

Bushfire management plan/Statement addressing the Bushfire Protection Criteria coversheet

Site address:

Site visit: Yes No

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

Report author or reviewer:

WA BPAD accreditation level (please circle):

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

If accredited please provide the following.

BPAD accreditation number: Accreditation expiry: Month Year

Bushfire management plan version number:

Bushfire management plan date: Day Month Year

Client/business name:

	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)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Is the proposal any of the following (see [SPP 3.7 for definitions](#))?

	Yes	No
Unavoidable development (in BAL-40 or BAL-FZ)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Strategic planning proposal (including rezoning applications)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
High risk land-use	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Vulnerable land-use	<input checked="" type="checkbox"/>	<input type="checkbox"/>

None of the above


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

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

The proposal accompanies the Local Structure Plan prepared by Stewart Urban Planning. Short stay / tourism accommodation is proposed within the "resort", the one freehold lot proposed to be created and to which this Bushfire Management Plan is to apply.

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



BJ MARSH PTY LTD

ABN 67 603 964 049

CONSULTING ENGINEERS AND BUSHFIRE PLANNERS

BUSHFIRE MANAGEMENT PLAN

**RESORT TO BE LOCATED WITHIN
LOT 101 ON PLAN 17335,
777 TEA TREE ROAD, BINDOON,
SHIRE OF CHITTERING**

DATE OF SITE INSPECTION(S): 9 June 2019

REPORT DATE: 21 January 2020

REPORT REFERENCE: 156-1-1

VERSION: 0

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Document control

Client: Insert client name

Report version	Purpose	Author/reviewer and accreditation details	Date submitted
Draft	Draft Report	B Marsh L2 BPAD 37413	12/8/2019
0	Rezoning Application	B Marsh L2 BPAD 37413	21/01/2020

Disclaimer

This plan documents minimum actions required for planning approval of this development under State Planning Policy 3.7, Planning in Bushfire Prone Areas. It does not warrant the safety of any people or animals and does not warrant that buildings or assets will not be damaged or destroyed. The land owner and occupier are fully responsible for mitigation of all risks.

1 PROPOSAL DETAILS

Lot 101 (No.777) Teatree Road, Bindoon ('Lot 101') is located in the Shire of Chittering and has a total land area of 475 hectares. Lot 101 is bound by Teatree Road to the north, Brennan Road to the east and undeveloped bushland to the south and west. Farming land is located to the north and east of Lot 101. The entire area of Lot 101 is presently native bushland with a structure consistent with woodland from a bushfire assessment point of view.

The north-east corner of Lot 101, comprising an area of 50 hectares, was recently rezoned to 'Special Use' by Amendment 61 to Shire of Chittering Local Planning Scheme No.6, to allow for the development of an integrated tourist resort in accordance with an approved Structure Plan. This area is herein referred to as the 'Subject Site'.

Figure 1 shows the location of Lot 101 and the Subject Site within it.

Figure 2 shows the proposed Structure Plan for the Subject Site including:

- A "Tourist Development Zone": where the main resort buildings such as the main reception, offices and restaurant/conference centre will be located (inside "Lot 1"); and
- "Residential Resort Zone": 46 separate houses will be located inside each of the designated 46 "lots" within a building envelope which is at least 17m from the internal "lot boundary";
- Landscaped (mainly lawn) area which will be kept in minimum fuel condition as per AS3959 clause 2.2.3.2 (f).

The proposed resort of the Subject Site will include 46 residential resort homes (one located within each "Residential Resort Zone"), short-stay villas / serviced apartments and guest facilities (located within the Tourist Development Zone) and communal open space.

Access to the proposed resort will be obtained from a new road to be constructed within an existing road reserve abutting the site's northern boundary. The new road will effectively be an extension of Teatree Road and run along the entire length of the northern boundary of the Structure Plan. Two vehicle access points will be provided to the new road: one for the internal road servicing the residential resort homes and one for the short-stay villas / serviced apartments and guest facilities. The existing native vegetation within the Structure Plan area will be modified to accommodate the proposed resort.

Amendment 61 to Local Planning Scheme No.6 included the balance of Lot 101, comprising approximately 425 hectares, in the 'Environmental Conservation' zone. This balance portion of Lot 101 does not form part of the Structure Plan and will be retained in its current condition.

This Bushfire Management Plan has been prepared in support of the Structure Plan for the proposed resort, occupying the 50-hectare north-east portion of Lot 101, the Subject Site.

Figure 3 is an excerpt from the bushfire prone areas map, which shows the entirety of Lot 101 is presently classified as Bushfire Prone.



Figure 1: Location plan



Figure 2: Development area of subject land with areas termed "Tourist Development Zone" and "Residential Resort Zone" indicated.



Figure 3: Map of Bushfire Prone Areas for Lot 101 and the subject site

2 ENVIRONMENTAL CONSIDERATIONS

The land contains an borders other land with environmental values. Other environmental investigations and discussions are understood to have occurred which have identified that the areas proposed to be developed can be fully cleared if required, with the balance of the land to be conserved.

2.1 Native vegetation – modification and clearing

The entire area of Lot 101 contains native vegetation.

The balance portion of Lot 101 represents almost 90% of the total land area of Lot 101, with the 50 hectare portion set aside for the proposed tourist resort representing just 10%.

The balance portion of Lot 101 is zoned 'Environmental Conservation' under the Shire of Chittering Local Planning Scheme No.6, with the scheme provisions requiring a Conservation Covenant and Environmental Management Plan.

Clearing of the 50 hectare portion, in accordance with the provisions of the proposed Structure Plan, is therefore considered to represent an appropriate and balanced outcome for Lot 101. The provisions of the Structure Plan require further landscape surveys to be undertaken to identify opportunities to retain existing native trees in select locations.

2.2 Revegetation/landscape plans

All retained vegetation, new vegetation and landscaped areas within the Structure Plan are to comply with the requirements of AS3959-2018 Clause 2.2.3.2 (e), non-vegetated areas, or Clause 2.2.3.2 (f), vegetation regarded as low-threat due to factors such as flammability, moisture content or fuel load.

3 BUSHFIRE ASSESSMENT RESULTS

3.1 Assessment inputs

The results of the site assessment are presented in the following tables.




Photo ID: 1		Plot: 3	
Vegetation Classification or Exclusion Clause			
Class B Woodland - Open woodland B-06			
Description / Justification for Classification			
Scattered trees < 30% with surface and ladder fuels. Effective downslope up to 1 degree.			
Photo ID: 2		Plot: 4	
Vegetation Classification or Exclusion Clause			
Class G Grassland – Open tussock G-23			
Description / Justification for Classification			
Paddock area dominated by grasses with effective downslope up to 3 degrees. Occasional trees and shrubs insufficient – grass fire mechanism would prevail.			
Photo ID: 3		Plot: 4	
Vegetation Classification or Exclusion Clause			
Class G Grassland – Open tussock G-23			
Description / Justification for Classification			
Paddock area dominated by grasses with effective downslope up to 3 degrees. Occasional trees and shrubs insufficient – grass fire mechanism would prevail.			



