Shire of Dardanup

Sustainable Development Directorate

APPENDICES

Item 12.2.1 – 12.2.2

ORDINARY COUNCIL MEETING

To Be Held

Wednesday, 21st May 2025
Commencing at 5.00pm

At

Shire of Dardanup
ADMINISTRATION CENTRE EATON
1 Council Drive - EATON

This document is available in alternative formats such as:
~ Large Print
~ Electronic Format [disk or emailed]
Upon request.

LEGEND

- EXISTING CADASTRE
- LOT BOUNDARY
- STRUCTURE PLAN BOUNDARY
- PROPOSED CADASTRE
- STAGE BOUNDARY
- RESIDENTIAL: R20 - R40
- RESIDENTIAL: R40
  Lots requiring Local Development Plan in accordance with Liveable Neighbourhoods
- PUBLIC OPEN SPACE 3.188ha
- REGIONAL OPEN SPACE
- LOCAL ROADS
- PATHWAY - SHARED PATHS
- PROPOSED MANAGED LOW FUEL ZONE (3m WIDTH)
- VEGETATION TO BE RETAINED
- * RESIDENTIAL DENSITY TO BE CONSISTENT WITH ADJOINING STRUCTURE PLAN

INDICATIVE LOT YIELD

NORTH STAGE
RESIDENTIAL R20 - R40 : .....247 LOTS

SOUTH STAGE
RESIDENTIAL R20 - R40 : .....164 LOTS
RESIDENTIAL R40 : ..... 25 LOTS

250m
0m

calibre
Calibre Professional Services Pty Ltd
Unit 5, 53 Victoria Street
Bunbury WA 6230
Ph 08 9791 4411
www.calibregroup.com

STRUCTURE PLAN

Parkridge, Eaton

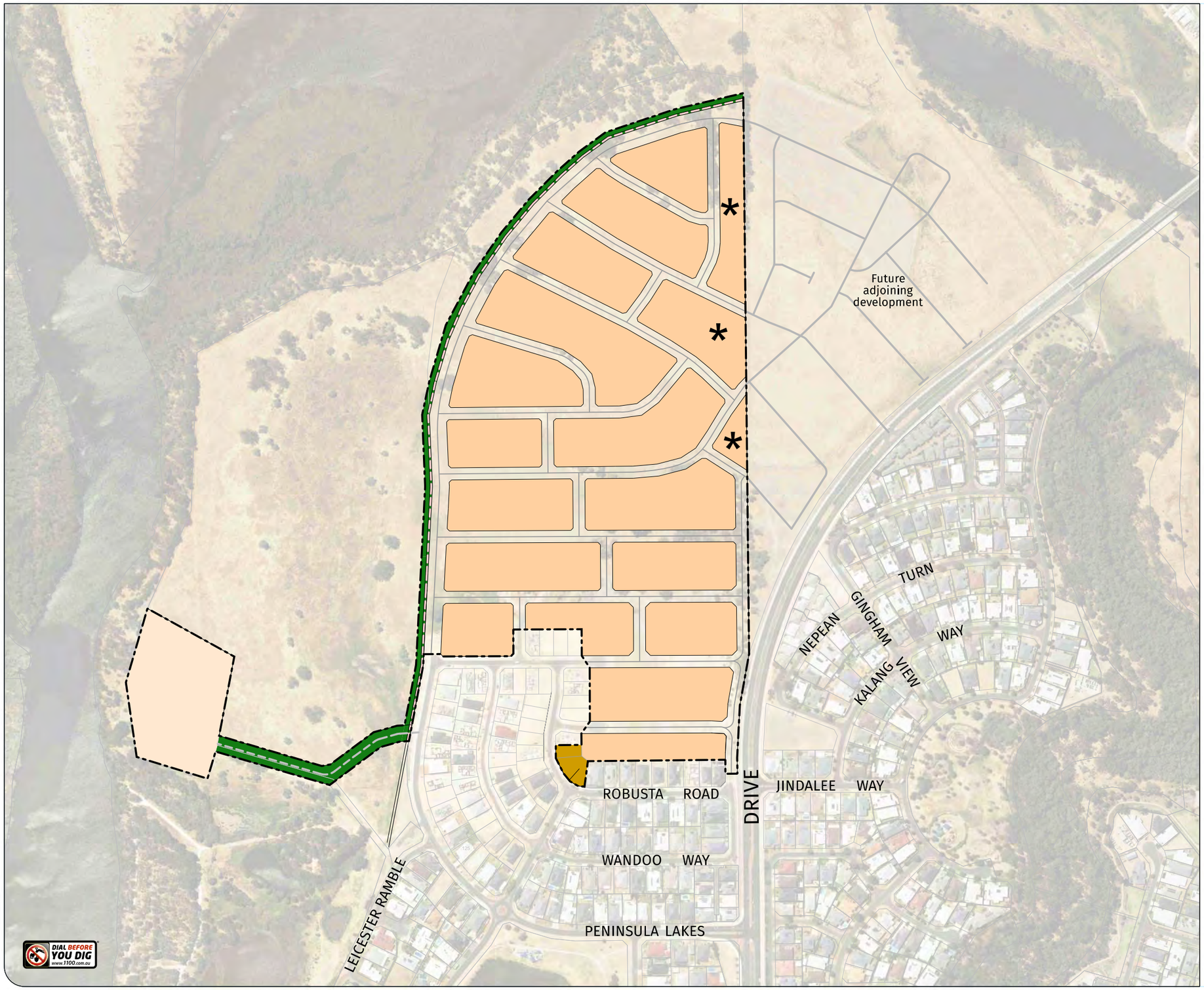
Plan No: 17-002497P-SP-01G

Date: 14.05.2019
Rev: G
Scale: A1 @1:2500, A3 @ 1:5000
Co-ords: MGA
Aerial: Nearmap

This plan has been prepared for planning purposes. Areas, contours and dimensions shown are subject to survey.

Figure 1 - Local Structure Plan

(Appendix ORD: 12.2.1B)



LEGEND

- EXISTING CADASTRE
- STRUCTURE PLAN BOUNDARY
- PROPOSED CADASTRE
- RESIDENTIAL: R40
- RESIDENTIAL: R20 - R40
- RESIDENTIAL: R5
- PUBLIC OPEN SPACE
- REGIONAL OPEN SPACE
- LOCAL ROADS
- PRIVATE ACCESSWAY
- PROPOSED MANAGED LOW FUEL ZONE (3m WIDTH)
- * RESIDENTIAL DENSITY TO BE CONSISTENT WITH ADJOINING STRUCTURE PLAN

STRUCTURE PLAN MODIFICATION

Robusta Road, Eaton
PARKRIDGE

Plan No.	22294-07
Date	29/03/23
Drawn	NP
Checked	KS
Revision	E
Scale	1:1000@A3

0 10m 20m 30m

BUNBURY OFFICE:
21 Spencer Street,
BUNBURY WA 6230
T: 08 9792 6000
E: bunbury@harleydykstra.com.au
W: www.harleydykstra.com.au
ALBANY | BUNBURY | BUSSELTON | FORRESTDALE | PERTH

NOTE: This plan has been prepared for planning purposes. Areas, Contours and Dimensions shown are subject to survey

Harley Dykstra®
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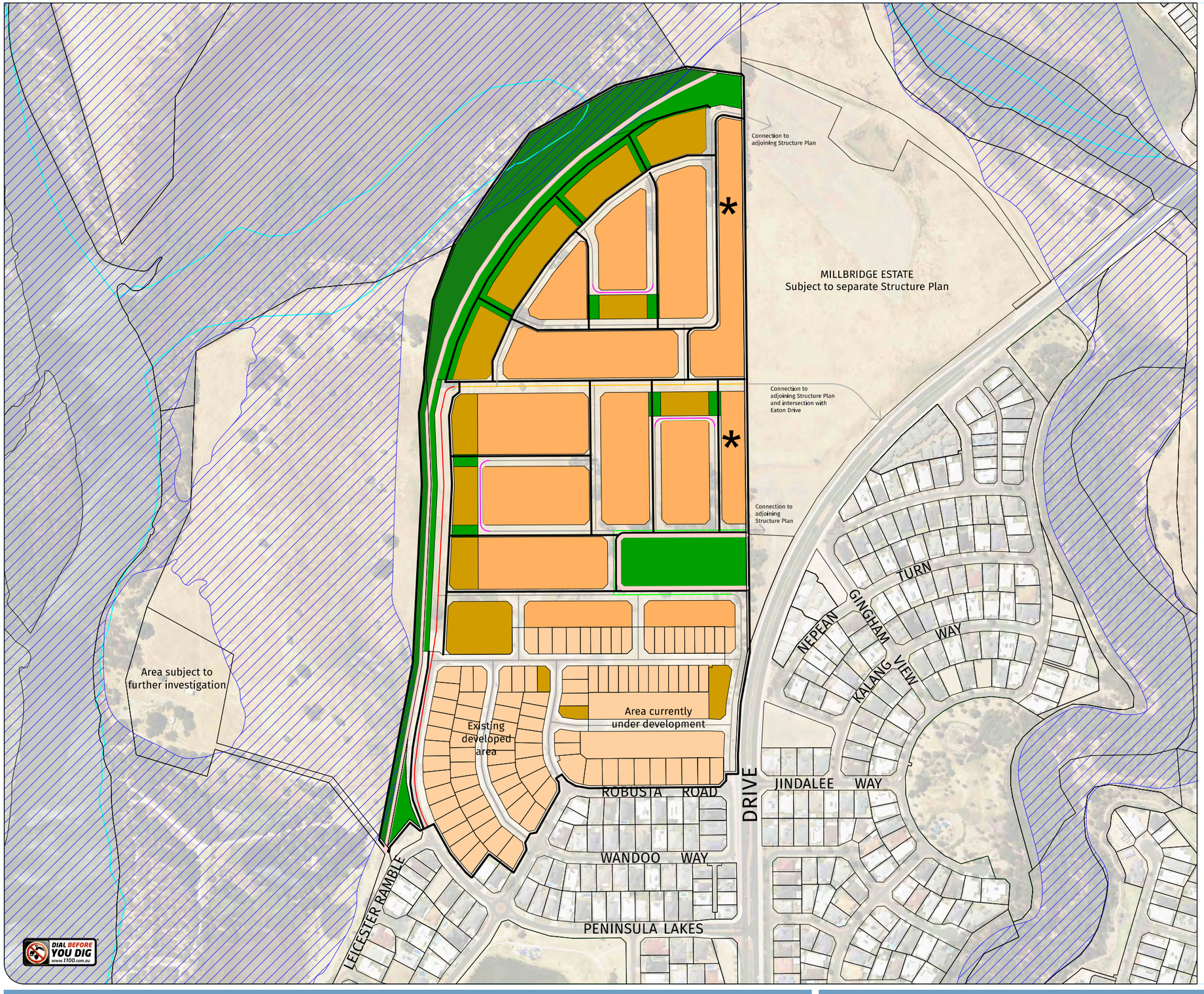
Appendix ORD: 12.2.1C

Under Separate Electronic Cover

(Appendix ORD: 12.2.1D)



LEGEND

- EXISTING CADASTRE
- STRUCTURE PLAN MODIFICATION BOUNDARY
- PROPOSED CADASTRE
- RESIDENTIAL: R40
- RESIDENTIAL: R30 - R40
- RESIDENTIAL: R20
- PUBLIC OPEN SPACE
- REGIONAL OPEN SPACE
- MANAGED LOW FUEL ZONE
- * RESIDENTIAL DENSITY TO BE CONSISTENT WITH ADJOINING STRUCTURE PLAN
- PATH NETWORK
- PATH NETWORK & FIRE SERVICE ACCESS ROUTE
- FLOODWAY
- CONSERVATION CATEGORY WETLAND

LOCAL ROADS

- 21m Reserve
- 18m Reserve
- 15m Reserve
- 12.5m Reserve
- 9m Reserve

Plan 1 – Structure Plan Map

STRUCTURE PLAN MODIFICATION

Robusta Road, Eaton
PARKRIDGE

Plan No.	22294-07
Date	11/02/25
Drawn	NP
Checked	KS
Revision	L
Scale	1:5000@A3

0 50m 100m 150m

NOTE: This plan has been prepared for planning purposes. Areas, Contours and Dimensions shown are subject to survey

BUNBURY OFFICE:
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RISK ASSESSMENT TOOL

OVERALL RISK EVENT: **Proposed Amendment 1 to Parkridge Estate Structure Plan (Revised 2025)**

RISK THEME PROFILE:

3 - Failure to Fulfil Compliance Requirements (Statutory, Regulatory)
2 - Business and Community Disruption
7 - Environment Management

RISK ASSESSMENT CONTEXT: Strategic

CONSEQUENCE CATEGORY	RISK EVENT	PRIOR TO TREATMENT OR CONTROL			RISK ACTION PLAN (Treatment or controls proposed)	AFTER TREATEMENT OR CONTROL		
		CONSEQUENCE	LIKELIHOOD	INHERENT RISK RATING		CONSEQUENCE	LIKELIHOOD	RESIDUAL RISK RATING
HEALTH	No risk event identified for this category.	Not Required - No Risk Identified	N/A	N/A	Not required.	Not required.	Not required.	Not required.
FINANCIAL IMPACT	No risk event identified for this category.	Not Required - No Risk Identified	N/A	N/A	Not required.	Not required.	Not required.	Not required.
SERVICE INTERRUPTION	No risk event identified for this category.	Not Required - No Risk Identified	N/A	N/A	Not required.	Not required.	Not required.	Not required.
LEGAL AND COMPLIANCE	The applicant may appeal the decision of the WAPC to SAT if the proposal is refused, or if conditions are disputed, and Council officer may be required to attend	Moderate (3)	Possible (3)	Moderate (5 - 11)	Not required.	Not required.	Not required.	Not required.
REPUTATIONAL	The Shire's reputation is likely to be negatively impacted if the proposal is approved as submitted, as there has been significant community concern over the proposed removal/reduction of POS and native vegetation	Minor (2)	Almost Certain (5)	Moderate (5 - 11)	Not required.	Not required.	Not required.	Not required.
ENVIRONMENT	Significant impact to vegetation and important habitat within the central POS area if this is removed for residential development	Catastrophic (5)	Almost Certain (5)	Extreme (20 - 25)	Recommend refusal of the proposal to WAPC based on the grounds of refusal in this report. Note that the environmental risk cannot be treated through any treatment by the Shire as it will ultimately be up to WAPC to make a decision on the proposal.	Catastrophic (5)	Almost Certain (5)	Extreme (20 - 25)
PROPERTY	No risk event identified for this category.	Not Required - No Risk Identified	N/A	N/A	Not required	Not required.	Not required.	Not required.

(Appendix ORD: 12.2.2A)

Crooked Brook Wines

Business Report

Document No. CBW-RPT-001

June 2023

Update November 2024

Contents

1 Background

Crooked Brook Wines is a family owned and run vineyard on Crooked Brook Road, approximately 6km Southeast of Dardanup. The property consists of a house with a brick and iron extension and a large three door machinery shed built for storing tractors/nets and vineyard equipment, all used for servicing the vineyard.

The vineyard was developed by the current owners in 1999. Crooked Brook Wines has produced vintages of wine from 2009 to 2023 and is available through online, some bottleshops and restaurants, and we also sell though markets and events at different times. The venture has supported local businesses such as Dardanup Rural and contractors such as AHA Viticulture and Pith Winemaking who in turn employ local labour. Up to this point, the venture has not had the ability to sell wine direct to the public. With competition in the market and rising costs of labour, it is important that we have this direct selling option to help with the viability of the venture. We are proposing to re-develop the existing building in two stages, stage 1 for cellar door and wine tasting, and then ultimately, stage 2 for wine tasting and simple al fresco style pizza and bistro style dining.

The existing house at 566 Crooked Brook Road was built in the 60s, with an extension added in the 80s. The original property was a three by one brick veneer structure, to which was added a brick and iron solidly built, double garage, games room and workshop in the later extension. The sewerage system is a single septic tank with 12m leach drain.

The current property is not occupied full time. The owners are present when required for vineyard work and maintenance work on the property and contractors/employees are present at times to undertake the relevant tasks such as pruning the vineyard, spraying or putting on the nets etc. When the owners are in attendance for work purposes, there are usually two people present.

1.1 Stage 1 Cellar Door

1.1.1 Purpose

The stage 1 development is proposed to allow Crooked Brook Wines a cellar door for direct point of sale, which has not been possible to present. We will be offering a range of our vintages and varieties, all grown on the property for tasting and sale. It is not intended to serve food in this first stage of the development. Building Works

The stage 1 development involves the following renovations to the existing property:

1. Re-purpose the existing building to provide a cellar door for wine tasting.
2. Renovate to add an additional disabled and wheelchair accessible toilet within the existing building.
3. Provide decks and wheelchair access ramp.
4. Leach drain suitable to accommodate the new toilet.

Refer to the architectural plans for details of these works.

1.1.2 Operation

Once the building works are complete, it is intended to operate the cellar door Fridays through Sundays, 11 am to 3 pm. It is expected that we would see an average of 10 to 20 visitors a day, Saturday, Sunday, with less

than 10 visitors Fridays through the summer months, and about half of those numbers during the winter months.

Access will be directly off Crooked Brook Road existing crossover with parking provided close to the cellar door accessible by the circular driveway system.

Drinking water will be provided by a 27,500 lite rainwater tank, fed from a large shed. It will be filtered, and UV treated. An additional 110,000 litre storage bore water tank will provide filtered, treated water for ablutions.

No more than background music will be played in this stage of operation.

It is expected to be owner operated for the first stage.

1.2 Stage 2 Cellar Door

1.2.1 Purpose

The stage 2 development is proposed to provide al fresco dining, selling pizzas and other bistro style food.

There will be no change to the occupation and use of the existing building.

Note, stage 2 development does not involve any external additions to the existing building structures.

1.2.2 Building Works

The stage 2 development involves the following renovations to the existing property:

1. Add additional male and female toilets adjacent to the stage 1 disabled toilet.
2. Renovate the remainder of the existing building and convert into commercial kitchen.
3. Provide external decks, brick-paving and landscaping.
4. Leach drains suitable to accommodate the new toilets.

1.2.3 Operation

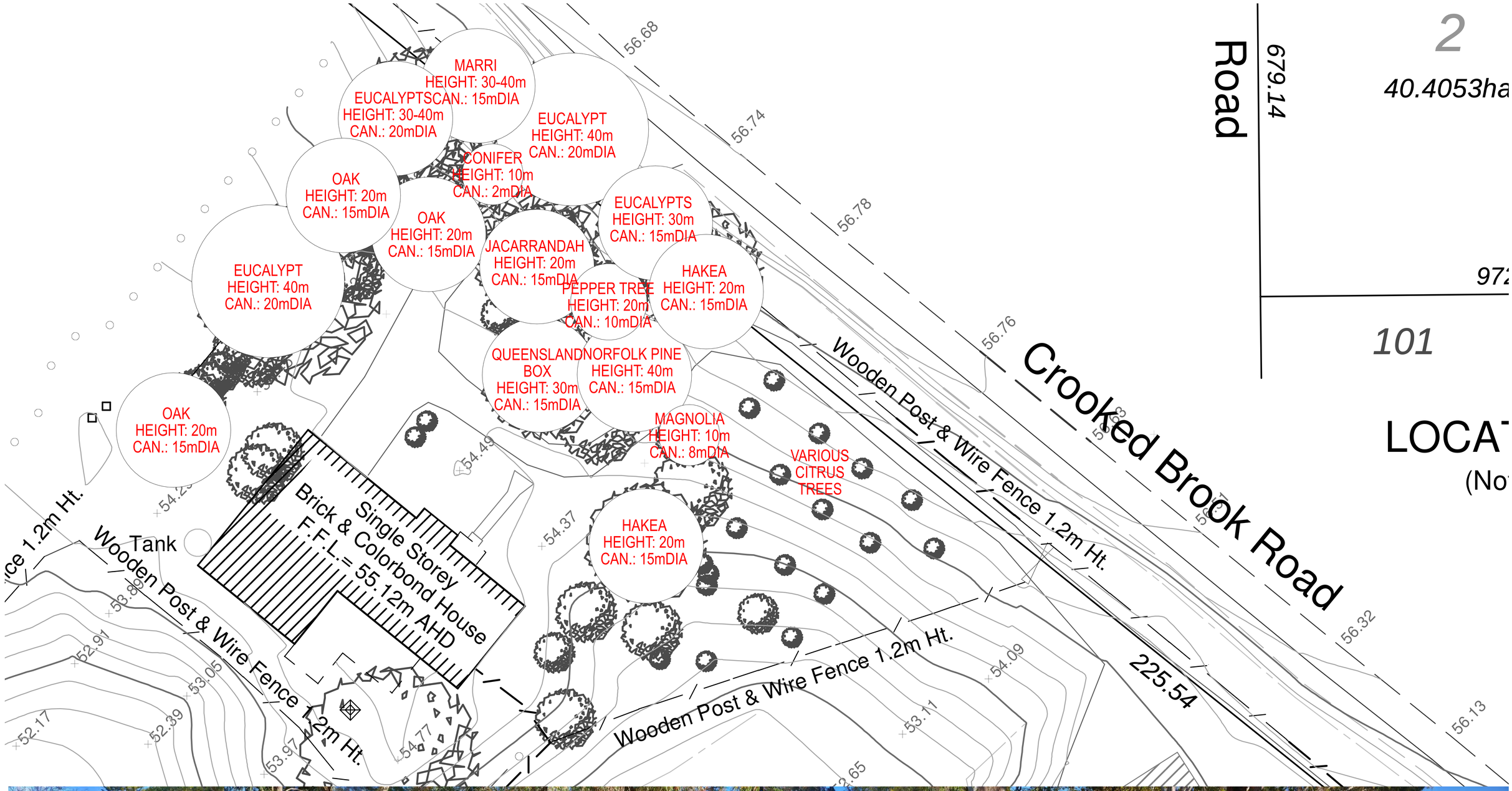
After stage 2 works are completed, the cellar door and al fresco dining would continue to operate Fridays through Sundays, 11 am to 3 pm. It is expected that we would see an average of 30 to 40 visitors a day, Saturday, Sunday, with up to 10 visitors Fridays expected through the summer months, and about half of those numbers during the winter months.

The commercial kitchen will be used to prepare food consumed on the premises.

Drinking water will be provided by a 27,500 lite rainwater tank, fed from a large shed. It will be filtered, and UV treated. An additional 110,000 litre storage bore water tank will provide filtered, treated water for ablutions.

No more than background music will be played in this stage of operation.

The operation would employ people as required, a pizza chef and waiter depending on numbers.



NOTE

The Contractor shall carry out the work in accordance with the specification, The National Code of Australia, Local Authority requirements, and Statutory Regulations. All drawings to be read in conjunction with engineers drawings.

The Contractor shall check and verify all dimensions, levels and coursing on site prior to the commencement of any building work. Any discrepancies shall b e referred to B Architect prior to proceeding with the works. The Contractor shall visit the site and note all visible site conditions and access requirements.

All dimensions are in millimetres. Refer to written dimensions only. Do not scale drawings.

All materials shall be new and conform to what is shown on the drawings and in the Specification.

This drawing has been produced based on information supplied by others, While all attempts have been made to ensure the accuracy of this drawing B Architect will not be held responsible for the accuracy of the information provided.

b architect

Drawn | Checked	B FEWSTER |
Plot Date:	23/4/2025
Project NO.	2021-12
Project Status	DESIGN
Client	KATHERINE & ALEX WILLIAMS
Site:	566 CROOKED BROOK ROAD CROOKED BROOK WA 6232

DRAWING TITLE :

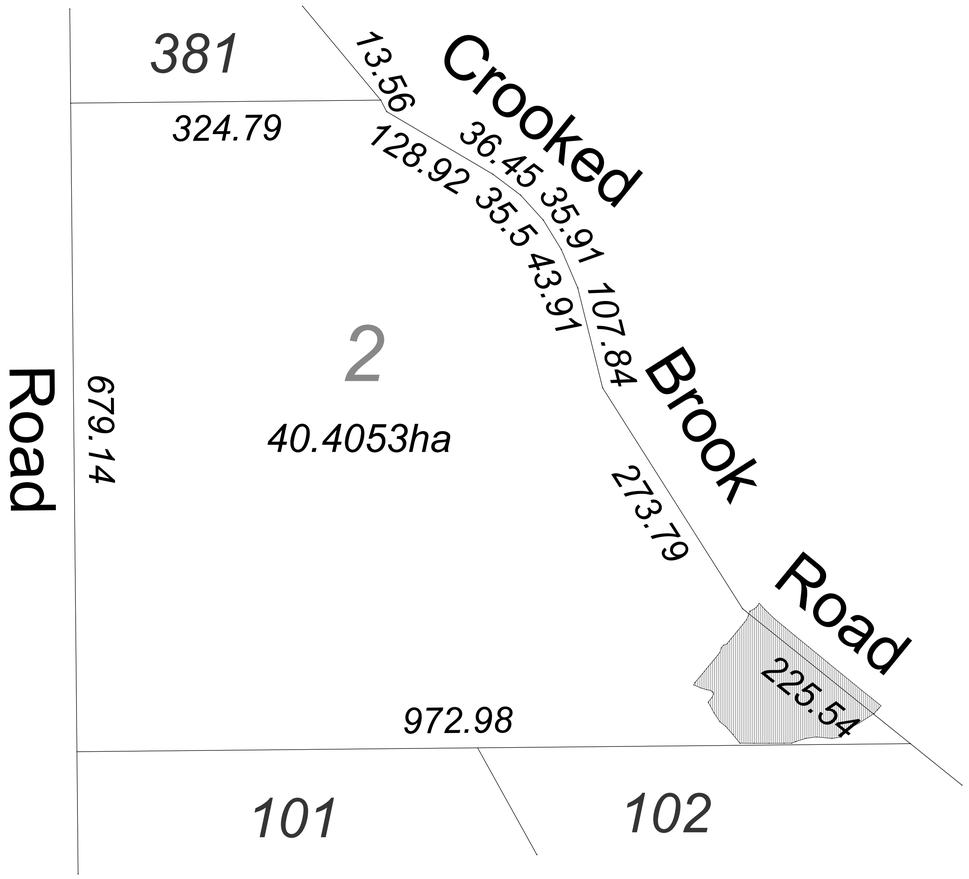
STAGE ONE
LANDSCAPE PLAN

PROJECT NAME :

CROOKED BROOK WINES DEVELOPMENT

REVISION NO.
1

DRAWING NO.
A1.00



LOCATION PLAN

(Not to Scale)

LEGEND

- Tree
- ClothesLine
- Gate
- Stump
- Power M/H
- LTP
- PP
- Power Dome
- Power Meter
- Stay
- Hydrant
- Tap
- Water Conn.
- Water Meter
- Irrigation
- Post
- Sewer M/H
- H.C.
- NBN
- Telstra Pit
- Comm. Pit
- Bore
- Grated Pit
- S.E.P.
- Gas Meter
- Survey Peg
- Temporary Bench Mark
- Spot Height (R.L.)

- ROAD EDGE
- ROAD CENTRELINE
- TOP
- TOE
- FENCE
- DRAINAGE
- GAS
- POWER (OVERHEAD)
- POWER (UNDERGROUND)
- SEWER
- WATER
- VEGETATION LINE
- PAVING
- CONCRETE
- KERB
- LIMESTONE RETAINING WALL
- BUILDING
- BOUNDARY

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MASTER

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Project NO.	2021-12
Project Status	DESIGN
Client	KATHERINE & ALEX WILLIAMS
Site:	566 CROOKED BROOK ROAD CROOKED BROOK WA 6232

DRAWING TITLE :
STAGE ONE
LOCATION PLAN

PROJECT NAME :
CROOKED BROOK WINES DEVELOPMENT

REVISION NO.
1
DRAWING NO.
A1.01

(Appendix ORD: 12.2.2A)

Crooked Brook Road

BOUNDARY

Wooden Post & Wire Fence 1.2m Ht.

