PLANNING PROPOSAL

COFFS HARBOUR CITY COUNCIL

To Rezone Land at:
7 Tasman Street Corindi Beach
Lot 111 DP 730304

VERSION 1 – Pre Gateway Determination
February 2019

CONTENTS

INTRODUCTION

Purpose

The purpose of this planning proposal (PP) is to amend *Coffs Harbour Local Environmental Plan 2013* (LEP 2013) and change the zoning of Lot 111 DP 730304 from Zone RU2 Rural Landscape to Zone R1 General Residential and Zone R2 Low Density Residential.

Property details

The Planning Proposal affects land located at 7 Tasman Street (Lot 111 DP 730304) at Corindi Beach, the location of which is shown in Figure 1. Corindi Beach is a small coastal village situated approximately 33 kilometres north of Coffs Harbour.

Figure 1 – Location of Subject Site

Site context and setting

7 Tasman Street is located on the south-western interface of Corindi Beach. The 4.3ha site slopes gently from the north to the south and is currently occupied by the Amble Inn (tavern) at the northern extremity of the site, while the remainder of the land is vacant. A dwelling (1 Coral Street) is located adjacent to the north, while a large low density residential development is located further to the north and immediately to the east of the site. An area of undeveloped B1 Neighbourhood Centre zoned land is also located across Tasman Street immediately to the east. The old Pacific Highway is located to the west of the site, with the

realigned Pacific Highway further to the west. Environmentally constrained land, including wetlands are located to the south and south-east.

Current zoning

The site currently sits within the RU2 Rural Landscape zone under the provisions of *Coffs Harbour Local Environmental Plan 2013*. Existing zones at the location are shown in Figure 2.

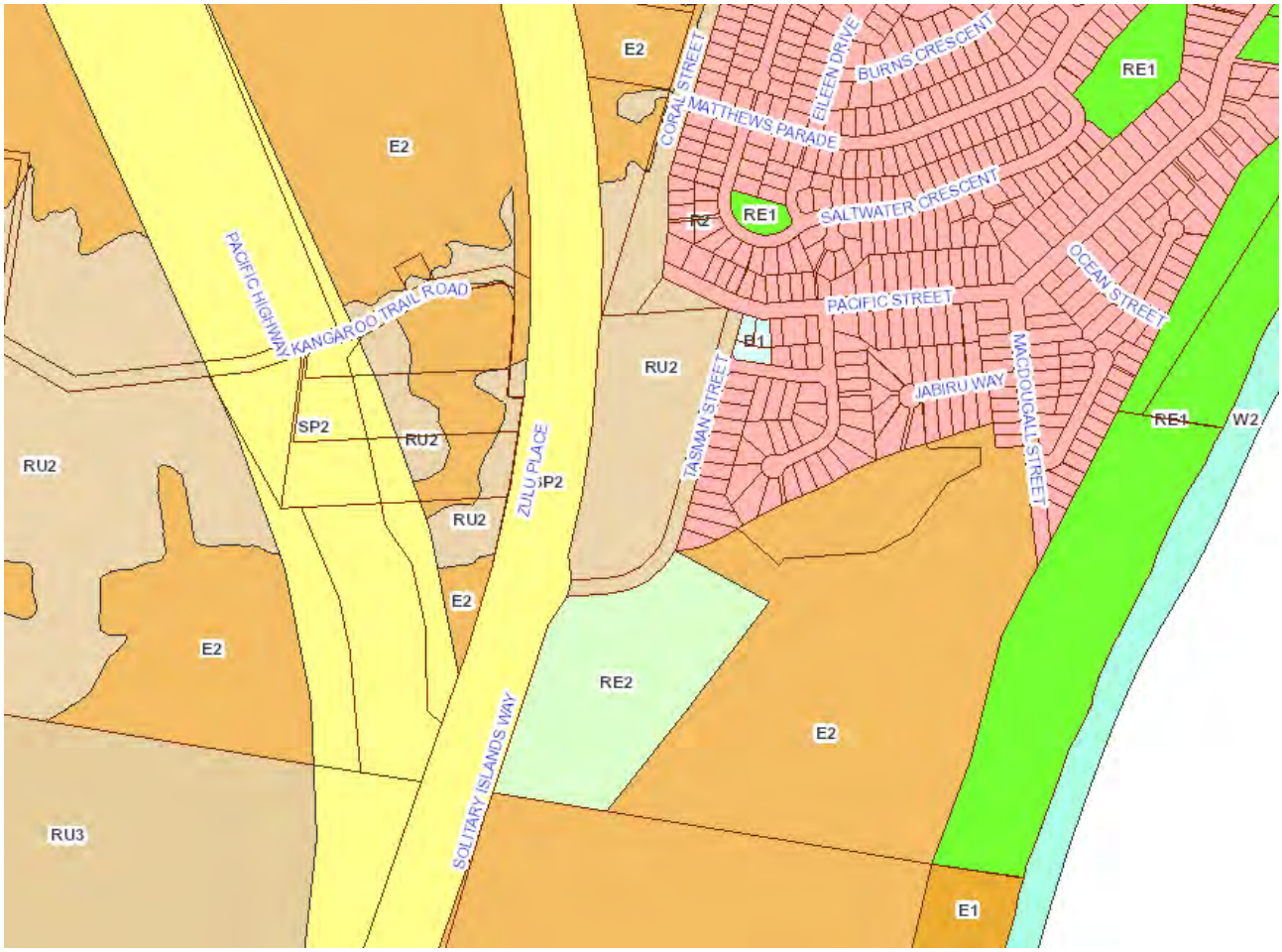


Figure 2 – Existing zones under Coffs Harbour LEP 2013

Background

In May 2005 the Minister for Local Government announced the finalisation of the boundary matters relating to the amalgamation of the localities of Red Rock, Corindi Beach and approximately half of the Corindi plateau with the Coffs Harbour City LGA. Prior to the amalgamation, these lands were governed by the dated provisions of the *Ulmarra Local Environmental Plan 1992.* Coffs Harbour City Council and the (then) Department of Planning formally rezoned the amalgamated lands on 31 July 2009 to align with the provisions of *Coffs Harbour City Local Environmental Plan 2000.* The land, now part of the Coffs Harbour City Council area and was transferred to the Rural 1A Agriculture zone in 2009. The RU2 Rural Landscape zone was subsequently applied under the Standard Instrument LEP amendment that has become the Coffs Harbour LEP 2013.

An existing non-conforming use (tavern) is located on the northern part of the property. As a pub is a prohibited use under the Zone RU2, a zone change is seen as necessary by the applicant to facilitate the ongoing operation of the pub and to allow ancillary development of motel accommodation and other uses commonly associated with a pub use. Whilst the applicant initially sought a B4 Mixed Use zone for this

area, it is considered that the General Residential zone is the most suitable to allow a mixture of compatible land uses. The applicant has since agreed with the use of an R1 zone in this situation. The remainder of the site is vacant surplus land that is being proposed for low density residential development. A concept plan for a potential low density residential lot layout to the south of the existing business is shown in Figure 3.

Figure 3 – Low density residential subdivision concept plan

Lot 111 DP 730304 has also been the subject of an approved subdivision into two lots in March 2013 (0825/12DA). The applicant and owner of the land has also stated that the subdivision has been lawfully commenced. The lot configuration corresponds with the proposed zoning layout of this planning proposal and the approved subdivision layout is shown in Figure 4.

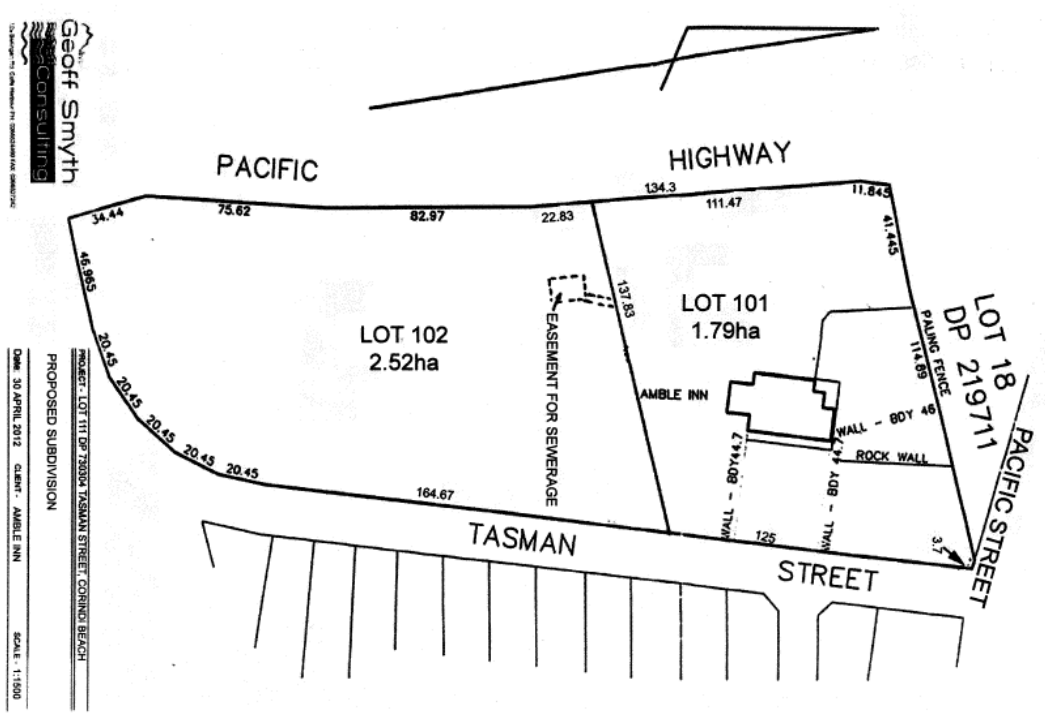


Figure 4 – Approved two lot subdivision over Lot 111 DP 730304

PART 1 - OBJECTIVES / INTENDED OUTCOMES

The objectives of this Planning Proposal are:

- To inform an amendment to the Coffs Harbour Local Environmental Plan 2013 (LEP).
- To amend LEP 2013 and change the zoning of Lot 111 DP 730304 from Zone RU2 Rural Landscape to part Zone R1 General Residential and part Zone R2 Low Density Residential.
- To enable motel extensions to the existing tavern located on the northern part of Lot 111 DP 730304, along with a residential subdivision on the southern part of the property.

The intended outcomes of the Planning Proposal are:

- The expansion of residential zoned land within the region;
- The provision of zones that will allow a development that will potentially provide employment opportunities during construction and post construction; and
- To achieve broad community acceptance.

Coffs Harbour Development Control Plan 2015 will provide controls (setbacks, densities etc) that will guide the development of the land.

PART 2 - EXPLANATION OF PROVISIONS

One of the aims of the Planning Proposal is to establish the existing Amble Inn as a permitted use for a pub within an appropriate zone as well as to allow associated uses such as motel accommodation. The site has more area than necessary for the pub / motel use and as such the development of the residue land for low density residential use will add to the existing adjoining residential development on the eastern side of Tasman Street.

Under the Standard Instrument, the preparation of LEP 2013 applied the R1 General Residential zone to the (former) Residential 2E Tourist zone (under LEP 2000) as no equivalent zone was available for the existing 2E zone, and tourist accommodation and associated tourist uses were added to the list of permissible uses in that zone. As such, within the available Residential zones under the Coffs Harbour Local Environmental Plan a pub and a motel are permitted uses in the R1 General Residential zone.

The intended outcomes of the Planning Proposal will be achieved by:

mapping in the following manner:

- Amending the Coffs Harbour LEP 2013 Land Zoning Map – **Sheet LZN_004B** on the subject site at 7 Tasman Street Corindi Beach to show land currently within Zone RU2 Rural Landscape to part Zone R1 General Residential and part Zone R2 Low Density Residential as shown in figure 5; and
- Amending the Coffs Harbour LEP 2013 Lot Size Map – **Sheet LSZ_004B** by converting the minimum lot size provisions from AB - 40ha to part U1 – 1200m^2 (R1 General Residential zone) and part F - 400m^2 (R2 Low Density Residential zone) as shown in figure 6.

Land Zoning (LZN) Maps

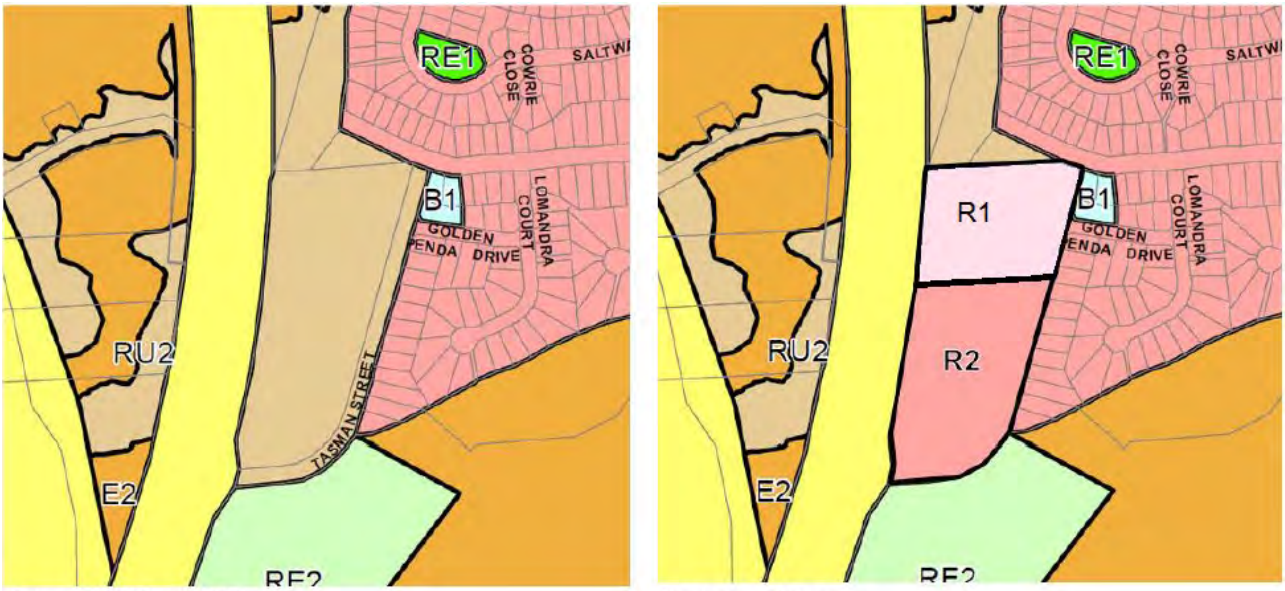


Figure 5 – Existing and proposed amendment to the Land Zoning (LZN) map

Minimum Lot Size (LSZ) Maps

Figure 6 – Existing and proposed amendment to the Minimum Lot Size (LSZ) map

Existing and proposed LEP 2013 mapping and lot size amendments are also shown in Part 4 of this Planning Proposal.

PART 3 – JUSTIFICATION

Section A - Need for the planning proposal

1. Is the planning proposal a result of any strategic study or report?

This Planning Proposal has been commissioned in response to a landowner's request and at the landowner's expense. The site is included in Council's Local Growth Management Strategy (LGMS) – Urban Lands Component 2008 as an "investigation area for a future motel" and at the time, was given a medium term priority (2011-2016).

2. Is the planning proposal the best means of achieving the objectives or intended outcomes, or is there a better way?

The subject site is an isolated section of land within Zone RU2 Rural Landscape that is wholly within one allotment and ownership. This is not an overall review of the City controls proposed through the preparation of a LGA wide LEP review and as such an individual Planning Proposal is the most efficient means of achieving the release of additional residential and (tourist) residential land at Corindi Beach.

3. Is there a net community benefit?

According to the applicant's consultant report, the rezoning of the subject land would potentially enable the following development (see Figure 3):

- 31 low density residential lots within a 2.46 ha portion of the site proposed to be included in the R2 Low Density Residential zone.
- A 1.86ha portion of the site proposed to be included in the R1 General Residential zone which will include the existing pub and proposed motel expansion.

The Net Community Benefit Criteria is identified in the NSW Government's publication *The Right Place for Business and Services*. This policy document has a focus on ensuring growth within existing centres and minimising dispersed trip generating development. It applies most appropriately to PPs that promote significant increased residential areas or densities, or significant increased employment areas or the like.

A net community benefit test (NCBT) has been undertaken for this PP and is included as Appendix A. The NCBT analysed the potential social and economic impact to the Corindi Beach community arising from the Planning Proposal and suggests that the site is suitable for rezoning and will provide positive benefits to the community. A summary of the potential benefits and costs is outlined below.

The 'base case' is that the land remains under its present RU2 Rural Landscape zoning with no dwelling entitlement independent of the existing hotel.

Potential benefits versus Base Case

- Increasing land for housing supply in the Corindi Beach locality by approximately 31 lots suitable for detached low density dwellings.
- Contributing to the stock of unconstrained land for vernacular housing (slab on ground).
- Large lot sizes (600 to 999 m^2) will provide for a range of housing types and sizes, including detached dual occupancies on lots greater than 800 m^2.

- Meeting the forecasted population increase for the Coffs Coast area by increasing the supply of unconstrained residential land to the Corindi area.
- Providing for future expansion, redevelopment or new development of the Amble Inn for complementary land uses, such as a motel.
- Improving the public road formation of Tasman Drive by widening the roadway and providing kerb and gutter at a prominent entry location to Corindi Beach.

Costs of future development versus Base Case

- Short term increase in heavy vehicle traffic during the construction phase of the subdivision, however appropriate mitigation measures would be taken.
- Short-term adverse impacts on environmental amenity during the construction process, however appropriate mitigation measures would be taken.
- Loss of rural land, although most of the site is currently under-utilised (not used for agricultural purposes).

The NCBT found the associated negative impacts of the proposal are considered to be minimal and manageable and that overall the Planning Proposal will deliver land for housing and provides a net community benefit. The addition of a motel and an associated General Residential zone are further discussed in section B5 below.

Section B - Relationship to strategic planning framework.

4. Is the planning proposal consistent with the objectives and actions contained within the applicable regional or sub-regional strategy (including the Sydney Metropolitan Strategy and exhibited draft strategies)?

North Coast Regional Plan 2036

The North Coast Regional Plan (NCRP) 2036 applies to the whole of Coffs Harbour LGA. The site is identified by the urban growth area map for Coffs Harbour LGA as an 'Investigation Area – Urban Land'.

The Planning Proposal is considered to be generally consistent with the NCRP with respect to Direction 3.1, as the Planning Proposal will provide additional housing supply to meet the demands of the North Coast. The Planning Proposal is also considered to be generally consistent with respect to Direction 4.1, providing additional resources to the tourism sector (proposed motel). In this regard, in addition to the expansion of residential zoned land, the Planning Proposal will provide for an existing tourist type use to expand.

5. Is the planning proposal consistent with the local council's Community Strategic Plan, or other local strategic plan?

Coffs Harbour 'My Coffs' Community Strategic Plan

In 2017, Council updated and adopted its Community Strategic Plan. The plan (known as the 'My Coffs' Community Strategic Plan) is based on four key themes, being: Community Wellbeing, Community Prosperity, a Place for Community, and Sustainable Community Leadership.

The Planning Proposal is generally consistent with the following objectives from Community Prosperity:

B1.2: We attract people to work, live and visit in the Coffs Harbour local government area

The Planning Proposal is also generally consistent with the following objectives from A Place for Community:

C1.1: We create liveable spaces that are beautiful and appealing; and

C1.2: We undertake development that is environmentally, socially and economically responsible.

Other Local Strategic Plans

Given the location of the site, and the objectives and intended outcomes sought by the PP, another local strategic document of relevance is the *Local Growth Management Strategy - Urban Lands Component (2008).* The Residential Lands component of the Local Growth Management Strategy is also currently being updated by Council.

Local Growth Management Strategy – Urban Lands Component 2008

Council's Local Growth Management Strategy (LGMS) – Urban Lands Component was finalised in 2008. The LGMS was prepared pursuant to Clause 38(3) of the *North Coast Regional Environmental Plan 1988*, and sets out a future for the growth and development of the LGA until 2031. The goal of the LGMS – Urban Lands Component is to foster healthy urban communities which contribute to delivering the Vision for the City, with this Vision described as: The Healthy City, the Smart City and the Cultural City for our future.

The LGMS projects a population of 99,000 people by 2031 with 94,000 accommodated in existing zoned areas and the balance of 6000 people expected to be accommodated in Greenfield sites. The LGMS states that "Projected population growth indicates that, at existing rates of consumption, additional land will be required for residential purposes by the period 2016-2021 in proximity to the Coffs Harbour Township [City]."

The LGMS – Urban Lands Component is presented in five parts. Part 3 of the Strategy contains the overall Strategy, and provides details on development areas and recommended priority releases for each area. The Strategy concentrates growth in the City's Central Business District (CBD) and key centres. It offers a hierarchy of Coffs Harbour as Coastal City; Woolgoolga, Moonee and Sawtell/Toormina/Boambee as Coastal Towns; and other settlements generally as Coastal and Hinterland Villages.

Detailed strategies are provided for each urban area along with recommendations for future Place Management Plans for each of these areas. Part 3 also contains a supply and demand supply analysis based on population projections, and a servicing analysis.

Part 4 of the LGMS – Urban Lands Component provides mechanisms for implementing the Strategy. A priority program and monitoring and review mechanisms are detailed to ensure the Strategy is kept on track.

Part 5 of the LGMS – Urban Lands Component refers to a series of maps, which include detailed strategies for each urban area within the LGA. These identify future development areas, expected limits to growth and key strategic actions for each area. In addition, each Map includes a series (A, B and C), which provide for each urban investigation area:

- expected lot yields;
- development areas; and
- constraints.

Map 3 of the LGMS – Urban Lands Component includes Corindi Beach and Red Rock and includes the subject site. 7 Tasman Street Corindi Beach is coloured blue on the map, being an investigation area for a future motel.

Map 3A provides details on urban investigation areas and shows the subject land as an investigation area for a future motel with a "medium term" priority (2011-2016).

Map 3B provides details on proposed agreed growth areas and shows the site as a proposed motel.

Map 3C deals with constraints, and shows the land as being unconstrained.

- **Motel Development**

  The subject land contains a tavern which was approved by the Ulmarra Shire Council in 1986. At the time, overnight accommodation was also included in the approved plans which showed six units as stage two. In 1992 a 21-unit motel was proposed on a separate adjoined lot in a future two lot subdivision over the land.

  Responding to landowner enquiries during the preparation of the 2008 LGMS (Urban Lands Component), Council provided the following specific advice for the Tasman Street site:

  "The subject site is recommended as an "Investigation Area for Urban Purposes" with a Priority 2 release timeframe.

  It is considered the development of highway service centre and motel is appropriate for the site. Map 3 of the draft strategy proposes the development of a village core within Corindi Beach village, however, additional work will need to be done to determine the most appropriate location for a shopping precinct.