Photo ID:	4	Plot:	4	
Vegetation Classification or Exclusion Clause				
Class G Grassland – Open tussock G-23				
Description / Justification for Classification				
Paddock area dominated by grasses with effective downslope up to 3 degrees. Occasional trees and shrubs insufficient – grass fire mechanism would prevail.				
Photo ID:	5	Plot:	1	
Vegetation Classification or Exclusion Clause				
Class B Woodland - Open woodland B-06				
Description / Justification for Classification				
Mature tree canopy area < 30% with surface and ladder fuels provided by shrubs. Effective downslope up to 3 degrees.				
Photo ID:	6	Plot:	1	
Vegetation Classification or Exclusion Clause				
Class B Woodland - Open woodland B-06				
Description / Justification for Classification				
Mature tree canopy area < 30% with surface and ladder fuels provided by shrubs. Effective downslope up to 3 degrees.				



Photo ID:	7	Plot:	1
Vegetation Classification or Exclusion Clause			
Class B Woodland - Open woodland B-06			
Description / Justification for Classification			
Mature tree canopy area < 30% with surface and ladder fuels provided by shrubs. Effective downslope up to 3 degrees.			

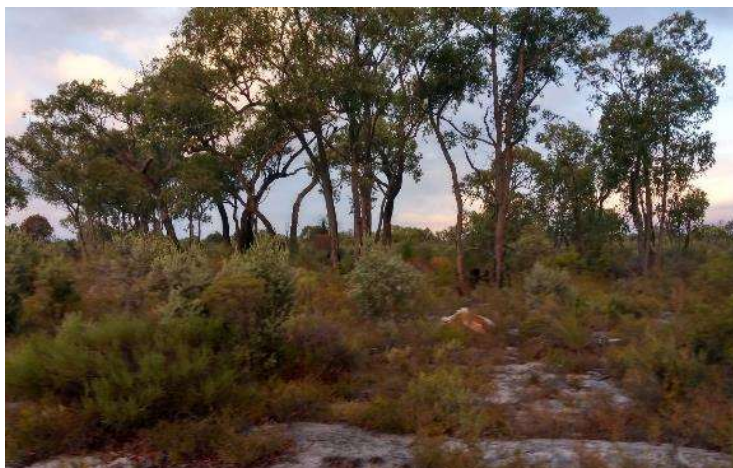




Photo ID:	8	Plot:	2
Vegetation Classification or Exclusion Clause			
Class G Grassland – Open tussock G-23			
Description / Justification for Classification			
Paddock area dominated by grasses. Effective downslope up to 3 degrees.			



Photo ID:	9	Plot:	1
Vegetation Classification or Exclusion Clause			
Class B Woodland - Open woodland B-06			
Description / Justification for Classification			
Mature tree canopy area < 30% with surface and ladder fuels provided by shrubs. Effective downslope up to 3 degrees.			





Photo ID:	10	Plot:	N/A	
Vegetation Classification or Exclusion Clause				
Class G Grassland – Open tussock G-23				
Description / Justification for Classification				
Paddock area dominated by grasses, effective downslope up to 3 degrees.				
Photo ID:	11	Plot:	1	
Vegetation Classification or Exclusion Clause				
Class B Woodland - Open woodland B-06				
Description / Justification for Classification				
Mature tree canopy area < 30% with surface and ladder fuels provided by shrubs. Effective downslope up to 3 degrees.				

Vegetation area/plot	Applied vegetation classification	Effective slope under the classified vegetation (degrees)
1	Class B Woodland	3 degrees downslope
2	Class G Grassland	3 degrees downslope
3	Class B Woodland	1 degree downslope
4	Class G Grassland	3 degrees downslope

A Site sketch or vegetation classification map showing the current situation is presented in Figure 4.