CROSS OVER WIDENED
EX. GRAVEL
6000m

SMALL TREE NEAR ROAD APPROVED FOR REMOVAL

BUSINESS NAME 100 METRES AHEAD

OPEN/CLOSE TIMES

SIGN BUSINESS

EXISTING DRIVEWAY

EXIT SIGN

EXISTING DRIVEWAY 1-WAY
EX. GRAVEL

ENTRY SIGN WITH DIRECTIONAL ARROW

ONE WAY SIGN WITH ARROW AND SPEED 5KM

EXISTING GARDEN

EXISTING DRIVEWAY
EX. GRAVEL

EXISTING DRIVEWAY 1-WAY
EX. GRAVEL

SIGN ONE WAY WITH ARROW

4000 DRIVEWAY

6,000 DRIVEWAY

CAR PARKING AREA GRASS/ GRAVEL AND SIGNS

SIGN VISITOR PARKING WITH DOUBLE SIDED ARROW

DISABILITY CAR BAY

SIGN

DELIVERY

SIGN DELIVERIES

SIGN VISITOR PARKING WITH DOUBLE SIDED ARROW

SIGN THIS WAY TO CELLAR DOOR

PRIVATE

PRIVATE

SIGN PRIVATE PARKING

EXISTING RESIDENCE
FFL 55.12m ADH

BIN STORAGE AREA

CLOTHES LINE

STAGE 01

STAGE 02

DECK/PAVING

14m LEACH DRAINS

14m LEACH DRAINS

LEACH DRAINS BY TANK MASTER WA INSTALLED TO WA STANDARDS

SEPTIC TANK

SEPTIC TANK GRAVITY FED TO 2X 14M LEACH DRAINS

POLY SEPTIC TANK AND LEACH DRAINS BY TANK MASTER WA (BAFFED) 4.000L 2200 x 2200 x 1770MM CERTIFIED TO AUSTRALIAN STANDARD AS/NZS1456.1 AND APPROVED BY DEPT OF HEALTH WA AND NT CONNECTED TO RECOMMENDED POLY LEACH DRAINS - 14m x 2m

Shed

10000Ltr TANK

EMERGENCY SERVICES ONLY WATER TANK

STAGE 01
STAGE 02

NOTE: EXISTING BUILDING HAS NOT BEEN EXTENDED AND THEREFORE THE ROOF HAS REMAINED THE SAME SIZE. EXISTING DOWNPIPES CONNECTED TO EXISTING SOAKWELLS TO REMAIN.

FLAT GRASS AREA ACCESS TO EXISTING SHED

EXISTING DRIVEWAY

225.54

EX. SHED

ShippingContainer

Track

CattleGrid

Wooden Post & Wire Fence 1.2m Ht.

40.4053ha

2

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b architect

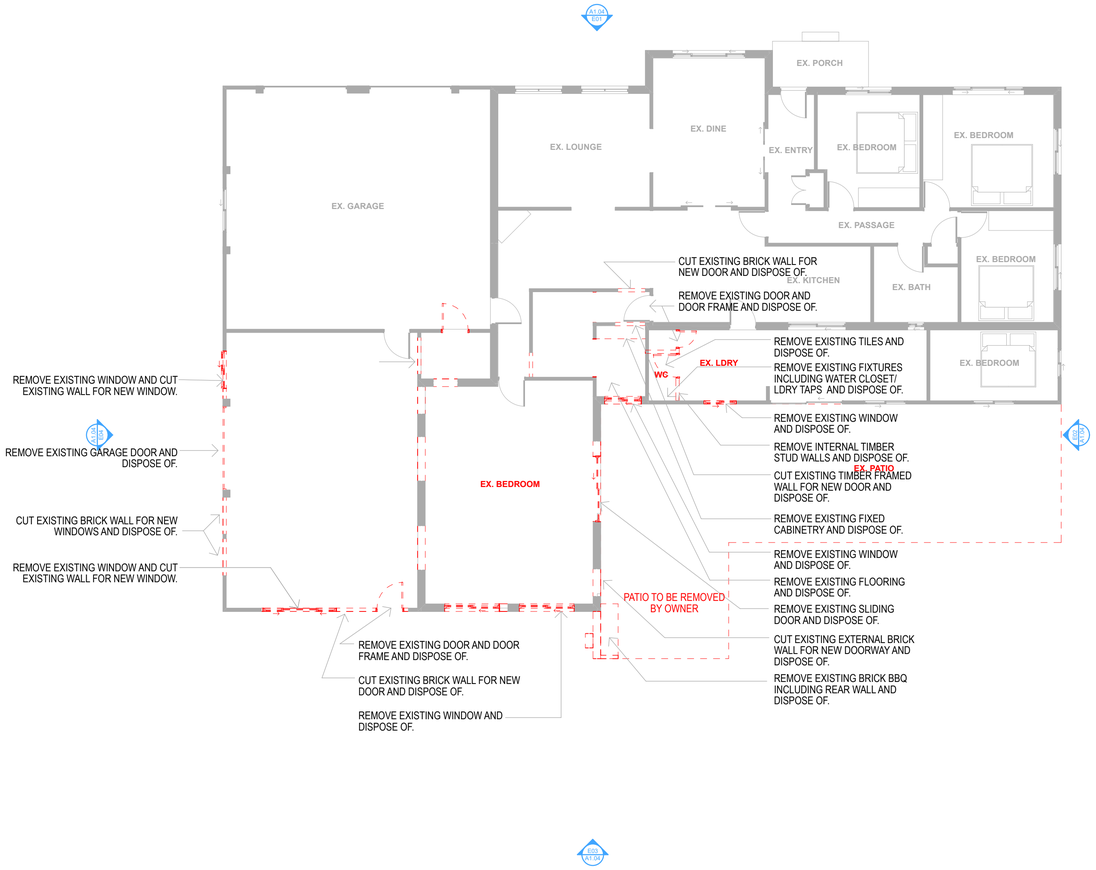
MASTER

Drawn | Checked	B FEWSTER |
Plot Date:	23/4/2025
Project NO.	2021-12
Project Status	DESIGN
Client	KATHERINE & ALEX WILLIAMS
Site:	566 CROOKED BROOK ROAD CROOKED BROOK WA 6232

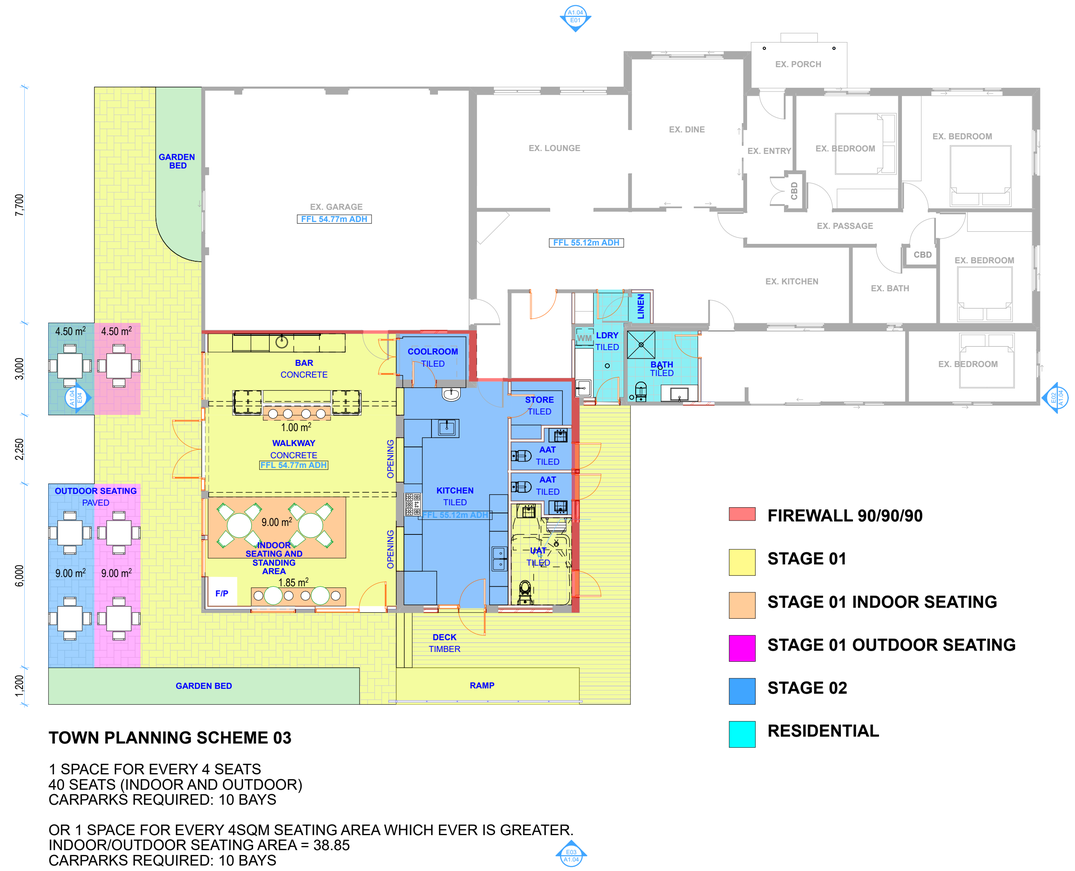
DRAWING TITLE :
STAGE ONE
SITE PLAN

PROJECT NAME :
CROOKED BROOK WINES DEVELOPMENT

REVISION NO.
1
DRAWING NO.
A1.02



MASTER DEMOLITION PLAN
1:100



MASTER FLOOR PLAN
1:100

TOWN PLANNING SCHEME 03

1 SPACE FOR EVERY 4 SEATS
40 SEATS (INDOOR AND OUTDOOR)
CARPARKS REQUIRED: 10 BAYS

OR 1 SPACE FOR EVERY 4SQM SEATING AREA WHICH EVER IS GREATER.
INDOOR/OUTDOOR SEATING AREA = 38.85
CARPARKS REQUIRED: 10 BAYS

(1 BAY MUST BE A DISABILITY BAY)

- FIREWALL 90/90/90
- STAGE 01
- STAGE 01 INDOOR SEATING
- STAGE 01 OUTDOOR SEATING
- STAGE 02
- RESIDENTIAL

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b architect

MASTER

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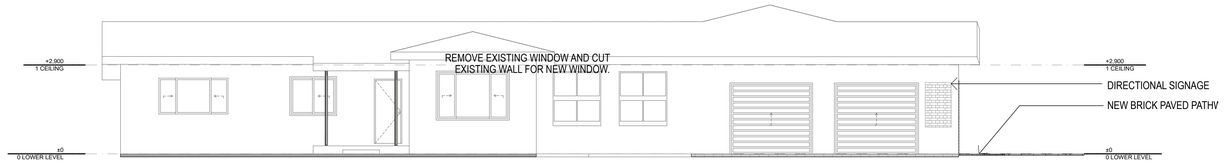
Project NO.	2021-12
Project Status	DESIGN
Client	KATHERINE & ALEX WILLIAMS
Site:	566 CROOKED BROOK ROAD CROOKED BROOK WA 6232

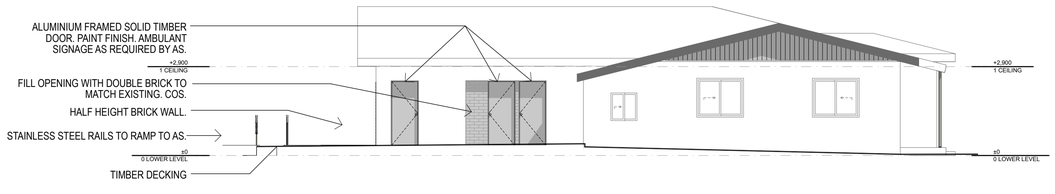
DRAWING TITLE :
STAGE ONE
PROPOSED MASTER PLAN

PROJECT NAME :
CROOKED BROOK WINES DEVELOPMENT

REVISION NO.
1
DRAWING NO.
A1.03

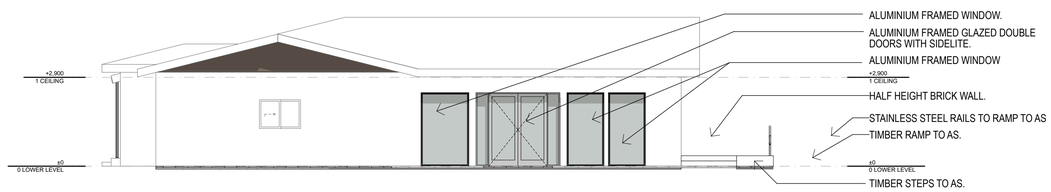


ELEVATION E01
1:100



ELEVATION E02
1:100

ELEVATION E03
1:100



ELEVATION E04
1:100

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barchitect

MASTER

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Project NO.	2021-12
Project Status	DESIGN
Client	KATHERINE & ALEX WILLIAMS
Site:	566 CROOKED BROOK ROAD CROOKED BROOK WA 6232

DRAWING TITLE :

STAGE ONE
ELEVATIONS

PROJECT NAME :

CROOKED BROOK WINES DEVELOPMENT

REVISION NO.
1

DRAWING NO.
A1.04

OPERATIONAL MANAGEMENT PLAN

Crooked Brook Wines Vineyard and Cellar Door

(a) Traffic and Parking

Traffic and parking will be managed via a one-way circular system around a gravel driveway with directional signage. The mouth of the crossover will be widened to approx. 6 metres to accommodate cars entering and leaving. There will be 10 carparking spaces provided on grassed or gravelled area as required, one of which will be a disabled bay. As well as two private parking bays and a delivery bay. Please refer to Traffic Impact Assessment by Brad Brooksby showing the expected traffic assessed as low use. Plans of the parking area have been supplied with the directional signage. A notice on the website will ask people to ring in advance to book should they wish to attend in groups larger than 10 people.

(b) Waste Management

Stage 1 waste will predominantly be glass bottles, recycled at Dardanup Waste facility. This waste will be managed by using 2 x 240 litre wheelie bins one for recycling of glass bottles and the other for different types of waste. Stage 2 waste will be as Stage 1, with any food waste composted on site and other waste recycled or disposed to landfill. A bin area is marked on the plan for stage 1, with a bin enclosure being required for stage 2.

(c) Noise Management

Both stages will have background audible in-house music played on a small speaker system. Normal conversation level noise could be expected. Should there be complaints regarding the background music, I would address these by personally contacting the complainant to address their concerns.

(d) Management of Deliveries

Deliveries will be to the area marked ‘deliveries’ on the plans and would not occur before 6.30am on the days of operation. There would be no more than two deliveries per week.

Schedule of Submissions - Change of Use - Lot 2 (566) Crooked Brook Road, Crooked Brook

<table>
<tr><th>NO</th><th>SUBMITTER</th><th>SUBMITTER COMMENT</th><th>OFFICER COMMENT</th></tr>
<tr><td>1</td><td>Community</td><td>We would like to remind Council that this is the 1st tourism business to be considered for development along Crooked Brook Rd and as such may set a precedent for any potential future development applications. Council needs to be mindful that this is a primarily a rural area with farmers conducting rural operations as well as people on smaller blocks that whilst farming may not be their main source of income they reside in this area because of the peace and quiet offered by a rural area.

The other concern we have for this development application is the entry and exit of this property. The entrance to 566 Crooked Brook rd is on a sharp bend and traffic entering and exiting the property will not have a clear sight along Crooked Brook Rd. Crooked Brook Road is frequented by farm tractors, farm trucks, local vehicles and vehicles that are brought to the area due to visitation at Crooked Brook Forest. There is no speed restriction on Crooked Brook rd and we have noticed in the 40 years we have lived here the increase in traffic and widening of sections of Crooked Brook Rd have encouraged drivers to speed. We are concerned that unless measures are taken to make changes to this application it is likely an accident will occur due to poor visibility at the entry/exit of this property and vehicles driving around the sharp bend will find slow moving vehicles entering/ exiting the property or stationary vehicles waiting to enter/exit.</td><td>TIA requested and received.

DWER clearance approval to remove a tree to improve sightlines received.</td></tr>
<tr><td>2</td><td>Department of Water and Environmental Regulation</td><td>The following comments are provided below, for which more detail is provided in the table:

1. Issue: Water supply
Advice: If the applicant currently does or intends to use surface water from their storage dam, for any use on the property, they may need to submit an amendment for their surface water licence.

2. Issue: Domestic wastewater
Advice: Leach drains for the additional domestic wastewater system required for stage 2 should be located as far as practically possible from the waterway, which includes the reservoirs.

In the event there are modifications to the proposal that may have implications on aspects of environment and/or water management, the Department should be notified to enable the implications to be assessed.

<table><tr><td></td><td>Reviewer comment/advice</td></tr><tr><td></td><td>Issue: Water supply</td></tr></table></td><td>Noted.</td></tr>
</table>

NO	SUBMITTER	SUBMITTER COMMENT				OFFICER COMMENT
				Advice: If the applicant currently does or intends to use surface water from their storage dam, for any use on the property, they may need to submit an amendment for their surface water licence. **Discussion:** It is noted that the Business Plan states for stage 1 and 2 that: • 'Drinking water will be provided by a 27,500 lite rainwater tank, fed from a large shed. It will be filtered, and UV treated. An additional 110,000 litre storage bore water tank will provide filtered, treated water for ablutions.' • 'Drinking water will be provided by a 27,500 lite rainwater tank, fed from a large shed. It will be filtered, and UV treated. An additional 110,000 litre storage bore water tank will provide filtered, treated water for ablutions.' The subject property is located within the Preston Area Surface Water Area as proclaimed under the *Rights in Water and Irrigation Act 1914*. The applicant has a Surface Water licence (SWL71442) for 33,000 KL, for which the authorised use is storage of water. If surface water is being used for the proposed development and/or any other activity the applicant is requested to contact the Department to check whether a licence amendment is required to identify the current and/or proposed use.		
				Issue: Domestic wastewater **Advice:** Leach drains for the additional domestic wastewater system required for stage 2 should be located as far as practically possible from the waterway, which includes the reservoirs. **Discussion:** The property is not located within a sewage sensitive area, as defined by the *Government Sewerage Policy (WAPC 2019)* (GSP). Therefore, primary treatment as proposed is in accordance with the GSP. Furthermore, the Department notes that, and supports, the leach drains assumed to be for Stage 1 have been located at the further point from the waterway, which includes the reservoirs.		

<table>
<tr><th>NO</th><th>SUBMITTER</th><th>SUBMITTER COMMENT</th><th>OFFICER COMMENT</th></tr>
<tr><td></td><td></td><td>The Business Plan states, ‘It is understood that for Stage 02 it would be required for a sewerage treatment system to be installed.’ It is recommended that the leach drains for this system are also placed as far as practically possible from the waterway, which includes the reservoirs.</td><td></td></tr>
<tr><td>3</td><td>DFES Land Use Planning</td><td>I refer to your email dated 11 June 2024 regarding the submission of a Bushfire Management Plan (BMP) (Version A), prepared by Anthony Rowe and dated 6 March 2024, for the above development application. The BMP is accompanied by a Business Report – Crooked Brook Wines, from the proponent dated June 2023 for the above development application (DA).

This advice relates only to State Planning Policy 3.7: Planning in Bushfire Prone Areas (SPP 3.7) and the Guidelines for Planning in Bushfire Prone Areas (Guidelines). It is the responsibility of the proponent to ensure the proposal complies with relevant planning policies and building regulations where necessary. This advice does not exempt the applicant/proponent from obtaining approvals that apply to the proposal including planning, building, health or any other approvals required by a relevant authority under written laws.

Assessment
• DFES acknowledges that a residential dwelling currently exists on the subject site and the development application proposes a commercial extension to the dwelling and a change of use to a Cellar Door with Tasting Room and Restaurant.
• The Shire of Dardanup have considered this to be a tourism activity and required planning approval, the change to a vulnerable land use would constitute an intensification of development and trigger application of SPP 3.7.
• Further clarification is required within the BMP of the requirements of SPP 3.7 and the supporting Guidelines as outlined in our assessment below.

1. Policy Measure 6.5 a) (ii) Preparation of a BAL contour map
<table>
<tr><th>Issue</th><th>Assessment</th><th>Action</th></tr>
<tr><td>Vegetation classification</td><td>Vegetation plot 4 cannot be substantiated as Class B Woodland with the limited information and photographic evidence available. Photo ID’s 4.1 and 4.4 do not represent Class B Woodland.

The BMP should detail specifically how the Class B Woodland classification was derived as opposed to Class A Forest. If unsubstantiated, the vegetation classification should be revised to consider the vegetation at maturity as per AS3959, or the resultant BAL ratings may be inaccurate.</td><td>Modification to the BMP is required.</td></tr>
</table></td><td>Revised BMP V3 received and Approved</td></tr>
</table>

NO	SUBMITTER	SUBMITTER COMMENT	OFFICER COMMENT

BAL Calculation	Table 2.1 denotes Plot 5 as having a BAL rating of BAL-LOW before the implementation of the APZ but also denotes a separation distance of 9 metres to achieve BAL-29. The BAL rating column requires amending to BAL-FZ. The separation distances in Table 2.1 are also inconsistent with the BAL Contour Map. The cellar door development is shown in BAL-29 but the separation distance of 27m to Plot 3 (Class A Forest) at either 21m or 27m achieves a BAL rating of BAL-29 not BAL-19 as stated in Table 2.1. The BAL Contour shows an APZ of 21m up to 27m but this appears to be related to Plot 4 and the separation distances required for Class B Woodland.	Modification to the BMP is required.

2. **Policy Measure 6.5 c) Compliance with the Bushfire Protection Criteria**

Element	Assessment	Action
Vulnerable Tourism Land Uses - Siting and Design	**A5.13 – not demonstrated** The BAL ratings cannot be validated for the reason(s) outlined in the above table. The BAL rating calculations and APZ distances are inconsistent with the vegetation classification.	Modification to the BMP is required.
Vulnerable Tourism Land Uses - Vehicular Access	**A5.14e – not demonstrated** The BMP has not addressed this element in line with Appendix 4, Guidelines for Planning in Bushfire Prone Areas. While it is noted that comment is made in relation to A5.14e within proposed Bushfire Management Strategy for A5.14a, for accuracy in demonstrating the intent of an element is being met, each acceptable solution is to be addressed independently.	Modification to the BMP is required.
A5.14g – not demonstrated The BMP has not addressed this element in line with Appendix 4, Guidelines for Planning in Bushfire Prone Areas. While Figure 4 of the BMP (rev A) illustrates dual access, for accuracy in demonstrating the intent of an element is being met, each acceptable solution is to be addressed independently.		Modification to the BMP is required.

NO	SUBMITTER	SUBMITTER COMMENT	OFFICER COMMENT
		A5.14h – not demonstrated The BMP has not addressed this element in line with Appendix 4, Guidelines for Planning in Bushfire Prone Areas. While the Bushfire Emergency Evacuation Documents (Attachment 1 of BMP), reference directional signage, for accuracy in demonstrating the intent of an element is being met, each acceptable solution is to be addressed independently. — Modification to the BMP is required. **Vulnerable Tourism Land Uses - Water** — A5.15 – not demonstrated The location of the proposed dedicated water tank for firefighting has not been shown on the BAL Contour Map. It has not been demonstrated that the proposed 10,000 litre water tank dedicated for firefighting purposes and adjacent hard-standing can achieve BAL-29 or below and is accessible to a type 3.4 appliance. — Modification to the BMP is required. 3. Policy Measure 6.6.1 Vulnerable land uses **Issue:** **Bushfire Emergency Evacuation Plan (BEEP)** — **Assessment:** The referral has included a *'Bushfire Emergency Evacuation Plan'* for the purposes of addressing the policy requirements. Consideration should be given to the Guidelines Section 5.5.4 'Developing a Bushfire Emergency Evacuation Plan'. This contains detail regarding what should be included in a BEEP and will ensure the appropriate content is detailed when finalising the BEEP to the satisfaction of the Shire. — **Action:** Comment only. **Recommendation – compliance with acceptable solutions not demonstrated – modifications required** It is critical the bushfire management measures within the BMP are refined to ensure they are accurate and can be implemented to reduce the vulnerability of the development to bushfire. The proposed development has not demonstrated compliance to the following: 1. Element 5: Vulnerable Tourism Land Uses.	
4	Department of Biodiversity, Conservation and Attractions	The following comments are provided pursuant to DBCA's responsibilities under the *Biodiversity Conservation Act 2016 (BC Act).* **Advice to Shire** <u>Biodiversity values</u> Western ringtail possums (WRP) and black cockatoos are listed as threatened fauna under the *Biodiversity Conservation Act 2016* (BC Act) and the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). WRP are listed as critically endangered fauna under both the BC Act and EPBC Act and have been found	Noted.

NO	SUBMITTER	SUBMITTER COMMENT	OFFICER COMMENT
		within the adjacent road reserve. Black cockatoos have been found in close proximity to Lot 1. Other fauna species of conservation significance that are likely to utilise the site include the south-western brush-tailed phascogale. <u>Fauna</u> Vegetation clearing will be required to develop access ways and car park areas. The proponent should be aware of their obligations and approval requirements under section 40 of the *Biodiversity Conservation Act 2016,* which requires Ministerial authorisation to take or disturb threatened species. DBCA recommends that if any vegetation clearing or pruning is required, the proponent should seek advice from DBCA's Species and Communities branch at speciesandcommunities@dbca.wa.gov.au prior to clearing works, in relation of section 40 authorisation requirements.	

RISK ASSESSMENT TOOL

OVERALL RISK EVENT: Change of Use- Development Application -Lot 2 (566) Crooked Brook Road,Crooked Brook

RISK THEME PROFILE:

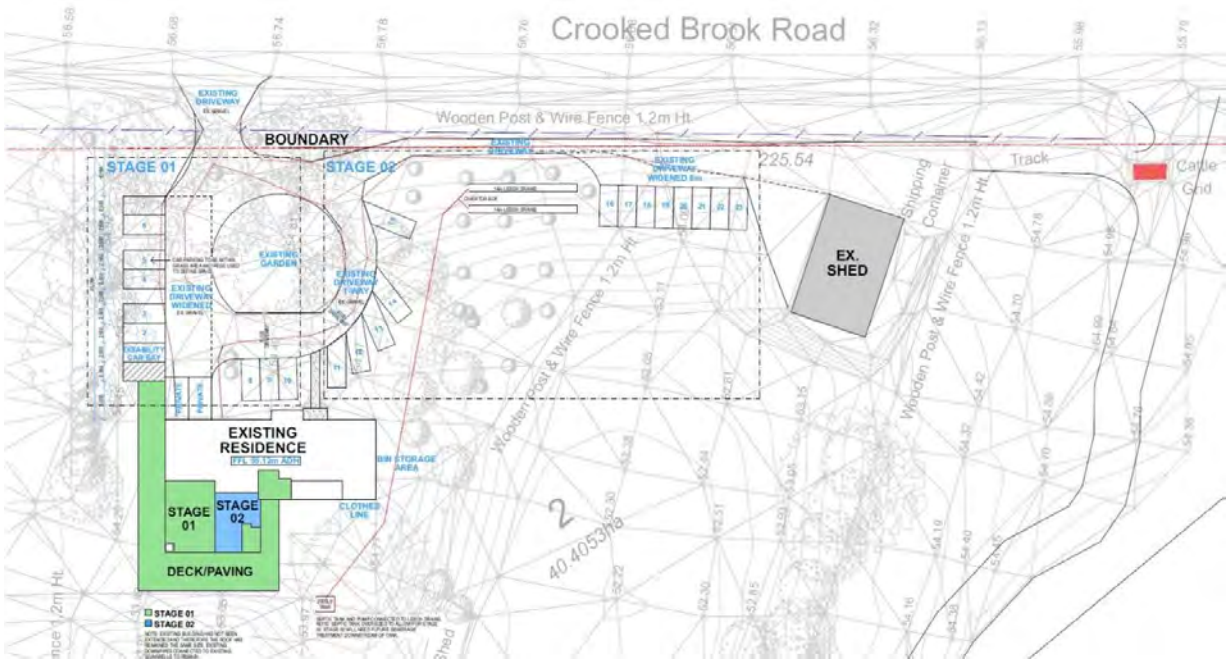
3 - Failure to Fulfil Compliance Requirements (Statutory, Regulatory)

RISK ASSESSMENT CONTEXT: Operational

CONSEQUENCE CATEGORY	RISK EVENT	PRIOR TO TREATMENT OR CONTROL			RISK ACTION PLAN (Treatment or controls proposed)	AFTER TREATEMENT OR CONTROL		
		CONSEQUENCE	LIKELIHOOD	INHERENT RISK RATING		CONSEQUENCE	LIKELIHOOD	RESIDUAL RISK RATING
HEALTH	No risk event identified for this category.	Not Required - No Risk Identified	N/A	N/A	Not required	Not required.	Not required.	Not required.
FINANCIAL IMPACT	No risk event identified for this category.	Not Required - No Risk Identified	N/A	N/A	Not required	Not required.	Not required.	Not required.
SERVICE INTERRUPTION	No risk event identified for this category.	Not Required - No Risk Identified	N/A	N/A	Not required	Not required.	Not required.	Not required.
LEGAL AND COMPLIANCE	If Council refuses the application and an appeal is lodged with the State Administrative Tribunal, reasons based on sound planning principles must be provided	Insignificant (1)	Unlikely (2)	Low (1 - 4)	Not required	Not required.	Not required.	Not required.
REPUTATIONAL	No risk event identified for this category.	Not Required - No Risk Identified	N/A	N/A	Not required	Not required.	Not required.	Not required.
ENVIRONMENT	No risk event identified for this category.	Not Required - No Risk Identified	N/A	N/A	Not required	Not required.	Not required.	Not required.
PROPERTY	(Brief Explanation of the 'Environment' risk event) Or: No risk event identified for this category.	Not Required - No Risk Identified	N/A	N/A	Not required	Not required.	Not required.	Not required.

