 50 Metres

Project: Bushfire Attack Level Assessment
Rivermark Stage 2 Subdivision Area
Client: Hesperia Pty Ltd

emerge ASSOCIATES

While Emerge Associates makes every attempt to ensure the accuracy and completeness of data, Emerge accepts no responsibility for externally sourced data used
©Landgate (2024). Nearmap Imagery date: 05/04/2024
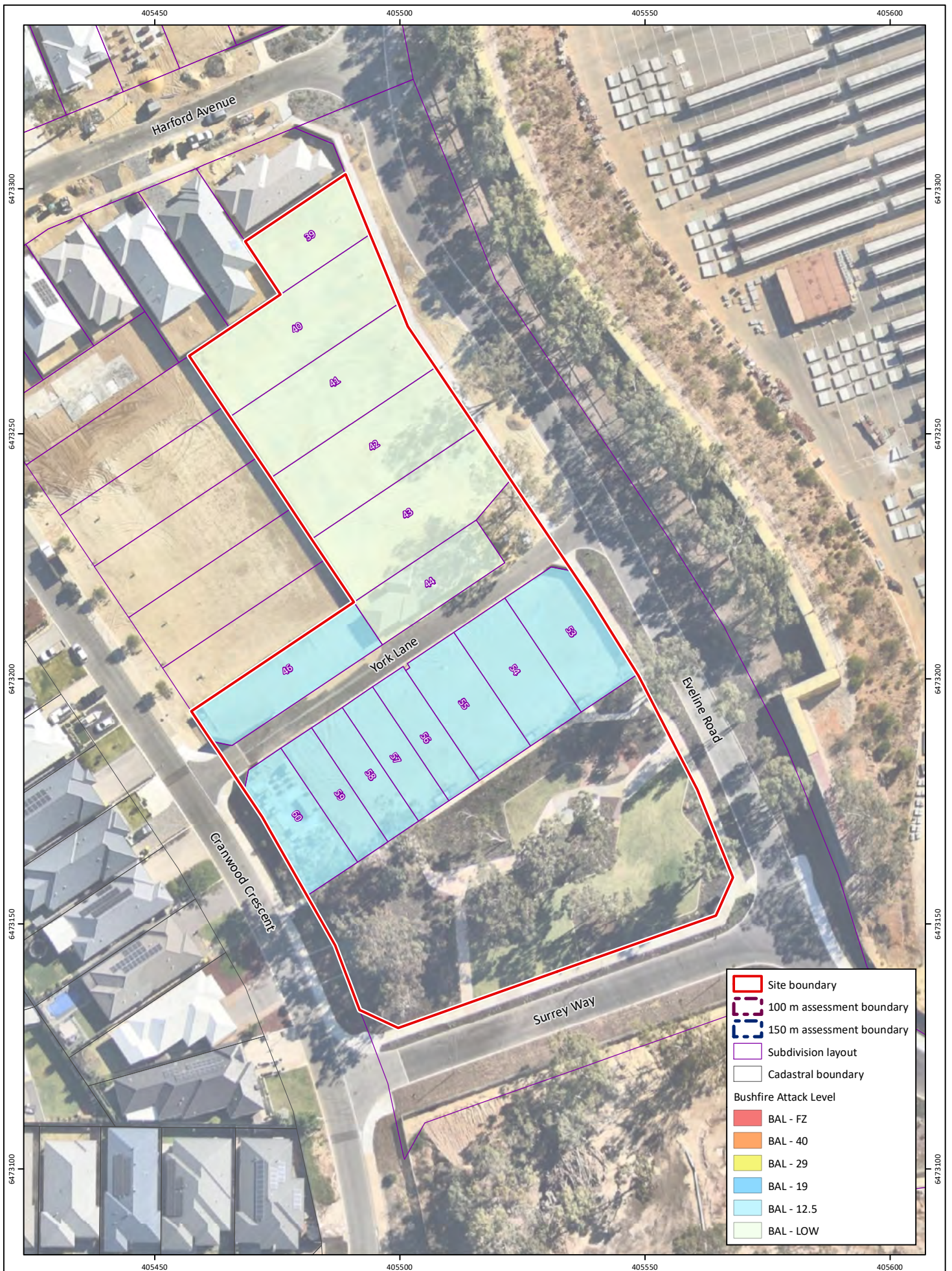
Figure 4: Bushfire Attack Level Ratings for Individual Lots

Plan Number: EP19-105(51)--F330b	
Drawn:	GAR
Date:	05/01/2023
Checked:	CPW
Approved:	KK
Date:	05/09/2024

