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MBDA
BUILDING DESIGNERS AND PLANNERS

LOCAL DEVELOPMENT PLAN

447-022 | NANNUP ALPINE RESORT
LOT 500 CNR BROCKMAN HWY & DUNNET ROAD
NANNUP | WESTERN AUSTRALIA

for: **IDG RESORTS PTY LTD**

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02.07.2025 (rev2)

APPROVAL

This Local Development Plan has been approved by the Shire of Nannup under Schedule 2, Part 6, Clause 52 of the Planning and Development (Local Planning Schemes) Regulations 2015.

_____ [Signature]

_____ [Date]

Amendment No.	Summary of Amendment	Date Endorsed by Local Government

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1 OVERVIEW

1.1 Subject Site

This Local Development Plan (LDP) applies to Lot 500 CNR Brockman Highway & Dunnet Road, Nannup (herein referred to as the 'subject site'). The total land area of the subject site is 8.5945 ha (85,945 m2).

The subject site is zoned Tourism in the latest Shire of Nannup Local Planning Scheme No. 4 (LPS4).

1.2 Local Development Plan

The LDP provides the primary controls for the new tourist development on the subject site. Please refer to ***APPENDIX I*** for a copy of the Local Development Plan.

2 GENERAL DEVELOPMENT PROVISIONS

2.1 Operation

This LDP has been prepared to guide development within the subject site and to be used by the Shire of Nannup in assessment of development applications.

All development within this LDP is subject to the provisions of this LDP. Where there is an inconsistency between the general development provisions and the specific development provisions, the specific development provisions shall prevail.

2.2 Relationship To Scheme & Policies

This LDP is to be read in conjunction with the Shire of Nannup's LPS4, local planning policies and relevant authority requirements.

Where there is an inconsistency between the provisions of this Local Development Plan and adopted Policies, the provisions of this LDP shall prevail.

The site has been designated for Tourism Development and the buildings and building uses associated with the Tourism Development fall into 'A' and 'D' categories of Table 4. Zoning Table of the LPS4, as follows:

Building No.	Building Use	Permissibility
Building 1	Entry / Reception Restaurant Reception Centre	D D D
Building 2	Tourist Retail Shops Café Reception Centre	A D D
Building 3	Lodge / Holiday Accommodation	D
Building 4	Caretakers Dwelling (Managers Residence)	D
Building 5	Workshop / Maintenance for Tourist Resort	*
Building 6	Staff Accommodation Units	*
Building 7	Gymnasium	*
Building 8	Bike Storage	*
Building 9	Exercise Gazebo	*
Building 10	Utility Building	*
Building 11	25 x Room Motel (x4 Buildings)	D
Building 12	Chalet (x 6) / Holiday Accommodation	D
Building 13	Chalet (x 4) / Holiday Accommodation	D

D means that the use is not permitted unless the local government has exercised its discretion by granting development approval.

A *means that the use is not permitted unless the local government has exercised its discretion by granting development approval after advertising in accordance with clause 64 of the Deemed Provision,*

*** *means that the use is associated with the TOURISM Zone of Part 3 – Zones and use of zones | Table 3. Zone Objectives of the LPS4:*

- *To promote and provide for tourism opportunities.*
- *To provide for a variety of holiday accommodation styles and associated uses, including retail and service facilities where those facilities are provided in support of the tourist accommodation and are of an appropriate scale where they will not impact detrimentally on the surrounding or wider area.*
- *To allow limited residential uses where appropriate.*
- *To encourage the location of tourist facilities so that they may benefit from existing road services, physical service infrastructure, other tourist attractions, natural features and urban facilities.*

2.3 Constraints Plan

Please refer to ***APPENDIX II*** for a copy of the Constraints Plan, which indicates boundary setbacks, existing waterways, Aboriginal Heritage Zone, flood zone, and the like in relation to the proposed development.

2.4 Vision

Nannup is a destination in need of more tourism accommodation. The subject site is located only 600m from the Nannup Town Centre and shall provide for a range of accommodation types that is accessible to all visitors to the South West region.

The Nannup Alpine Resort shall provide high-quality accommodation, featuring private balconies overlooking the site, creek and surrounding hills, as well as an external façade that celebrates the historical local timber industry.

The Nannup Alpine Resort shall provide modern, 2 x bedroom / 2 x bathroom self-contained family Chalets (10 in total) situated adjacent to the existing creek and surrounded by the natural flora & fauna of the area to create a high-quality experience for all guests.

In addition to the Chalets, other accommodation options provided by the development include motel suites (100 rooms in total) and a 40-Bed Lodge.

The amenities provided on site include a main restaurant (featuring local products and produce, some of which shall be grown on site), a small café, shops, reception centre, exercise gazebo, gymnasium, kids playground, as well as bike storage lockers and bike maintenance / wash-down facilities.

Various sustainable features shall also be implemented into the Resort, including roof-top solar, rainwater collection and utilisation, and the “Paddock to Plate” restaurant kitchen herb & vegetable garden.

2.5 Vehicle Parking

Vehicular parking provided within the resort has been calculated using the provisions set out in the LPS4 and LPP 013 Car Parking and Vehicular Access. The table below summarises the vehicle parking requirements and bays provided:

BUILDING / USE	CALCULATIONS	BAYS
Building 1 - Restaurant	1 bay per 40m2 NLA. 457m2 = 12 bays	12
Building 1 - Reception	1 bay per 40m2 NLA. 100m2 = 3 bays	3
Building 1 - Reception Centre	1 bay per 4 seats. 44 seats = 11 bays	11
Building 2 - Shops	1 bay per 40m2 NLA (min. 3 bays per tenancy). 5 tenancies shown = 15 bays	15
Building 2 - Reception Centre	1 bay per 4 seats. 28 seats = 7 bays	7
Building 3 - Lodge	1 bay per bedroom + 1 x visitors bay per 4 bedrooms (based on email from Shire of Nannup Planner – see attached). 12 bedrooms = 12 bays + 3 visitors bays	15
Building 4 – Managers Residence	As per R-Codes – 2 bays for 2+ bedroom dwelling. 4 bedrooms = 2 bays	2
Building 5 – Workshop / Storage	1 bay per 100m2 NLA or 1 bay per employee. 2 employees = 2 bays	2
Building 6 – Staff Accommodation	As per R-Codes – 2 bays for 2+ bedroom dwelling. 2 X 3 bedroom dwellings = 4 bays	4
Building 7 - Gymnasium	1 bay per 40m2 NLA 100m2 = 3 bays	3
Building 8 – Bike Storage	n/a	-
Building 9 – Exercise Gazebo	1 bay per 40m2 NLA 152m2 = 4 bays	4
Building 10 – Utility Building	n/a	-
Building 11 - Motel	1 bay per bedroom + 1 x bay per 40m2 NLA for floor space other than used for accommodation purposes 100 bedrooms + 272m2 NLA = 100 + 7 = 107 bays	107
Building 12 & 13 - Chalets	1 bay per accommodation unit + 1 x visitors bay for every 4 accommodation units. 10 units + 3 visitors bays = 13 bays	13
TOTAL NUMBER OF BAYS REQUIRED		**198**

Based on the above, 198 car bays are required to accommodate the propose development at 100% capacity.

The total number of car bays provided is 209, which satisfies the above requirement. 4 x accessible car bays are included in this total, which satisfies the BCA.

It is noted that there are also 3 x coach bus parking bays and 1 x small bus parking bay.

In addition to the above, 44 “overflow” car bays are indicated on the site layout to cater for any special events the development may cater for in the future.

2.6 Vehicle Access

Vehicle access into the development has been split in to 3 x separate entry points, as well as a separate entry point for emergency vehicles to the fire break. The 3 entry points are described below:

Brockman Highway (Main Entry)
This is the main development entry and exit point, and it is estimated that out of the 198 total cars, 166 shall be utilising this main entry.

While this figure is based on 100% capacity rate, realistically the tourist development would typically be at 60% capacity rate, which results in 100 cars typically using this main entry point.

Dunnet Road
This is an entry point which shall be maintained for the use of the 6 x Chalets only (The main resort traffic will be directed to the new main entry from Brockman Highway via appropriate signage and road management design). There are 12 car bays allocated for these chalets (tandem carparks for 2 cars in the adjoined carports for each chalet), so a total of 12 cars shall be utilising this entry point.

While this figure is based on 100% capacity rate, realistically the tourist development would typically be at 60% capacity rate, which results in 8 cars typically using this main entry point.

The access to Dunnet Road will always remain as an emergency exit in case of fire and emergency evacuation.

Asplin Road
This is an entry point which shall be controlled for the use of the manager, staff and workshop vehicles only. There are 20 car bays allocated for staff, so a total of 20 cars shall be utilising this entry point.

General Vehicle Access Notes:
A general upgrade of these crossovers (and roads to some extent) shall be completed in accordance with local policies, and as agreed between the IDG Resorts PTY LTD and the Shire of Nannup.

All crossovers shall be constructed in accordance with the local authority requirements.

The Main Entry off Brockman Highway shall be opposite to the existing Hitchcock Drive intersection and new work shall include a new slip lane when turning right into the resort. The existing roadway width allows for this slip lane, which will mirror the existing slip lane when turning right onto Hitchcock Drive.

For more details on vehicle access and parking, please refer to ***APPENDIX III*** for the Transport Impact Statement.

2.7 Landscaping and Open Space

Landscaping shall be predominantly existing local flora with any additional landscaping to be carried out using native species.

A proposed landscaping strip and berm along Brockman Highway shall be provided to create a buffer between the resort and traffic on Brockman Highway in order to improve the visual amenity of the development and streetscape.

Areas of open green spaces shall be created to provide amenity for guests, with dedicated areas for a kids playground and gazebos along the existing creek.

Landscaped drainage basins & stone swales are also utilised to manage the overland rainwater runoff from typical precipitation activity, as well as major storm events.

All landscaping works shall be in accordance with the LPS4.

2.8 Watercourse

The existing creek running through the property shall remain, and will provide a natural focal point for the development.

The proposed development has been designed so that all buildings are set back from the existing creek to ensure there are no impacts to this natural watercourse, the ACH Zone and the local flora and fauna associated with it.

2.9 Streetscape

The Primary Street Frontage for the development is Brockman Highway, which includes the Resorts main entry. This main vehicle entry point shall utilise a stone-based sealed traffic bridge (with culvert under to assist the Shire's proposal to manage & divert stormwater from neighbouring properties, which currently flood into the subject site). This bridge shall marry the levels of the existing highway (approx. RL 74.0) and the proposed new internal roadway (approx. RL 72.5).

The proposed landscaping strip along the Brockman Highway boundary shall be bermed / mounded to create a visual & acoustic buffer. There are existing Marri & Gum trees approx. 20-30m tall at the southern end of this boundary, which shall be retained wherever possible.

2.10 Building Set-Backs

The following table details the proposed set-backs for the main buildings on the subject site.

	Minimum Boundary Setbacks	
Building or Structure	**Primary Street (m)**	**Other (m)**
Utility Building	40	70
Lodge	60	80
Chalet (Building 12)	60	50
Chalet (Building 13)	50	12
Retail Shops / Café	40	120
Gymnasium / Activity Space	10	120
Exercise Gazebo	140	7
Motel Buildings	35	70
Reception / Restaurant	70	70
Workshop	15	12
Staff Accommodation	25	5
Managers Residence	15	30

2.11 Building Heights

The maximum building height for all buildings proposed for the subject site shall be in accordance with the LPS4 and R-Codes as follows:

Building Type	Maximum Building Height	Actual Building Height
Lodge	12m	7m
Motel	12m	9m
Chalet	12m	5m
Restaurant / Reception	12m	11.75m
Retail / Shop / Cafe	12m	11.75m
Maintenance Workshop	12m	10m
Managers Residence	12m	6.5m
Staff Accommodation	12m	8.5m
Other Non-Residential Buildings (Exercise Gazebo, Gymnasium, Utility Building)	12m	8m

2.12 Plot Ratio

The total site area 85,945 m2

The total area of proposed buildings 5,500 m2

Therefore, the Plot Ratio for the proposed development = 6.35 %

2.13 Building Materials

The buildings shall generally consist of the following:

- Reinforced concrete slab on ground.
- Framed wall construction with insulation.
- External wall cladding to be a mix between weatherboard, stone and sheet / render.
- Suspended floors shall be framed construction.
- Roofing shall be mix between Insulated Roofing Panels & framing with insulation / Colorbond roof cladding.
- Roadway shall be a mix between asphalt & paving.
- Fencing shall be Colorbond Aluminium Fencing or other approved material.
- Screens shall be Colorbond slat screening or other approved material.

2.14 Incidental Development

There are some incidental structures associated with the proposed development, which shall tie in with the main building design & materials. These items include:

Gazebos, Greenhouse, Kids Playground, Bicycle Lockers, Restaurant Garden, Rainwater Tanks, Carparking, Bin Enclosure(s), Entry / Directional Signage and Paved Pathways.

2.15 Wastewater

The development will be connected to the reticulated sewer network.

A Local Water Management Strategy (LWMS) has been prepared by DWA Consulting Engineers and provides information regarding the management of wastewater from the proposed development. Please refer to **APPENDIX V** for details.

2.16 Management Plan

A Management Plan will be prepared and supplied to accompany the Development Application.

3 INFRASTRUCTURE COORDINATION, SERVICES & TECHNICAL STUDIES

3.1 Water Management

Water Corporation data has confirmed that reticulated water supply runs along Brockman Highway, which services the subject site.

However, Rainwater Tanks shall be provided to harvest roof rainwater runoff and used for selected water fixtures and garden reticulation, as well as for fire-fighting purposes.

A Local Water Management Strategy (LWMS) has been prepared by DWA Consulting Engineers and provides information regarding the water supply, rainwater management and site drainage. Please refer to ***APPENDIX V*** for details.

3.2 Effluent Disposal

Water Corporation data has confirmed that reticulated sewer runs along Brockman Highway, which services the subject site.

The Development shall connect to this existing sewerline, with the existing connection point located on Brockman Highway, at the Western side of the Subject Site.

A Local Water Management Strategy (LWMS) has been prepared by DWA Consulting Engineers and provides information regarding the management of wastewater from the proposed development. Please refer to **APPENDIX V** for details.

A technical study will be carried out by the project Hydraulic Consultant of the existing sewerline and Subject Site topography to determine sewer pipe details, layout and connections during the Building License design and approval process.

3.3 Power

The source of power for the proposed development shall be via the Western Power electricity supply grid, which runs along Brockman Highway.

The appropriate level of power supply required to service the proposed development shall be assessed and determined during the Development Application approval process.

A technical study will be carried out by the project Electrical Consultant of the existing Western Power supply and connection details & determine the proposed development electrical loads and layouts during the Building License design and approval process.

3.4 Telecommunications

Telecommunication connections for all buildings will be accommodated through the existing network.

A technical study will be carried out by the project Electrical Consultant during the Building License design and approval process.

3.5 Technical Studies

Bushfire Protection.
As described in Section 5 of this LDP, a technical study has been carried out and supplied, including the Bushfire Management Plan and Bushfire Emergency Evacuation Plan.

Please refer to ***APPENDIX IV*** for details.

Aboriginal Heritage Zone.
As described in Section 6 of this LDP, a technical and cultural study may be carried out in association with Karri Karrak Aboriginal Corporation, if required.

Flood Zone.
The Development has been related to the flood zone studies and shown on the Constraints Plan. Please refer to ***APPENDIX II*** for details.

Flora and Fauna.
The BMP and ACH assessments include relevant studies associated with the existing Flora & Fauna within the Subject Site.

Transport Impact Statement.
Main access will be via Brockman Highway, as detailed in Section 3.2 of this LDP. Traffic loads, turning circles and vehicle manoeuvrability have been assessed for all 3 access points, as well as access in/out and throughout the site for service vehicles, as required.

A comprehensive Transport Impact Statement has been prepared by LEVEL 5 DESIGN. Please refer to ***APPENDIX III*** for details.

Local Water Management Strategy.
A Local Water Management Strategy (LWMS) has been prepared by DWA Consulting Engineers and provides information regarding the water supply, rainwater management and site drainage. Please refer to **APPENDIX V** for details.

4 BUSHFIRE ASSESMENT

4.1 Introduction

The subject site is classified as being within a Bushfire Prone Area and therefore a Bushfire Consultant has been engaged to provide a Bushfire Management Plan (BMP).

The Bushfire Consultant is Anthony Rowe from Envision Bushfire Protection and he has provided the following information to accompany this LDP.

4.2 Bushfire Management Plan

Please refer to ***APPENDIX IV*** for a copy of the BMP.

5 ABORIGINAL CULTURAL HERITAGE

5.1 ACH Register

Aboriginal heritage holds significant value to Aboriginal people for their social, spiritual, historical, scientific, or aesthetic importance within Aboriginal traditions. Laws are in place in Western Australia to protect and manage Aboriginal heritage.

A search has been done on the subject site using the WA Aboriginal Cultural Heritage Inquiry System which has identified one registered site - “Place 20434 Blackwood River”.

In terms of significance, Place 20434 Blackwood River is believed to have been created by the Waugal. It was reported that the entire Blackwood River and its tributaries was created by, and is home to, the Waugal, rendering the entire river system as a sacred site. The Blackwood River was also reported to be of customary significance as a bidi (path) from inland areas of Nannup to the west coast.

The results of the search indicate Place 20434 Blackwood River is not culturally sensitive, has no gender or initiation restrictions and is not a restricted place. Please refer to Figure 2. for a screenshot of the search results. Therefore, in accordance with the WA Aboriginal Heritage Act (1972) as there is no risk of harm to Aboriginal heritage from the planned activity, no approval is required.

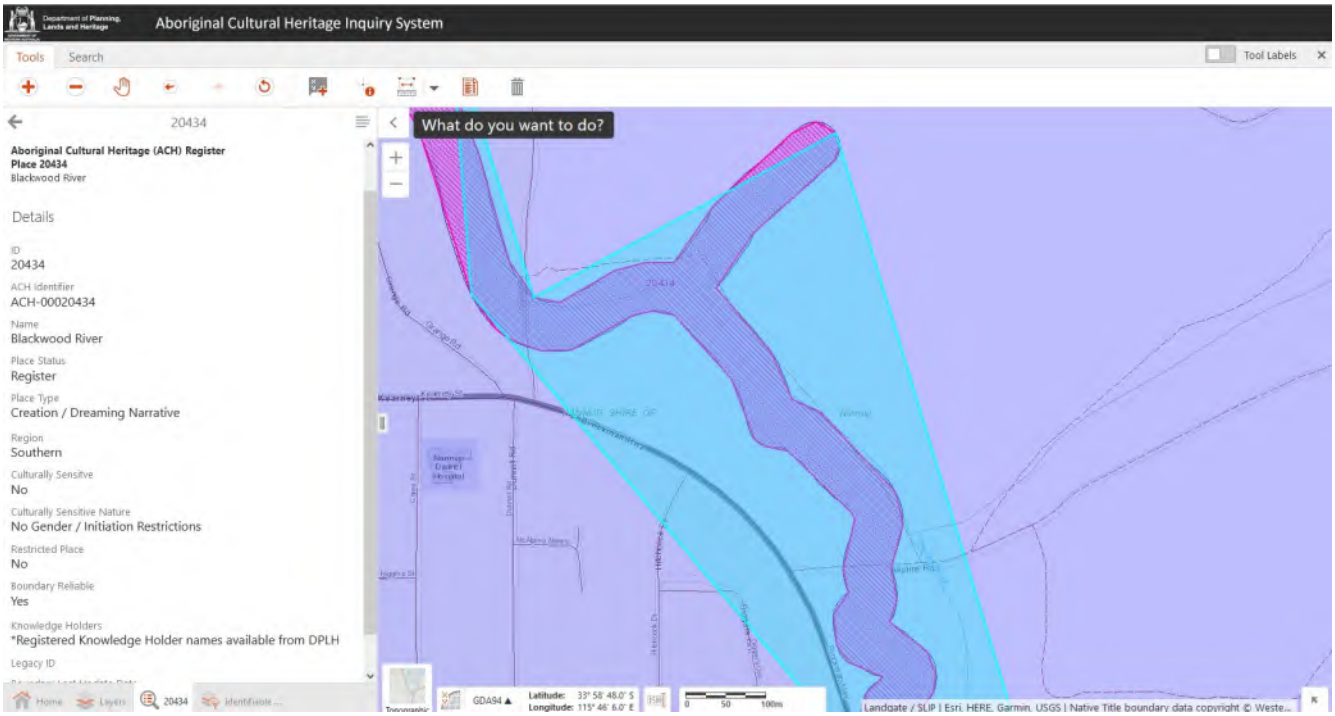


Figure 2. Search Results from WA Aboriginal Cultural Heritage Inquiry System.

Regardless of the outcome determined above via WA Aboriginal Heritage Act (1972), the owner acknowledges Place 20434 Blackwood River and its customary significance by locating new structures outside of the designated area to minimise any impacts on the Blackwood River.

Consultation with The Karri Karrak Aboriginal Corporation (KKAC) and with the Cultural Advice Committee (CAC) has been carried out, however as the proposed development scope is outside of Place 20434 Blackwood River, further consultation in relation to the proposed development is not required.

With regards to the on-going maintenance of the existing creek, KKAC and CAC have approved this work. Please note the following formal resolution from CAC:

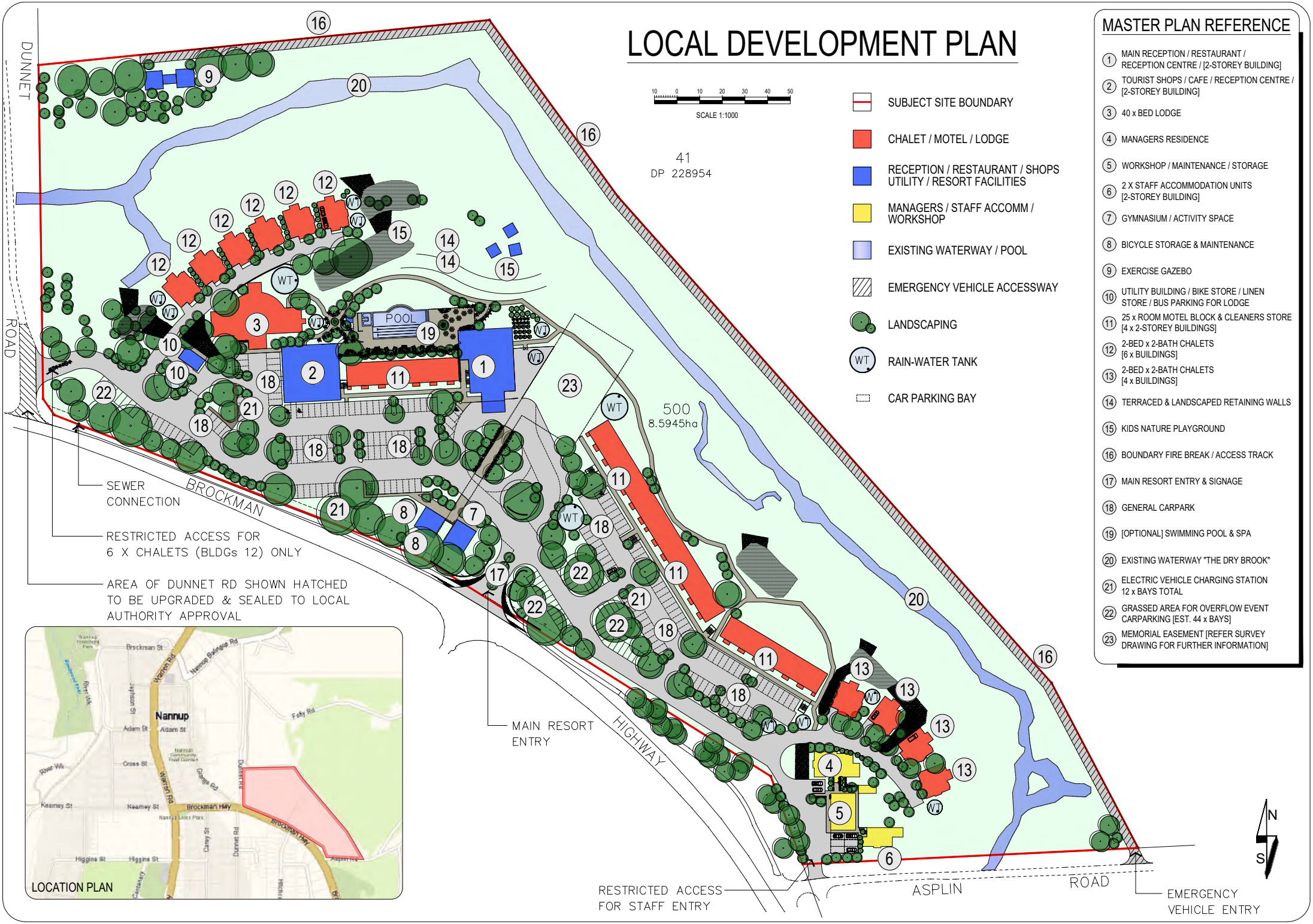
> *The Cultural Advice Committee (the Committee) reviewed the Activity Notice from Paul Meschiati and Associates Pty Ltd acting on behalf of IDG Resorts Pty Ltd. The Committee approved the non-ground-disturbing weed clearance to proceed without monitors. The Committee would like it highlighted that chemicals cannot be used in the management of weeds.(06.08.2024)*

6 CONCLUSION

This LDP report and accompanying plans, on Lot 500 Brockman Highway, Nannup complies with the planning framework adopted by the Shire of Nannup and the Western Australian Planning Commission.

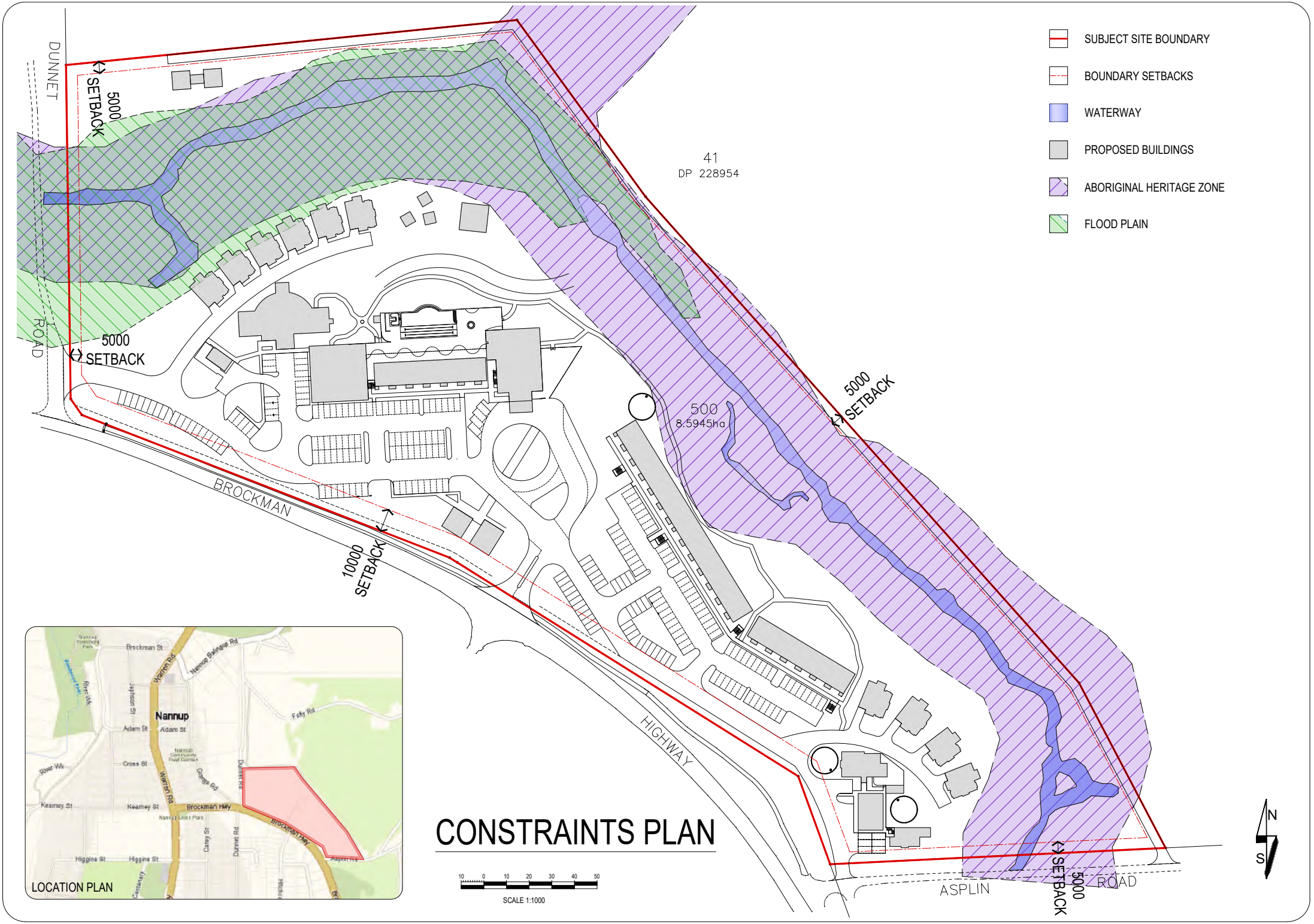
The LDP provides guidance and direction on the desired built form outcomes for the subject site. Council in determining a development application/s should consider the key design elements/matters in the LDP to ensure that development provides an appropriate mix of commercial and short stay accommodation for Tourism that is responsive to the site's context.