(Appendix ORD: 12.2.2D)

566 Crooked Brook Rd, Crooked Brook Traffic Impact Assessment Report



Brad Brooksby
Traffic Consultant
PO Box 6425 SOUTH BUNBURY WA 6230

Your destination is reward for safe driving

Contents

Build Status:

Version	Date	Author	Reason	Sections
1.0	Sep 2024	B Brooksby	Draft	All
2.0	Oct 2024		Add stage 2	
2.1	Dec 2024		Client Request	

PREPARED: **Date:** **4** **December** **2024**

Brad Brooksby

1 Introduction

1.1 Outline of the Development Proposal

Brad Brooksby Consulting has been requested to provide a Transport Impact Statement for a proposed development on Lot 2 (#566) Crooked Brook Road, Crooked Brook.

The Transport Impact Statement has been completed in accordance with the guidelines of the WAPC Transport Impact Assessment Guidelines – Volume 4 Individual Developments (2016).

The purpose of this document is to provide an analysis of the access to the development, parking requirements and potential traffic and transport impacts that the proposed development on this site may have on the surrounding road and transportation networks.

The following has been reviewed for this report: -

Traffic volumes from the Main Roads Traffic Map.

Review crash data, in the vicinity of the development.

Review road hierarchy information and carriageway widths for roads directly fronting the site.

Estimate the subject sites' trip generation/attraction based on the proposed development.

Review the access from Crooked Brook Road.

Consider access and parking requirements.

Review the existing pedestrian and cyclist paths as well as the current bus routes.

Detailed traffic information and traffic distribution in the report.

Safety inspection.

1.2 Proposal

The Traffic Impact Assessment is based on the business plan provided for this report. Crooked Brook Wines is a family owned and run vineyard on Crooked Brook Road, approximately 6 km Southeast of Dardanup.

The proposal is to re-develop the existing premises in two stages, stage 1 for cellar door and wine tasting, and then ultimately, stage 2 for wine tasting and al fresco style dining.

This report will focus on both Stage 1 - Cellar door and wine tasting and Stage 2 Wine tasting and Al fresco style dining.

1.2.1 Stage 1 - Cellar Door and Wine Tasting

For stage 1 the opening hours for the cellar door will be Fridays through Sundays, 11:00 - 15:00. It is expected an average of 10 to 20 visitors a day, Saturday and Sunday, with less than 10 visitors on Fridays through the summer months, and about half of those numbers during the winter months. The owners would be present for the opening hours.

1.2.2 Stage 2 – Cellar Door, Wine Tasting and Al fresco Style Dining

For stage 2 the opening hours would remain the same but catering would be increased with the selling of pizzas and other bistro style food, in addition to wine tasting and cellar door sales.

The opening hours will be Fridays through Sundays, 11:00 - 15:00. It is expected an average of 30 to 40 visitors a day, Saturday and Sunday, with up to 10 visitors on Fridays through the summer months, and about half of those numbers during the winter months.

1.3 Proposed Site

The project site is located on Crooked Brook Road, Crooked Brook approximately 6 km Southeast of Dardanup. Vehicle access to and from the site is via Crooked Brook Road which connects to Boyanup Picton Road to the west.

Figure 1 – Location Plan and access via Crooked Brook Road (red) or Dillon Road (orange).

The existing land use is farming, a mixture of fruit and livestock. The site is surrounded by farming properties of similar sizes.

1.4 Vehicle Access

1.4.1 Stage 1 - Cellar Door and Wine Tasting

The site is to be accessed from the existing access on Crooked Brook Road due to the very low use.

Photo 1 – At the existing access on 566 Crooked Brook Road looking west.

Photo 2 - At the existing access on 566 Crooked Brook Road looking east.

1.4.2 Stage 2 – Cellar Door, Wine Tasting and Al fresco Style Dining

The traffic generated by the development will be managed with the entry and exit from the existing main crossover.

An application has been made to DWER to have one small tree on the road verge removed to improve sightlines from the main access. The removal of the small tree would improve the sightlines for patrons exiting the development.

If the small tree cannot be removed prior to stage 2, the existing crossover to the east which is currently gravel will be upgraded to a sealed crossover and the traffic managed by making the parking area into one way system with exit from the eastern crossover.

Photo 3 – Existing crossover just east of the main access.

2 Stage 1 - Cellar Door and Wine Tasting

2.1 Use of Site

The use of the property will be cellar door tasting and sales on Fridays – Sundays from 11:00 – 15:00.

It is anticipated the number of people who will be attending each day will be 10 – 20 people for approximately 30 minutes in the warmer months and half that amount in the cooler months.

2.2 Transport Generation

Typically, service vehicles will be minimal, basically the owner's vehicle and occasionally a delivery vehicle.

Estimated traffic generation of per day 20 guests.

Service vehicle (owners) 1 vehicles Total of 2 trips.

20 guests visiting the site – 12 vehicles Total of 24 trips.

The level of impact using Table 1 of Transport Impact Assessment Guidelines Volume 4 is less than 100 vehicles in the peak hour – Low Impact.

2.3 Hours of operation

Fridays through Sundays, 11:00 - 15:00.

2.4 Parking

The site suits itself for a one way system around the existing round garden at the front of the building. Signage will be placed to direct vehicles in a clockwise direction. In this first stage 15 car bays will be provided in between the existing trees which will provide shade for most of the car bays. A disabled bay will be the closest car parking bay to the entrance to the cellar door.

The car bays will have hard stand material where required and be simply marked with pegs. The bays will be a minimum of 2.5 m wide and 5.0 m long and ample aisle width to manoeuvre in and out of the bays.

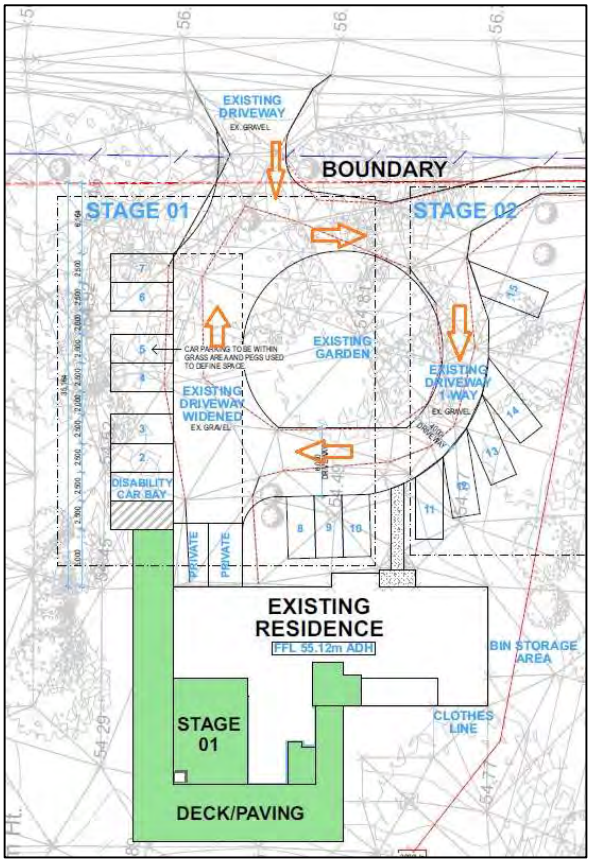


Figure 2 Typical Parking Arrangement

2.5 Existing Site Traffic

The existing farm produces little traffic with only trips to town for supplies. It is estimated to have 2 trips per day as a peak traffic volume. The existing vehicles are cars and utes daily. Small trucks are used for supplies and harvest times.

There are no cyclist or pedestrian facilities, but the access could be used if required.

3 Stage 2 - Cellar Door, Wine Tasting and Al fresco Style Dining

3.1 Use of Site

The use of the property will be Cellar Door, Wine Tasting and Al fresco Style Dining on Fridays – Sundays from 11:00 – 15:00.

It is anticipated the number of people who will be attending each day will be 30 – 40 people for approximately 90 minutes in the warmer months and half that amount in the cooler months.

3.2 Transport Generation

Typically, service vehicles will be minimal, the owner's vehicle, Chef and waiter and occasionally a delivery vehicle.

Estimated traffic generation of per day 40 guests.

Chef and Waiter 2 vehicles -total of 4 trips.

Service vehicle (owners) 1 vehicles Total of 2 trips.

40 guests visiting the site – 20 vehicles Total of 40 trips.

An estimated daily traffic generation on Saturday and Sunday during opening period is 46 trips. This is approximately 23 trips in the peak traffic hour.

The level of impact using Table 1 of Transport Impact Assessment Guidelines Volume 4 is less than 100 vehicles in the peak hour – Low Impact.

3.3 Hours of operation

Fridays through Sundays, 11:00 - 15:00.

3.4 Parking

Additional car bays will be provided along the access towards the existing shed.

The car bays will have hard stand material where required and be simply marked with pegs. The bays will be a minimum of 2.5 m wide and 5.0 m long and ample aisle width to manoeuvre in and out of the bays.

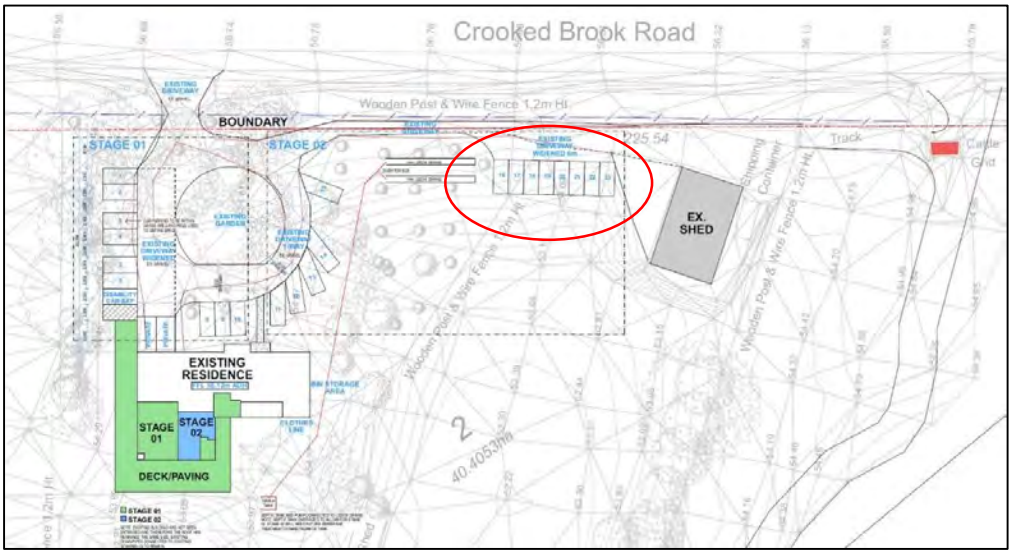


Figure 3 Typical Parking Arrangement, additional bays for stage 2.

3.5 Existing Site Traffic

The existing farm produces little traffic with only trips to town for supplies. It is estimated to have 2 trips per day as a peak traffic volume. The existing vehicles are cars and utes daily. Small trucks are used for supplies and harvest times.

There are no cyclist or pedestrian facilities, but the access could be used if required.

4 Daily traffic volumes and vehicle types

4.1 Existing traffic volumes on Crooked Brook Road

There is a traffic count site on Crooked Brook Road (Site Number 53740) at 5.46 Slk which is adjacent the property.

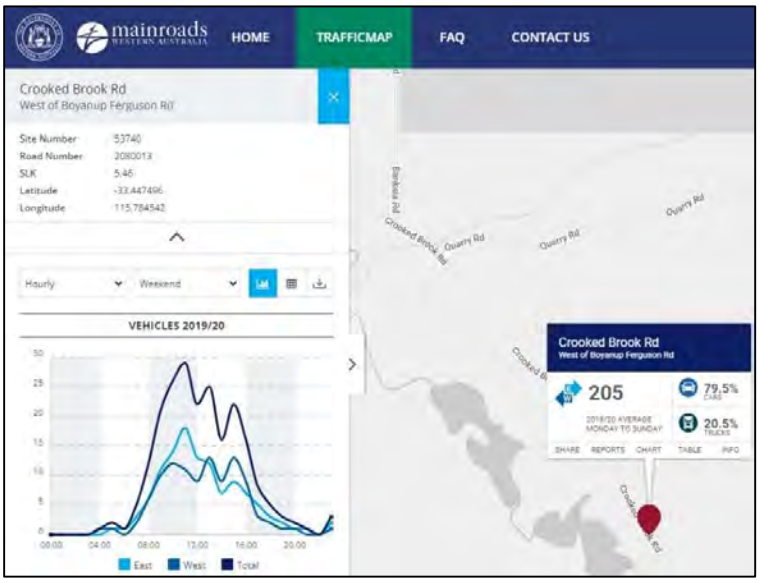


Figure 4 - Traffic count data for Crooked Brook Road (5.46 Slk).

The above traffic count data of Crooked Brook Road near the site shows a very low traffic volume of 205 vehicles per day (2019). The graph of the traffic volume shows a peak at 11:00 of approximately 30 vehicles per hour evenly split between east and westbound. The heavy vehicle percentage is 20% but this is likely to be weekday traffic, 20% volume represents 6 trucks per hour.

The night traffic quickly drops after 17:00 and remains with very low traffic volumes (less than 5 vehicles per hour) until the following morning.

It is unlikely that the traffic volumes on Crooked Brook Road will alter significantly in the foreseeable future. It is assumed that they will remain less than 100 vehicles in the peak hour which in the Transport Impact Assessment Guidelines is Low Impact.

4.2 Restricted Access Vehicles

Crooked Brook Road is not a Restricted Access Vehicles (RAV) route.

4.3 Crash History

Crooked Brook Road has 3 reported crashes between the most recently available five-year period (2019-2023) from Main Roads WA Crash Analysis Reporting System (CARS) details.

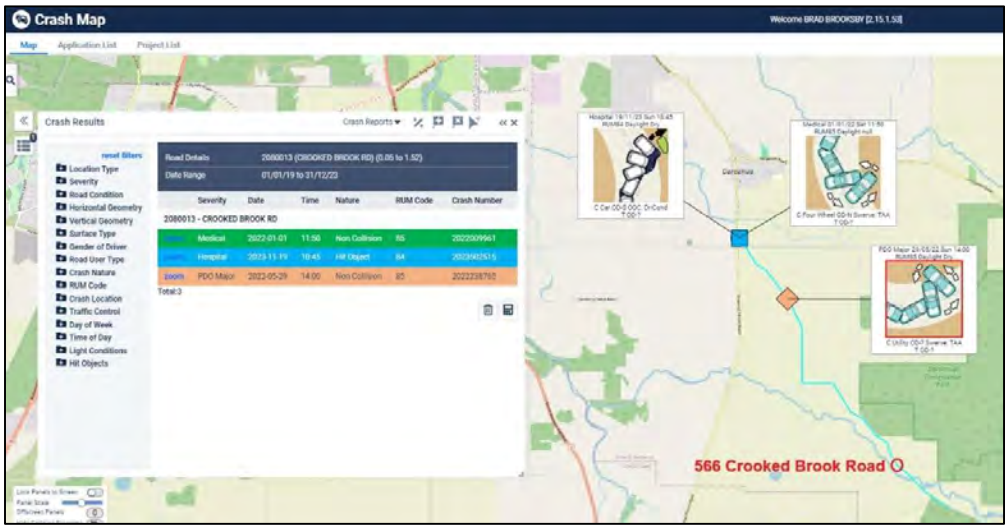


Figure 5 - Crash Map from the Main Roads WA website.

- RUM code (85) – Off Path: At Slk 0.5 (50 m east of Boyanup Picton Road) in Jan 2022 at 11.50 (Daylight) a Four Wheel Drive travelling north to south in dry conditions swerve to avoid a kangaroo lost control and rolled over resulting in a Medical severity crash,
- RUM code (84) – Off Path. At Slk 0.06 (60 m east of Boyanup Picton Road) in Nov 2023 at 10.45 (Daylight) a Car travelling south to north in dry conditions lost control and hit a drainage ditch resulting in a Hospitalization severity crash,
- RUM code (85) – Off Path: At Slk 1.52 (1.52 km east of Boyanup Picton Road) in May 2022 at 14.00 (Daylight) a Utility travelling north to south in dry conditions swerve to avoid a kangaroo lost control and crashed resulting in a Property Damage severity crash.

A review of the crash data for Crooked Brook Road shows two crashes avoiding kangaroos in the middle of the day. The additional traffic resulting from the development is unlikely to alter the crash trends along Crooked Brook Road.

4.4 Traffic management on the frontage streets

Crooked Brook Road – in the vicinity of the development is a single carriageway with a sealed road with a 3.2 m traffic lane in each direction. The road pavement has 1.0 m gravel shoulders. The road is delineated with guide posts and warning signs as required.

The road is not speed posted, the traffic data from the traffic count at 5.46 Slk shows the 85th percentile traffic speed for cars was 86.1 km/h eastbound and 87.9 km/h westbound during the weekend.

Stage 1 - Cellar Door and Wine Tasting

Using the existing western crossover which is sealed, the existing sightlines for vehicles exiting Lot 2 #566 onto Crooked Brook Road are 204 m to the west and 173 m to the east. The road has a gentle gradient of 1%.

Photo 4 - Looking west at the access location.

Photo 5 - Looking east at the access location.

Photo 6 - Looking east at the access location, vehicle highlighted in the access at 204 m.

Photo 7 - Looking west at the access location, vehicle highlighted in the access at 173 m.

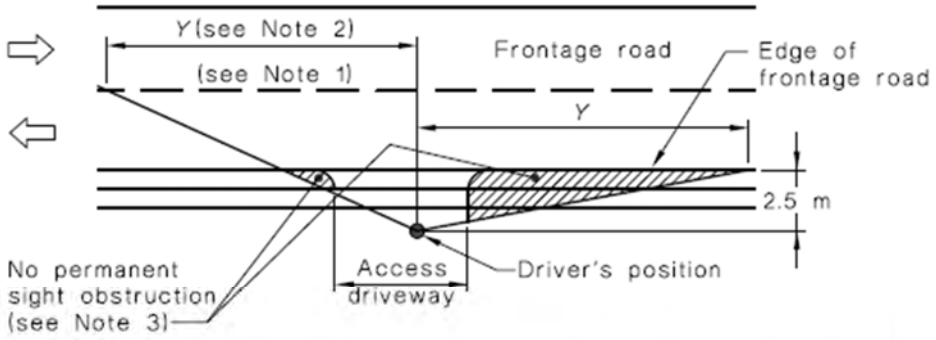
There are no paths and little likelihood of pedestrians or cyclists using the road.

The low traffic volume of the development is not expected to alter the level of service of Crooked Brook Road. The Australian Standard 2890.1 provides advice for access onto roads. The access has low volumes and the road has low volumes and is classed as a category 1 access with the lowest requirements.

The existing access is sealed from the traffic lane to the boundary and is in good condition.

Photo 8 - Existing sealed access.

The Standard provides sight distance requirements for accesses as detailed below.



Frontage road speed (Note 4) km/h	Distance (Y) along frontage road m		
	Access driveways other than domestic (Note 5)		Domestic property access (Note 6)
	Desirable 5 s gap	Minimum SSD	
40	55	35	30
50	69	45	40
60	83	65	55
70	97	85	70
80	111	105	95
90	125	130	Use values from 2nd and 3rd columns
100	139	160	
110	153	190	

Figure 6 - Table 3.2 from the Standard.

Crooked Brook Road has an 85th percentile speed of 90 km/h at the access point, using the table above the Minimum Safe Sight Distance is 130 m which is achieved in both west and east directions.

At the main crossover the vision when exiting to the east is partly restricted by a small tree, the owners have sought a clearing permit to have the small tree removed. This should not be a requirement for approval as the gap between the trees is sufficient to see oncoming traffic, the traffic volume on the road is low (10 – 15 vehicles per hour) and the quantity of vehicles leaving the access (5 - 10 vehicles per hour) is also very low.

A Concealed Driveway sign (W5-55-1) should be installed between 120 – 180 m prior to the crossover for westbound traffic to warn approaching drivers of the crossover.

Stage 2 - Cellar Door, Wine Tasting and Al fresco Style Dining

Using the existing western crossover, which is sealed as entry and exit is sufficient for the low traffic volumes on Crooked Brook Road of 30 vehicles (both directions) in the peak hour.

The owners have applied to DWER to have the small tree removed. If this is unsuccessful, then there is an option to have the main crossover as the entry into the development and the eastern crossover sealed and made exit only.

Should the application to DWER be approved, then the development can remain the same for stage 2 as for stage 1.

The existing sightlines for vehicles exiting onto Crooked Brook Road from the eastern crossover are 190 m to the west and 161 m to the east. The road has a gentle gradient of 1%.

Photo 9 - Looking west from the exit location.

Photo 10 - Looking east from exit location. One small branch needs to be under pruned.

Photo 11 - Looking east at the exit location, vehicle highlighted in the access at 190 m.

Photo 12 - Looking west at the exit location, vehicle highlighted in the access at 161 m.

There are no paths and little likelihood of pedestrians or cyclists using the road.

The low traffic volume of the development is not expected to alter the level of service of Crooked Brook Road. The Australian Standard 2890.1 provides advice for access onto roads. The access has low volumes and the road has low volumes and is classed as a category 1 access with the lowest requirements.

The existing entry access is sealed from the traffic lane to the boundary and is in good condition.

Photo 13 - Existing sealed access.

Crooked Brook Road has an 85th percentile speed of 90 km/h at the access point, using the table above the Minimum Safe Sight Distance is 130 m which is achieved in both west and east directions.

The vision at the main crossover has minor restrictions due to a small tree. The vision at the exit crossover has a small branch which should be pruned. The sight distance achieved is 160 m and requires 130 m, the traffic volume on the road is low (10 – 15 vehicles per hour) and the quantity of vehicles leaving the access (10 – 20 vehicles per hour) is also very low.

4.5 Public transport access

There is no public transport along Crooked Brook Road. The development is low key over the weekend periods and will not impact road users.

4.6 Pedestrians and Cyclists Access

There are no pedestrian or cyclist access facilities near the proposed development site. It is unlikely that pedestrians or cyclists, if they were using the road would be impacted by the proposal.

4.7 Site Specific Issues

None observed.

4.8 Safety Issues

An inspection of the area and road was undertaken in September 2024.

Crooked Brook Road.

The road surface is a chip seal with 3.2 m traffic lanes in either direction with a gravel shoulder of 1.0 m in very good condition. The road is not speed zoned and has a 85% percential speed of 85 – 90 km/h. The road does not have any pavement markings and only has guide posts and some advanced warning signage. No obvious items were noticed that require attention.

Crossover to Lot 2 (#566) Crooked Brook Road Stage 1

The existing access is a typical farm access constructed with a chip seal to the boundary. The access has good sightlines for exiting vehicles, there is a small Marri tree that restricts the sightline to the east, but a clear view can be obtained but positioning the vehicle by edging forward or looking between the trees.

Photo 14 – Small Marri tree that can restrict eastward vision, this can be overcome by edging forward or looking between the trees. The existing low traffic volumes on Crooked Brook Road allow this.

As a countermeasure, a Concealed Driveway sign (W5-55-1) could be installed between 120 – 180 m prior to the crossover for westbound traffic.

Crossovers to Lot 2 (#566) Crooked Brook Road Stage 2

The existing main crossover is sufficent. The existing eastern crossover requires to be sealed and a small branch under pruned.

Photo 15 – Small branch needs to be under pruned.

5 Recommendations

The existing crossover from Crooked Brook Road is suitable for the proposed use. Crooked Brook Road has low traffic volumes of 200 vehicles per day.

Should the application to DWER be approved, then the development can remain the same for stage 2 as for stage 1. If unsuccessful, there is an option to have the main crossover as the entry only and the eastern crossover sealed and made exit only.

The crash rate on Crooked Brook Road is low and animal related which does not impact on the proposed development.

The proposal Cellar Door, Wine Tasting and Al fresco Style Dining will add some additional traffic on weekends but not impact adversely.

Brad Brooksby

Traffic Consultant

(Appendix ORD: 12.2.2E)

Bushfire management plan/Statement addressing the Bushfire Protection Criteria coversheet

Site address: 566 Crooked Brook Road Crooked Brook WA

Site visit: Yes ☑ No ☐

Date of site visit (if applicable): Day 22 Month MARCH Year 2022

Report author or reviewer: ANTHONY ROWE

WA BPAD accreditation level (please circle):

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

If accredited please provide the following.

BPAD accreditation number: 36690 Accreditation expiry: Month DECEMBER Year 2024

Bushfire management plan version number: V3

Bushfire management plan date: Day 20 Month December Year 2024

Client/business name: A WILLIAMS

	Yes	No
Has the BAL been calculated by a method other than method 1 as outlined in AS3959 (tick no if AS3959 method 1 has been used to calculate the BAL)?		✔
Have any of the bushfire protection criteria elements been addressed through the use of a performance principle (tick no if only acceptable solutions have been used to address all of the bushfire protection criteria elements)?		✔

Is the proposal any of the following (see SPP 3.7 for definitions)?	Yes	No
Unavoidable development (in BAL-40 or BAL-FZ)		✔
Strategic planning proposal (including rezoning applications)		✔
High risk land-use		✔
Vulnerable land-use	✔	

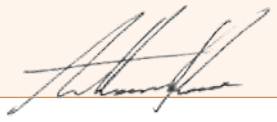
None of the above ☐

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

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

VULNERABLE USE - TOURISM DAY USE

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

Signature of report author or reviewer 

Date 20 December 2024

Bushfire Management Plan

Crooked Brook Winery

566 Crooked Brook Road, Crooked Brook

December 2024

envision
bushfire protection

LIMITATIONS STATEMENT

This Bushfire Management Plan ('BMP') has been prepared for a cellar door (tasting room and restaurant) at 566 Crooked Brook Road Crooked Brook WA 6236.

Envision Bushfire Protection

ABN: 90958370365

124 Derby Road SHENTON PARK WA 6008

P: 0428 066 147

Email: admin@envisionbp.com.au

Version Control

566 Crooked Brook Road Crooked Brook WA 6236			
Version	**Date**	**Author**	
V1	27 February 2024	Anthony Rowe	Client review
V2	6 March 2024	Anthony Rowe	Submission
V3	20 December 2024	Anthony Rowe	Correction table 2 and r Reference A5.14 (e) in A5.14(a)

Disclaimer

In undertaking this work, the authors have made every effort to accurately apply the available information at the time of writing following the instructions of the regulatory authorities and applying best practice as described by the Fire Protection Association Australia. Any conclusions drawn or recommendations made in the report are made in good faith, and the consultants take no responsibility for how this information and the report are subsequently used.

Envision Bushfire Protection accepts no liability for a third party's use of, or reliance upon, this specific report.

Envision Bushfire Protection accepts no liability for the inaction of the owner to provide or maintain the bushfire protection measures identified in this report. Vegetation is dynamic, building materials may distort, and the accumulation and the location of flammable materials near the building may affect the potential for damage or loss of a building to occur.

Failure to maintain the property and/or building to these standards may compromise an insurance policy if currently covering any of your assets or those of any third party that may be consequentially affected due such failure. If not insured, and if you are seeking insurance, this report may not influence the decision of any insurer not to offer cover.

Importantly the measures contained in this report cannot guarantee human safety or an absence of harm or that the building will not be damaged or would survive a bushfire event on every occasion. This is due to the unpredictable nature of fire behaviour (knowledge in this field continues to develop) and the unpredictable nature of extreme weather conditions.

Scope of this report

Envision Bushfire Protection has been engaged to provide assessment of the proposed development.

Envision Bushfire Protection has not been engaged to assess the compliance of the site and the construction standard of the building in accordance with its planning and building approvals.

The scope of the advice has been to assess the proposal for compliance with the policy measures described in State Planning Policy 3.7.

The investigations and mitigation measures identified in the BMP, has, in turn, formed the basis for the preparation of a Bushfire Emergency Evacuation Plan.

Client relationship

I was engaged to provide expert bushfire safety and planning advice. My relationship with the client is a standard commercial contract, and no private, personal, or other matter has influenced the content of the BMP or my findings.

STATEMENT OF CONFORMITY – PLANNING AND DEVELOPMENT ACT 2005

Anthony Rowe Level 3 - BPAD36690

Town Planner I Principal Bushfire Consultant

BPAD Accredited Practioner Level 3

PIA Registered Practicing Planner

The signatory declares that this Bushfire Management Plan meets the requirements of State Planning Policy 3.7 and the Guidelines for Planning in Bushfire Prone Areas V1.4..