Project: Bushfire Attack Level Assessment
Rivermark Stage 2 Subdivision Area
Client: Hesperia Pty Ltd

Scale: 1:1,000@A4
GDA 1994 MGA Zone 50

Legend
- Site boundary
- 100 m assessment boundary
- 150 m assessment boundary
- Subdivision layout
- Cadastral boundary

Bushfire Attack Level
- BAL - FZ
- BAL - 40
- BAL - 29
- BAL - 19
- BAL - 12.5
- BAL - LOW

Appendix A

BAL Assessment Certificate

Bushfire Attack Level Assessment
Rivermark Stage 2 Subdivision Area

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BUSHFIRE ATTACK LEVEL (BAL) CERTIFICATE

Determined in accordance with Australian Standard (AS) 3959-2018 Construction of buildings in bushfire prone areas

Site details

Address	Lots 39-44, 46 and 53-60 on Deposited Plan 400991 (Stage 2)		
Suburb	Viveash	State	WA
Local government area	City of Swan		
Date of assessment	2 August 2024	Date of report	9 September 2024
Project no.	EP19-105(51)	Document no.	EP19-105(51)—111A

Determination of highest Bushfire Attack Level (BAL)

Lot no.	Classified vegetation and plot number	Distance of lot boundary from vegetation	Effective slope	Building BAL rating (see Figure 4)	Exceptions/notes for building BAL rating
39	No classified vegetation identified within 100 m.	>100 m	Not applicable	BAL-LOW	N/A
40	No classified vegetation identified within 100 m.	>100 m	Not applicable	BAL-LOW	N/A
41	No classified vegetation identified within 100 m.	>100 m	Not applicable	BAL-LOW	N/A
42	No classified vegetation identified within 100 m.	>100 m	Not applicable	BAL-LOW	N/A
43	No classified vegetation identified within 100 m.	>100 m	Not applicable	BAL-LOW	N/A
44	No classified vegetation identified within 100 m.	>100 m	Not applicable	BAL-LOW	N/A
46	Plot 1 – Forest	93 m	Flat/upslope	BAL – 12.5	N/A
53	Plot 1 – Forest	93 m	Flat/upslope	BAL – 12.5	N/A
54	Plot 1 – Forest	85 m	Flat/upslope	BAL – 12.5	N/A
55	Plot 1 – Forest	76 m	Flat/upslope	BAL – 12.5	N/A
56	Plot 1 – Forest	72 m	Flat/upslope	BAL – 12.5	N/A
57	Plot 1 – Forest	68 m	Flat/upslope	BAL – 12.5	N/A
58	Plot 1 – Forest	63 m	Flat/upslope	BAL – 12.5	N/A
59	Plot 1 – Forest	60 m	Flat/upslope	BAL – 12.5	N/A
60	Plot 1 – Forest	57 m	Flat/upslope	BAL – 12.5	N/A

Accreditation details

I hereby certify that I have undertaken the assessment of the above site and determined the Bushfire Attack Level stated above in accordance with the requirements of the National Construction Code and AS 3959-2018.

Signature:		Certificate date:	9 September 2024

Bushfire Attack Level – Individual Lot Certificate
Rivermark Stage 2 Subdivision Area

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Bushfire Attack Level (BAL) Certificate
Determined in accordance with AS 3959-2018

Property Details and Description of Works

Address Details	Unit no	Street no 97	Lot no 39		Street name / Plan Reference Eveline Road	
	Suburb Viveash				State WA	Postcode 6056
Local government area	City of Swan					
Main BCA class of the building	N/A		Use(s) of the building		N/A	
Description of the building or works	Single lot					

Determination of Highest Bushfire Attack Level

AS 3959 Assessment Procedure	Vegetation Classification	Effective Slope	Separation Distance	BAL
Method 1	Excludable – Clause 2.2.3.2(a)	Not applicable	>100 m	BAL – LOW

BPAD Accredited Practitioner Details

Name Connor Porter-Wilkinson (57979)	I hereby declare that I am a BPAD accredited bushfire practitioner.
Company Details Emerge Associates	
I hereby certify that I have undertaken the assessment of the above site and determined the Bushfire Attack Level stated above in accordance with the requirements of AS 3959-2018	Signature: Date: 9 September 2024

BPAD
Bushfire Planning & Design
Accredited Practitioner
Level 1

Reliance on the assessment and determination of the Bushfire Attack Level contained in this certificate should not extend beyond a period of 12 months from the date of issue of the certificate. If this certificate was issued more than 12 months ago, it is recommended that the validity of the determination be confirmed with the Accredited Practitioner and where required an updated certificate issued.