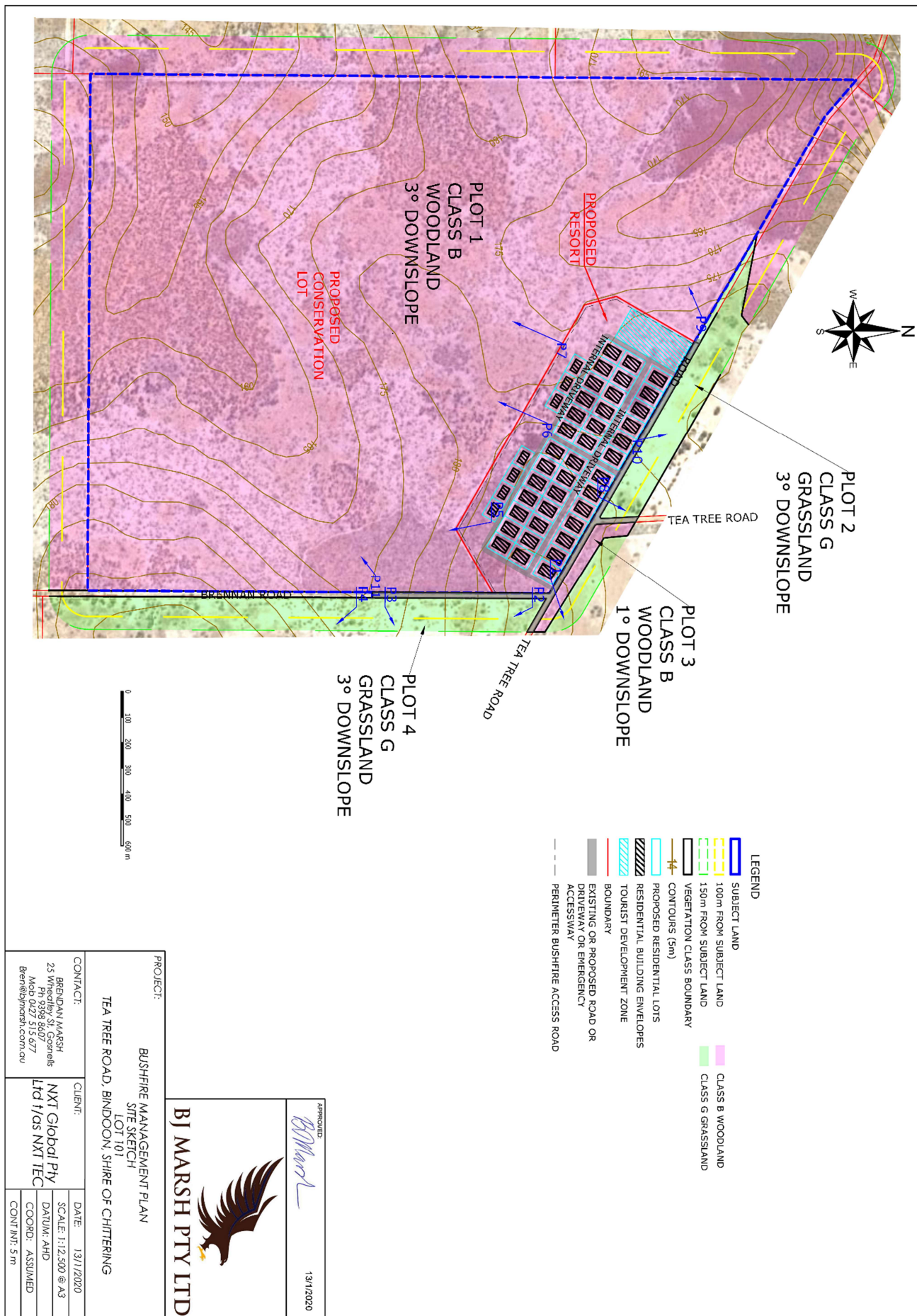


Figure 4 Vegetation classification map

3.2 Assessment outputs

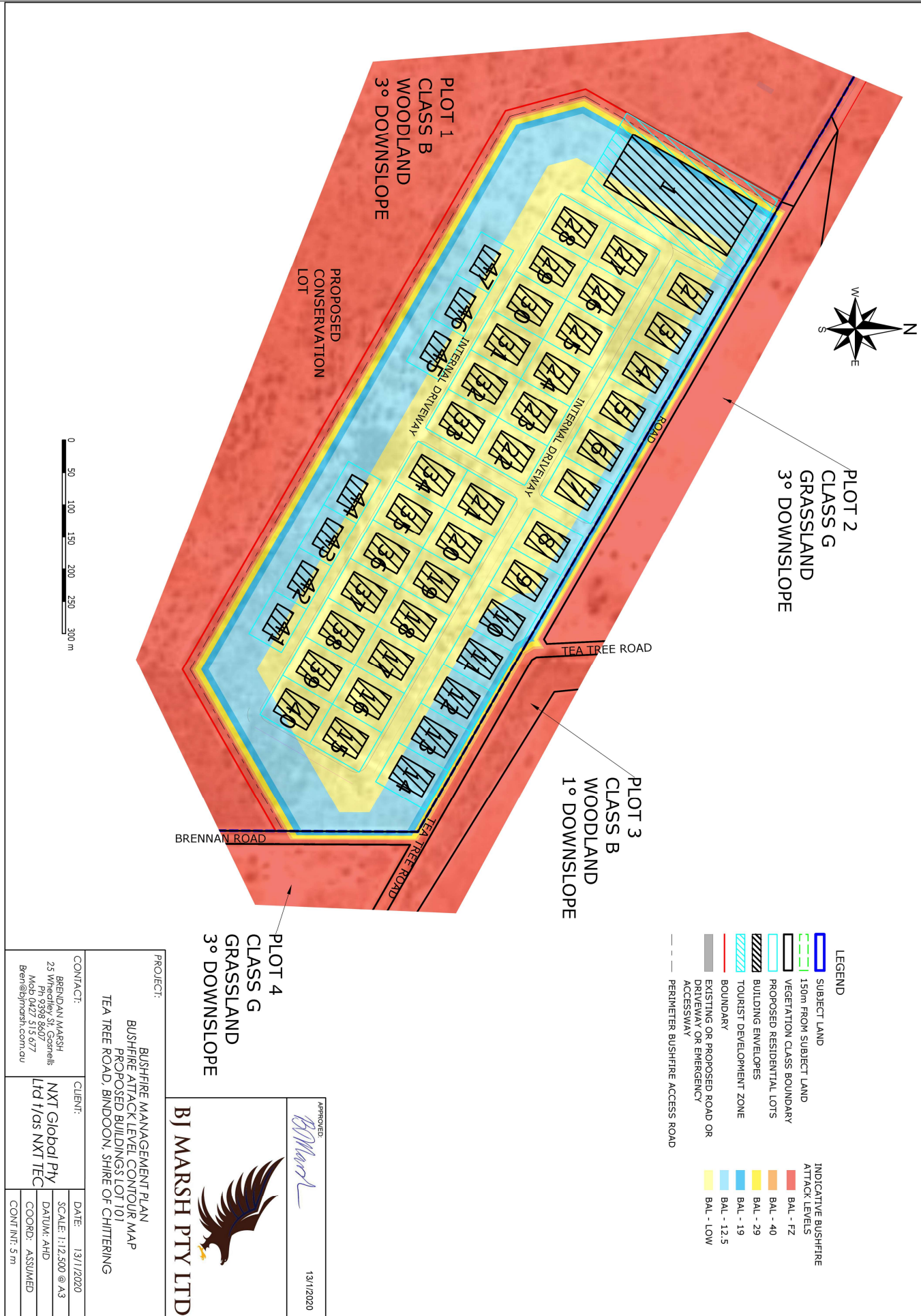
BAL Assessment has been undertaken in accord with AS3959, Method 1. The Highest BAL Contour is based upon the current vegetated state of the Land, thus is BAL-FZ for all habitable structures. The Modified BAL Contour is based upon:

- All land of the resort and abutting public road network nature strips being brought into and kept in accord with one of the vegetation classification exemptions of AS3959 Clause 2.3.2.2, either sub-clause (e) Non-vegetated area or sub-clause (f) vegetation regarded as low threat.
- All buildings within the Tourist Development Zone being setback at least 25m from the Subject Site perimeter boundary.
- All buildings within the Residential Resort Zone being setback 17m from the internal boundary, all internal boundary's being setback 10m from the Subject Site boundary and each benefiting from the near road nature strip being in the future kept in minimum fuel condition.

Figure 5 shows the Modified BAL Contour Map for the entire subject land and Figure 6 shows the BAL Contour Map zoomed in on the development area with indicative buildings/lots labelled.

Method 1 BAL determination					
Lot	Applied vegetation classification	Effective slope under the classified vegetation (degrees)	Separation distance to the classified vegetation (metres)	Highest BAL Contour	Modified BAL Contour
1	Class B	3	18	FZ	29
2	Class G	3	35	FZ	12.5
3	Class G	3	35	FZ	12.5
4	Class G	3	35	FZ	12.5
5	Class G	3	35	FZ	12.5
6	Class G	3	35	FZ	12.5
7	Class G	3	35	FZ	12.5
8	Class G	3	35	FZ	12.5
9	Class G	3	35	FZ	12.5
10	Class B	1	35	FZ	12.5
11	Class B	1	35	FZ	12.5
12	Class B	1	35	FZ	12.5
13	Class B	1	35	FZ	12.5
14	Class B	1	35	FZ	12.5
15	Class B	1	160	FZ	LOW
16	Class B	1	160	FZ	LOW
17	Class B	1	160	FZ	LOW
18	Class B	1	160	FZ	LOW
19	Class B	1	160	FZ	LOW
20	Class G	3	160	FZ	LOW
21	Class G	3	160	FZ	LOW
22	Class G	3	160	FZ	LOW
23	Class G	3	160	FZ	LOW