SUMMARY

Preface

The applicant proposes to construct a cellar door (tasting room and restaurant) as an extension to the existing dwelling at 566 Crooked Brook Road Crooked Brook.

The site is within a declared bushfire prone area. Accordingly, the proposal is development that is required to be assessed for its compliance with State Planning Policy 3.7 *Planning in Bushfire Prone Areas* ('**SPP 3.7**') and the bushfire protection criteria described in the Guidelines V1.4.

The intent of the policy is: "***to preserve life and reduce the impact of bushfire on property and infrastructure"***. The proposed land-use because it will invite visitation by people unfamiliar with the locality is classified as a 'Vulnerable' development. In addition to addressing the bushfire protection criteria though a Bushfire Management Plan (BMP), the application is to be accompanied by a bushfire emergency evacuation plan (BEEP). Together they address the preservation of life (BEEP) and impact of bushfire on property (BMP).

This BMP has been prepared in accordance with SPP 3.7 and Appendix Five in the Guidelines V1.4 and the Department of Planning Lands and Heritage (DPLH) *BMP Template for a complex development application*.

The following describes the outcome of the investigations, following the arrangement described by the DPLH template.

1. **Proposal details (addressed in Section 1)**

The site is 40.9 ha and a triangular shape that is joined along a north east axis by Crooked Brook Road. The site is within a shallow valley that extends from the Darling Ranges east of the site and is comprised of pasture and vineyard with forest and a single dwelling located at the south east of the site adjacent Crooked Brook Road.

The proposed cellar door (tasting room and restaurant) is an extension (south elevation) to the dwelling.

The site is accessed from Crooked Brook Road, a public through road with connection to a rural road network and numerous routes to leave the area or from which to receive support.

The site does not have access to a reticulated water supply nor is a strategic community supply considered available.

2. **Environmental considerations (addressed in Section 2)**

The area immediate to the existing dwelling is managed garden and the cellar door extension south will expand the area required for the Asset Protection Zone (APZ) over pasture grass.

There is no requirement for revegetation, as an offset, nor is there a change in classification near to the cellar door, other than being maintained as pasture/vineyard.

3. **Bushfire assessment results (addressed in Section 3)**

A Bushfire Attack Level assessment following Method 1 AS 3959:2018, and the DPLH *Visual guide for bushfire risk assessment in Western Australia*, and using an FFDI of 80, has been undertaken.

The building extension will be located over classified grass, potentially presenting a direct flame at the building.

A setback from flame contact is required, which is represented by an APZ.

The recommended APZ, is 27 m south and 21 m to other elevations, measured from the building at completion; this is the distance required to achieve BAL 29 set from forest. A separation distance from forest provides a certainty for vegetation to change outside the APZ without exceeding BAL 29 at the building.

The proposed APZ and resulting BAL is illustrated in Figures 4 and 5.

4. **Identification of bushfire hazard issues (addressed in Section 4)**

The bushfire hazard issues have been assessed utilising the risk evaluation methodology from NERAG 2020, in comparison to the SPP3.7 Policy intent ***to preserve life and reduce the impact of bushfire on property and infrastructure***.

The location of the proposed facility is within an area characterised by pasture and grassland (grass under vineyard). Access to the site is from the west through pasture.

The site is adjoined by pasture grass and contiguous forest areas (Dardanup Conservation Park) commencing 600 m north, east and south of the site.

The proposed building (tasting room and restaurant) can be located outside flame length but may be affected by ember attack from forest near the site. Embers can cross an APZ and find gaps in a building to ignite flammable materials within, or accumulate against vulnerable surfaces or flammable materials, that if ignited, may overwhelm the building's resistance to bushfire.

Risk treatments

The adoption of bushfire construction requirements as per sections 3 and 7 of AS 3959:2018, is at the applicant's discretion, but would provide protection for the building from ember attack, and provide its support for shelter, as a last resort, for visitors and staff.

The opportunity is provided to evacuate in a direction away from an approaching fire, which maximises the available safe egress/evacuation time. The most likely scenario requiring evacuation is a fire from the east, which would provide a route to the Dardanup township (7 km west) through level pasture land. Alternate routes are through forest and should only be taken if safety is certain.

Early evacuation, through responding to emergency warnings is the preferred approach.

Evacuation must take into account the time to safely evacuate the site and for occupants to reach a safe destination (Required Safe Evacuation Time - RSET) and the time before the fire front arrives (Available Safe Evacuation Time - ASET). The ASET must be greater than the RSET, for safe evacuation, or alternatively shelter as a last resort should be taken.

The Eton Recreation Centre is the default evacuation centre, but alternative offsite destinations may be nominated by authorities in a bushfire event. Visitors may also choose to return home if it is a safe destination, accessible by a safe route.

5. Assessment against the bushfire protection criteria (addressed in Section 5)

The proposal was compared with the Bushfire Protection Criteria for Element 5 Vulnerable Tourism Land Uses – **Day use**.

Acceptable Solution

A5.13 Siting and design

The Acceptable Solution requires that the development site should on completion have a BAL level not exceeding BAL 29 (following A2.1).

The cellar door building (dwelling, tasting room and restaurant) can be provided with an APZ, within the site, that will provide BAL 29.

A5.14 Vehicular access

The acceptable solution requires access to a public through road, providing alternate suitable destinations.

Crooked Brook Road is a public through road (IPWEA compliant rural road) that provides options for travel to the township of Dardanup (7 km north) primarily through pasture, or through forest to the town of Boyanup by Joshua Creek Road or the town of Donnybrook by Ironstone Road and Ferguson Road. As these roads are through forest they should no be used for evacuation unless they are certain to be safe.

Evacuation in a direction opposite to an approaching bushfire is provided and evacuation of patrons from the site is the primary bushfire event response.

A5.15 Provisions of water

The site is not connected to a reticulated water supply.

The habitable building area will require a 10 000 L tank compliant (based on floor area) with the technical requirements described in Element 4 Schedule 2. The tank is to be isolated from the domestic water supply and reserved and sign posted for use only by emergency services.

Additional Bushfire Management Strategies (addressed in section 5.2)

Additional management strategies, further to the Bushfire Protection Criteria, include the measures to minimise the exposure of visitors to bushfire impacts. This is addressed in the Bushfire Emergency Evacuation Plan.

Spatial representation of the bushfire management strategies (Figure EX 1)

The key features demonstrating compliance with the bushfire protection measures are identified on the *Spatial representation of the bushfire management strategies*.

These actions are reflected in the following *Responsibilities for implementation and management of the bushfire measures.*

Figure Ex 1 - Spatial representation of the proposed risk management strategies at 566 Crooked Brook Road Crooked Brook

Responsibilities for implementation and management of the bushfire measures

1. The establishment of an Asset Protection Zone (APZ) and low-threat area, as demonstrated in the Spatial Representation of Bushfire Management Strategies and in accordance with the Standards for Asset Protection Zones at Schedule 1 Guidelines for Planning in Bushfire Prone Areas v1.4 and include maintaining grasses in either a non-cured condition or less than 100 mm in height.
2. The construction standard s.3 and 7 AS3959:2028 applies to the Cellar door additions (to avoid increasing the risk to the existing dwelling).
3. The provision of a 10 000 L water tank reserved for emergency services and isolated from the domestic water supply. The water tank is to be provided compliant with the technical requirements described in Element 4 Schedule 2 in the Guidelines or Planning in Bushfire Prone Areas v1.4.

Advisory Notes

1. Practical measure to increase the resistance of the dwelling to ember attack, comparable with section 3 and 7 in AS3959:2018 should be undertaken and include:
   - The screening of all openable portion of windows (metal mesh aperture < 2mm).
   - The elimination/screening of gaps and openings greater than 2mm at the building exterior
2. The planning for structural fire requirements, including the placement of fire hoses, should give consideration to the suppression of fires on the outside of the building as well as within the building. This would include the ability to apply water to all external building surfaces and a distance of 10 m perpendicular to the building, independent to the mains power supply.

LEGEND

Site Boundary

Asset Protection Zone

Two way public road access

envision bushfire protection

Table of Contents

1. PROPOSAL DETAILS

1.1 Introduction

The purpose of this BMP is to assess the suitability of a cellar door (tasting room and restaurant) at 566 Crooked Brook Road Crooked Brook ('**the site**').

The site is within the Shire Dardanup, **(Plate 1)** and is within the State Map of Bushfire Prone Areas (OBRM 11 December 2021) **(Plate 2)**.

The purpose of this BMP is to demonstrate the resulting lots can achieve compliance with the bushfire protection measures described in State Planning Policy 3.7 and its Guidelines v1.4.

In accordance with SPP 3.7, the planning authority in determining an application in a declared bushfire prone area must be satisfied the proposal is consistent with the Policy intent, ***to implement effective risk-based land use planning and development to preserve life and reduce the impact of bushfire on property and infrastructure.***

This BMP has been prepared following the

- FPAA methodology and template for the preparation of a Bushfire Attack Level (BAL) assessment.
- The DPLH BMP to support a BAL Contour assessment for subdivision template.
- The WAPC Model Subdivision Conditions April 2020.

Purpose of this Plan

The purpose of this Bushfire Management Plan (BMP) is to demonstrate the proposal can achieve compliance with the bushfire protection measures described in SPP 3.7 and the Bushfire Protection Criteria (Risk treatments) in the Guidelines.

Site and Proposal Description

Address	566 Crooked Brook Road Crooked Brook
Local Government Area	Shire of Dardanup
Local Planning Scheme Zone	General Farming
Bushfire Season	30 November - 31 May
Development proposal	The proposal is for a cellar door ((tasting room 40 standing and restaurant seating for 52 persons) to be built (extension) at the south elevation to the existing dwelling. The existing dwelling predates contemporary bushfire construction but is masonry, on cement slab with a sheet roof (comparable with BAL 19 AS3959:2018).
Land description site **Existing buildings** **Topography** **Site Vegetation**	The site is a rural lot 40.4 ha and has an existing dwelling. The site consists of pasture, and vineyard. The site is within a low valley that extends from the Darling Ranges (east of the site) and has a low slope 3.0^0 south from the house. The site is located 600 m west of the forest in the Dardanup Conservation Park.

Adjoining Vegetation and the locality (by quadrant)	North	East	South	West
Adjoining <150 m	Pasture	Pasture	Pasture	Pasture
150m <2500m	Contiguous forest	Contiguous forest	contiguous forest	Pasture
Road Access	The site is accessed from Crooked Brook Road, at the east boundary			
Nearest Town Centre	The site is 7 km south of the town of Dardanup			
Water supply	The site does not have access to a reticulated water supply			
Tele communications	The site is within the Telstra network.			
Emergency services	Joshua/Crooked Brook Bush Fire Brigade 835 Crooked Brook Rd, Crooked Brook (2.8 km) West Dardanup Volunteer Bush Fire Brigade Garvey Road West Dardanup (9 km)			
Minor Development	Not applicable			
Unavoidable development	Not applicable			
Vulnerable Development	Yes			
High-risk land use	Not applicable			

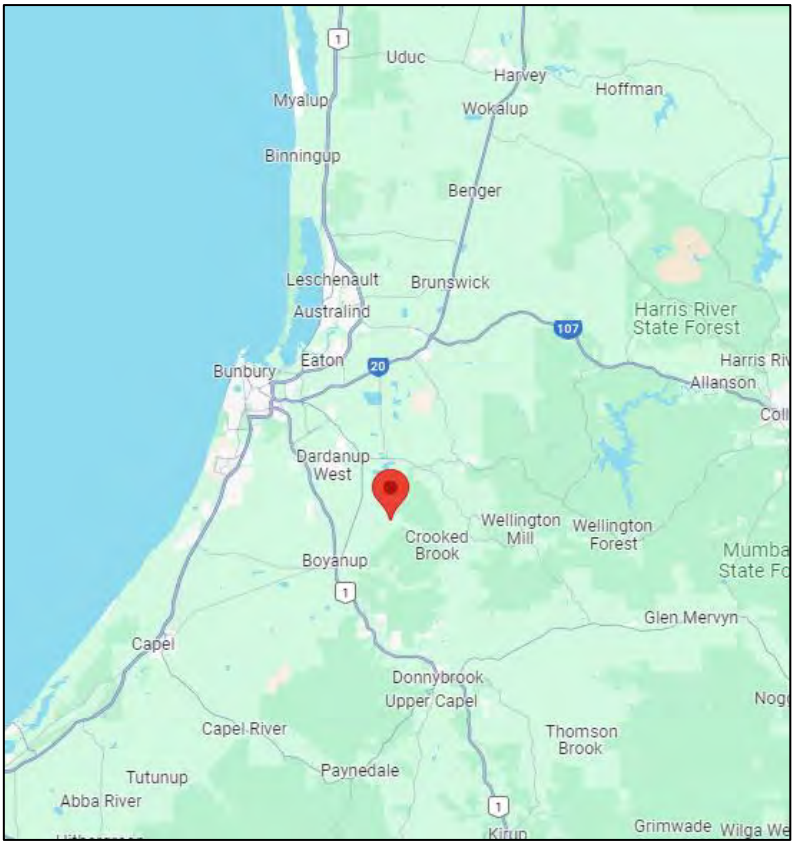


Plate 1:Site in Locality

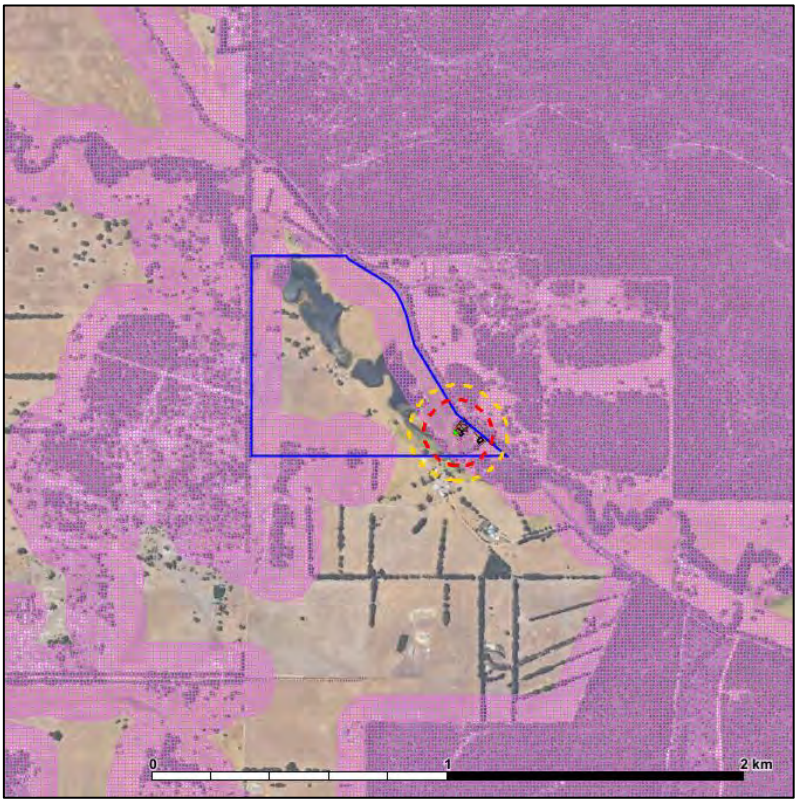


Plate 2: OBRM Bushfire Prone Area (Pink area)

Plate 3a: Concept Plan

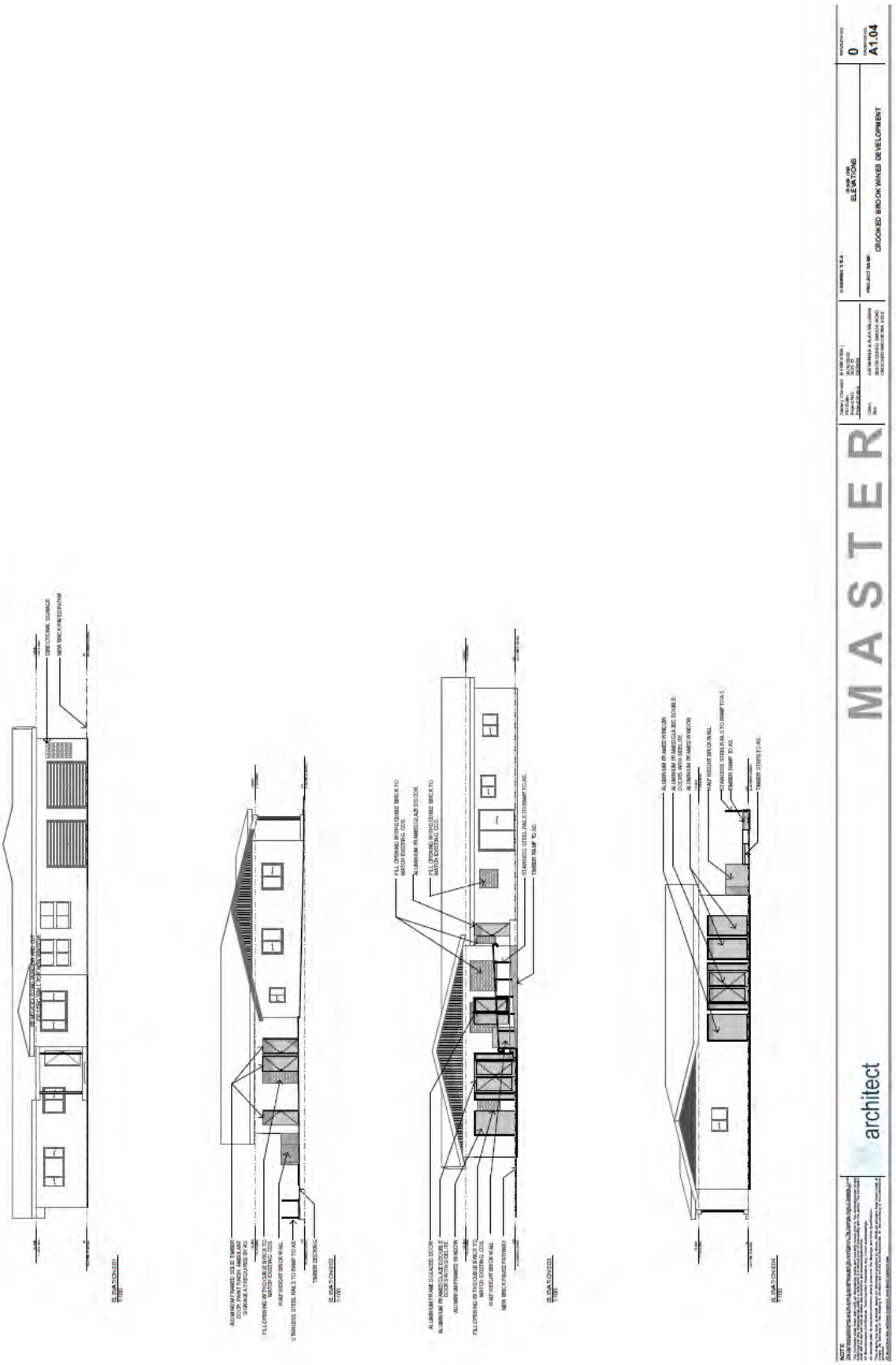


Plate 3b Elevations

1.2 Regulatory Compliance Requirements

Planning and Development Act 2005 - SPP 3.7

On 7 December 2015, the State Government introduced a state map of Bushfire Prone Areas by order under the *Fire and Emergency Services Act 1998* and introduced development controls in Bushfire Prone Areas through the *Planning and Development Act 2005*. These controls were authorised by State Planning Policy 3.7 (Planning in Bushfire Prone Areas) regulations introduced under Part 10A Schedule 2 of the *Planning and Development (Local Planning Scheme) Regulations 2015* and guided by the *Guidelines for Planning in Bushfire Prone Areas*.

The State Planning Policy, Regulations, and Guidelines now form the foundation for fire risk management planning in WA at a community and land development level. The Policy Intent of SPP 3.7 is ***to preserve life and reduce the impact of bushfire on property and infrastructure***.

***Vulnerable Land Uses* (Guidelines for Planning in Bushfire Prone Areas cl.5.5.1)**

Typically, *Vulnerable* land uses are those where persons may be less able to respond in a bushfire emergency.

This includes:

- *"short stay accommodation* ***or visitation uses that involve people who are unaware of their surroundings and who may require assistance or direction in the event of a bushfire****, such as bed and breakfast, caravan park and camping ground, holiday house, holiday accommodation, home business, serviced (short stay) apartment,* ***tourist development*** *and workers' accommodation."*

In recent court determinations, it has been acknowledged that whilst people may choose to live in a dangerous location, that is different to inviting people who may or may not be aware of the danger of a bushfire. (JURAN and CITY OF ARMADALE [2018] WASAT 49 (21 June 2018). Consequently, the requirement for the precautionary principle to be applied by cl.6.11 in SPP 3.7, necessitates a higher consideration of safety, than may normally be expected of an owner, where it involves a 'vulnerable' development because there is a duty of care for the guests.

An additional requirement provided by SPP 3.7 and its Guidelines, is that a proposal that is classified as a vulnerable development is to be accompanied by a BEEP, comprising the details described at cl.5.5.4 of the Guidelines.

Building Act 2011

The proposed cellar door (tasting room and restaurant) is a class 5 building under the *Building Act 2011* but is a substantial addition to a single dwelling class 1 that will continue to be used as a dwelling. Whilst extension and additions to a dwelling are exempt from contemporary bushfire standards, the proposal is a change of use combining different building classes.

For the purpose of providing resistance to ember attack, and a shelter of last resort the construction of the additions is recommended to be BAL 29 and measures should be taken to align the existing dwelling to be comparable to BAL 29.

Bush Fires Act 1954

Section 33 of the *Bush Fires Act 1954* recognises the responsibility of all landowners to prevent the spread of bushfire. Local government, at any time, may give notice in writing to an owner or occupier of land within the district of the local government. The Notice may specify works to be undertaken, including the management of grasses on the property usually to be maintained at less than 10 cm during the fire season. It also provides that the identified works can be undertaken as a separate operation or in coordination with the neighbouring land.

2. ENVIRONMENTAL CONSIDERATIONS

2.1 Native Vegetation – Modification and Clearing

A fundamental consideration in the assessment of development under SPP 3.7 is to avoid instances where bushfire risk management measures would conflict with the objectives of the separate State and Federal Environment Protection Legislation.

The following comprise 'Regulated Vegetation', which is protected flora, or flora that is essential for the habitat of protected fauna and which requires authorisation prior to modification or removal.

Environment Protection Act 1986 and Environmental Protection (clearing native vegetation) Regulation 2004

It is an offence to clear native vegetation without the authority of a permit or an exemption. The act of clearing native vegetation requires a permit from either the Department of Water and Environmental Regulation (DWER) or the Department of Mines, Industry Regulation and Safety (DMIRS), unless an exemption applies.

Exemptions include:

Environment Protection Act 1986

- Clearing is required by local government Section 33 *Bush Fires Act 1954.*
- **Clearing in accordance with the terms of a subdivision approval.**
- Clearing in accordance with a permit under the *Bush Fires Act 1954* (prescribed burning) and clearing by a bushfire control officer.

Environmental Protection (clearing native vegetation) Regulation 2004 (exemptions do not apply in Environmentally Sensitive Areas, and clearing > than 5 ha)

https://www.der.wa.gov.au/your-environment/environmentally-sensitive-areas

- Clearing to the extent necessary to construct an approved building.
- Clearing that is for fire hazard reduction burning.
- Clearing to maintain an area cleared in the last ten years.

(WA) Biodiversity Conservation Act 2016 and Bio-diversity Conservation Regulations 2018

The *Biodiversity Conservation Act, 2016*, replaces the *Wildlife Conservation Act, 1950*, and the *Sandalwood Act, 1929*, it became operational with the *Bio-diversity Conservation Regulations 2018*, on 1 January 2019.

The Act provides for listing species, threatened ecological communities (TECs), key threatening processes, and critical habitats. It introduces criteria for listing species 'endangered', 'critically endangered' or 'vulnerable,' to align with the Environment Conservation and Biodiversity Conservation Act 1999 (Cth).

The *Biodiversity Conservation Act 2016* recognises that activities approved under the *Environment Protection Act 1986* do not require further approval, include clearing of native vegetation that is either exempt or done under the authority of a clearing permit or done in accordance with an implementation decision under Part IV of the *Environment Protection Act 1986*.

Commonwealth Environment Protection Biodiversity Conservation Act 1999

The Commonwealth Environment Protection Biodiversity Conservation Act 1999 provides for the protection of matters of national environmental significance. National environment law does not generally regulate fire prevention measures taken by state and territory governments, but no specific exemptions are provided.

In accordance with the Department of Planning Lands and Heritage template (BMP template to support a BAL Contour Assessment) a review of the listed databases (Landgate) has been undertaken to identify whether published restrictions or other specific considerations may apply to the proposal that would affect the implementation of any bushfire protection initiatives which involve the removal or modification of regulated native vegetation (flora) and the habitat (for fauna) it supports.

Important Note: The published restrictions does not represent some items at a specific location, either because the survey has not been undertaken or because the item may not be identified for reason of its protection. The onus is upon the owner to demonstrate that they have undertaken all reasonable actions to identify any restricted items and seek authorisation for disturbance if required.

Table 1

Is the land affected by:	Yes/No	Comment	
Conservation Wetland or buffer (DBCA-019 DBCA-017)	No	The site is not identified as a Conservation Wetland	
RAMSAR Wetland (DBCA-010)	No	The site is not identified as RAMSAR Wetland.	
Threatened and Priority Flora (DBCA-036)	No	No threatened priority flora communities are identified within the site – the site, however, retains remnant vegetation.	
Threatened and Priority Fauna (DBCA-037)	Nearby	No threatened priority fauna communities are identified within the site, but the site is located within an area identified as feeding for the Carnaby's Black Cockatoo	
Threatened Ecological Communities (DBCA-038)	No	No threatened ecological communities are identified within the site	
Bush Forever (COP-071)	No	The site does not occupy an area identified as Bush Forever	
Environmentally Sensitive Area (DWER-046)	No	The site is not identified as an Environmentally Sensitive Area	
Regionally Significant Natural Areas (DWER-070)	No	The site is not identified as a Regionally Significant Natural Areas	
Conservation Covenant (DPIRD-023)	No	No existing covenant.	
Does the proposal require the removal of restricted vegetation?		~~**Yes**~~	**No**

The proposed cellar door will be located within a grassland area south of the existing dwelling.

An APZ 21m around the building is proposed. No modification of remnant vegetation is proposed. Existing garden (Woodland) and pasture is within the area to be established as an APZ. The existing trees within the Woodland area can be retained in accordance with an APZ distribution.

2.2 Re-vegetation/Landscape Plans

There is no requirement for revegetation, as an offset, nor is there a change in classification near to the cellar door, other than being maintained as pasture/vineyard.

3. BUSHFIRE ASSESSMENT

3.1 Bushfire Attack Level Assessment (Inputs)

Bushfire Behaviour

Bushfire behaviour is the primary determinant of the bushfire consequence. Bushfire behaviour is affected by three factors;

- Climate (drought and season) & weather (temperature, humidity, wind, atmospheric instability) determines the intensity of a fire, the speed and direction and the potential for advanced spotting. Measured as an FDI in AS3959. A bushfire becomes uncontrollable in conditions FDI 50+ (Severe), which leads to building loss, and there is a sharp increase in building loss and fatalities when the FDI exceeds FDI 80 + (Extreme and catastrophic).
- Topography (slope under vegetation, and wind influences). Fire travels faster up a hill, the intensity and the flame length are increased, and the fire speed can double with each 10 degree increase in slope. Landforms such as gulleys can channel and increase local wind speed and create turbulence.
- Vegetation (horizontal and vertical structure, flammability, mass and availability). Measured as a vegetation classification, or an exclusion, in AS3959 (Method 1).

It is assumed that a bushfire will achieve a steady-state and be fully developed to maximum intensity over a 100 m (minimum fire run). Grass fires travel faster than a forest canopy fire, but a forest canopy fire can eject a higher level of embers and eject them over a greater distance.

The arrangement of fuel and its exposure to oxygen, has a significant effect upon fire intensity of the fire. Crown fires occur when the ground fire is intense, and conversely when ground fuels are managed the resultant fire intensity may not be sufficient to sustain a crown fire.

Separating the vertical structure to avoid no direct connection between the ground and the crown, reduces the likelihood of a crown fire.

The following assessment has been undertaken in accordance with the methodologies described in AS3959:2018 and in accordance with the Guidelines and the Fire Protection Association accredited practitioner methodology.