  The matter has been forwarded as a submission to LEP Amendment No 32.

  Your request to increase the release priority of the site from Priority 2 to Priority 1 will be reported to Council. I am not in a position to speculate on the decision of Council with regard to this matter.

  The Council resolved that the subject land should remain as Priority 2 that had a medium term investigation timeframe for between 2011 and 2016. It is understood that the principal reasons for the Priority 2 classification of the site relate to three issues:

  1. Access arrangements to the site in light of the planned Pacific Highway modifications through the area.
  2. The existing supply of land for urban development north of Coffs Harbour.
  3. The capacity of services infrastructure within the area (particularly the capacity of the sewerage treatment plant) and the additional demand generated by the urban development of the site."

  Since the adoption of the 2008 LGMS (Urban Lands Component) and its endorsement by NSW Planning in 2009, the Woolgoolga to Wells Crossing Pacific Highway deviation project has been completed and the capacity of services infrastructure within the area has significantly improved. The subject land received an approval for a two lot subdivision in 2012, however no formal process has been initiated in relation to a motel development. From a locational perspective, the land is seen as a suitable location for a motel development for the following reasons:

  - suitable road network access, being located on a collector road;
  - availability of utility services;

- large parcel of land;
- the land is free of environmental hazards and constraints;
- proximity to existing residential and business zoned lands; and
- proximity to the coastline and beach.

Local Growth Management Strategy – Strategic Approach

Peer review of this Planning Proposal reveals that it is consistent with a revised draft LGMS which is currently being prepared by Council. With regard to the draft LGMS Growth Principles for Corindi Beach, the proposed rezoning will assist to:

- strengthen the sense of place;
- deliver housing diversity and choice;
- provide walkable neighbourhoods; and
- support economic and social functions of local centres.

Further, it is acknowledged that this site is not a constrained location, it can be efficiently serviced and has access to established centres through its proximity to the village of Corindi Beach and the Pacific Highway.

It is also noted that the proponent has addressed the need to include an additional bus stop and improve the road network in the location (Tasman Street). The rezoning would also provide an opportunity to widen the kerb on Tasman Street for pedestrian / bike paths leading into the (Corindi) village and will provide an opportunity to reference future works to Council's Integrated Transport Strategy.

Potential future amenity impacts between the pub / motel and the proposed low density residential development to the south (and east) can be addressed through the Development Assessment process.

6. Is the planning proposal consistent with applicable State Environmental Planning Policies (SEPPs)?

The State Environmental Planning Policies (SEPP) relevant to the Planning Proposal are identified in Table 1 and discussed in the following section.

Table 1: Consistency with SEPP's

State Environmental Planning Policy	Consistency
SEPP No 1 – Development Standards	N/A
SEPP No 19 – Bushland in Urban Areas	N/A
SEPP No 21 – Caravan Parks	N/A
SEPP No 30 – Intensive Agriculture	N/A
SEPP No 33 – Hazardous and Offensive Development	N/A
SEPP No 36 – Manufactured Home Estates	N/A
SEPP No 44 – Koala Habitat Protection	N/A
SEPP No 47 – Moore Park Showground	N/A
SEPP No 50 – Canal Estate Development	N/A

State Environmental Planning Policy	Consistency
SEPP No 52 – Farm Dams and Other Works in Land and Water Management Plan Areas	N/A
SEPP No 55 – Remediation of Land	N/A
SEPP No 62 – Sustainable Aquaculture	N/A
SEPP No 64 – Advertising and Signage	N/A
SEPP No 65 – Design Quality of Residential Flat Development	N/A
SEPP No 70 – Affordable Housing (Revised Schemes)	N/A
SEPP (Affordable Rental Housing) 2009	N/A
SEPP (Building Sustainability Index: BASIX) 2004	N/A
SEPP (Coastal Management)	Consistent - see below.
SEPP (Educational Establishments and Child Care Facilities) 2017	N/A
SEPP (Exempt and Complying Development Codes) 2008	N/A
SEPP (Housing for Seniors or People with a Disability) 2004	N/A
SEPP (Infrastructure) 2007	
SEPP (Mining, Petroleum Production and Extractive Industries) 2007	N/A
SEPP (Miscellaneous Consent Provisions) 2007	N/A
SEPP (Rural Lands) 2008	Consistent - see below.
SEPP (State and Regional Development) 2011	N/A
SEPP (State Significant Precincts) 2005	N/A
SEPP (Urban Renewal) 2010	N/A
SEPP (Vegetation in Non-Rural Areas) 2017	N/A

SEPP (Coastal Management) 2018

The objective of this SEPP is to promote an integrated and co-ordinated approach to land use planning in the coastal zone in a manner consistent with the objects of the *Coastal Management Act 2016*. The relationship between this Planning Proposal and the SEPP (Coastal Management) 2018 is as follows:

- The subject land is largely free from coastal constraints
- The Coastal Wetland Proximity area intersects the subject land marginally across the south eastern corner (see figure 8 below).
- The SEPP Coastal Management (2018) states that for areas within the Coastal Wetland Proximity Area:

  Development consent must not be granted to development on land identified as "proximity area for coastal wetlands" or "proximity area for littoral rainforest" on the Coastal Wetlands and Littoral Rainforests Area Map unless the consent authority is satisfied that the proposed development will not significantly impact on:

(a) the biophysical, hydrological or ecological integrity of the adjacent coastal wetland or littoral rainforest, or
(b) the quantity and quality of surface and ground water flows to and from the adjacent coastal wetland or littoral rainforest

- No significant development is proposed within the small section of "proximity to Coastal Wetland" area shown on the map (see figure 5).
- Of some concern is the proximity of Acid Sulphate Soil to the Coastal Wetland. The proposal details earthworks in both mapped class 3 and 5 Acid Sulphate Soil areas.
- The proposal states "*The extent of excavation and fill will be determined as part of the Construction Certificate stage of the development of the site. Prior to subdivision approval being granted by Council a preliminary acid soil investigation will be undertaken with an acid soil management plan prepared, if necessary*".
- If/once the proposal reaches Development Application (DA) stage, it is likely that an Acid Sulphate Soil Management Plan will be required. Any DA would also need to demonstrate that the proposal (earthworks and filling) will not significantly impact on the quantity and quality of surface and ground water flows to and from the adjacent coastal wetland (as per the SEPP Coastal Management 2018).
- According to the Engineering Issues report submitted with the Planning Proposal (see Appendix B) a bio-retention basin is to be located in the south-western corner of the site and the basin can be sized to provide flow retardation through detention.
- It is therefore considered that no further information is required at this stage and that the Planning Proposal can be deemed to comply with the provisions of the SEPP Coastal Management (2018).

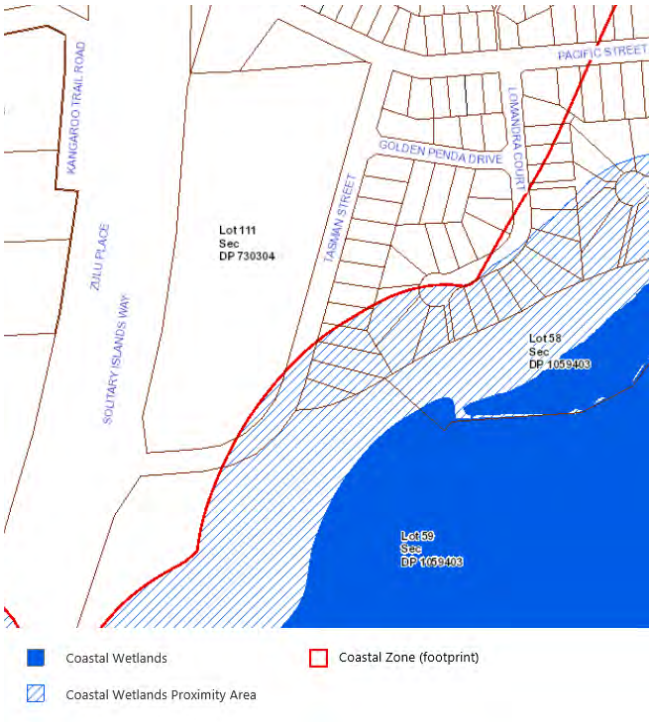


Figure 5 – SEPP (Coastal Management) map

SEPP (Rural Lands) 2008

The Planning Proposal is consistent with the SEPP as it is within an endorsed area identified for urban growth by the North Coast Regional Plan 2036. The Planning Proposal is of minor significance as it relates to a small parcel of land (i.e. 4.3 hectares) and is located on land that is not prime agricultural land, and not identified as Regionally Significant farmland.

7. Is the planning proposal consistent with applicable Ministerial Local Planning Directions?

Consistency with applicable Local Planning Directions is assessed in the following Table 2.

Table 2 Consistency with s9.1 Directions

Direction	Relevance to this planning proposal	Consistency with direction
1. Employment and Resources		
1.1 Business and Industrial Zones	The Planning Proposal does not propose or affect any business or industrial zoned land.	Consistent.
1.2 Rural Zones	The subject site is not of sufficient size or within a suitable location to comprise a viable agricultural holding. The land is not identified as Regionally Significant Farmland. Further, the site is identified in the Regional Plan for future urban growth. For these reasons the provisions of the Planning Proposal that are inconsistent are considered to be "of minor significance". An approval for a variation to this s117 Direction is considered to be reasonable under the circumstances.	Justifiably inconsistent for reasons listed.
1.3 Mining, Petroleum Production and Extractive Industries	This planning proposal does not: (a) prohibit the mining of coal or other minerals, production of petroleum, or winning or obtaining of extractive materials, or (b) restrict the potential development of resources of coal, other minerals, petroleum or extractive materials which are of State or regional significance.	Consistent.
1.5 Rural Lands	The property is an isolated parcel of rural land with no rural land adjoining. Its use for rural purposes has the potential to conflict with existing adjoining residential development. The size of the property is insufficient to be a viable agricultural holding. The land is identified for future urban purposes in recognised strategies. The land can be developed in accordance with its environment capacity and potential impacts contained within the site. For these reasons the provisions of the Planning Proposal that are inconsistent are considered to be "of minor significance". An approval for a variation to this s117 Direction is considered to be reasonable under the circumstances.	Justifiably inconsistent for reasons listed.
2. Environment and Heritage		
2.1 Environment Protection Zones	This Planning Proposal does not affect land within an existing or proposed environment protection zone.	Consistent.
2.2 Coastal	The Planning Proposal is consistent with these policy documents as	Consistent.

Direction	Relevance to this planning proposal	Consistency with direction
Management	it incorporates the following: • connection with existing urban areas; • consistency with settlement strategies for the creation of compact towns; • conservation of habitat links and habitat areas; and • efficient connection to services, including transport, water and sewer services.	
2.3 Heritage Conservation	Consultants were engaged to examine the cultural heritage attributes of the site, having regard to the planning PP. Management recommendations outlined in the consultant report (see Section 9 of this Planning Proposal below) include undertaking a further assessment of the cultural connection significance of the relationship of the Song Line to the study area and it is recommended that should a gateway determination be issued, a cultural values assessment be conducted in consultation and collaboration with the Garby Elders to consider and implement appropriate recognition and preservation of historic Aboriginal heritage values and in particular the Song Line of the Corindi Beach and Kangaroo Trail area.	The Planning Proposal will require further investigation to determine whether it is consistent with this particular Direction.
2.4 Recreation Vehicle Areas	This planning proposal does not enable land to be developed for the purpose of a recreation vehicle area.	Not applicable
3. Housing, Infrastructure and Urban Development		
3.1 Residential Zones	This Direction requires a variety of housing to be encouraged, to make efficient use of infrastructure and to minimise impacts. All services can readily be extended to this site and the proposed zone for the site allows for a wide range of dwelling types on the property.	Consistent.
3.2 Caravan Parks and Manufactured Home Estates	This Planning proposal does not contain any provisions that specifically address caravan parks and manufactured home estates.	Not applicable.
3.3 Home Occupations	This Planning proposal does not alter the provisions of LEP 2013 to permit home occupations to be carried out in dwelling houses without the need for development consent.	Consistent
3.4 Integrating Land Use and Transport	The subject land is located with frontage to Tasman Street and is an infill site adjoining established residential lots. The site is conveniently located and provides for walking, cycling and public transport on and surrounding Tasman Street. The Planning Proposal is consistent with this Direction.	Consistent
3.5 Development Near Regulated Airports and	This planning proposal does not affect land within the vicinity of a regulated airport or defence airfield.	Not applicable.

Direction	Relevance to this planning proposal	Consistency with direction
Defence Airfields		
3.6 Shooting Ranges	This planning proposal does not affect, create, alter or remove a zone or a provision relating to land adjacent to and/ or adjoining an existing shooting range.	Not applicable.
4. Hazard and Risk		
4.1 Acid Sulfate Soils	As stated earlier the site has a low risk of containing acid sulphate soils as the site includes land within Class 3 and 5 as shown on the acid sulphate soils risk maps. A preliminary acid sulfate soil investigation will be a relevant consideration at any DA stage. For these reasons the provisions of the Planning Proposal that are inconsistent are considered to be "of minor significance". An approval for a variation to this s117 Direction is considered to be reasonable under the circumstances.	Justifiably inconsistent for reasons listed.
4.2 Mine Subsidence and Unstable Land	The subject site is not within a mine subsidence district, nor has been identified as unstable.	Not applicable.
4.3 Flood Prone Land	The subject site is not identified by Council's system as being likely to be inundated in a 100-year Annual Recurrence Interval flood event. A narrow band of land identified as being within the flood planning level is located at the edge of the southern boundary (see Section B5 above) however no development is likely to occur in this location that would be adversely impacted by any inundation. In light of the above, an approval for a variation to this s117 Direction is considered to be reasonable under the circumstances.	Justifiably inconsistent for reasons listed.
4.4 Planning for Bushfire Protection	The Planning Proposal will affect areas of land identified as being bushfire prone. However, it will not impact on the existing planning controls that address the issue of bushfire hazard on this land. These matters are addressed in Section C below. The Gateway Determination will likely require Council to consult with the NSW Rural Fire Service.	Referral to NSW RFS is required prior to confirmation of consistency with this particular Direction.
5. Regional Planning		
5.4 Commercial and Retail Development along the Pacific Highway North	This planning proposal will not affect any land along the Pacific Highway.	Not applicable.

Direction	Relevance to this planning proposal	Consistency with direction
Coast		
5.10 Implementation of Regional Plans	The Planning Proposal is consistent with the North Coast Regional Plan 2036 (see Section B4 above).	Consistent
6. Local Plan Making		
6.1 Approval and Referral requirements	This planning proposal does not include any concurrence, consultation or referral provisions nor does it identify any development as designated development.	Not applicable.
6.2 Reserving Land for Public Purposes	This planning proposal will not affect any land reserved for public purposes.	Not applicable.
6.3 Site Specific Provisions	The Planning Proposal looks to rezone the site to an existing zone already applying in the environmental planning instrument that allows that land use without imposing any development standards or requirements in addition to those already contained in that zone. The Planning Proposal is therefore considered consistent with this Direction.	Consistent

Section C - Environmental, social and economic impact

8. Is there any likelihood that critical habitat or threatened species, populations or ecological communities, or their habitats, will be adversely affected as a result of the proposal?

Given the cleared and disturbed nature of the site, no particular concerns have been identified at this stage around critical habitat or threatened species and it is considered that the submitted information is acceptable to proceed to a Gateway Determination. However, an ecological survey should be sought post gateway, as despite the disturbed nature of the site, it could be possible for threatened grasses and/or orchids to be present.

9. Are there any other likely environmental effects as a result of the planning proposal and how are they proposed to be managed?

This section of the Planning Proposal addresses the following:

- Bushfire risk;
- Cultural Heritage;
- Coastal hazards;
- Water quality;
- Noise;
- Traffic impact;
- Acid Sulphate Soils; and
- Flooding.

Bushfire Risk

A Bushfire Assessment was prepared to assess the bushfire hazards associated with the Planning Proposal and the measures required to meet the *Planning for Bushfire Protection Guidelines 2006*.

The main findings and conclusions of the Assessment are as follows;

"The site is constrained, from a bushfire-perspective, generally by vegetation on 3 exposures. Remnant dry sclerophyll forest to the north and west, and swamp sclerophyll forest to the south. All of the land within the assessment area to the east of the site is developed residential lands.

The site has an area of approximately 4.32 hectares, and is accessed off Tasman Street along the eastern boundary of the property. The old Pacific Highway (Solitary Islands Way) is located along the site's western boundary.

The proposal has been measured against the specific requirements outlined in s.117(2) (Ministerial Directions, provided below) of the EP&A Act 1979, as well as the residential subdivision provisions of PBP-2006.

The proposal is to split the Zoning of the property from its current RU2 zone, with the northern part of the site accommodating the Tavern to be Zoned B4 (revised zone – R1)*, and the southern part of the site to be Zoned R2. The R2 Zone will then be subjected to a residential subdivision.*

The NSW Rural Fire Service accepts that rezoning Reports can also be used for subsequent subdivisions as longs as both the Ministerial Directions and PBP-2006 are properly addressed.

Apart from road widths, all of the relevant provisions of PBP-2006 have been, or are able to be, provided."

It is also noted that the Gateway Determination will likely require Council to consult with the NSW Rural Fire Service.

A copy of the Bushfire Hazard Assessment Report is included at Appendix C.

Cultural Heritage

As stated above, consultants were engaged to examine the cultural heritage attributes of the site and to assess the possible impact the proposed rezoning may have on Aboriginal Cultural Heritage by:

- Identifying whether or not Aboriginal objects are, or are likely to be, present in an area;
- Determining whether or not their activities are likely to harm Aboriginal objects (if present); and
- Determining whether an Aboriginal Heritage Impact Permit (AHIP) application is required.

The consultant report states that input was sought from the Garby Elders and that the recommendations from this consultation was included in the Cultural Heritage assessment. The report recommends that given the archaeological finds across the wider landscape and the cultural knowledge of the area, further intensive archaeological work is not required post gateway to determine the actual likelihood of significant evidence of Aboriginal occupation. However, the Garby Elders have concern for the location of a Song Line utilizing the Kangaroo trail and Corindi Beach area that appears to have been severed by the Pacific Highway upgrade.

The report considers that in all probability, it is unlikely that any archaeological evidence exists within the study area and development is unlikely to impact potential archaeological evidence. However, an assessment of the cultural connection significance of the relationship of the Song Line to the study area needs to be undertaken.

It is therefore recommended that should a gateway determination be issued, a post approval cultural values assessment be conducted in consultation and collaboration with the Garby Elders to consider and implement appropriate recognition and preservation of historic Aboriginal heritage values and in particular the Song Line of the Corindi Beach and Kangaroo Trail area. Consultation with the NSW Office of Environment and Heritage is also considered to be appropriate in this regard.

Council staff acknowledge the cultural heritage assessment report's statements and have no objection to the Planning Proposal proceeding to a Gateway determination, subject to the further consultation occurring as outlined above.

A copy of the Cultural Heritage Preliminary Assessment is included at Appendix D.

Coastal Hazards

As noted earlier in this report, Council staff have reviewed the Planning Proposal from a coastal perspective and the following observations are made:

- The proposal footprint is largely free from coastal constraints
- The Coastal Wetland Proximity area intersects the proposal footprint marginally across the south eastern corner.
- The SEPP Coastal Management (2018) states that for areas within the Coastal Wetland Proximity Area:

  Development consent must not be granted to development on land identified as "proximity area for coastal wetlands" or "proximity area for littoral rainforest" on the Coastal Wetlands and Littoral Rainforests Area Map unless the consent authority is satisfied that the proposed development will not significantly impact on:

  (a) the biophysical, hydrological or ecological integrity of the adjacent coastal wetland or littoral rainforest, or

  (b) the quantity and quality of surface and ground water flows to and from the adjacent coastal wetland or littoral rainforest

- There appears to be no significant development proposed within the small section of "proximity to Coastal Wetland" area shown on the plans.
- One area of concern is Acid Sulphate Soils and the proximity to the Coastal Wetland. The proposal concept shows potential earthworks occurring in both mapped class 3 and 5 Acid Sulphate Soil areas.
- The proposal states "*The extent of excavation and fill will be determined as part of the Construction Certificate stage of the development of the site. Prior to subdivision approval being granted by Council a preliminary acid soil investigation will be undertaken with an acid soil management plan prepared, if necessary*".
- If/once the proposal reaches DA stage, it is likely that an Acid Sulphate Soil Management Plan would be required. Any DA would also need to demonstrate that the proposal (earthworks and filling) will not significantly impact on the quantity and quality of surface and ground water flows to and from the adjacent coastal wetland (as per the SEPP Coastal Management 2018).
- Given the above observations, no further information is required at this stage

Water Quality

A storm-water management concept has been prepared for the proposed rezoning. To comply with Council Water Sensitive Urban Design (WSUD) policy, the concept directs as much catchment as possible to a bio-retention basin located in the south-western corner of the site. This location has ample area to contain a basin for the whole property (both R1 and R2 zones), plus the main portion of Tasman Street. The basin can also be sized to provide flow retardation through detention.

A copy of the report is included in the Engineering Issues report in Appendix B.

Further detail will be required as part of a Development Application to address Councils Water Sensitive Urban Design guidelines and as part of a Construction Certificate however, the outcome will not be likely to prevent the development potential of this property.

Noise

The location of low density residential development adjacent to a land use activity such as a pub introduces the issue of noise and its potential for affecting any surrounding residential development.

The subdivision approval (0825/12DA) issued over Lot 111 DP 730304 included the following condition of approval:

"Noise Attenuation:

Noise attenuation methods specified in the acoustic consultant report prepared by Vipac Engineers and Scientists Limited, dated 24 April 2012 and 13 July 2012 being implemented in the development and the completed works subsequently certified by the acoustic consultant prior to the issue of a Subdivision Certificate. A copy of the certification being referred to the Council prior to the issue of a Subdivision Certificate."

The noise attenuation methods referenced above included requirements on the location, position and orientation of live music and noise generating equipment such as speakers. Engineering noise controls were also introduced which included acoustic sealing and paneling.

The arrangement of buildings on a site can also be used to minimize noise impacts. If incompatible land uses already exist, or if a noise sensitive activity is planned, acoustical site planning often provides a successful technique for noise impact reduction.

Many site planning techniques can be employed to shield a residential development from noise. These can include:

- increasing the distance between the noise source and the receiver;
- placing nonresidential land uses such as parking lots, maintenance facilities, and utility areas between the source and the receiver;
- locating barrier-type buildings parallel to the noise source; and
- orienting the residences away from the noise.

Although the issue of separation will be specifically addressed at a subsequent development assessment stage, the strategic planning process needs to ensure that any potential mitigation methods are practically possible.

The layout of zones which correspond with the approved subdivision layout (0825/12DA) do provide spatial opportunities to provide buildings, mounding and/or landscaping to provide a buffer between the low density residential development and the tourist residential development to the north.