Method 1 BAL determination					
Lot	Applied vegetation classification	Effective slope under the classified vegetation (degrees)	Separation distance to the classified vegetation (metres)	Highest BAL Contour	Modified BAL Contour
24	Class G	3	160	FZ	LOW
25	Class G	3	160	FZ	LOW
26	Class G	3	160	FZ	LOW
27	Class G	3	160	FZ	LOW
28	Class B	3	155	FZ	LOW
29	Class B	3	155	FZ	LOW
30	Class B	3	155	FZ	LOW
31	Class B	3	155	FZ	LOW
32	Class B	3	155	FZ	LOW
33	Class B	3	155	FZ	LOW
34	Class B	3	155	FZ	LOW
35	Class B	3	155	FZ	LOW
36	Class B	3	155	FZ	LOW
37	Class B	3	155	FZ	LOW
38	Class B	3	155	FZ	LOW
39	Class B	3	155	FZ	LOW
40	Class B	3	65	FZ	12.5
41	Class B	3	76	FZ	12.5
42	Class B	3	76	FZ	12.5
43	Class B	3	76	FZ	12.5
44	Class B	3	76	FZ	12.5
45	Class B	3	76	FZ	12.5
46	Class B	3	76	FZ	12.5
47	Class B	3	76	FZ	12.5



APPROVED: *BJ Marsh* 13/11/2020

BJ MARSH PTY LTD

PROJECT: BUSHFIRE MANAGEMENT PLAN
BUSHFIRE ATTACK LEVEL CONTOUR MAP
PROPOSED BUILDINGS LOT 101
TEA TREE ROAD, BINDOON, SHIRE OF CHITTERING

CONTRACT:	BRENDAN MARSH 25 WINDY ST, BIN 3298 8607 Mob 0427 515 677 Bren@bjmarsh.com.au	CLIENT:	NXT Global Pty Ltd t/OS NXT TEC	DATE:	13/11/2020
				SCALE:	1:12,500 @ A3
				DATUM:	AHD
				COORD:	ASSUMED
				CONT INT:	5m

Figure 6: BAL contour map (zoomed in on development area)

4 IDENTIFICATION OF BUSHFIRE HAZARD ISSUES

The Structure Plan area comprises gently sloping vegetated terrain which is naturally bushfire prone. The entire area of the Structure Plan, including the perimeter bushfire access road, is proposed to accord with AS3959 Clauses 2.2.3.2 (e) or (f). Adequate separations to habitable structures and the design of habitable structures to the relevant BAL ratings are proposed. As a result, approximately 60% of the proposed tourist resort land will achieve BAL-LOW.

Tea Tree Road does provide two way access although some sections are steep to the north of the site and possibly steeper than the Guidelines allow. Any upgrades to these sections of Teatree Road to satisfy the requirements of the Guidelines will need to be agreed with the Shire of Chittering and Department of Fire and Emergency Services.

The site is presently not located within a reticulated area. Water tanks dedicated to bushfire fighting purposes are to be provided within the proposed tourist resort in accordance with the Guidelines.

5 ASSESSMENT AGAINST BUSHFIRE PROTECTION CRITERIA

5.1 Compliance table

The following compliance table documents the proposed bushfire management strategies. All solutions proposed are Acceptable Solutions.

Bushfire protection criteria	Method of compliance Acceptable solutions	Proposed bushfire management strategies
Element 1: Location	A1.1 Development location	All buildings will on completion be located in an area that is BAL-29 or less and be at least 25m from the Subject Site boundary. All buildings will be surrounded with at least a 17m Asset Protection Zone as per the Guidelines (Appendix A). All resort land shall be kept non-vegetated or in minimum fuel condition as per AS3959:2018 Clause 2.2.3.2 sub-clauses (e) and (f) and kept in accord with the requirements for Asset Protection Zone.
Element 2: Siting and design	A2.1 Asset Protection Zone	
Element 3: Vehicular access	A3.1 Two access routes.	Tea Tree Road provides two access routes to Bindoon to the northeast and Gingin to the northwest. The internal driveway network will provide two access routes for all internal “lots” via a crossover in the Tourist Development Zone and Residential Resort Zone.
	A3.2 Public road	Tea Tree Road and the roads comprising the Perimeter Road will be constructed / upgraded by the proponent in accord with the Guidelines Table 6 Column 1 (Appendix B) with the final design and tenure agreed with the Shire/FESA.
	A3.3 Cul-de-sac (including a dead-end-road)	A cul-de-sac is not applicable owing to the proposed publicly accessible perimeter road.
	A3.4 Battle-axe	Not applicable.
	A3.5 Private driveway longer than 50 metres	Internal driveways forming part of the two way access-egress driveway network will be constructed in accord with the guidelines Table 6 Column 1 (Appendix B). Internal driveway intersections will permit Type 3.4 Fire Appliance turn around via 3 point turn using any of the intersection legs (at no greater than 500m spacings).
	A3.6 Emergency access way (EAW)	Not applicable. Two additional emergency access options (similar to EAW) will be provided within the Residential Resort Zone.
	A3.7 Fire service access routes/ perimeter roads	A Perimeter Bushfire Access Road will be constructed in accord with the Guidelines around the external boundary of the Structure Plan, connecting the extended portion of Teatree Road to Brennan Road.
	A3.8 Firebreak width	All land within the Structure Plan will be brought into and kept in accord with Shire of Chittering’s Hazard Reduction Notice (Appendix C). Firebreaks will be 3m wide with 4m vertical clearance.
Element 4: Water	A4.1 Reticulated areas	Not applicable
	A4.2 Non-reticulated areas	Water tanks will be installed on land with access and to be ceded to the Shire of Chittering. Two 50,000L water tanks will be installed for the Residential Resort Zone homes. Additional 50,000L water tanks will be constructed to provide at least one tank per 25 accommodation units within the Tourist Development Zone. The water tanks will be in accord with the requirements of the Shire of Chittering and the Guidelines (Appendix D).
	A4.3 Individual lots within non-reticulated areas	Not applicable.
Other	Tourism Policy	Comply with the Tourism Land Uses in Bushfire Prone Areas policy such as for onsite manager at all times and shelter buildings.

5.2 Additional management strategies

As the resort will predominantly comprise short stay accommodation, it qualifies as a vulnerable land use.

The risk is substantially mitigated by the proposal including the modification of vegetation on all the resort land such that it is kept in minimum fuel condition or non-vegetated at all times, resulting in approximately 60% of the Subject Site becoming BAL-LOW.

Appendix E contains the Bushfire Emergency Evacuation Plan which makes it very unlikely for a person renting short stay accommodation to be on site at the time a bushfire poses a genuine threat to the resort and shall be complied with in the ongoing operation of the resort.