LOCAL DEVELOPMENT PLAN



MASTER PLAN REFERENCE

1. MAIN RECEPTION / RESTAURANT / RECEPTION CENTRE / [2-STOREY BUILDING]
2. TOURIST SHOPS / CAFE / RECEPTION CENTRE / [2-STOREY BUILDING]
3. 40 x BED LODGE
4. MANAGERS RESIDENCE
5. WORKSHOP / MAINTENANCE / STORAGE
6. 2 X STAFF ACCOMMODATION UNITS [2-STOREY BUILDING]
7. GYMNASIUM / ACTIVITY SPACE
8. BICYCLE STORAGE & MAINTENANCE
9. EXERCISE GAZEBO
10. UTILITY BUILDING / BIKE STORE / LINEN STORE / BUS PARKING FOR LODGE
11. 25 x ROOM MOTEL BLOCK & CLEANERS STORE [4 x 2-STOREY BUILDINGS]
12. 2-BED x 2-BATH CHALETS [6 x BUILDINGS]
13. 2-BED x 2-BATH CHALETS [4 x BUILDINGS]
14. TERRACED & LANDSCAPED RETAINING WALLS
15. KIDS NATURE PLAYGROUND
16. BOUNDARY FIRE BREAK / ACCESS TRACK
17. MAIN RESORT ENTRY & SIGNAGE
18. GENERAL CARPARK
19. [OPTIONAL] SWIMMING POOL & SPA
20. EXISTING WATERWAY "THE DRY BROOK"
21. ELECTRIC VEHICLE CHARGING STATION 12 x BAYS TOTAL
22. GRASSED AREA FOR OVERFLOW EVENT CARPARKING [EST. 44 x BAYS]
23. MEMORIAL EASEMENT [REFER SURVEY DRAWING FOR FURTHER INFORMATION]

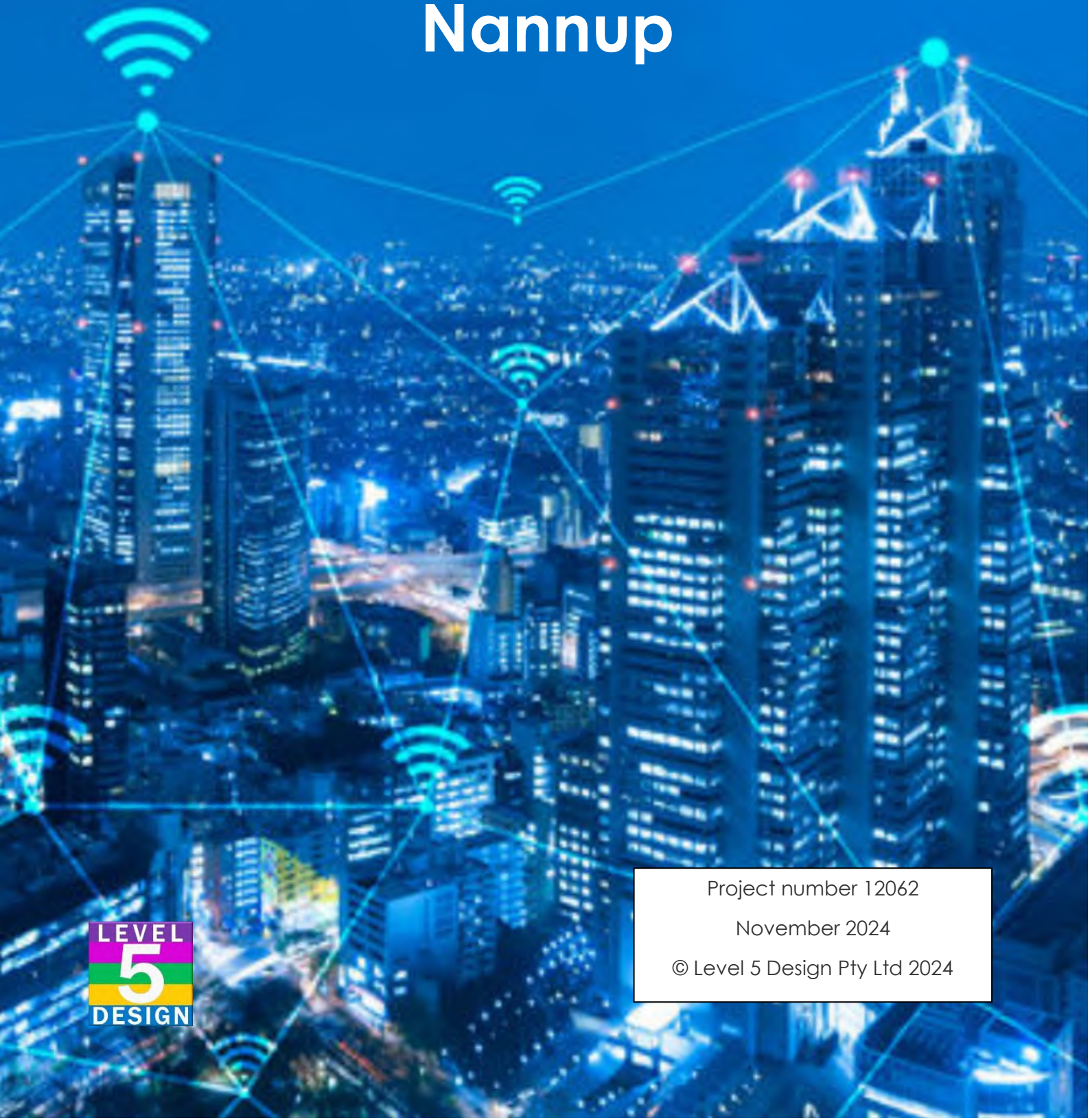

SUBJECT SITE BOUNDARY
BOUNDARY SETBACKS
WATERWAY
PROPOSED BUILDINGS
ABORIGINAL HERITAGE ZONE
FLOOD PLAIN
41
DP 228954
500
8.5945ha
DUNNET ROAD
5000 SETBACK
5000 SETBACK
5000 SETBACK
10000 SETBACK
5000 SETBACK
BROCKMAN HIGHWAY
ASPLIN ROAD
LOCATION PLAN
Nannup
Brockman St
Warren Rd
Nannup Balingup Rd
Adam St
Cross St
Kearney St
Brockman Hwy
Forty Rd
Dunnet Rd
Higgins St
CONSTRAINTS PLAN
SCALE 1:1000
N
S

Inspiring Innovation Transport

Transport Impact Statement

Nannup Alpine Resort

Brockman Hwy and Dunnet Rd Nannup



Project number 12062

November 2024

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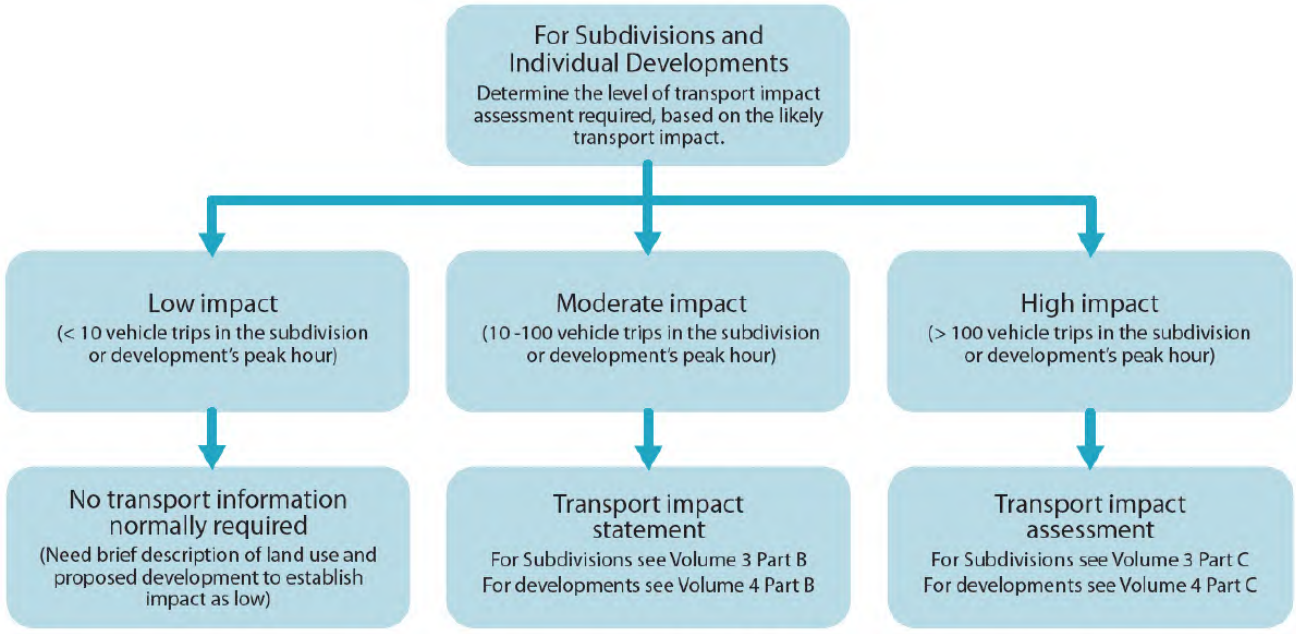
1 Introduction

Level 5 Design (L5D) has been commissioned by Paul Meschiati and Associates Pty Ltd to prepare a Transport Impact Statement (TIS) in support of the Development Application for a new development located at Lot 500 Brockman Hwy & Dunnet Road, Nannup (the 'Site').

This TIS has been prepared in accordance with the Western Australian Planning Commission (WAPC) Transport Impact Assessment Guidelines for Developments: Volume 4 - Individual Developments (2016). The Guidelines promote a three-level assessment process, where the required level of assessment is dependent on the likely level of impact, as follows (and as shown in Figure 1.1):

- Low impact – less than 10 peak hour trips, no assessment required.
- Moderate impact – between 10 and 100 peak hour trips, Transport Impact Statement required; and
- High Impact – more than 100 peak hour trips, full Transport Impact Assessment required.

Figure 1.1 Level of transport impact assessment required.



Source: WAPC Transport Impact Assessment Guidelines 2016

The traffic generated by the Site has been determined to be between 10 and 100 vehicle trips in the peak hour, which equates to a moderate impact, and therefore the required level of assessment is a 'Transport Impact Statement'.

2 Existing Situation

2.1 Existing Site

The subject site (the 'Site') for the proposed development is situated at the intersection of Brockman Highway and Dunnet Road, within the Shire of Nannup. The Site is currently an open greenfield area, located approximately 600 metres east from the Nannup Town Centre.

The Site is surrounded by open green spaces, with its southern boundary along Brockman Highway, the western boundary adjacent to Dunnet Road, and the eastern boundary bordering Asplin Road. An aerial image of the site is shown in Figure 2.1.

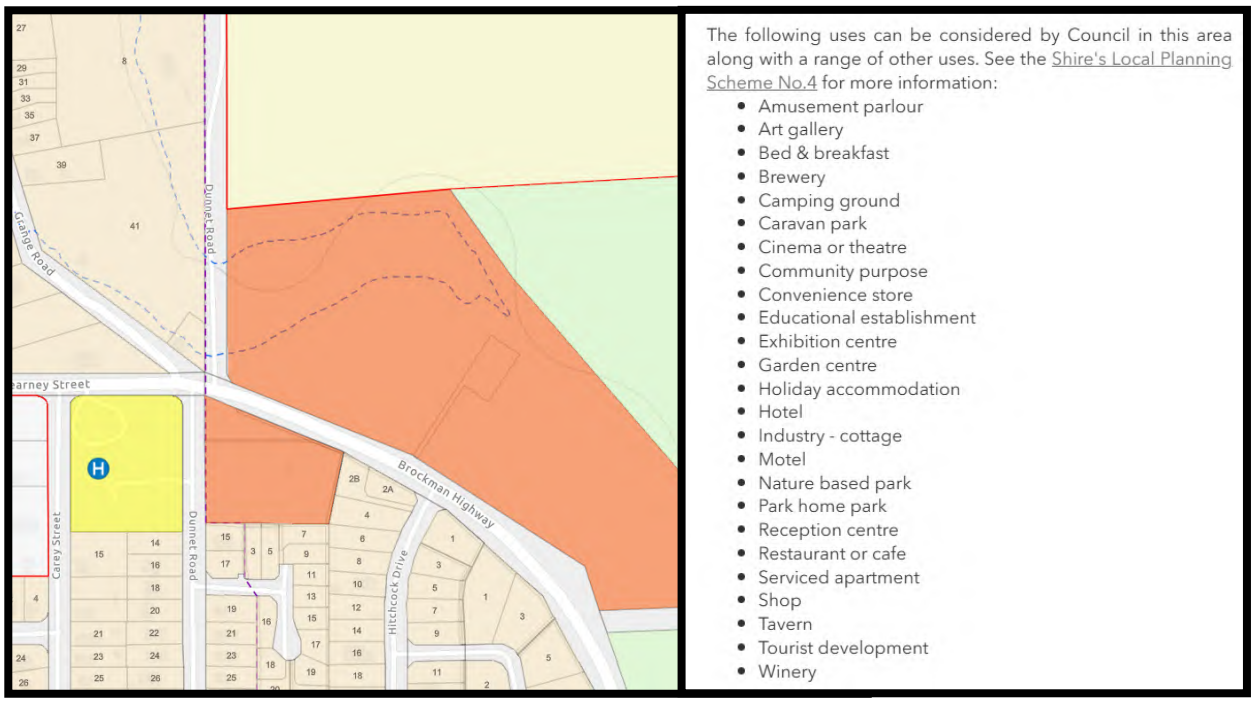
Street view images of the Site are included in Appendix A.

Figure 2.1 Existing subject site

Source: Google Maps 2024

Figure 2.2 shows the existing land uses in the vicinity of the Site. The Site is currently zoned as a 'Tourism Zone'. A list of council approved uses for the Site are listed in Figure 2.2.

Figure 2.2 Local planning scheme



Source: Shire of Nannup - Local Planning Scheme

2.2 Existing Road Network

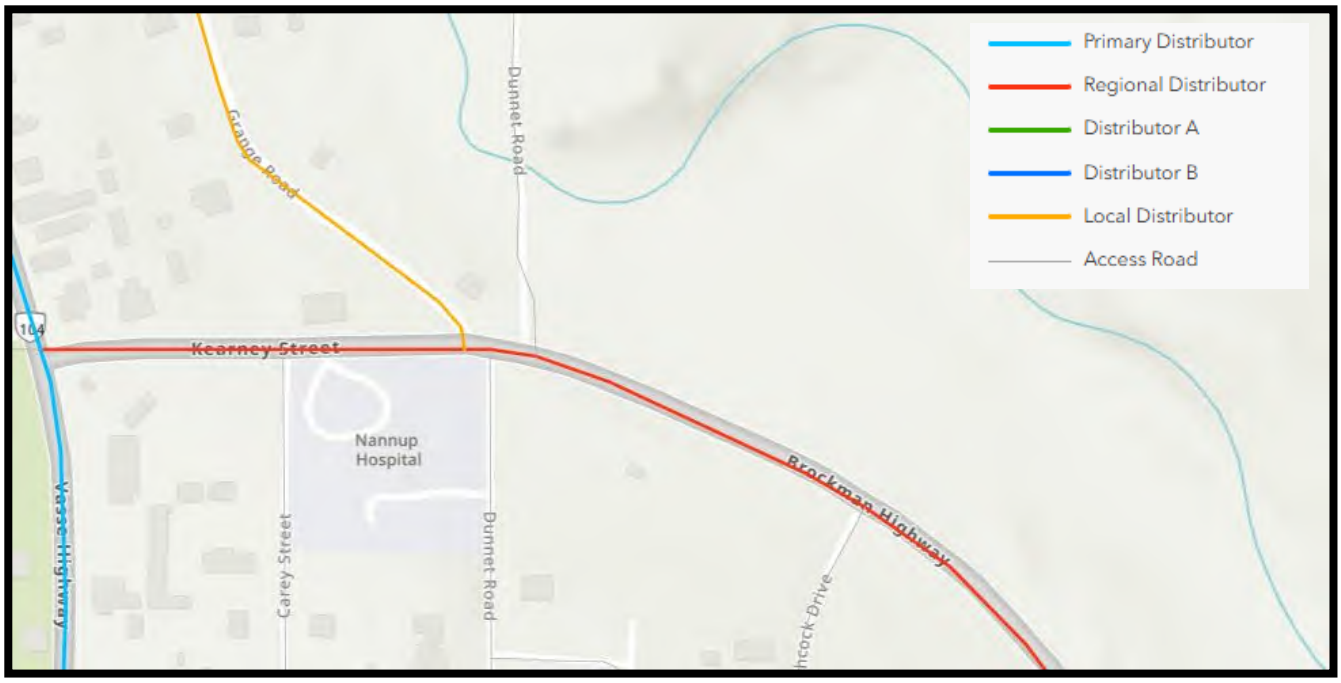
The road classification in the vicinity of the Site as classified by Main Roads is shown in Figure 2.3. Brockman Hwy is a Regional Distributor, and all other roads in the vicinity of the Site are classified as local 'Access Roads'. Table 2.1 summarises the characteristics of the road network in the vicinity of the Site.

Table 2.1 Road network characteristics

Road Name	Road Hierarchy	Jurisdiction	No. of Lanes	Posted Speed (km/h)
Brockman Hwy	Regional distributor	Local Government	2	60
Dunnet Rd	Access Road	Local Government	2	50
Hitchcock Dr	Access Road	Local Government	2	50
Asplin Rd	Access Road	Local Government	2	50

Source: Road Information Mapping System (October 2024)

Figure 2.3 Road network classification



Source: Road Information Mapping System (July 2024)

2.3 Existing Traffic Volumes

Traffic volume data for the Section of Brockman Hwy between Dunnet Rd and Asplin Rd has been obtained from the Shire of Nannup. The data is summarised in Table 2.2. and a visual representation can be found in Figure 2.4.

The weekday AM and PM peak hours in the vicinity of the Site consistently occurs between 10:00 - 11:00 AM and 15:00 – 16:00 PM.

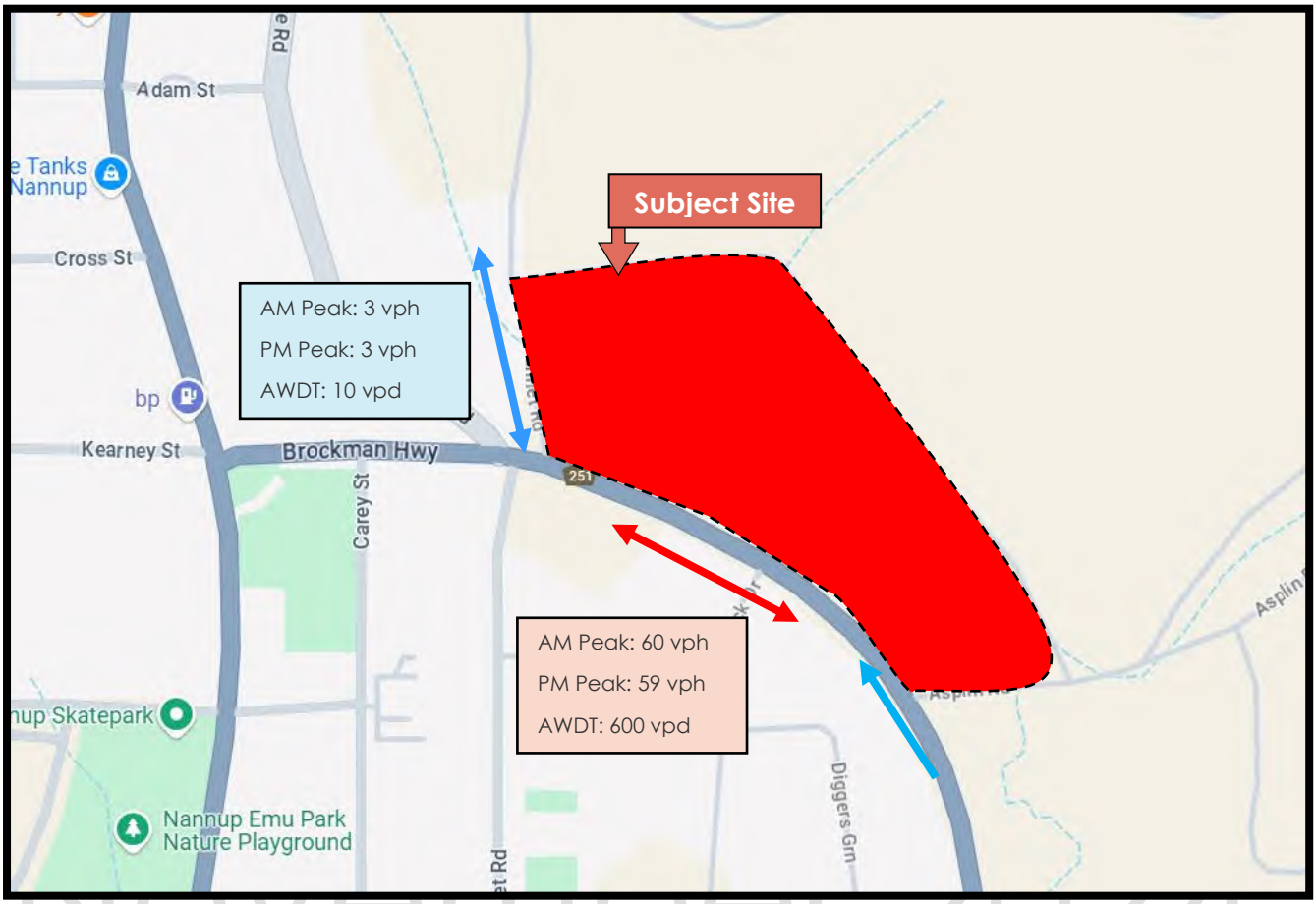
Recorded traffic volumes show that the surrounding network operates efficiently and well within its capacity limits, indicating smooth traffic flow and minimal congestion even during peak periods.

Table 2.2 Existing traffic volumes

Road Network	Weekday AM peak (vph)	Weekday PM peak (vph)	Ave daily traffic volume (vpd)
Brockman Hwy	60	59	600
Dunnet Rd	3	3	10

Source: Shire of Nannup (October 2024)

Figure 2.4 Existing Traffic Volumes



Source: Shire of Nannup

2.4 Existing Access Arrangements and Parking Situation

The Site's primary access is currently via Brockman Highway, positioned directly opposite the intersection with Hitchcock Drive. Given the undeveloped nature of the Site, there are no formal parking facilities at this stage.

3 Proposed Traffic and Access Arrangements

3.1 The Proposed Development

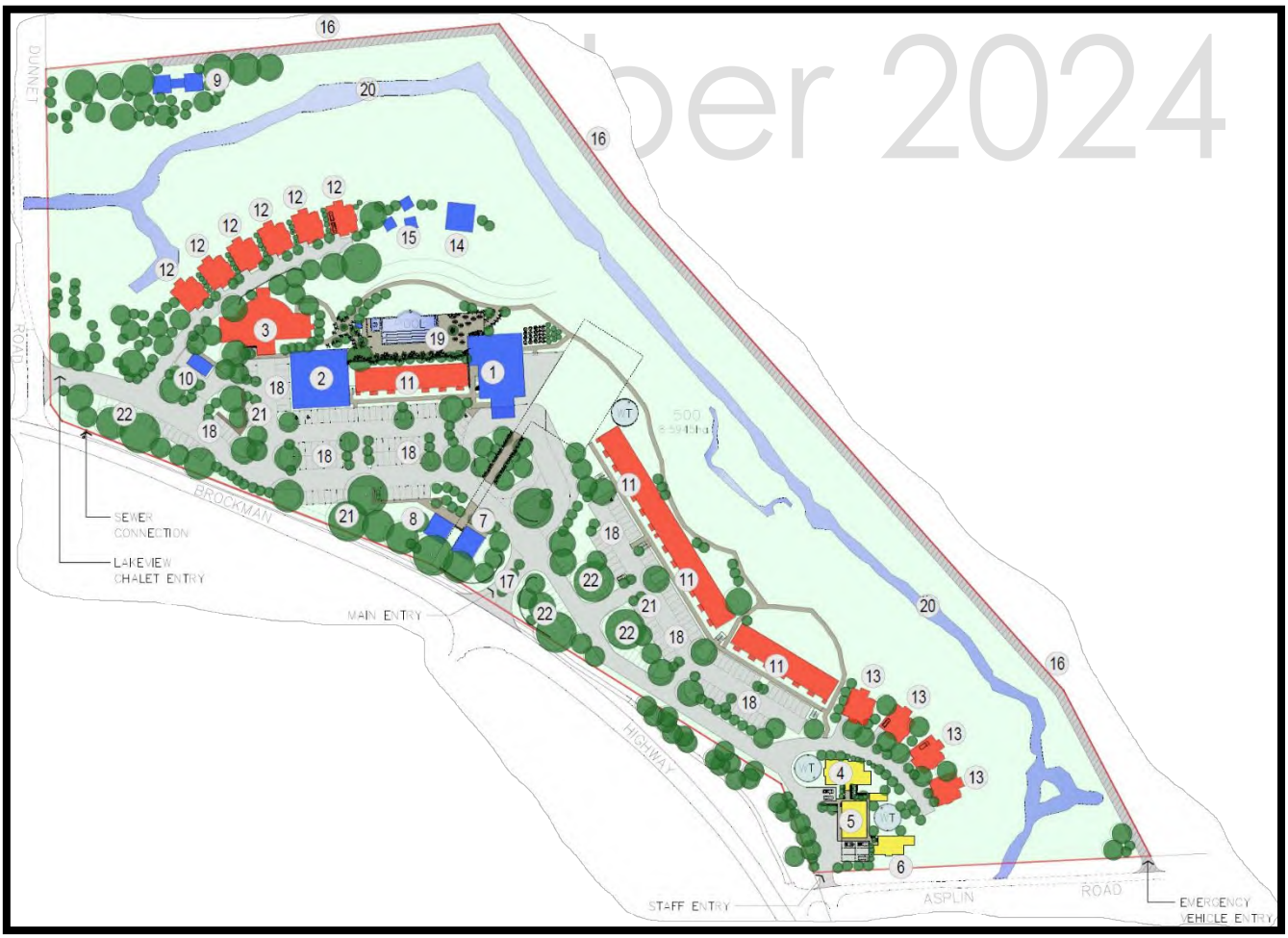
The proposed development seeks to transform the Site into a resort-style hotel, offering a comprehensive range of accommodation and amenities designed to attract both tourists and local visitors. The development will include a main reception area, a full-service restaurant, and a dedicated reception centre for events and gatherings. The resort will be complete with tourist shops, a café, and accommodation for managers and staff.

The facility will also offer a range of leisure and recreational options, including a gymnasium and a swimming pool, aimed at enhancing the guest experience. The development will cater to various visitor needs, with a motel block consisting of 25 rooms spread across four buildings, a 40-bed lodge and two separate chalet areas.

In terms of infrastructure, the development will provide bus parking specifically for the lodge, along with electric vehicle charging stations to support sustainable transport options. Additionally, a children's nature playground will be included, further enhancing the resort's appeal to family visitors.

This development represents a significant addition to the region, offering high-quality accommodation and amenities while contributing to local tourism and economic growth. The proposed layout of the development is shown in Figure 3.1.

Figure 3.1 Proposed Development Layout



Source: Paul Meschiati and Associates Planners

3.2 Proposed access arrangements

The proposed development incorporates a vehicle access strategy designed to optimize traffic flow and promote the safety of all users. Access to the development is provided through three separate entry points, with an additional access point reserved for emergency vehicles. Each of these access points is detailed below:

Dunnet Road (Lake View Chalet Access)

Access via Dunnet Road will be restricted for the exclusive use of the 6 LakeView Chalets, with signage and road management strategies in place to direct all other traffic to the main entry off Brockman Highway. A total of 12 car bays (with tandem parking) are allocated for the chalets, which equates to 12 vehicles using this access point under full occupancy. Dunnet Road will also function as an emergency exit in the event of fire or other emergency evacuation scenarios, promoting safe and controlled egress from the site.

Asplin Road (Staff Access)

The Asplin Road entry point is designated for the exclusive use of staff, management, and service/waste vehicles. Based on the number of staff members and service vehicles it is forecast that a maximum of 20 vehicles daily will access the site through this entry. This separation of staff and service vehicles from visitor traffic helps minimize congestion and streamline internal traffic operations. Asplin Road will also house a dedicated emergency vehicle access point, further enhancing the development's readiness to manage critical situations without impacting general traffic flow.

Brockman Highway (Main Entry)

The main entry and exit point for the development will accommodate approximately 83% of the total generated trips. This distribution is based on the previously outlined restrictions of the other access points. Positioned directly opposite Hitchcock Drive, the primary access will feature a newly constructed slip lane for right-turning vehicles, utilising the existing roadway width to replicate the current slip lane at Hitchcock Drive. This design will help improve traffic flow and minimize potential delays for vehicles entering the resort from Brockman Highway.

A risk assessment and sightline analysis for this intersection are provided in Section 7 of this report.

General Access Considerations

All vehicle crossovers will be upgraded in line with local authority requirements and in accordance with agreed provisions between IDG Resorts Pty Ltd and the Shire of Nannup. This includes that the new slip lane at the Brockman Highway main entry is constructed to facilitate smoother traffic movements and reduce queuing for vehicles turning into the development.

By separating access points based on user type, the vehicle access plan for the development promotes safe and efficient traffic circulation, with minimal disruption to regular operations.

3.3 Traffic Generation of the Proposed Development

The trip generation for the proposed development has been calculated using rates derived from the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition). This manual is an industry-standard reference that provides empirically validated data for various land uses, including resort hotel developments.

The proposed development closely aligns with the ITE's technical description of a resort hotel: *"a place of lodging that offers sleeping accommodations and complementary facilities such as a full-service restaurant, cocktail lounge, retail shops, and guest services like swimming pool, and other recreational amenities like a fitness room."*

The Institution of Transportation Engineers (ITE) conducted investigations of nine Resort Hotels in the United States from the 1980s to the 2010s.

Given the comprehensive nature of the development, the ITE's trip generation rates are particularly applicable, as they account for similar hotel uses with a wide range of services. The trip generation rates used in the analysis are presented in Table 3.1.

Table 3.1 Published Trip Generation Rates

Land Use	Source	AM Peak	IN	OUT	PM Peak	IN	OUT
Resort Hotel	ITE 11th Edition	0.32 Trips per Room	72%	28%	0.41 Trips per Room	43%	57%

These traffic generation rates have been used to calculate estimates of proposed weekday peak hour traffic numbers.

The forecast trip generation for the Site is presented in Table 3.2.