Traffic Impact

A traffic impact assessment was undertaken for the proposed rezoning. A conceptual subdivision layout has been prepared to manage traffic from future residential subdivision onto Tasman Street that occupies the full frontage of the site. The principles for traffic management are as follows:

- *An internal road to local street standard of nominal 6m wide pavement in a 15m wide road reserve;*

- *The northern leg of the internal road to return to Tasman Street along the internal zone boundary, giving road separation between future dwellings and the Amble Inn;*
- *31 residential lots of 600 to 999 sq.m, being of consistent size with the surrounding residential developments;*
- *20 lots with access off the new internal road and 11 off Tasman Street;*
- *Widening of Tasman Street pavement to 10m (Collector road standard), with the widening all to the north/western side (fronting the property) and to include kerb and gutter to replace the existing table drain;*
- *Boundary adjustment to the south to give a nominal 5.5m wide nature strip to Tasman Street;*

The portion to be zoned R1 will encompass the Amble Inn and its immediate surrounds. Subject to further approvals, the zoning will allow further accommodation development as part of, or adjacent to the inn. Access for this development will be off Tasman Street and may potentially utilise the existing Amble Inn access.

A copy of the traffic report is included in the Engineering Issues Report – see Appendix B.

Acid Sulfate Soils

According to clause 7.1 of LEP 2013, development consent is required for the carrying out of works within 500m of adjacent Class 1, 2, 3 or 4 land that is below 5 metres Australian Height Datum and by which the water-table is likely to be lowered below 1 metre Australian Height Datum on adjacent Class 1, 2, 3 or 4 land.

The majority of the subject land is mapped as a low risk (i.e. Class 5) potential acid sulphate soils (see figure 6). A small portion of the southern end of the site, which is proposed to be filled to accommodate residential development is mapped as Class 3 potential acid sulphate soils. Council's Environmental Health section have stated that they are satisfied that this issue can be dealt with during the Development Assessment process.

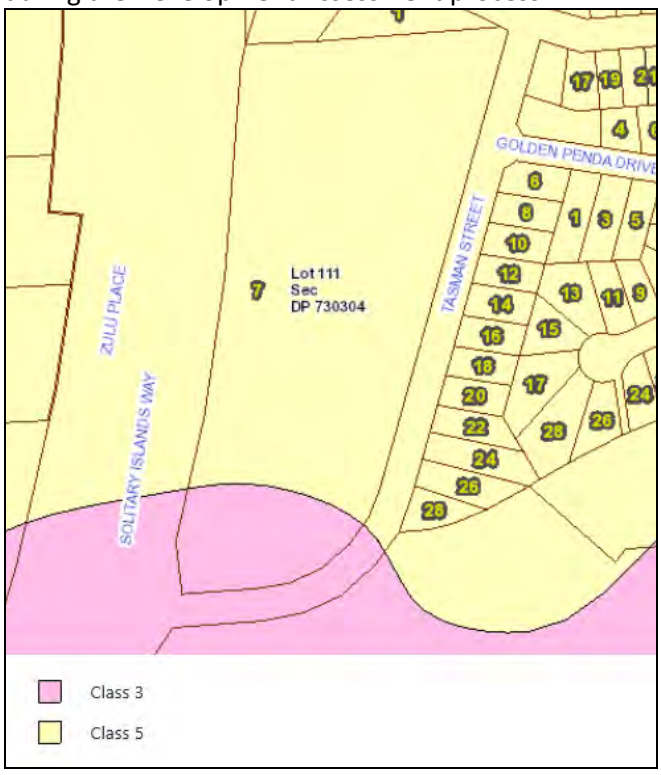


Figure 6 – Acid Sulphate Soils map

Flood Planning

The subject site is not identified by Council's system as being likely to be inundated in a 100-year Annual Recurrence Interval flood event. A narrow band of land identified as being within the flood planning level is located at the edge of the southern boundary (see figure 7) however no development is likely to occur in this location that would be adversely impacted by any inundation.

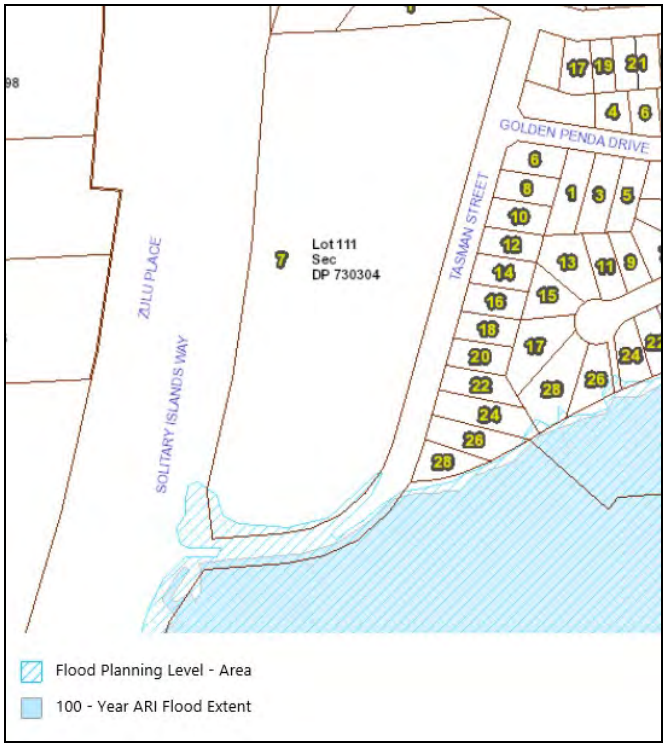


Figure 7 – Flooding map

10. How has the planning proposal adequately addressed any social and economic effects?

It is considered that the proposal will make a positive contribution to the growth of Corindi Beach and provide additional land for residential use, while also recognising the existing pub and support its ongoing operation and enhancement. The additional residential lots will add to housing choice and increased land stock in the locality. The limited potential of this proposal is not considered to place unreasonable demands on existing social services in the Corindi Beach village or the immediate area and the proposed additional area for general residential / tourist use can accommodate the future needs of the existing pub.

A "net community benefit (NCB) test" has been prepared that considers the external costs and benefits of the proposal, such as net welfare effects or the net impact on other centres, as opposed to possible private costs and benefits. The NCB test also allows for the consideration of the proposal against a base case, such as the development not proceeding. The Net Community Benefit Test is included in Appendix A.

Section D - State and Commonwealth interests.

11. Is there adequate public infrastructure for the planning proposal?

Road Network and Access

The site has significant frontage to Tasman Street Corindi Beach, being an existing collector road servicing a growing urban area.

The Traffic Assessment concludes that the site is positioned such that it provides sufficient transport components with respect to Council's Guidelines and Australian Standards and does not result in any significant adverse traffic impacts that would preclude its further development. Council supports this view.

This issue is further discussed in A9 above.

Electricity and Telephone

The subject site is readily serviced with access to the electrical grid and telecommunications network.

Water and Sewerage

The location is serviced by reticulated water supply and sewerage which can readily be extended to service future development. All necessary services are readily available to the site.

12. What are the views of State and Commonwealth public authorities consulted in accordance with the gateway determination?

This requirement of the Planning Proposal will be determined following additional consultation with any State and Commonwealth Public Authorities which are identified by the Gateway Determination, being:

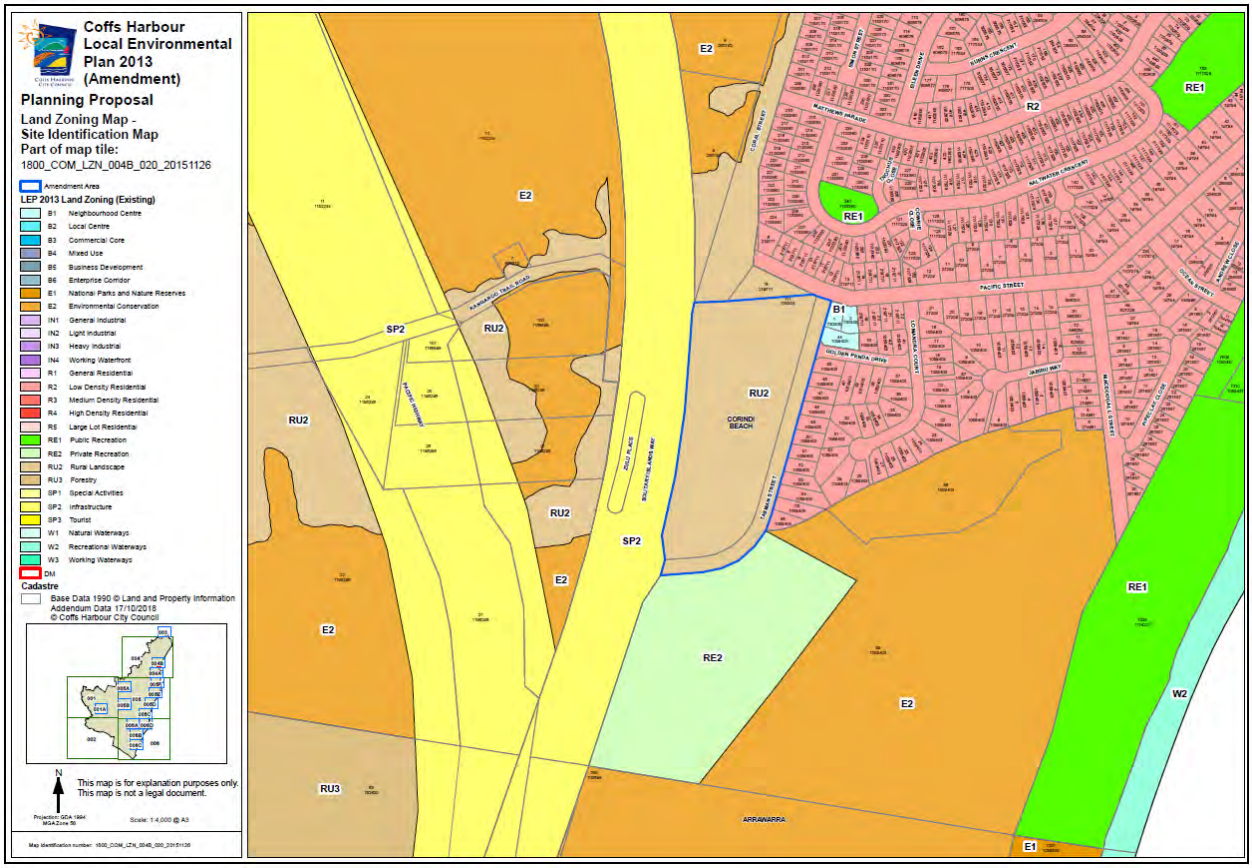
- NSW Office of Environment and Heritage; and
- NSW Rural Fire Service.

PART 4 – MAPPING

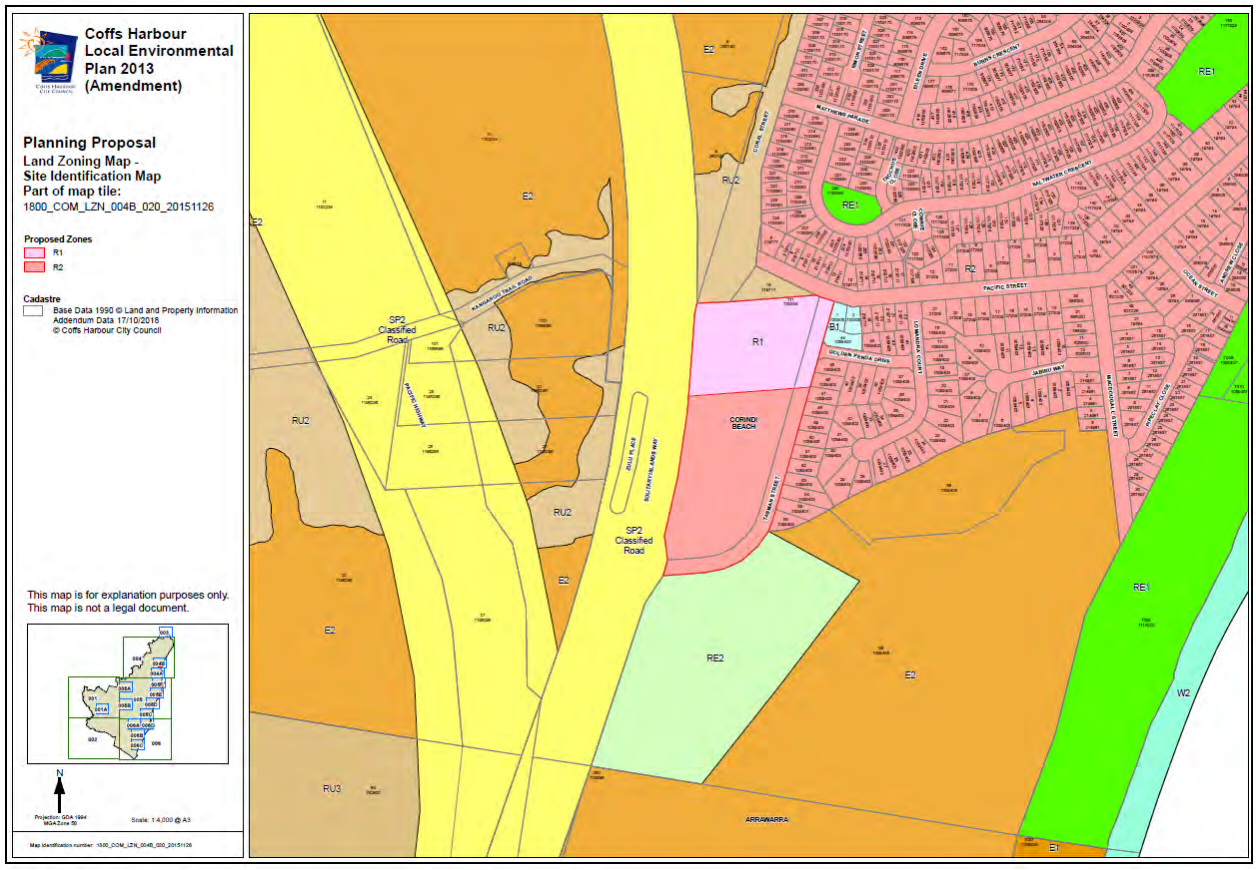
Maps relevant to the Planning Proposal are as follows:

1. Locality Map / Aerial Photo

2. Existing Land Use Zones (Coffs Harbour LEP 2013)

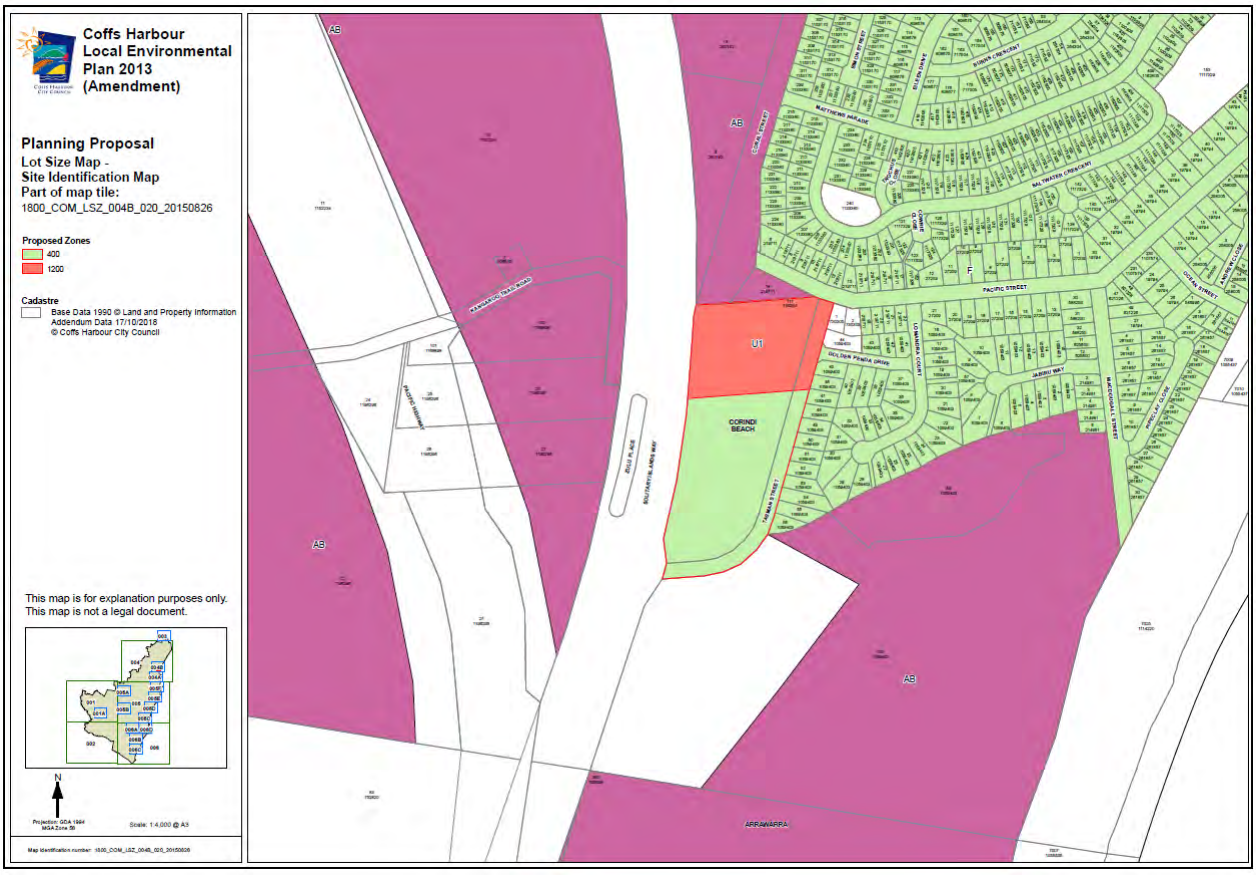


3. Proposed Land Zoning Map (Coffs Harbour LEP 2013)



4. Existing Minimum Lot Size Map

5. Proposed Minimum Lot Size Map



PART 5 – COMMUNITY CONSULTATION

This Planning Proposal is within the context of Council's Local Growth Management Strategy, which suggests that the Planning Proposal is:

- generally consistent with the pattern of surrounding land use zones and/or land uses;
- consistent with the strategic planning framework and presents no issues with regard to infrastructure servicing;
- is not a principal LEP; and
- does not reclassify public land.

The Gateway Determination will stipulate the timeframe for exhibition of the PP. Government and other agencies to be consulted will be allowed at least 21 days to provide comment to the PP.

PART 6 – INDICATIVE TIMETABLE

The table 3 outlines the indicative timeframe for this planning proposal:

Table 3 Indicative timetable

Task	**Actual/Estimated timeframe**
Decision by CHCC to proceed	February 2019
PP referred to NSW Planning and Environment	March 2019
Finalisation of additional information as requested by Council and issuing of Gateway Determination	April - May 2019
Public exhibition / Agency consultation of planning proposal	May - June 2019
Review submissions	July 2019
Report to Council	July - August 2019
Preparation of a final planning proposal for submission to the NSW Department of Planning & Environment requesting the LEP amendment to be made	September 2019
Submission to Planning Minister	October 2019
Responses to Ministerial comments	November 2019

SUMMARY AND CONCLUSIONS

This planning proposal seeks to amend *Coffs Harbour Local Environmental Plan 2013* (LEP 2013) by changing the zoning of Lot 111 DP 730304 from Zone RU2 Rural Landscape to part Zone R1 General Residential and part Zone R2 Low Density Residential. The LEP Amendment will enable an existing pub to incorporate a planned motel development, while also accommodating a potential residential subdivision on the balance of this large site.

The Planning Proposal is considered consistent with Council's 'My Coffs' Community Strategic Plan, LGMS – Urban Lands Component (2008) as well as the 2018 LGMS Review – draft Residential Lands Component. The Planning Proposal is also consistent with the North Coast Regional Plan 2036 and is generally consistent with all relevant SEPPs. It is also considered to be consistent with relevant Local Planning Directions, apart from minor inconsistencies with Directions 1.2 (Rural Zones), 1.5 (Rural Lands), 4.1 (Acid Sulfate Soils) and 4.3 (Flood Prone Land), as discussed in this report. The Department's agreement that these inconsistencies are minor is requested.

The Planning Proposal will require further investigation to determine whether it is consistent with Direction No. 2.3 (Heritage Conservation) and confirmation from NSW RFS prior to establishing consistency with Direction No. 4.4 (Planning for Bushfire Protection).

There is sufficient information to enable Council and the Department of Planning and Environment to support the planning proposal, issue a Gateway Determination and place it on public exhibition.

LIST OF APPENDICES

Appendix A – Net Community Benefit Test

Appendix B – Engineering Issues Report

Appendix C – Bushfire Hazard Assessment Report

Appendix D – Aboriginal and Cultural Heritage Preliminary Assessment

Net Community Benefit Test

The following NCBT considers the external costs and benefits of the planning proposal, including the net welfare effects of the proposal to the local community and the net impact of the proposal on other centres. This evaluation **does not** consider the potential private costs and benefits of the proposal to the land owner. The NCBT also considers the proposal against a base case; the development not proceeding.

COMMUNITY COSTS AND BENEFITS				
EVALUATION CRITERIA	**Base Case – Planning Proposal not Proceeding**	**Planning Proposal**	**Qualitative Community Benefit per Criteria**	**Quantitative Community Benefit Per Criteria**
Will the LEP be compatible with agreed State and regional strategic direction for development in the area (eg land release, strategic corridors)?	Presently the land is zone RU2 Rural Landscape with a minimum lot size of 40 ha for subdivision and dwellings. The Amble Inn tavern is an existing use (pubs are prohibited in the RU2 zone). The RU2 zone is not a suitable zoning for the land as it does not reflect the present land uses. The land joins R2 Low Density Residential and B1 Neighbourhood Centre to the east and RE2 Private Recreation zoned land to the south. The land immediately north of the site at 1 Pacific Street is zoned RU2, has an area of 2,510 m^2 and is occupied by a single dwelling. It is not used for rural purposes.	The *North Coast Regional Plan* (*NCRP*) 2036 and the *NSW State Plan* recognise the need for stronger regional economies, improving housing affordability and supply, ensuring housing meets the needs of smaller households, whilst limiting development in places constrained by coastal processes, flooding, wetlands, landscapes of high scenic and conservation value. The NCRP regional priorities for Coffs Harbour include: ▪ Manage and support growth in Coffs Harbour. ▪ Deliver housing and job opportunities in Coffs Harbour, Woolgoolga, Sawtell and Bonville. ▪ Deliver housing at Corindi Beach, Woolgoolga, North Boambee Valley and Bonville. ▪ The land is located within	▪ The PP will result in additional housing options and will contribute to maintaining housing affordability. ▪ Stimulus for the local economy in terms of the building industry and support of neighbourhood shops within Corindi Beach and local shops at Woolgoolga. ▪ Create land for housing and tourism that is suitable in terms of BAL construction levels and safe in terms of bushfire protection for dwellings and SFPPs. ▪ All costs of the development will be met by the land owner. No cost to the community. ▪ Future development proposals will incur S94 levies for community facilities, local roads and recoupment of	▪ Concept subdivision plans have been prepared, indicating that the residential zoned land will yield 31 residential lots of 600 to 999 m^2, being of consistent size with the surrounding low density residential area. ▪ It is proposed to zone approximately 1.86 ha R1 General Residential and 2.46 ha R2 Low Density Residential.