As per the November 2019 position statement, Tourism Land Uses in Bushfire Prone Areas, the following additional actions shall apply:

- A manager shall be onsite at all times during the resort's operation.
- All habitable structure construction shall be to the corresponding BAL rating and the corresponding bushfire standards of the Building Code of Australia.
- Designated assembly buildings (e.g. the earmarked Main Reception and restaurant/conference centre within the Tourism Development Zone) are not intended to be used for shelter onsite purposes, rather it is intended the site be evacuated in the event of a bushfire. However, to provide a "last resort option", the designated assembly buildings, shall be constructed to the recommended shelter in place standards as follows:
 - Designed to withstand a bushfire attack in the form of wind, smoke, embers, radiant heat and flame contact;
 - Located with sufficient separation to the Class B Woodland vegetation to ensure that these buildings will not be exposed to a radiant heat flux exceeding 10kW/m² (with an assumed flame temperature of 1200K). The specific separation distance shall be reassessed at the planning stage of these buildings. As a guide, the required separation distance to the resort boundary will be 40m. This area shall be kept in accord with the requirements for Asset Protection Zones;
 - Designed, constructed and certified by a qualified fire engineer as per the National Construction Code.
- The shelter in place buildings shall be checked and re-certified as compliant on an annual basis.

This Bushfire Management Plan and accompanying Bushfire Emergency Evacuation Plan shall be reviewed and updated with future planning applications to ensure its ongoing accuracy and appropriateness as the development is more clearly detailed and designed.

Refer to Figure 7 for Spatial representation of the Bushfire Management Strategies.

These together with the other actions of this Bushfire Management Plan result in the proposed short stay accommodation being viable and acceptable from the bushfire risk management perspective.

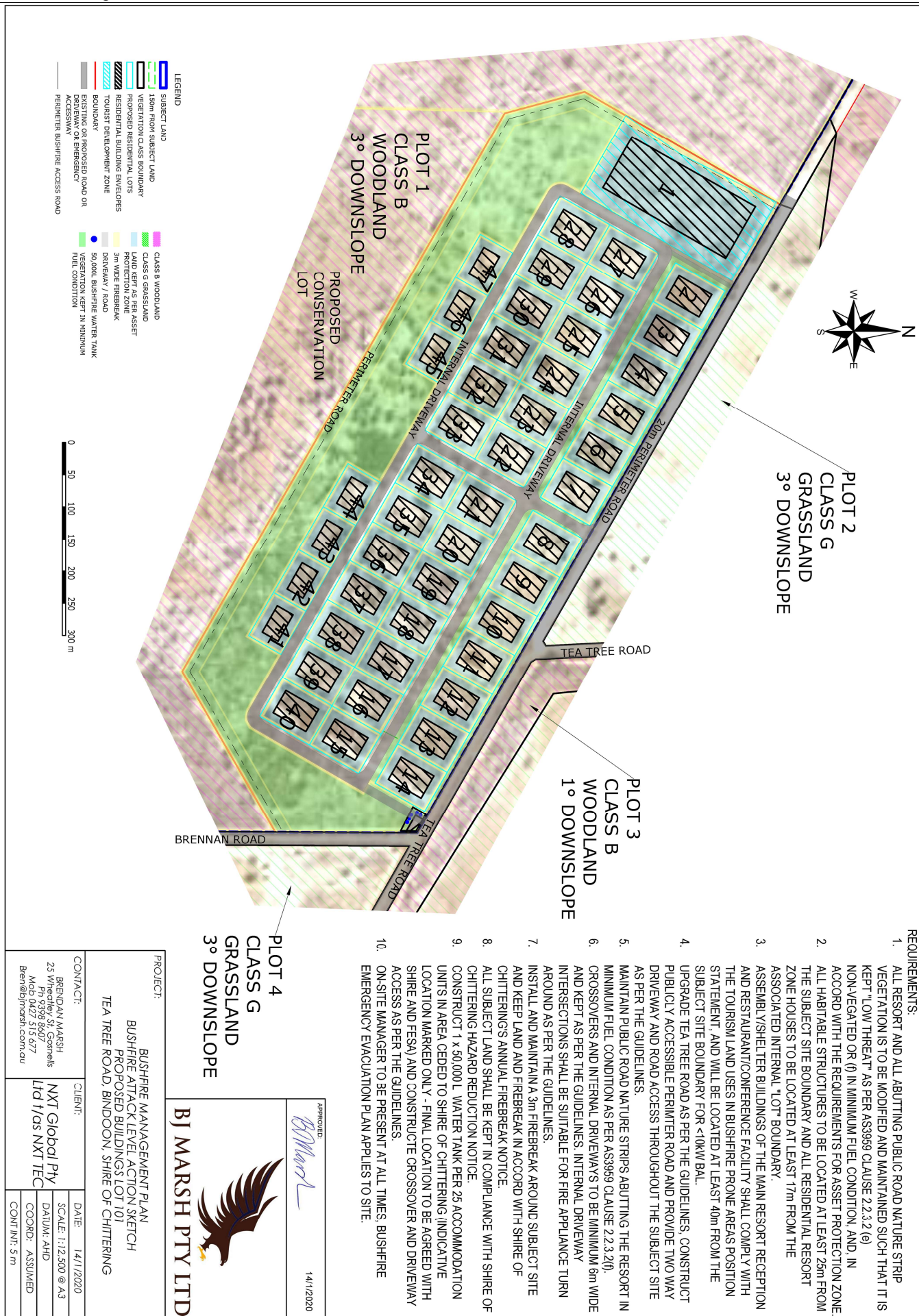


Figure 7: Spatial representation of the bushfire management strategies



6 RESPONSIBILITIES FOR IMPLEMENTATION AND MANAGEMENT OF THE BUSHFIRE MEASURES

DEVELOPER – PRIOR TO ISSUE OF CERTIFICATE OF TITLES FOR NEW LOTS			
No.	Implementation action	Local government clearance	Bushfire consultant clearance
1	Construct the public roads to the standards stated in the BMP	<input type="checkbox"/>	
2	Identify a separate lot for the strategic water tank on the deposited plan and cede free of cost to the local government	<input type="checkbox"/>	
3	Clearing and/or vegetation modification to be undertaken in accordance with the BMP		<input type="checkbox"/>

Certification by bushfire consultant

I _____, certify that at the time of inspection, the BAL ratings contained within this BMP are correct; and implementation actions 1–6 have been undertaken in accordance with the BMP. Clearance by local government is recommended.

Signature: _____ Date: _____

LANDOWNER/DEVELOPER – PRIOR TO SALE OR OCCUPANCY	
No.	Implementation action
1	Establish the Asset Protection Zones (APZ) and bring the resort land into minimum fuel condition in accord with AS3959 Clauses 2.2.3.2 € and (f), as stated in the BMP.
2	Install the required 50,000 litre water supply tanks that meets construction and vehicle access specifications.
3	Integrate the Bushfire Emergency Evacuation Plan actions into the emergency plan of the resort.
LANDOWNER/OCCUPIER – ONGOING	
No.	Management action
1	Maintain the Asset Protection Zones (APZ) and keep all resort land in minimum fuel condition in accord with AS3959 Clauses 2.2.3.2 € and (f), as stated in the BMP.
2	Comply with the relevant local government annual firebreak notice issued under s33 of the <i>Bush Fires Act 1954</i> .
3	Maintain vehicular access routes within the lot to the required surface condition and clearances.
4	Maintain the emergency water supply tanks at or above designated capacity, keep the fittings in good condition at all times and maintain access to the tanks.
5	Review and, if required update, the Bushfire Emergency Evacuation Plan within two months of the commencement of each bushfire season and integrate the updated plan with the emergency plan of the resort.
6	Onsite manager to be present at all times during resort’s operation.