Table 3.2 Estimated Trip Generation Rates for the Site

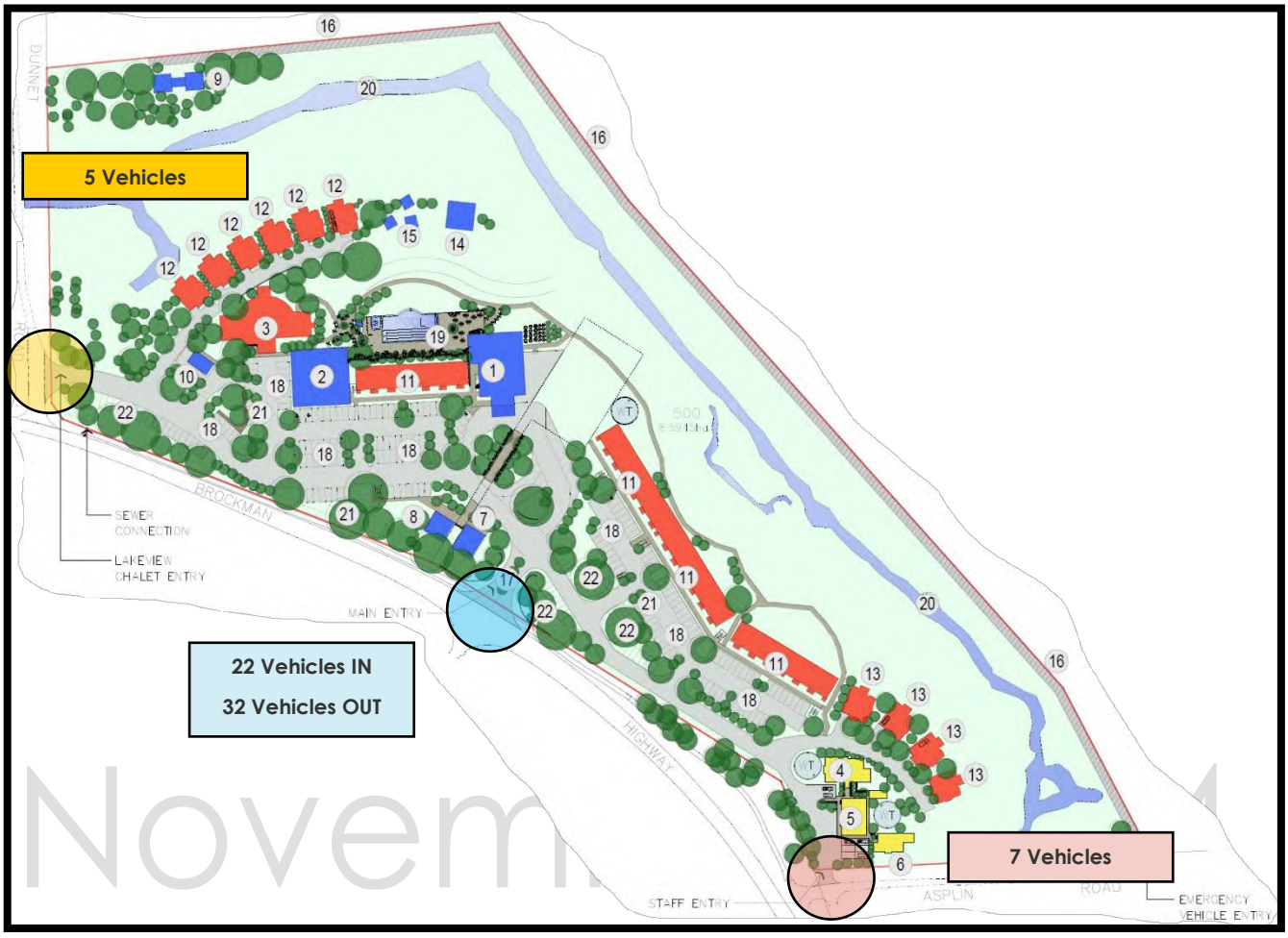
Land Use	Variable	AM Peak	IN	OUT	PM Peak	IN	OUT
Resort Hotel	160 Rooms	51	37	14	66	28	38

The analysis anticipates a moderate increase in traffic volumes, with up to 51 additional two-way vehicle trips during the AM peak hour and up to 66 additional two-way vehicle trips during the PM peak hour.

With the new access arrangements, where 83% of generated trips are projected to use the primary access point off Brockman Highway, a moderate increase in traffic along this route is expected as vehicles access the facility.

Figure 3.2 illustrates the forecast trip distribution for traffic entering and exiting the Site.

Figure 3.2 Generated Trip Distribution for PM Scenario



Source: Paul Meschiati and Associates Planners

3.3.1 Traffic Impact to Brockman Hwy

When assessed against the existing road network, future traffic volumes are anticipated to show a marginal increase over current levels (refer to Table 3.3). The additional trips generated by the proposed development are expected to be evenly distributed across both directions, with traffic flowing westbound (WB) and eastbound (EB).

While the percentage increase in projected traffic may appear notable, it is important to recognize that both Brockman Highway and Dunnet Road currently operate well below their maximum traffic capacity. For context, a single lane carriageway can typically accommodate up to 800 – 1,000 vehicles/hr without experiencing low levels of service. Even with the anticipated increase due to the development, peak-hour traffic volumes are projected to remain well below this amount, i.e., <200 vehicles per hour per lane.

Based on these projections, the existing road network has sufficient environmental traffic capacity to support the proposed change in land use without introducing any significant traffic-related issues.

Table 3.3 Estimated Future Traffic Peak Hour Volumes on Brockman Hwy

Road Network	Weekday AM peak (vph)	% change in AM peak hour	Weekday PM peak (vph)	% change in PM peak hour
Brockman Hwy	111	85%	125	111%

3.3.2 Impact to Local Streets

The acceptable threshold for traffic volume changes on local access roads is generally considered to be up to 50% of the existing volume, provided the total traffic remains within the road's operational capacity, as outlined in Main Roads guidelines.

The projected traffic increase for Dunnet Street and Asplin Road is minimal, as these are local access roads with limited connectivity to the surrounding network. The slight increase in traffic due to vehicle access (<50%) remains well within the environmental capacity of these roads, given their current low traffic volumes.

3.3.3 Intersection Operations

Given the low traffic volumes generated by the proposed development, it has been determined that the peak-hour traffic increase on the road network is unlikely to produce any material impacts on the following intersections:

- Brockman Highway / Hitchcock Drive
- Brockman Highway / Dunnet Road
- Brockman Highway / Asplin Road

Additionally, the driveway accesses from both Brockman Highway and Dunnet Road have sufficient capacity to accommodate well over 100 vehicles per hour, which comfortably meets the projected peak-hour traffic volumes associated with site ingress and egress.

Consequently, the existing access points are adequately designed to handle the anticipated traffic demand without affecting the operational performance of the surrounding road network.

3.4 Provision for Service Delivery and Waste Collection

The proposed Waste Management Plan for the development includes waste services provided through a private contractor, utilising a combination of bin types - primarily large 1,100-litre wheeled bins with rear-loading waste collection vehicles.

Waste collection vehicles will access the site exclusively via Asplin Road and Brockman Highway, with entry and exit from Dunnet Road strictly prohibited. During the resort's operational phase, delivery vehicles will be restricted to a maximum size of a six-wheeled Pantech.

Site access for waste collection has been assessed using a rear-loading 6x4 waste collection vehicle, with a maximum length of 8.013 meters. Swept path diagrams demonstrating this vehicle's manoeuvrability are included in Appendix B of this report.

4 Parking Assessment

4.1 Proposed Car Parking Supply

The proposed development includes a total of 207 car parking bays for customers and visitors, of which 12 are designated for Electric Vehicle Charging Stations. This total also includes 4 accessible/ACROD bays to accommodate individuals with disabilities, satisfying the BCA requirements, and 6 bays designated for staff parking.

Additionally, 4 coach bus parking bays are provided on-site, along with designated areas for pick-ups and drop-offs.

Furthermore, 44 overflow car bays have been included to cater for any special events that the development may host.

Comprehensive assessments of turning radii and travel paths have been conducted for cars, buses, and service vehicles within the proposed layout. Figures illustrated swept path simulations can be found in Appendix B of this report.

4.2 Car Parking Requirements

The proposed vehicular parking for the resort has been supplied in accordance with the provisions outlined in Local Planning Scheme No. 4 (LPS4). Given the variety of buildings on the site, the parking requirements have been determined based on the specific needs of each building type (e.g., restaurant, lodge, shop, chalet) rather than applying the generic "Tourist Development" parking requirements.

Table 4.1 below provides a detailed summary of the parking requirements for each building type.

Table 4.1 Parking requirements

Building Type	Requirements / Units	Number of Required Car Parking Bays
Building 1 - Restaurant	1 bay per 40 m^2 NLA. 457 m^2 = 12 bays	12
Building 1 - Reception	1 bay per 40 m^2 NLA. 100 m^2 = 3 bays	3
Building 1 - Reception Centre	1 bay per 4 seats. 44 seats = 11 bays	11
Building 2 - Shops	1 bay per 40 m^2 NLA (min. 3 bays per tenancy). 5 tenancies shown = 15 bays	15
Building 2 - Reception Centre	1 bay per 4 seats. 28 seats = 7 bays	7
Building 3 - Lodge	1 bay per bedroom + 1 x visitors bay per 4 bedrooms (based on email from Shire of Nannup Planner – see attached). 12 bedrooms = 12 bays + 3 visitors bays	15
Building 4 – Managers Residence	As per R-Codes – 2 bays for 2+ bedroom dwelling. 4 bedrooms = 2 bays	2

Building Type	Requirements / Units	Number of Required Car Parking Bays
Building 5 – Workshop / Storage	1 bay per 100 m² NLA or 1 bay per employee. 2 employees = 2 bays	2
Building 6 – Staff Accommodation	As per R-Codes – 2 bays for 2+ bedroom dwelling. 2 X 3 bedroom dwellings = 4 bays	4
Building 7 - Gymnasium	1 bay per 40 m² NLA 100 m² = 3 bays	3
Building 9 – Exercise Gazebo	1 bay per 40 m² NLA 152 m² = 4 bays	4
Building 11 - Motel	1 bay per bedroom + 1 x bay per 40 m² NLA for floor space other than used for accommodation purposes 100 bedrooms + 272 m² NLA = 100 + 7 = 107 bays	107
Building 12 & 13 - Chalets	1 bay per accommodation unit + 1 x visitors bay for every 4 accommodation units. 10 units + 3 visitors bays = 13 bays	13
TOTAL NUMBER OF BAYS REQUIRED		**198**

Source: Local Planning Scheme 4, Shire of Nannup

Based on the analysis, 198 parking bays are required to accommodate the proposed development at 100% capacity. It is important to note that these parking requirements are calculated under the assumption that the development is fully occupied, which, in practice, is unlikely to occur very regularly. Typically, occupancy rates would average around 60%.

Additionally, it is expected that many of the facilities within the development, such as the exercise gazebo, gymnasium, restaurant, and shops, will primarily serve resort guests. As such, the parking demand for these facilities would typically be absorbed within the overall accommodation parking provision. However, we have presented the parking requirements separately as a worst-case scenario, assuming these amenities may be open to the general public.

Table 4.3 offers a clear comparison between the provided parking bays, and the regulatory parking requirements, further illustrating the rationale behind the proposed parking provisions.

Table 4.3 Parking requirements vs Parking Provided

	Number of Car Parking Bays
On-Site Car Parking Bays Provided	207/(251)
On-Site Car Parking Bays Required	198

The plans provided by the Applicant (refer Figure 3.1), indicate the provision of 251 car parking bays, 50+ bays in excess of the minimum 198 car parking bays required. The development therefore fully complies in relation to car parking supply.

4.2.1 Accessible parking requirements

To determine the number of accessible parking or ACROD bays required, reference has been made to the standards set by the Building Code of Australia (BCA). For a mixed used development, the BCA specifies a requirement of 1 accessible parking space for every 50 car parking spaces or part thereof.

Based on these regulations, with a total of 198 car parking bays, the proposed development is required to provide at least 4 ACROD bay to provide compliance with accessibility standards. This requirement has been satisfied.

5 Public Transport Facilities

5.1 Existing Public Transport Facilities

The Shire of Nannup is serviced by TransWA with a long-distance bus route that connects Perth with several regional towns. This coach service operates from East Perth Terminal and stops at multiple key locations on its route to Nannup, including Cockburn Central, Mandurah, Bunbury, and Busselton, among others. The bus service stops at Adam Street, opposite the Shire offices in Nannup, providing visitors with a public transport option to and from Perth.

The bus operates on several days of the week, with services available from both Perth and Pemberton. The return service departs from Nannup to Perth early in the morning on scheduled days.

5.2 Future Public Transport Facilities

At this time, there are no publicly announced plans to introduce additional public transport services in the Shire of Nannup. The current focus remains on maintaining and enhancing road infrastructure to support private vehicle use. However, the existing coach service provides an important connection for residents and visitors traveling between Nannup and other regional centres, as well as Perth.

6 Pedestrian / Cycle Networks and Facilities

6.1 Existing Pedestrian / Cycle Network

The Site is served by a pedestrian and cycling path, as illustrated in Figure 6.1. The current infrastructure provides convenient and direct connections to the Nannup Town Centre and surrounding areas. The existing paths allow safe and efficient travel for pedestrians and cyclists, contributing to the overall accessibility of the Site.

6.2 Future Pedestrian / Cycle Facilities

At present, there are no planned projects for additional pedestrian or cycling infrastructure in the immediate vicinity of the development.

6.3 Pedestrian Access within the Site

Pedestrian access throughout the development has been designed to meet the needs of all users, including those with mobility aids. Pathways from car parks to building entrances are a minimum of 1.5 meters in width, providing sufficient space for comfortable and safe pedestrian movement.

The development features a continuous accessible path of travel, promoting seamless internal connectivity and compliance with relevant accessibility standards.

7 Site Specific Issues

7.1 Crash Assessment

A review of the Main Roads WA Reporting Centre was conducted to obtain traffic crash data for the section of Brockman Hwy between Dunnet Rd and Asplin Rd, covering the period from 1 January 2019 to 31 December 2023. The search revealed that no crashes were reported within this section during the specified timeframe.

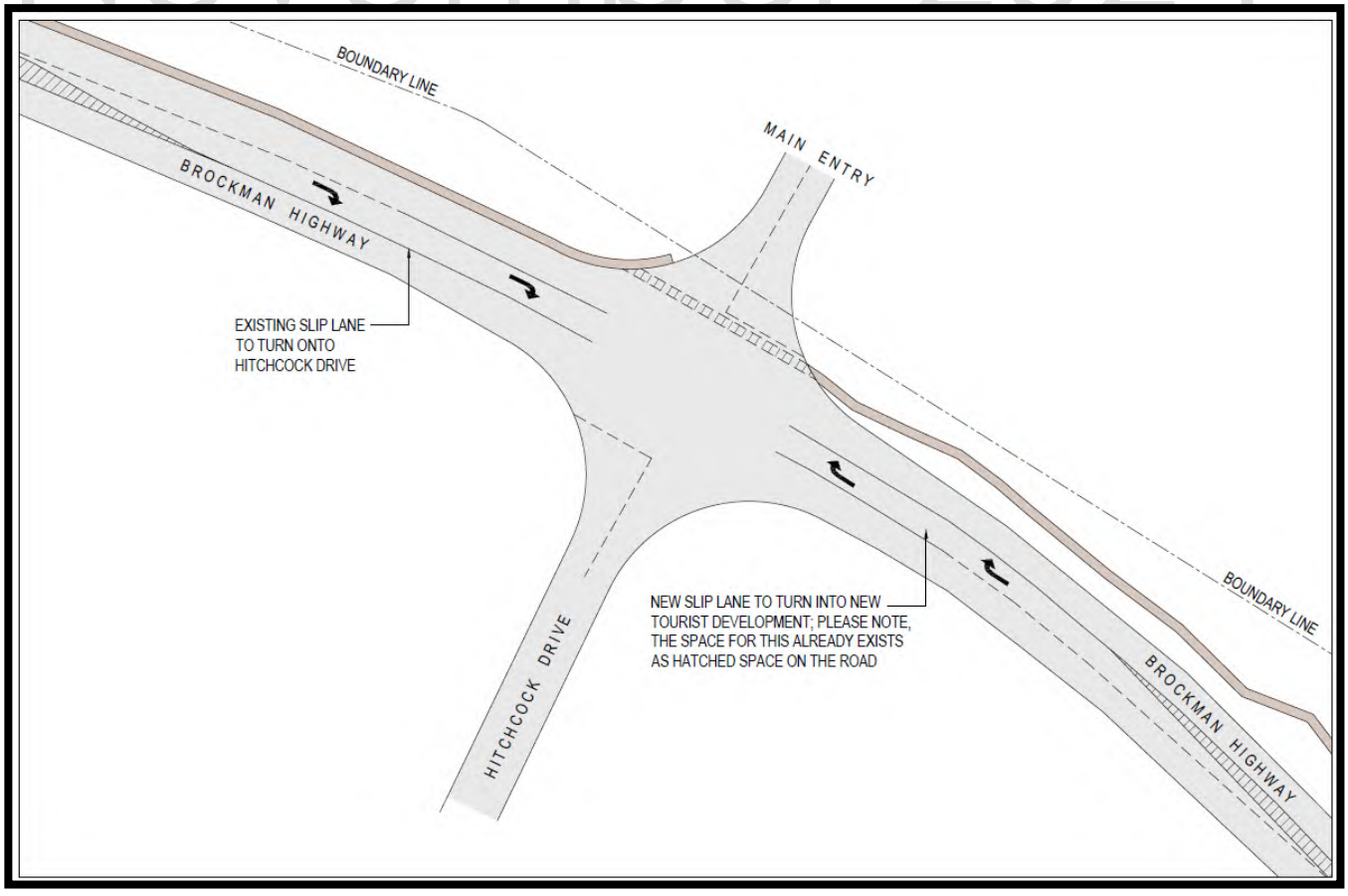
7.2 Access Risk Assessment

The access points from both Asplin Road and Dunnet Road experience relatively low traffic volumes, and as such, no significant issues are anticipated for vehicles entering or exiting the development from these roads. The low traffic intensity and existing road geometry indicate that these access points will function efficiently without posing any significant risks to traffic flow or safety.

The primary access point will be from Brockman Highway. This entrance intersects with Brockman Highway, Hitchcock Drive, and the entrance to the development, forming a four-way intersection. Given the clear visibility at this intersection, it will be controlled by a give-way sign rather than signalization, which is appropriate for the expected traffic volumes, the regional location, and the available sight distances at this location.

In addition to the Give Way control, the intersection design is proposed to incorporate a right-turn slip lane for vehicles entering the resort from Brockman Highway. This slip lane is intended to streamline traffic flow and minimize the risk of queuing or delays on the main highway. A visual representation of the proposed right-turn slip lane is provided in Figure 7.1.

Figure 7.1 New right-turn slip lane



In terms of technical requirements, the design of the slip lane must meet specific criteria, including:

- A deceleration lane of sufficient length to allow vehicles to reduce speed safely without disrupting the flow of through traffic on the highway.
- Adequate lane width and shoulder clearance, for the safe manoeuvring of both turning and through vehicles.
- A turning radius designed to accommodate the largest vehicle anticipated to use the access point, in compliance with applicable rural and semi-rural intersection design standards.

The existing road width on Brockman Highway is sufficient to integrate the new slip lane, and the design will replicate the existing right-turn slip lane at Hitchcock Drive, promoting both consistency and compliance with established road layout standards.

7.3 Assessment of Safe Sightlines

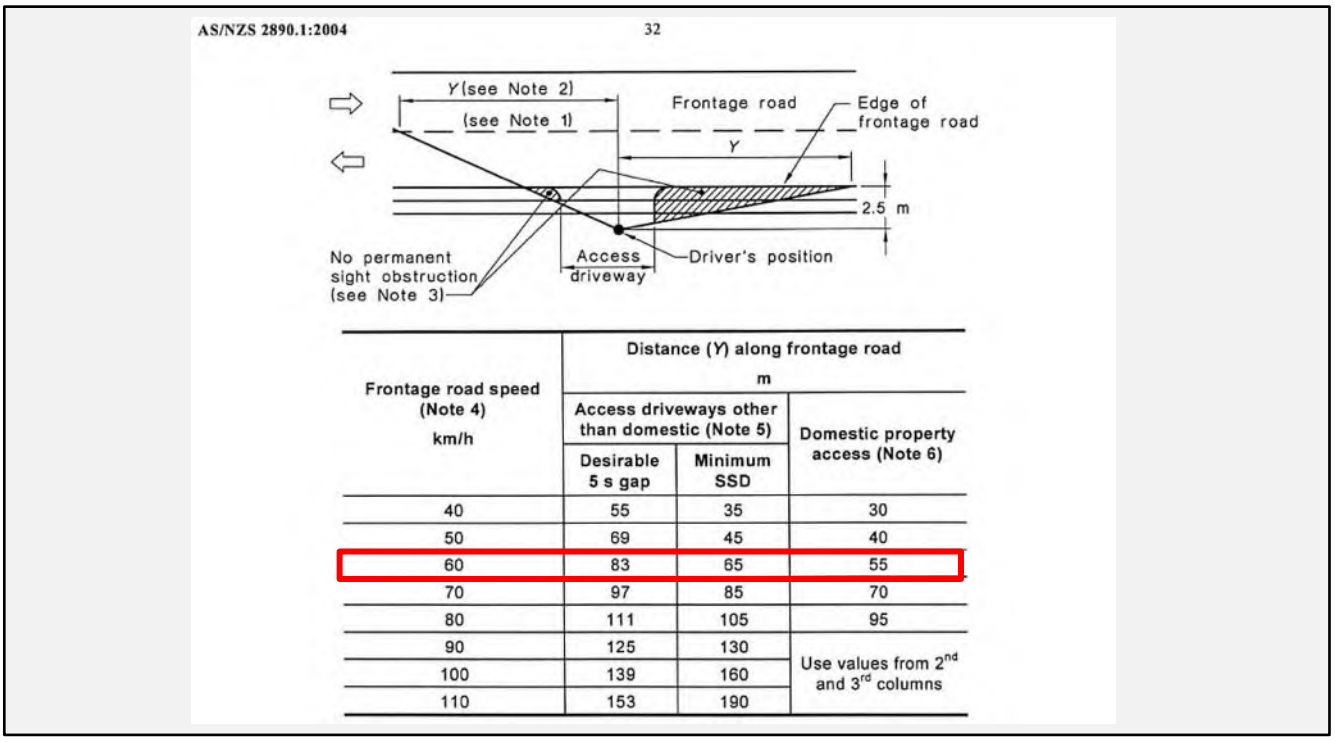
To further assess the safety and functionality of the Brockman Highway / Hitchcock Drive intersection, a sightline assessment was conducted.

The sight distance requirements for access driveways outlined in *Australian Standard AS2890.1-2004 Parking facilities Part 1: Off street car parking (AS2890.1)* are derived from Austroads Stopping Sight Distance criteria and are depicted in Figure 7.2.

7.3.1 Stopping Sight Distance (SSD) assessment

The current posted speed limit on Brockman Hwy is 60 km/h. Rather than relying on the minimum required Stopping Sight Distance (SSD) of 65 meters, we have elected to assess the location using the desirable SSD of 83 meters. This decision accounts for additional factors such as the road curvature and other potential visual impediments.

Figure 7.2 Sight Distance Requirements at Access Driveways



AS/NZS 2890.1:2004 32

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	

Source: AS/NZS 2890.1

7.3.2 Safe Intersection Sight Distance

A vertical and horizontal SISD (Safe Intersection Sight Distance) analysis was conducted in accordance with *Austroads: A guide to Road Design 4A*.

$$SISD = \frac{D_t \times V}{3.6} + \frac{V^2}{254 \times (d + 0.01 \times a)}$$

- D_t (Decision Time in seconds) = Observation Time (3 sec) + Reaction Time (AGRD Part 3)

D_t = 5 seconds

- V= Operating (85% percentile) Speed (km/h)

V = 60 km/h

- d= Coefficient of deceleration (AGRD Part 3)

d = 0.36

- a= Longitudinal grade

a = +1% average

SISD = 135

7.3.3 Findings of Assessments

Table 7.3 provides a summary of the sight distance assessments, with a visual representation available in Appendix C. Additional site visibility images, sourced from Google Street View, are also included in the Appendix A for further reference.

Table 7.3 Safe Sight Distance

Safe Sight Distances	
SISD	135 m
SSD	83 m

The assessment revealed no issues regarding visibility, confirming that sightlines from both directions adequately achieve minimum requirements for safe ingress and egress.

8 Summary

This Transport Impact Statement presents an assessment of the transport impacts of the proposed development focusing on traffic network conditions, operations, accessibility, and provision of car parking. Included are also discussions regarding pedestrian, cyclist, public transport and road safety considerations.

This Statement has been prepared in accordance with the WAPC Transport Assessment Guidelines for Developments: Volume 4 - Individual Developments (2016).

Findings and conclusions:

- The traffic generated by the development during peak hours will result in only a marginal increase in local road usage, well within the acceptable thresholds outlined by the Western Australian Planning Commission (WAPC) guidelines. The existing road network, including Brockman Highway, has sufficient capacity to accommodate this increase without compromising traffic flow or safety.

- The regional/rural context of the Site inherently limits reliance on public transport, which remains sparse and infrequent. However, the development demonstrates foresight by focusing on infrastructure that supports private vehicle use, including ample parking and electric vehicle charging stations. This approach acknowledges the local dependency on cars and aligns with the broader transition toward sustainable electric vehicles.

- The development's access strategy is designed to optimize traffic circulation and minimize congestion risks. The addition of a right-turn slip lane at the primary Brockman Highway access point will promote smooth and safe entry to the site, with sightline assessments confirming compliance with safety standards.

- With the supply of 251 parking bays, including dedicated electric vehicle charging stations and accessible bays, the development exceeds local parking requirements. This will promote adequate capacity for guests, staff, and event parking, effectively mitigating any potential parking shortfalls. Anticipating surges in demand, such as during high-traffic events, overflow parking has been built into the development plan. Flexible access strategies will be essential to maintaining operational fluidity and visitor satisfaction during these busy periods.

In conclusion, the proposed Nannup Alpine Resort development is forecast to generate moderate traffic increases that can be readily accommodated by the existing road network. The access and parking provisions have been assessed as being adequate, and the development is in line with local planning objectives. Overall, the transport impacts are manageable, and the resort will enhance the region's tourism infrastructure without causing significant disruption to the surrounding area.

Appendix A: Street view of the Site

Brockman Hwy and Hitchcock Dr

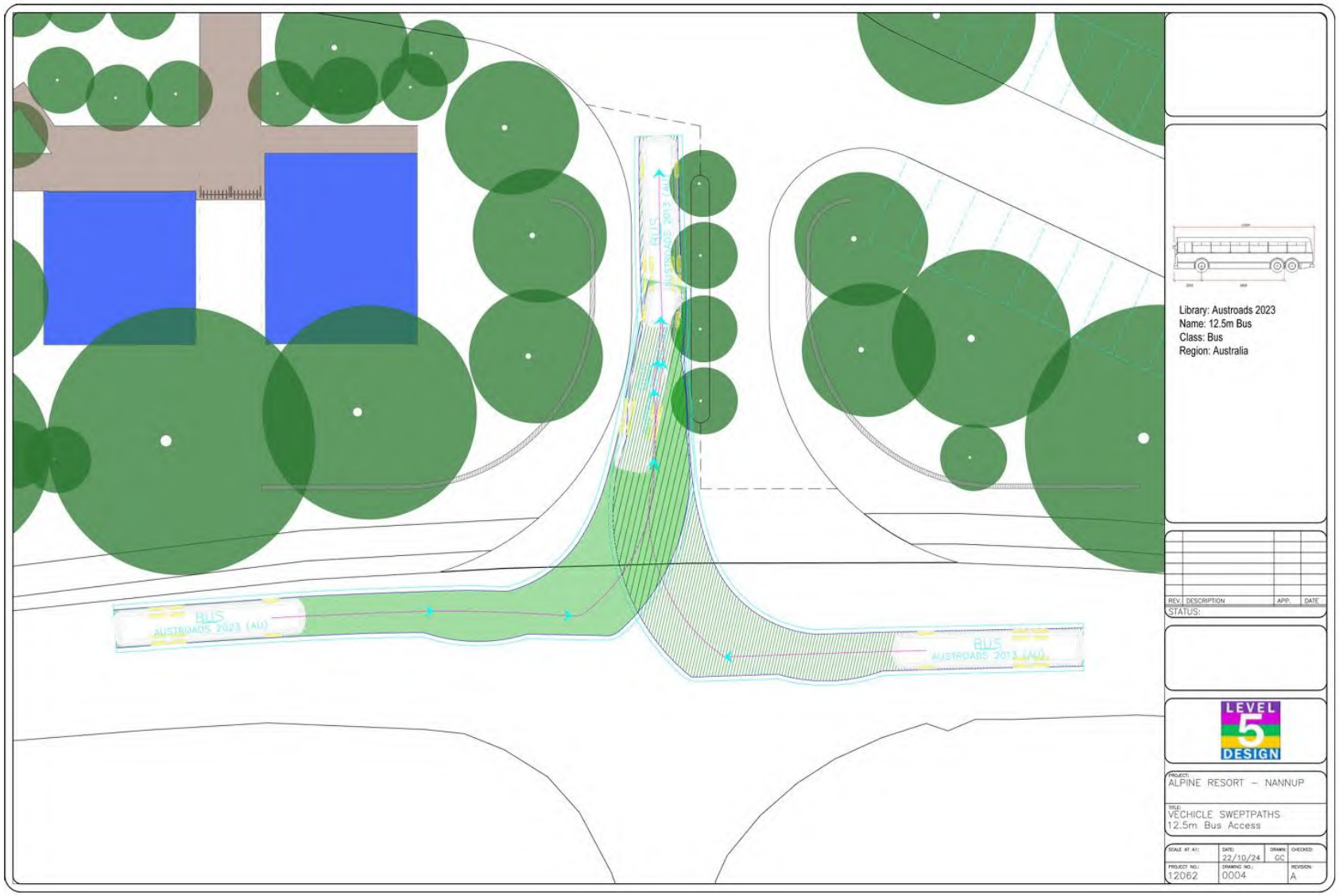
Brockman Hwy and Hitchcock Dr

Brockman Hwy and Asplin Rd

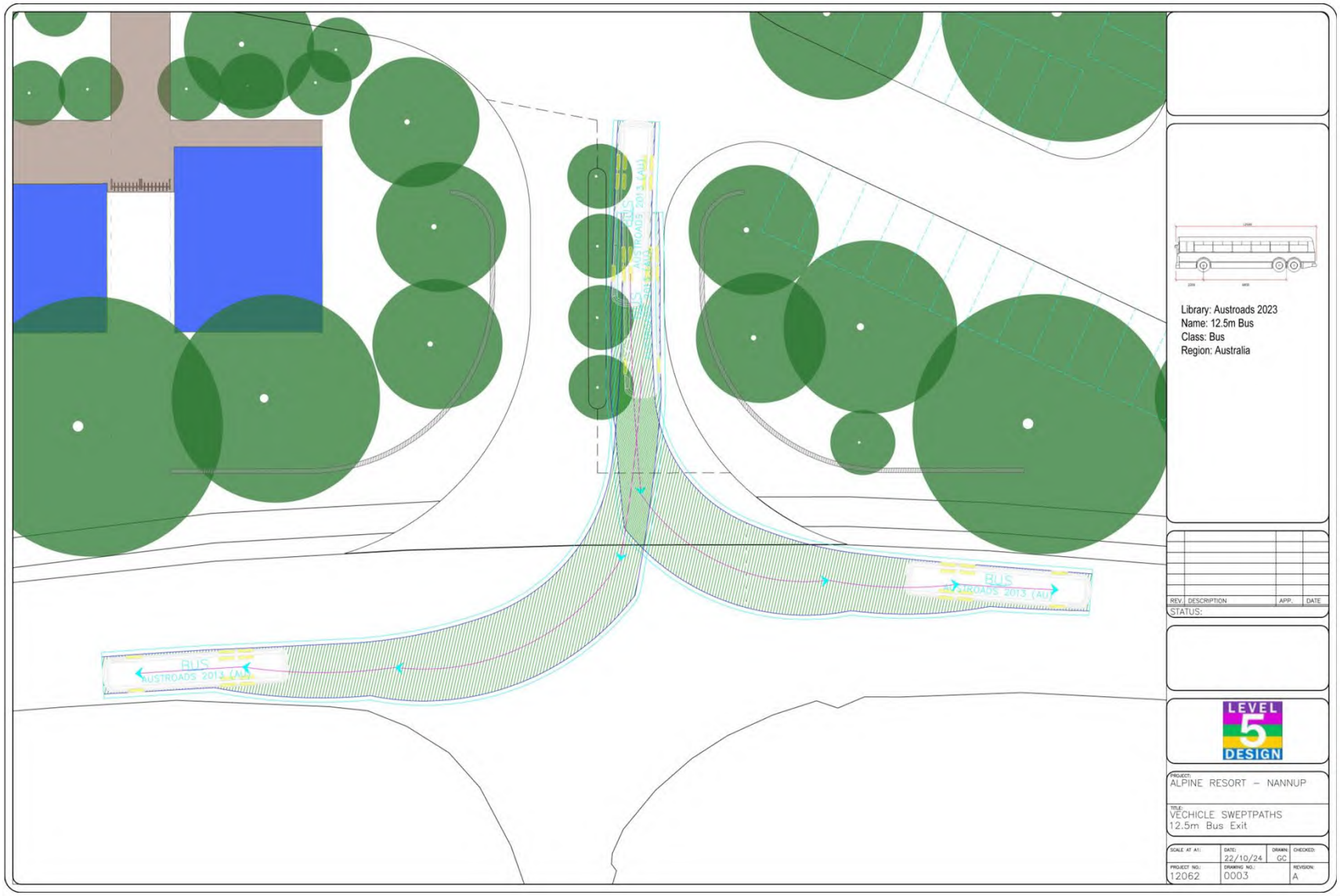
Brockman Hwy and Dunnet Rd

November 2024

Appendix B: Vehicle Swept Paths



12.5m Bus Site Access



12.5m Bus Site Exit

12.5m Bus Internal Manoeuvring

B85 – Small Vehicle Parking

Passenger Shuttle service

Waste Vehicle Access

Appendix C: Sightlines Assessment

www.level5design.com.au

PO Box 4037, Woodlands, WA 6018

contactus@level5desgin.com.au

Bushfire management plan/Statement addressing the Bushfire Protection Criteria coversheet

Site address: 1 Dunnet Road Brockman Highway

Site visit: Yes ☑ No ☐

Date of site visit (if applicable): Day 24 Month May Year 2024

Report author or reviewer: ANTHONY ROWE

WA BPAD accreditation level (please circle):

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

If accredited, please provide the following.