APPENDIX A - NET COMMUNITY BENEFIT TEST

	Retaining the RU2 zone will prevent the logical future development of the land for land uses that (a) serve the surrounding low density coastal village, and (b) will prevent the land from being subdivided for low density housing.	the Urban Growth Area boundary for Corindi as identified in Figure 21 *'Urban growth area map for Coffs Harbour Local Government Area'*. ▪ The proposal is compatible with State and Regional planning directions.	past headwork costs for water and sewer.	
Is the LEP located in a global/regional city, strategic centre or corridor nominated within the Metropolitan Strategy or another regional/sub-regional strategy?	**N/A**	**N/A**	**N/A**	**N/A**
Is the LEP likely to create a precedent or create or change the expectations of the landowner or other landholders?	The present RU2 Rural Landscape zone is not a suitable land zoning for the subject land for the following reasons. • The land is not contiguous with any rural land uses. • The land does not have the attributes for RU2 zoning as set out in NSW P&E Practice Note PN11-002: *This zone is for rural land used for commercial*	The PP is essentially a 'spot rezoning' to facilitate the development of an 'infill' parcel of land for land-uses that are compatible with the surrounding coastal village environment. The rezoning is logical in terms of adjoining zones, present land use (pub) and the attributes of the vacant area of the site. Council may consider rezoning an adjoining Lot 18 DP 219711 under their separate annual review of the LEP.	The PP will not create a precedent or change the expectations of surrounding land holders. This PP will only have implications for the subject land. The Concept Proposal clearly sets out the development intentions for the land. The appropriateness of the proposed rezoning must be considered on its merits and therefore the making of the proposed amendment should	As stated above.

	primary production that is compatible with ecological or scenic landscape qualities that have been conserved (often due to topography). It may apply to land that is suitable for grazing and other forms of extensive agriculture, or intensive plant agriculture (such as 'viticulture'), but where the permitted uses are usually more limited and differ from RU1 land due to landscape constraints. This zone is not to be used where the main purpose of the zone is to protect significant environmental attributes or to provide for rural residential accommodation.		not change the expectation of other landholders in the locality.	
Have the cumulative effects of other spot rezoning proposals in the locality been considered? ***What was the outcome of these considerations?***	As stated above.	(Any) other spot rezonings in the locality will have no impact on the merit of the subject PP.	The subject PP and (any) other rezonings proposals will contribute to the local land supply to meet the housing demand in the locality. Additional land for tourist purposes may provide employment opportunities for local people.	The subject PP and (any) other rezonings proposals will contribute to the land supply to meet the housing demand in the locality, noting that the population of Corindi Beach is forecast to grow by 29.7% by 2036. (CHCC Population ID).

APPENDIX A - NET COMMUNITY BENEFIT TEST

Will the LEP facilitate a permanent employment generating activity or result in a loss of employment lands?	Presently the land is zoned RU2 with a limited range of permissible employment generating land uses, generally associated with rural activities.	Whilst the existing pub may expand under existing use provisions, rezoning the land to R1 General Residential will increase the range of permissible employment generating activities within the site. The R1 zone will allow (with Development Consent): · Food and drink premises – pubs, restaurants / cafes, take away food and drink premises · Tourist and Visitor Accommodation – backpackers' accommodation, hotel or motel accommodation, serviced apartments · Entertainment facilities · Function Centres · Registered Clubs · Kiosks · Markets · Neighbourhood shops · Service stations · Medical Centres · Child Care Centres · Information and Education Facilities · Recreation Areas · Recreation Facilities (indoor / outdoor)		No loss of employment land.
Will the LEP impact upon the supply of residential land and therefore housing supply and affordability?	Under the present RU2 zoning, there are no 'stand-alone' dwelling entitlements for the land. The property does not contribute to the residential land supply and, thereby,	As indicated in the Concept Development plan, the rezoned land may yield 31 low density residential lots. Maintaining the supply of suitable land for housing will assist in maintaining housing affordability.	The PP will impact positively on the supply of residential land and, therefore, housing affordability.	The PP will result in: • 2.46 ha of R2 low density residential zoned land; and • 1.86 ha of R1 General Residential zoned

	maintain housing affordability.			land.
Is the existing public infrastructure (roads, rail, utilities) capable of servicing the proposed site? ***Is there good pedestrian and cycling access? Is public transport currently available or is there infrastructure capacity to support future public transport?***	The base case is a large vacant site with an overgrown table drain and no kerb and gutter to Tasman Street, the main entrance to Corindi Beach.	deGroot and Benson, Consulting Engineers prepared a 31 lot concept subdivision plan and an Engineering Issues Statement that considered essential services for the subdivision. The subdivision has been designed to connect to reticulated sewer and water, power and telecommunications and will be served with a public road system. Tasman Street will be upgraded by widening the road reserve and installing kerb and gutter along the western side of the formation. The provision of an additional 31 lots within the existing urban footprint does not generate a need for additional state infrastructure. There is a bus services that operates 2 – 5 times per day (Monday to Saturday) between Corindi Beach, Woolgoolga and Coffs Harbour. The future subdivision may generate the need for another bus-stop near to the Amble Inn.	S94 Developer Contributions levied on future development will provide for additional community services and road network upgrading.	The PP involves a 4.32 ha parcel of land. Future housing yield will be in the order of 31 low density lots. 1.86 ha of R1 General Residential zoned land will provide for increased potential in employment generating land uses that are complementary to the Amble Inn tavern.
Will the proposal result in changes to the car distances travelled by	The base case, in terms of car distances travelled by customers, employees and supplies of the Amble Inn	The PP is unlikely to have a significant change on car distances travelled.	N/A	N/A

customers, employees and suppliers? ***If so, what are the likely impacts in terms of greenhouse gas emissions, operating costs and road safety?***	hotel is one whereby car travel is essential for all but the surrounding local residents.	The PP will result in a minor, short term impact in terms of greenhouse gas emissions during construction of future development. In the longer term, development of the subject land for residential purposes will increase the local population and may lead to an increase in local shops and services.		
Are there significant Government investments in infrastructure or services in the area whose patronage will be affected by the proposal? ***If so, what is the expected impact?***	N/A	The proposal does not require any additional Government investment or services.	N/A	N/A
Will the proposal impact on land that the Government has identified a need to protect (eg land with high biodiversity values) or have other environmental impacts?	No	The PP does not propose any environmental zoned land.	N/A	N/A

APPENDIX A - NET COMMUNITY BENEFIT TEST

Is the land constrained by environmental factors such as flooding?	The land is mapped as bushfire prone. A very small area in the southern part of the site is mapped as within the flood planning area, however this land is not impacted by the 100 year flood extent.	As discussed in the PP and the Engineering Issues Report, the land can be developed for residential and tourist related purposes despite these minor constraints.		
Will the LEP be compatible/ complementary with surrounding land uses? ***What is the impact on amenity in the location and wider community?*** ***Will the public domain improve?***	Presently, the southern part of the land is unused and is not complementary to the streetscape or surrounding residential land uses.	The PP will result in rezoning of the land for purposes compatible and complementary with surrounding land uses. The amenity within the location and surrounding area will significantly improve following development of the land for low density residential purposes. The site is in a prominent entry location to Corindi Beach. Improvements to Tasman Drive (road formation widening and kerb and gutter) will benefit the wider community in terms of improving streetscape amenity. The rezoning will increase the potential for the Amble Inn and surrounding land to be further developed for complementary land uses, such as, a motel. The public domain at the southern entry to Corindi Beach will improve considerably once future residential development is completed.	As already stated.	Quantitative benefit: • 31 lots • Widening of Tasman Street pavement to 10m including kerb and gutter to replace the existing table drain.

APPENDIX A - NET COMMUNITY BENEFIT TEST

Will the proposal increase choice and competition by increasing the number of retail and commercial premises operating in the area?	Currently, the Corindi village area comprises a limited range of commercial services.	The PP will not directly impact the number of retail or commercial premises operating in the area. The R1 General Residential (tourist related land uses) component of the PP is centred around an existing 'pub' with future focus on facilitating improvements and complementary development, such as a motel.		As already stated.
If a stand-alone proposal and not a centre, does the proposal have the potential to develop into a centre in the future?	This is a stand-alone proposal. Corindi Beach is identified as a coastal village and is highly unlikely to develop into a centre in the future (short – medium term).	N/A	N/A	N/A
What are the public interest reasons for preparing the draft plan? ***What are the implications of not proceeding at that time?***	As already stated, the base case is that the land remains inappropriately zoned RU2 Rural Landscape.	The implications of not proceeding with the PP are: ▪ The land remains unsuitably zoned for rural purposes. ▪ The Tasman Street streetscape remains uncompleted in a prominent entry position to Corindi Beach. ▪ Increased development pressure on alternative sites for greenfield development. ▪ Housing choice and supply are diminished in the local area. ▪ The land may become difficult to manage as a single large rural lot with limited agricultural potential.	The public interest in rezoning the land arises from the following key outcomes: ▪ increasing choice and supply land for low density residential housing. ▪ maintaining the supply of cleared, unconstrained level land for housing, noting that construction costs will not be impacted by steep land or retained high value vegetation. ▪ Providing an appropriate zone to accommodate potential expansion of the Amble Inn or development for a complementary purpose, such as a motel.	As already stated.

Engineering Issues

Proposed Rezoning
Lot 111 DP730304
Tasman St Corindi Beach

For

John Matthews

April 2018

de Groot & Benson Pty Ltd
ACN 052 300 571
Ph 02 6652 1700
Fax 02 6652 7418
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236 Harbour Drive
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TABLE OF CONTENTS

1 INTRODUCTION

This report accompanies a planning proposal to re-zone lot 111 DP730304 (No. 7) Tasman Street Corindi Beach and examines the **engineering issues** associated with subsequent development of the land. These are shown on Drawings 17041-C01 to C05. Planning and environmental issues are covered elsewhere.

2 EXISTING PROPERTY AND ZONING

As shown in Figure 2.1, the subject property covers 4.32 Ha and is bounded by Tasman Street to the east and south, Solitary Islands Way to the west, a neighbouring property with dwelling and an unformed extension to Coral Street to the north. The property is currently zoned RU2 – Rural Landscape in accordance with Council's 2013 LEP.

To the north, the property is developed with the Amble Inn hotel. In the south it is mostly cleared grassland with a few scattered trees along the boundaries. The property falls gently from approximately RL 17.5 at the Amble Inn down to RL 4 in the south.

It is proposed to re-zone the property and Tasman Street to zones B4 – Mixed Use in the north around the Amble Inn, and R2 – Low Density Residential in the south, as shown on drawing C01.

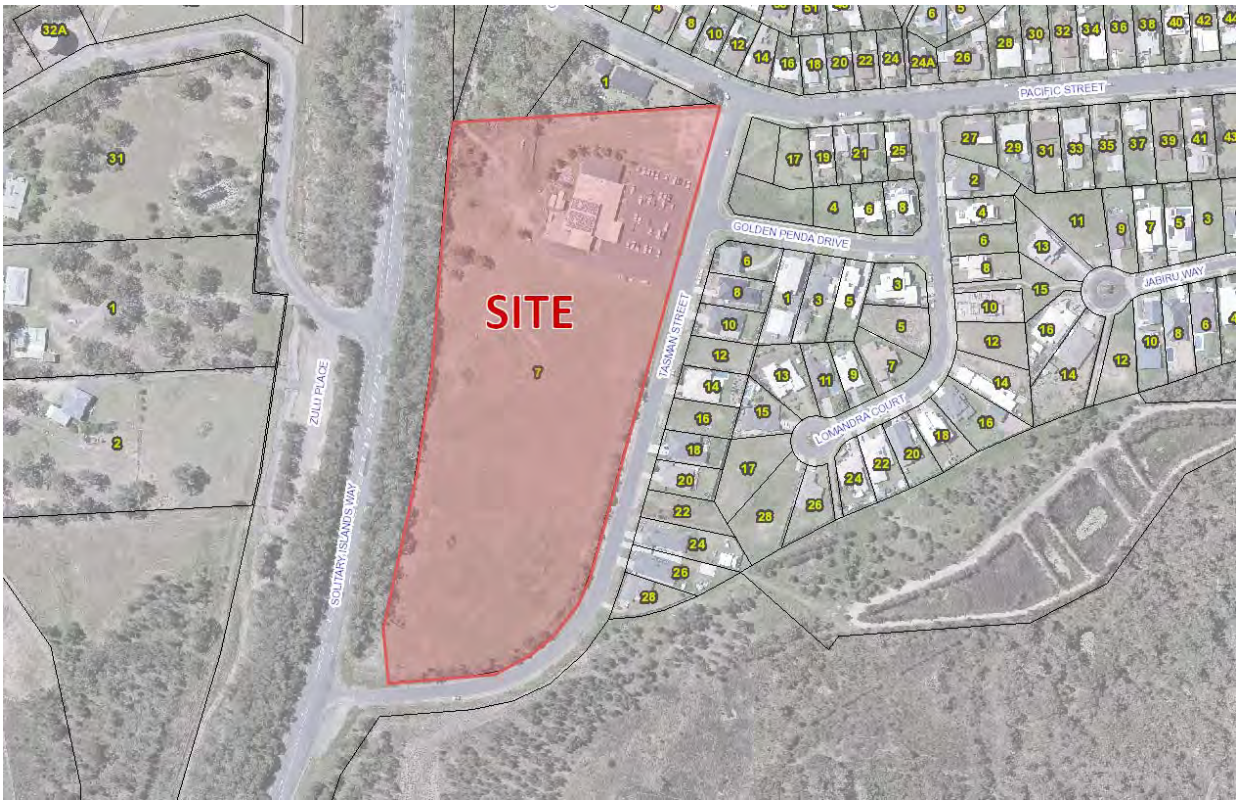

Figure 2.1 – Subject Property

3 POTENTIAL DEVELOPMENT AND ACCESS

Access to the property is available off Tasman Street, Solitary Islands Way and an unformed portion of Coral Street. Of these, only that off Tasman Street is practical.

Subject to further approvals, the portion to be zone R2 will be available for residential subdivision. Its geometry lends itself to the creation of a single internal loop road intersecting with Tasman Street at each end, as shown in the conceptual lot layout on drawing C02. The concept shows:

- An internal road to local street standard of nominal 6m wide pavement in a 15m wide road reserve;
- The northern leg of the internal road to return to Tasman Street along the internal zone boundary, giving road separation between future dwellings and the Amble Inn B4 zone;
- 31 residential lots of 600 to 999 sq.m, being of consistent size with the surrounding residential developments;
- 20 lots with access off the new internal road and 11 off Tasman Street;
- Widening of Tasman Street pavement to 10m (Collector road standard), with the widening all to the north/western side (fronting the property) and to include kerb and gutter to replace the existing table drain;
- Boundary adjustment to the south to give a nominal 5.5m wide nature strip to Tasman Street;

The portion to be zoned B4 will encompass the Amble Inn and its immediate surrounds. Subject to further approvals, the zoning will allow further accommodation development as part of, or adjacent the inn.

Again, access will be off Tasman Street and may potentially utilise the existing Amble Inn access.

4 TRAFFIC

The development of the re-zoned land will generate additional traffic. In this case, an advantage is that this additional traffic will be on the outskirts of Corindi. All that heading to and from the employment, shopping and schooling centres of Woolgoolga and Coffs Harbour, or even Grafton, will not need to travel through Corindi's local Streets. The development will have direct access, via an improved Tasman Street, to Solitary Islands Way. Both Tasman Street and Solitary Islands Way have ample capacity for the additional traffic, as does the Tasman Street, Solitary Islands Way intersection.

The development will generate some additional traffic within Corindi village itself as people access the local shop, beaches and other residences. Again, this additional traffic is anticipated to be within the capacity of the local road network.

5 GEOTECHNICAL AND EARTHWORKS

Most of the property (that above about RL 5) lies on silty clay soils over weathered rock. Most of these soils will be 'residual', having formed in place by the weathering of the underlying igneous rock. These soils are likely to extend a couple of metres, and slowly grade into extremely weathered then weathered rock. Some alluvial soils and shallow fills may be present across the lower southern end of the property below about RL 5 m. Acid sulfate soils may also be present but would be limited to this lower region.

Generally, the soils covering the property are suitable for road construction and founding typical low rise development with economical high level footings (strip footings, or slab on ground). Where excavated, the residual soil will make suitable fill material.

Poor subgrade may be present at the southern end of the internal road, necessitating deeper pavements. Acid sulfate soils may also be exposed in such excavations and those for services across the southern end. Regardless, these possible difficulties will be limited in range and are expected to be economically manageable.

Filling will be required to lift the lower southern portion of the property so that it can be adequately serviced by sewer and stormwater. Drawing C03 shows conceptual bulk earthworks. Filling to about 1m deep is required over about 10 of the southern most lots. The filling will need to be 'controlled' to ensure quality and compaction, and thus be suitable for founding dwelling type construction. This controlled fill will potentially assist in overcoming any poor founding alluvial soils present.

In all, about 9,500 cu.m of fill is required. The concept shows how approximately 5,500 cu.m can be won by excavation of the northern lots to lower the internal road and form cut pads to lots 18 to 23. The quality of the residual soils won from these excavations will be quite suitable for filling the southern lots.

It is however unlikely to be practical to win sufficient fill from the northern areas. The concept is short by approximately 4,000 cu.m. This additional fill will need to be imported to the site. Being right at the entrance to Corindi, access for importing such quantities via the pacific highway and Solitary Islands Way is good, in terms of minimising impact to pavements, traffic and nuisance to neighbours. While such importation will be a significant cost, is not expected to make the development uneconomic.

6 STORMWATER MANAGEMENT

At present the property drains to Tasman Street in the east and south. Tasman Street has no kerb and gutter fronting the property, but relies on a table drain. This collects all the runoff from the property (except for a small portion that may drain to Solitary Islands Way) and conveys it to a 750 dia pipe culvert under Tasman Street at the intersection with Solitary Islands Way.

The conceptual stormwater management is shown of drawing C04. It involves kerb and guttering with pipe and pit drainage to Tasman Street and the new internal road. Additional interalotment drainage through the residential lots will also likely be required, although depending on the cut and fills, some of that shown may not be necessary.

To comply with Council Water Sensitive Urban Design (WSUD) policy, the concept directs as much catchment as possible to a bio-retention basin located in the south-western corner. This location has ample area to size a basin for the whole property, both R2 and B4 zones, plus a fair portion of Tasman Street. The basin can also be sized to provide flow retardation through detention.

The level of the receiving culvert under Tasman Street, which the downstream landform prevents from lowering, dictates the level of the bio-retention basin, which in turn dictates how much of the property can be drained into the basin. Through the filling of the southern lots, all the conceptual lots can be drained to the basin. But a significant length of Tasman Street (south of lot 27), and the very southern end of the internal road cannot.

Regardless, more than 95% of the property can be drained to the basin and only a small area of new pavement would not be treated. The basin can be sized through MUSIC modelling to more than compensate for the small untreated catchment and no significant difficulties are foreseen in complying with Councils WSUD policy.

7 SEWER AND WATER

Council sewer has recently been extended to the property. A Council water main runs down Tasman Street, although on the east side. Drawing C06 shows how these can conceptually be reticulated through the property. As noted in section 4, filling is proposed across the southern portion of the site. This filling is needed to both drain the lots to the bio-retention and so that they can be adequately serviced by sewer without the need for a new pump station.

The conceptual development will generate an additional 31 ETs of sewage and water demand plus whatever development may be proposed in the B4 zoning. It is not known what, if any, specific upgrading to receiving sewage pump stations or supply mains may be needed and whether such costs would be adequately covered by developer contributions.

Regardless, the cost of any specific sewer and water infrastructure upgrading that may be required is not anticipated to make the developments uneconomic.

8 POWER AND TELCO

High voltage power is available overhead and underground along Tasman Street. Underground telecommunications is also available underground in Tasman Street. The extension and reticulation of these services through the property underground is anticipated to be economically achievable.

9 CONCLUSION

Drawings 17041-C01 to C05 show conceptually how the re-zoned land may be developed. The designs have been prepared to sufficient detail for "proof of concept". There appears to be no insurmountable engineering issues. Further, the engineering costs of subsequently subdividing and developing the proposed R2 zoned land are expected to be within the market value of the saleable lots, making the development economically viable and likely to proceed.

Holiday Coast Bushfire Solutions

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BUSHFIRE HAZARD ASSESSMENT REPORT

REPORT PREPARED IN RELATION TO:	**PROPOSED REZONING AND SUBDIVISION** **MINISTERIAL DIRECTIONS UNDER THE EP&A ACT (SECTION 117, 4.4 BUSHFIRE PROTECTION)**
PROPERTY DESCRIPTION:	**LOT 111 IN DP 730304, TASMAN STREET, CORINDI BEACH, NSW.**
REPORT COMMISSIONED BY: (my Client)	**Geoff Smyth & Associates.**
	DATE ISSUED: 4/07/2018

IMPORTANT NOTICE

Site inspections, and the results found herein, are carried out in accordance with the methodology as set out in the document ***"Planning for Bushfire Protection 2006"***.

The results of the site inspections and their correlation with ***PBP-2006*** are based on information provided by the "Reference Documents" and information provided by the Client (or his/her agents).

Holiday Coast Bushfire Solutions Pty Ltd will not be held liable for the omission to provide, or restrict access to, critical information (such as restrictions on property Title, easements, relevant consultant reports, etc) relevant to this development proposal.

The author of this Report, S. Ellis, possesses qualifications that include Graduate Diploma in Design for Bushfire Prone Areas (UWS) and Certificate 2 & 3 in Firefighting Operations and Certificate 4 in Firefighting Supervision.