Bushfire Attack Level (BAL) Certificate
Determined in accordance with AS 3959-2018

Property Details and Description of Works

Address Details	Unit no	Street no 95	Lot no 40	Street name / Plan Reference Eveline Road		
	Suburb Viveash				State WA	Postcode 6056
Local government area	City of Swan					
Main BCA class of the building	N/A		Use(s) of the building	N/A		
Description of the building or works	Single lot					

Determination of Highest Bushfire Attack Level

AS 3959 Assessment Procedure	Vegetation Classification	Effective Slope	Separation Distance	BAL
Method 1	Excludable – Clause 2.2.3.2(a)	Not applicable	>100 m	BAL – LOW

BPAD Accredited Practitioner Details

Name Connor Porter-Wilkinson (57979)	I hereby declare that I am a BPAD accredited bushfire practitioner.
Company Details Emerge Associates	
I hereby certify that I have undertaken the assessment of the above site and determined the Bushfire Attack Level stated above in accordance with the requirements of AS 3959-2018	Signature: Date: 9 September 2024

BPAD
Bushfire Planning & Design
Accredited Practitioner
Level 1

Reliance on the assessment and determination of the Bushfire Attack Level contained in this certificate should not extend beyond a period of 12 months from the date of issue of the certificate. If this certificate was issued more than 12 months ago, it is recommended that the validity of the determination be confirmed with the Accredited Practitioner and where required an updated certificate issued.

Bushfire Attack Level (BAL) Certificate
Determined in accordance with AS 3959-2018

Property Details and Description of Works

Address Details	Unit no	Street no 93	Lot no 41	Street name / Plan Reference Eveline Road		
	Suburb Viveash				State WA	Postcode 6056
Local government area	City of Swan					
Main BCA class of the building	N/A		Use(s) of the building	N/A		
Description of the building or works	Single lot					

Determination of Highest Bushfire Attack Level

AS 3959 Assessment Procedure	Vegetation Classification	Effective Slope	Separation Distance	BAL
Method 1	Excludable – Clause 2.2.3.2(a)	Not applicable	>100 m	BAL – LOW

BPAD Accredited Practitioner Details

Name Connor Porter-Wilkinson (57979)	I hereby declare that I am a BPAD accredited bushfire practitioner.
Company Details Emerge Associates	
I hereby certify that I have undertaken the assessment of the above site and determined the Bushfire Attack Level stated above in accordance with the requirements of AS 3959-2018	Signature: [signature] Date: 9 September 2024

BPAD
Bushfire
Planning & Design
Accredited Practitioner
Level 1

Reliance on the assessment and determination of the Bushfire Attack Level contained in this certificate should not extend beyond a period of 12 months from the date of issue of the certificate. If this certificate was issued more than 12 months ago, it is recommended that the validity of the determination be confirmed with the Accredited Practitioner and where required an updated certificate issued.

Bushfire Attack Level (BAL) Certificate
Determined in accordance with AS 3959-2018

Property Details and Description of Works

Address Details	Unit no	Street no 91	Lot no 42	Street name / Plan Reference Eveline Road		
	Suburb Viveash				State WA	Postcode 6056
Local government area	City of Swan					
Main BCA class of the building	N/A		Use(s) of the building	N/A		
Description of the building or works	Single lot					

Determination of Highest Bushfire Attack Level

AS 3959 Assessment Procedure	Vegetation Classification	Effective Slope	Separation Distance	BAL
Method 1	Excludable – Clause 2.2.3.2(a)	Not applicable	>100 m	BAL – LOW

BPAD Accredited Practitioner Details

Name Connor Porter-Wilkinson (57979)	I hereby declare that I am a BPAD accredited bushfire practitioner.
Company Details Emerge Associates	
I hereby certify that I have undertaken the assessment of the above site and determined the Bushfire Attack Level stated above in accordance with the requirements of AS 3959-2018	Signature: Date: 9 September 2024

BPAD
Bushfire
Planning & Design
Accredited Practitioner
Level 1

Reliance on the assessment and determination of the Bushfire Attack Level contained in this certificate should not extend beyond a period of 12 months from the date of issue of the certificate. If this certificate was issued more than 12 months ago, it is recommended that the validity of the determination be confirmed with the Accredited Practitioner and where required an updated certificate issued.