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

Bushfire management plan version number: V2

Bushfire management plan date: Day 15 Month July Year 2024

Client/business name: Ian Gibb c/o Paul Meschiati and Associates Pty Ltd

	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)?		X
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)?	X	

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

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.)?

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 15 July 2024

Bushfire Management Plan

NANNUP ALPINE RESORT

1 Dunnet Road and Brockman Highway
Nannup

JULY 2024

envision
bushfire protection

LIMITATIONS STATEMENT

This Bushfire Management Plan ('BMP') in support of a tourist accommodation facility at 1 Dunnet Road and Brockman Highway Nannup. The site is located within the Shire of Nannup (decision maker).

Envision Bushfire Protection

ABN: 90958370365

PO Box 7209 SHENTON PARK WA 6008

Ph: 0428 066 147

Email: admin@envisionbp.com.au

Version Control

1 Dunnet Road and Brockman Highway Nannup			
Version	**Date**	**Author**	
V1	22 June 2024	Anthony Rowe	Draft
V2	15 July 2024	Anthony Rowe	Open gazebo day spa clarified

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.

It follows the requirements listed in the Guidelines and the templates providing investigation guidance prepared by the Department of Planning Lands and Heritage. It is applicable to the authorisation required under the Planning and Development Act 2005. It does not obviate the need to gain authorisations under other legislation, or establish priority over other legislation such as, but not limited to, the State Environment Protections Act 1986, the aboriginal cultural Heritage Act 2021 and the Federal Environment Protection and Biodiversity conservation Act 1999.

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

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

Principal Bushfire Consultant I Town Planner

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 is proposing a tourist accommodation at 1 Dunnet Road and Brockman Highway Nannup.

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 development is classed as a 'vulnerable' land use because guests at the accommodation may be unfamiliar with the locality.

The BMP has been prepared together with a Bushfire Emergency Evacuation Plan.

This assessment (BMP) has followed the Department of Planning Lands and Heritage (DPLH) *BMP Template for a complex development application.* The headings below follow the investigations required by DPLH template and the findings.

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

The site is approximately 8.7 ha and zoned 'Tourism' in the Shire of Nannup Local Planning Scheme.

The site is vacant and has been historically cleared and used for grazing. The land is an elongated shape between the Nannup residential area and the waterway, The Dry Brook, which runs inside the north and east boundaries of the site at the foot of a hill rising from 70 AHD up to 165 m AHD and 8.0^0 upslope. The creek line (valley) within the site is lined with trees. The land beyond the north and east boundaries had been a plantation forest that has been harvested but re growth is evident.

The township of Nannup is in a wide valley but surrounded by long forest runs.

The site is accessed from Brockman Highway and is adjacent to the Nannup residential area affording access to Warren Street and the north destination of Busselton (township) and south to Augusta (township). The town of Nannup also has a community evacuation centre within 800 m from the site (through a low bushfire threat area).

The proposal is to establish a resort providing short stay accommodation, a cafe and restaurant, a day spa, and a conference/reception facility for up to 547 people (guests and staff).

The proposal is to develop The Dry Brook as a lake and waterway feature, separating the buildings and gardens from vegetation to be augmented between the waterway and the north and east boundary.

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

The site contains isolated remnant vegetation, primarily along the waterway and the other side to the development.

The site is not explicitly identified to have environmental values that may restrict the development of the site other than it is within a Carnaby Back Cockatoo investigation area.

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 Managers residence and attached buildings are within BAL 40 from grassland at the south boundary; the BAL can be reduced to BAL 29 by the installation of a fence.

The day spa is located at the north boundary in BAL FZ consists of open sided gazebos. They do not constitute development, and will be evacuated as a priority in the BEEP as a risk treatment.

All other habitable buildings on site are BAL 29 or less and the BAL level reduces towards the west of the site and will further reduce when the adjacent residential area is completely developed.

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

The site may be affected by ember attack from bushfire in forests around the township of Nannup. Evacuation from the site and township is the preferred response to protect guests from harm. In the event it is unsafe to evacuate the township the site should be evacuated, and guests assembled at the Shires nominated community evacuation facility, Nannup Community Recreation Centre.

Evacuation from the site can be provided to multiple destinations; north to the town of Busselton by Brockman Highway and right onto Warren Road, Vasse Highway; or south to the township of Augusta by Brockman Highway, left onto Warren Road/ Brockman Highway to Karridale and onto Augusta.

Both routes pass forest large, forested areas but provide an option to travel away from an approaching fire, if it is safe to leave the township of Nannup.

If it is not safe to leave the township, the Nannup Community Recreation Centre is a central location within the town that is accessible through low threat land from the site. It is the Shires community evacuation destination.

The site is connected to a reticulated water supply.

The preparation of the Bushfire Emergency Evacuation Plan is a risk treatment provided for the safety of guests. It provides for seasonal preparation to minimise the impact of a bushfire at the estate, and importantly through receiving alerts (mobile phone) and actively monitoring daily conditions, maximising the time for (early) evacuation, when it is safe to do so.

The Chalets and the Managers Residence are to be constructed to BAL 29 level. The other buildings (guesthouse, motel, café, gymnasium, restaurant and conference centre are to be constructed to BAL 19. This is a level resistant to bushfire attack, and management of the Asset Protection Zone will reduce the consequence from secondary fires. The buildings may receive superficial damage but are expected to survive a bushfire and avoid disruption to the facility for any period longer than the bushfire event.

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

The proposal was compared with Element 5 in the Bushfire Protection Criteria - for - *Other short-term accommodation – including motel, serviced apartments, tourist development (includes cabins and chalets), holiday accommodation and caravan park (which incorporates camping grounds*.

Acceptable Solution

Element A5.7 Siting and Design; requires that a planning application should demonstrate the habitable buildings will not be exposed to a BAL greater than BAL 29.

All habitable buildings (method 1) are sited within BAL 29 within the site (see Figure 5).

A barrier (method 2 calculations Attachment 6) will provide the siting of the managers residence within BAL 29.

Element A5.8 Vehicle Access requires the site has access to a through road to provide alternate routes of escape (to a suitable destination) and access for fire fighters.

The primary entry for guests is from Brockman Highway, which is a through road, but primarily evacuation will be taken to Warren Road, and either a north destination to the township of Busselton, or south to the township of Augusta.

Additional access points onto Brockman Highway are proposed at the north west corner from Dunnett Road (local road) and at the south west corner from Asplin Road onto Brockman Highway.

The private driveway (internal vehicular access longer than 70 m) is required to comply with the technical requirement (Table 6 column 4) (A5.11f). The technical requirements described in (Table 6 column 4) require a horizontal width of 6 m and a minimum trafficable surface of 4 m and a maximum grade of 6.0^0.

The access serving the accommodation and restaurant conference is by an internal loop road arrangement from Brockman Highway with secondary access onto Dunnett Road and Asplin Road.

The chalets are located on dead end legs, a turn around compliant with Figure 28 is required at the terminus of the access.

Directional signage, way finding, will be provided along the private driveway to provide clarity on the location of site exits in an emergency (A5.11g).

Element A5.15 Water requires the availability of water for firefighting purposes.

The site has access to a reticulated water supply.

The nearest hydrant is located within Brockman Highway on the opposite side to the proposed main entry to the resort. Internal hydrants will be distributed within the site as determined by the *Building Act 2011*.

Additional Bushfire Management Strategies (addressed in section 5.2)

Additional Bushfire Management Strategies (risk treatments in addition to those addressed in Element5) includes the Bushfire Emergency Evacuation Plan (Attached at Attachment 1). The Bushfire Emergency Evacuation Plan has been prepared in compliance with 5.5.4 in the Guidelines v1.4.

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.*

6. Responsibilities for implementation and management of the bushfire measures

The Owner responsibilities (Guidelines 4.6.3) identify the bushfire management measures necessary to achieve compliance with the bushfire protection criteria are provided at **section 6** in this BMP and summarised in Figure Ex1.

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1. PROPOSAL DETAILS

1.1 Introduction

The proposal is for a tourist accommodation facility at 1 Dunnet Road and Brockman Highway Nannup.

The site is within the administrative area of the Shire of Nannup (Plate 1) and is within a declared bushfire prone area (Plate 2). Accordingly, the proposal (short stay accommodation) 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 development is classed as a 'vulnerable' land use because guests may be unfamiliar with the locality. The BMP has therefore been prepared in conjunction with a Bushfire Emergency Evacuation Plan.

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 has been prepared to comply with the DPLH template.

Purpose of this Plan

The prevailing policy intent applied by SPP 3.7 is ***to preserve life and reduce the impact of bushfire on property and infrastructure.*** SPP 3.7 in achieving its intent, is a risk-based framework that utilises AS 3959:2018 to determine the bushfire risk and the bushfire protection criteria (Element 5) is the corresponding risk treatments. Compliance with each of the relevant Element may be by Acceptable Solutions, or through performance principle. Demonstrating compliance with the relevant provision of each Element, represent an acceptable risk.

> "SPP 3.7 does not require that there be no increase at all in the threat of bushfire to people property or infrastructure. Rather, as is seen in cl 2 of SPP 3.7, the intention of the policy is to 'implement effective, risk-based land use planning and development to preserve life and reduce the impact of bushfire on property and infrastructure". (Harmanis Holdings No. 2 Pty Ltd and Western Australian Planning Commission [2019] WASAT 43

The purpose of this BMP is to assess the suitability of the proposal and its location for the intended use and identify the measures to avoid an increase in the threat of bushfire and reduce the vulnerability of people and property (to the degree necessary) from a 'significant adverse bushfire impact'.

Site and Proposal Description (Table 1)

The proposed development is short term accommodation and will comprise:

Type	Guests	Staff
48 Room motel	96	4
40 bed lodge	48	3
three bed chalets	40	0
Staff accommodation	0	12
Managers residence	0	5
Cafe	115	10
Restaurant/reception	170	20
Office	0	24
Total – 547 persons	469 guests or visitors	78 staff

Site and Proposal Description (Table 1)

Address	**1 Dunnet Road and Brockman Highway Nannup**
Local Government Area	Shire of Nannup
Local Planning Scheme Zone	Tourism
Bushfire Season	1 December – 12 May (precise dates may vary annually)
Lot size	8.7 ha
Land description site	The site is a shallow valley that has been mostly cleared excepting at the west and north boundaries. It is at the foot of a hill that rises from 75m AHD (site) to a peak of 160 m AHD 350 m to the north east of the site. It was a former pine plantation harvested since 2017, with regrowth commencing. The site is immediate to the east of the Nannup township.
Road Access	The site is an elongated shape with its long west side adjoining Brockman Highway, a regional through road to the town of Bridgetown east (through forest) and north to Warren Road, Vasse Highway, and Vasse Highway to the town of Busselton (through forest). The site is also joined by Dunnett Road at its north west and Asplin Road at the south of the site. The site joins rising agriculture land at its north and east boundary.
Water supply	The site is connected to a reticulated water supply. The nearest hydrant is opposite to the site at the intersection of Brockman Highway and Hitchcock Drive.
Tele communications	The site is within the Telstra 4G network.
Emergency services	The nearest fire brigade is: Nannup Volunteer Fire Brigade and Rescue Service 13 Adam Street Nannup (0.7 km east of the site)
Minor Development	N/A
Unavoidable development	N/A
Vulnerable Development	Yes
High risk land use	N/A

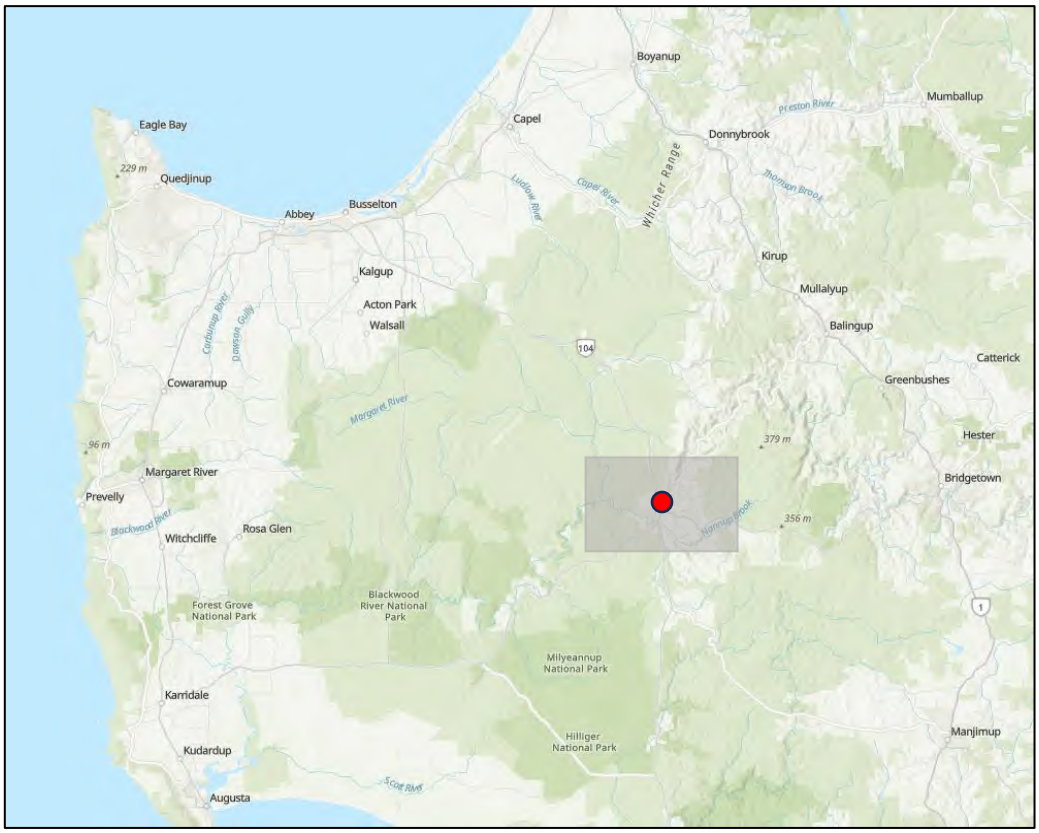

Plate 1:Site in Locality (grey box)

Plate 2: OBRM Bushfire Prone Area (pink area)

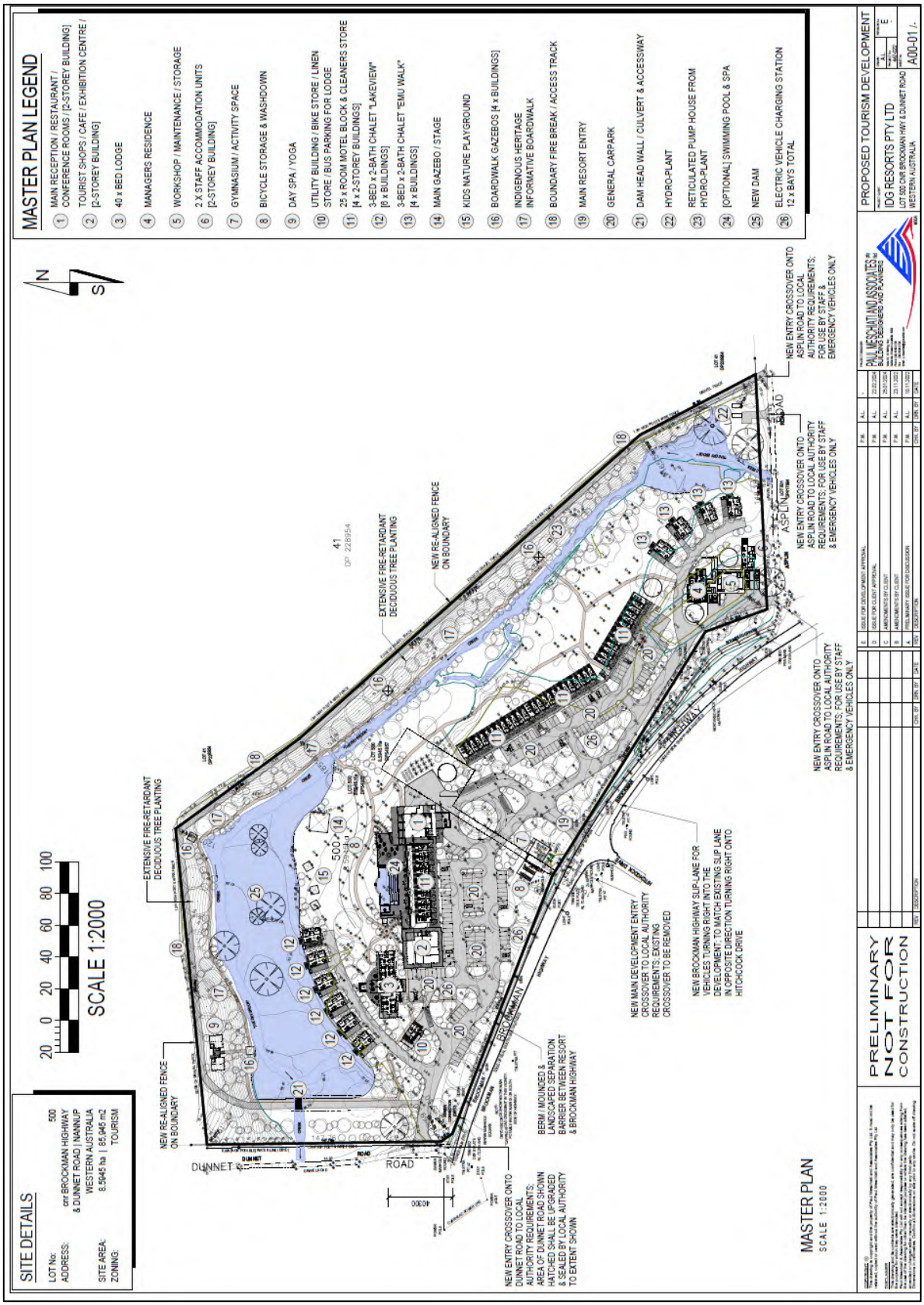

Plate 3a: Concept and site plan

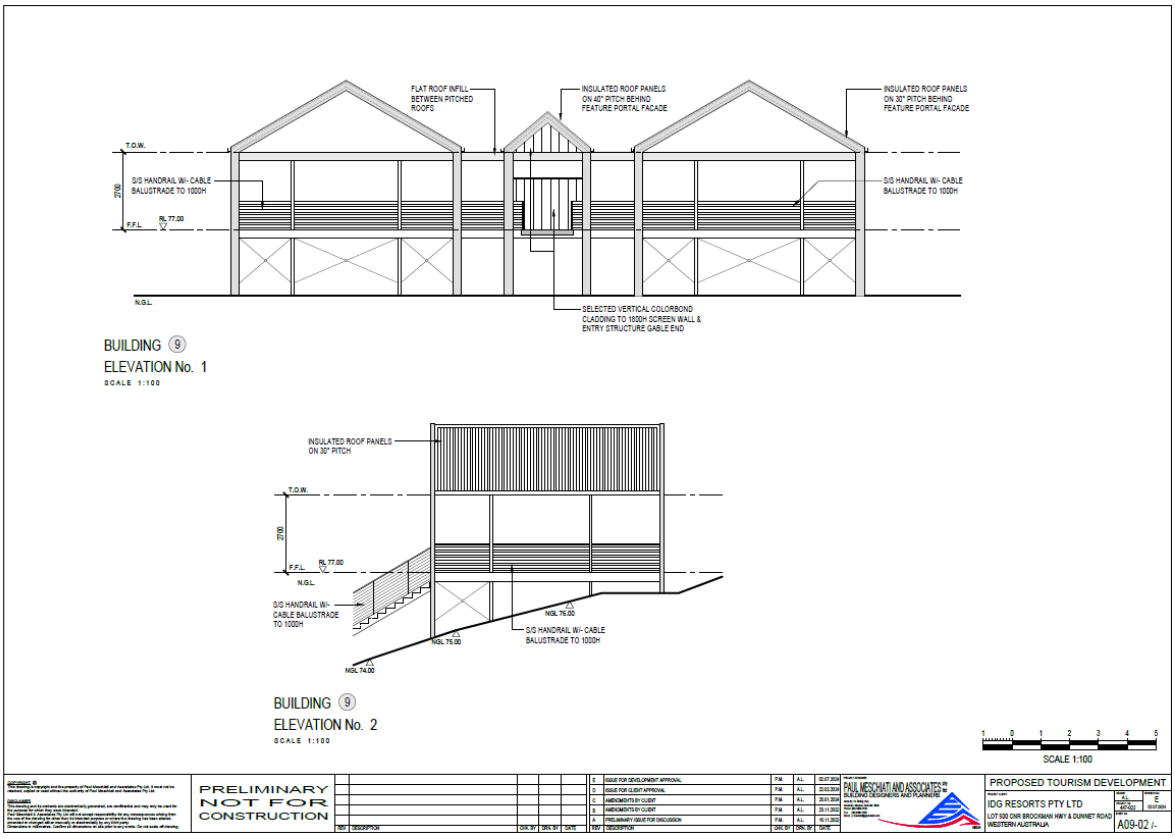

Plate 3b: Open Spa building

1.2 Regulatory Compliance Requirements

Planning and Development Act 2005 - SPP 3.7

On 7 December 2015, the State Government introduced by Gazette, 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***.

Applicable clause from SPP 3.7, include:

SPP 6.2: A development application within a bushfire prone area has or will, on completion, have a moderate BHL and/or where BAL-12.5 to BAL-29 applies, may be considered for approval. *In this instance the habitable buildings will not exceed BAL 29 at completion.*

SPP 6.5: A development application in a bushfire prone area is to be accompanied by an assessment against the bushfire protection criteria contained within the Guidelines, demonstrating compliance within the boundary of the development. *The proposed development requires no imposition beyond the site.*

SPP 6.7: A development that will result in the introduction or intensification of development or land use in an area that has or will, on completion, have an extreme BHL and/or BAL-40 or BAL-FZ will not be supported. *The habitable buildings will not exceed BAL 29 at completion.*

SPP 6.10: The decision-maker may impose a 'notice on title' advising that the site is located in a bushfire prone area and is subject to a Bushfire Management Plan. *Routinely imposed as a condition of planning approval.*

SPP 6.11: Precautionary Principle if a landowner/proponent cannot satisfy the performance principles of the relevant policy measures (intent) through either the acceptable solutions outlined in the Guidelines, or through the alternative solutions (Performance Principle) the application may not be approved. *The proposal achieves compliance by the acceptable solutions.*

Building Act 2011

The *Building Act 2011* applies the National Construction Code 2019[1] and the construction standards described in AS 3959:2018, only to the construction of class 1, 2, 3, and 10a, buildings. The proposed accommodation, the Managers Residence and Chalets are Class 1 buildings, and the Guesthouse and Motel units are a Class 3 building.

The reception, restaurant, gymnasium, and café are a Class 6 building. Whilst the *Building Act 2011* describes bushfire construction standards for some building classes, AS3959:2018 is used to determine the siting considerations for all habitable buildings.

Also, whilst the *Building Act 2011* prevails where there is conflict with the *Planning and Development Act 2005*, it is at the owner's discretion that all buildings offer a bushfire construction resistance commensurate their BAL.

Bush Fires Act 1954

Section 33 of the *Bush Fires Act 1954* recognises the responsibility of all landowners to prevent the spread of bushfire. The Shire of Nannup issues a Firebreak Notice annually (Attachment 4). The Shire can issue a notice upon the landowner to act as and when specified in the notice with respect to anything which is upon the land, and which in the opinion of the local government or its duly authorised officer, is or is likely to be, conducive to the outbreak of a bushfire or the spread or extension of a bushfire.

An owner who fails to comply with a notice is guilty of an offence (Penalty: $5,000). The local government may in addition carry out the required works of the notice and recover the costs incurred by application to a Court.

[1] NCC 2022 will become operational in 2024 (WA) and will also include specific bushfire building requirements for Class 9 buildings

2. ENVIRONMENTAL CONSIDERATIONS

A fundamental consideration in the assessment of development under SPP 3.7 is to avoid instances where bushfire risk management measures would conflict with or be limited by other biodiversity management measures.

Conservation class legislation

The ability to implement bushfire risk management measures may be affected by a number of conservation class vegetations: described below.

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

It is an offense 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 required by local government Section 33 *Bushfire 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 Complex) a review of the listed databases has been undertaken as part of this assessment. The purpose is to identify whether restrictions or other specific considerations may apply that would affect the possible implementation of any bushfire protection initiatives/risk treatments.

This however is not a comprehensive assessment. Not all ecological details are publicly available and many of the items are not described at a site-specific level, which would enable specific items to be identified on the site.

This BMP therefore does not preclude the requirement or influence the considerations required to be separately taken, in gaining the required authorisations under the conservation class legislation identified above.

Table 2: Ecological database assessment (Landgate summarised).

Is the land affected by:	**Yes/No/NA**	**If yes - describe**
Conservation Wetland or buffer (DBCA-019 DBCA-017)	No	There are no Conservation Wetland identified within the site.
RAMSAR Wetland (DBCA-010)	No	There are no RAMSAR Wetland identified within the site.
Threatened and Priority Flora (DBCA-036)	No	Areas identified north west and west of the site.
Threatened and Priority Fauna (DBCA-037)	Yes	Carnaby's Cockatoo Areas requiring investigation as feeding habitat, if trees are affected
Threatened Ecological Communities (DBCA-038)	No	Areas identified north west and west of the site.
Bush Forever (COP-071)	No	No Bush Forever sites are located within or adjacent to the site
Environmentally Sensitive Area (DWER-046)	No	There are no ESAs identified within the site.
Regionally Significant Natural Areas (DWER-070)	No	Regionally Significant Natural Area
Conservation Covenant (DPIRD-023)	N/A	
Does the proposal require the removal of restricted vegetation?		**~~Yes~~** **No**

2.1 Native Vegetation – Modification and Clearing

The site is largely cleared of regulated vegetation, it is not explicitly identified by any restriction from the above data base review, and only generally within Carnaby's Cockatoo (investigation area). It will not therefore displace any regulated vegetation.

There is no requirement to modify vegetation outside of the site. The external vegetation affecting the development site is forest (upslope) or woodland.

Vegetation presently grassland east of the site, behind a forest line, appears to be regenerating as pine forest

Forest is assessed adjacent the north and east boundary, any revegetation is already within the highest level of bushfire threat, and therefore any modification will not increase the ratings at the buildings determined by this assessment.

Some modification to the existing tree areas is expected within the site, ostensibly displaced by the water feature (Lake and water way augmenting the waterway identified as The Dry Brook). Where possible the retention of habitat trees for Carnaby's Cockatoo Areas should be considered, individual trees do not present a bushfire risk.

2.2 Re-vegetation/Landscape Plans

The Asset Protection Zones will be established in accordance with Schedule 1 Asset Protection Zone Standard in Element 2 *Guidelines for planning in Bushfire Prone Areas* v1.4.

No revegetation or the establishment of classified vegetation within the development site is proposed that may increase the ratings at the buildings determined by this assessment (see Figure 5).

The proposal includes the establishment of a lake and waterway feature within the north and east boundary of the site. The water feature will separate the resort area (buildings and open garden) from the area between the water feature and the boundary area that is to be augmented with deciduous trees. This area has been assumed to retain a classification of forest.

3. BUSHFIRE ASSESSMENT

3.1 Bushfire Attack Level Assessment (Inputs)

The following assessment has applied the methodologies described in AS 3959-2018, the Guidelines, and has used the Fire Protection Association Australia accredited practitioner methodology for the preparation of Bushfire Attack Level (BAL) assessments.

All vegetation within 150 m (context) of the subject building has been classified following Clause 2.2.3 (AS 3959:2018) to determine the predominant vegetation affecting the behaviour at the locality. The Bushfire Attack Level is determined by the **predominant** vegetation within 100 m of the site boundary (for subdivision), or around the development site (building envelope) or the external face from a habitable building.

The classifications of vegetation used in AS 3959:2018 are based on foliage cover, measured as a percentage of a hectare and by the fuel (vegetation) height.

> ***Foliage cover**: The portion of the ground that would be shaded by foliage when the sun is shining directly overhead, expressed as a percentage for each stratum or identifiable layer of vegetation*
>
> AS 3959:2018

Table 3: Bushfire fuel descriptions

Layer/ Stratum	Description	Hazard
Bark	Tight/fine – course/ribbon	Spotting and ember attack potential associated with forest
Canopy	Trees taller than 6 m (forest)	Influences the flame height
Elevated fuel	Trees and Shrubs up to 6 m	Influences the flame height
Near surface	Grasses and shrubs taller than 100 mm and up to 2 m	Influences the rate of spread and canopy ignition
Surface	On ground material, leaves, twigs, bark	Influences the rate of spread

From CFA (Vic) Overall fuel assessment guide 2010

AS 3959:2018 prescribes six categories of Bushfire Attack Level (BAL): BAL LOW, BAL 12.5, BAL 19, BAL 29, BAL 40, and BAL FZ. In addition, BAL FZ describes only performance solutions where the separation from classified vegetation (on completion) is less than 10 m. The BAL level is used for determining the siting of development (to be less than BAL 40) and in turn the construction standard that is equivalent to the BAL at the proposed building location.