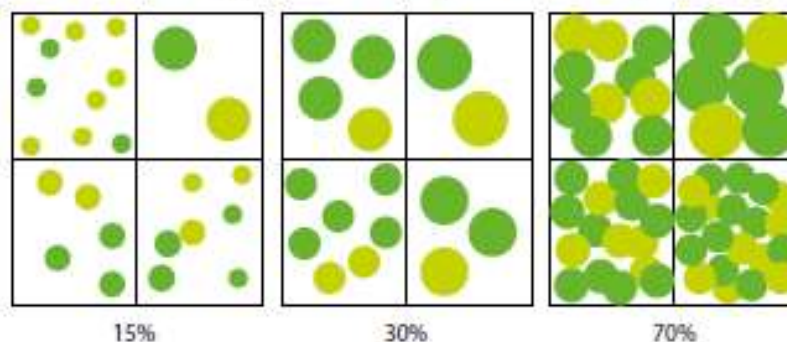
APPENDIX A: ASSET PROTECTION ZONE REQUIREMENTS

The present Standards for Asset Protection Zones are located in Schedule 1 of the Guidelines as follows:

SCHEDULE 1: STANDARDS FOR ASSET PROTECTION ZONES

- **Fences:** within the APZ are constructed from non-combustible materials (e.g. iron, brick, limestone, metal post and wire). It is recommended that solid or slatted non-combustible perimeter fences are used.
- **Objects:** within 10 metres of a building, combustible objects must not be located close to the vulnerable parts of the building i.e. windows and doors.
- **Fine Fuel load:** combustible dead vegetation matter less than 6 millimetres in thickness reduced to and maintained at an average of two tonnes per hectare.
- **Trees (> 5 metres in height):** trunks at maturity should be a minimum distance of 6 metres from all elevations of the building, branches at maturity should not touch or overhang the building, lower branches should be removed to a height of 2 metres above the ground and or surface vegetation, canopy cover should be less than 15% with tree canopies at maturity well spread to at least 5 metres apart as to not form a continuous canopy.

Figure 18: Tree canopy cover – ranging from 15 to 70 per cent at maturity



- **Shrubs (0.5 metres to 5 metres in height):** should not be located under trees or within 3 metres of buildings, should not be planted in clumps greater than 5m² in area, clumps of shrubs should be separated from each other and any exposed window or door by at least 10 metres. Shrubs greater than 5 metres in height are to be treated as trees.
- **Ground covers (<0.5 metres in height):** can be planted under trees but must be properly maintained to remove dead plant material and any parts within 2 metres of a structure, but 3 metres from windows or doors if greater than 100 millimetres in height. Ground covers greater than 0.5 metres in height are to be treated as shrubs.
- **Grass:** should be managed to maintain a height of 100 millimetres or less.

APPENDIX B: VEHICLE ACCESS TECHNICAL REQUIREMENTS

The technical requirements for Vehicle Access are presented in Table 6 of the Guidelines as follows:

Table 6: Vehicular access technical requirements

TECHNICAL REQUIREMENTS	1 Public road	2 Cul-de-sac	3 Private driveway	4 Emergency access way	5 Fire service access routes
Minimum trafficable surface (m)	6*	6	4	6*	6*
Horizontal clearance (m)	6	6	6	6	6
Vertical clearance (m)	4.5	N/A	4.5	4.5	4.5
Maximum grade <50 metres	1 in 10	1 in 10	1 in 10	1 in 10	1 in 10
Minimum weight capacity (t)	15	15	15	15	15
Maximum crossfall	1 in 33	1 in 33	1 in 33	1 in 33	1 in 33
Curves minimum inner radius (m)	8.5	8.5	8.5	8.5	8.5
*Refer to E3.2 Public roads: Trafficable surface					

APPENDIX C: SHIRE OF CHITTERING HAZARD REDUCTION NOTICE

Some relevant excerpts from the 2019/20 Shire of Chittering Hazard Reduction Notice are:

1. ALL PROPERTIES OF ANY SIZE

Including Rural Residential and Town Site lots

- All owners or occupiers of land are required to reduce fire hazards on their property prior to the summer season maintaining grassed areas to a height of no more than 50mm, as far as reasonably practicable, by slashing / mowing or grazing by livestock.
- You must create an **ASSET PROTECTION ZONE (APZ)** by installing and maintaining a 20m fuel reduced zone around all buildings or an asset of value, whether residential, rural, commercial or industrial.

Note: "Fuel reduced" is a reduction in the vegetation so as to reduce the impact of a bushfire onto that asset.

- Trees over 5m in height within the APZ, must be under pruned to a clearance of 2m from the ground.
- Trees and shrubs within 2m of the asset, must not exceed 2m in height.
- Ensure the roofs, gutters and walls of all buildings on the land are free of flammable matter.
- Clear a firebreak, not less than 5 metres wide, with a 4 metre vertical clearance completely surrounding haystacks and fuel storage areas within the property.

Firebreaks may be constructed by one or more of the following methods: PLOUGHING, CULTIVATING, SCARIFYING, RAKING, BURNING, CHEMICAL SPRAYING OR OTHER APPROVED METHOD.

2. PROPERTIES 5000 M² (½ HECTARE) AND LARGER

Including Rural Residential and Town Site lots

INSTALL AND/OR UPGRADE FIREBREAKS

- Clear a firebreak of all flammable material 3 metres wide, with a 4 metre vertical clearance (trafficable) along the inside of the property boundary.
- Properties with an area of 120 hectares or more must have a firebreak in such a position which divides the land into areas not exceeding 120 hectares.
- If it is impractical for you to clear a firebreak along your boundary, you may request permission from the Shire to install a firebreak in an alternative location, or of a different nature. All requests must be in writing to the Shire and received by 1 October.



FIREBREAK & VEHICLE ACCESS REQUIREMENTS

APPENDIX D: WATER REQUIREMENTS

The technical requirements for Water are presented in Part A4.2 of the Guidelines as follows:

A4.2 Non-reticulated areas

Water tanks for fire fighting purposes with a hydrant or standpipe are provided and meet the following requirements:

- Volume: minimum 50,000 litres per tank;
- Ratio of tanks to lots: minimum one tank per 25 lots (or part thereof);
- Tank location: no more than two kilometres to the further most house site within the residential development to allow a 2.4 fire appliance to achieve a 20 minute turn-around time at legal road speeds;
- Hardstand and turn-around areas suitable for a type 3.4 fire appliance (i.e. kerb to kerb 17.5 metres) are provided within three metres of each water tank; and
- Water tanks and associated facilities are vested in the relevant local government.