All vegetation within 150 m **(context)** of the subject building has been classified (AS 3959:2018 Clause 2.2.3) to determine the Bushfire Hazard Level at the site;

The BAL rating has been determined through site inspection and assessment of the following parameters:

- Fire Danger Index (FDI) rating; assumed to be FDI - 80 for Western Australia;
- Separation distance between the building and the classified vegetation source(s) within 100 m (for BAL impact) the separation distance is measured from the wall face (receiver) to the unmanaged understory rather than the canopy edge (dripline) *see plate 4*; and
- Slope of the land under the classified vegetation.

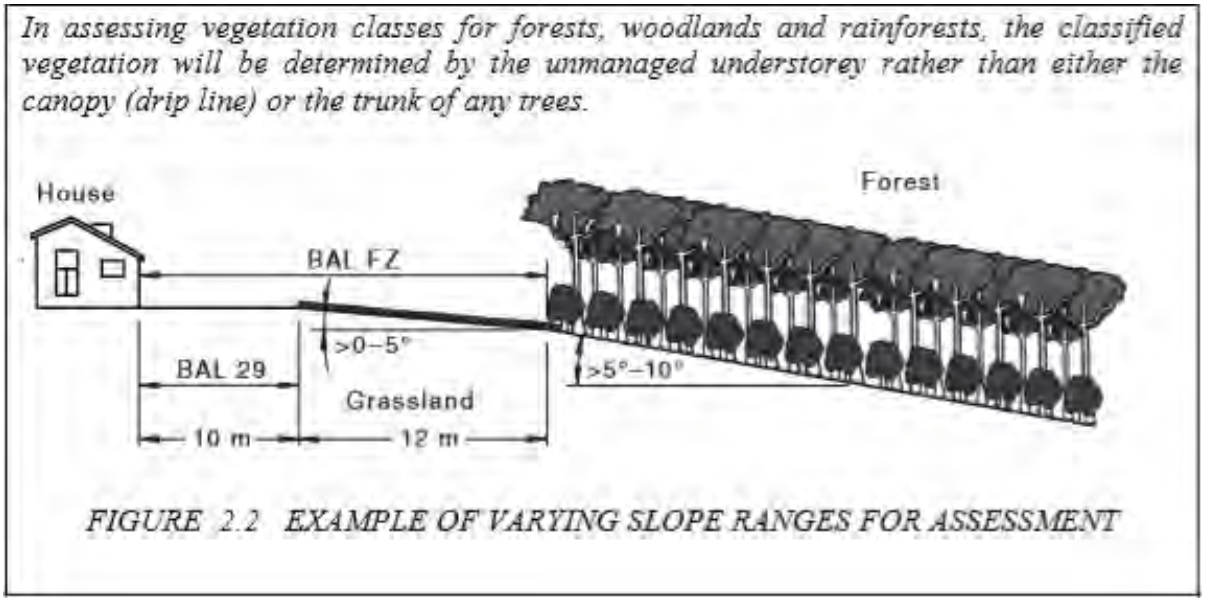


Plate 4: Arrangement of inputs for the determination of a BAL.

Effective slope under each vegetation plot was assessed in accordance with the methodology detailed in AS 3959:2018 Construction of buildings in bushfire prone areas (AS 3959) (Standards Australia, 2018 Bushfire Fuels). Slope data was measured on site and cross referenced with Landgate elevation data.

Figure 1: Location

N

Assessment Date: 24/02/2024
Prepared: Anthony Rowe I Accreditation Level: BPAD L3
Accreditation Number: 36690 Accreditation I Expiry: Dec 2024
FPAA FIRE MAP 2023 I GDA 1994 MGA Zone 50

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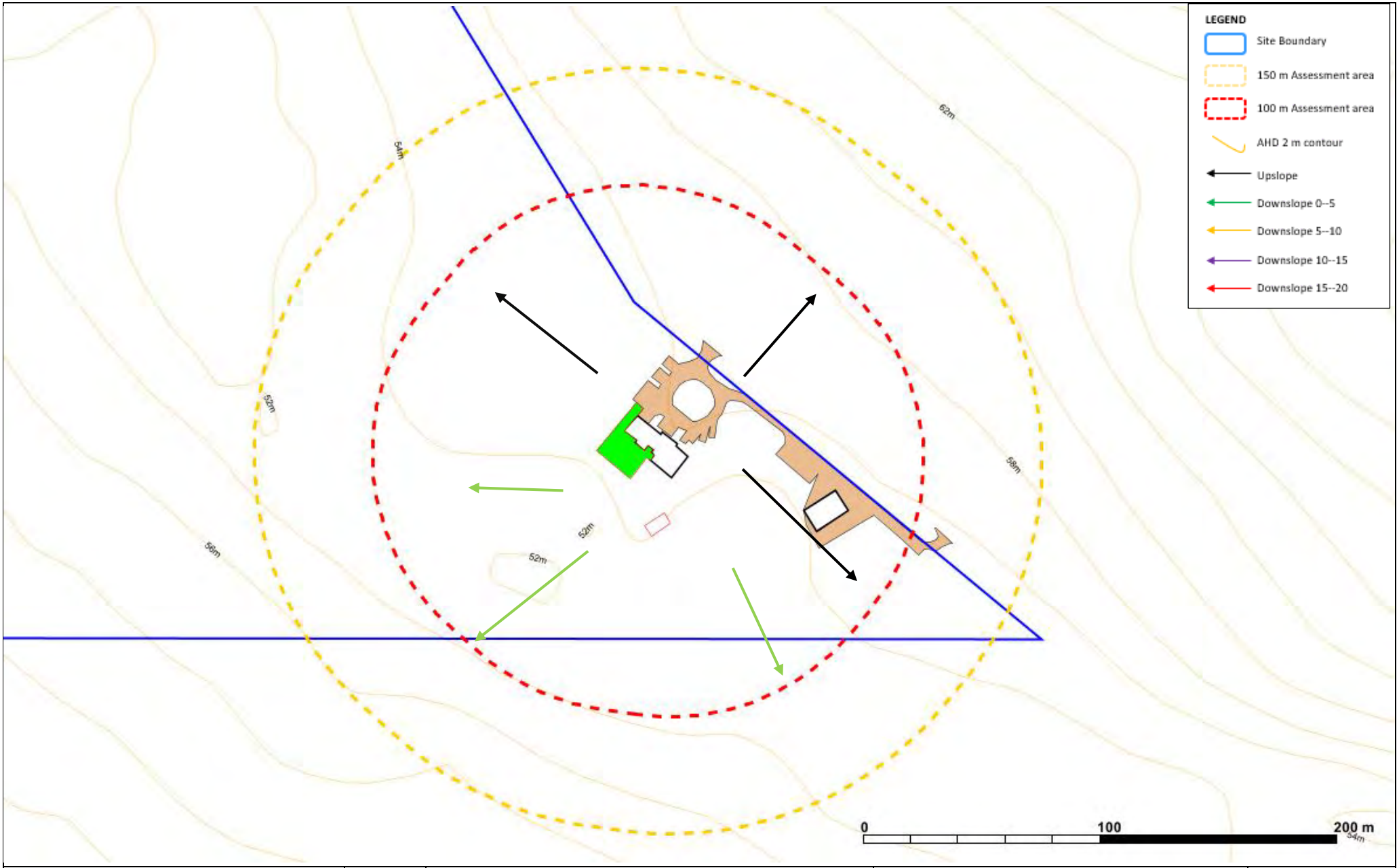

Figure 2: Topography

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Figure 3: Vegetation Classifications

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Figure 3a: Vegetation Classifications and distances

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PLOT 1				
Vegetation Classification			**Slope**	
Excludable - 2.2.3.2(e) Non Vegetated Areas			Flat	
Excludable - 2.2.3.2(f) Low Threat Vegetation				
Observation/Justification for classification				
Fuel Hazard	Surface	Near surface	Elevated	Bark
Low	✓	✓	✓	✓
Moderate				
High				
Very High				
Extreme				
Vegetation Description (AS 3959)				
e) Non-vegetated areas, that is, areas permanently cleared of vegetation, including waterways, exposed beaches, roads, footpaths, buildings and rocky outcrops. f) Vegetation regarded as low threat due to factors such as flammability, moisture content or fuel load. This includes grassland managed in a minimal fuel condition, mangroves and other saline wetlands, maintained lawns, golf courses (such as playing areas and fairways), maintained public reserves and parklands, vineyards, orchards, banana plantations, market gardens (and other non-curing crops) cultivated gardens, commercial nurseries, nature strips and windbreaks.				
Post development				
Excluded - Photo 1.1 vegetation to be displaced by extension (cellar door).				

Photo 1.1 Dwelling and location for cellar door

Photo 1.2 Managed garden north of dwelling

Photo 1.3 Dwelling vie to north elevation

Photo 1.4 Outbuilding

PLOT 2				
Vegetation Classification		**Slope**		
Class G Grassland – Spare open tussock G-24		Upslope		
Observation/Justification for classification				
Fuel Hazard	Surface	Near surface	Elevated	Bark
Low		✓	✓	✓
Moderate				
High	✓			
Very High				
Extreme				
Vegetation Description (AS 3959)				
All forms (except tussock moorlands) including situations with shrubs and trees if the overstorey foliage cover is less than 10%. Includes pasture and cropland.				
Post development				
Grassland retained				

Photo 2.1 Grass under vineyard, west of Cellar door

Photo 2.2 Grass foreground to forest

Photo 2.3 Grass north of site.

Photo 2.4 Grass east of Cellar door

PLOT 3				
Vegetation Classification		**Slope**		
Class A Forest - Open forest A-03		Flat		
Observation/Justification for classification				
Fuel Hazard	Surface	Near surface	Elevated	Bark
Low				
Moderate	✓			
High		✓		✓
Very High			✓	
Extreme				
Vegetation Description (AS 3959)				
Trees up to 30 m high; 30%-70% foliage cover (may include understorey of sclerophyllous low trees or shrubs). Typically dominated by eucalypts, melaleuca or callistemon (may include riverine and wetland environments) and callitris. Includes eucalypt plantations.				
Post development				
Forest retained				

Photo 3.1 Roadside vegetation

Photo 3.2 Forest in west section

PLOT 4				
Vegetation Classification		**Slope**		
Class B Woodland - Woodland B-05		Flat		
Observation/Justification for classification				
Fuel Hazard	Surface	Near surface	Elevated	Bark
Low		✓		
Moderate	✓			✓
High			✓	
Very High				
Extreme				
Vegetation Description (AS 3959)				
Trees 10 m - 30 m high; 10% - 30% foliage cover dominated by eucalypts and/or callistris with a prominent grassy understorey. May contain isolated shrubs.				
Post development				
Woodland retained				

Photo 4.1 Woodland – garden north of dwelling

Photo 4.2 Woodland east of cellar door

Photo 4.3 Woodland south of cellar door

Photo 4.4 Woodland west of cellar door

PLOT 5				
Vegetation Classification		**Slope**		
Class G Grassland – Spare open tussock G-24		Downslope 0-5		
Observation/Justification for classification				
Fuel Hazard	Surface	Near surface	Elevated	Bark
Low		✓	✓	✓
Moderate				
High	✓			
Very High				
Extreme				
Vegetation Description (AS 3959)				
All forms (except tussock moorlands) including situations with shrubs and trees if the overstorey foliage cover is less than 10%. Includes pasture and cropland.				
Post development				
Grassland retained, except where displaced by the cellar door and APZ.				

Photo 5.1 Grassland down slope, south east of cellar door

Photo 5.2 Grassland down slope south of cellar door

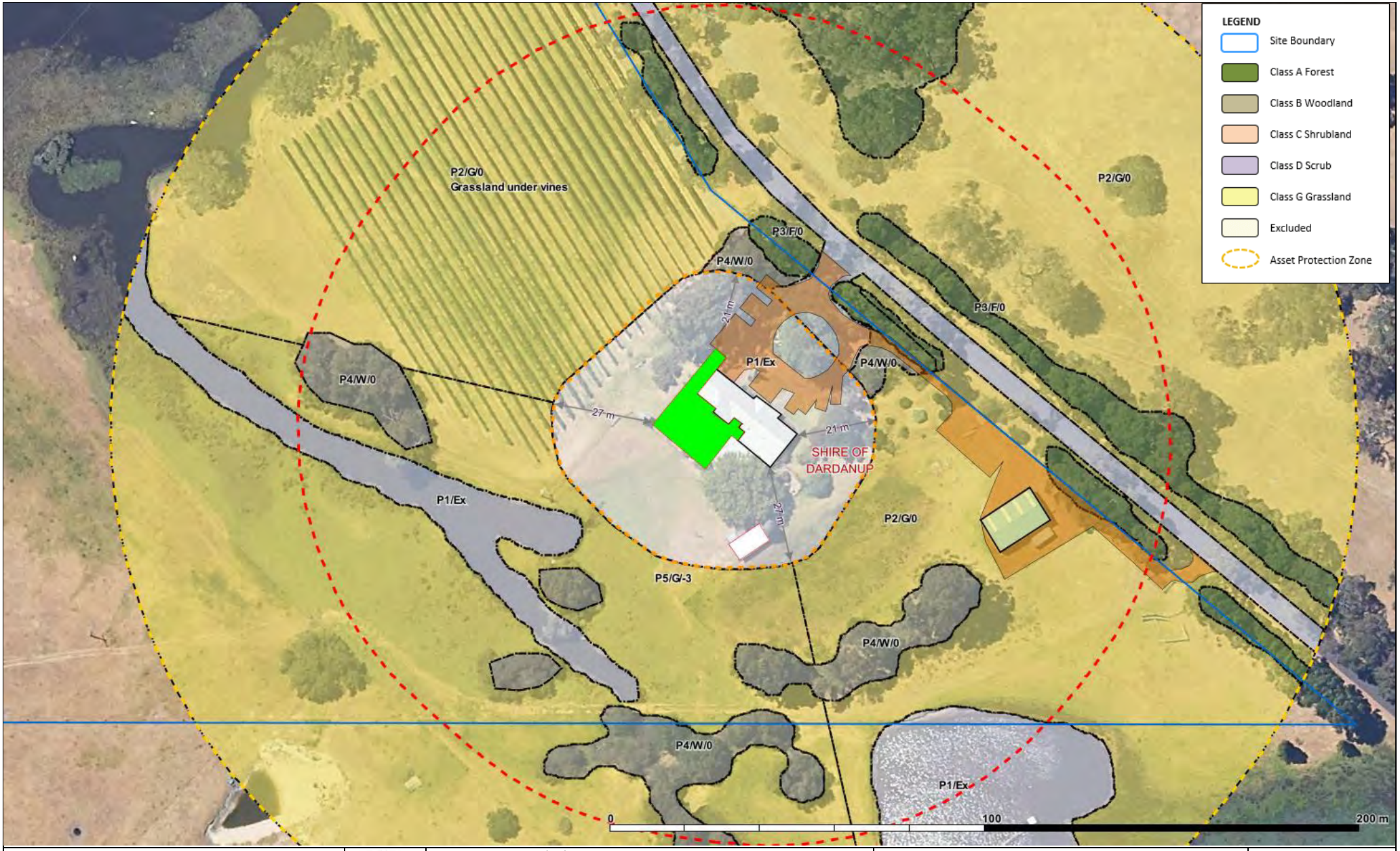

Figure4: Vegetation Classification at completion	N	Assessment Date: 24/02/2024 Prepared: Anthony Rowe I Accreditation Level: BPAD L3 Accreditation Number: 36690 Accreditation I Expiry: Dec 2024 FPAA FIRE MAP 2023 I GDA 1994 MGA Zone 50	

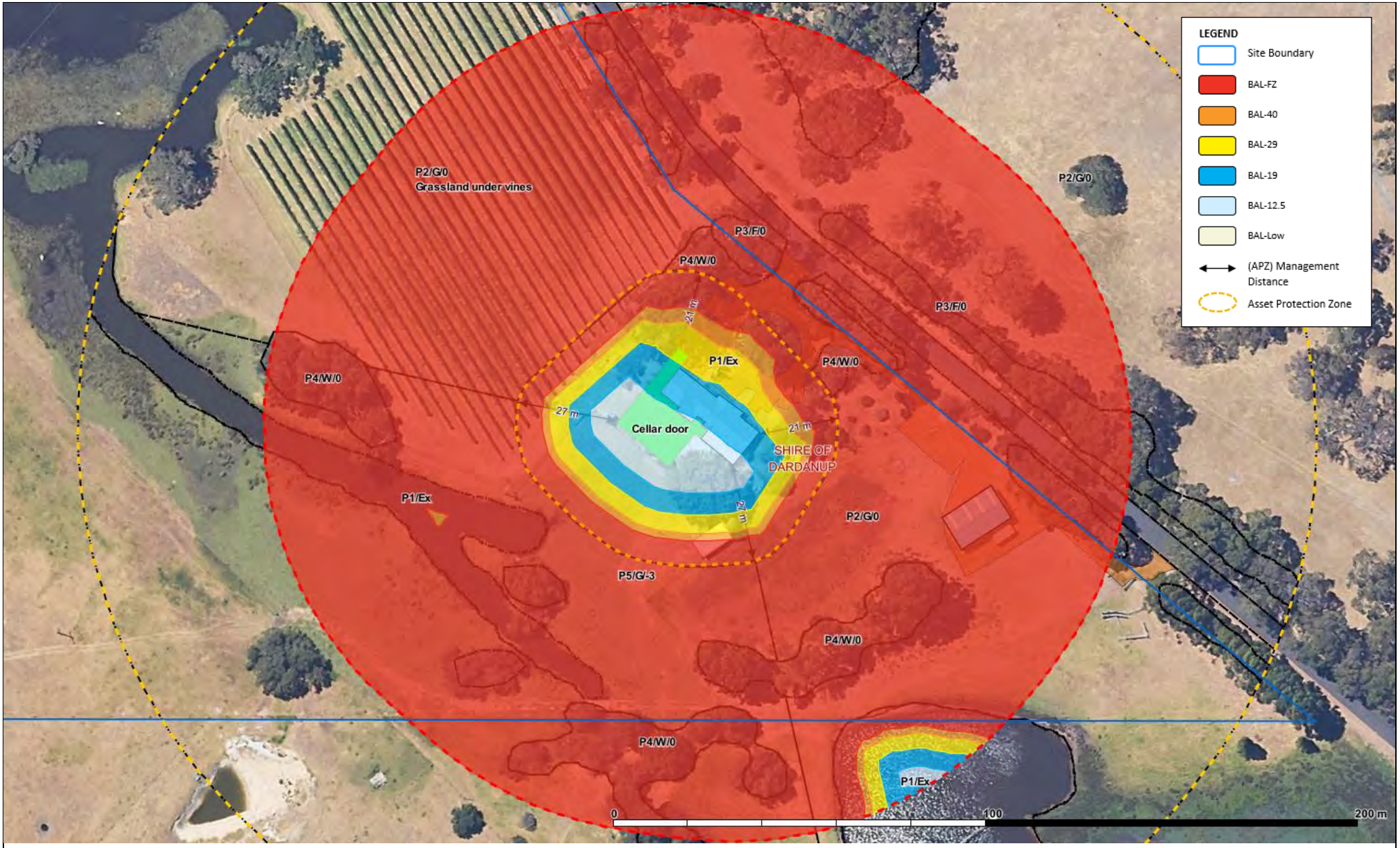

Figure 5: BAL Contour

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Accreditation Number: 36690 Accreditation I Expiry: Dec 2024
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3.2 Assessment Outputs

The Determined Bushfire Attack Levels are based upon the conditions at the time of inspection and applying the methodology described in AS 3959:2018.

Table: 2.1 from Proposed Cellar door

Plot no.	Vegetation Classification	Effective slope	Separation m	BAL	Separation for BAL 29
1	Excluded	NA	NA	BAL - Low	NA
2	Grassland	Upslope	0	BAL-FZ	8 m
3	Forest	Upslope	27	BAL-19	21m
4	Woodland	Upslope	0	BAL 40	14 m
5	Grassland	Downslope 0-5	0	BAL -FZ	9 m

Figures 4 and 5 illustrate the required APZ set from forest, to ensure that any changes to vegetation on the site will not cause the BAL at the building to exceed BAL 29. The APZ has been set, using Table 2.5 AS 3959:2018, Forest, downslope (0-5) (27 m north) and Forest, 0-upslope (21 m in other directions).

4. IDENTIFICATION OF BUSHFIRE HAZARD ISSUES

The following is based upon the National Emergency Risk Assessment Guidelines 2020 (NERAG) consistent with the Australian Standard *AS/NZS ISO 31000:2018 Risk management – principles and guidelines.* NERAG is designed for assessing sudden onset hazards such as bushfire.

The NERAG framework is scalable and has been applied as follows:

NERAG	Scale response
Scope and Objective	SPP 3.7 Policy Intent
Risk identification	Bushfire
Risk Analysis	AS3959:2018 Bushfire Behaviour Existing mitigations relied upon
Risk Evaluation	Cumulative risk: Likelihood (risk of ignition): Inherit fuels, history, external activities. Consequence: Social (human harm - minimising exposure evacuate or shelter) Economic (Asset threat – managing the fire, sources and building resistance)
Risk Treatments	Bushfire Protection Criteria Bushfire Emergency Evacuation Plan Voluntary As Low as reasonably practical measures (ALARP)
Communication	Bushfire Management Plan Bushfire Emergency Evacuation Plan

Bushfire Behaviour

AS3959:2018 attempts to address the bushfire conditions at the face of a building but there are broader landscape features and climate conditions that affect the cumulative risk at a site and the intensity of the bushfire attack level.

Bushfire behaviour is therefore part of the overall risk analysis.

Sustainable fire combustion depends upon the availability of fuel, oxygen, and heat. Removal of any one of the three aspects will extinguish or not sustain a fire. Fuel management, the management of vegetation, is the most practical means of control.

Bushfire behaviour, as it increases in intensity and speed of travel, can exceed human control measures and when this occurs the risk increases to humans and property. Bushfire behaviour is a result of climate, topography, and the availability of bushfire fuel (vegetation).

- Climate (drought and season) & weather (temperature, humidity, wind, atmospheric instability).

  Fire Danger Index FDI

  FDI is an indicator of potential fire intensity and behaviour based upon weather conditions; temperature, humidity, and wind speed, together with climate measures, drought factor representing the dryness of the ground fuels.

  The FDI is an indicator of the potential for house loss and fatalities.

  The FDI is used as a basis for determining the required design performance of a building.

  Wind

  Bushfires are influenced by the wind direction and the speed. The wind direction generally determines the direction of the fire and wind speed, along with ground slope, generally determines the speed a fire will travel over ground. Wind can also spread embers from a fire faster than the advancing speed of the firefront, the arrival of a fire is usually preceded by an ember shower, the wind also driving an accumulation of embers against walls and into gaps that are greater than 2 mm.

  Atmospheric conditions

  The atmospheric conditions affect the potential for the uplift of embers and particles that can be distributed by the prevailing wind direction well ahead of the fire. It can also give rise to lightning strikes and destructive downdraughts distant to the firefront (plume tilt). Whilst it requires a long fire running fire i.e., greater than 3 hours it contributes to 'unpredictable' fire behaviour.

- Topography (slope of the ground, aspect) – fire travels faster uphill, and in some conditions may determine the direction of the fire. The landform can also channel and increase the windspeed at a locality and create turbulence. It is measured as 0.0^0 or in downslope increments of 5.0^0.

- Vegetation (horizontal and vertical structure, flammability, mass, and availability). Measured as a vegetation classification, or an exclusion, in AS 3959 (Method 1). The arrangement of fuel has a greater effect upon the intensity of a fire than just its mass; its exposure to oxygen is referred to as its availability in a bushfire.

It is assumed that a bushfire will achieve a steady-state and be fully developed to maximum intensity over a 100 m (minimum) fire run. Grass fires travel faster (GFDI) than a forest canopy fire, but a forest canopy fire can eject a higher level of embers and also eject them over a greater distance, up to 5 km.

Crown fires occur when the ground fire is intense, and conversely, when ground fuels are managed, the resultant fire intensity may not be sufficient to involve the crown or sustain a fire.

Fuel reduction initiatives such as slashing and controlled burns are intended to reduce the fuel availability to a level where the intensity of the fire remains controllable.

Climate

The nearest weather station to the site is at Donnybrook. The site is within an area described as having a Mediterranean climate of dry summers and mild, wet winters. The majority of rainfall is between May and September. The prohibited burning period is from mid-December to mid-March.

Bushfires generally travel in the direction of the prevailing wind. The direction of the prevailing wind can affect the options for evacuation and anticipated fire intensity depending upon the slope and fuel.

The Bushfire Danger Season has traditionally been between November and April each year, but recent climatic conditions have caused fire danger conditions to be present either side of this period.

Severe bushfire conditions FDI 50+, occur mostly between January and March. Extreme and Catastrophic conditions occur mostly in the afternoon and typically with south-south easterly winds (BoM Witchcliffe). A bushfire can however come from any direction.

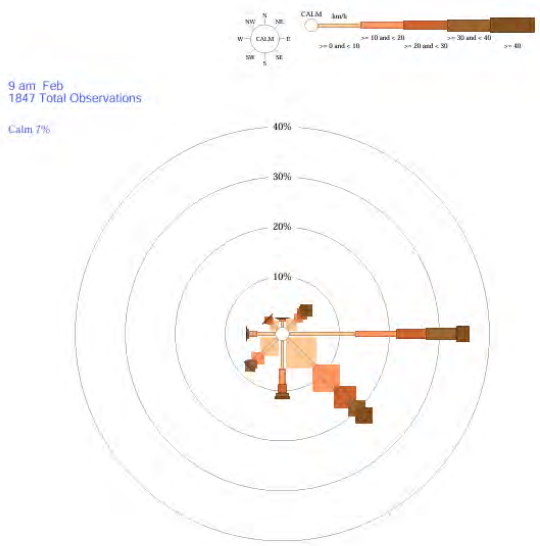


Plate 5: February 9 am

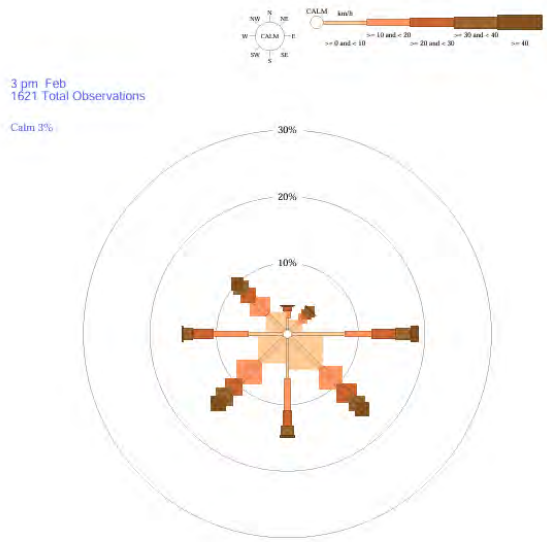


Plate 6 February 3 pm

The intensity of a bushfire is affected by the conditions that make up the Fire Danger Index. The Fire Danger Index (Fire Danger Rating) is a grading of conditions ranging from moderate to catastrophic. DFES issue Fire Danger Ratings daily during summer. The ratings range from 'moderate', 'high', 'very high', 'severe', 'extreme' through to 'catastrophic'. The Fire Danger Index for Western Australia is 80, and the fire season is inclusive of December and March each year. Extreme days are rare but occur mostly in January and February.[1] It should, however, be noted that all bushfires, during the bushfire season, can destroy buildings and be fatal, regardless of the daily rating.

The most intense bushfire is likely to arrive in the afternoon between mid-December and March each year when the Forest Fire Danger Index [2].(FFDI) is higher than 50. The wind roses for Donnybrook (nearest station) illustrate the winds are strongest and most frequent from the east and south-east in the morning. Afternoon winds are generally stronger and of higher frequency from the southern hemisphere. [3].