This assessment has followed the guidance of AS 3959:2018. This includes:

- A recognition of excluded vegetation types described at cl.2.2.3.2 (e) and (f), but the underlying vegetation should still be classed e.g. an orchard may be excluded but not the grassland within it.
- A separate plot is applied if there is a variation in the slope greater than 5.0^0
- For various vegetation classes a representation that is less than 10%, does not constitute the predominant class. Foliage cover referred to in AS 3959:2018 for various classes is based on the foliage cover for that class as a percentage of a ha. (shadow cast is not representative of foliage cover).
- The measurement point and the most influential vegetation class (presenting the highest BAL at the building) is used for the determination of the BAL at the building (Figure 2.2 AS 3959:2018).
- Consideration of the predominant vegetation is to consider the likelihood of regeneration.
- Orchards, and single tree rows (planted in a row less than 10 m wide) is determined by underlying the near surface fuel.

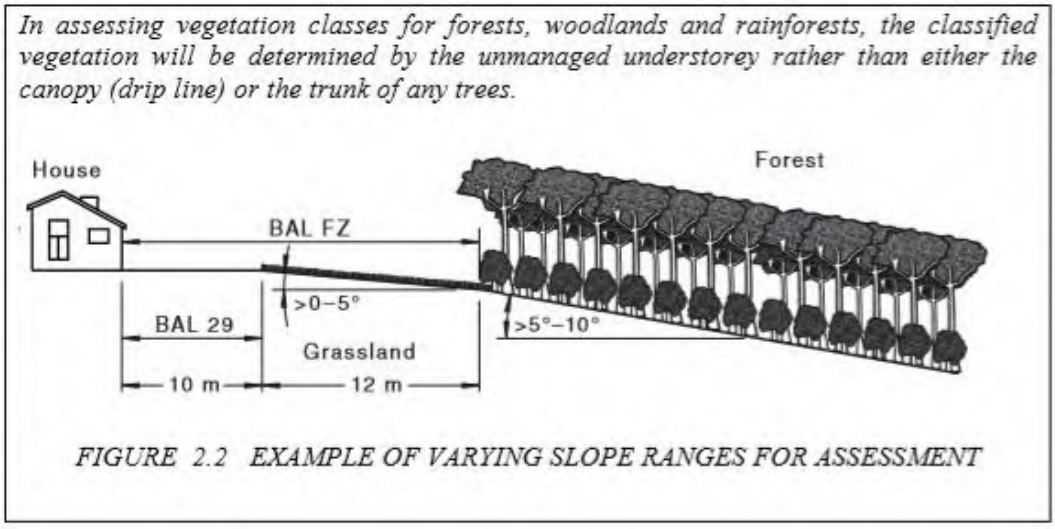

Plate 4: Effective Slope and measurement taken from AS 3959:2018

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.

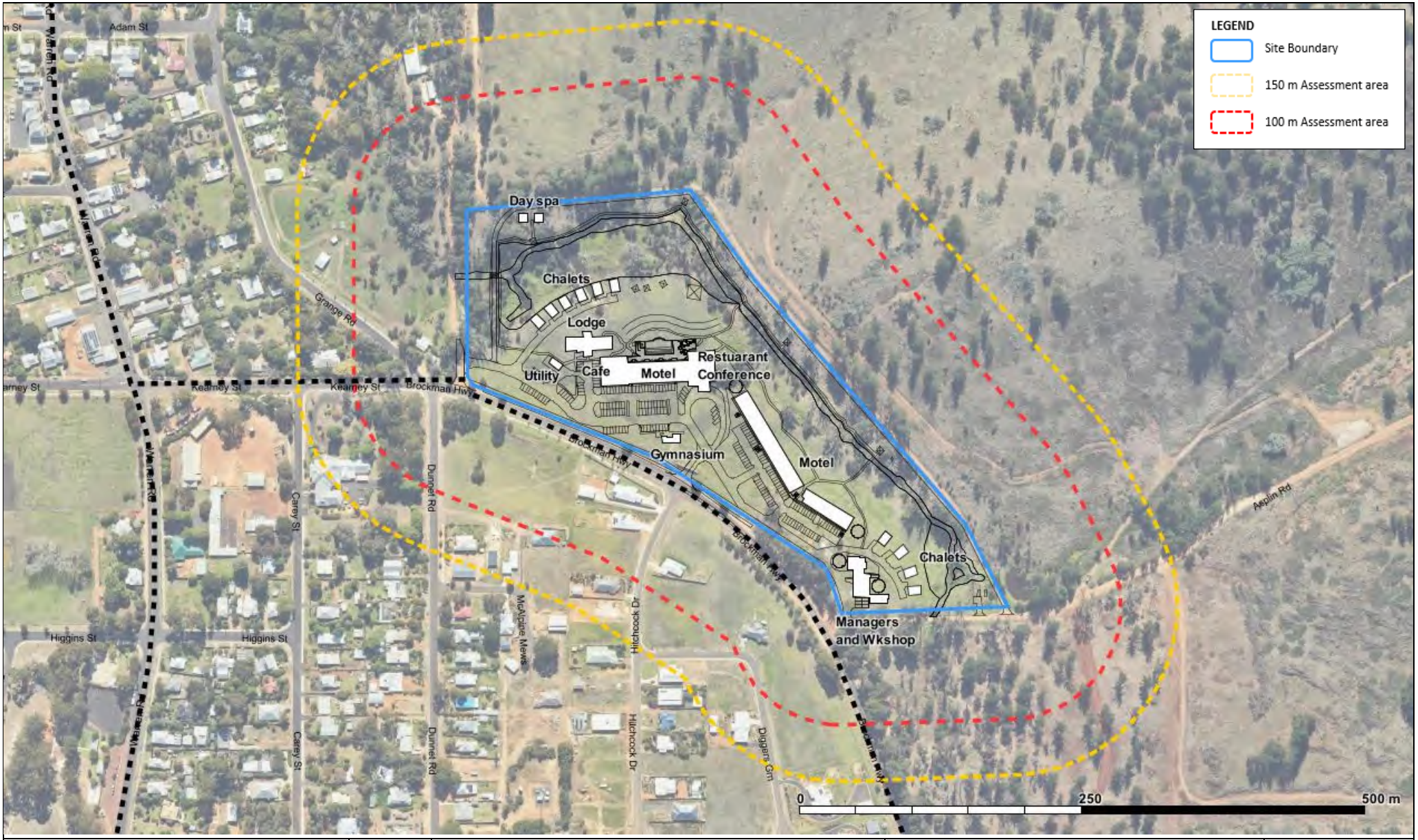

Figure 1: Location

N

Assessment Date: 09/04/2024
Prepared: Anthony Rowe I Accreditation Level: BPAD L3
Accreditation Number: 36690 Accreditation I Expiry: Dec 2024
FPAA FIRE MAP 2024 I GDA 1994 MGA Zone 50

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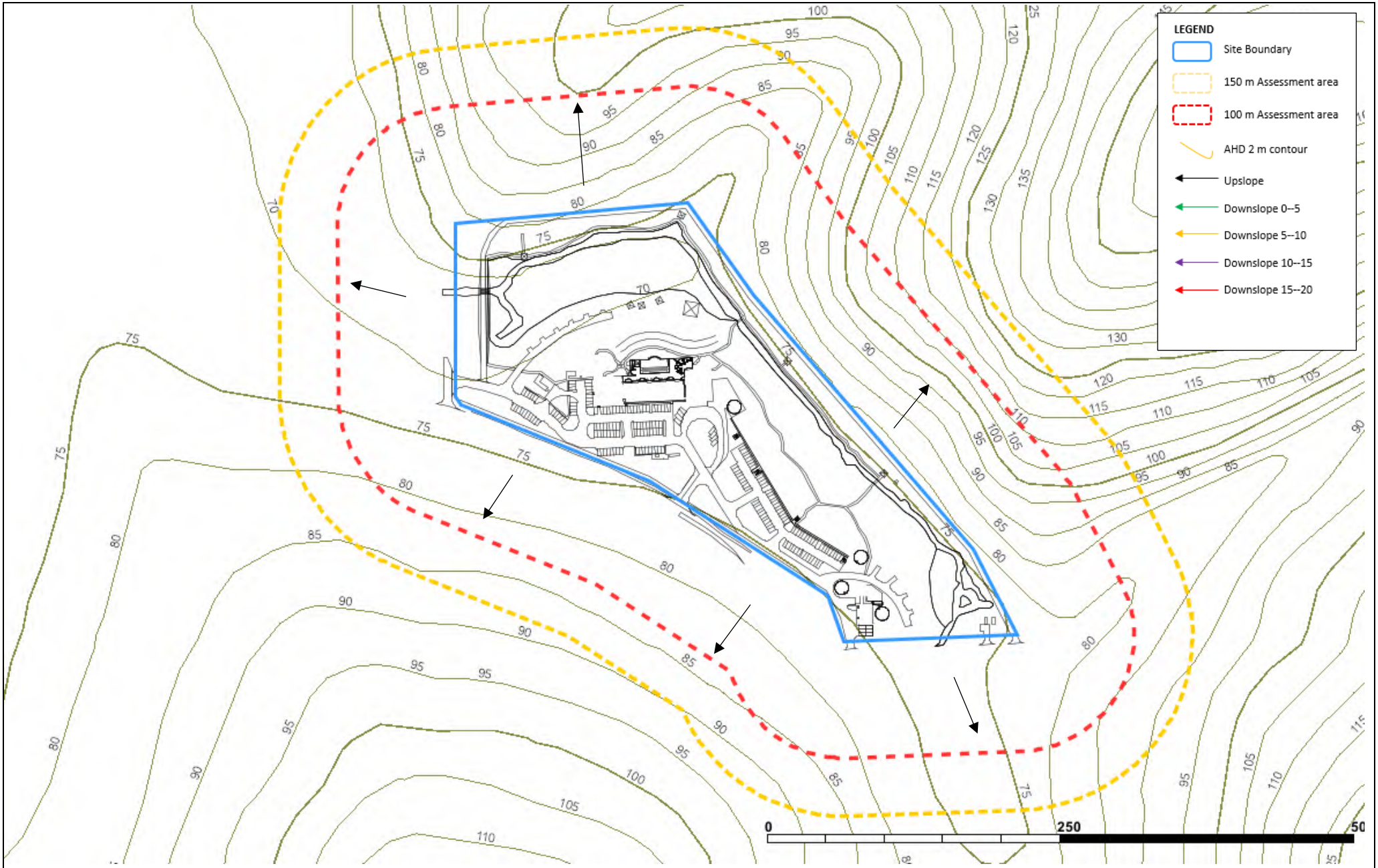

Figure 2: Topography

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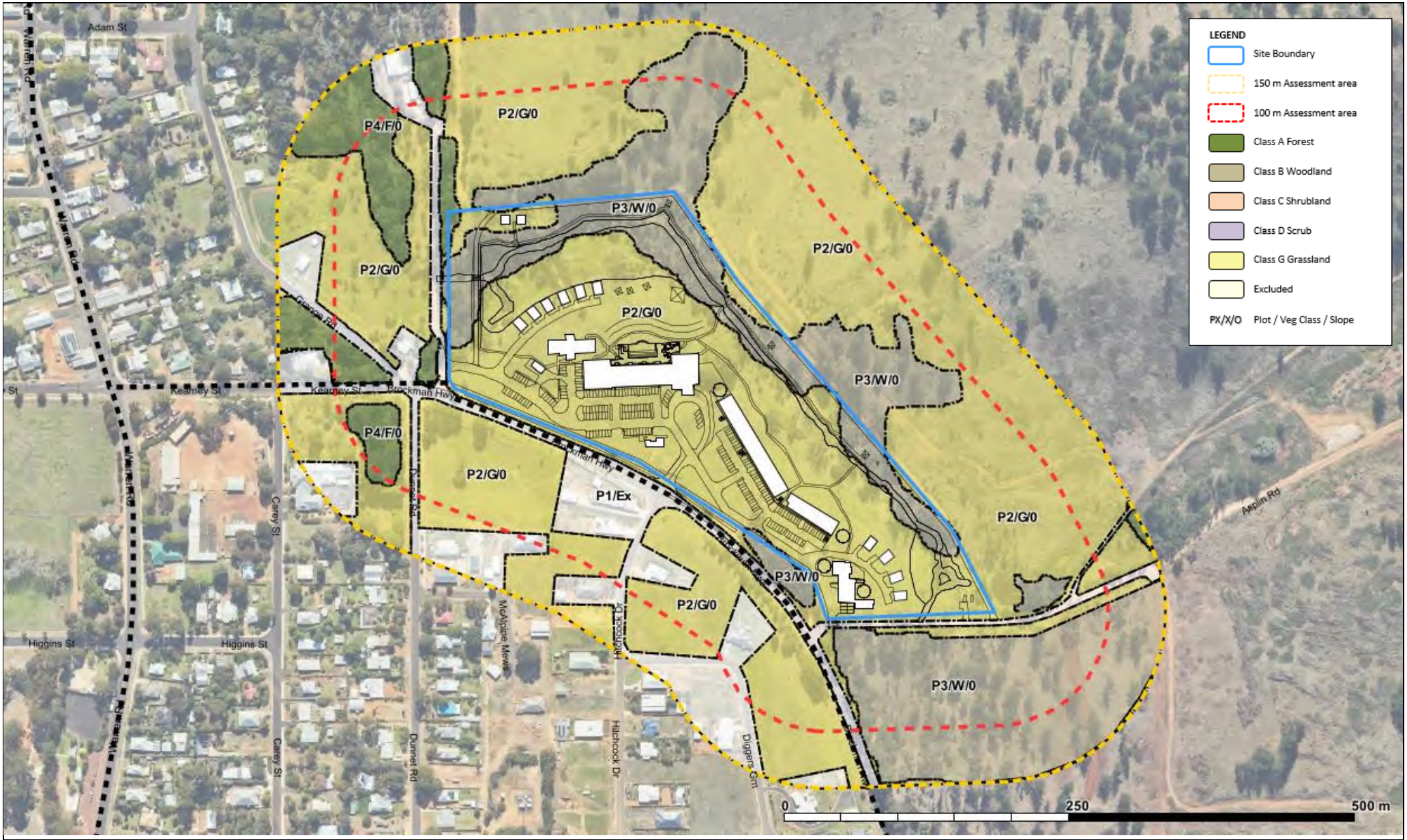

Figure 3a: Vegetation Classification

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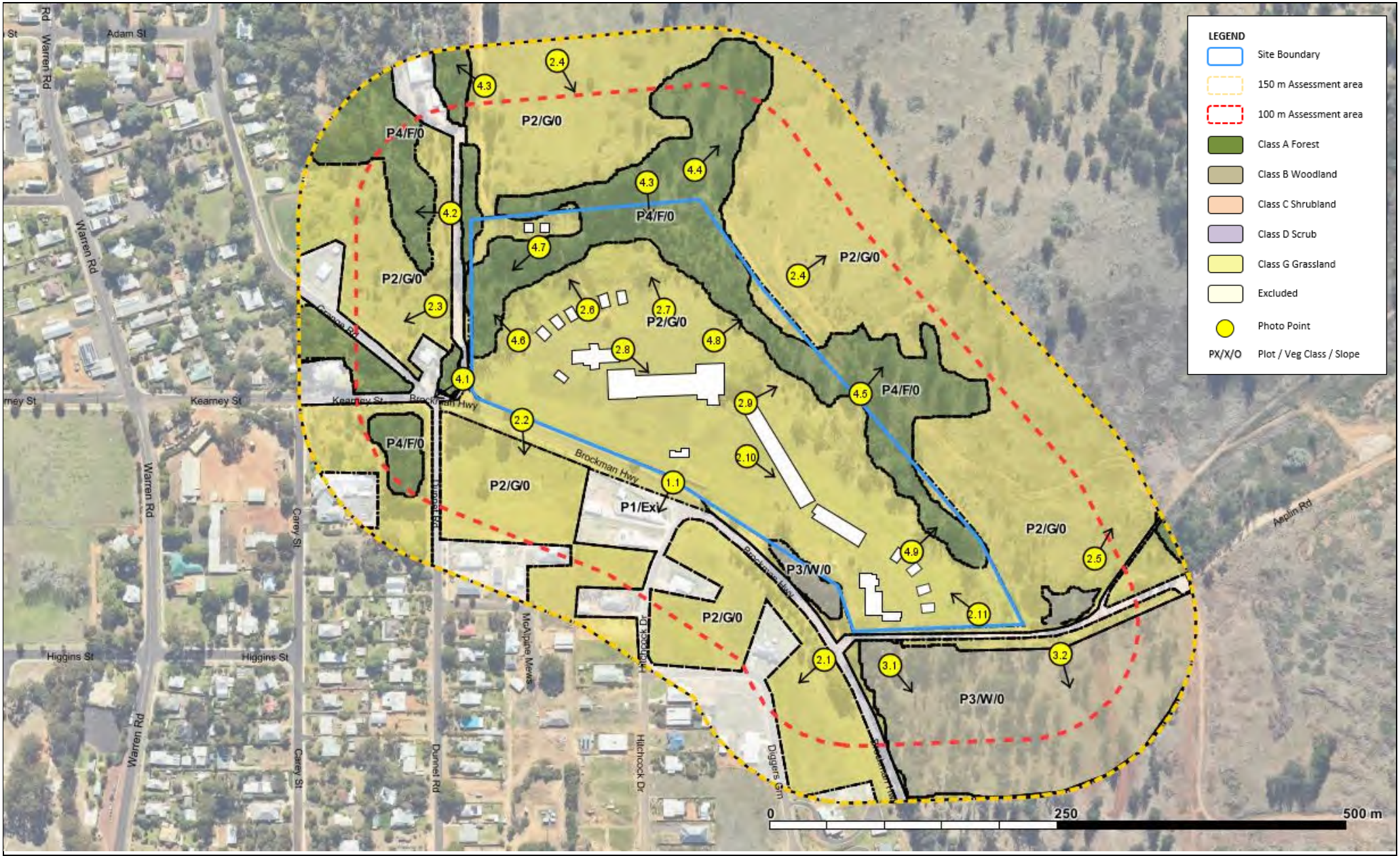

Figure 3b: Vegetation Classification and photo locations

N

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Figure 3c: nearest elevation to Vegetation Classification

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PLOT: 1				
Vegetation Classification			**Slope**	
Excludable - 2.2.3.2(f) Low Threat Vegetation			Flat	
Observation/Justification for classification				
Fuel Hazard	Surface	Near surface	Elevated	Bark
Low	✓	✓	✓	✓
Moderate				
High				
Very High				
Extreme				
Vegetation Description (AS 3959)				
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, maintained lawns,….cultivated gardens, vineyards, nature strips and windbreaks.				
Post development				
Excluded - Existing dwelling/residence to be displaced and relocated north.				

Photo 1.1 Developing residential area

PLOT: 2				
Vegetation Classification		**Slope**		
Class G Grassland – Spare open tussock G-24		Flat		
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				
Photo 2.1 – 2.2 to become Low Threat with residential development.				

Photo 2.1:

Photo 2.2:

Photo 2.3:

Photo 2.4: Former plantation (revegetating conifers)

PLOT: 2				
Vegetation Classification		**Slope**		
Class G Grassland – Spare open tussock G-24		Flat		
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				
Conifer revegetation apparent (photo 2.5), grassland removed (Low threat) photos 2.6-2.11.				

Photo 2.5: Former plantation (revegetating conifers)

Photo 2.6: Grassland foreground to plot 4

Photo 2.7: Grassland foreground to plot 4

Photo 2.8:

PLOT: 2				
Vegetation Classification		**Slope**		
Class G Grassland – Spare open tussock G-24		Flat		
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				
Low Threat - Grassland removed photos 2.6 -2.11 by development of the site.				

Photo 2.9: Grassland foreground to plot 4

Photo 2.10:

Photo 2.11:

PLOT: 3				
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. Authors Note: Woodland is classed by its understorey for the purpose of determining the fire intensity.				
Post development				
Retained as Woodland				

Photo 3.1

Photo 3.2

PLOT: 4				
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				
Retained as Forest - 4.1- 4.5 external to the site.				

Photo 4.1 (north west of site)

Photo 4.2

Photo 4.3

Photo 4.4

PLOT: 4				
Vegetation Classification		**Slope**		
Class A Forest - Open forest A-03		Downslope 0-5		
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				
Retained as Forest - 4.6-4.9 within site opposite side of water way from buildings.				

Photo 4.5

Photo 4.6

Photo 4.7

Photo 4.8

PLOT: 4				
Vegetation Classification			**Slope**	
Class A Forest - Open forest A-03			Downslope 0-5	
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				
Retained as Forest - 4.6-4.9 within site opposite side of water way from buildings.				

Photo 4.9

POTENTIAL BUSHFIRE IMPACT - Outputs

Determined Bushfire Attack Level

The determined BAL is the present BAL level at the position of the proposed development without bushfire protection measures. The assessment has identified the most influential vegetation that determines the BAL at the building. Grassland within the site can be excluded as it is not restricted from being maintained on a low threat condition (<100 mm tall)

Table: 2 – Recorded distances for the BAL at each habitable building.

Building	Vegetation Classification	Effective slope	Separation (m)	BAL	Distance (m) for BAL 29
Chalet north	Forest	Flat/Upslope	30 m	BAL - 29	21 - 30
Chalet south	Forest	Flat/Upslope	27 m	BAL - 29	21 - 30
Lodge	Forest	Flat/Upslope	68 m	BAL – 12.5	21 - 30
Motel/restaurant/ conference	Forest	Flat/Upslope	35 m	BAL - 19	21 - 30
Motel	Forest	Flat/Upslope	37 m	BAL - 19	21 - 30
Day Spa	Forest	Downslope 10-15	5 m	BAL - FZ	42 - 56
Managers and work shop	Woodland	Flat/Upslope	17 m	BAL - 29	14 - 20
	Grassland	Flat/Upslope	7 m	BAL 40	8 - 12

Indicative Bushfire Attack Level

The Indicative Bushfire Attack level is the expected BAL at buildings upon completion, after the bushfire management strategies have been implemented.

The BAL contour map Figure 5 illustrates the spatial position of the proposed buildings and their BAL rating.

Only buildings that exceed BAL 29 require immediate works to establish the Asset Protection Zone (APZ) to achieve BAL 29 at the building.

Other buildings should be provided with an Asset Protection Zone that will maintain the construction standard BAL going forward. As an example a building within flat grassland would require a separation of 8 m to achieve BAL 29 but if revegetation to a forest class was to occur within 21 m of the building, the BAL at the building would exceed BAL 29 and it would subject the building to direct flame contact. This would increase the risk to the building and potentially void any insurance arrangements.

The forest class is chosen because it has the highest value for intensity (greatest separation requirement). The APZ standard is described in the Guidelines v1.4. It is not barren land but describes an arrangement for vegetation types that would have a neutral effect upon the BAL at the building as determined by the vegetation at the outside of the APZ extent.

The APZ provides certainty that the construction standard will be maintained but it also provides certainty for revegetation, unrestricted, outside of the APZ.

It is recommended that the Asset Protection Zone of 21 m be provided for the Class 1 and 3 buildings Chalets to match a BAL 29 construction standard.

The other class 3 buildings (guesthouse and motel) are recommended to be provided with an Asset Protection Zone of 31 m, to match/protect a BAL 19 construction standard.

The other buildings at the applicant's discretion are recommended to be provided with an Asset Protection Zone of 31 m that corresponds to BAL 19 construction.

The Managers residence and workshop is affected by grassland and woodland that is adjacent the site. Grassland in the Asplin Road reserve is 5 m wide and within 5 m of grass on the other side of Asplin Road, a calculation for a short fire run is not applicable because the separation of Asplin road is less than the flame length of grass (8 m).

A solid colorbond fence 3 m high as a barrier can reduce the BAL at the Managers residence and work shop to BAL 29 (Method 2 calculation Attachment 6). Alternatively the Managers and work shop could be shifted north 1 m.

The day spa is located within a cleared area within forest that has a steep down slope of 10-15 south. The day spa is an open sided gazebo and does not constitute a habitable building. It will be evacuated as a priority as part of the BEEP.

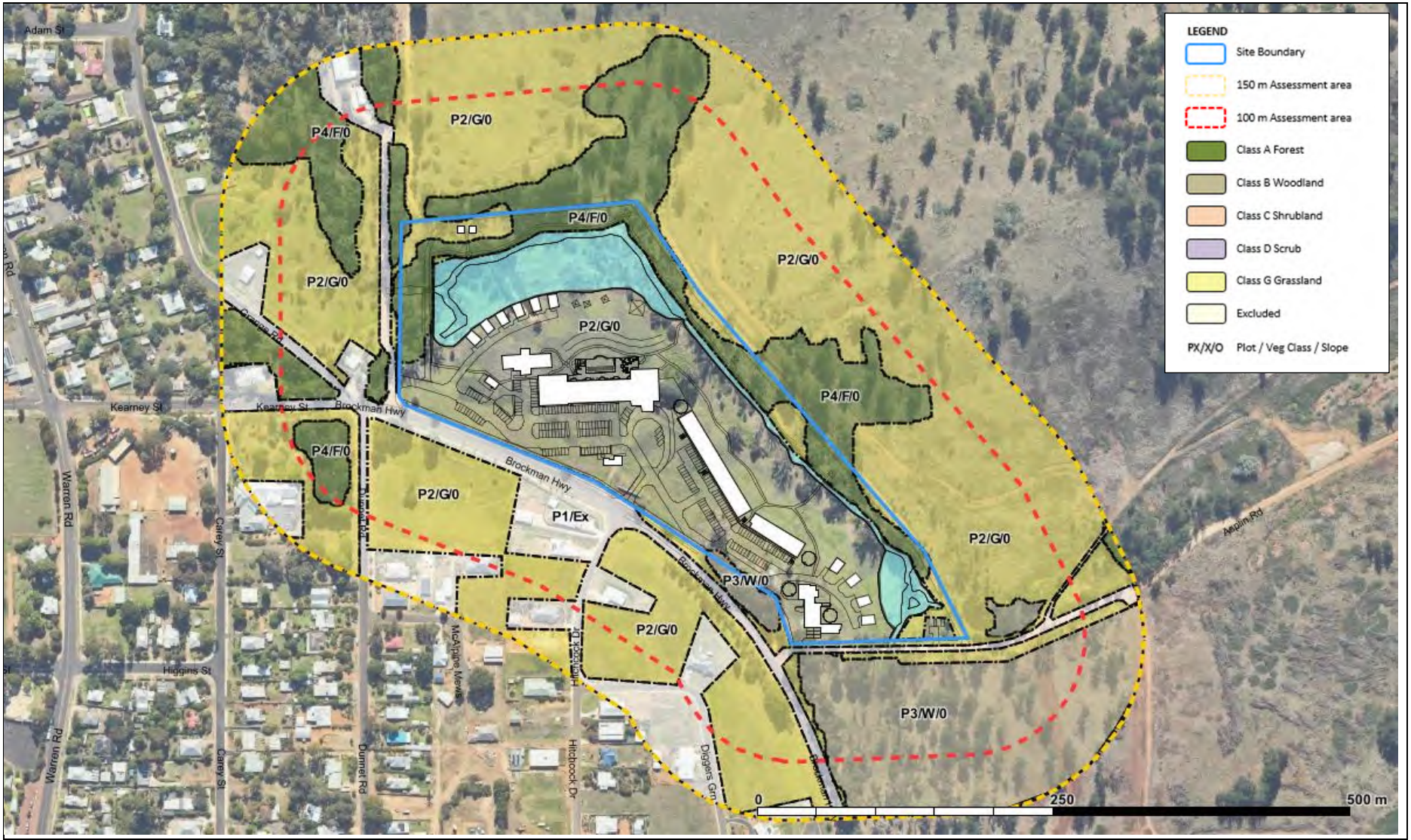


Figure 4 Vegetation for APZ – grassland excluded within the site

N

Assessment Date: 09/04/2024
Prepared: Anthony Rowe I Accreditation Level: BPAD L3
Accreditation Number: 36690 Accreditation I Expiry: Dec 2024
FPAA FIRE MAP 2024 I GDA 1994 MGA Zone 50

envision bushfire protection

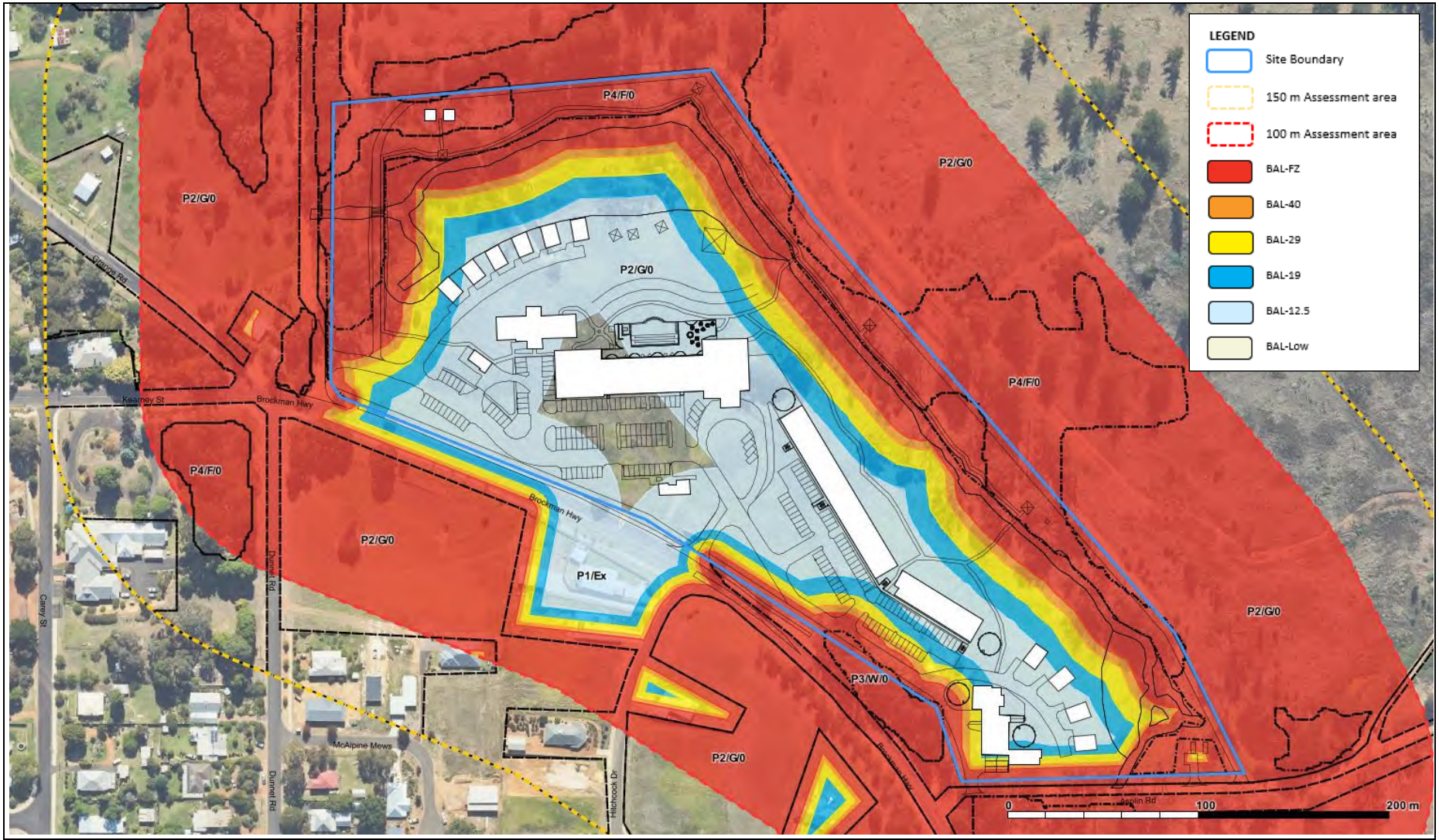


Figure 5: BAL Contour Excluded Grass

Assessment Date: 09/04/2024
Prepared: Anthony Rowe I Accreditation Level: BPAD L3
Accreditation Number: 36690 Accreditation I Expiry: Dec 2024
FPAA FIRE MAP 2024 I GDA 1994 MGA Zone 50

4. IDENTIFICATION OF BUSHFIRE HAZARD ISSUES

Bushfire Behaviour

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).