Note: Each accommodation unit (particularly applies to Strata Lot 1) shall be treated as a separate lot for the purposes of calculating the number of tanks required (noting the number of units is uncertain at the time of this report's preparation).

APPENDIX E: BUSHFIRE EMERGENCY EVACUATION PLAN

Bushfire Emergency Plan

Name of facility:

TEA TREE ROAD RESORT

Address:

LOT 101 ON PLAN 17335, TEA TREE ROAD, BINDOON, SHIRE OF CHITTERING

Prepared by: Brendan MArsh

Owner/operator: NXT Global

Date: 21/01/2020

Plan version: 0

Document Control

Version	Date	Details	Undertaken by
Draft	12/8/2019	DRAFT Plan	BJM
0	21/01/2020	Plan	BJM

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Emergency Management Team

Name	Organisation	Contact details
Manager	Resort	TBD

Facility Details

This plan is for: Tea Tree Road, proposed Resort, for strategic planning approval, and has been designed to assist management to protect life and property in the event of a bushfire.

This 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**

Name of on-site contact person: Manager in Charge (varies).

Position/role of contact person: Resort Manager

Phone number: To be determined

Type of facility: RESORT
development zone buildings (TBD).

Number of buildings: 46 plus tourist

Number of employees: TBD

Number of occupants: 1000

Number of occupants with support needs: 400

Provide description of support needs: tourists relying on resort's bus transport

Responsibilities

The following outlines who has responsibility for implementing the emergency procedures in the event of a bushfire.

Position	Name of person	Building/area of responsibility	Responsibilities	Mobile phone number
Resort Manager on duty	<i>Will vary</i>	<i>Entire Resort</i>	<ul style="list-style-type: none"> <i>Respond and take control as appropriate</i> <i>Determine the nature of the emergency and direct appropriate action.</i> 	<i>TBD</i>
Lot 1 Manager	Will vary	Entire Lot 1 and golf course	Implement bushfire emergency actions across Lot 1 as per direction and plan	TBD
Lots 2-47 Manager	Will vary	Lots 2-47	Implement bushfire emergency actions across Lots 2-47 as per direction and plan	TBD

Emergency Contacts

Name or organisation	Office/contact	Contact details
Fire, Police, Ambulance	Fire or Emergency	000
Department of Fire & Emergency Services	Emergency information	13 DFES (13 33 37)
EmergencyWA	Warnings and incidents	www.emergency.wa.gov.au
Shire of Chittering	Main Office	9576 4600
Shire of Chittering	Ranger (after hours emergencies only)	0427 699 701
Shire of Chittering	Roads (after hours emergencies only)	0439 529 712
Main Roads	Road Hazards	13 84 86
WA Police Gingin	Office	9575 5600

PREPAREDNESS

Ongoing, just prior and during the bushfire season

Bushfire season: DD/MM – DD/MM (insert dates)

Actions	Frequency	Responsible person
Ongoing		
1. A resort manager is to be present onsite at all times.	ongoing	Owner.
2. All land kept in minimum fuel condition and Asset Protection Zones checked to be in place.	monthly	Curator
3. Water tanks and associated access checked	monthly	Manager
4. Internal driveways and firebreaks to be kept in good condition	monthly	Curator
5. Keep grounds watering systems in good condition and vegetation present non-cured.	monthly	Curator
6. Maintain resort bus fleet with minimum capacity to evacuate resort as per plan.	monthly	Fleet Manager
7. Keep telecommunications systems related to bushfire management within the resort in good condition	Check monthly	Site technology manager
8. Keep accurate records of people onsite, those needing assistance and of any special needs, and advise fleet manager of daily needs.	Daily	Manager
9. Provide daily advice to fleet manager of transport needs for the day and include an estimate needs for the next fortnight.	Daily	Manager
To be completed just prior to the bushfire season by DD/MM (insert date)		
1. Review and update of Bushfire Emergency Evacuation Plan details.	Annually	Manager to arrange for BPAD Professional.
2. Audit telecommunication systems within the resort	Annually	Manager to arrange for telecommunications professional.
3. Inspect bushfire fuels on land within 200m of resort boundary and recommend hazard reduction burns as required.	Annually	Manager to arrange for BPAD Professional
4. Audit implementation of Bushfire Management Plan actions.	Annually	Manager to arrange for BPAD Professional.
5. Audit condition of water tanks and any bushfire related sprinkler systems.	Annually	Manager to arrange.
6. Audit driveway, firebreak and road condition.	Annually	Manager to arrange for BPAD Professional
7. Audit bus fleet condition and operational preparedness.	Annually	Manager to arrange independent fleet expert to audit.
To be completed during the bushfire season between DD/MM – DD/MM (insert dates)		
1. Monitor bushfire weather forecast of Bureau of Meteorology and alert all staff if Very High or higher bushfire rating is forecast.	Daily	Manager
2. Monitor access/egress route road conditions	Weekly	Fleet Manager
3. Ensure fleet operator and drivers on standby for site evacuation if required at all times.	Weekly	Manager
4. Inform guests of bushfire procedures	On guest arrival	Reception staff

AWARENESS AND PRE-EMPTIVE PROCEDURES

The following table outlines actions to be undertaken to ensure the facility maintains situational awareness of a possible bushfire approaching and pre-emptive procedures (if applicable). This will assist with the assessment of the bushfire situation and whether the triggers identified in the evacuation/sheltering-in-place procedures have occurred.

Actions	Frequency	Responsible person
Days forecast Very High or Severe Fire Danger rating		
1. Advise all staff of the forecast fire danger rating for the week ahead and remind them of procedure if very high or greater fire danger rating forecast.	Weekly	Manager
2. Asset Protection Zone, buildings, firefighting water supply and bus operator to be checked and their readiness confirmed in the case of a bushfire.	Weekly	Curator
Days forecast Extreme or Catastrophic Fire Danger rating		
1. Advise all staff of the forecast fire danger rating for the week ahead if very high or greater fire danger rating forecast.	Day before	Manager
2. Asset Protection Zone, buildings, firefighting water supply and bus operator to be checked and their readiness confirmed in the case of a bushfire	Day before	Curator
An 'Advice,' 'Watch and Act' or 'Emergency Warning' alert or other communication has been issued by an emergency service authority		
1. 'Advice' or 'Watch and Act': Instruct and manage evacuation of the site to the off-site location away from the threat. The resort shall be closed for the duration of the alert.	Upon issue of 'Watch and Act'	Manager
2. 'Emergency Warning': Evacuate site if it is safe to do so. Prepare site for evacuation, listen to emergency services. If advised it is unsafe to evacuate or it is evident it is unsafe to evacuate, prepare to shelter onsite.	Following issue of 'Emergency Warning'	Manager

The above table should be reviewed annually and included in the resort's general emergency plan.