DATE SAVED: 4/07/2018
DATE PRINTED: 4/07/2018

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Glossary

APZ	-	Asset protection zone. An area surrounding a development managed to reduce the bush fire hazard to an acceptable level. The APZ, consisting of an area maintained to minimal fuel loads and, for subdivision, comprising a combination of perimeter road, fire trail, rear yard or a reserve, so that a fire path is not created between the hazard and the building.
AS 3959	-	Australian Standard AS3959 Construction of buildings in bushfire-prone areas, Standards Australia, 2009, that outlines construction standards applicable to residential developments in bush fire prone areas.
BAL	-	Bushfire Attack Level – refer to CoBA below.
BCA	-	Building Code of Australia.
BPM	-	Bushfire protection measures. A range of measures (controls) available to minimise the risk arising from a bushfire. BPMs include APZs, construction standards, suitable access arrangements, water and utility services, emergency management arrangements and landscaping.
Bushfire hazard	-	The potential severity of a bushfire. Usually measured in terms of intensity (kW/m), the factors that influence a bush fire hazard include climate and weather patterns, vegetation (fuel quantity, distribution and moisture) and slope.
Bushfire-prone area / land	-	An area of land that can support a bushfire or is likely to be subject to bushfire attack. In general, a bushfire-prone area is an area mapped for a local government area that identifies the vegetation types and associated buffer zones. Bushfire prone land maps are prepared by local councils and certified by the Commissioner of the RFS.
Bushfire risk	-	Is the chance of a bushfire igniting, spreading and causing damage to assets of value to the community. Risk may be rated as being extreme, major, moderate, minor or insignificant and is related to the vulnerability of the asset.
CoBA	-	Category of Bushfire Attack. Either BAL-12.5, BAL-19, BAL-29, BAL-40, or BAL-FLAME ZONE. The degree to which a (proposed) building is subject to the modelled RHF from a potential bushfire. The CoBA determines the construction standards applicable.
Contagious Ignition	-	The ignition of one building by an adjoining flaming building (or material) other than by the direct ignition from the flaming bushfire hazard.
Defendable Space	-	An area within the APZ that provides an environment in which a person can undertake property protection after the passage of a bushfire with some level of safety.
D-T-S	-	Deemed to Satisfy (prescriptive requirements of either the BCA or ***PBP-2006***).
DE	-	Dwelling or Building Envelope. The foot print of a (proposed) structure.
FFDI	-	Forest fire danger index.

Flame Zone	-	The distance from a bushfire at which it is calculated for the purposes of this document that there is significantly increased likelihood for flame contact to a building. Determined by the calculated distance at which the radiant heat received by the proposed building exceeds 40kW/m^2 or calculated by the point of potential flame contact, whichever occurs first.
IFEG-2005	-	International Fire Engineering Guidelines (Edition 2005).
Infill Development	-	The development of land by the erection of or addition to a residential building (or buildings) which does not require the spatial extension of services including public roads, electricity, water or sewerage and is within an existing allotment.
Inner Protection Area	-	The inner component of an asset protection zone, consisting of an area maintained to minimal fuel loads and comprising a combination of perimeter road, fire trail, rear yard or reserve, so that a fire path is not created between the hazard and the building.
Outer Protection Area	-	The outer component of an asset protection zone, where fuel loads are maintained at a level (usually less than 8 t/ha) where the intensity of an approaching bushfire would be significantly reduced.
Required	-	Required by ***PBP-2006*** or other legislative requirements.
Setback	-	The distance required through planning provisions to separate a building from the bushfire hazard, street frontage or from adjacent buildings. In most cases the land within the setback will also be within the Flame Zone.

1.0 GENERAL DESCRIPTION OF LAND AND PROPOSAL

1.1 The Land

The site is located on the southern outskirts of Corindi Beach, on the mid-north coast. At the time of the site assessment the property was occupied by "The Amble Inn", a tavern/hotel business.

The site is constrained, from a bushfire-perspective, generally by vegetation on 3 exposures. Remnant dry sclerophyll forest to the north and west, and swamp sclerophyll forest to the south. All of the land within the assessment area to the east of the site is developed residential lands.

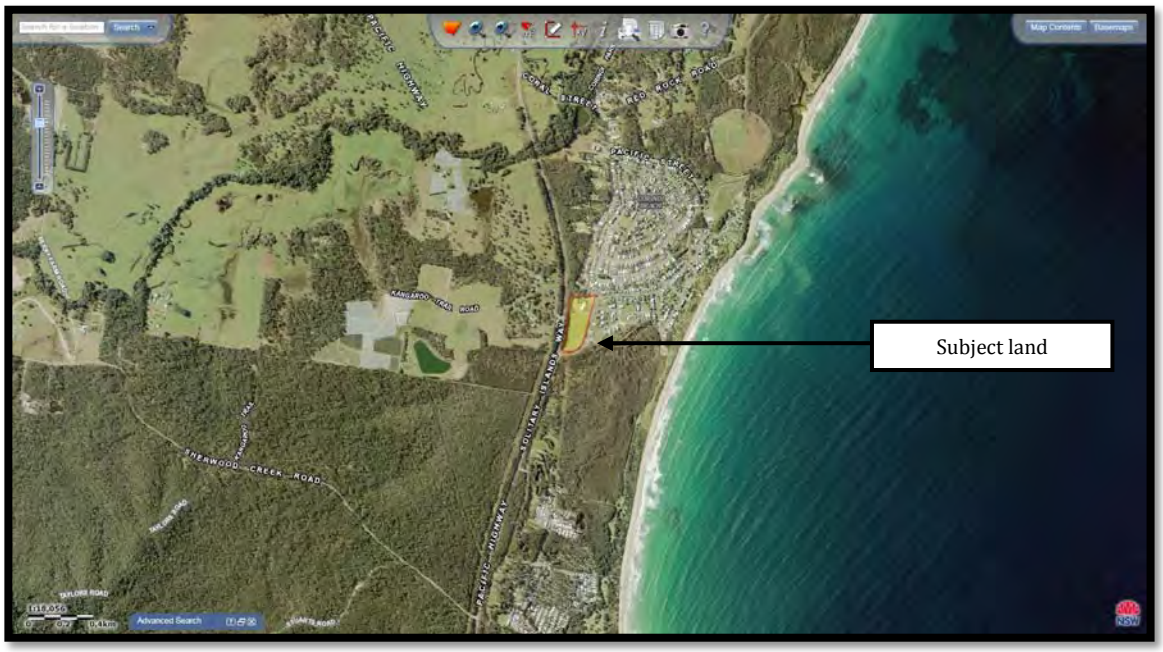

Figure 1: map showing general locality of subject site (©http://maps.six.nsw.gov.au/, 2018)

The site has an area of approximately 4.32 hectares, and is accessed off Tasman Street along the eastern boundary of the property. The old Pacific Highway (Solitary Islands Way) is located along the site's western boundary.

Figure 2: aerial image of property (©http://maps.six.nsw.gov.au/, 2018)

Bushfire prone land maps provide the trigger for the various development assessment provisions. The identification of bushfire-prone areas in NSW is required under section 146 of the *EP&A Act*. The NSW Rural Fire Service designates, through separate guidelines, what constitutes a bushfire-prone area and how it is to be mapped. Each Council then prepares a map in accordance with the guidelines and submits the map for approval by the NSW Rural Fire Service.

The subject site has been identified as bushfire-prone land by the Coffs Harbour City Council's Bushfire Prone Land Map, an extract of which is provided below.

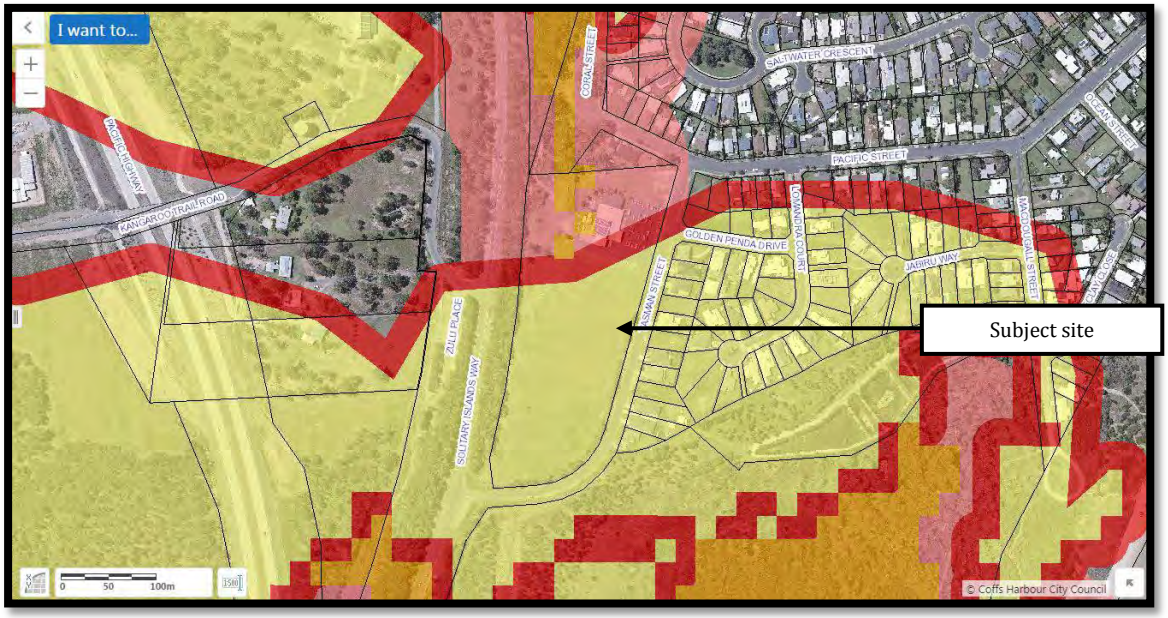

Figure 3: extract of CHCC's BPLM (© CHCC, 2018)

1.2 The Proposal

Holiday Coast Bushfire Solutions Pty Ltd has been engaged by the Client to provide a Bushfire Hazard Assessment Report to support a rezoning application and subdivision application.

The proposal will be measured against the specific requirements outlined in s.117(2) (Ministerial Directions, provided below) of the *EP&A Act 1979*, as well as the residential subdivision provisions of *PBP-2006*.

Section 117(2) of the Environmental Planning & Assessment Act 1979

4.4 Planning for Bushfire Protection

Objectives

(1) The objectives of this direction are:

(a) to protect life, property and the environment from bush fire hazards, by discouraging the establishment of incompatible land uses in bush fire prone areas, and

(b) to encourage sound management of bush fire prone areas.

Where this direction applies

(2) This direction applies to all councils that are required to prepare a bush fire prone land map under section 146 of the *Environmental Planning and Assessment Act 1979* (the EP&A Act), or, until such a map has been certified by the Commissioner of the NSW Rural Fire Service, a map referred to in Schedule 6 of that Act.

When this direction applies

(3) This direction applies when a council prepares a draft LEP that affects, or is in proximity to land mapped as bushfire prone land.

What a council must do if this direction applies

(4) In the preparation of a draft LEP a Council shall consult with the Commissioner of the NSW Rural Fire Service under section 62 of the EP&A Act, and take into account any comments so made,

(5) A draft LEP shall:

(a) have regard to *Planning for Bushfire Protection 2006*,

(b) introduce controls that avoid placing inappropriate developments in hazardous areas, and

(c) ensure that bushfire hazard reduction is not prohibited within the APZ.

(6) A draft LEP shall, where development is proposed, comply with the following provisions, as appropriate:

(a) provide an Asset Protection Zone (APZ) incorporating at a minimum:

(i) an Inner Protection Area bounded by a perimeter road or reserve which circumscribes the hazard side of the land intended for development and has a building line consistent with the incorporation of an APZ, within the property, and

(ii) an Outer Protection Area managed for hazard reduction and located on the bushland side of the perimeter road,

(b) for infill development (that is development within an already subdivided area), where an appropriate APZ cannot be achieved, provide for an appropriate performance standard, in

consultation with the NSW Rural Fire Service. If the provisions of the draft LEP permit Special Fire Protection Purposes (as defined under section 100B of the *Rural Fires Act 1997*), the APZ provisions must be complied with,

(c) contain provisions for two-way access roads which links to perimeter roads and/or to fire trail networks,

(d) contain provisions for adequate water supply for firefighting purposes,

(e) minimise the perimeter of the area of land interfacing the hazard which may be developed,

(f) introduce controls on the placement of combustible materials in the Inner Protection Area.

Consistency

(7) A draft LEP may be inconsistent with the terms of this direction only if council can satisfy the Director-General of the Department of Planning (or an officer of the Department nominated by the Director-General) that the council has obtained written advice from the Commissioner of the NSW Rural Fire Service, to the effect that, notwithstanding the non-compliance, the NSW Rural Fire Service does not object to the progression of the draft LEP.

The proposal is to split the Zoning of the property from its current RU2 zone, with the northern part of the site accommodating the Tavern to be Zoned B4, and the southern part of the site to be Zoned R2. The R2 Zone will then be subjected to a residential subdivision.

The NSW Rural Fire Service has produced a document titled " *Practice Note 5/12 - Reuse of rezoning reports on bushfire prone land*". The Practice Note sets out the RFS' position with respect to Reports for rezoning proposals being able to be used for the subsequent subdivision(s) and even individual Section 4.14 (Part 4 - Division 4.3) applications.

When can rezoning bush fire assessments be used for subsequent DAs? Although a development is required to be assessed at multiple stages it is possible for a single bush fire assessment to be used more than once.

For example a bush fire report for rezoning that includes an indicative lot layout with relevant bush fire protection measures and a detailed sit assessment can then be used at the subdivision stage (if circumstances remain the same). To be considered for future DAs, a rezoning report should address the requirements outlined in Clause 44 of the Rural Fires Regulation 2008.

Another example is a bush fire report prepared at the subdivision stage that outlines bush fire protection measures for each specific lot that can then be used at the 79BA stage (if the situation remains the same). For this to occur the bush fire report would need to outline specific construction requirements for each lot in addition to the requirements outlined in Clause 44.

In other cases reports will merely need to be updated to include the relevant development, current site characteristics and specific bush fire protection measures.

In all circumstances, the person responsible for signing off the bush fire report is to be consulted to ensure it has addressed issues specific to the proposed development. Advice is to be obtained that their intellectual property can be used and that copyright will not be breached.

A copy of the proposed lot layout is provided below.

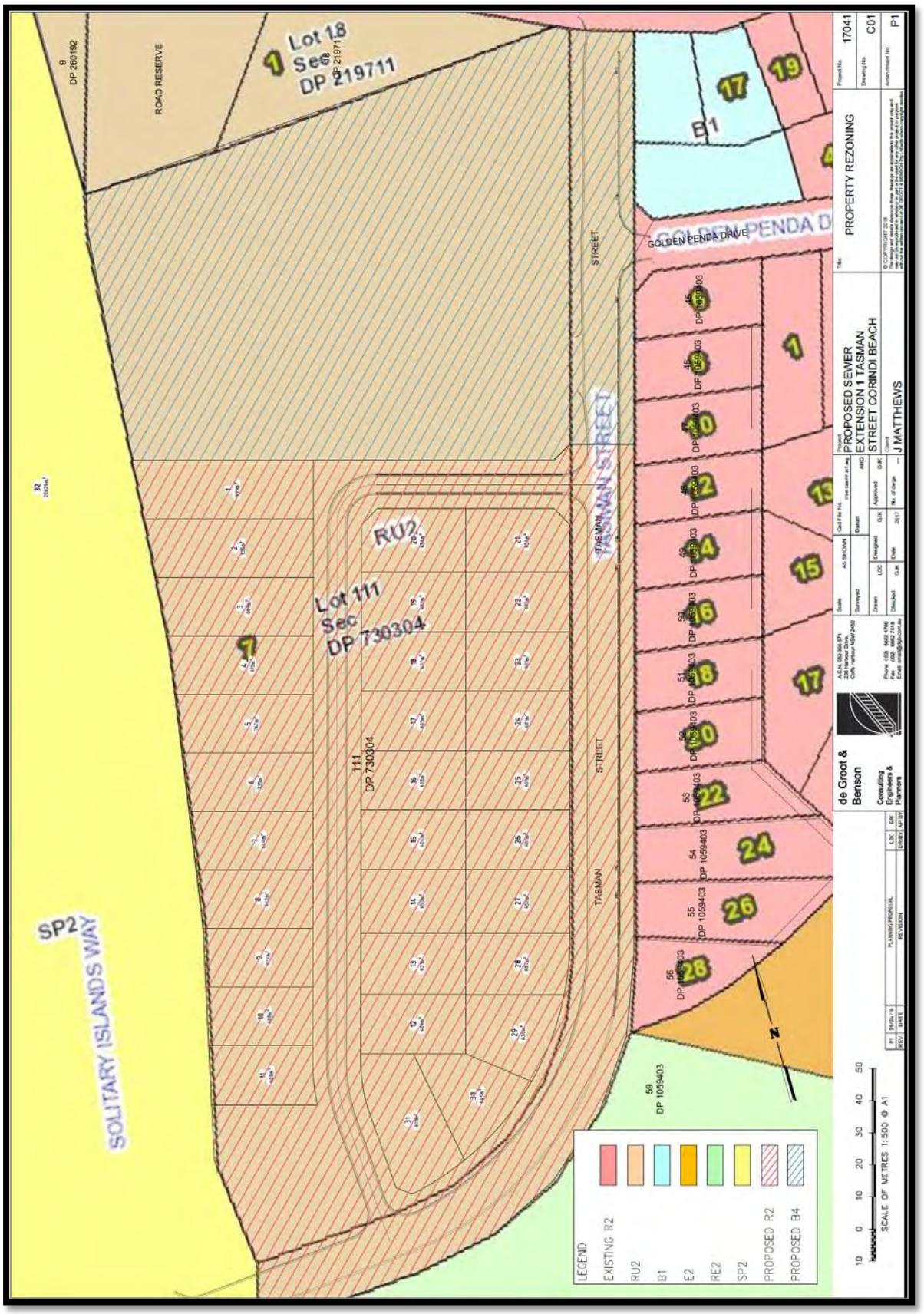

Figure 4: proposed lot layout plan

2.0 VEGETATION AND SLOPE ASSESSMENT

2.1 Vegetation Description

The following procedure is to be adopted when assessing a development at a defined precinct level in order to determine whether the development is bush fire prone and if so, which setbacks will be appropriate:

(a) Determine vegetation formations, as follows:
- *(i) identify all vegetation in all directions from the site for a distance of 140 metres:*
- *(ii) consult Table A2.1 of PBP-2006 to determine the predominant vegetation type; and*
- *(iii) select the predominant vegetation formation as described in Table A2.1 of PBP-2006.*

(b) Determine the effective slope of the land under the Predominant Vegetation Class and the site.

(c) Determine the appropriate fire (weather) area in Table A2.3 of PBP-2006 and note the relevant FDI.

(d) Consult Tables A2.4–2.7 of PBP-2006 and determine the appropriate setback for the assessed land use, vegetation group and slope range.

A vegetation assessment was carried out to include a distance of 140 metres from the proposed dwelling envelope, in all directions. It is determined that the general vegetation description is summarised as follows:

Table 1

ASPECT	VEGETATION DESCRIPTION	EFFECTIVE SLOPE
North	Immediately north-west of the site is a strip of remnant native vegetation consisting of scattered Eucalypts amongst a weed infestation. This remnant is linked with *forest* further north and therefore is not granted the *remnant*-concession afforded in *PBP-2006*. To the north-east of the site is managed land by virtue of the occupied residential properties.	>0° - 5° downslope
East	All of the land within the assessment area to the east of the site is managed land by virtue of the occupied residential properties.	Not applicable
South	To the south and south-east of Tasman Street is a mosaic of *Freshwater wetlands* and *Forested wetlands*. The areas closest to Tasman Street are dominated by Casuarina with scattered Melaleuca.	0° - flat ground
West	To the immediate west of the western boundary is a thin strip of native vegetation. The southern end of the strip is dominated by swamp forest species such as Melaleuca, while the northern portion is dominated by Eucalypts. To the immediate west of the remnant is Solitary	>0° - 5° downslope

	Islands Way with another strip of remnant native vegetation occupying the western edge of the old highway corridor. Further west is managed land by virtue of the occupied rural-residential allotments.	

2.1 Vegetation Classification

Table 2

ASPECT	VEGETATION DESCRIPTION	EFFECTIVE SLOPE
North	*Forest* @ 0m from Business Zone. *Forest* @ 85m from Residential Zone.	>0° - 5° downslope
East	Managed land	Not applicable
South	*Forested wetland* @ 20m from Residential Zone.	0° - flat ground
West	*Remnant* @ 0m from Business Zone. *Remnant* @ 0m from Residential Zone.	>0° - 5° downslope

Figure 5: vegetation and slope assessment summary

3.0 BUSHFIRE ASSESSMENT MATTERS

3.1 Section 117(2) Ministerial Directions

The following sub-sections of this Report will be formulated from the requirements of the Ministerial Directions as stipulated in s.117(2) of the *EP&A Act*.

3.1.1 A draft LEP shall have regard to *PBP-2006*.

This Report will aim to address the requirements of the *EP&A Act* and *PBP-2006* as they relate to the bushfire constraints of the site.

It should be pointed out that *PBP-2006* is primarily concerned with residential development and *Special Fire Protection Purpose* (*SFPP*) developments. Apart from s.4.3.6(f), *PBP-2006* is essentially silent in relation to commercial or industrial land. Whilst commercial and industrial developments do not ordinarily accommodate residential uses, the bushfire-resilience of these types of developments should be no less important from a business-continuity and community-recovery perspective.

In relation to land proposed to be rezoned for residential purposes, or land that could accommodate a development that is defined as a *Special Fire Protection Purpose* development under s.100B of the Rural Fires Act, a Bushfire Assessment should determine those parts of the site that are unsuitable for accommodating residential or *Special Fire Protection Purpose* developments. In relation to this proposal, the plans provided as Figure 9, Figure 10, and Figure 11 of this Report identify the parts of the site that are able to accommodate dwelling envelopes (DEs) and *Special Fire Protection Purpose* developments.

Section 3.2 will address the residential subdivision requirements of *PBP-2006* in more detail.

3.1.2 A draft LEP shall introduce controls that avoid placing inappropriate developments in hazardous areas.

PBP-2006 and *PBP-2001* provide lists of development types that are both suitable, and unsuitable, for bushfire-prone areas, summarised as follows:

Table 3

Not Desirable	Desirable
• Camping grounds • Assembly buildings • Land sharing communities • Commercial and retail premises • Education premises • Prisons • Premises for people with mental or	• Tennis courts • Golf courses • Swimming pools • Cemeteries • Airstrips • Cleared open space / recreation areas

physical incapacities • Hospitals • Flammable material bulk storage • Stock / sale yards • Timber yards • Factories / warehouses • Plantations • Waste disposal / landfill depots • Power generating works • Sawmills • Junk yards • Liquid fuel depots • Offensive and hazardous industries • Chemical industries • Service stations • Ammunition storage/manufacture • Fireworks manufacture/storage	

The LEP should prohibit the listed developments within the bushfire-prone areas (land within 100m of identified bushfire hazard vegetation) of the subject site.

3.1.3 A draft LEP shall ensure that bushfire hazard reduction is not prohibited within the APZ.

There do not appear to be any environmental constraints over the site that would prohibit the future maintenance of APZs. All of the land on the subject site is to have no restriction placed on it that prohibits APZ maintenance. This will include restrictions such as "tree preservation orders" and the like.

Any development consent of future developments on the bushfire-prone land should impose conditions that require the management of vegetation within the development site to ensure that bushfire hazard vegetation does not regenerate on the site.

Also refer to section 3.2.1 below.