  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. As wind strength increases it increases the availability of oxygen allowing the fire intensity to increase.

  Atmospheric instability

  Atmospheric conditions determine the potential for the uplift of embers and particles that can be distributed by the prevailing wind direction well ahead of the fire, up to 9 km, to create spot fires that can advance the location of the fire front. In extreme events they can also result in extreme strength wind from down drafts when the accumulated particles cool and become too heavy to support and the plume collapses, evidenced in the Waroona 2016 fires.

  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.

- 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 AS3959:2018 (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 Cape Naturaliste (18 km northwest of the site). 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.

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 west -south easterly winds (BoM Jarrahwood). A bushfire can however come from any direction.

Bushfires generally travel in the direction of the prevailing wind with the fire intensity also affected by the slope and fuel. The direction of the prevailing wind conditions can affect the options for evacuation.

The wind roses below (Plates 5 and 6) for February (averaged) recorded at 9 am and 3 pm, 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 southwest.

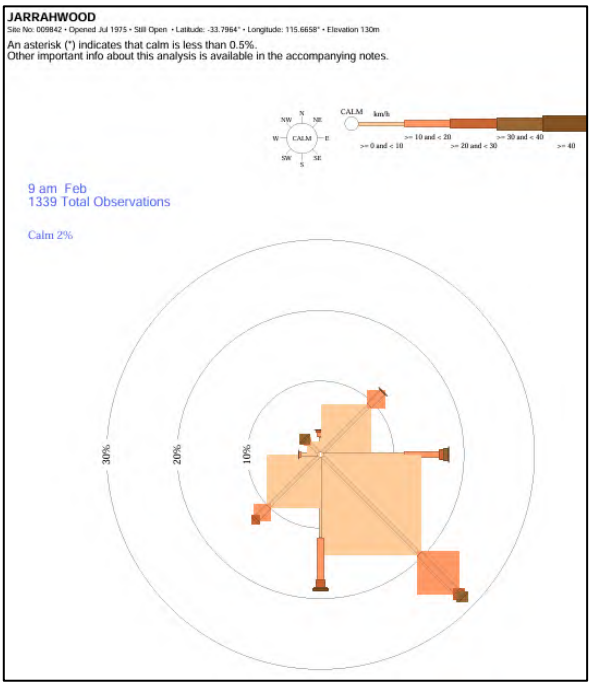


Plate 5: BoM weather data, prevailing wind directions as at 9 am

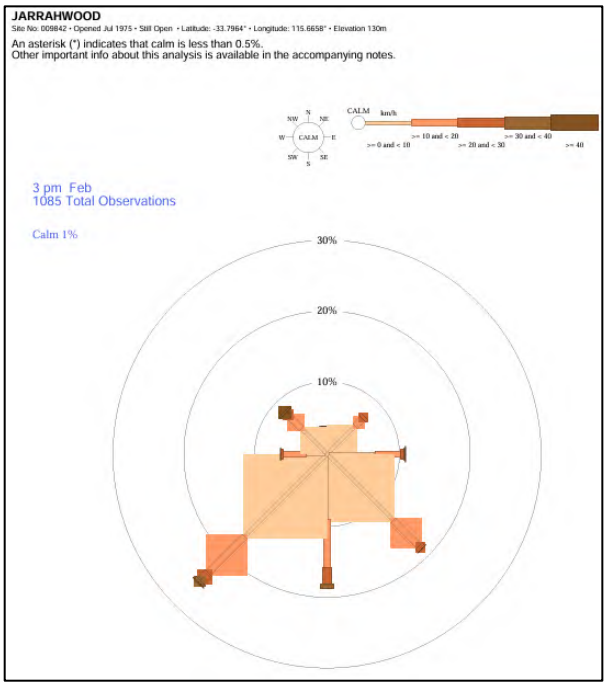


Plate 6: BoM weather data, prevailing wind directions as at 3 pm

4.1 Site Context

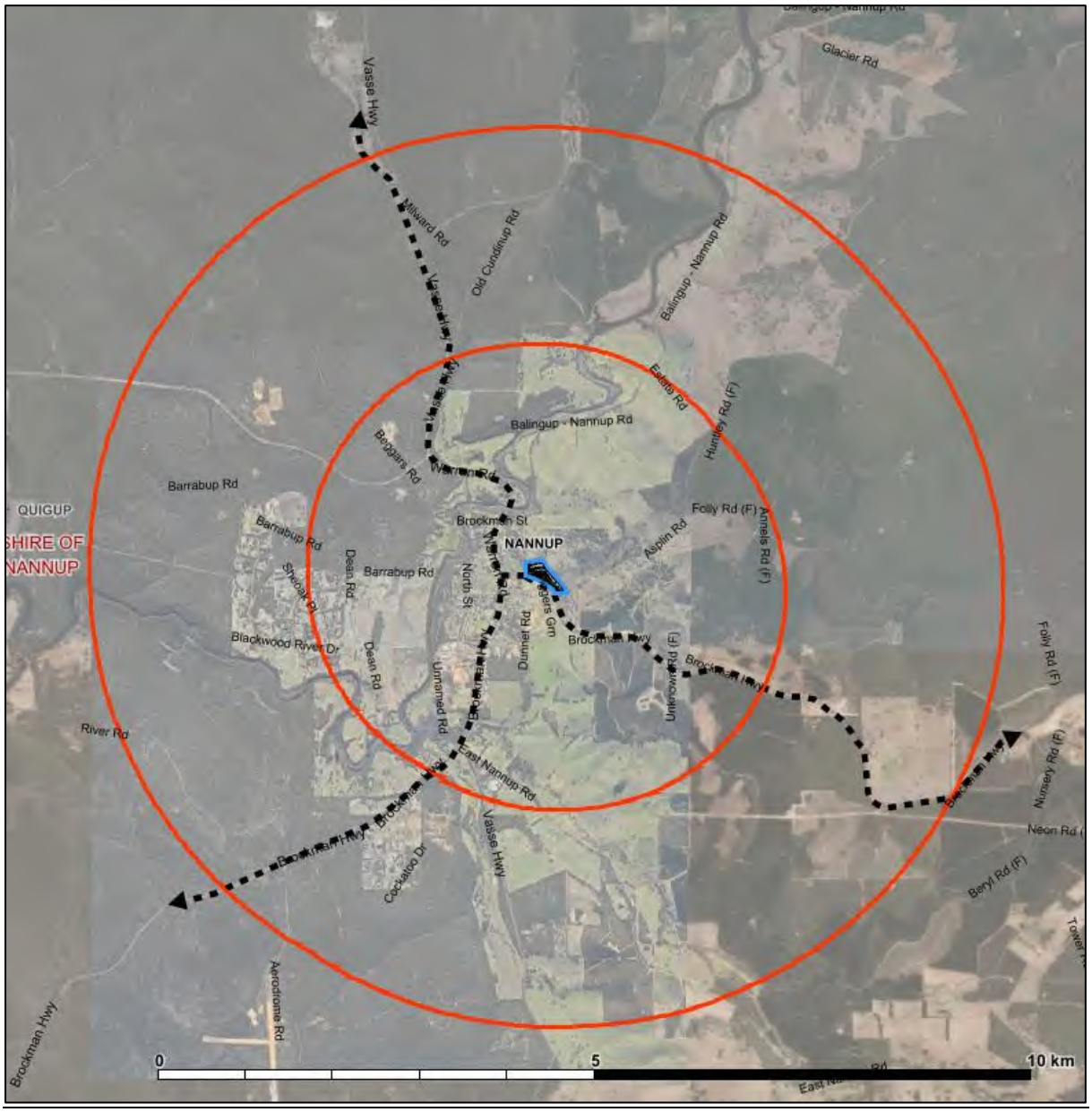


Plate7: Illustrates the surrounding area within.2.5 km is predominantly grazing and pasture in a wide valley in which the township of Nannup is located, The township and the site is within contiguous forest 5 km. Access routes are through forest.

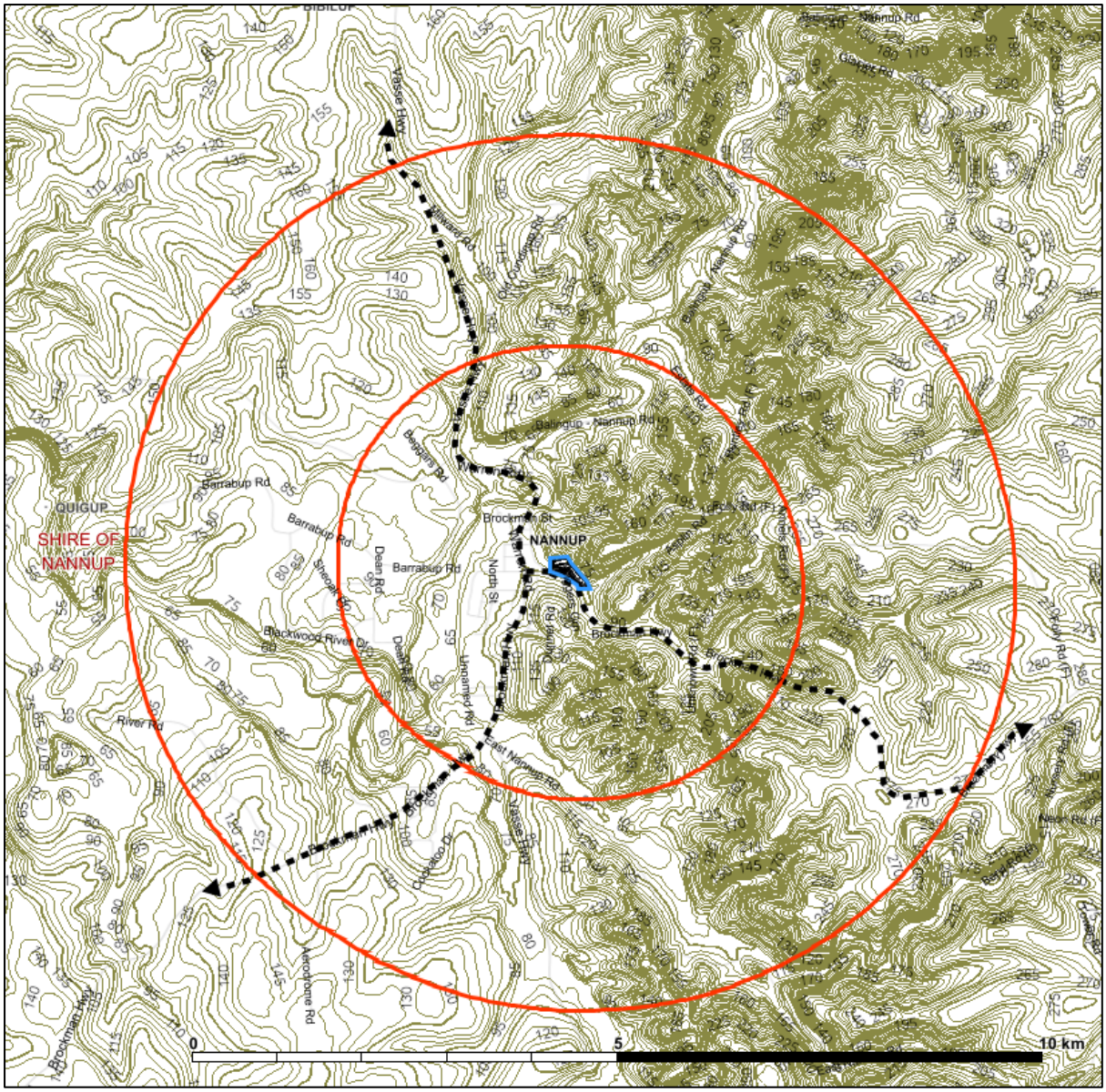


Plate 8: Illustrates the topography (5m Ahd) in the surrounding 2.5 km area. The development site is the east face of steeply sloping gulleys in the Darling Ranges The land west of the site is also undulating with broader slopes. The site is part of a wide valley that runs north south, in which the town of Nannup is located and the lower gradients historically providing for grazing.

DBCA Fire History

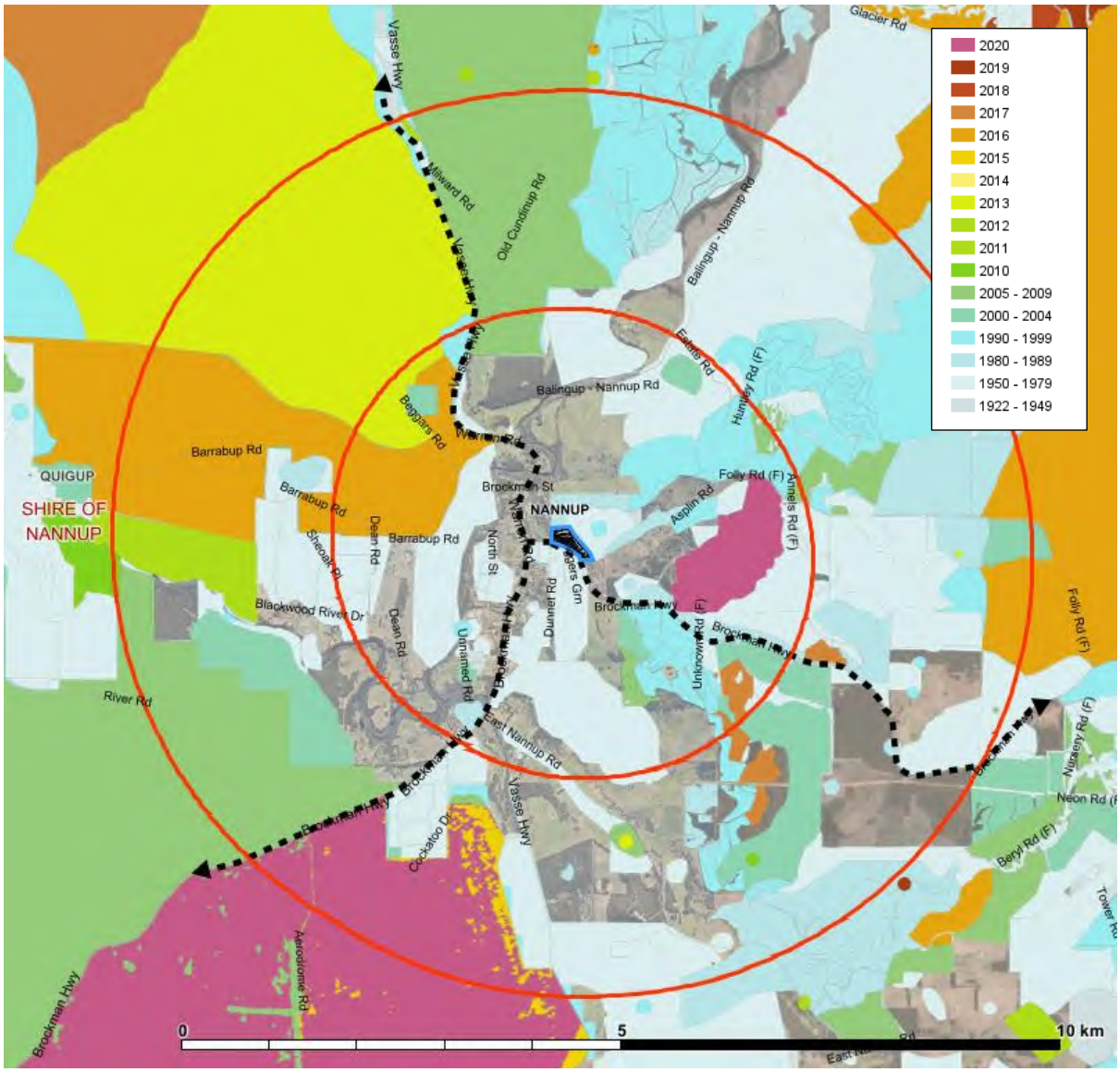


Plate 9: Illustrates the recorded fire history. It is indicative only due to the unreliability of previous recording. It illustrates a level of recent activity but not necessarily the risk, it does not distinguish between controlled and uncontrolled fires, many of the area's west are within the DBCA burn program.

The fire history indicates the grassland valley-within which the Nannup township and sit is located has not a low level of activity whereas the steeper land and forest has featured a high level of activity, DBCA burn programs predominantly west in the plate.

Plate 7; when combined with Plates 5 and 6, suggests a fire that is most likely to affect the site is from the south west.

The site as the interface of the township faces a fire predominantly affecting the site through grassland, under northerly or easterly conditions. Trees within and adjacent the site are isolated and direct flame contact can be managed by the establishment of asset protection area from the retained vegetation and the management of land within the site, as gardens.

The site, and township of Nannup is within 5 km of contiguous forest with the potential for long duration and powerful wildfires. Extreme fires can disperse heavy materials (embers) distant to the firefront and can interact with the atmosphere that can result in plum collapse and strong downdrafts occurring distant to the fire front (Waroona 2016). A dispersed ember attack can contribute to spotting may close the option for safe evacuation earlier than the position of the fire font would suggest.

The site has access north to the town of Busselton, south west to the town of Augusta and east to the town of Bridgetown. The site therefore has an option to evacuate in the opposite direction to an approaching fire, but the routes are through forest and require a cautious approach if a fire has been running a long duration >2 hours because of the risk of advanced spotting.

The site has access to a reticulated water supply, it is an extension to the Nannup township urban area and is within 700 m of the local volunteer fire brigade. The township of Nannup - Nannup Recreation and Community Centre (Centenary Road Nannup) and golf greens is 850 m east from the site and accessed through the township (low threat). The Nannup Recreation and Community Centre (Centenary Road Nannup) is within a low threat area (partially not within the bushfire prone are map) with a diameter of 400 m (> 200 m from classified vegetation).

Risk

Exposure to extreme heat from a bushfire can be fatal.

Exposure to fatal heat may occur:

- Outside of buildings on site (heat reduces with distance from the north and east boundary)
- Within a failed building
- Within a trapped vehicle exposed > 10 kWm^2.

Human harm may occur from:

- Beyond the range of heat, smoke (respiratory sensitivity[2]) and airborne particle (eyes injuries).
- Bushfires are terrifying and cant result in extended trauma[3].

Bushfire attack on a buildings occur from:

- Flame contact and or extreme radiation from a close fire front,
- Flame contact from a continuity of low level fuel between the building and the fire front
- Ember attack on the house, accumulation, exterior failure/opening enabling ember ignition of flammable materials
- The result of 'secondary' flame or radiation due to nearby items ignited though embers.

Risk identification

The habitable buildings are setback from the forest but may be subject to ember attack harmful heat > 4 kWm^2 thick smoke and airborne particles.

The proposed development, without risk treatments would be subject to a potentially extreme **ember attack.** Ember attack is responsible for most building losses, because it affects a distance wider than the flame length or extreme radiant heat. Embers may ignite materials adjacent to a building, exposing it to direct flame contact, or the penetration of embers through gaps and openings in the building to ignite materials within the building.

The access from the site will be available into the Nannup township throughout a bushfire event, but evacuation from the township may be restricted.

The buildings are not required to be constructed to shelter standard.

[2] Chemistry Centre of Western Australia

[3] Florec V., and Pannell D J., (2016), *Economic assessment of bushfire risk management options in Western Australia*

Existing controls

Functions that presently reduce the risk of bushfire and promote safety are listed as follows.

Onsite

A large flat space > 100 m wide that has been established as grassland and continuously grazed, grass < 300 mm. Maintained in a low bushfire hazard level condition.

Offsite

- Administration of the *Bush Fires Act 1954*, fuel reduction private land management - reduces the level of ignition and incidence of landscape bushfire.
- Community participation on total fire ban days - reduced levels of ignition.
- Public lands management (DBCA)- reduces the spread and intensity of bushfire in nearby forests.
- Emergency service coordination, Shire LEMC and LEMA.
- Emergency warnings/Telecommunications – early warning and information on the fire location, to leave early and avoid the bushfire.
- Maintenance of public roads and traffic management.
- Local fire brigade - landscape fire suppression administration and resources

Risk Evaluation

	CONSEQUENCE LEVEL				
LIKELIHOOD	INSIGNIFICANT	MINOR	MODERATE	MAJOR	CATASTROPHIC
ALMOST CERTAIN	Medium	Medium	High	Extreme	Extreme
LIKELY	Low	Medium	High	Extreme	Extreme
UNLIKELY	Low	Low	Medium	High	Extreme
RARE	Very low	Low	Medium	High	High
VERY RARE	Very low	Very low	Low	Medium	High
EXTREMELY RARE	Very low	Very low	Low	Medium	High

Plate 11: Qualitative risk matrix – NERAG 2020 – Refer to Attachment 5 for the consequence class definition.

Likelihood

The likelihood of a bushfire affecting the site, ember attack, is considered **'likely'**. Nearby fuel reduction initiatives will reduce the intensity of a bushfire, increasing the opportunity for control, but it does not eliminate the possibility of the site being affected by a nearby forest fire.

Consequence

There is no necessity to remain on site and pedestrian access is available onsite to areas outside of fatal conditions (flame contact and radiant heat).

The development site will be exposed to (harm full) conditions that may include injuries from airborne particles, which may require medical treatment, smoke affecting those with respiratory sensitivity and potential trauma. **Minor consequence Medium risk**.

Buildings may be damaged due to the ignition of flammable materials (ember attack) near the building or by the ignition of flammable materials (ember penetration) within the building. The damage may affect the operation of the site, in whole or in part until the building is replaced. This could result in extended disruption up to 2 years. **Major consequence** (if part of the resort cannot operate) **Catastrophic consequence** (if resort cannot operate) **Extreme risk.** Risk treatments are required.

Risk treatments

Minimising Exposure/harm

The option to minimise exposure to harm from bushfire is to evacuate, **Offsite**, either outside of the area or to the Nannup Recreation and Community Centre (Centenary Road Nannup) as a 'suitable destination' (>100 m from classified vegetation and outside of a mapped bushfire prone area).

The Bushfire Emergency Evacuation Plan is a complementary risk treatment that describes the seasonal preparations, the methods for daily vigilance of a threat, and clear roles and responsibilities that maximise an early and effective response to a bushfire event, maximising the time to evacuate guests to a safe destination.

The site is supervised when guests are present, providing a reliable implementation of the emergency response for the guidance and protection of guests.

If evacuation from the township is not available, then evacuation should be taken to the Nannup Recreation and Community Centre (Centenary Road Nannup) the Shire nominated community evacuation destination, should be taken[4].

This will provide open shelter, away from harmful heat, but occupants may be affected by smoke and the risk of minor injury from airborne particles. Vehicles may provide shelter at the Nannup Recreation and Community Centre under guidance from attending emergency services[5].

Asset Protection

The establishment of an Asset Protection Zone can avoid direct flame contact upon a building and reduce the radiant heat level to within the tolerance of the building construction.

Habitable buildings (Class 1-3) are required to be sited and constructed in accordance with Australian Standard AS3959:2018 and discretionary for other classes of buildings.

The application of AS3959:2018 construction standards provide a passive level of resistance, to ember attack and site management can avoid the exposure of buildings to secondary fire sources.

Given the site will be affected by ember attack, a construction standard and Asset Protection Zone that provides a high level of resistance to ember attack and secondary fire ignitions (vegetation or objects) should be provided for all habitable buildings and primary buildings (critical to the function of the facility to minimise disruption) at the site.

The Chalets and the Managers residence should be BAL 29 and all other buildings BAL 19, with commensurate Asset Protection Zones identified.

The *Building Act 2011* will require the provision of fire fighting facilities, to address structural fires. Where the opportunity is available the structural firefighting facilities (fire hoses) should also be placed to serve suppression of ignitions upon the outside and near the building.

Garden areas should be low threat and should be irrigated. All external pipework made of a metal construction. The gardens may be irrigated prior to the arrival of a bushfire.

Note: Whilst AS3959 is not a guarantee of building survival it is updated regularly to minimise building loss. Factors that affect the resistance of a building to bushfire risk is the initial design, assembly compliant with the design and the ongoing maintenance of the building and any underlying assumptions (including the APZ) compliant with the design.

[4] J McLennan Use *of Informal Places of Shelter and Last Resort on 7 February 2009*. Bushfire CRC, LaTrobe University

[5] J McLennan Use *of Informal Places of Shelter and Last Resort on 7 February 2009*. Bushfire CRC, LaTrobe University

5. BUSHFIRE PROTECTION MEASURES

5.1 Guidelines for Planning in Bushfire Prone Areas Version 1.4 (the Guidelines)

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; Element 5 is a standalone set of Bushfire Protection Criteria.

The Intent for Element 5 is:

To provide bushfire protection for tourism land uses relevant to the characteristics of the occupants and/or the location, to preserve life and reduce the impact of bushfire on property and infrastructure.

Element 5 provides a range of subclassifications. The applicable subclassifications are:

Other short-term accommodation – including motel, serviced apartments, tourist development (includes cabins and chalets), holiday accommodation and caravan park (which incorporates camping grounds) within ELEMENT 5: Vulnerable Tourism Land Uses.

Table 6: Bushfire Protection Criteria assessment Element 5 v1.4

✓	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
P5vii 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 protect life, prevent the spread of, and manage the impacts of, fire.	**A5.7 Siting and design** **A5.7c** For all other short-term accommodation, 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 (APZ) 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).	✓		**A5.7c** The site is within a Moderate Bushfire Hazard Level Area (Appendix 2 Guidelines), the area is predominantly grassland or urban (Low Threat). Other classified vegetation is in isolated patches. The area of the township of Nannup is within a wide valley surrounded by contiguous forest, and access routes are through potentially Extreme bushfire hazard level areas. The BAL ratings reduce from BAL FZ at the north and east boundary. A BAL rating extends from grassland in the Brockman Highway at the west boundary and from grassland remaining in the developing residential area west of the site. As the residential area becomes developed the west of the site will become BAL Low providing access to the township through BAL Low. The proposal includes constructing a lake and waterway inside the north and east boundary, separating the buildings from augmented landscaping on the opposite side of the lake and water feature. The Class 1 and 3 buildings (Accommodation type buildings) are required to comply with the bushfire construction standard, other buildings including the restaurant, conference, gymnasium and café facilities are at the discretion of the owner/developer. The day spa is located at the north boundary in BAL FZ consists of open sided gazebos. They do not constitute development, and will be evacuated as a priority in the BEEP as a risk treatment. The managers residence and workshop (BAL 40), this will provide a separation for all habitable buildings to be sited within BAL 29 or less. (see Figure 5). It is however important to provide clear guidance to ensure the BAL at the building do not exceed the design standard at authorisation. It is also important to recognise that the site is separated but within an area of extending contiguous forest that may subject the site to a severe ember attack. A construction standards that provide a high level of resistance to ember attack is recommended together with site management to minimise damage to primary buildings from secondary fires.

				On this basis an Asset Protection Zone and construction standard has been identified (shown on Figure Ex1). The chalets, and managers residence are located closest to classified vegetation and are recommended to be constructed to BAL 29, and provided within an area that will comply with the Asset Protection Zone going forward, that extends 21m from the face of the buildings. The guest house and motel units are recommended to be constructed to BAL 19, and provided within an area that will comply with the Asset Protection Zone going forward, that extends 31m from the face of the buildings. Other buildings primary including the restaurant, conference, gymnasium and café are (at owner discretion) to be constructed to BAL 19, and provided within an area that will comply with the Asset Protection Zone going forward, that extends 31m from the face of the buildings. BAL 29 can be achieved at the managers residence and workshop through constructing a fence along the south boundary to provide a barrier from grassland south of the site The calculation Method 2 Barrier is provided at Attachment 6 (alternatively the building can be shifted 1 m north).
	A5.7d A landscape management plan is to be prepared to identify on-going onsite vegetation management (where appropriate).	✓		The Element 3 Schedule 1 Standards for Aset Protection Zones, will be followed as the default landscape management plan.
	A5.7eWhere an on-site shelter is proposed, to comply with A5.8.2e, it is to meet all the following requirements….	N/A		Shelter on site is not proposed as a primary bushfire response. Evacuation from the townsite is recommended when safe, or evacuation to the Nannup Recreation and Community Centre (Centenary Road Nannup) which is a community evacuation destination is recommended as a place of last resort, it has been identified to be less than 2 kWm^2 following the open shelter standard.

Vehicular Access – Technical Requirements

Table 6 Column 4

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		

P5viii The design and capacity of vehicular access and egress allows the occupants to evacuate to a suitable destination before a bushfire arrives to the site, whilst allowing emergency service personnel to attend the site; or it is demonstrated through a risk assessment that the risk can be managed.	**A5.8.1** Vehicular access for all proposals A5.8.1a Internal vehicular access/private driveway is to provide emergency egress/access for all patrons and staff, in the event of a bushfire. Where possible, this is to include the provision of at least two internal access/egress points to the public road network. A5.8.1b Internal vehicular access/private driveways longer than 70 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	✓		**A5.8.1a** The proposal provides three separate points of access to the development site, but the primary access is from Brockman Highway. The site is level (compliant road grade). A minimum 4 m sealed carriageway with a trafficable horizontal clearance of 6 m is provided to each chalet. A turnaround area (shown in Figure 28) is required at the terminus of the leg to each chalet (conditioned). The vehicle access and carparking areas to the lodge, motel units and reception/restaurant, offer access and departure (three points) to Brockman Highway. The vehicle access is sealed, and line marked with a 6 m wide aisle (compliant with Table 6, Column 4).