Bushfire Attack Level (BAL) Certificate
Determined in accordance with AS 3959-2018

Property Details and Description of Works

Address Details	Unit no	Street no 89	Lot no 43	Street name / Plan Reference Eveline Road		
	Suburb Viveash				State WA	Postcode 6056
Local government area	City of Swan					
Main BCA class of the building	N/A		Use(s) of the building	N/A		
Description of the building or works	Single lot					

Determination of Highest Bushfire Attack Level

AS 3959 Assessment Procedure	Vegetation Classification	Effective Slope	Separation Distance	BAL
Method 1	Excludable – Clause 2.2.3.2(a)	Not applicable	>100 m	BAL – LOW

BPAD Accredited Practitioner Details

Name
Connor Porter-Wilkinson (57979)

Company Details
Emerge Associates

I hereby certify that I have undertaken the assessment of the above site and determined the Bushfire Attack Level stated above in accordance with the requirements of AS 3959-2018

I hereby declare that I am a BPAD accredited bushfire practitioner.

Signature:

Date: 9 September 2024

BPAD
Bushfire
Planning & Design
Accredited Practitioner
Level 1

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Bushfire Attack Level (BAL) Certificate
Determined in accordance with AS 3959-2018

Property Details and Description of Works

Address Details	Unit no	Street no 13	Lot no 44	Street name / Plan Reference York Lane	
	Suburb Viveash			State WA	Postcode 6056
Local government area	City of Swan				
Main BCA class of the building	N/A		Use(s) of the building	N/A	
Description of the building or works	Single lot				

Determination of Highest Bushfire Attack Level

AS 3959 Assessment Procedure	Vegetation Classification	Effective Slope	Separation Distance	BAL
Method 1	Excludable – Clause 2.2.3.2(a)	Not applicable	>100 m	BAL – LOW

BPAD Accredited Practitioner Details

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Bushfire Attack Level (BAL) Certificate
Determined in accordance with AS 3959-2018

Property Details and Description of Works

Address Details	Unit no	Street no 59	Lot no 46	Street name / Plan Reference Cranwood Crescent		
	Suburb Viveash				State WA	Postcode 6056
Local government area	City of Swan					
Main BCA class of the building	N/A		Use(s) of the building	N/A		
Description of the building or works	Single lot					

Determination of Highest Bushfire Attack Level

AS 3959 Assessment Procedure	Vegetation Classification	Effective Slope	Separation Distance	BAL
Method 1	Class A - Forest	Flat/Upslope	93 m	BAL – 12.5

BPAD Accredited Practitioner Details

Name Connor Porter-Wilkinson (57979)	I hereby declare that I am a BPAD accredited bushfire practitioner.
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BPAD
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Level 1

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Bushfire Attack Level (BAL) Certificate
Determined in accordance with AS 3959-2018

Property Details and Description of Works

Address Details	Unit no	Street no 16	Lot no 53	Street name / Plan Reference York Lane		
	Suburb Viveash				State WA	Postcode 6056
Local government area	City of Swan					
Main BCA class of the building	N/A		Use(s) of the building	N/A		
Description of the building or works	Single lot					

Determination of Highest Bushfire Attack Level

AS 3959 Assessment Procedure	Vegetation Classification	Effective Slope	Separation Distance	BAL
Method 1	Class A - Forest	Flat/Upslope	93 m	BAL – 12.5

BPAD Accredited Practitioner Details

Name Connor Porter-Wilkinson (57979)	I hereby declare that I am a BPAD accredited bushfire practitioner.
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BPAD
Bushfire
Planning & Design
Accredited Practitioner
Level 1

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Bushfire Attack Level – Individual Lot Certificate
Rivermark Stage 2 Subdivision Area

emerge
ASSOCIATES

Bushfire Attack Level (BAL) Certificate
Determined in accordance with AS 3959-2018

Property Details and Description of Works

Address Details	Unit no	Street no 14	Lot no 54	Street name / Plan Reference York Lane		
	Suburb Viveash				State WA	Postcode 6056
Local government area	City of Swan					
Main BCA class of the building	N/A		Use(s) of the building	N/A		
Description of the building or works	Single lot					

Determination of Highest Bushfire Attack Level

AS 3959 Assessment Procedure	Vegetation Classification	Effective Slope	Separation Distance	BAL
Method 1	Class A - Forest	Flat/Upslope	85 m	BAL – 12.5

BPAD Accredited Practitioner Details

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Company Details Emerge Associates	
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BPAD
Bushfire
Planning & Design
Accredited Practitioner
Level 1

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Bushfire Attack Level – Individual Lot Certificate
Rivermark Stage 2 Subdivision Area

emerge ASSOCIATES

Bushfire Attack Level (BAL) Certificate
Determined in accordance with AS 3959-2018

Property Details and Description of Works

Address Details	Unit no	Street no 12	Lot no 55	Street name / Plan Reference York Lane		
	Suburb Viveash				State WA	Postcode 6056
Local government area	City of Swan					
Main BCA class of the building	N/A		Use(s) of the building	N/A		
Description of the building or works	Single lot					