EMERGENCY RESPONSE

The **primary action** to follow with an imminent bushfire threat is to:

EVACUATE

Trigger	Action	Responsible person
1. An 'Advice,' 'Watch and Act' or 'Emergency Warning' alert or other communication has been issued by an emergency service authority for the location	Pre-emptive closure of the resort shall occur if an alert becomes present and guests advised. Instruct and manage evacuation of the site to the off-site location away from the threat. The resort shall be closed for the duration of the alert and FESA notified.	Manager
2. Roll Call	Persons on the resort to be corroborated against on site register to ensure all people are present and accounted for.	Manager
3. Instruction from service authority or threat and current or forecast wind direction indicates school might be in danger	Evacuate site if it is safe to do so. Prepare site for evacuation, listen to emergency services. If advised it is unsafe to evacuate or it is evident it is unsafe to evacuate, go to step 4.	Manager
4. Concern of safety of evacuating due to nature of threat	All persons to attend main reception within Tourist Development Zone. Grounds reticulation sprinklers to be switched on, on the side from which the threat is approaching. FESA to be advised.	Manager
5. Roll Call	Persons to be corroborated against on site register to ensure all people are present and accounted for.	Manager
6. Transfer to Perth	If threat is likely to persist for more than 2 hours, guests shall be transferred to other accommodation in Perth.	Manager

RECOVERY

Procedures following the bushfire if EVACUATED

Actions	Responsible person
1. FESA advice to be monitored as to when it might be safe to return, 'all clear'.	Manager
2. Manager to inspect site, take corrective actions and confirm safety of subject land and surrounds	Manager
3. Staff to be advised upon the confirmation of site safety	Manager
4. Resort to re-open when safe.	Manager

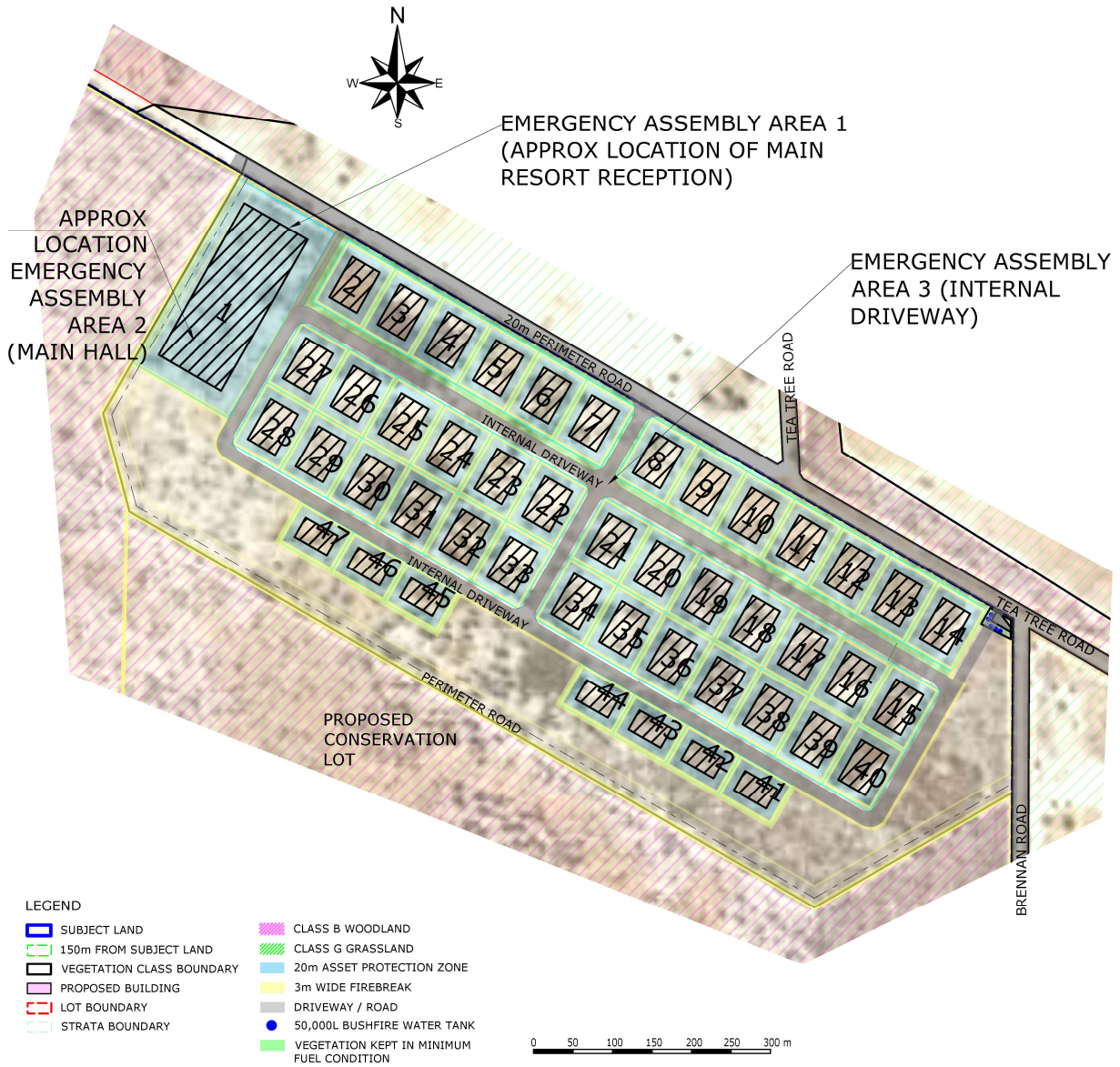
Procedures following the bushfire if SHELTERED-IN-PLACE

Actions	Responsible person
1. Advise Emergency Services (phone 000) of decision to shelter, request assistance and advise of the people concerned.	Manager
2. Assemble people in shelter building and role call.	Manager
3. Engage automatic reticulation watering systems mounted on and around the shelter building particularly on the side from which the threat is approaching and check the Asset Protection Zone.	Manager
4. Shelter building to have windows and doors closed to provide maximum resistance to bushfire attack.	Manager
5. Occupants of shelter building to be positioned away from windows.	Manager
6. Passage of bushfire and integrity of shelter building to be monitored.	Manager
7. If shelter building ignites, it shall be exited at the exit away from the ignition point, preferably after the main fire front has passed and occupants are to assemble in the main resort car park or Assembly point 3, whichever the manager considers to be safer.	Manager
8. Following the passing for the fire front, role call.	Manager
9. When safe to do so, spot fires on the subject land are to be extinguished starting with those posing the most threat to the people, shelter building, assets	Manager
10. Hazards to be cordoned off and when the site is safe, operations can return to normal.	Manager

Attachments

- Occupants/employee register (to be developed by school)
- Parent/guardian contact register (to be developed by school)
- Site layout of premise

Attachment A: Site Layout of Premise



RESORT within Lot 101 Tea Tree Road, Bindoon, Site Layout.