	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.			
	A5.8.1c Signage to be provided within the site, advising of where each access route travels to and the distance and general information signs on what to do in the event of a bushfire.	✓		Directional signage will be provided to assist the evacuation of guests. Directional signage (way finding) will also be provided along the access routes for the benefit of guest and emergency services.
	A5.8.2 Vehicular access for short-term accommodation outside of a residential built-out area: A5.8.2a Public road access is to be provided in two different directions to at least two different suitable destinations. A5.8.2d A public road is to meet the requirements in Table 6, Column 1.	✓		**A5.8.2a** The site is accessed from Brockman Highway public through road (to at least two different suitable destinations) with access north (Vasse Highway to the town of Busselton) and south (to the town of Augusta). Brockman Highway is compliant with the technical requirements (Table 6 column 1). Brockman Highway also provides access to the west to the town of Bridgetown. The town and Nannup is surrounded by forest, outside of its valley, necessitating travel through contiguous forest. Early evacuation from the area is required. If evacuation from the township is unsafe the Nannup Recreation and Community Centre (Centenary Road Nannup) is the nominated offsite evacuation destination. It is compliant with the definition of a suitable destination. ***Suitable destination:*** *An area that is not classified as bushfire prone on the Map of Bush Fire Prone Areas, or is greater than 100 metres from classified vegetation as per AS 3959 and can provide shelter during a bushfire event.* The Nannup Recreation and Community Centre (Centenary Road Nannup). area is partially not classified as bushfire prone and is greater than 100 metres from classified vegetation. **A5.8.2d** Brockman Highway/Vasse Highway is compliant with the technical requirements (Table 6 column 1).
P5ix Provide a permanent water supply that is: –	**A5.9** Provision of water	✓		The site has access to a reticulated water supply. The nearest hydrant is located at the intersection of Brockman Highway and Hitchcock Drive, opposite the main entry to the site.

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.	A5.9a The development or land use is provided with a reticulated water supply in accordance with the specifications of the relevant water supply authority.			

5.2 Bushfire Management Strategies

Further bushfire management strategies to those addressed under the bushfire protection criteria are addressed in this instance by the Bushfire Emergency Evacuation Plan (BEEP).

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 Asset Protection Zone).
- 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)

The proposed BEEP is attached in Attachment 1 and follows the State Government's *A Guide to developing a Bushfire Emergency Evacuation Plan* October 2019 and the *Emergency Evacuation Plan template* V1.1. 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 5.5.4 Guidelines for Planning in Bushfire Prone areas V1.4 and acknowledged in Table 6 below.

Table 7: Compliance with Cl. 5.5.2 *Guidelines for Planning in Bushfire Prone Areas*

The emergency evacuation plan should be concise and consider:	**Addressed in Emergency Evacuation Plan**
The number of visitors at the facility	Accommodation and staff: 547 persons
Whether the occupants are permanent or transient	Transient
Whether there is a caretaker on site	Yes
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	Geographe Leisure Centre Busselton (north) Augusta Recreation Centre, Augusta (south) Nannup Recreation and Community Centre (Warren Road Nannup).
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	A fire from the south, southeast – enter Brockman Highway, turn right onto Warren Road and onto Vasse Highway to the town of Busselton and the Geographe Leisure Centre at Recreation Lane and, Queen Elizabeth Ave, West Busselton. A fire from the north, northeast - enter Brockman Highway, turn left onto Warren Road, and onto Brockman Highway to the town of Augusta - Augusta Community Resource Centre 66 Allnut Terrace, Augusta. If it unsafe to leave the township enter Brockman Highway, turn left onto Warren Road and to Nannup Recreation and Community Centre.
Transport options for those without access to private vehicles	Visitors are expected to arrive by private vehicle.
Options to shelter in place as a last resort	Evacuation is the preferred response as per DFES instruction. An open space area is identified as a refuge of last resort - Nannup Recreation and Community Centre.
Roles and responsibilities of facility personnel and emergency services.	The site will be supervised while operating. The site manager is responsible for alerting visitors to Extreme+ fire danger ratings and the requirement for heightened vigilance. The site manager and an established Emergency Control Organisation will supervise the facility in an emergency event. Predetermined responsibilities and actions are provided in the Bushfire Emergency Evacuation Plan. Emergency procedures and responsibilities shall be clearly displayed within the accommodation units.

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 (Manager) will be responsible for overseeing the response, including alarm (3 horns) and instruct wardens to ensure all rooms are cleared and guests have evacuated to the Assembly area. The Chief Warden will be responsible to monitor the media for Fire Danger Rating information. The Chief Warden will be responsible for ensuring that guests are informed of the need to evacuate, the time available, and the safe route.
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	Anthony Rowe

collaboration with relevant stakeholders including the landowner/developer and the local government (refer to section 6.14 of the Guidelines)	Accreditation Level 3 Accreditation Number: 36690

Note: The preference is for evacuation if safe to do so. If it is not safe to evacuate the site, the contingency is to take refuge as a last resort at the safer place area.

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 key measures identified to achieve or maintain compliance with the bushfire protection measures following SPP 3.7.

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 listed 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.

1.	An Asset Protection Zone is to be maintained around Chalet and Managers residence (21 m from the face of the building) compliant with the Standards for Asset Protection Zones Schedule 1, Element 3 Guidelines v1.4. or to the extent of the site boundary, which ever is closest.	Prior to operation
2.	All Chalets and the Managers residence are to be constructed compliant with section 3 and 7 AS3959:2018 (BAL 29).	Prior to occupation
3.	An Asset Protection Zone is to be maintained around motel and restaurant cafe (31 m from the face of the building) compliant with the Standards for Asset Protection Zones Schedule 1, Element 3 Guidelines v1.4.	Prior to occupation
4.	All motel and restaurant café is to be constructed compliant with section 3 and 6 AS3959:2018 (BAL 19).	Prior to occupation
5.	All Chalets Class 1 and 3 buildings are to be constructed compliant with section 3 and 7 AS3959:2018 (BAL 29).	Prior to occupation
6.	A 3m tall steel fence (or other non-combustible material, is to be erected along the south boundary to align from 10 m in front of the building (Brockman Highway elevation) to 10 m behind the building.	Prior to occupation
7.	The private driveway is to be constructed and maintained compliant with the technical specifications in Table 6 column 4, Guidelines v1.4.	Prior to occupation
8.	A turn around area is to be provided at the terminus of the chalet access in compliance with Figure 28, Guidelines v1.4.	Prior to occupation
9.	Directional signage is to be provided along the driveways at 50 m intervals, at driveway junctions and at the exits onto Brockman Highway.	Prior to occupation
10.	A notification, pursuant to Section 70A Transfer of Land Act 1893 is to be placed on the certificate(s) of title of the proposed lot(s) with a Bushfire Attack Level (BAL) rating of 12.5 or above, advising of the existence of a hazard or other factor. The notification is to state as follows: "This land is within a bushfire prone area as designated by an Order made by the Fire and Emergency Services Commissioner and is subject to a Bushfire Management Plan."	Prior to occupation

Advisory notes

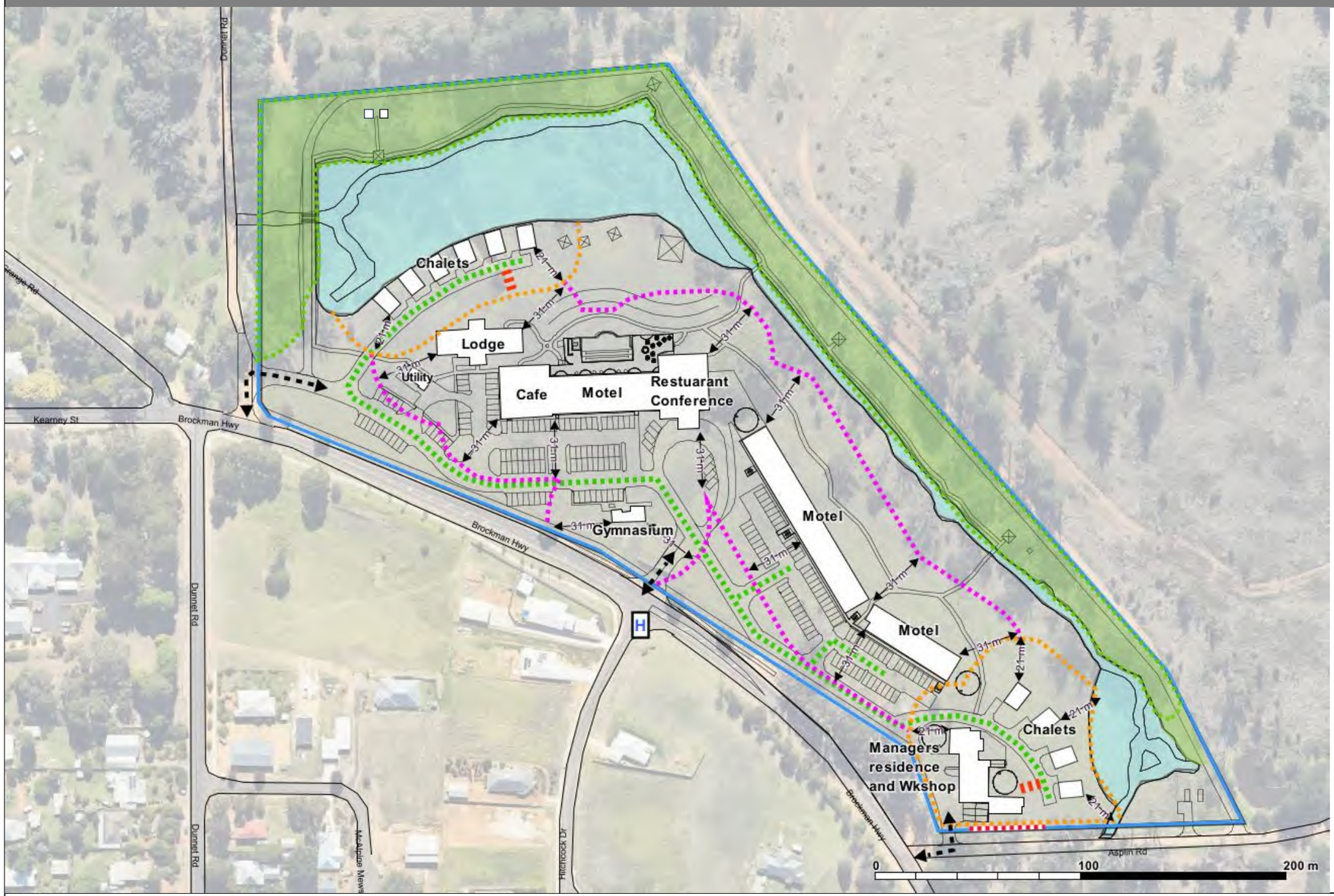
1. All habitable buildings (other than class 1 and 3) are recommended to be constructed compliant with section 3 and 6 AS3959:2018 (BAL 19), and provided with an Asset Protection Zone, excluded from being revegetated to forest of 31 m or to the extent of the site boundary, whichever is closest measured from the face of the building

2. 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.

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.

Figure Ex 1 - Spatial representation of the proposed risk management strategies -1 Dunnet Road and Brockman Highway Nannup



Responsibilities for implementation and management of the bushfire measures

1. An Asset Protection Zone is to be maintained around Chalet and Managers residence (21 m from the face of the building) compliant with the Standards for Asset Protection Zones Schedule 1, Element 3 Guidelines v1.4. or to the extent of the site boundary, which ever is closest.
2. All Chalets and the Managers residence are to be constructed compliant with section 3 and 7 AS3959:2018 (BAL 29).
3. An Asset Protection Zone is to be maintained around motel and restaurant cafe (31 m from the face of the building) compliant with the Standards for Asset Protection Zones Schedule 1, Element 3 Guidelines v1.4.
4. All motel and restaurant café is to be constructed compliant with section 3 and 6 AS3959:2018 (BAL 19).
5. A 3m tall steel fence (or other non combustible material, is to be erected along the south boundary to align from 10 m in front of the building (Brockman Highway elevation) to 10 m behind the building.
6. The private driveway is to be constructed and maintained compliant with the technical specifications in Table 6 column 4, Guidelines v1.4.
7. A turn around area is to be provided at the terminus of the chalet access in compliance with Figure 28, Guidelines v1.4.
8. Directional signage is to be provided along the driveways at 50 m intervals, at driveway junctions and at the exits onto Brockman Highway.
9. A notification, pursuant to Section 70A Transfer of Land Act 1893 is to be placed on the certificate(s) of title of the proposed lot(s) with a Bushfire Attack Level (BAL) rating of 12.5 or above, advising of the existence of a hazard or other factor. The notification is to state as follows:

   "This land is within a bushfire prone area as designated by an Order made by the Fire and Emergency Services Commissioner and is subject to a Bushfire Management Plan."

LEGEND

Site Boundary	APZ 21m BAL 29	Forest area	H Hydrant
Access	APZ 31 m BAL 19	3m barrier fence	Turn around 'T'

envision bushfire protection

ATTACHMENT 1 - Emergency Evacuation Plan

BUSHFIRE EMERGENCY EVACUATION DOCUMENTS

Nannup Alpine Resort

1 Dunnet Road and Brockman Highway Nannup

15 July 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 Nannup Alpine Resort 1 Dunnet Road and Brockman Highway Nannup

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 Warden
- Transport Warden
- First Aid Warden

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

2. PREPARING THE EMERGENCY PLAN

The emergency plan applies to Nannup Alpine Resort 1 Dunnet Road and Brockman Highway Nannup.

The Bushfire Management Plan dated **15 July 2024** articulates bushfire safety measures that include:

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

The Bushfire Management Plan identified there is a risk of exposure to fatal heat from the forest retained on site and grassfire.

If evacuation cannot be completed prior the arrival of the firefront, shelter within the towns community evacuation centre should be taken - Nannup Community and Recreation Centre, 800 m west of the site through BAL low.

Early evacuation is to Busselton (north) or the Augusta (south) depending on the location and direction of the bushfire.

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 resort 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 guests to evacuate and maintaining contact with guests during any evacuation.

On days where the forecast FDR is Extreme or Catastrophic guests staying at resort accommodation should be advised to confine travel to townships.

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 including alarm, briefing and exiting the site

- Town of Busselton (north), via Brockman Highway Warren Road and Vasse Highway 60 minutes
- Town of August (south), via Brockman Highway Warren Road/Brockman Road, Karridale/Augusta 60 minutes.

The evacuation time will vary depending upon the number of people present on the site. t.

Vehicles provide poor protection for occupants if within flame contact. If evacuation cannot be completed prior the arrival of the firefront, shelter within the towns community evacuation centre should be taken - Nannup Community and Recreation Centre, 800 m west of the site through BAL low.

The transportation arrangement for evacuation is by private vehicles.

Groups arriving by bus, should retain the bus on site through the bushfire season.

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 services 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.

A fire from the south, southeast – enter Brockman Highway, turn right onto Warren Road and onto Vasse Highway to the town of Busselton and the Geographe Leisure Centre at Recreation Lane and, Queen Elizabeth Ave, West Busselton.

A fire from the north, northeast - enter Brockman Highway, turn left onto Warren Road, and onto Brockman Highway to the town of Augusta - Augusta Community Resource Centre 66 Allnut Terrace, Augusta.

If it unsafe to leave the township enter Brockman Highway, turn left onto Warren Road and to Nannup Recreation and Community Centre.

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 Facilities building, and an evacuation diagram must be displayed in each chalet and all hotel accommodation rooms.

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 and allocated areas 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: Guests with support needs may attend the facility 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: City or Shire nominated emergency evacuation facility		
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: City or Shire nominated emergency evacuation facility		
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 to both the Busselton and Augusta via Brockman Highway passes roadside forest. The routes north and south do not provide expansive views outside of the road, limiting the opportunity to see a fire in advance and avoid it. Early evacuation is required, and advice is to be sought from emergency services to confirm the evacuation destination and the availability of a safe route in a bushfire event. If neither route can be confirmed to be safe for the duration required for evacuation, then Nannup Recreation and Community Centre is the local facility.		
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: City or 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 will be applied around all habitable buildings	
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 Restaurant Conference facility is within BAL 12.5 and provided with an Asset Protection Zone and construction equivalent to BAL 19.	Yes ☒ No ☐
Can the building accommodate the number of occupants and visitors? The southern side of the building is shielded from classified vegetation and will be used before embarking upon evacuation from the site.	Yes ☒ No ☐
Is there ease of accessibility to the building, and is it easily identifiable? The building is prominent within the facility. Visitors will be assisted with way finding signage	Yes ☒ No ☐
Is there access to amenities (toilets, food, water, etc.) away from the effects of a bushfire?	Yes ☒ No ☐
The site is an extension (interface) to the Nannup Township urban area. The site will be evacuated in a bushfire event either outside of the township of Nannup or to the community evacuation centre within the township of Nannup available from the site through BAL Low.	

BUSHFIRE EMERGENCY PLAN

NAME OF FACILITY	Nannup Alpine Resort
ADDRESS	1 Dunnet Road and Brockman Highway Nannup
PREPARED BY	Anthony Rowe, L3 BPAD 36690
OWNER	
OPERATOR	
DATE	15 July 2024
VERSION NUMBER	1

Document Control

Version	Date	Details	Undertaken by
1	15 July 2024	submission	Anthony Rowe

Emergency Management Team

Name	Role	Contact Details
TBA	Manager	TBA

FACILITY DETAILS

1 Dunnet Road and Brockman Highway Nannup

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	Short stay accommodation	NUMBER OF BUILDINGS	19 (habitable buildings)
NUMBER OF STAFF	78	NUMBER OF OCCUPANTS Resort guests and staff	547
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).

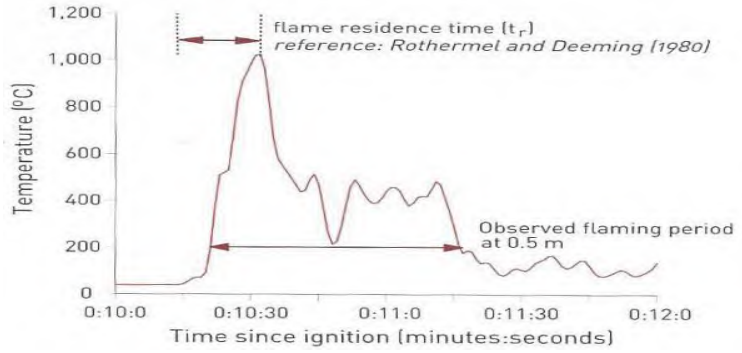
The purpose of this Bushfire Emergency Evacuation Plan is to provide guidance and direction to all staff and visitors by providing:

- Understanding the risks
- Preparing the facility for a bushfire event, including the establishment of the Emergency Management Committee with responsibility to prepare the resort for a 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.

The is Bushfire Emergency Evacuation Plan 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 10 kWm^2 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 the Resort. 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 resort's emergency response. ***The safety of the guests is prioritised above the protection of any asset.*** All positions 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 resort 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	1 Dunnet Road and Brockman Highway Nannup

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.
- Injuries from blown objects.
- Trips and falls.
- Smoke inhalation – asthma, excessive breathing stress and heart attack.
- Poisoning from Toxic smoke can occur during a bushfire- medical oxygen may be required.
- Dehydration.
- Poisoning from hazardous proceeds of firefighting, contaminated water.
- Poisoning from exposed hazardous building materials i.e. asbestos.
- Building collapse, and sharp object penetrations – cuts.
- Psychological trauma – bushfires are terrifying.

The first aid warden should be prepared/trained for any of the above and provided with appropriate first aid equipment.

In order to avoid harm, patron exposure is best minimised through evacuation from the site.

Vehicles do not provide an effective barrier to extreme heat and the evacuation route from the resort to either Busselton or Augusta is through forest and potential exposure to fatal heat levels. Confirmation of the safety of the route for the time required to reach either destination is required prior to evacuation. If safety of the route is not certain, shelter at the local facility, Nannup Community and Recreation Centre, should be taken.

2. Prepare

2.1 Administration

2.1.1 Emergency Planning Committee

The **Emergency Planning Committee** is responsible for overseeing the preparation of the resort 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 Committee is responsible for reviewing the BEEP and broader Emergency Response Plan.

The Committee will assign roles and responsibilities to staff and oversee the undertaking of education and training and evaluating 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 the Facilities building is constructed and maintained compliant with contemporary bushfire standards.

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

2.1.2 Emergency Control Organisation

The Resort is to have an Emergency Control Organisation responsible for the implementation of the response identified in this Bushfire Emergency Evacuation Plan. These are designated resort personnel who have been trained and certified to undertake / provide specific tasks in the event of an emergency: including the operation of firefighting equipment.

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 Confirm the All Clear Verify the safety of the facility Determine commencement
Transport Warden	Yellow	Oversee the orderly movement of vehicles from the Facilities building) and onto Brockman highway and to the evacuation destination, maintaining a separation of emergency service vehicles and evacuation vehicles
First aid Warden	Green	Attend to any injuries, burns, eye injury, and respiratory distress. Supervise guests to remain hydrated. Assists to maintain guest well-being.
Area Wardens assigned to the Facilities Building (2) assigned to clearing all accommodation rooms (2) All staff should also assist to ensure the safety and comfort of patrons.	Yellow	Check buildings and grounds are clear of guests (all assembled at the Facilities building). Secure all resort buildings Prepare grounds; close bins and pre wet areas around the Facilities building Defend the Facilities building until evacuated

2.1.3 - Training

Emergency Control Organisation

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

- The Chief Warden must demonstrate awareness of fire danger and incident alerts (tested).
- Area Wardens– Specific training
  - awareness of role and responsibility and allocated areas (to 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 the types of injuries expected in a bushfire.

2.2.1 Firefighting equipment

The resort 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 – Restaurant and Conference building

The Restaurant and Conference building has amenities to support guests until the evacuation is completed.

First aid kits at the Restaurant and Conference building must be maintained in complete and up to date condition at all times.

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 Restaurant and Conference building 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.
- Have access to guest names and contact information
- 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 guests to the Restaurant and Conference building, and to ensure guests remain assembled at the entry to the Restaurant and Conference building until they can be advised of safe evacuation routes and destinations.

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

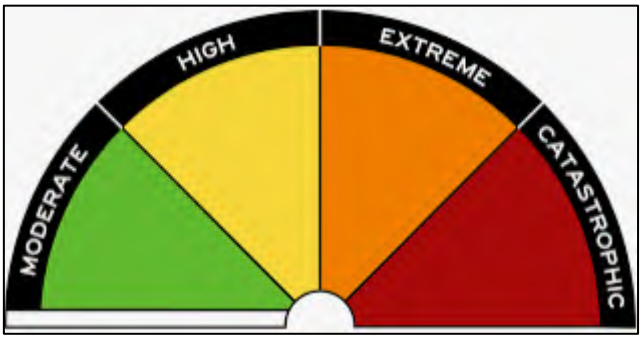
The Chief Warden or delegate should monitor current fire danger ratings and fire activity from a range of official information sources:

- 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 local radio 684 AM

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 resort.

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 resort operations. – Monitor Emergency WA
Moderate 12-23	Plan and prepare	Maintain normal resort operations. – monitor Emergency WA – Plan and prepare.
High 24-49	Be ready to act	Maintain normal resort 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	

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

3.2 RESPONSE TO A SUDDEN BUSHFIRE EVENT

<table>
<tr><th colspan="2">Bushfire warning stages</th></tr>
<tr><td>ADVICE
  </td><td>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:
– check and patrol the resort regularly for bushfire activity, paying particular attention to the evaporative air conditioners.</td></tr>
<tr><td>WATCH AND ACT
  </td><td>There is a possible threat to lives and property. Conditions are changing.
There is time to evacuate from the township of Nannup
The Chief Warden must prepare to:
– assemble guests at the Restaurant and Conference building.
It is vital that the Chief Warden:
– accesses bushfire information from official sources
– makes an informed decision to evacuate to a safe offsite destination based on advice from Emergency Services.</td></tr>
<tr><td>EMERGENCY
  </td><td>The resort is in danger as its area will be impacted by fire.
Offsite shelter is to be taken in the town of Nannup
The Chief Warden must prepare to:
– assemble guests at the Restaurant and Conference building.
It is vital that the Chief Warden:
– accesses bushfire information from official sources
– evacuates guests immediately to the Nannup Recreation and Community Centre</td></tr>
<tr><td colspan="2">The Chief Warden should not wait for a direction to act if the resort is threatened by bushfire.
If the availability of safe evacuation outside of the township cannot be confirmed, then Shelter at the Nannup Recreation and Community Centre</td></tr>
</table>

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.
  - Activate the ECO, each member to wear the hat of their ECO position for identification.
- The Chief Warden will determine the evacuation destination
  - Following public announcement
  - Verification from emergency services
  - If unsure evacuation should be taken to the Nannup Recreation and Community Centre

3.3.2 Assembly

- Guests are to assemble at the entry to the Restaurant and Conference building
- Guests should be immediately collected from the Day Spa if operating
- Guests are to be advised by the Chief Warden:
  - a bushfire is nearby
  - the site is to be evacuated and
  - the evacuation destination.
- All guests are to be accounted for before departing.
- Area Wardens will check the grounds and ensure all guests have been accounted f.
- Area Wardens are to secure all buildings, turn off air conditioning, close all vents, and close windows and doors.
- Area Wardens if safe and where practical stow object that may get blown into the building, remove flammable objects a stow, and eclose any exposed flammable sources-rubbish bin.
- Area Wardens if time permits and it is safe, use fire hoses to wet the external building surfaces, and saturate the immediate surrounds 10 m to the buildings and activate the irrigation systems.

3.3.3 Evacuation

- The Chief Warden commences the evacuation.
- The Transport Warden will allocate a Warden to the intersection with Warren Road and call the Transport Warden to release vehicles from the site, ensuring there is no back up of vehicles.
- If evacuation to the Nannup Recreation and Community Centre, the Chief Warden will advise Nannup Recreation and Community Centre, to expect the arrival of its guests and assign an Area Warden to the Nannup Recreation and Community Centre to assist the facilities arrival of the guests in consultation with the facility manager and emergency services.

- Members of the ECO will evacuate the site following evacuation of all guests, visitors and other staff.

3.3.4 Arrival at Evacuation destination

The Chief Warden will determine maintain communication with guests to confirm if and when it will be safe to return to the resort, or if guests should return to their home destinations.

3.3.5 DFES advise of All Clear

If the resort 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, the Chief Warden may give instructions for the resort to reopen.

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

4.1 Staff and Guest wellbeing

Bushfires are terrifying. The potential for trauma will be influenced 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 inspect the resort buildings and grounds and audit any damage observed to buildings and grounds. 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.

If there is damage other than superficial requiring the replacement of building materials, stairs and decks, and where there is evidence of internal damage (including the roof cavity) caused by the bushfire event) the owners will determine when the resort can reopen

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 resort 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) -for the resort	**Confirmed** **Date of inspection**
1. Ensure the required training of the Emergency Management Team has been undertaken, commensurate to the individual responsibilities.	
2. The resort buildings Evacuation Diagram must be clearly displayed in all accommodation rooms. The Resort Emergency Evacuation Plan is stored at Restaurant and Conference building.	
3. Maintain the Asset Protection Zones, specified in the Bushfire Management Plan, around the Resort in accordance with the Standards for Asset Protection Zones Schedule 1, Element 3 Guidelines v1.4.	
4. The resort should be inspected to: • Eliminate external gaps >2mm on the building surface, • Separate flammable materials from the walls of the buildings • Ensure all window screens have a maximum aperture of 2 mm, unbroken and enclose the openable portions of windows.	
5. Any objects attached to habitable buildings are non-combustible or easily removable, and the removing mechanism is in working order	
6. The hoses supplied for firefighting are protected from radiant heat (non-flammable fire reel cover) and in working order	
7. The first aid kits located at the are Restaurant and Conference building is fully stocked.	
8. Personal Protective Equipment (coveralls, gloves, goggles and smoke mask) for each nominated Area Warden is available at Restaurant and Conference building	
9. The ECO members and their mobile phone numbers are available at the Restaurant and Conference 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 destinations and routes may be available in a bushfire event however current public advice from Emergency WA advice should always be followed to ensure you use the safest evacuation route to the safest destination.

Off-site location (North)

Name of venue	Geographe Leisure Centre		
Address of venue	Recreation Lane and, Queen Elizabeth Ave, West Busselton		
Nearest cross street	Queen Elizabeth Ave	Map reference	88MG+64 West Busselton
Venue phone number	08 9754 3600		
Primary route to location	Enter Brockman Highway, turn right onto Warren Road and onto Vasse Highway to the town of Busselton and the Geographe Leisure Centre at Recreation Lane and, Queen Elizabeth Ave, West Busselton.		

Estimated travelling time to destination 60 minutes

Off-site location (South)

Name of venue	**Augusta Community Resource Centre**		
Address of venue	66 Allnut Terrace, Augusta		
Nearest cross street	Farrelly Street	Map reference	23W9+C2 Margaret River
Venue phone number	08 9754 3600		
Primary route to location	Enter Brockman Highway, turn left onto Warren Road, and onto Brockman Highway to the town of Augusta - Augusta Community Resource Centre 66 Allnut Terrace, Augusta		

Estimated travelling time to destination 60 minutes

Off-site location (EMERGENCY)

Name of venue	Nannup Recreation and Community		
Address of venue	Warren Road, Nannup		
Nearest cross street	Farrelly Street	Map reference	23W9+C2 Margaret River
Venue phone number	08 9754 3600		
Primary route to location	Enter Brockman Highway, turn left onto Warren Road and to Nannup Recreation and Community		

Estimated travelling time to destination 10 minutes

Transportation arrangements – PRIVATE VEHICLES

EMERGENCY PLAN

Location - 1 Dunnett Road Nannup

Facility – Nannup Alpine Resort

Visitors – Maximum 547

CONTACT PERSONS

Facility Manager

Evacuation advice- call and confirm safe evacuation route

- DFES assistance 132 500
- Police 131 444

Chief Wardens Role

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

INFORMATION SOURCES

Local ABC radio	684
DFES information line	13 33 37
Police	000 (threat to life) 131 444 (advice and information)
Emergency WA	www.emergency.wa.gov.au
Emergency WA QR code	

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 with DFES or police the evacuation route which should be taken (public information).

Response:

- **SOUND ALARM 3 HORNS**
- Guests should be immediately collected from the Day Spa if operating
- Assemble at the entry to the Restaurant Conference building for instruction on the evacuation destination and route.
- **Evacuate if the route is confirmed safe**
- Do not return to the property until management have confirmed it is safe to do so

EMERGENCY - Survival

Trigger:

DFES or Police have advised evacuation from the town of Nannup is not safe

Response

- **SOUND ALARM 3 HORNS**
- Take bath towel
- Take bottled water
- Assemble at the entry to the Restaurant Conference building for instruction on the evacuation destination and route.
- **Evacuate to the Nannup Community and Recreation Centre**
- Follow instruction from emergency services, you may be required to remain in your vehicle.
- Keep mobile phone charged to receive instruction
- Do not return to the property until management have confirmed it is safe to do so.