3.1.4 For infill development (that is development within an already subdivided area), where an appropriate APZ cannot be achieved, provide for an appropriate performance standard, in consultation with the NSW Rural Fire Service. If the provisions of the draft LEP permit Special Fire Protection Purposes (as defined under section 100B of the *Rural Fires Act 1997*), the APZ provisions must be complied with.

Figure 6

The existing tavern on the site has been declared a Neighbourhood Safer Place, as listed on the NSW Rural Fire Service website. The tavern has already been deemed resilient enough in its current guise to be able to afford a large portion of the population a refuge from bushfire.

3.1.5 Contain provisions for two-way access roads which links to perimeter roads and/or to fire trail networks.

PBP-2006 states it is preferable to have roads interfacing with unmanaged bushfire hazard vegetation rather than individual lots, where practical. The results of the Canberra fires in 2003 would suggest that perimeter roads have their own set of problems. Nonetheless, this proposal provides an internal main road that links with the existing main road at 2 points. The total length of new road is approximately 300m, providing a travel distance from any point on the site to the existing public road of not more than 150m.

The road width (kerb-to-kerb) is shown on the plans to be 6m wide. In order to comply with the provisions of *PBP-2006*, the road width must be a minimum of 6.5m wide as indicated in the following Table, extracted from *PBP-2006*.

Curve radius (inside edge) (metres)	Swept Path (metres width)	Single lane (metres width)	Two way (metres width)
<40	3.5	4.5	8.0
40-69	3.0	3.9	7.5
70-100	2.7	3.6	6.9
>100	2.5	3.5	6.5

Figure 7: Source: AS 2890.2 – 2002

3.1.6 Contain provisions for adequate water supply for firefighting purposes.

Fire hydrants should be located within the footpaths / nature strips at intervals not exceeding 90m. An hydraulic analysis should be undertaken to ensure that flow rates and pressures are commensurate with *AS 2419.1-2005 Fire hydrant installations - System design, installation and commissioning* (10 L/s at 150 kPa).

Some of the existing fire hydrants indicated to be located in Tasman Street were unable to be located, the local water authority should ensure that their records are accurate as the fire services rely on these details, and also ensure that the existing hydrants are visible and operational.

3.1.7 Minimise the perimeter of the area of land interfacing the hazard which may be developed.

The perimeter of the site that interfaces with bushfire hazard vegetation is unable to be altered.

3.1.8 Introduce controls on the placement of combustible materials in the Inner Protection Area.

The scope of the proposed development doesn't allow for perimeter roads or open space recreation areas (such as playgrounds and the like) to be located within the IPA in order to minimise bushfire fuel loads. Such opportunity would enable routine management of those areas to maintain bushfire fuel loads to an acceptable level.

Alternatively, future consents including the subdivision and future dwellings should require the APZs to be provided and maintained in perpetuity.

3.2 CHAPTER 4 OF *PBP-2006*.

3.2.1 Asset Protection Zones

Table 4

ASSET PROTECTION ZONES Intent of measures: to provide sufficient space and maintain reduced fuel loads, so as to ensure radiant heat levels at buildings are below critical limits and to prevent direct flame contact with a building.		**COMPLIES / DOES NOT COMPLY**
Performance Criteria	Acceptable solutions	
The intent may be achieved where:		
• Radiant heat levels at any point on a proposed building will not exceed 29 kW/m^2.	**(1)** An APZ is provided in accordance with the relevant tables/ figures in Appendix 2 of *PBP-2006*.	Complies
	(2) The APZ is wholly within the boundaries of the development site. Exceptional circumstances may apply (see section 3.3)	Complies
• APZs are managed and maintained to prevent the spread of a fire towards the building.	**(3)** In accordance with the requirements of Standards for Asset Protection Zones (RFS, 2005) *Note: A Monitoring and Fuel Management Program should be required as a condition of development consent.*	Complies
• APZ maintenance is practical, soil stability is not compromised and the potential for crown fires is negated.	**(4)** The APZ is located on lands with a slope less than 18°.	Complies

In relation to *Acceptable Solution* 1, the minimum separation / APZ required by Appendix 2 of *PBP-2006* are summarised in the following Table 5, and the following Figure 8.

Table 5

ASPECT	VEGETATION DESCRIPTION	EFFECTIVE SLOPE	MINIMUM APZ (App.2 of *PBP-2006*)
North	*Forest* @ 0m from Business Zone. *Forest* @ 85m from Residential Zone.	>0° - 5° downslope	20m
East	Managed land	Not applicable	
South	*Forested wetland* @ 20m from Residential Zone.	0° - flat ground	15m
West	*Remnant* @ 0m from Business Zone. *Remnant* @ 0m from Residential Zone.	>0° - 5° downslope	10m

Figure 8: summary of APZ distances

In relation to *Acceptable Solution* 2, all of the required setbacks are able to be provided within the subject site being developed, or over the existing roadways.

In relation to *Acceptable Solution* 3, a vegetation management plan should be developed for the site. The purpose of the VMP is to formalise the vegetation management regime over the site where the development is 'Staged'. Essentially the goal for the release of the land should be to ensure that regular management occurs on the un-developed land to ensure bushfire hazard vegetation does not regenerate on the site (the remainder of the site should be managed as an "outer protection area" as described in the NSW Rural Fire Service document titled "Standards for Asset Protection Zones" and Appendix 5 of *PBP-2006*, provided as Appendix A of this Report). These documents have been provided as Appendix A of this Report for the benefit of the Client.

3.2.2 Public Roads

Table 6

ACCESS – PUBLIC ROADS Intent of measures: to provide safe operational access to structures and water supply for emergency services, while residents are seeking to evacuate from an area.		**COMPLIES / DOES NOT COMPLY**
Performance Criteria	Acceptable solutions	
The intent may be achieved where:		
• Firefighters are provided with safe all weather access to structures (thus allowing more efficient use of firefighting resources).	**(5)** Public roads are two-wheel drive, all weather roads.	Complies

• Public road widths and design that allow safe access for firefighters while residents are evacuating an area.	**(6)** Urban perimeter roads are two-way, that is, at least two traffic lane widths (carriageway 8m minimum kerb to kerb), allowing traffic to pass in opposite directions. Non-perimeter roads comply with Table 4.1 – Road widths for Category 1 Tanker (Medium Rigid Vehicle).	Does not comply
	(7) The perimeter road is linked to the internal road system at an interval of no greater than 500m in urban areas.	Not applicable
	(8) Traffic management devices are constructed to facilitate access by emergency services vehicles.	Complies
	(9) Public roads have a cross fall not exceeding 3°.	Complies
	(10) All roads are through-roads. Dead-end roads are not recommended, but if unavoidable, dead-ends are not more than 200m in length, incorporate a minimum 12m outer radius turning circle, and are clearly sign posted as a dead-end and direct traffic away from the hazard.	Complies
	(11) Curves of roads (other than perimeter roads) are a minimum inner radius of 6m and minimal in number, to allow for rapid access and egress.	Complies
	(12) The minimum distance between inner and outer curves is 6m.	Complies
	(13) Maximum grades for sealed roads do not exceed 15° and an average grade of not more than 10° or other gradient specified by road design standards, whichever is the lesser gradient.	Complies
	(14) There is a minimum vertical clearance to a height of 4m above the road at all times.	Complies
• The capacity of road surfaces and bridges is sufficient to carry fully loaded firefighting vehicles.	**(15)** The capacity of road surfaces and bridges is sufficient to carry fully loaded firefighting vehicles (approximately 15 tonnes for areas with reticulated water, 28 tonnes or 9 tonnes per axle for all other areas). Bridges clearly indicate load rating.	Complies
• Roads that are clearly sign- posted (with easily distinguishable names) and buildings/properties that are clearly numbered.	**(16)** Public roads greater than 6.5m wide to locate hydrants outside of parking reserves to ensure accessibility to reticulated water for fire suppression.	Able to comply
	(17) Public roads between 6.5m and 8m wide are "**No Parking**" on one side with the services (hydrants) located on this side to ensure accessibility to reticulated water for fire suppression.	Able to comply

• There is clear access to reticulated water supply.	**(18)** Public roads up to 6.5m wide provide parking within parking bays and locate services outside of the parking bays to ensure accessibility to reticulated water for fire suppression. **(19)** One-way only public access roads are no less than 3.5m wide and provide parking within parking bays and locate services outside of the parking bays to ensure accessibility to reticulated water for fire suppression.	Able to comply Not applicable
• Parking does not obstruct the minimum paved width.	**(20)** Parking bays are a minimum of 2.6m wide from kerb edge to road pavement. No services or hydrants are located within the parking bays. **(21)** Public roads directly interfacing the bush fire hazard vegetation provide roll top kerbing to the hazard side of the road.	Able to comply Not applicable

In relation to *Acceptable Solution* 6, the new internal road will need be at least 6.5m wide as per *PBP-2006* (refer to Figure 7 of this Report).

3.2.3 Property Access Roads

Table 7

ACCESS – PROPERTY ACCESS Intent of measures: to provide safe access to/from the public road system for firefighters providing property protection during a bush fire and for occupants faced with evacuation.		**COMPLIES / DOES NOT COMPLY**
Performance Criteria	Acceptable solutions	
The intent may be achieved where:		
• Access to properties is provided in recognition of the risk to fire fighters and/or evacuating occupants.	**(22)** At least one alternative property access road is provided for individual dwellings (or groups of dwellings) that are located more than 200m from a public through-road.	Not applicable
• The capacity of road surfaces and bridges is sufficient to carry fully loaded firefighting vehicles.	**(23)** Bridges clearly indicate load rating and pavements and bridges are capable of carrying a load of 15 tonnes.	Not applicable
• All weather access is provided.	**(24)** Roads do not traverse a wetland or other land potentially subject to periodic inundation (other than a flood or storm surge).	Not applicable
• Road widths and design enable safe access for vehicles	**(25)** A minimum carriageway width of 4m for rural-residential areas, rural landholdings or urban areas with a distance of greater than 70m from the nearest hydrant point to the most external part of a proposed building (or footprint).	Not applicable

	(26) In forest, woodland and heath situations, rural property access roads have passing bays every 200m that are 20m long by 2m wide, making a minimum trafficable width of 6m at the passing bay.	Not applicable
	(27) A minimum vertical clearance of 4m to any overhanging obstructions, including tree branches.	Not applicable
	(28) Internal roads for rural properties provide a loop road around any dwelling or incorporate a turning circle with a minimum 12m outer radius.	Not applicable
	(29) Curves have a minimum inner radius of 6m and are minimal in number to allow for rapid access and egress.	Not applicable
	(30) The minimum distance between inner and outer curves is 6m.	Not applicable
	(31) The cross-fall is not more than 10°.	Not applicable
	(32) Maximum grades for sealed roads do not exceed 15° and not more than 10° for unsealed roads. *Note: Some short constrictions in the access may be accepted where they are not less than the minimum (3.5m), extend for no more than 30m and where the obstruction cannot be reasonably avoided or removed. The gradients applicable to public roads also apply to community style development property access roads in addition to the above.*	Not applicable
	(33) Access to a development comprising more than 3 dwellings have formalised access by dedication of a road and not by right of way.	Not applicable

In relation to property access roads (driveways), *PBP-2006* provides the following concession for urban areas supplied with a reticulated water supply.

> *Note: No specific access requirements apply in a urban area where a 70m unobstructed path can be demonstrated between the most distant external part of the proposed dwelling and the nearest part of the public access road (where the road speed limit is not greater than 70kph) that supports the operational use of emergency firefighting vehicles (i.e. a hydrant or water supply).*

The property access road provisions of *PBP-2006* will not apply to the site. Additionally, the LEP should ensure that future development complies with the guidelines contained in the Fire & Rescue NSW document "Fire Safety Guideline - Fire Hydrants for Minor Residential Development".
(http://www.fire.nsw.gov.au/gallery/files/pdf/guidelines/guidelines_for_minor_residential.pdf)

3.2.4 Fire Trails

Table 8

ACCESS – FIRE TRAILS Intent of measures: to provide suitable access for fire management purposes and maintenance of APZs.		**COMPLIES / DOES NOT COMPLY**
Performance Criteria	Acceptable solutions	
The intent may be achieved where:		
• The width and design of the fire trails enables safe and ready access for firefighting vehicles	**(34)** A minimum carriageway width of 4m with an additional 1m wide strip on each side of the trail (clear of bushes and long grass) is provided.	Not applicable
	(35) The trail is a maximum grade of 15° if sealed and not more than 10° if unsealed.	Not applicable
	(36) A minimum vertical clearance of 4m to any overhanging obstructions, including tree branches is provided.	Not applicable
	(37) The cross-fall of the trail is not more than 10°.	Not applicable
	(38) The trail has the capacity for passing by: - reversing bays using the access to properties to reverse fire tankers, which are 6m wide and 8m deep to any gates, with an inner minimum turning radius of 6m and outer minimum radius of 12m; and/or - a passing bay every 200m, 20m long by 3m wide, making a minimum trafficable width of 7m at the passing bay. *Note: Some short constrictions in the access may be accepted where they are not less than the minimum (3.5m) and extend for no more than 30m and where obstruction cannot be reasonably avoided or removed.*	Not applicable
• Fire trails are trafficable under all weather conditions. Where the fire trail joins a public road, access shall be controlled to prevent use by non authorised persons.	**(39)** The fire trail is accessible to firefighters and maintained in a serviceable condition by the owner of the land.	Not applicable
	(40) Appropriate drainage and erosion controls are provided.	Not applicable
	(41) The fire trail system is connected to the property access road and/or to the through road system at frequent intervals of 200m or less.	Not applicable
	(42) Fire trails do not traverse a wetlands or other land potentially subject to periodic inundation (other than a flood or storm surge).	Not applicable
	(43) Gates for fire trails are provided and locked with a key/lock system authorized by the local RFS.	Not applicable

• Fire trails designed to prevent weed infestation, soil erosion and other land degradation.	**(44)** Fire trail design does not adversely impact on natural hydrological flows.	Not applicable
	(45) Fire trail design acts as an effective barrier to the spread of weeds and nutrients.	Not applicable
	(46) Fire trail construction does not expose acid-sulphate soils.	Not applicable

No fire trails are proposed as part of this proposal. The bushfire hazard to the north of the site is not accessible from the residential precinct of this proposal, and the bushfire hazard to the west of the site is accessible from the old Pacific Highway.

3.2.5 Utility Services (water, electricity, LPG)

Table 9

SERVICES – WATER, ELECTRICITY, GAS Intent of measures: to provide adequate services of water for the protection of buildings during and after the passage of a bush fire, and to locate gas and electricity so as not to contribute to the risk of fire to a building.		**COMPLIES / DOES NOT COMPLY**
Performance Criteria	Acceptable solutions	
The intent may be achieved where:		
Reticulated water supplies • Water supplies are easily accessible and located at regular intervals.	**(47)** Reticulated water supply to urban subdivisions uses a ring main system for areas with perimeter roads.	Complies
	(48) Fire hydrant spacing, sizing and pressures comply with AS2419.1–2005. Where this cannot be met, the RFS will require a test report of the water pressures anticipated by the relevant water supply authority. In such cases, the location, number and sizing of hydrants shall be determined using fire engineering principles.	Complies
	(49) Hydrants are not located within any road carriageway.	Complies
	(50) All above ground water and gas service pipes external to the building are metal, including and up to any taps.	Complies
	(51) The provisions of parking on public roads are met.	Complies

Electricity Services • Location of electricity services limits the possibility of ignition of surrounding bushland or the fabric of buildings • Regular inspection of lines is undertaken to ensure they are not fouled by branches.	**(52)** Where practicable, electrical transmission lines are underground. **(53)** Where overhead electrical transmission lines are proposed: - lines are installed with short pole spacing (30m), unless crossing gullies, gorges or riparian areas; and - no part of a tree is closer to a power line than the distance set out in accordance with the specifications in 'Vegetation Safety Clearances' issued by Energy Australia (NS179, April 2002).	Complies
Gas services • Location of gas services will not lead to ignition of surrounding bushland or the fabric of buildings	**(54)** Reticulated or bottled gas is installed and maintained in accordance with AS1596 and the requirements of relevant authorities. Metal piping is to be used. **(55)** All fixed gas cylinders are kept clear of all flammable materials to a distance of 10m and shielded on the hazard side of the installation. **(56)** If gas cylinders need to be kept close to the building, the release valves are directed away from the building and at least 2m away from any combustible material, so that they do not act as a catalyst to combustion. Connections to and from gas cylinders are metal. **(57)** Polymer sheathed flexible gas supply lines to gas meters adjacent to buildings are not used.	Able to comply Able to comply Able to comply Able to comply

Fire hydrants should be located within the footpaths / nature strips at intervals not exceeding 90m. An hydraulic analysis should be undertaken to ensure that flow rates and pressures are commensurate with *AS 2419.1-2005 Fire hydrant installations - System design, installation and commissioning* (10 L/s at 150 kPa).

In relation to electricity supplies, the services should be located underground, along with other services such as phone/internet.

All of the *Acceptable Solutions* regarding LPG supplies listed above are able to be addressed at the time of construction of the future dwellings.

3.3 APZ Setbacks and BAL Setbacks

APZ Setbacks (Appendix 2 of *PBP-2006*)

Figure 9: summary of APZ distances for residential developments

BAL Setbacks (*AS3959-2009 Construction of buildings in bushfire-prone areas*)

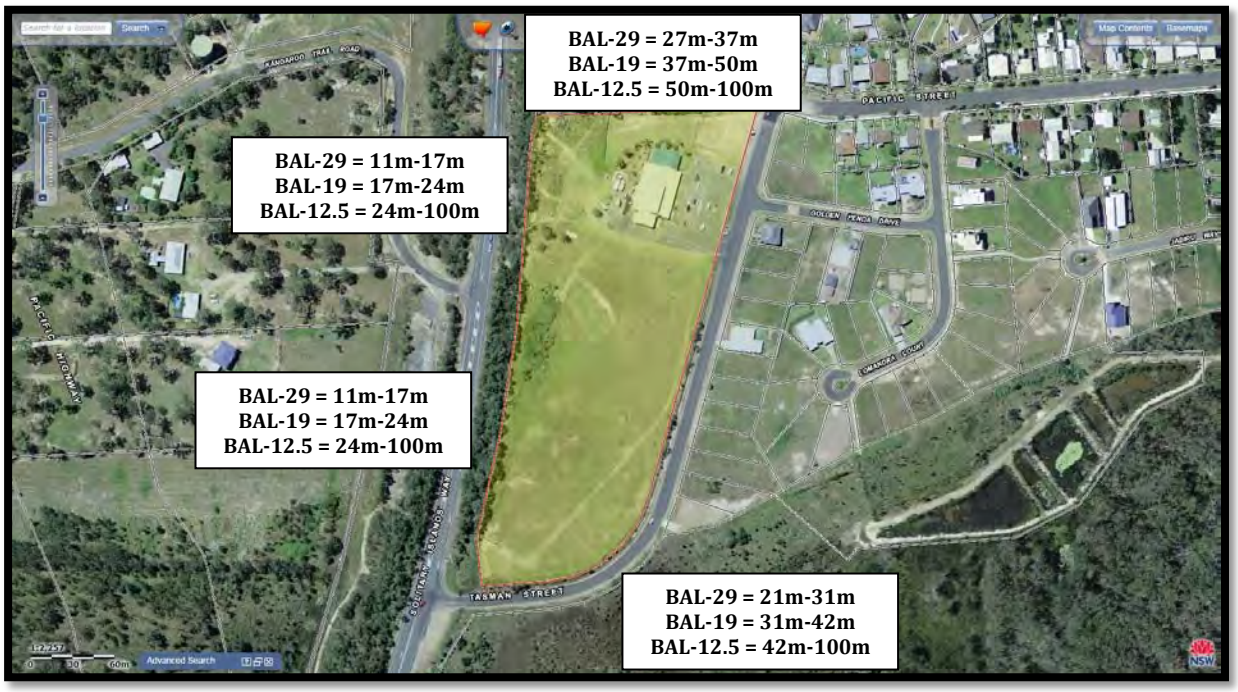

Figure 10: summary of BAL zones

Special Fire Protection Purpose Development Setbacks

Figure 11: summary of setbacks for Special Fire Protection Purpose developments

4.0 SUMMARY / CONCLUSION / RECOMMENDATIONS

The site is located on the southern outskirts of Corindi Beach, on the mid-north coast, and is currently occupied by "The Amble Inn", a tavern/hotel business, located in the northern portion of the site.

The site is constrained, from a bushfire-perspective, generally by vegetation on 3 exposures. Remnant dry sclerophyll forest to the north and west, and swamp sclerophyll forest to the south. All of the land within the assessment area to the east of the site is developed residential lands.

The site has an area of approximately 4.32 hectares, and is accessed off Tasman Street along the eastern boundary of the property. The old Pacific Highway (Solitary Islands Way) is located along the site's western boundary.

The proposal has been measured against the specific requirements outlined in s.117(2) (Ministerial Directions, provided below) of the *EP&A Act 1979*, as well as the residential subdivision provisions of *PBP-2006*.

The proposal is to split the Zoning of the property from its current RU2 zone, with the northern part of the site accommodating the Tavern to be Zoned B4, and the southern part of the site to be Zoned R2. The R2 Zone will then be subjected to a residential subdivision.

The NSW Rural Fire Service accepts that rezoning Reports can also be used for subsequent subdivisions as longs as both the Ministerial Directions and *PBP-2006* are properly addressed.

Apart from road widths, all of the relevant provisions of *PBP-2006* have been, or are able to be, provided. Therefore I support the proposal subject to the following conditions.

1. The LEP should prohibit the undesirable developments, listed in Table 3 of this Report, within the bushfire-prone areas (land within 100m of identified bushfire hazard vegetation) of the subject site.

2. All of the land on the subject site should have no restriction placed on it that prohibits APZ maintenance. This will include restrictions such as "tree preservation orders" and the like.

3. A Vegetation Management Plan should be prepared for the site. The Vegetation Management Plan should address temporary APZs for Staged development, ongoing management to ensure bushfire hazard vegetation does not regenerate on the site.

4. The LEP should provide a mechanism to ensure the Fire & Rescue NSW document "*Fire Safety Guideline - Fire Hydrants for Minor Residential Development*" is included as a policy for future development within the site.

5. Road width should be increased to comply with the dimensions listed in the Acceptable Solutions in Table 6 of this Report.

4.1 Limitation

6.1.1 This Report and the subsequent recommendations reflect the reasonable and practical efforts of the author. It is important to note that the author (and State and Local Government authorities) cannot guarantee that bushfire ignition and subsequent bushfire damage will not occur.

6.1.2 Current legislation is essentially 'silent' in relation to the maintenance of bushfire protection measures. Maintenance is a major factor in the effectiveness of any BPM provided/installed. The extent to which the BPMs are implemented and maintained will affect the probability of achieving adequate bushfire safety margins.