[1] Bureau of Meteorology (BoM) 2020, *Forest Fire Danger Index (FFDI)*, viewed 11 February 2024, http://www.bom.gov.au/jsp/ncc/climate_averages/ffdi/index.jsp

[2] FFDI is a measure of fire danger weather 50+ is Severe, 75+ is Extreme and 100+ is Catastrophic

[3] Donnybrook BoM Weather station http://www.bom.gov.au/climate/data/index.shtml

Site Context

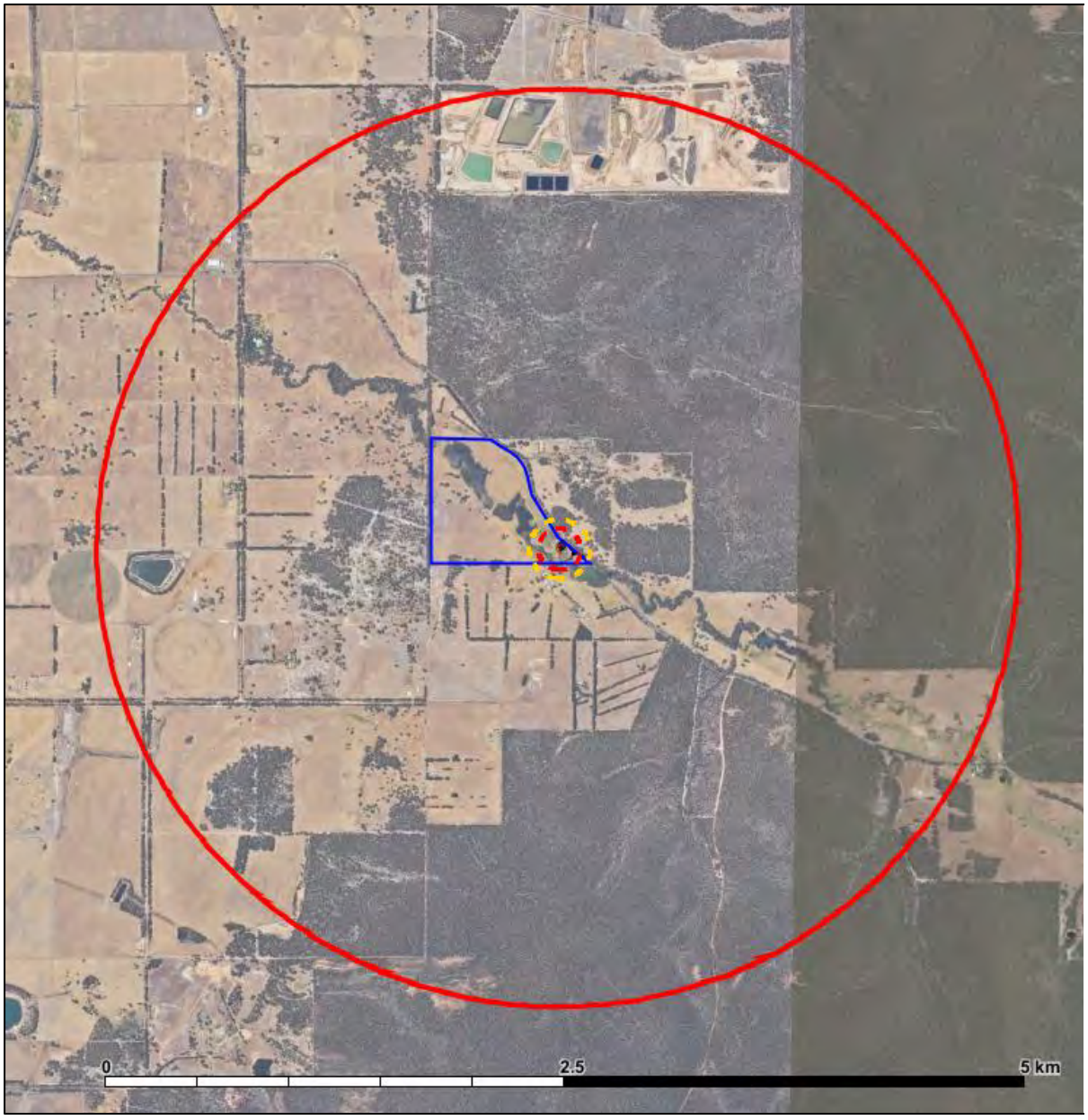


Plate 7: Illustrates the surrounding area, within 2.5 km is predominantly pasture with pockets of forest

Topography

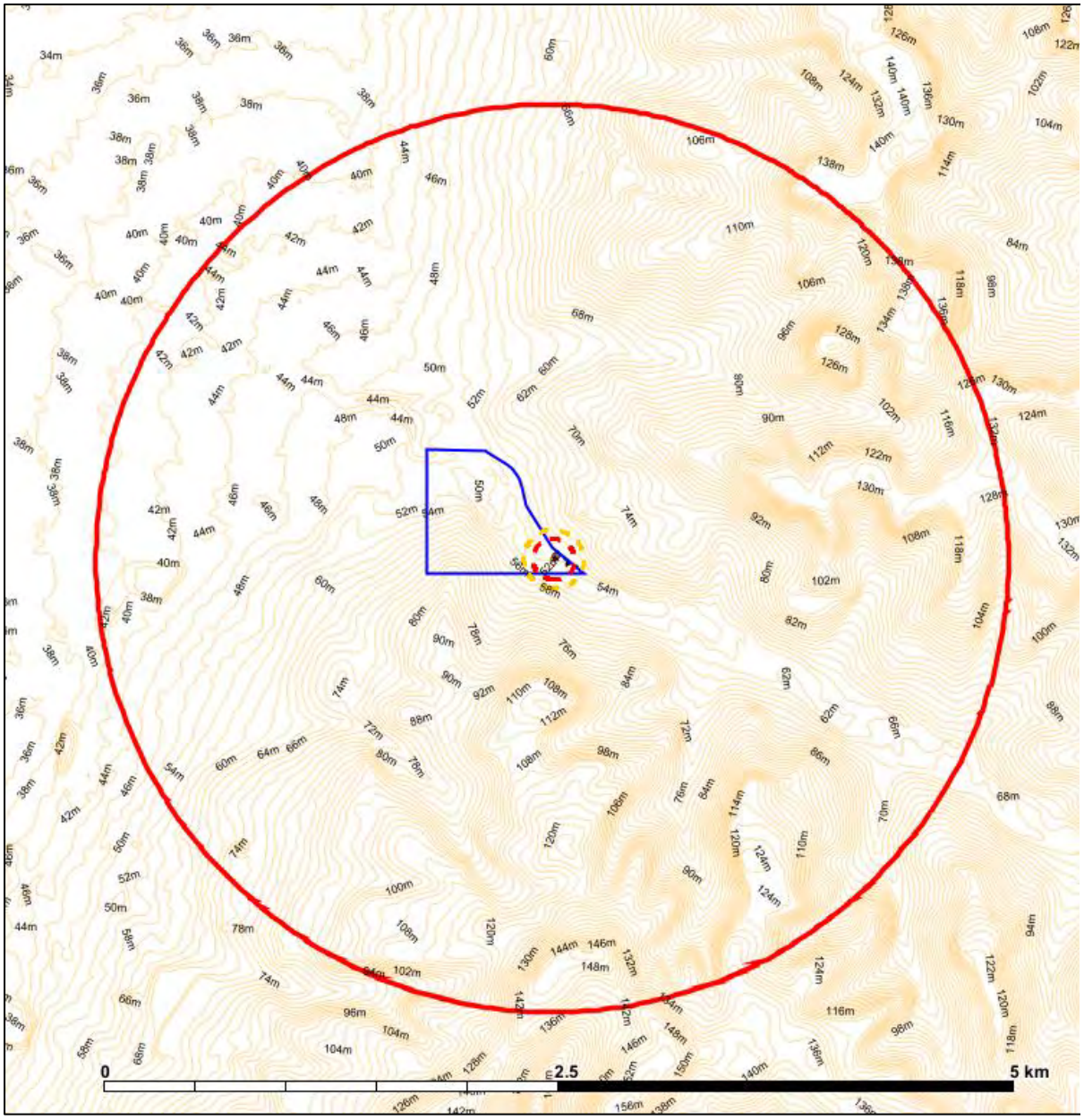


Plate 8: The site is at the foot of the Darling Ranges (east) and within a low valley that runs from east to west.

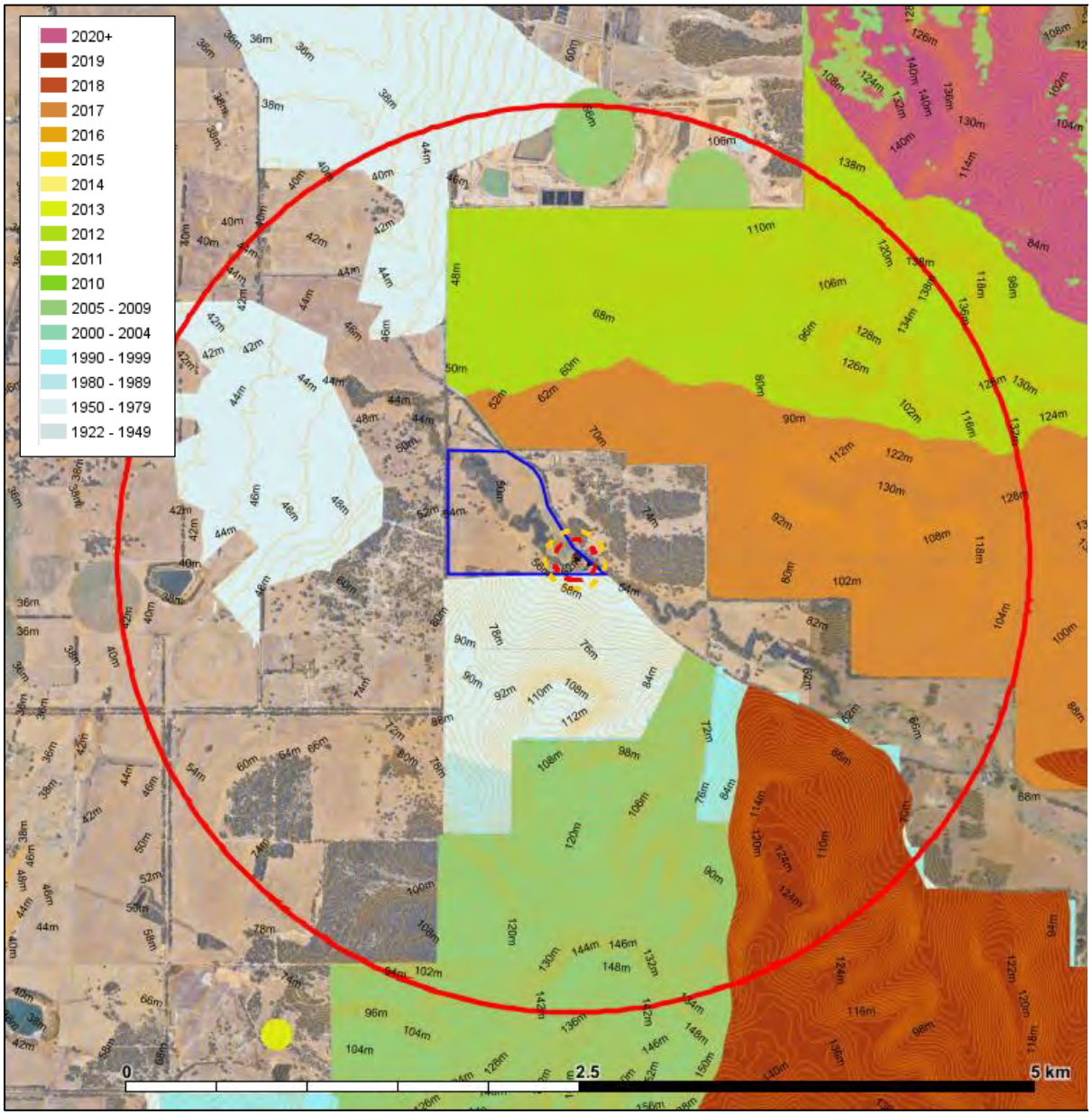


Plate 9: DBCA landscape fire history within a broader landscape 5 km and 10 km from the site. It is indicative as a level of activity and a possible gauge of fuel age. It does not distinguish between controlled and uncontrolled fires. It does not show the level of incidents and therefore is not indicative of all ignitions. Ignitions quickly responded to may not be recorded.

It is also not a determinant of frequency, notwithstanding an area may not show activity, there is a risk if fuels are present.

It provides an insight about land use patterns and activity in an area. There is often a counter balance between increased ignition potential from human activity, and land management and responsiveness.

Risk Objective

To preserve life and reduce the impact of bushfire on property.

Risk identification

The most intense bushfire is likely to arrive in the afternoon between mid-December and March each year when the Forest Fire Danger Index (FFDI) is higher than 50. And whilst the predominant wind direction in the afternoon is from the southwest a fire can come from any direction.

The site is located within a rural area with a predominance of pasture/grassland to the west. The site is 600 m from Dardanup Conservation Park and contiguous forest north, east and south which could expose the site to a dispersed ember attack, and advance grassland fire spotting.

The site is also located in a low valley from the east and is at the foot of the Darling Ranges. Under certain conditions katabatic winds and atmospheric interaction can result in strong downdrafts and the spread of embers well in advance (11 km) of the fire front (Waroona fire 2015)

Whilst the proposed cellar door can be located at BAL 29 (outside of flame length) the building may be subject to ember attack.

Existing controls (that reduce the risk to life and property)

Existing controls are features and activities that presently reduce the harm to humans and assets.

These include:

- The Shire Firebreak Notice to maintain all land to limit the spread of bushfire, including within urban areas.
- The Shire and WAPOL enforcement of total fire ban days (to reduce the potential for ignition) and the Shire's enforcement of its annual notice *Bush Fires Act 1954*, to reduce ignition of a bushfire.
- The public roads to the township of Dardanup are in good condition.
- The site is within a 4G network, mobile phones are automatically alerted to fires in the area, supporting an early and safe evacuation.
- The Joshua/Crooked Brook Bush Fire Brigade is within 3 km and the West Dardanup Volunteer Bush Fire Brigade is within 9 km

Likelihood

The likelihood of a bushfire affecting the site is considered 'likely' (less than 1 in 10 years). Rather than by the historic frequency this is based upon the presence of bushfire fuels and activities in the locality.

Consequence

Preserve life

Actions	***Consequence potential***
Pre-emptive closure	On alert to extreme or catastrophic conditions - the human consequence, because it is vacated) is expected to be insignificant.
Evacuate in advance of an arriving fire	Potentially affected by smoke or particle (minor) injury the human consequence is classed as minor.
Evacuation too late – threatened evacuation routes	The consequence is potentially catastrophic, serious injury and fatality. Vehicles do not provide for survivability at exposures above 10kWm2, and fatalities occur when vehicles are caught within a fire.
Shelter on site	As a last resort

	Historically if a building survives the occupants survive[4], but they may be subjected to smoke and respiratory sensitivity. Bushfires are terrifying and unless prepared can be traumatic. Whilst AS3959:2018 does not guarantee a buildings survival, the intent is to maintain internal tenability until survivable conditions establish outside the building. Occupants may survive but may be exposed if evacuating the building to high heat, airborne particles, smoke and trauma. Clear survival procedures are required (BEEP).

Impact on property

The proposed cellar door may be affected by a grassfire across the site and ember attack. The building predates contemporary bushfire construction requirements (masonry on cement slab with sheet roof - comparable construction BAL 19). A do-nothing approach may expose the building to direct flame contact and accumulating embers igniting flammable materials near vulnerable parts, windows and doors, and penetrating the building though gaps and openings to ignite flammable materials. The ignition of the building, if undefended may lead to its loss or significant damage (unable to continue to function).

The vulnerability of a building diminishes the safety for shelter as a last resort.

Risk treatments

Preserve Life

The Bushfire Emergency Evacuation Plan is a risk treatment that describes the procedures to be followed in a bushfire event.

Occupant awareness of an approaching bushfire and clear instruction will maximise the opportunity to evacuate the site. Evacuation should be taken to destinations identified by emergency services when the instruction to evacuate has been given.

Pre-emptive evacuation is recommended on days that are forecast to have a Fire Danger Rating of Extreme or Catastrophic. These conditions are rare in the region.

Safe evacuation can be taken when the time before a fire arrival (Available Safe Evacuation Time- ASET) is greater than the time it would take to reach a safe destination (Required Safe Evacuation Time - RSET. The RSET includes the time from the alert to completing the journey before the route is affected by the bushfire. It takes into account delays in mobilising from the site and any expected delays along the route i.e. congestion.

The ASET must be greater than the RSET, The ASSET is affected by the rate of spread of Fire, fast in extreme and catastrophic conditions. The RSET will be affected by the number of patrons on site at the time, the availability of transport and congestion along the route.

If it is not safe to evacuate then shelter as a last resort should be taken at the cellar door and dwelling.

Reduce the impact of bushfire on property

The established APZ will separate the building from direct flame contact but it is likely to be subject to ember attack from the nearby forest.

Flammable materials can be ignited by ember attack; site management can avoid the placement of flammable materials adjacent to buildings that may in turn expose the buildings to direct flame contact and minimise gaps at the building that may allow embers to penetrate inside.

Ember attack can start small fires, that if left alone can develop into a fire sufficient to overwhelm and destroy a building.

The convenient location of firefighting equipment (fire hoses) can be used by anyone in attendance to extinguish small fires against a building before they can ignite a building and assist to minimise damage.

[4] [4] Blanchi. R, Leonard. J, Haynes. K, Opie. K, James. M, Kilinc. M, Dimer de Oliveira. F, van den Honert.R, 2012, '*Life and House Loss Database Description and Analysis – Final Report*', CSIRO and Bushfire CRC

The building is in proximity to a possible concentrated ember attack from nearby forest and west of the valley from the ranges, that could channel/concentrate the bushfire attack. The cellar door extension should be constructed to BAL 29, window and deck standards will apply. Measures should be taken to improve the resistance of the existing dwelling to be comparable with BAL 29 (section 3 and 9 AS3959:2018). The owner should audit the building with the requirement for BAL 29 and apply measures where practical.

5. BUSHFIRE PROTECTION MEASURES

5.1 Bushfire Protection Criteria (Appendix 4 of the Guidelines V1.4)

The Bushfire Protection Criteria in the Guidelines v1.4 is divided into five elements – location, siting and design, vehicular access, water and tourism land uses. Elements 1 – 4 should be applied for all strategic planning proposals, subdivision or development applications; Element 5 is applicable for vulnerable tourism land uses. Element 5 incorporates the bushfire protection criteria in Elements 1 – 4 but caters them specifically to tourism land uses.

This proposal for the purpose of Element 5 is classed as a **Day Use** (with no overnight accommodation).

Table 2: Bushfire Protection Criteria assessment.

✓	Acceptable solution provided	C	An Acceptable Solution to be conditioned
N/A	Not Applicable	P	Performance Principle solution see 5.2

Bushfire Protection Criteria	Method of Compliance	AS	PP	Proposed Bushfire Management Strategies
P5xiii Habitable buildings are sited and designed to: – minimise clearing of existing vegetation; and – provide hazard separation between classified vegetation and a development site, that is managed in perpetuity, to prevent the spread of fire and direct flame contact to the building	**A5.13 Siting and design** A5.13a An APZ to be provided in accordance with Element 2: Siting and Design of Development A2.1 Asset Protection Zone. **A2.1 Asset Protection Zone** Every habitable building is surrounded by, and every proposed lot can achieve, an APZ depicted on submitted plans, which meets the following requirements: • Width: Measured from any external wall or supporting post or column of the proposed building, and of sufficient size to ensure the potential radiant heat impact of a bushfire does not exceed 29kW/m² (BAL-29) in all circumstances. • Location: the APZ should be contained solely within the boundaries of the lot on which the building is situated, except in instances where the neighbouring lot or lots will be managed in a low-fuel state on an ongoing basis, in perpetuity (see explanatory notes). • Management: the APZ is managed in accordance with the requirements of 'Standards for Asset Protection Zones.' (see Schedule 1).	✓		The proposed Cellar Door is located within an area that is predominantly grassland. The Acceptable solution A2.1 requires that the development site can achieve on completion a BAL not exceeding BAL-29; by establishment of an APZ within the boundaries of the lot. An Asset Protection Zone (APZ) extending 27 m south (downslope) and 21m over flat and upslope will provide certainty to maintain a BAL at the building that does not exceed BAL 29, regardless of vegetation that may be established outside the APZ. The area displaced by the APZ will be over pasture grass (unregulated) and low threat managed garden.

Bushfire Protection Criteria	Method of Compliance	AS	PP	Proposed Bushfire Management Strategies
P5xiv The design and capacity of vehicular access and egress allows the community to evacuate to a suitable destination before a bushfire arrives to the site, whilst allowing emergency service personnel to attend the site.	**A5.14 Vehicular access** **A5.14a** Public vehicular access in two different directions to two different suitable destinations to be provided, except in the following circumstances: • Where the tourism land use is within a residential built-out area; or • Where a bushfire emergency evacuation plan provides for closure during days forecasted to be an extreme or catastrophic fire danger rating and a total fire ban; and for the early evacuation of patrons and staff; or • Where a bushfire emergency evacuation plan provides for non-operation during the bushfire season; and • Where it is demonstrated that secondary access (including an emergency access way) cannot be achieved.	✓		Acceptable Solution A5.14a requires development is provided with a safe access and egress to two different destinations. The site has access to Crooked Brook Road which is a sealed public through road (see A5.14b). Crooked Brook Road is compliant with the IPWEA guidelines for a rural road (compliant with A5.14a, and A5.14e). It exceeds the minimum 8.4 m unobstructed width and has a carriage way 5.8 m seal (IPWEA). Ironstone/Ferguson (town of Donnybrook) or Joshua Creek Road to (town of Boyanup) are sealed public roads. .
	A5.14b All public roads to be through roads. No-through roads are not recommended, but if unavoidable, or they are existing, the following requirements apply: • No more than 200 metres in length, where the adjoining classified vegetation, excluding the road reserve, has an extreme BHL; or • No more than 500 metres in length, where the adjoining classified vegetation, excluding the road reserve, has a moderate BHL; or No limitation, where the adjoining classified vegetation, excluding the road reserve, has a low BHL or is not identified as bushfire prone.	✓		Crooked Brook Road connects to the town of Dardanup 7 km west of the site. Crooked Brook Road extends east through to Ironstone/Ferguson (town of Donnybrook) or Joshua Creek Road to (town of Boyanup). The site complies the requirement A5.14b The proposal meets compliance with A5.14a and A5.14b and need not rely on shelter as a primary emergency response
	A5.14f Internal vehicular access/private driveways longer than 50 metres are to meet all the following requirements: • Requirements in Table 6, Column 4; • Passing bays every 200 metres with a minimum length of 20 metres and a minimum additional trafficable width of two metres (that is, the combined trafficable width of the passing bay and constructed private driveway to be a minimum six metres); and • Turn around areas as shown in Figure 28.	NA		The technical requirement for a private driveway is not applicable to a building less than 70 m from a public road. The dwelling and the cellar door (furthest point) is within 70 m (62 m) of Crooked Brook Road.

Bushfire Protection Criteria	Method of Compliance	AS	PP	Proposed Bushfire Management Strategies
P5xv Provide a permanent water supply that is: – sufficient and available for firefighting purposes; – constructed from non-combustible materials (e.g. steel), or able to maintain its integrity throughout a bushfire; and – accessible, with legal access for maintenance and re-filling by tankers and emergency service vehicles.	**A5.15 Provisions of water** A5.15a The development or land use is provided with a reticulated water supply in accordance with the specifications of the relevant water supply authority; or A5.15b Provision of a water tanks(s) with a minimum capacity of 10,000 litres per 500 m2 of habitable floor space, up to 50,000 litres; and A5.15c The water tank(s) to be constructed in accordance with Element 4, Schedule 2, 2.2 Technical requirements.	C		The site does not have access to a reticulated water supply. No strategic water tanks are located within 2 km of the site. The proposal is required to provide a dedicated 10 000L reserve of water for use by emergency services, at a ratio of 10,000 L for every 500 m^2 of habitable floor space. The proposal is 488 m^2 and therefore requires 10 000 L.

5.2 Bushfire Management Strategies

A Cellar door is not a high-risk land use (likely to increase the risk of starting a bushfire), but it may attract people who are unfamiliar with bushfire.

The principles of Emergency Management (listed below) that may apply to the proposal can be divided across the BMP and BEEP working in unison – the BMP determines the suitability of the location, and the BEEP describes the management actions. The two align with emergency management principles as follows:

- Prevention – avoidance and mitigation works undertaken in advance i.e. (Planned APZ).
- Preparation – education, procedures, training i.e. Seasonal maintenance APZ, regular review of (BEEP)requirements, contacts, responsibilities, and warning systems
- Response – actions taken in an event for saving lives (primary) - early evacuation if safe or shelter as a last resort with survival procedures described (BEEP).
- Recovery – return and restoration procedures described (BEEP).

5.2.1 Vulnerable Development Emergency Evacuation (Cl 6.6)

In regard to this proposal the additional bushfire management strategies to the Bushfire Protection Criteria, relate to the management of an event to preserve life.

The proposed BEEP is attached in Attachment 2 and follows the State Government's *A Guide to developing a Bushfire Emergency Evacuation Plan* October 2019 and the *Emergency Evacuation Plan template*. The BEEP has been developed consistent with the Australian Standard AS 3745-2010, Planning for Emergencies in facilities.

The attached BEEP incorporates the requirements listed under section 5.5.2 V1.3 Guidelines for Planning in Bushfire Prone areas and acknowledged in **Table 4.**

Table 4: Compliance with Cl. 5.5.4 *Guidelines for Planning in Bushfire Prone Areas*

The emergency evacuation plan should be concise and consider:	**Addressed in Emergency Evacuation Plan**
The number of guests at the facility	92 maximum
Whether the occupants are permanent or transient	Transient
Whether there is a caretaker on site	Hosted
Whether there are people with a disability, medically dependant, young children, or the elderly	Visitors are able-bodied or expected to be in the care of a patron.
Identification of a safe alternative location if there was a need for evacuation/relocation	Eton Recreation Centre 18 Recreation Drive, Eaton
A proposed method of movement of occupants to a safe location(s)	Private vehicles
Details of suitable access/egress routes for the expected type/volume of traffic, including alternatives when suitable roads are inaccessible, insufficient or inappropriate	Crooked Brook Road to the town of Dardanup is 7 km through pasture. The town of Donnybrook is accessed via Ironstone/Ferguson Road through forest 39 km.

	The town of Boyanup via Joshua Creek Road is through forest 18.4 km.
Transport options for those without access to private vehicles	Guests are expected to arrive by private vehicle. Sufficient vehicle capacity is available for evacuation of guests and staff during the bushfire season.
Options to shelter in place as a last resort	At the proposed Cellar door (shelter last resort).
Roles and responsibilities of facility personnel and emergency services.	The Chief Warden (nominated staff member) when the facility is operating during the bushfire season. Emergency procedures and responsibilities shall be clearly displayed within the building.

The emergency evacuation plan should consider if actions will change based on a series of triggers, such as:	**Addressed in Emergency Evacuation Plan**
Effective warning methods appropriate for the occupants (including consideration of at-risk persons and the demographics of the occupants)	The Chief Warden will monitor the media for Fire Danger Rating information and be trained in the triggers and procedure for evacuation.
Closure of facility and early relocation of occupants appropriate to the fire danger rating (FDR) and bushfire warnings	
Any local government bushfire requirements (for example, harvest and vehicle movement bans)	N/A
A suitably qualified emergency management professional should prepare the emergency evacuation plan in collaboration with relevant stakeholders including the landowner/developer and the local government (refer to section 6.14 of the Guidelines)	Anthony Rowe Accreditation Level 3 Accreditation Number: 36690

5.3 Spatial representation of the bushfire management strategies

Further to the assessment against the bushfire protection criteria, the key features demonstrating compliance should be represented spatially in the *Spatial representation of the bushfire management strategies*. It represents the required bushfire risk management measures that must be implemented and maintained.

The Spatial representation of the bushfire management strategies is provided in Figure EX1.

6. RESPONSIBILITIES FOR IMPLEMENTATION AND MANAGEMENT OF THE BUSHFIRE MEASURES

The responsibilities for implementation and management of the bushfire measures, summarises the measures identified to achieve compliance with the bushfire protection measures following SPP 3.7. This has been provided in the Executive Summary. The details contained within the planning application authorised by the responsible decision maker are enforceable under section 214 of the *Planning and Development Act 2005*. The items addressed in the table responsibilities for implementation and management of the bushfire measures form part of the planning authorisation and where there is conflict supersede the detail of the planning application.