Determination of Highest Bushfire Attack Level

AS 3959 Assessment Procedure	Vegetation Classification	Effective Slope	Separation Distance	BAL
Method 1	Class A - Forest	Flat/Upslope	76 m	BAL – 12.5

BPAD Accredited Practitioner Details

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Company Details Emerge Associates	
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BPAD Bushfire Planning & Design Accredited Practitioner Level 1

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Bushfire Attack Level – Individual Lot Certificate
Rivermark Stage 2 Subdivision Area

Bushfire Attack Level (BAL) Certificate
Determined in accordance with AS 3959-2018

Property Details and Description of Works

Address Details	Unit no	Street no 10	Lot no 56	Street name / Plan Reference York Lane		
	Suburb Viveash				State WA	Postcode 6056
Local government area	City of Swan					
Main BCA class of the building	N/A		Use(s) of the building	N/A		
Description of the building or works	Single lot					

Determination of Highest Bushfire Attack Level

AS 3959 Assessment Procedure	Vegetation Classification	Effective Slope	Separation Distance	BAL
Method 1	Class A - Forest	Flat/Upslope	72 m	BAL – 12.5

BPAD Accredited Practitioner Details

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Bushfire Attack Level – Individual Lot Certificate
Rivermark Stage 2 Subdivision Area

emerge
ASSOCIATES

Bushfire Attack Level (BAL) Certificate
Determined in accordance with AS 3959-2018

Property Details and Description of Works

Address Details	Unit no	Street no 8	Lot no 57	Street name / Plan Reference York Lane		
	Suburb Viveash				State WA	Postcode 6056
Local government area	City of Swan					
Main BCA class of the building	N/A		Use(s) of the building	N/A		
Description of the building or works	Single lot					

Determination of Highest Bushfire Attack Level

AS 3959 Assessment Procedure	Vegetation Classification	Effective Slope	Separation Distance	BAL
Method 1	Class A - Forest	Flat/Upslope	68 m	BAL – 12.5

BPAD Accredited Practitioner Details

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BPAD
Bushfire
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Level 1

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Bushfire Attack Level – Individual Lot Certificate
Rivermark Stage 2 Subdivision Area

emerge ASSOCIATES

Bushfire Attack Level (BAL) Certificate
Determined in accordance with AS 3959-2018

Property Details and Description of Works

Address Details	Unit no	Street no 6	Lot no 58	Street name / Plan Reference York Lane		
	Suburb Viveash				State WA	Postcode 6056
Local government area	City of Swan					
Main BCA class of the building	N/A		Use(s) of the building	N/A		
Description of the building or works	Single lot					

Determination of Highest Bushfire Attack Level

AS 3959 Assessment Procedure	Vegetation Classification	Effective Slope	Separation Distance	BAL
Method 1	Class A - Forest	Flat/Upslope	63 m	BAL – 12.5

BPAD Accredited Practitioner Details

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Company Details Emerge Associates	
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BPAD Bushfire Planning & Design Accredited Practitioner Level 1

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Bushfire Attack Level (BAL) Certificate
Determined in accordance with AS 3959-2018

Property Details and Description of Works

Address Details	Unit no	Street no 4	Lot no 59	Street name / Plan Reference York Lane		
	Suburb Viveash				State WA	Postcode 6056
Local government area	City of Swan					
Main BCA class of the building	N/A		Use(s) of the building	N/A		
Description of the building or works	Single lot					

Determination of Highest Bushfire Attack Level

AS 3959 Assessment Procedure	Vegetation Classification	Effective Slope	Separation Distance	BAL
Method 1	Class A - Forest	Flat/Upslope	60 m	BAL – 12.5

BPAD Accredited Practitioner Details

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Bushfire Attack Level – Individual Lot Certificate
Rivermark Stage 2 Subdivision Area

emerge
ASSOCIATES

Bushfire Attack Level (BAL) Certificate
Determined in accordance with AS 3959-2018

Property Details and Description of Works

Address Details	Unit no	Street no 2	Lot no 60	Street name / Plan Reference York Lane		
	Suburb Viveash				State WA	Postcode 6056
Local government area	City of Swan					
Main BCA class of the building	N/A		Use(s) of the building	N/A		
Description of the building or works	Single lot					

Determination of Highest Bushfire Attack Level

AS 3959 Assessment Procedure	Vegetation Classification	Effective Slope	Separation Distance	BAL
Method 1	Class A - Forest	Flat/Upslope	57 m	BAL – 12.5

BPAD Accredited Practitioner Details

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Company Details Emerge Associates	
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