6.1.3 Given the natural phenomenon of bushfires, and limitations in technology and research, a system to guarantee the survival of life and property cannot be made. This is reflected in the following statements of limitations:

> *The goal of 'absolute' or '100%' safety is not attainable and there will always be a finite risk of injury, death or property damage. (*IFEG-2005*)*

> *No development in a bushfire prone area can be guaranteed to be entirely safe from bushfires. (**PBP-2001**)*

> *Notwithstanding the precautions adopted, it should always be remembered that bushfires burn under a wide range of conditions and an element of risk, no matter how small, always remains. (**PBP-2001**)*

4/07/2018

Holiday Coast Bushfire Solutions
Grad. Dip. Design in Bushfire Prone Areas

5.0 REFERENCES

ABCB (2005), *International fire engineering guidelines edition 2005,* Australian Building Codes Board, Canberra.

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NSW Rural Fire Service (2006), *Planning for Bushfire Protection 2006 including Addendum Appendix 3*, Sydney.

NSW Rural Fire Service (2001), *Planning for Bushfire Protection 2001*, Sydney.

NSW Rural Fire Service (2005), *Standards for asset protection zones*, Sydney.

NSW Rural Fire Service (2012), *Practice note 4/12 - 'In principle' masterplan agreements in bush fire prone areas*, Sydney.

NSW Rural Fire Service (2012), *Practice note 5/12 - Reuse of rezoning reports on bushfire prone land*, Sydney.

Standards Australia (1999), *Australian Standard 3959-1999 Construction of buildings in bushfire-prone areas*, Sydney.

Standards Australia (2009), *Australian Standard 3959-2009 Construction of buildings in bushfire-prone areas*, Sydney.

6.0 APPENDICES

Appendix A - Standards for APZs (RFS 2005) and Appendix 5 of *PBP-2006*.

AMBLE INN-2018-17 APPENDIX A

STANDARDS FOR ASSET PROTECTION ZONES

PROPOSED REZONING APPLICATION & SUBDIVISION

LOT 111//730304, TASMAN STREET, CORINDI BEACH.

APPENDIX C – BUSHFIRE HAZARD ASSESSMENT REPORT

standards

for asset protection zones

protection

NSW RURAL FIRE SERVICE

STANDARDS FOR ASSET PROTECTION ZONES

INTRODUCTION

For thousands of years bush fires have been a natural part of the Australian landscape. They are inevitable and essential, as many Australian plants and animals have adapted to fire as part of their life cycle.

In recent years developments in bushland areas have increased the risk of bush fires harming people and their homes and property. But landowners can significantly reduce the impact of bush fires on their property by identifying and minimising bush fire hazards. There are a number of ways to reduce the level of hazard to your property, but one of the most important is the creation and maintenance of an Asset Protection Zone (APZ).

A well located and maintained APZ should be used in conjunction with other preparations such as good property maintenance, appropriate building materials and developing a family action plan.

WHAT IS AN ASSET PROTECTION ZONE?

An Asset Protection Zone (APZ) is a fuel reduced area surrounding a built asset or structure. This can include any residential building or major building such as farm and machinery sheds, or industrial, commercial or heritage buildings.

An APZ provides:

- a buffer zone between a bush fire hazard and an asset;
- an area of reduced bush fire fuel that allows suppression of fire;
- an area from which backburning may be conducted; and
- an area which allows emergency services access and provides a relatively safe area for firefighters and home owners to defend their property.

Potential bush fire fuels should be minimised within an APZ. This is so that the vegetation within the planned zone does not provide a path for the transfer of fire to the asset either from the ground level or through the tree canopy.

WHAT WILL THE APZ DO?

An APZ, if designed correctly and maintained regularly, will reduce the risk of:

- direct flame contact on the asset;
- damage to the built asset from intense radiant heat; and
- ember attack on the asset.

WHERE SHOULD I PUT AN APZ?

An APZ is located between an asset and a bush fire hazard.

The APZ should be located wholly within your land. You cannot undertake any clearing of vegetation on a neighbour's property, including National Park estate, Crown land or land under the management of your local council, unless you have written approval.

If you believe that the land adjacent to your property is a bush fire hazard and should be part of an APZ, you can have the matter investigated by contacting the NSW Rural Fire Service (RFS).

There are six steps to creating and maintaining an APZ. These are:

1. Determine if an APZ is required;
2. Determine what approvals are required for constructing your APZ;
3. Determine the APZ width required;
4. Determine what hazard reduction method is required to reduce bush fire fuel in your APZ;
5. Take measures to prevent soil erosion in your APZ; and
6. Landscape and regularly monitor in your APZ for fuel regrowth.

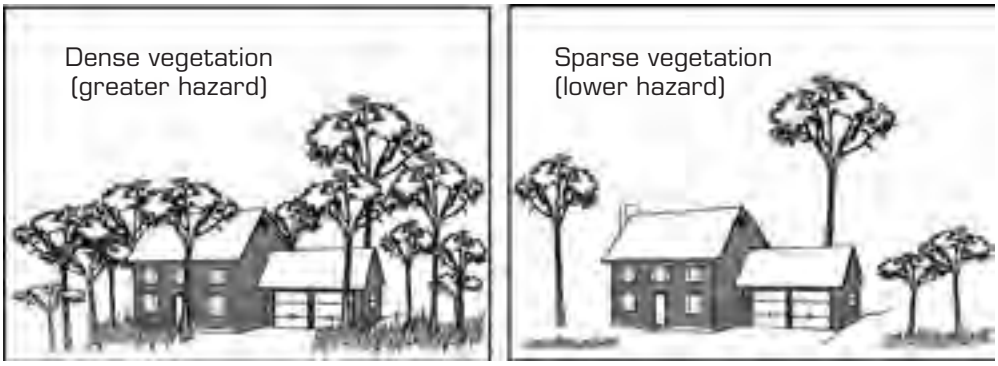
STEP 1. DETERMINE IF AN APZ IS REQUIRED

Recognising that a bush fire hazard exists is the first step in developing an APZ for your property.

If you have vegetation close to your asset and you live in a bush fire prone or high risk area, you should consider creating and maintaining an APZ.

Generally, the more flammable and dense the vegetation, the greater the hazard will be. However, the hazard potential is also influenced by factors such as slope.

- A large area of continuous vegetation on sloping land may increase the potential bush fire hazard.
- The amount of vegetation around a house will influence the intensity and severity of a bush fire.
- The higher the available fuel the more intense a fire will be.



Isolated areas of vegetation are generally not a bush fire hazard, as they are not large enough to produce fire of an intensity that will threaten dwellings.

This includes:

- bushland areas of less than one hectare that are isolated from large bushland areas; and
- narrow strips of vegetation along road and river corridors.

If you are not sure if there is a bush fire hazard in or around your property, contact your local NSW Rural Fire Service Fire Control Centre or your local council for advice.

STEP 2. DETERMINE WHAT APPROVALS ARE REQUIRED FOR CONSTRUCTING YOUR APZ

If you intend to undertake bush fire hazard reduction works to create or maintain an APZ you must gain the written consent of the landowner.

Subdivided land or construction of a new dwelling
If you are constructing an APZ for a new dwelling you will need to comply with the requirements in *Planning for Bushfire Protection*. Any approvals required will have to be obtained as part of the Development Application process.

Existing asset
If you wish to create or maintain an APZ for an existing structure you may need to obtain an environmental approval. The RFS offers a free environmental assessment and certificate issuing service for essential hazard reduction works. For more information see the RFS document *Application Instructions for a Bush Fire Hazard Reduction Certificate* or contact your local RFS Fire Control Centre to determine if you can use this approval process.

Bear in mind that all work undertaken must be consistent with any existing land management agreements (e.g. a conservation agreement, or property vegetation plan) entered into by the property owner.

If your current development consent provides for an APZ, you do not need further approvals for works that are consistent with this consent.

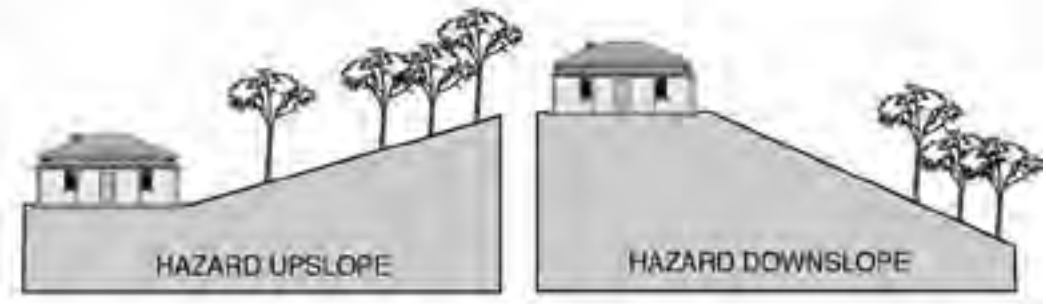
If you intend to burn off to reduce fuel levels on your property you may also need to obtain a Fire Permit through the RFS or NSW Fire Brigades. See the RFS document *Before You Light That Fire* for an explanation of when a permit is required.

STEP 3. DETERMINE THE APZ WIDTH

The size of the APZ required around your asset depends on the nature of the asset, the slope of the area, the type and structure of nearby vegetation and whether the vegetation is managed.

Fires burn faster uphill than downhill, so the APZ will need to be larger if the hazard is downslope of the asset.

Gentle slopes require a smaller APZ distance than steep slopes



A hazard downslope will require a greater APZ distance than a hazard upslope of the asset

Different types of vegetation (for example, forests, rainforests, woodlands, grasslands) behave differently during a bush fire. For example, a forest with shrubby understorey is likely to result in a higher intensity fire than a woodland with a grassy understorey and would therefore require a greater APZ width.

A key benefit of an APZ is that it reduces radiant heat and the potential for direct flame contact on homes and other buildings. Residential dwellings require a wider APZ than sheds or stockyards because the dwelling is more likely to be used as a refuge during bush fire.

Subdivided land or construction of a new dwelling
If you are constructing a new asset, the principles of *Planning for Bushfire Protection* should be applied. Your Development Application approval will detail the exact APZ distance required.

Existing asset
If you wish to create an APZ around an existing asset and you require environmental approval, the Bush Fire Environmental Assessment Code provides a streamlined assessment process. Your Bush Fire Hazard Reduction Certificate (or alternate environmental approval) will specify the maximum APZ width allowed.

For further information on APZ widths see *Planning for Bushfire Protection* or the *Bush Fire Environmental Assessment Code* (available on the RFS website), or contact your local RFS Fire Control Centre.

STEP 4. DETERMINE WHAT HAZARD REDUCTION METHOD IS REQUIRED TO REDUCE BUSH FIRE FUEL IN YOUR APZ

The intensity of bush fires can be greatly reduced where there is little to no available fuel for burning. In order to control bush fire fuels you can reduce, remove or change the state of the fuel through several means.

Reduction of fuel does not require removal of all vegetation, which would cause environmental damage. Also, trees and plants can provide you with some bush fire protection from strong winds, intense heat and flying embers (by filtering embers) and changing wind patterns. Some ground cover is also needed to prevent soil erosion.

Fuels can be controlled by:

1. raking or manual removal of fine fuels
Ground fuels such as fallen leaves, twigs (less than 6 mm in diameter) and bark should be removed on a regular basis. This is fuel that burns quickly and increases the intensity of a fire.

Fine fuels can be removed by hand or with tools such as rakes, hoes and shovels.

2. mowing or grazing of grass
Grass needs to be kept short and, where possible, green.

3. removal or pruning of trees, shrubs and understorey
The control of existing vegetation involves both selective fuel reduction (removal, thinning and pruning) and the retention of vegetation.

Prune or remove trees so that you do not have a continuous tree canopy leading from the hazard to the asset. Separate tree crowns by two to five metres. A canopy should not overhang within two to five metres of a dwelling.

Native trees and shrubs should be retained as clumps or islands and should maintain a covering of no more than 20% of the area.

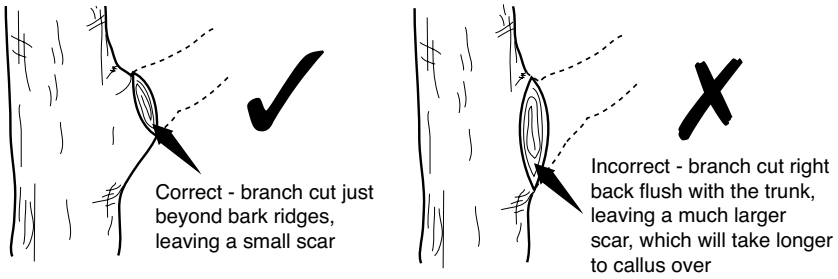
When choosing plants for removal, the following basic rules should be followed:

1. Remove noxious and environmental weeds first. Your local council can provide you with a list of environmental weeds or 'undesirable species'. Alternatively, a list of noxious weeds can be obtained at **www.agric.nsw.gov.au/noxweed/;**
2. Remove more flammable species such as those with rough, flaky or stringy bark; and
3 Remove or thin understorey plants, trees and shrubs less than three metres in height

The removal of significant native species should be avoided.

Prune in acordance with the following standards:

- Use sharp tools. These will enable clean cuts and will minimise damage to the tree.
- Decide which branches are to be removed before commencing work. Ensure that you maintain a balanced, natural distribution of foliage and branches.
- Remove only what is necessary.
- Cut branches just beyond bark ridges, leaving a small scar.
- Remove smaller branches and deadwood first.



There are three primary methods of pruning trees in APZs:

1. Crown lifting (skirting)
Remove the lowest branches (up to two metres from the ground). Crown lifting may inhibit the transfer of fire between the ground fuel and the tree canopy.

2. Thinning
Remove smaller secondary branches whilst retaining the main structural branches of the tree. Thinning may minimise the intensity of a fire.

3. Selective pruning
Remove branches that are specifically identified as creating a bush fire hazard (such as those overhanging assets or those which create a continuous tree canopy). Selective pruning can be used to prevent direct flame contact between trees and assets.

Your Bush Fire Hazard Reduction Certificate or local council may restrict the amount or method of pruning allowed in your APZ.

See the *Australian Standard 4373 (Pruning of Amenity Trees*) for more information on tree pruning.

4. Slashing and trittering
Slashing and trittering are economical methods of fuel reduction for large APZs that have good access. However, these methods may leave large amounts of slashed fuels (grass clippings etc) which, when dry, may become a fire hazard. For slashing or trittering to be effective, the cut material must be removed or allowed to decompose well before summer starts.

If clippings are removed, dispose of them in a green waste bin if available or compost on site (dumping clippings in the bush is illegal and it increases the bush fire hazard on your or your neighbour's property).

Although slashing and trittering are effective in inhibiting the growth of weeds, it is preferable that weeds are completely removed.

Care must be taken not to leave sharp stakes and stumps that may be a safety hazard.

5. Ploughing and grading
Ploughing and grading can produce effective firebreaks. However, in areas where this method is applied, frequent maintenance may be required to minimise the potential for erosion. Loose soil from ploughed or graded ground may erode in steep areas, particularly where there is high rainfall and strong winds.

6. Burning (hazard reduction burning)
Hazard reduction burning is a method of removing ground litter and fine fuels by fire. Hazard reduction burning of vegetation is often used by land management agencies for broad area bush fire control, or to provide a fuel reduced buffer around urban areas.

Any hazard reduction burning, including pile burns, must be planned carefully and carried out with extreme caution under correct weather conditions. Otherwise there is a real danger that the fire will become out of control. More bush fires result from escaped burning off work than from any other single cause.

It is YOUR responsibility to contain any fire lit on your property. If the fire escapes your property boundaries you may be liable for the damage it causes.

Hazard reduction burns must therefore be carefully planned to ensure that they are safe, controlled, effective and environmentally sound. There are many factors that need to be considered in a burn plan. These include smoke control, scorch height, frequency of burning and cut off points (or control lines) for the fire. For further information see the RFS document *Standards for Low Intensity Bush Fire Hazard Reduction Burning,* or contact your local RFS for advice.

7. Burning (pile burning)
In some cases, where fuel removal is impractical due to the terrain, or where material cannot be disposed of by the normal garbage collection or composted on site, you may use pile burning to dispose of material that has been removed in creating or maintaining an APZ.

For further information on pile burning, see the RFS document *Standards for Pile Burning.*

In areas where smoke regulations control burning in the open, you will need to obtain a Bush Fire Hazard Reduction Certificate or written approval from Council for burning. During the bush fire danger period a Fire Permit will also be required. See the RFS document *Before You Light that Fire* for further details.

STEP 5. TAKE MEASURES TO PREVENT SOIL EROSION

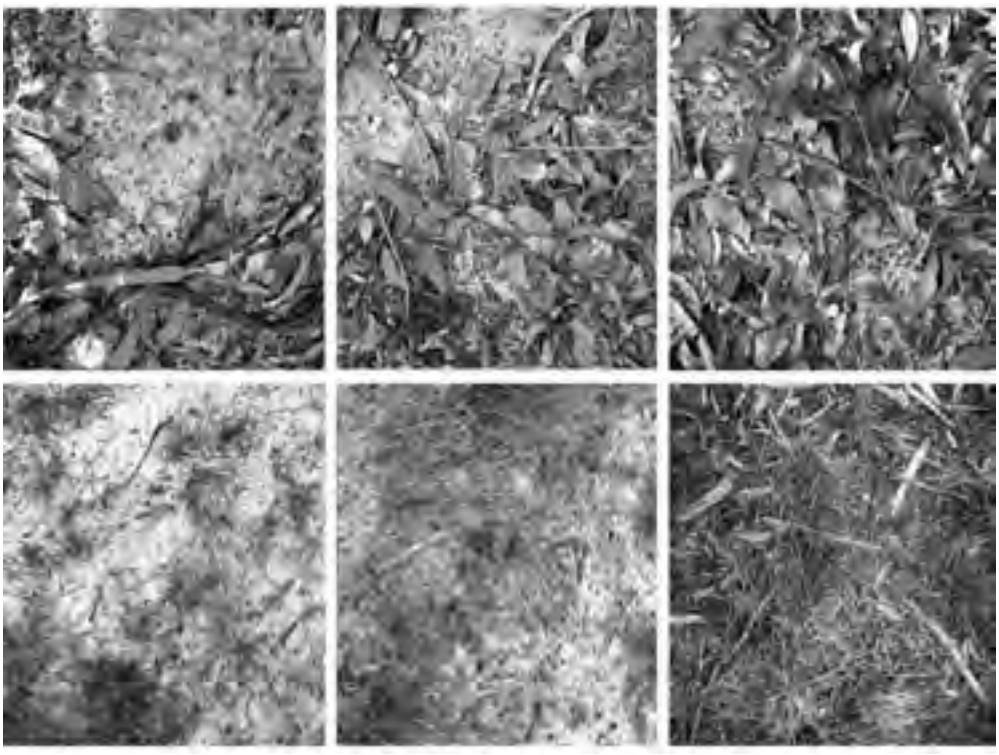
While the removal of fuel is necessary to reduce a bush fire hazard, you also need to consider soil stability, particularly on sloping areas.

Soil erosion can greatly reduce the quality of your land through:

- loss of top soil, nutrients, vegetation and seeds
- reduced soil structure, stability and quality
- blocking and polluting water courses and drainage lines

A small amount of ground cover can greatly improve soil stability and does not constitute a significant bush fire hazard. Ground cover includes any material which directly covers the soil surface such as vegetation, twigs, leaf litter, clippings or rocks. A permanent ground cover should be established (for example, short grass). This will provide an area that is easy to maintain and prevent soil erosion.

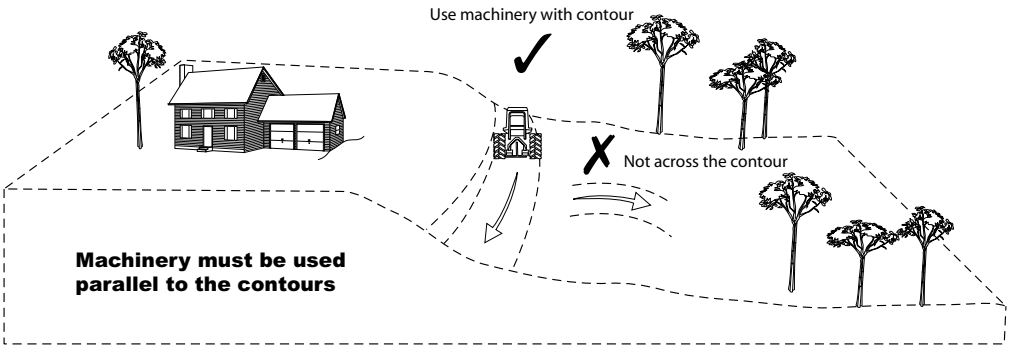
When using mechanical hazard reduction methods, you should retain a ground cover of at least 75% to prevent soil erosion. However, if your area is particularly susceptible to soil erosion, your Hazard Reduction Certificate may require that 90% ground cover be retained.



50% **75%** **100%**

Ground Cover

To reduce the incidence of soil erosion caused by the use of heavy machinery such as ploughs, dozers and graders, machinery must be used parallel to the contours. Vegetation should be allowed to regenerate, but be managed to maintain a low fuel load.



STEP 6. ONGOING MANAGEMENT AND LANDSCAPING

Your home and garden can blend with the natural environment and be landscaped to minimise the impact of fire at the same time. To provide an effective APZ, you need to plan the layout of your garden to include features such as fire resistant plants, radiant heat barriers and windbreaks.

Layout of gardens in an APZ
When creating and maintaining a garden that is part of an APZ you should:

- ensure that vegetation does not provide a continuous path to the house;
- remove all noxious and environmental weeds;
- plant or clear vegetation into clumps rather than continuous rows;
- prune low branches two metres from the ground to prevent a ground fire from spreading into trees;
- locate vegetation far enough away from the asset so that plants will not ignite the asset by direct flame contact or radiant heat emission;
- plant and maintain short green grass around the house as this will slow the fire and reduce fire intensity. Alternatively, provide non-flammable pathways directly around the dwelling;
- ensure that shrubs and other plants do not directly abut the dwelling. Where this does occur, gardens should contain low-flammability plants and non flammable ground cover such as pebbles and crush tile; and
- avoid erecting brush type fencing and planting “pencil pine” type trees next to buildings, as these are highly flammable.

Removal of other materials
Woodpiles, wooden sheds, combustible material, storage areas, large quantities of garden mulch, stacked flammable building materials etc. should be located away from the house. These items should preferably be located in a designated cleared location with no direct contact with bush fire hazard vegetation.

Other protective features
You can also take advantage of existing or proposed protective features such as fire trails, gravel paths, rows of trees, dams, creeks, swimming pools, tennis courts and vegetable gardens as part of the property’s APZ.

PLANTS FOR BUSH FIRE PRONE GARDENS

When designing your garden it is important to consider the type of plant species and their flammability as well as their placement and arrangement.

Given the right conditions, all plants will burn. However, some plants are less flammable than others.