Owner

1.	The adoption of the Bushfire Emergency Evacuation Plan (Attachment 1).	Ongoing
2.	The establishment of an Asset Protection Zone (APZ) and low-threat area, as demonstrated in the Spatial Representation of Bushfire Management Strategies and in accordance with the Standards for Asset Protection Zones at Schedule 1 Guidelines for Planning in Bushfire Prone Areas v1.4 and include maintaining grasses in either a non-cured condition or less than 100 mm in height.	Prior to occupation and ongoing
3.	The construction standard s.3 and 7 AS3959:2028 applies to the Cellar door additions (to avoid increasing the risk to the existing dwelling).	Prior to occupation and ongoing
4.	The provision of a 10 000 L water tank reserved for emergency services and isolated from the domestic water supply. The water tank is to be provided compliant with the technical requirements described in Element 4 Schedule 2 in the Guidelines or Planning in Bushfire Prone Areas v1.4.	Prior to occupation and ongoing

Advisory notes

1. Practical measure to increase the resistance of the dwelling to ember attack, comparable with section 3 and 7 in AS3959:2018 should be undertaken and include:
    - The screening of all openable portion of windows (metal mesh aperture < 2mm)
    - The elimination/screening of gaps and openings greater than 2mm at the building exterior.
2. The planning for structural fire requirements, including the placement of fire hoses, should give consideration to the suppression of fires on the outside of the building as well as within the building. This would include the ability to apply water to all external building surfaces and a distance of 10 m perpendicular to the building, independent to the mains power supply.
3. The landowner acknowledges their duty of care to protect any visitors to the site from harm from a bushfire affecting the property.
4. The landowner is responsible for availing themselves of any promotions and information to assist owners in preparing for and responding to a bushfire event as may be made by the Shire or the Department Fire and Emergency Services
5. Firebreaks to be installed and maintained in accordance with the Shire of Dardanup annual Firebreak and Fuels Hazard Reduction Notice (*Bush Fires Act 1954).*

Acknowledgment - Proponent

The proponent acknowledges the responsibilities as listed above and the requirement to ensure that should the land transfer to a new owner, that the new owner is aware of the BMP and their ongoing responsibility.

ATTACHMENT 1 - Emergency Evacuation Plan

BUSHFIRE EMERGENCY EVACUATION DOCUMENTS

566 Crooked Brook Road, Crooked Brook

December 2024

This document contains two parts:

1. The preparation compliance with the WAPC A *Guide to developing a BUSHFIRE EMERGENCY EVACUATION PLAN October 2019: and*

2. The Emergency Evacuation Plan contained in Appendix 1. The Emergency Evacuation Plan incorporates the requirement of AS3745-2010 where relevant in the WAPC Emergency Evacuation Plan Template.

1. ESTABLISHING THE EMERGENCY CONTROL ORGANISATION

In accordance with the DPLH Guidelines for preparing a bushfire emergency evacuation plan an accredited bushfire practitioner was engaged (Anthony Rowe BPAD L3 36690).

The bushfire planning practitioner has been responsible for assisting the Emergency Planning Committee with

- The establishment and implementation of emergency plans and procedures
- Formulation of emergency procedures
- Reviewing the local emergency services

The Emergency Planning Committee with feedback from the Emergency Control Organisation should regularly review the emergency evacuation plan to ensure it remains practical and current.

Emergency Planning Committee (EPC)

The Emergency Planning Committee shall comprise of the owners Crooked Brook Wines, 566 Crooked Brook Road, Crooked Brook.

The **Emergency Planning Committee** is responsible for overseeing the preparation of the site buildings and grounds for the approaching bushfire season, including attendance to any maintenance required to minimise the risk of damage from bushfire attack.

The Committee is responsible for reviewing the BEEP and overseeing the education and training of the allocated **Emergency Control Organisation.** It is to ensure appropriate resources are provided to prepare for the bushfire season.

Emergency control organisation (ECO)

The Emergency control organisation shall comprise of the following positions occupied by owners, managers and staff.

- The manager in attendance is the Chief Warden
- Area Wardens (staff)
- Transport Warden (staff)
- First Aid Warden (staff)

The Chief Warden will be responsible for responding to a bushfire event and ensuring the safety of visitors.

2. PREPARING THE EMERGENCY PLAN

The emergency plan applies to Crooked Brook Wines, 566 Crooked Brook Road, Crooked Brook. The Bushfire Management Plan dated **20 December 2024** articulates bushfire safety measures that include:

- Identification of the Asset Protection Zone and maintenance
- Provision of firefighting equipment

The tasting room and restaurant area are provided as the safer place on site. In a bushfire event visitors will be instructed to assemble there to be provided with information on evacuation availability, routes and destinations.

Evacuation north west, via the township of Dardanup to the Bunbury region is the preferred route if confirmed to be safe. The preferred evacuation route is via Crooked Brook Road and Boyanup Picton Road-Willinge Drive which predominantly adjoins pasture (agricultural land) until reaching the urban area and National Highway 1 (Forrest Highway).

Evacuation east requires travel on roads which in sections adjoin large areas of forest. These routes should only be used if confirmed to be safe.

This Emergency Plan has been prepared in response to bushfire threats identified in the BMP.

It is the responsibility of the Chief Warden to ensure visitors to Crooked Brook Wines are alerted to conditions where the risk is elevated and of any bushfire likely to threaten the facility.

- The Chief Warden is responsible for checking the DFES Alerts and Warnings web page https://www.emergency.wa.gov.au at regular intervals
- The Chief Warden is responsible for advising visitors to evacuate and maintaining contact with visitors during any evacuation.

Evacuate before the fires arrival when safe to do so.

3. DETERMINE EMERGENCY ACTION

The **primary action** in response to bushfire threat is **early** evacuation.

Time Required to Evacuate – 50 minutes 25 minutes travel time plus allowance for alarm, briefing and exiting the site. To the Bunbury region the Bunbury via Crooked Brook Road and Boyanup Picton Road-Willinge Drive to Forrest Highway.

The evacuation time will vary depending upon the number of people present on the site. The Transport Warden is to stage release from the site to avoid congestion building at the right hand turn to Boyanup Picton Road.

Vehicles provide poor protection for occupants if within flame contact. If evacuation cannot be completed prior the arrival of the firefront, shelter at the site is a safer option.

The transportation arrangement for evacuation is by private vehicles.

In a bushfire event, announcements will be made via electronic media and online, regarding bushfire incidents and potential threats to the site.

- Monitor the DFES Alerts and Warnings web page **https://www.emergency.wa.gov.au**
  The On-site Manager is responsible for monitoring this site at regular intervals during the bushfire season

The Trigger to evacuate.

- Emergency WA public advice – Watch and Act or Emergency warnings
- if directly advised to leave by DFES or the police

If smoke or a fire is seen nearby (within 10 km) contact emergency service to seek advice on the availability for safe evacuation

Alarm

The sounding of an airhorn three times will be used to communicate a bushfire alarm.

4. EVACUATION / SHELTER REQUIREMENTS

Visitors will arrive by their own transport and would evacuate via their own transport.

The primary evacuation destination nominated by the Shire is the Eaton Recreation Centre 18 Recreation Drive Eaton, however, in a bushfire emergency, announcements will be made via media and online confirming availability, locations and routes to evacuation centres and safer places. An alternative evacuation centre may be nominated.

PRIMARY AND SECONDARY EMERGENCY PROCEDURES

The Emergency Evacuation Plan must be reviewed annually, ensuring all information, procedures, contact details and any attached publications (e.g., DFES) are current.

Annual review should include:

- The Asset Protection Zones are maintained.
- Roofs and gutters of buildings are free of leaf litter and debris.
- Roof and walls should be checked for gaps exceeding 2 mm which can occur with the ageing of materials.
- Flammable materials are to be removed from near the habitable buildings, 3 m from the base.
- Access is to be clear and easily trafficable, a clearway 6 m wide up to 4.5 m high.
- Directional signage is in place and is clear and accurate.
- Fire hoses are in working order.

A current copy of the emergency plan must be kept at the facility. An evacuation diagram must be displayed within the tasting room and restaurant.

5. TRAINING REQUIREMENTS

Emergency Control Organisation

Holders of specific roles within the ECO should receive relevant training.

- The Chief Wardens should be trained to maintain awareness of fire danger and incident alerts
- Area Wardens
  - awareness of role and responsibility to alert patrons and clear and secure buildings.
  - Operational firefighting, use of PPE, use of firefighting equipment and personal safety awareness (extreme heat and toxic materials)
  - Awareness of structural fire damage
- First Aid Warden – training and demonstrated competence to administer first aid including injuries expected in a bushfire.

Emergency Evacuation Plan Preparation Checklist

The following questions will assist the individual in developing or reviewing the Emergency Evacuation Plan to identify an off-site location. For an appropriate off-site location		
If there are occupants with support needs that require a similar facility to support them, is the off-site location suitable?	Yes No	☐ ☒
Comment: Visitors with support needs may attend but would have a carer or family member in attendance with them to provide the required support.		
Is the off-site location in an area away from the effects of a bushfire?	Yes No	☒ ☐
Comment: Shire nominated emergency evacuation facilities		
Are there amenities (toilets, food, water etc.) available at the off-site location? (if applicable)	Yes No	☒ ☐
Can the off-site location accommodate the number of occupants?	Yes No	☒ ☐
Comment: Shire nominated emergency evacuation facilities		
Does the route to the off-site location require transporting through bushfire affected areas or areas that may be affected by an approaching bushfire?	**Yes** **No**	☒ ☐
Comment: The route via the township of Dardanup, to the Bunbury region and the Eaton Recreation Centre (22 km) is predominantly through pasture until reaching the urban area, with the exception of a section of Crooked Brook Road which passes forest approximately 700 m from the site for 500 m.		
Has the owner of the off-site location advised that they are happy to accommodate occupants if evacuation from a bushfire emergency occurs?	Yes No	☒ ☐
Comment: Shire nominated emergency evacuation facilities		

Consider the following questions to assist in planning transport arrangements.	
Do you have your own transport for all occupants? **If no what transport provider will you use?** Visitors will have their own transport	Yes ☐ No ☒
Are private vehicles to be used?	Yes ☒ No ☐
If using private vehicles will there be sufficient vehicles to transport all the occupants, will they be available when you need them, and will there be drivers available? **If no, consider another mode of transport**	Yes ☒ No ☐
Will there be sufficient vehicles to transport all occupants? All visitors will arrive by private transport	Yes ☒ No ☐
Have occupants with support needs been considered when determining transport types and necessary timing to evacuate?	Yes ☒ No ☐
Do you require ambulances? **If yes, St John Ambulance Australia needs to be consulted.**	Yes ☐ No ☒
Is a community bus available?	Yes ☐ No ☒
Will community buses be available when you need them and will drivers be available?	Yes ☐ No ☒
Are other means of transport available?	Yes ☐ No ☒
Do you need any other type of special transport?	Yes ☐ No ☒

The following questions will assist the individual in developing or reviewing the Emergency Evacuation Plan to identify an on-site building. For an appropriate building, the answers to ***the below questions should receive a 'yes'.***	
Is the property well maintained and kept free from a build-up of fuel and leaf litter in gutters and around buildings?	Yes ☒ No ☐
The standards for Asset Protection Zones in The Guidelines for Planning in Bushfire Prone Areas should be used as a reference	
Is there a building on-site that is away from bushland and is unlikely to be impacted by bushfire?	Yes ☐ No ☒
Is the building constructed in a manner that minimises bushfire attack with appropriate Asset Protection Zones? The Cellar door tasting room/Restaurant will be provided with an Asset Protection Zone and construction equivalent to BAL 29.	Yes ☒ No ☐
Can the building accommodate the number of occupants and visitors?	Yes ☒ No ☐
Is there ease of accessibility to the building, and is it easily identifiable? Visitors will be assisted by signage	Yes ☒ No ☐
Is there access to amenities (toilets, food, water, etc.) away from the effects of a bushfire?	Yes ☐ No ☒
Early evacuation is recommended. In the event that evacuation is not available, the Tasting Room and Restaurant is nominated for shelter as a last resort and will provide toilets, food & water.	

3. DETERMINE EMERGENCY ACTION

The **primary action** in response to bushfire threat is **early** evacuation.

Time Required to Evacuate – 50 minutes 25 minutes travel time plus allowance for alarm, briefing and exiting the site. To the Bunbury region the Bunbury via Crooked Brook Road and Boyanup Picton Road-Willinge Drive to Forrest Highway.

The evacuation time will vary depending upon the number of people present on the site. The Transport Warden is to stage release from the site to avoid congestion building at the right hand turn to Boyanup Picton Road.

Vehicles provide poor protection for occupants if within flame contact. If evacuation cannot be completed prior the arrival of the firefront, shelter at the site is a safer option.

The transportation arrangement for evacuation is by private vehicles.

In a bushfire event, announcements will be made via electronic media and online, regarding bushfire incidents and potential threats to the site.

- Monitor the DFES Alerts and Warnings web page **https://www.emergency.wa.gov.au**
  The On-site Manager is responsible for monitoring this site at regular intervals during the bushfire season

The Trigger to evacuate.

- Emergency WA public advice – Watch and Act or Emergency warnings
- if directly advised to leave by DFES or the police

If smoke or a fire is seen nearby (within 10 km) contact emergency service to seek advice on the availability for safe evacuation

Alarm

The sounding of an airhorn three times will be used to communicate a bushfire alarm.

4. EVACUATION / SHELTER REQUIREMENTS

Visitors will arrive by their own transport and would evacuate via their own transport.

The primary evacuation destination nominated by the Shire is the Eaton Recreation Centre 18 Recreation Drive Eaton, however, in a bushfire emergency, announcements will be made via media and online confirming availability, locations and routes to evacuation centres and safer places. An alternative evacuation centre may be nominated.

PRIMARY AND SECONDARY EMERGENCY PROCEDURES

The Emergency Evacuation Plan must be reviewed annually, ensuring all information, procedures, contact details and any attached publications (e.g., DFES) are current.

Annual review should include:

- The Asset Protection Zones are maintained.
- Roofs and gutters of buildings are free of leaf litter and debris.
- Roof and walls should be checked for gaps exceeding 2 mm which can occur with the ageing of materials.
- Flammable materials are to be removed from near the habitable buildings, 3 m from the base.
- Access is to be clear and easily trafficable, a clearway 6 m wide up to 4.5 m high.
- Directional signage is in place and is clear and accurate.
- Fire hoses are in working order.

A current copy of the emergency plan must be kept at the facility. An evacuation diagram must be displayed within the tasting room and restaurant.

5. TRAINING REQUIREMENTS

Emergency Control Organisation

Holders of specific roles within the ECO should receive relevant training.

- The Chief Wardens should be trained to maintain awareness of fire danger and incident alerts
- Area Wardens
  - awareness of role and responsibility to alert patrons and clear and secure buildings.
  - Operational firefighting, use of PPE, use of firefighting equipment and personal safety awareness (extreme heat and toxic materials)
  - Awareness of structural fire damage
- First Aid Warden – training and demonstrated competence to administer first aid including injuries expected in a bushfire.

Emergency Evacuation Plan Preparation Checklist

The following questions will assist the individual in developing or reviewing the Emergency Evacuation Plan to identify an off-site location. For an appropriate off-site location		
If there are occupants with support needs that require a similar facility to support them, is the off-site location suitable?	Yes No	☐ ☒
Comment: Visitors with support needs may attend but would have a carer or family member in attendance with them to provide the required support.		
Is the off-site location in an area away from the effects of a bushfire?	Yes No	☒ ☐
Comment: Shire nominated emergency evacuation facilities		
Are there amenities (toilets, food, water etc.) available at the off-site location? (if applicable)	Yes No	☒ ☐
Can the off-site location accommodate the number of occupants?	Yes No	☒ ☐
Comment: Shire nominated emergency evacuation facilities		
Does the route to the off-site location require transporting through bushfire affected areas or areas that may be affected by an approaching bushfire?	**Yes** **No**	☒ ☐
Comment: The route via the township of Dardanup, to the Bunbury region and the Eaton Recreation Centre (22 km) is predominantly through pasture until reaching the urban area, with the exception of a section of Crooked Brook Road which passes forest approximately 700 m from the site for 500 m.		
Has the owner of the off-site location advised that they are happy to accommodate occupants if evacuation from a bushfire emergency occurs?	Yes No	☒ ☐
Comment: Shire nominated emergency evacuation facilities		

Consider the following questions to assist in planning transport arrangements.	
Do you have your own transport for all occupants? **If no what transport provider will you use?** Visitors will have their own transport	Yes ☐ No ☒
Are private vehicles to be used?	Yes ☒ No ☐
If using private vehicles will there be sufficient vehicles to transport all the occupants, will they be available when you need them, and will there be drivers available? **If no, consider another mode of transport**	Yes ☒ No ☐
Will there be sufficient vehicles to transport all occupants? All visitors will arrive by private transport	Yes ☒ No ☐
Have occupants with support needs been considered when determining transport types and necessary timing to evacuate?	Yes ☒ No ☐
Do you require ambulances? **If yes, St John Ambulance Australia needs to be consulted.**	Yes ☐ No ☒
Is a community bus available?	Yes ☐ No ☒
Will community buses be available when you need them and will drivers be available?	Yes ☐ No ☒
Are other means of transport available?	Yes ☐ No ☒
Do you need any other type of special transport?	Yes ☐ No ☒

The following questions will assist the individual in developing or reviewing the Emergency Evacuation Plan to identify an on-site building. For an appropriate building, the answers to ***the below questions should receive a 'yes'.***	
Is the property well maintained and kept free from a build-up of fuel and leaf litter in gutters and around buildings?	Yes ☒ No ☐
The standards for Asset Protection Zones in The Guidelines for Planning in Bushfire Prone Areas should be used as a reference	
Is there a building on-site that is away from bushland and is unlikely to be impacted by bushfire?	Yes ☐ No ☒
Is the building constructed in a manner that minimises bushfire attack with appropriate Asset Protection Zones? The Cellar door tasting room/Restaurant will be provided with an Asset Protection Zone and construction equivalent to BAL 29.	Yes ☒ No ☐
Can the building accommodate the number of occupants and visitors?	Yes ☒ No ☐
Is there ease of accessibility to the building, and is it easily identifiable? Visitors will be assisted by signage	Yes ☒ No ☐
Is there access to amenities (toilets, food, water, etc.) away from the effects of a bushfire?	Yes ☐ No ☒
Early evacuation is recommended. In the event that evacuation is not available, the Tasting Room and Restaurant is nominated for shelter as a last resort and will provide toilets, food & water.	

BUSHFIRE EMERGENCY PLAN

NAME OF FACILITY Crooked Brook Winery (cellar door - tasting room and restaurant)

ADDRESS 566 Crooked Brook Road, Crooked Brook

PREPARED BY Anthony Rowe, L3 BPAD 36690

OWNER

OPERATOR

DATE 20 December 2024

VERSION NUMBER

Document Control

Version	Date	Details	Undertaken by
1	20/12/2024	submission	Anthony Rowe

Emergency Management Team

Name	Role	Contact Details
TBA	Owner	TBA
TBA	Manager	TBA

FACILITY DETAILS

Crooked Brook Winery (tasting room and restaurant) at 566 Crooked Brook Road, Crooked Brook.

The plan outlines procedures for both **evacuation** and **shelter-in-place** to enhance the protection of occupants from the threat of a bushfire.

The primary action to follow in a bushfire emergency is to:

Evacuate	☒	Shelter in place last resort only	☐

NAME OF CONTACT PERSON		TBA	
POSITION / ROLE OF CONTACT PERSON		TBA	
PHONE NUMBER		TBA	
FACILITY TYPE	Day use	NUMBER OF BUILDINGS	1
NUMBER OF STAFF	TBA	NUMBER OF OCCUPANTS tasting room and restaurant	100
NUMBER OF OCCUPANTS WITH SUPPORT NEEDS		Not applicable	
DESCRIPTION OF SUPPORT NEEDS		Not applicable	

1. Introduction

1.1 Outline of the Bushfire Emergency Evacuation Plan

This Bushfire Emergency Evacuation Plan (BEEP) is based on guidance provided in the following:

- The Department of Planning Land and Heritage *A Guide to Developing a Bushfire Emergency Evacuation Plan 2019*
- *Australian Standard 3745-2010, Planning for Emergencies in Facilities* (Standards Australia 2010).

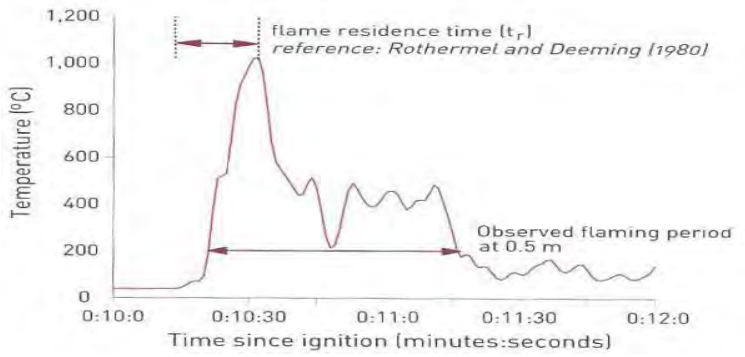
The purpose of this Bushfire Emergency Evacuation Plan is to provide guidance and direction to all staff and visitors by providing:

- Understanding of the risks
- Preparing the facility for a bushfire event, including the establishment of the Emergency Management Committee with responsibility to prepare the facility for the bushfire event.
- Responding to a bushfire event including the establishment of the Emergency Control Organisation with responsibility to implement the Emergency Evacuation Plan.
- Recovery - when to re-open and de-briefing and continuous improvement.

This Bushfire Emergency Evacuation Plan is a 'living document' with guidelines that should be reviewed annually and adapted to changing circumstances.

DEFINITIONS

TERM	DEFINITION
Asset Protection Zone	Horizontally and vertically arrange fuels that prevent continuity and the spread of bushfire.
Bushfire Attack Level (BAL)	Arranged in seven categories representing a maximum radiant heat flux for each category i.e. BAL 19 = up to 19 kWm^2 as determined by the methodology in AS3959:2018. The BAL rating reduces as the separation from heat source increases. BAL 29 and less is outside of flame contact. Safe outside shelter is 2 kWm^2 injury occurs above 3 kWm2 and prolonged exposure > 30 seconds can be fatal at 10 kWm^2 but is considered the maximum protection provided by a vehicle.
Chief Warden	The Chief Warden is responsible for the management of a bushfire emergency.
Emergency Planning Committee (EPC)	The Emergency Planning Committee includes the owners of Crooked Brook Winery. The EPC is responsible for the emergency preparedness arrangements, to ensure resources are available to effectively implement the emergency plan. It overseas the preparation of facilities, the training of staff and the receiving of results from practice drills and event debriefs.

Emergency Control Organisation (ECO)	The Emergency Control Organisation is appointed by the EPC to direct and control implementation of the facilities emergency response. The Scale of the facility the number of employees on site at any time of operation determines the allocation of roles. Some facilities if owner operated may only have one person as the Chief Warden with all emergency responsibilities. Larger organisation may be able to distribute the roles. ***The safety of the visitors is prioritised above the protection of any asset.*** All positions on the ECO are to be approved by the EPC and appropriate training provided.
Evacuation	The orderly movement of people from a place of danger.
Flame Residence time	Resident time is the passing of the firefront, peak flaming. Heat builds prior to the arrival of the fire front and decays quickly and progressively after its passing.  From NCC Handbook: Bushfire Verification Method 2021
Preparedness	The measures taken to eliminate the incidence of emergencies. These include the regulatory and physical measures to ensure that emergencies are prevented.
Prevention	The arrangements made to ensure that should an emergency occur all those resources and services that are needed to cope with the effects can be mobilised and deployed.
Recovery	Measures immediately following the passing of the fire to return to operation.
Response	Actions taken immediately prior to, during and immediately after an emergency or critical incident to ensure that its effects are minimised.
RSET - Require Safe Egress/Evacuation Time	The time taken from alarm to the last person leaving the site. This should be determined through practice drills.
ASET – Available Safe Egress/Evacuation Time	The time available before the facility or the evacuation route is directly impacted by the bushfire and becomes unsafe.

	The ASET will require verification with Emergency Services (DFES). Unless certain that the ASET + 50% is greater than the RSET, then refuge should be taken at the resort.
The Site	566 Crooked Brook Road, Crooked Brook (cellar door - tasting room and restaurant)

1.2 Understanding the risk

The aspects of bushfire attack that affect human safety (harm) include:

- Burns from direct flame contact from the bushfire front, including embers, or other ignited materials.
- Burns from radiant heat from the bushfire front or other ignited materials.
- Convective heat carried from the bushfire front – heat stress, lung damage.
- Injuries from airborne particles – eye damage.
- Smoke inhalation – asthma, excessive breathing stress and heart attack.
- Dehydration.
- Building collapse, and sharp object penetrations – cuts.

  Psychological trauma – bushfires are terrifying.

Risk affecting the site and guests

The site is within a are of pasture and may be directly affected by a grassland fire spreading up to the Asset Protection Zone. Whilst the building will not be within flame contact because of the Asset Protection Zone the radiant heat level at 19kWm2-29kWm2 (radiant heat) is above the level of human harm 3 kWm2. Direct exposure must be avoided, either by evacuating the site or separated from the radiant heat by a wall (shelter within a building).

The site and building may be affected by ember attack, igniting a grassfire at the site or accumulating at the building, to cause vulnerable materials to fail or penetrate the building to ignite flammable materials within the building. The ignition of flammable materials near the building may also expose the building to direct flame contact, which overwhelms the building resistance

Vehicles do not provide an effective barrier to extreme heat and the evacuation routes from the site east are through forest and a potential exposure to fatal heat levels. They should only be used for evacuation if it is certain they are safe.

Prepared buildings, including Asset Protection Zones and a construction performance commensurate to the bushfire attack level provide a safer option for shelter than a vehicle exposed to extreme conditions.

If time is not available to complete safe evacuation, before the route is exposed to extreme conditions, shelter at the site in a prepared building with wise management through the bushfire event is a safer option.

2. Prepare

2.1 Administration

2.1.1 Emergency Planning Committee

The **Emergency Planning Committee** is responsible for overseeing the preparation of the buildings and grounds for the approaching bushfire season, including attendance to any maintenance required to minimise the risk of damage from bushfire attack. A seasonal preparation checklist is provided at **Attachment A.**

The **Emergency Planning Committee** will comprise the owner of the facility (cellar door - tasting room and restaurant) or the persons responsible for the facility.

The Committee is responsible for reviewing the BEEP and preparing for the Emergency Response.

The Committee will assign roles and responsibilities to staff and oversee the undertaking of education and training and evaluation of the outcomes of drills and responses (when applicable).

The Committee is responsible for ensuring the safer places are prepared to serve as a shelter of last resort. This includes construction and maintenance of the building compliant with contemporary bushfire standards.

The Committee is responsible for ensuring all firefighting equipment is inworking order.

2.1.2 Emergency Control Organisation

The facility (cellar door - tasting room and restaurant) is to have an Emergency Control Organisation responsible for the implementation of the **response** identified in this Bushfire Emergency Evacuation Plan. These are designated facility personnel who have been trained and certified to undertake / provide specific tasks in the event of an emergency: including the operation of firefighting equipment.

The size of the ECO is affected by the scale of the activity and consistent staff who may be present at any one time. Smaller facilities may require the Chief Warden perform all roles, or roles to be shared among a small number of people.

Officer Position	Hat	Duties
Chief Warden	White	Determine the evacuation requirement Coordinate Emergency services Enact and coordinate the ECO from 'Alarm' to the completion of 'All Clear' Provide incident control Determine commencement
Transport Warden	Yellow	Oversee the orderly movement of vehicles from the site, maintaining a separation of emergency service vehicles and evacuation vehicles
First aid Warden	Green	Attend to any injuries, burns, eye injuries, and respiratory distress. Supervise visitors to remain hydrated. Assist to maintain visitor well-being.
Area Wardens (ALL staff should assist to ensure the safety and comfort of patrons)	Yellow	Check all areas of the facility to ensure all visitors have heard the alarm and are assembled at the cellar door – tasting room Secure buildings – close windows and openings Prepare grounds; close bins and pre wet areas around the cellar door building

2.1.3 - Training

Emergency Control Organisation

Holders of specific roles within the ECO should receive relevant training.

- The Chief Warden demonstrates awareness of fire danger and incident alerts (tested).
- Other Wardens– Specific training
  - awareness of role and responsibility and allocated areas (to clear and secure).
  - Operational firefighting, use of PPE, use of firefighting equipment and personal safety awareness (extreme heat and toxic materials)
  - Awareness of structural fire damage
- First aid Warden – training and demonstrated competence to administer first aid including the types of injuries expected in a bushfire.

2.2.1 Firefighting equipment

The facility will have onsite firefighting equipment that will be available for trained staff and emergency personnel for small scale events, including:

- Fire extinguishers.
- Fire hose reels capable of applying water to all external parts of a building and 10 m around the building.
- Evacuation maps and diagrams.

All equipment should be maintained annually (as a minimum) in accordance with equipment specifications and the relevant standards, including (but not limited to) *Australian Standard 1851 – 2005 Maintenance of Fire Protection Equipment* (Standards Australia 2012).

2.2.3 Evacuation and Emergency Equipment – Function Centre and Restaurant

The tasting room and restaurant area have amenities to support an extended stay of up to four hours and immediate access to the carpark.

Bottled water (600 ml per person) should be provided to all evacuation vehicles.