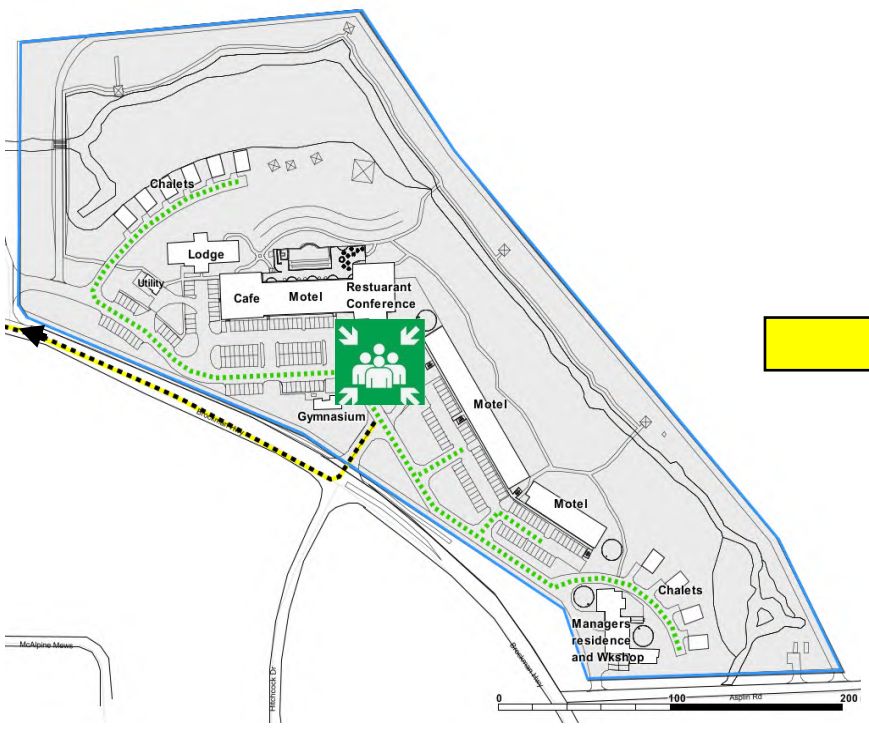
ALL CLEAR

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 guests to leave or return
  - advise guests if/when it is safe to leave or return
  - monitor grounds and buildings for 24 hours after the event for smouldering fires and outbreaks

EMERGENCY EVACUATION DIAGRAM

ALARM 3 HORNS repeated

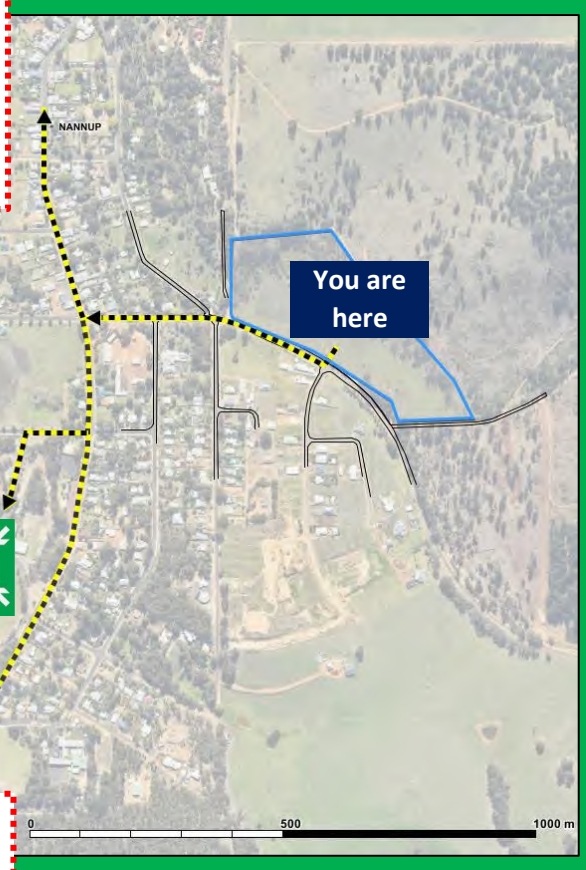


Assemble at the Restaurant Conference entry

Confirm evacuation destination

Evacuate

A fire to the south enter Brockman Highway, turn right onto Warren Road and onto Vasse Highway to the town of Busselton and the Geographe Leisure Centre at Recreation Lane and, Queen Elizabeth Ave, West Busselton.



Nannup Recreation and Community Centre.

A fire to the north enter Brockman Highway, turn left onto Warren Road, and onto Brockman Highway to the town of Augusta - Augusta Community Resource Centre 66 Allnut Terrace, Augusta.

Assembly Area

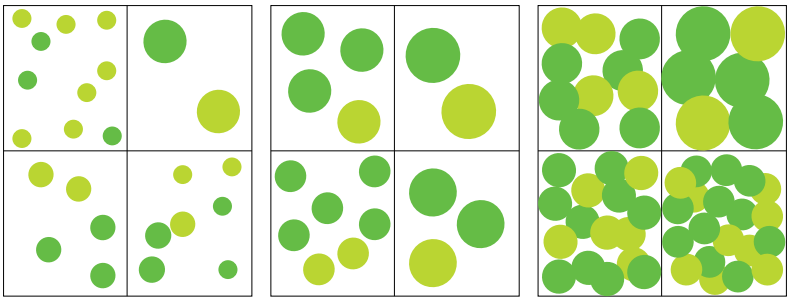
Vehicle Evacuation

Pedestrian Evacuation

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 – Firebreak Notice

2023-24 BUSHFIRE RISK COMPLIANCE NOTICE REQUIREMENTS

Section 33 *Bush Fires Act 1954*

To prevent bush fires and to minimise the spread of a bush fire, all owners, and occupiers of land within the Shire of Nannup are required to comply with the requirements of this Bushfire Risk Compliance Notice (Notice).

All land to meet the requirements on **3 November 2023** up to and including **30 April 2024** as specified in the Notice, except for Asset Protection Zones which must be maintained all year round.

Inspections, Appointment and Penalty for non-compliance

Owners and occupiers who would like an early inspection appointment for explanation on the requirements of this Notice, should contact the Ranger. Where inspections by appointment are not requested, the Ranger is appointed as Bush Fire Control Officer with power to enter land under the *Bush Fires Act 1954* and will be inspecting properties for compliance without further notice from **3 November 2023**.

Failing to comply with the requirements of this Notice is an offence under the Bush Fire Act 1954, which carries a penalty of up to $5,000. In addition, where the owner or occupier of the land fails to comply with a Notice given pursuant to Section 33(1), the Shire may enter the land to carry out the work required to comply with the Notice and recover any costs and expenses incurred in carrying out that work from the owner or occupier of the land.

1. For All Land

Asset Protection Zone (APZ) means a low fuel load area immediately surrounding a building and related structure to minimise the likelihood of flame contact with the building. APZs predominantly consist of managed vegetation, reticulated lawns and gardens and other non-flammable features.

The following APZ requirements **apply to all properties** regardless of size, and must be **maintained all year round**:

- The area of land within twenty (20) metres from the external walls of any habitable building. Attached structures such as sheds, pergolas, carports and other buildings, or adjacent structures within six (6) metres of the habitable building.
- The area of land on sloping ground shall increase one (1) metre for every degree in slope on the sides of any habitable building that are exposed to down slope natural vegetation.
- Flammable material must be kept at a minimal and not exceed seventy five (75) millimetres in height.
- Trees must be low pruned (or under pruned) to a height of two (2) metres from the ground.
- Trees and branches must not be closer than three (3) metres to a building, and trees must not overhang a building within five (5) metres of the external roof.
- Wood piles and flammable materials must be stored a safe distance from habitable buildings.
- Remove dead leaves and twigs (flammable material) from the gutters, downpipes, rooftops, under eaves and under building.

NOTE – For buildings built to Australian Standards 3959 Construction of Buildings in Bushfire-Prone Areas, the APZ is to be maintained as per the Bushfire Attack Level (BAL) assessment for that specific property if greater than the APZ requirements For All Land.

2. Urban Land

Urban Land includes "Land located within the Nannup townsite or zoned Residential, or Special Use in the Shire of Nannup Local Planning Scheme No. 4".

2.1. Land less than or equal to 2024m2 (approx. 0.5 acre)

All flammable material removed to a height of seventy five (75) millimetres, with the exception of live standing trees and live garden plants.

2.2. Land exceeding 2024m2 (approx. 0.5 acre)

Maintained as per 2.1 requirements, or firebreaks must be constructed within six (6) metres of the boundary of the property, must be four (4) metres wide with a minimum three (3) metres being mineral earth, and have all trees/vegetation on both sides of the firebreak laterally pruned to a height of four (4) metres.

2.3. Parkland clearing

Maintain paddocks by removing flammable material (excluding crops, pasture areas and living trees/ shrubs).

3. Rural Land

Rural Land includes "Land zoned Rural, Priority Agricultural, Environmental Conservation, Rural Smallholdings, Tourism (outside the Nannup townsite) or Urban Development, and any freehold land outside the Nannup townsite that is a Local Scheme Reserve in the Shire of Nannup Local Planning Scheme No. 4".

3.1. Asset Protection Zone (APZ)

Maintain as per 1. requirements in addition, all buildings must have an **access** (cleared of all flammable material) not less than four (4) metres wide, with a three (3) metre trafficable width and a vertical clearance of four (4) metres to allow access by fire appliances.

3.2. Rural Managed Land

Land actively used for agriculture, viticulture, horticulture etc (plantations maintained as per 5.4. requirements).

Active fuel reduction by means such as grazing by an appropriate number of livestock, slashing and baling etc., or a fuel reduction plan that shows the means of fuel reduction on the land.

Managed land is not required to have perimeter firebreaks, although all owners and occupiers of land are encouraged to install them in strategic places to protect the property in the event of a fire.

3.3. Rural Unmanaged Land

Land not used primarily for agriculture, viticulture, horticulture etc (plantations maintained as per 5.4. requirements).

Unmanaged land shall be accessible by firebreaks and broken into areas with firebreaks so that unmanaged land areas do not exceed fourty (40) hectares. The firebreak must be a minimum of four (4) metres wide with a minimum of three (3) metres being mineral earth and

have all trees/vegetation on both sides of the firebreak laterally pruned to a minimum height of four (4) metres. Grass not to exceed one hundred twenty-five (125) millimetres in height.

4. Rural Residential Land

Rural Residential Land includes “Land zoned Rural Residential in the Shire of Nannup Local Planning Scheme No. 4”.

4.1. Firebreaks

The firebreak must be a minimum of four (4) metres wide with a minimum of three (3) metres being mineral earth and have all trees/vegetation on both sides of the firebreak laterally pruned to a height of four (4) metres. Firebreaks constructed within six (6) metres of the boundary of the property.

There is no requirement for firebreaks where the whole area is covered by buildings and/or is kept mown or slashed or clear of Flammable Material or is maintained and kept green by efficient reticulation systems installed by landowner. Grass not to exceed fifty (50) millimeters in height.

In addition, Cockatoo Valley has a Bushfire Management Plan that includes a Strategic Firebreak. Properties bounded by the strategic firebreak are required to maintain unrestricted access across the strategic firebreak.

4.2. Parkland Clearing

Maintain paddocks by removing flammable material (excluding crops, pasture areas and living trees/ shrubs).

5. Special Requirements

Special requirements apply in addition to the requirements set out in 1, 2, 3 and 4 Bushfire Risk Compliance Notice requirements.

The requirements of this Notice are the minimum standard of fire protection required to protect individual property and the community.

5.1. Hazards

A Fire Control Officer can impose additional requirements to remove or abate hazards.

5.2. Bushfire Management Plan & Bushfire Attack Level Assessment

Under the Shire’s planning requirements, most land uses other than single houses and outbuildings require planning approval. If a land use is to occur in a declared bushfire prone area, a Bushfire Management Plan (BMP) may be required. Properties subject to an approved BMP, a Bushfire Attack Level (BAL) assessment, or with other imposed development approval conditions, must comply with the approved conditions in addition to the requirements of this Notice.

Note – where the requirements are inconsistent with the requirements of this Notice, owners should apply for a Variation.

5.3. Short-Stay Accommodation

Short-stay accommodation includes bed & breakfasts, guesthouses, holiday homes, chalets, serviced apartments, hotels, motels, campgrounds, caravan parks and resorts.

Short-stay accommodation involves people visiting and inhabiting a premises where they may be less likely to be able to respond in the event of an emergency. These uses are

classified as ‘vulnerable’ under State Planning Policy 3.7 Planning in Bushfire Prone Areas and may be subject to a Bushfire Management Plan. Applications for vulnerable land uses are to be lodged with the Shire.

5.4. Plantations

A plantation means any area of planted pines, eucalypt, hardwood or softwood trees exceeding three (3) hectares in area, excluding vineyards and fruit producing trees within orchards.

Most plantations require Development Approval from the Shire prior to commencement of planting. The Shire will require plantation fire protection measures, including the development of a Fire Management Plan (FMP), to be fulfilled as a condition of Development Approval. These measures shall apply to all new plantations and additional rotations of existing plantations.

Owners should apply for a Variation where the requirements of an FMP are inconsistent with the following requirements.

All land excluding Scott River is to meet the requirements from 3 November until 30 April each year as specified in the Notice. Scott River is to meet the requirements from 15 December until 30 April each year:

(i) The firebreak requirements for harvested plantations are the same as those for unharvested plantations, unless it has been clear felled and all pruning, branches and/or other accumulated tree litter, stumps and logging residue have been removed.

(ii) Established residue heaps into manageable piles no greater than ten (10) metres wide and four (4) metres high and burnt. The ignition of heaps to occur as soon as weather and fuel conditions permit after the previous fire season ends. If unable to achieve the requirements install a fifteen (15) metre wide firebreak around the heaps, it must be trafficable and cleared of all Flammable Material. The appropriate agencies are to be notified in advance of the burn off. Contact the Shire of Nannup for further information.

(iii) Bushfire Management Plan maps are to be stored in red fire cylinders at the main entrances to the plantation. The maps to include property boundaries, firebreaks, water point, buildings and owners or managers contact details.

(iv) Firebreaks to be constructed on the boundaries of plantations or in such alternative locations as may be agreed with the Shire and the plantation owner. Fifteen (15) meter wide boundary firebreaks are to be cleared of all flammable material and have no overhanging tree branches for a vertical clearance of five (5) metres.

(v) Six (6) metre wide internal firebreaks are to be clear of all flammable material, progressively pruned on both sides to a minimum height of four (4) metres and shall be constructed surrounding compartments of approximately thirty (30) hectares. Internal firebreaks maintained to a trafficable condition.

(vi) Where power lines pass through or near plantation areas, additional obligations are imposed by the State power authority. Plantation owners and/ or managers should consult Western Power for advice.

6. Notice Definitions

For the purpose of this Notice the following definitions apply:

Flammable Material means accumulated fuel (living or dead) capable of carrying a running fire such as bark, leaf litter, twigs, dead trees and grass over seventy-five (75) millimetres in height, depending on the type of property.

Low Fuel Zone means an area from which the majority of flammable material such as dry grass, leaf litter, dead bracken, dead trees and dead limbs/ branches on live trees (to a height of two (2) metres) has been removed.

Bushfire Attack Level (BAL) is a bushfire risk rating determined for sites in a bushfire prone area by, at a minimum, an accredited Level 1 BAL Assessor or Bushfire Planning Practitioner.

Bushfire Management Plan (BMP) means a plan developed in accordance with State Planning Policy 3.7 and approved by the Shire of Nannup to reduce and mitigate fire hazards within a particular subdivision, lot, or other area of land anywhere in the Shire. Properties subject to an approved BMP must comply with the requirements of their BMP in addition to the requirements of the Notice. Note – where the requirements of a BMP are inconsistent with the requirements of this Notice, owners should apply for a Variation.

Trafficable means to be able to travel from one point to another in a four-wheel fire vehicle on a firm, stable surface, unhindered without any obstruction that may endanger such fire vehicles.

Firebreaks and Driveways means a trafficable area or strip of land where flammable material has been removed or modified to reduce the risk of fires starting, and to reduce the intensity and rate of spread of fires that may occur. It allows unrestricted access to your property for all maintenance and fire fighting vehicles.

The firebreak should be constructed within six (6) metres of the boundary of the property, must be four (4) metres wide with three (3) metres being mineral earth, and have all trees/vegetation on both sides of the firebreak laterally pruned to a height of four (4) metres.

No through firebreaks should be avoided, if possible, but if they do exist, they should be signposted and include distance to end. You must have a turnaround large enough to accommodate a fire truck with a radius of twelve (12) metres.

Driveways should always be maintained; if a fire truck cannot get into your property safely and turn around, it will not be able to defend your home from a bushfire.

7. Variations

If, due to constraints on your land, you are unable to comply with the requirements set out in this Notice, you may apply for a variation to the Bushfire Risk Compliance Notice. Variations must provide an alternative means of meeting the objectives of the Notice, including bushfire risk mitigation and property access, considering site specific constraints and advantages and not all properties will be able to accommodate variations.

Applications must be completed on the approved form, which is available upon request or can be downloaded via the Shire's website www.nannup.wa.gov.au (Fire and Emergencies).

Application fees apply (per lot applied): 1 year $60, 5 years $200.

Unless written permission by the Shire is granted, you must comply with the requirements of this Notice.

IMPORTANT DATES

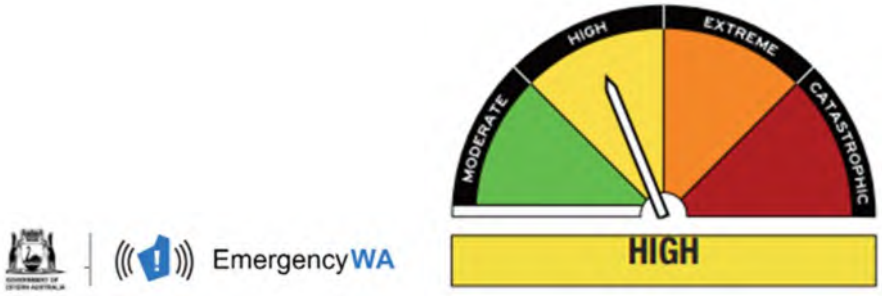
Burning Times

Subject to change due to conditions in the Southern Forests fire weather district.

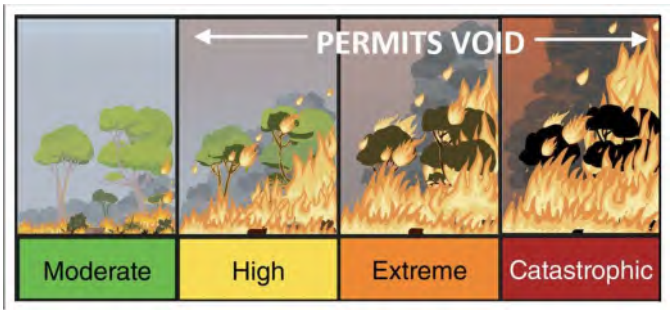
Restricted Burning Time Spring	Prohibited Burning Times	Restricted Burning Time Autumn
PERMITS ARE REQUIRED TO BURN	**STRICTLY NO BURNING!**	**PERMITS ARE REQUIRED TO BURN**
3 Nov – 17 Dec	18 Dec – 29 Feb	1 Mar – 14 May

Fires must always be attended, and you must have the ability and means to extinguish the fire close at hand.

FIRE DANGER RATING



Fire Danger Rating (FDR) restrictions are in addition to Restricted and Prohibited burning times. **High** or above rating may trigger the Shire of Nannup to impose a Harvest and Vehicle Movement Ban (HVMB). If you have a permit, this will automatically be cancelled if the FDR is **High** or above and you will have to extinguish your burn.



All burning is PROHIBITED on days where the Fire Danger Rating is High or above and during a TOTAL FIRE BAN .

Check out the website **www.emergency.wa.gov.au** or phone **13 DFES (13 3337)** to find the FDR  (Southern Forests), or if a Total Fire Ban (TFB)  has been imposed or to find out if there is a fire emergency.

GENERAL INFORMATION

Burning of Garden Refuse

Pursuant to the powers contained in section 24G (2) of the *Bush Fires Act 1954*, the burning of all garden refuse is **not permitted during prohibited burning times**. This applies to all persons within the Shire's district.

During the **restricted burning time**, the burning of garden refuse or rubbish on the ground or in an incinerator can only be carried out with a Fire Permit issued under Regulation 15 of the *Bush Fire Act 1954*. To obtain a Permit, contact your Fire Control Officer. **Please allow up to seventy two (72) hours for a Fire Control Officer to attend your property to assess your Permit application.**

Camping and Cooking

Pursuant to the powers contained in section 25 (1a) of the *Bush Fires Act 1954*, the lighting of a fire in the open air for the purpose of camping or cooking is **not permitted during the prohibited period.**

For the purposes of this section (1aa) a gas fueled appliance, comprising a fire the flame of which is encapsulated by the appliance, and which does not consume solid fuel, shall not be taken to be a fire in the open air and may be used at any time for the purpose of camping or cooking and all combustible material is cleared from within five (5) metre radius of the appliance.

Fires must always be attended, and you must have the ability and means to extinguish the fire close at hand.

Campfires and Firepits

Campfires and firepits are NOT permitted:

- At any time during the PROHIBITED burning time
- On days when a TOTAL FIRE BAN has been issued
- On days where the FIRE DANGER RATING is HIGH or above
- On public land, unless purpose built campfire pits have been provided by the owner of the land and permission to use them has been given.

Campfires and firepits are permitted:

- On private property during the RESTRICTED burning time without a Permit but cannot be lit before 6pm and must be fully extinguished by 11pm. A permit is required outside of these times.
- Campfires and Firepits shall have a space cleared of all vegetation and other flammable materials around the site of the fire of at least three (3) metres radius from the centre of the fire.

Wood/Solid Fuel BBQs and Pizza Ovens

Wood/Solid Fuel BBQs and Pizza Ovens are NOT permitted:

- On days when a TOTAL FIRE BAN has been issued
- On days where the FIRE DANGER RANGER is HIGH or above

Wood/Solid Fuel BBQs and Pizza Ovens are permitted:

- On private property on days where the FIRE DANGER RATING is MODERATE or below.
- Wood/Solid Fuel BBQs and Pizza Ovens shall have a space cleared of all vegetation and other flammable materials around the site of the fire of at least three (3) meters radius from the centre of the fire.

PERMIT TO BURN

Permits to burn are required during the **Restricted Burning Period** and can be obtained from your district Fire Control Officer (FCO).

When contacting the FCO to request a Permit, please have the following information ready to provide:

- the size of your burn
- what you are burning
- the address of the burn
- the name and contact number of the Permit holder.

You must notify your adjoining landowners twenty four (24) hours in advance of your intention to burn.

Prior to burning, you MUST register your Permit with the Shire of Nannup, Department of Biodiversity, Conservation and Attractions (DBCA) and Department of Fire and Emergency Services (DFES). To do this call the numbers on the Permit and have your Permit handy as the operator will need the Permit details.

Failure to:

- obtain a Permit
- comply with all Permit conditions
- burn without a Permit, or
- burn in contravention to any information provide in the Notice

May result in a modified penalty of $250 and up to $5,000 should legal action be undertaken.

FIRE CONTROL OFFICERS

District	Fire Control Officer	Phone Number
Chief Bush Fire Control Officer	Robin Mellema	9756 1156 or 0427 975 611
Deputy Chief Bush Fire Control Officer (North)	Mark Scott	9756 0444 or 0427 560 444
Deputy Chief Bush Fire Control Officer (South)	John Patman	0407 713 653
Balingup Road	Mark Scott	9756 0444 or 0427 560 444
Carlotta	Peter Hastie	0419 772 775
Cundinup	Gerald Brown	0428 562 055

Darradup	John Patman	0407 713 653
East Nannup	Victor Lorkiewicz	9756 1129
Nannup Brook	Carey Curtis	9756 1474
Nannup Townsite	Nathan Manning	9756 1018
North Nannup	Mike Vasey	9756 0921 or 0499 509 479
Peerabeelup	Brett Fowler	0409 089 947
Peerabeelup Coastal	John Jonker	0439 411 351
Scott River/Jasper	Andrew McNab	0427 581 489

DIAL 000 to report all Fires or Life Threatening Emergencies

ATTACHMENT 4 – Access

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.

EXPLANATORY NOTES

E3.6 Private driveways

In areas serviced by reticulated water, where the road speed limit is not greater than 70 km/h, and where the distance from the public road to the further part of the habitable building is no greater than 70 metres, emergency service vehicles typically operate from the street frontage.

In the event the habitable building cannot be reached by hose reel from the public road, then emergency service vehicles will need to gain access within the property. Emergency service vehicles will also need to gain access within the property, where access to reticulated water (fire hydrants) is not possible. In these situations, the driveway and battle-axe (if applicable) will need to be wide enough for access for an emergency service vehicle and a vehicle to evacuate.

Turnaround areas should be available for both conventional two-wheel drive vehicles of residents and Type 3.4 fire appliances. Turn-around areas should be located within 30 metres of habitable buildings. Circular and loop driveway design may also be considered.

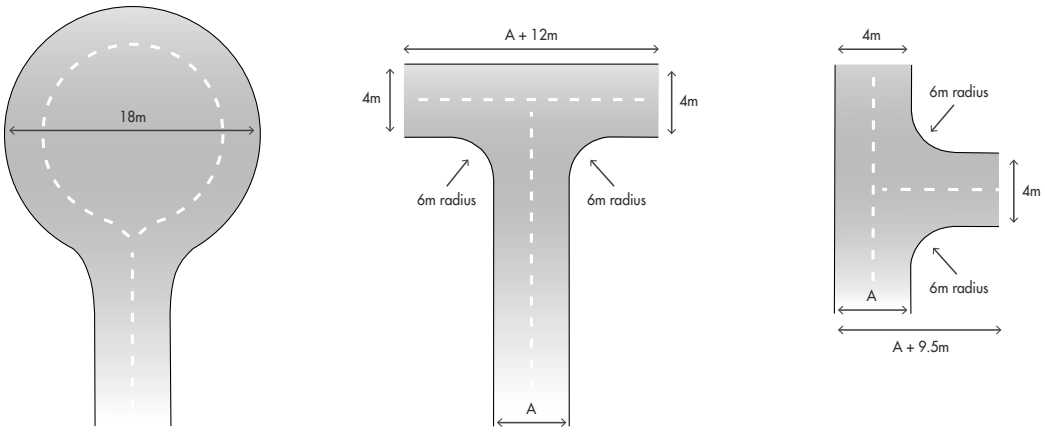


Figure 28: Design requirements for a turn-around area for a private driveway or battle-axe

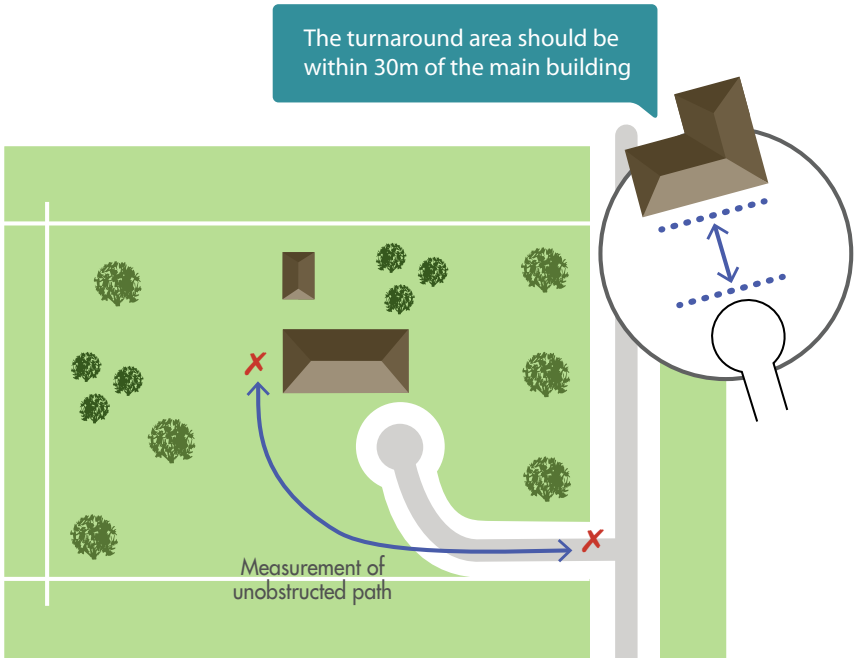


Figure 29: Design requirements for a private driveway where required under A3.6

ATTACHMENT 5 – Risk Consequence description

Policy Intent: "***to preserve life (social) and reduce the impact of bushfire on property and infrastructure (economic)***

Consequence	Social	Economic
Catastrophic	Fatality.	Extensive loss, extended closure until facility is rebuilt.
Major	Major or Multiple injuries resulting in temporary disability or ill health, Extended lost time for recovery.	Partial loss, partial closure until isolated items are rebuilt.
Moderate	Injury or illness requiring medical or psychological treatment, lost injury time.	Disruption only for evaluation, repairs required to a primary building, but not closure.
Minor	Minor injury, first aid treatment required. No lasting impact.	Disruption only for evaluation, damage to incidental structures.
Insignificant	No treatment.	Disruption only during the period of the fire event.

Note: Community scale risk measures as used in NERAG 2020, are not applicable for site specific consequence, or operator duty of care and liability.

ATTACHMENT 6 – Barrier calculation Method 2

NBC Bushfire Attack Assessment Report V4.1

AS3959 (2018) Appendix B - Detailed Method 2

Print Date: 23/06/2024 **Assessment Date:** 21/06/2024

Site Street Address:	1 Dunnett Road, Nannup
Assessor:	Anthony Rowe; Envision Bushfire Protection
Local Government Area:	WA
Alpine Area:	No

Equations Used

Transmissivity: Fuss and Hammins, 2002
Flame Length: RFS PBP, 2001/Vesta/Catchpole
Rate of Fire Spread: Noble et al., 1980
Radiant Heat: Drysdale, 1985; Sullivan et al., 2003; Tan et al., 2005
Peak Elevation of Receiver: Tan et al., 2005
Peak Flame Angle: Tan et al., 2005

Run Description: Method 2

Vegetation Information

Vegetation Type:	Grassland		
Vegetation Group:	Grassland		
Vegetation Slope:	0 Degrees	**Vegetation Slope Type:**	Level
Surface Fuel Load(t/ha):	4.5	**Overall Fuel Load(t/ha):**	4.5
Vegetation Height(m):	0	Only Applicable to Shrub/Scrub and Vesta	

Site Information

Site Slope	0 Degrees	**Site Slope Type:**	Downslope
Elevation of Receiver(m)	6	**APZ/Separation(m):**	7

Fire Inputs

Veg./Flame Width(m):	12.81	**Flame Temp(K):**	1090

Radiant Heat Shielding Inputs

Shield Height(m):	3	**Shield Width(m):**	100

Calculation Parameters

Flame Emissivity:	95	**Relative Humidity(%):**	25
Heat of Combustion(kJ/kg	18600	**Ambient Temp(K):**	308
Moisture Factor:	5	**FDI:**	110

Program Outputs

Category of Attack:	MODERATE	**Peak Elevation of Receiver(m):**	2.74
Level of Construction:	BAL 19	**Fire Intensity(kW/m):**	33248
Radiant Heat(kW/m2):	14.45	**Flame Angle (degrees):**	71
Flame Length(m):	6.87	**Maximum View Factor:**	0.216
Shielded View Factor:	0.109	**Inner Protection Area(m):**	7
Rate Of Spread (km/h):	14.3	**Outer Protection Area(m):**	0
Transmissivity:	0.88		

ATTACHMENT 7 – References

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