First aid kits should be maintained in complete and up to date conditions at all times at the restaurant building. First aid kits are available from various suppliers that provide the requirement for bushfire type injuries, i.e. burns, eye injuries – eye wash. The requirements and the capacity of the kit should be informed by the First Aid Warden.

The tasting room is the control centre. It is to be:

- provided with a printed register of all ECO members with mobile phone numbers.
- provided with a printed list of emergency contacts.
- Provided with PPE equipment for the area wardens.

2.2.4 Communication Equipment

Air horn – 3 separate blasts are required to Sound the Alarm to commence the evacuation of visitors to the tasting room/restaurant area.

All ECO members are to have a mobile phone registered for access by the Chief Warden, to be used for coordination throughout the bushfire event.

3. Response

3.1 Monitoring for bushfires

The Chief Warden or delegate should monitor current fire danger ratings and fire activity from a range of official information sources:

- Bureau of Meteorology – Western Australia Fire Danger Ratings
- Emergency WA website
- Department of Fire and Emergency Services
  - Information line – 13 33 37
  - DFES on Twitter
- Local radio
  - ABC Emergency WA
  - ABC local radio 684

Receiving a warning of an approaching fire is enhanced by actively monitoring communications over the internet (i.e. EmergencyWA) and ABC radio and observing the environment surrounding the facility .

The Fire Danger Ratings are based on predicted conditions such as temperature, humidity, wind and the dryness of the landscape and give an indication of the possible consequences of a fire, if one was to start; the higher the fire danger rating, the more dangerous the conditions.

Fire Danger Ratings are issued by the Bureau of Meteorology twice daily (morning and afternoon).

Fire Danger Rating categories

Fire Danger Rating	Public Advice	Resort Action
No Rating	Monitor conditions during the bushfire season	Maintain normal operations. - Monitor Emergency WA
Moderate 12-23	Plan and prepare	Maintain normal operations. - monitor Emergency WA - Plan and prepare.
High 24-49	Be ready to act	Maintain normal operations but: - monitor Emergency WA - know the triggers and be ready to evacuate
Extreme 50-99	Take action now to protect your life and property	
Catastrophic 100+	Catastrophic - For your survival, leave bush fire risk areas	Close the facility to guests

Note: Catastrophic conditions are extremely rare, and the threat is visceral. Numbers at the facility should be minimised, due to the time delay to evacuate large numbers of people. The facility should be closed on Catastrophic FDR days.

Whilst the site has a through access, the routes east are through forest and meandering. As a precaution the facility should not operate in Catastrophic FDR conditions and routs east should only be used if their safety is certain.

3.2 RESPONSE TO A SUDDEN BUSHFIRE EVENT

Bushfire warning stages	
ADVICE 	A fire has started, but there is no known danger. This is general information to keep the public informed and up to date with developments. Chief Warden: – patrol the site regularly to monitor for signs of bushfire activity
WATCH AND ACT 	There is a possible threat to lives and property. Conditions are changing. Chief Warden must prepare to: – assemble visitors at the restaurant It is vital that the Chief Warden: – accesses bushfire information from official sources – makes an informed decision to stay onsite or evacuate offsite based on advice from Emergency Services. – verifies the evacuation route is safe for the time required to evacuate visitors and staff
EMERGENCY 	The site is in danger as its area will be impacted by fire. Take immediate action to survive. The Chief Warden will verify it is safe to leave the site or if it is safest to take shelter of last resort whilst the fire burns through the area. Evacuation orders are. – relayed via official sources, such as Emergency WA. – It is vital that the Chief Warden makes an informed decision to stay onsite or evacuate offsite based on the advice.
The Chief Warden should not wait for a direction to act if the facility is threatened by bushfire EVACUATE if the route can be confirmed to be safe for the duration required for evacuation. If the evacuation route cannot be confirmed to be safe or there is insufficient time to complete evacuation prepare for shelter as a last resort.	

3.3 BUSHFIRE INCIDENT PROCEDURE – Evacuation Procedure

3.3.1 Alarm

- The Chief Warden will
  - Determine the emergency response.
  - Sound the Alarm 3 separate horn soundings.
  - Advise the ECO that a bushfire is nearby and the Bushfire Emergency Procedures are to be activated. Activate the ECO, each member to wear the hat of their ECO position for identification.

3.3.2 Assembly

- Visitors are to assemble at the tasting room/restaurant
- Visitors are to be advised by the Chief Warden that a bushfire is nearby and to remain assembled at the restaurant until evacuation route and destination is confirmed.
- Area Wardens will check the grounds and ensure all visitors have assembled at the restaurant
- Area Wardens are to secure the building close windows and doors and separate flammable materials from the building.

3.3.3 Evacuation

- The Chief Warden will verify the evacuation route to the evacuation destination will be safe for the required safe evacuation time (RSET).
- The Transport Warden will locate to the exit to Crooked Brook Road to release vehicles from the site, ensuring there is no back up of vehicles. The Chief Warden is to monitor the time for the arrival of the fire and may choose to discontinue the evacuation.
- Members of the ECO will evacuate the site following evacuation of all visitors and other staff.

3.3.4 Arrival at Evacuation destination

Visitors will return to their homes from the evacuation centre. If unable to return home, follow public information and attend an activated local emergency welfare centre (default is the Eton Recreation Centre).

3.3.5 DFES advise of All Clear

If the facility has been evacuated, and DFES have advised it is safe to return, the **Chief Warden** will return to make a preliminary assessment of any building and site damage.

If no building is damaged nor has damage occurred to the grounds and the access route was not directly affected by the firefront, then, the Chief Warden can give instructions for the facility to reopen.

3.4 BUSHFIRE INCIDENT PROCEDURE – shelter in building

3.4.1 Alarm

- The Chief Warden will
  - Determine the emergency response.
  - Sound the Alarm 3 separate horn soundings.
  - Advise the ECO that a bushfire is nearby and the Bushfire Emergency Procedures are to be activated. Activate the ECO, each member to wear the hat of their ECO position for identification.

3.4.2 Assembly

- Visitors are to assemble at the tasting room/restaurant
- Visitors are to be advised by the Chief Warden that a bushfire is nearby and to remain assembled at the restaurant until evacuation route and destination is confirmed.
- Area Wardens will check the grounds and ensure all visitors have assembled at the restaurant
- Area Wardens are to secure the building close windows and doors and separate flammable materials from the building.

3.4.3 Shelter

- The Chief Warden will verify the evacuation route is not safe
- The Chief Warden commences procedures for Shelter in Place as a last resort.

3.4.4 Arrival of the Firefront

The area will be subject to extreme heat, conditions outside the building are not survivable.

The fire front (peak) will typically pass within 2 minutes; external heat will begin to decay rapidly after the passing of the fire front.

- The Chief Warden should ensure.
  - visitors are to be protected from radiant heat and kept a minimum of 1 m from any external wall. Each visitor should be allocated a notional 1.2 m^2 space to maintain comfort.
  - visitors should stay low to keep out of smoke.
- Area Wardens should monitor the condition of the building and attend to any fire, to delay the progress as long as possible to increase evacuation time.
- The Chief Warden will monitor the passage of the fire.
- The Chief Warden will determine if the building is to be evacuated, or if visitors should remain in place to await the availability of conditions that permit safe evacuation from the site.
- The Chief Warden is to determine when evacuation from the site is available.

3.4.5 Ignition of the tasting room/restaurant

- Should the building ignite, delay departure for as long as possible and evacuate to a safe space outside.

The fire front is short lived and the temperatures decay rapidly from the peak but outside condition may still be hot and uncomfortable but survivable. The greater the delay after the passing of the fire front the greater the decay in external temperatures.

- Area Wardens will undertake firefighting to delay the spread of fire within the building to maximise the time for departure.
- Area Wardens to take potable water to the safe space outside, to keep guests hydrated.

3.4.7 After the passing of the fire

- Area Wardens will inspect the buildings and grounds when safe to do so.
- Area Wardens will extinguish any small fires if safe to do so.
- Area Wardens are to report any large fires to the Chief Warden and if safe to do so attempt to prevent the spread of a fire between buildings.
- Chief Warden
  - Seek DFES/Police advice on the availability for public access to the site.
  - The Chief Warden is to determine when evacuation from the site is available.

4. **RECOVERY –** following the bushfire incident

4.1 Staff and Visitor wellbeing

Bushfires are terrifying. The potential for trauma will be affected by whether the site was calmly (orderly) evacuated, whether any buildings were significantly damaged, and whether shelter was taken on site.

Staff training is important, knowing what to expect can minimise panic and trauma through the event.

4.2 Damaged buildings and grounds

- The Chief Warden will investigate the building and grounds and audit any damage observed. Damaged buildings should not be entered or disturbed and should be left (invited) for investigation by DFES.
- The Chief Warden will advise the owners on the extent of damage.

4.3 Replacement of consumed materials

Bushfires can occur more than once in a bushfire season, and even affect the same place.

Any materials consumed during a bushfire event, i.e. first aid supplies, discharged extinguishers, should be replaced immediately, or before operation of the Brewery restaurant commences.

4.4 Debrief

The Chief Warden together with the Emergency Control Organisation will review the incident to objectively identify success and failures, preparations and procedures to be retained and those requiring improvement.

- The Chief Warden will report ECO findings to the Emergency Planning Committee
- The Bushfire Emergency Evacuation Plan is to be revised to incorporate the learning from the event.
- Capital works and acquisitions recommended are to be considered within the work program and budget.
- Additional training identified in the Debrief should be scheduled prior to the bushfire season.

- **Attachment 1**

PREPAREDNESS

Action	
To be completed just prior to the bushfire season (by November 30 each year)	**Confirmed** **Date of inspection**
1. The EPC must ensure the required training of the ECO has been undertaken, commensurate to the individuals responsibilities.	
2. All objects attached to the building are non-combustible or easily removable, and the removing mechanism is in working order	
3. The Evacuation Diagram is clearly displayed in the tasting room/restaurant and a copy of the Emergency Response Plan is kept at the facility.	
4. Maintain the Asset Protection Zones, specified in the Bushfire Management Plan, around the buildings in accordance with the Standards for Asset Protection Zones Schedule 1, Element 3 Guidelines v1.4.	
5. The building should be inspected to: • Eliminate external gaps >2mm on the building surface, • Separate flammable materials from the walls of the building, • Ensure all window screens have a maximum aperture of 2 mm, are undamaged and enclose the openable portions of windows.	
6. The hoses supplied for firefighting are protected from radiant heat (non-flammable fire reel cover) and in working order	
7. A fully stocked first aid kit is maintained at the facility. Bottled water 600 mml per guest is in store and accessible from the assembly area (restaurant)	
8. Personal Protective Equipment (coveralls, gloves, goggles and smoke mask) for each nominated Area Warden is available at the facility.	
9. The ECO members and their mobile phone numbers is maintained at the tasting room/restaurant building.	

To be completed during the bushfire season between 1 December and 12 May each year by the Emergency Management Team.

1. Ensure fire extinguishers are charged, ready for use and the instructions on use are attached.
2. Ensure Evacuation Equipment is available • Water available for each visitor • First aid kit is complete and up to date, and includes eyewash
3. All buildings are free of flammable materials, none located within 3 m
4. Regularly check the Incidents and Warnings **www.emergency.wa.gov.au**
5. Emergency Contacts details are current and identified on the Evacuation Diagram

- **Attachment 2**

EMERGENCY PROCEDURE, LOCATION, AND TRANSPORT DETAILS

Evacuation

The following destination and route is to the Shire's primary welfare centre which may be nominated and available in a bushfire event, however current public advice from Emergency WA should always be followed to ensure you use the safest evacuation route to the safest destination.

Off-site location (South)

Name of venue	Eton Recreation Centre via the town of Dardanup		
Address of venue	18 Recreation Drive, Eaton		
Nearest cross street	Council Drive	Map reference	MPJC+JF Eaton
Venue phone number	08 9724 0400		
Primary route to location	Turn left onto Crooked Brook Rd and follow to Boyanup-Picton Rd in Dardanup. Turn right onto Willinge Drive, cross Forrest Hwy and turn left onto Thomson Rd; follow to merge back onto Forrest Hwy to travel north. After 2.3 km turn left onto Eaton Dr then after 800 m turn right onto Recreation Drive. Go through one roundabout and the destination is on the left (total distance 21.4 km)		

Estimated travelling time to destination 25 minutes

Transportation arrangements – PRIVATE VEHICLES

Visitors must have transport adequate for all members of their party.

Alternate routes

The alternate routes are through forest and should only be used if confirmed safe by emergency services.

- Town of Donnybrook is accessed from Crooked Brook Road (east) Ironstone/Ferguson Road 39 km.
- Town of Boyanup by Crooked Brook Road (east) and Joshua Creek Road 18.4 km.

BUSHFIRE EMERGENCY RESPONSE PLAN – RESTUARANT

Location - 566 Crooked Brook Road, Crooked Brook

Facility – Winery Tasting Room and Restaurant

Visitors – Maximum 92

CONTACT PERSONS

Fire emergency - call and confirm safe evacuation route

- SES/DFES assistance 132 500
- Police, Fire, call triple zero (000)

Chief Wardens Role

- monitoring Emergency Warnings sources (listed below)
- ensure sufficient vehicles remain onsite and available for evacuation of visitors at all times during the bushfire season
- **oversee Emergency Evacuation if it is safe**

INFORMATION SOURCES

Local ABC radio	684
DFES information line	13 33 37
Emergency WA	www.emergency.wa.gov.au

ADVICE - prepare to evacuate

Trigger: Fire is greater than 10 km away

An ADVICE warning has been issued across telecommunications media of an incident nearby (within 10 km).

Response:

The Chief Warden will take the following information into consideration when determining if and when to evacuate:

- The severity of the bushfire incident.
- The location and distance of the bushfire from the site
- Approximate time for the bushfire to impact the facility.
- Emergency services advice – direct or via public information

If the decision is made to evacuate, follow the procedure under Watch and Act.

WATCH AND ACT- Evacuate

DFES or Police have advised EVACUATION IS REQUIRED (Public Notice) OR smoke or fire is observed from the site and DFES or emergency services have confirmed safe evacuation is available.

CONFIRM EVACUATION ROUTE AND DESTINATION FROM PUBLIC INFORMATION OR DIRECTLY FROM DFES OR POLICE

Response:

- **SOUND ALARM 3 HORNS**
- visitors are to assemble at the tasting room and restaurant area to receive instruction on the evacuation destination and route.
- **EVACUATE IF THE ROUTE IS CONFIRMED AS SAFE**
- Do not return to the site until the area has been declared safe

EMERGENCY - Survival

Trigger:

DFES or Police have advised evacuation by road is not safe

Response

Survival Plan – only to be enacted in the event that DFES or police have advised a safe evacuation route is not available

SOUND ALARM 3 HORNS

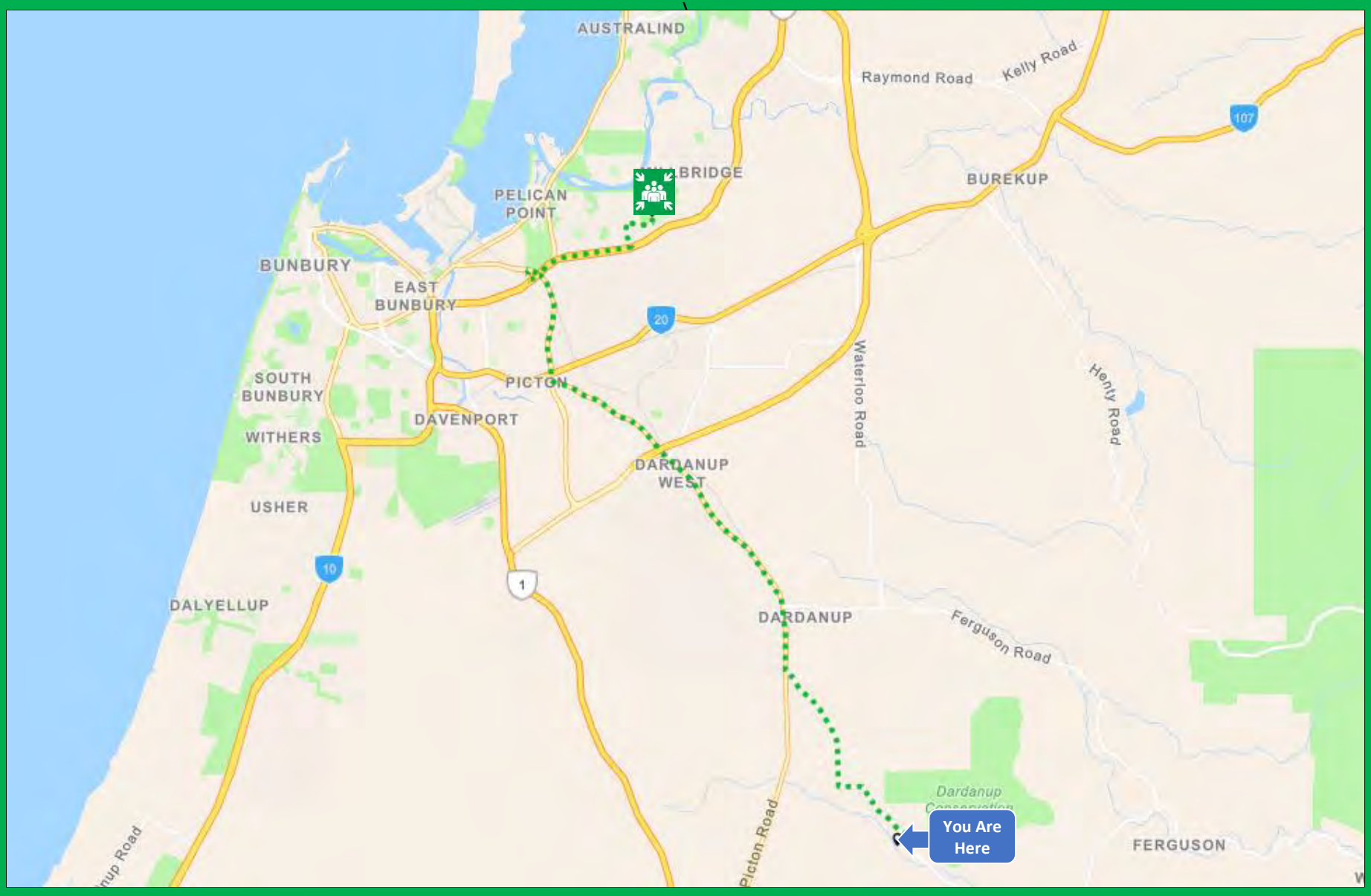
- Assemble visitors at the tasting room/restaurant
- Make sure all doors and windows and vents are closed
- Instruct visitors to stay hydrated and keep low to limit exposure to smoke.
- Shelter in the building for as long as possible.
- If the building catches fire and the conditions inside become unbearable, evacuate to a safe place outside Take water and first aid kit.
- keep visitors assembled until an ALL CLEAR is issued for the site.
- Advise SES/DFES of your condition – Do you need assistance to evacuate

ALL CLEAR

When the fire has passed, and it is safe outside or when emergency services have advised the area is safe:

- The Chief Warden and assisting Wardens will
  - check buildings and grounds and extinguish any smouldering objects and
  - determine if it is safe for visitors to leave
  - monitor grounds and buildings for 24 hours after the event for smouldering fires and outbreaks

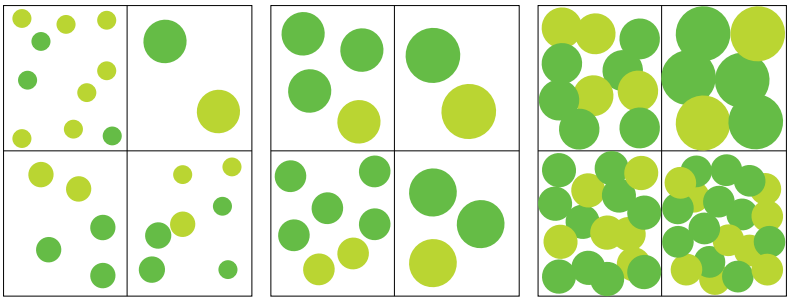
EMERGENCY EVACUATION DIAGRAM

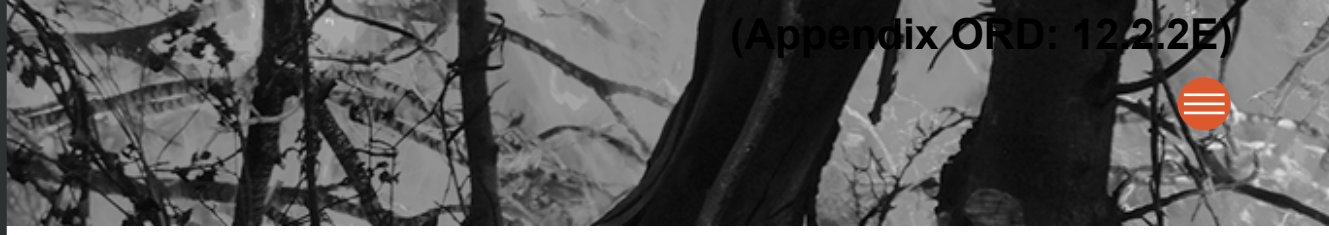


ATTACHMENT 2 - APZ Guidelines

ELEMENT 2: SITING AND DESIGN OF DEVELOPMENT

SCHEDULE 1: STANDARDS FOR ASSET PROTECTION ZONES

OBJECT	REQUIREMENT
Fences within the APZ	• Should be constructed from non-combustible materials (for example, iron, brick, limestone, metal post and wire, or bushfire-resisting timber referenced in Appendix F of AS 3959).
Fine fuel load (Combustible, dead vegetation matter <6 millimetres in thickness)	• Should be managed and removed on a regular basis to maintain a low threat state. • Should be maintained at <2 tonnes per hectare (on average). • Mulches should be non-combustible such as stone, gravel or crushed mineral earth or wood mulch >6 millimetres in thickness.
Trees* (>6 metres in height)	• Trunks at maturity should be a minimum distance of six metres from all elevations of the building. • Branches at maturity should not touch or overhang a building or powerline. • Lower branches and loose bark should be removed to a height of two metres above the ground and/or surface vegetation. • Canopy cover within the APZ should be <15 per cent of the total APZ area. • Tree canopies at maturity should be at least five metres apart to avoid forming a continuous canopy. Stands of existing mature trees with interlocking canopies may be treated as an individual canopy provided that the total canopy cover within the APZ will not exceed 15 per cent and are not connected to the tree canopy outside the APZ. **Figure 19:** Tree canopy cover – ranging from 15 to 70 per cent at maturity  15% 30% 70%
Shrub* and scrub* (0.5 metres to six metres in height). Shrub and scrub >6 metres in height are to be treated as trees.	• Should not be located under trees or within three metres of buildings. • Should not be planted in clumps >5 square metres in area. • Clumps should be separated from each other and any exposed window or door by at least 10 metres.
Ground covers* (<0.5 metres in height. Ground covers >0.5 metres in height are to be treated as shrubs)	• Can be planted under trees but must be maintained to remove dead plant material, as prescribed in 'Fine fuel load' above. • Can be located within two metres of a structure, but three metres from windows or doors if >100 millimetres in height.



ELEMENT 2: SITING AND DESIGN OF DEVELOPMENT

SCHEDULE 1: STANDARDS FOR ASSET PROTECTION ZONES

OBJECT	REQUIREMENT
Grass	• Grass should be maintained at a height of 100 millimetres or less, at all times. • Wherever possible, perennial grasses should be used and well-hydrated with regular application of wetting agents and efficient irrigation.
Defendable space	• Within three metres of each wall or supporting post of a habitable building, the area is kept free from vegetation, but can include ground covers, grass and non-combustible mulches as prescribed above.
LP Gas Cylinders	• Should be located on the side of a building furthest from the likely direction of a bushfire or on the side of a building where surrounding classified vegetation is upslope, at least one metre from vulnerable parts of a building. • The pressure relief valve should point away from the house. • No flammable material within six metres from the front of the valve. • Must sit on a firm, level and non-combustible base and be secured to a solid structure.

** Plant flammability, landscaping design and maintenance should be considered – refer to explanatory notes*

ATTACHMENT 3 – Access Standard

Table 6: Vehicular access technical requirements

TECHNICAL REQUIREMENTS	1 Public roads	2 Emergency access way[1]	3 Fire service access route[1]	4 Battle-axe and private driveways[2]
Minimum trafficable surface (metres)	In accordance with A3.1	6	6	4
Minimum horizontal clearance (metres)	N/A	6	6	6
Minimum vertical clearance (metres)	4.5			
Minimum weight capacity (tonnes)	15			
Maximum grade unsealed road[3]	As outlined in the IPWEA Subdivision Guidelines	1:10 (10%)		
Maximum grade sealed road[3]		1:7 (14.3%)		
Maximum average grade sealed road		1:10 (10%)		
Minimum inner radius of road curves (metres)		8.5		

Notes:

[1] To have crossfalls between 3 and 6%.

[2] Where driveways and battle-axe legs are not required to comply with the widths in A3.5 or A3.6, they are to comply with the Residential Design Codes and Development Control Policy 2.2 Residential Subdivision.

[3] Dips must have no more than a 1 in 8 (12.5% -7.1 degree) entry and exit angle.

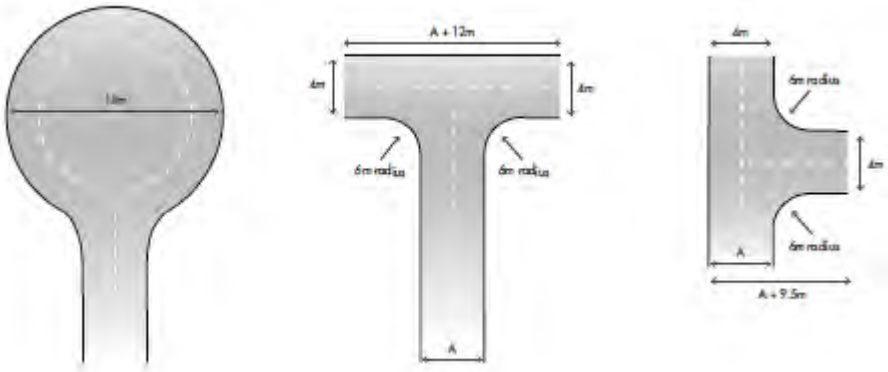


Figure 28

ATTACHMENT 4 – Water Tank

SCHEDULE 2: WATER SUPPLY DEDICATED FOR BUSHFIRE FIREFIGHTING PURPOSES

2.1 Water supply requirements

Water dedicated for firefighting should be provided in accordance with Table 7 below, and be in addition to water required for drinking purposes.

Table 7: Water supply dedicated for bushfire firefighting purposes

PLANNING APPLICATION	NON-RETICULATED AREAS
Development application	10,000L per habitable building
Structure Plan / Subdivision: Creation of 1 additional lot	10,000L per lot
Structure Plan / Subdivision: Creation of 3 to 24 lots	10,000L tank per lot **or** 50,000L strategic water tank
Structure Plan / Subdivision: Creation of 25 lots or more	50,000L per 25 lots or part thereof Provided as a strategic water tank(s) or 10,000L tank per lot

2.2 Technical requirements

2.2.1 Construction and design

An above-ground tank and associated stand should be constructed of non-combustible material. The tank may need to comply with AS/NZS 3500.1:2018.

Below ground tanks should have a 200mm diameter access hole to allow tankers or emergency service vehicles to refill direct from the tank, with the outlet location clearly marked at the surface. The tank may need to comply with AS/NZS 3500.1:2018. An inspection opening may double as the access hole provided that the inspection opening meets the requirements of AS/NZS 3500.1:2018. If the tank is required under the BCA as part of fire hydrant installation, then the tank will also need to comply with AS 2419.

Where an outlet for an emergency service vehicle is provided, then an unobstructed, hardened ground surface is to be supplied within four metres of any water supply.

2.2.2 Pipes and fittings

All above-ground, exposed water supply pipes and fittings should be metal. Fittings should be located away from the source of bushfire attack and be in accordance with the applicable section below, unless otherwise specified by the local government.

2.2.2.1 Fittings for above-ground water tanks:

- Commercial land uses: 125mm Storz fitting; or
- Strategic water tanks: 50mm or 100mm (where applicable and adapters are available) male camlock coupling with full flow valve; or
- Standalone water tanks: 50mm male camlock coupling with full flow valve; or
- Combined water tanks: 50mm male camlock coupling with full flow valve or a domestic fitting, being a standard household tap that enables an occupant to access the water supply with domestic hoses or buckets for extinguishing minor fires.

2.2.2.2 Remote outlets

In certain circumstances, it may be beneficial to have the outlet located away from the water supply. In such instances in which a remote outlet is to be used, the applicant should consult the local government and DFES on their proposal.

ATTACHMENT 5 – References

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