Trees with loose, fibrous or stringy bark should be avoided. These trees can easily ignite and encourage the ground fire to spread up to, and then through, the crown of the trees.

Plants that are less flammable, have the following features:

- high moisture content
- high levels of salt
- low volatile oil content of leaves
- smooth barks without "ribbons" hanging from branches or trunks; and
- dense crown and elevated branches.

When choosing less flammable plants, be sure not to introduce noxious or environmental weed species into your garden that can cause greater long-term environmental damage.

For further information on appropriate plant species for your locality, contact your local council, plant nurseries or plant society.

If you require information on how to care for fire damaged trees, refer to the Firewise brochure *Trees and Fire Resistance; Regeneration and care of fire damaged trees.*

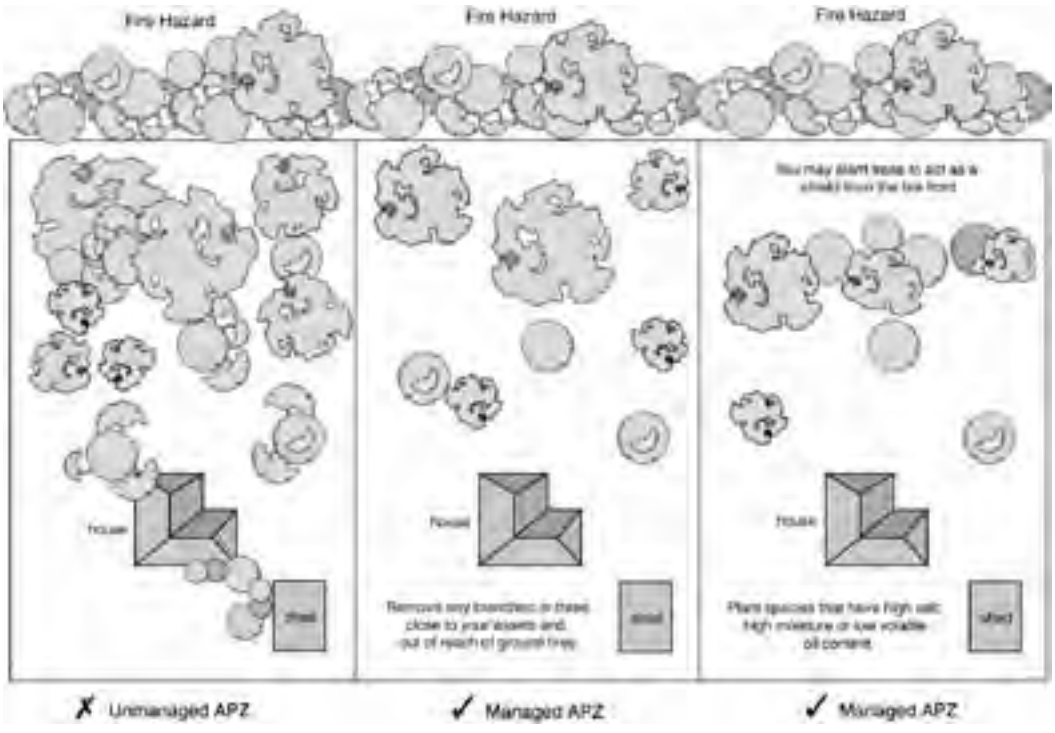
WIND BREAKS

Rows of trees can provide a wind break to trap embers and flying debris that could otherwise reach the house or asset.

You need to be aware of local wind conditions associated with bush fires and position the wind break accordingly. Your local RFS Fire Control Centre can provide you with further advice.

When choosing trees and shrubs, make sure you seek advice as to their maximum height. Their height may vary depending on location of planting and local conditions. As a general rule, plant trees at the same distance away from the asset as their maximum height.

When creating a wind break, remember that the object is to slow the wind and to catch embers rather than trying to block the wind. In trying to block the wind, turbulence is created on both sides of the wind break making fire behaviour erratic.



HOW CAN I FIND OUT MORE?

The following documents are available from your local Fire Control Centre and from the NSW RFS website at **www.rfs.nsw.gov.au.**

- Before You Light That Fire
- Standards for Low Intensity Bush Fire Hazard Reduction Burning
- Standards for Pile Burning
- Application Instructions for a Bush Fire Hazard Reduction Certificate

If you require any further information please contact:

- your local NSW Rural Fire Service Fire Control Centre. Location details are available on the RFS website or
- call the NSW RFS Enquiry Line 1800 679 737 (Monday to Friday, 9am to 5pm), or
- the NSW RFS website at **www.rfs.nsw.gov.au.**

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Appendix 5

Bush Fire Provisions - Landscaping and Property Maintenance

A5.1 Introduction

Bush fires are a natural and periodic event in the Australian landscape. Many Australian plants and animals have adapted to fire over thousands of years and require fire as part of their life cycle.

However, development adjacent to bushland areas has increased the risk of fire impacting on people and their assets. Fire management needs to strike a balance between the protection of life and property and the maintenance of ecological processes and systems.

In Australia, bush fires are inevitable and an essential aspect of the landscape.

However, the impact on property and life can be reduced with responsible preparation and management of bush fire hazards. This is the responsibility of all land managers, as well as communities and individuals taking responsibility for their own fire safety.

The level of protection for life or whether or not a house or other assets survive a bush fire ultimately depends on the landowner and their level of preparedness against bush fire attack.

The planning system can be used to better effect in protecting human life, property and environmental values from the impacts of bush fire events.

In some cases this will involve land use planning and development controls, construction standards, APZs and subdivision layout, siting, design and provision of services. It also involves careful and deliberate consideration of the environmental impacts of these and how we can recognise the need to protect our wetlands, rainforests, koala habitat and other biodiversity and cultural values.

However, the best planning can be undone by poor maintenance and lack of forethought when landscaping a development. Therefore house survival ultimately depends on the householder.

Some maintenance also depends upon adjoining neighbours and upon fuel management in adjacent bush land areas by the owners, occupiers or managers of that land. General housekeeping and maintenance of the grounds by the householder is equally important and, in some cases, may even be more so.

Experience from the Canberra 2003 fires suggests that house losses are greatest in the area up to 250 metres from the bush interface. Distances of less than 100 metres are particularly vulnerable to flame contact, radiant heat and ember attack.

Hence it is within this distance that efforts should be made to prepare for the onslaught of major bush fire events.

While other legislation provides the impetus for planning objectives, the RF Act provides the legislative vehicle to achieve bush fire management objectives.

In this appendix consideration will be given to the principles for landscaping and management, and the role of property maintenance during the fire event.

A5.2 Principles of Protection

Bush fire attack takes essentially five forms;

- wind,
- smoke,
- ember,
- radiant heat and
- flame.

Evidence indicates ember attack is responsible for most bush fire related house fires. Strong winds resulting from severe bush fires will drive embers into vulnerable areas of a building, preheat and dry fuel ahead of a fire, lift roofing and extend flames along a more horizontal plane closer to building elements. Embers can also cause spotting in advance of the bush fire and provide piloted ignition to building elements. To effectively protect a building, strategies must be implemented that separate it from the hazard and reduce the intensity of bush fires to minimise the combined impact of ember, wind, flame and heat attack.

While smoke will cause minimal damage to property, it can severely affect the health of residents. Smoke is a significant factor in areas in which aged or disabled persons reside – hospitals and nursing homes - and more so where residents are susceptible to respiratory disorders.

Radiant heat (measured in kW/m^2) can severely impair firefighting operations, the health of residents and the integrity of building elements. Radiant heat in excess of $10kW/m^2$ can prevent emergency services personnel assisting residents of SFPP developments.

Flame attack will severely restrict firefighting operations, provide piloted ignition to building elements and threaten the health of residents and their capacity to evacuate the area.

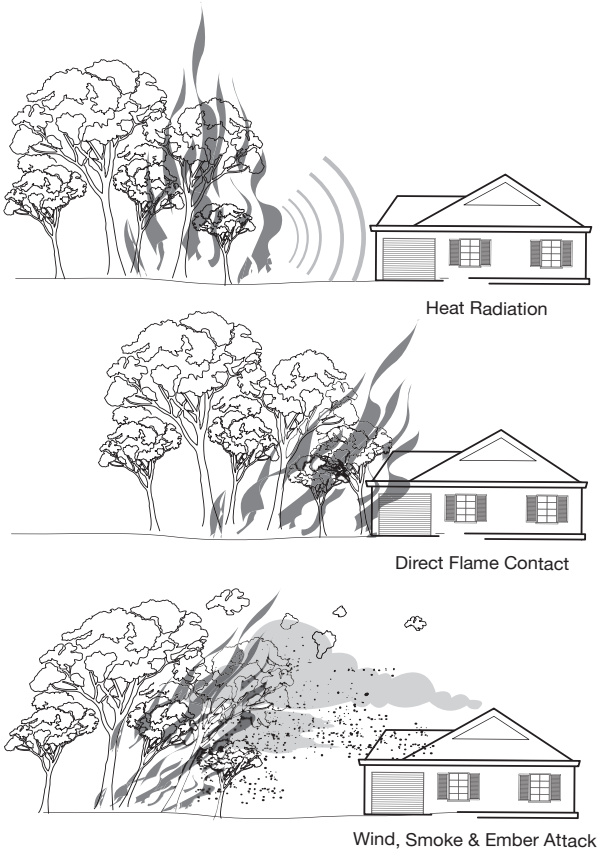

Figure A 5.1 Bush Fire Attack Mechanisms

Overall the intention of bush fire protection measures should be to prevent flame contact to a structure, reduce radiant heat to below the ignition thresholds for various elements of a building, to minimise the potential for wind driven embers to cause ignition and reduce the effects of smoke on residents and firefighters.

A5.3 Principles of Landscaping Properties for Bush Fire Protection

The principles of landscaping for bush fire protection aim to:

- Prevent flame impingement on the dwelling;
- Provide a defendable space for property protection;
- Reduce fire spread;
- Deflect and filter embers;
- Provide shelter from radiant heat; and
- Reduce wind speed.

(a) Vegetation choices

All vegetative material can burn under the influence of bush fire.

With this in mind, careful attention must be paid to species selection, their location relative to their flammability, avoidance of continuity of vegetation (horizontally and vertically), and ongoing maintenance to readily remove flammable fuels (leaf litter, twigs and debris).

In the paper *"Landscape and Building Design for Bushfire Areas"* G.C. Ramsay and L. Rudolph have provided 14 attributes of vegetation which affect bush fire attack. In summary these attributes are:

- Moisture content of leaves;
- Volatile oil content of leaves;
- Mineral content of leaves;
- Leaf fineness;
- Density of foliage;
- Continuity of plant form;
- Height of lowest foliage above ground;
- Size of plant;
- Dead foliage on the plant;
- Bark texture;
- Quantity of ground fuels;
- Fineness of ground fuels;
- Compaction ability of ground fuels; and
- Mineral content of ground fuel.

What is clear is that the higher moisture content of leaves (mesic), the less bark that will be available and the lower the leaf drop, all of which will assist with maintenance of the understorey and will also assist in reducing bush fire attack.

Work in the USA and elsewhere has also suggested that in addition to removal of understorey species, the trimming of lower limbs of trees also assists in reducing fire penetration into the canopy. Trees such as 'pencil pines' and African olive have been attributed with high fire propagation due to the high fine fuel and/or oil content captured within the canopy. This leads to significant flame height. Avoid such species in favour of rainforest species such as Figs and Syzygium.

When choosing plants, be sure not to introduce weed species into an area. Fire events may provide the opportunity for weed species to spread and may contribute fuel to an area of otherwise lower fuel loads.

Contact local councils, plant nurseries and plant societies to determine suitable species for your area.

(b) Trees as Windbreaks

The use of trees as windbreaks is a common practice but trees also provide a useful function, trapping embers and flying debris, which would otherwise reach the house. The tree crown will rarely carry fire unless there is a significant fuel loading on the ground.

By reducing the wind speed, a row of trees also slows the rate of spread of a bush fire and a dense foliage traps radiant heat, lowering bush fire radiant heat.

Because of the effect of turbulence, a balance has to be struck between a high density of trees (that

maximises the trapping of embers and radiant heat but also maximises turbulence) and a lower density (that allows more embers and radiant heat to pass through but minimises turbulence). A windbreak that allows 30–60% of the wind to pass through is ideal as less than this becomes too solid with ember laden winds being carried over the top of the break.

To be effective a windbreak must:

- be located on the side of the lot from which fire weather normally approaches;
- be of sufficient length (generally 100 metres minimum length);
- be located at a distance of one to three times the height of fully grown trees but not within the IPA;
- use smooth barked eucalypts, rainforest trees or deciduous trees;
- make sure there are no breaks of sufficient size to allow winds to funnel through; and
- be separated by sufficient distance from the hazard so as not to be consumed and become a hazard itself.

A5.4 Vegetation Management

Where APZs have been incorporated as part of the development approval for subdivision or for dwelling construction, the environmental aspects of the development should have already been taken into account.

In general, it is expected that APZs will be maintained by the owner of the land including maintenance of any fire trail constructed as part of the development.

It is accepted practice that after construction of a dwelling, gardens will be established and landscaping of the grounds will be undertaken. It is essential that efforts to reduce fuels on adjoining properties are therefore not negated by actions within the immediate curtilage of the building.

In terms of priorities of addressing bush fire attack, priority should be given to preventing flame impingement by not allowing fine debris to accumulate close to the building. Secondly, removal of understorey fuels aids in the reduction of flame heights and likely canopy fire, thereby reducing overall radiant heat. Removal of loose bark and fine fuels reduces both heat output and ember generation, while the retention of taller trees with canopies will also assist in filtering out embers.

To maintain a garden that does not contribute to the spread of bush fires, it is necessary to plan the layout of the garden beds and take an active decision to minimise certain features in favour of other features. These should include:

- maintaining a clear area of low cut lawn or pavement adjacent to the house;
- keeping areas under fences, fence posts and gates and trees raked and cleared of fuel;
- utilising non-combustible fencing and retaining walls
- breaking up the canopy of trees and shrubs with defined garden beds;
- organic mulch should not be used in bush fire prone areas and non flammable material should be used as ground cover, eg Scoria, pebbles, recycled crushed bricks.
- planting trees and shrubs such that:
  - the branches will not overhang the roof;
  - the tree canopy is not continuous; and
  - there is a windbreak in the direction from which fires are likely to approach.

The RFS has developed its document "Standards for Asset Protection Zones" which should be consulted for APZ specifications. This is also available on the RFS web page at www.rfs.nsw.gov.au.

A5.5 Maintenance of Property

Sensible arrangements for landscaping and maintenance of the property are critical in the prevention of losses.

In considering property maintenance the following items should therefore be implemented in advance of the bush fire season:

- removal of material such as litter from the roof and gutters;
- ensure painted surfaces are in good condition with decaying timbers being given particular attention to prevent the lodging of embers within gaps;
- check pumps and water supplies are available and in working order;
- driveways are in good condition with trees not being too close and forming an obstacle during smoky conditions;
- check tiles and roof lines for broken tiles or dislodged roofing materials;
- screens on windows and doors are in good condition without breaks or holes in flyscreen material and frames are well fitting into sills and window frames;
- drenching or spray systems are regularly tested before the commencement of the fire season;
- hoses and hose reels are not perished and fittings are tight and in good order;
- doors are fitted with draught seals and well maintained;
- mats are of non combustible material or in areas of low potential exposure; and
- woodpiles, garden sheds and other combustible materials are located downslope and well away from the house.

Trees and other vegetation in the vicinity of power lines and tower lines should be managed and trimmed in accordance with the specifications in "Vegetation Safety Clearances" issued by Energy Australia (NS179, April 2002).

Myall Coast Archaeological Services
"Tall Pines" Phone: 49971011 Mobile: 0403071922
Tea Gardens. 2324 Email: archaeology@myallcoast.net.au ACN: 002 992 430

Aboriginal and Cultural Heritage Preliminary Assessment

Lot 111 DP730304,
7 Tasman Street,
Corindi Beach

Report to
GEOFF SMYTH & ASSOCIATES
PO Box 1925,
Coffs Harbour NSW 2450
20th, June 2018

By Len Roberts B.A. (Arch/Hist); Grad. Dip. Comp; Dip. Sp. Ed.

Myall Coast Archaeological Services
("Tall Pines", Tea Gardens. 2324 Ph: 49 971011)

Preliminary Aboriginal Heritage Assessment

Table of Contents

1. Introduction

1.1 Background

This report has been prepared at the request of Geoff Smyth and Associates, to assess the possible impact a proposed rezoning may have on Aboriginal Cultural Heritage at Lot 111 DP730304, 7 Tasman Street, Corindi Beach by:

1. Identifying whether or not Aboriginal objects are, or are likely to be, present in an area;
2. Determining whether or not their activities are likely to harm Aboriginal objects (if present); and
3. Determining whether an Aboriginal heritage Impact Permit (AHIP) application is required.

The development proposal is being assessed as a Planning Proposal under the Environmental Planning and Assessment Act (EP&A).

There is no specific proposal per se being considered under this assessment as the results of the assessment will help determine the final layout of the proposal.

Figure 1 illustrates the regional location of the study area; Figure 2 shows the study area in a local context and Figure 3 the proposed development area which excludes a nominated riparian zone between the river and yellow line.

Figure 1 Regional Location

Figure 2 Study area

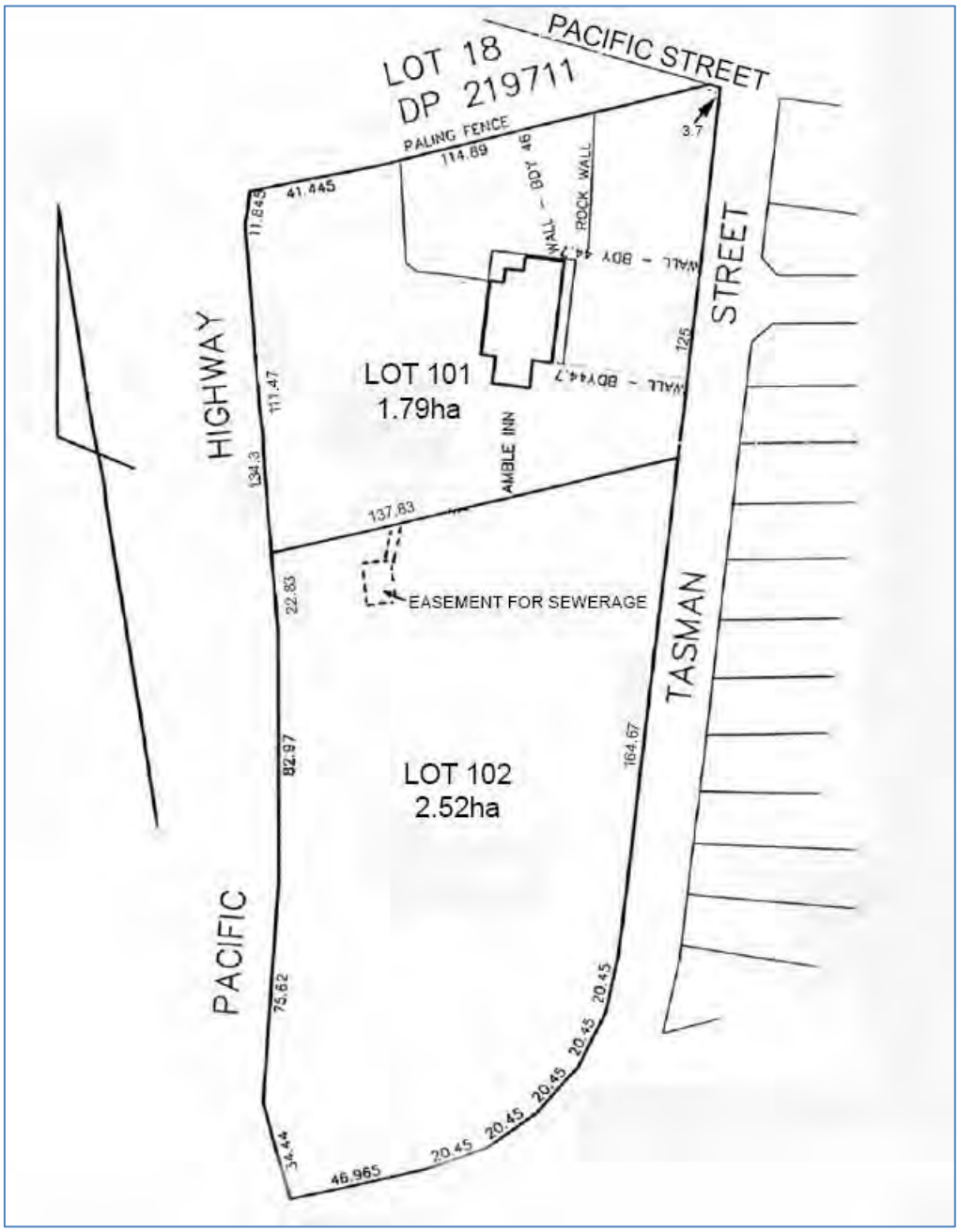

Figure 3 Proposed Development Area (Lot 102)

1.2 Legislative Context

Under Section 52 Aboriginal Land Rights Act 1983, Local Aboriginal Land Council has the following functions in relation to Aboriginal culture and heritage:
(a) to take action to protect the culture and heritage of Aboriginal persons in the Council's area, subject to any other law,
(b) to promote awareness in the community of the culture and heritage of Aboriginal persons in the Council's area.

The primary law which affects the above functions of a land Council is The *National Parks and Wildlife Act 1974*, (NPW Act) administered by the Office of Environment and Heritage (OEH). It has as one of its Objects, the conservation of objects, places and features of significance to Aboriginal people. That is once an object, place or feature is determined to be significant to Aboriginal people it becomes protected by the NPW Act. Section 85 of that Act, vests authority in the Chief Executive to be responsible for: the proper care, preservation and protection of any Aboriginal objects, features and places. It is not the role of a land council to "care" for the object but the Chief Executive of OEH.

'Aboriginal object means any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains.'

Under section 86 of the NPW Act, it is an offence to 'harm' an Aboriginal object. 'Harm' means any act or omission that:

- Destroys, defaces, damages or desecrates the object
- Moves the object from the land on which it had been situated, or
- Causes or permits the object to be harmed.

Harm does not include something that is trivial or negligible.

It is section 87 that overrides the function of a Land Council to protect Aboriginal Culture and heritage.

However, before the power to take "proper care" of an Aboriginal Object by the Chief Executive of OEH, the object must first be determined that it is significant to Aboriginal people.

Such determination can only be made by Aboriginal people and ipso facto by its legislated function; an Aboriginal Land Council.

The regulations under the NPW Act set out a generic *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales*, as well as, a *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* to assess the significance and extent of archaeological evidence in order to apply for an AHIP.

The regulated code links to other planning processes under the EP&A Act and the applicable section in the code referring to the EP&A Act is as follows:

> ***4.1 Development under Part 4 EP&A Act and activities under Part 5 EP&A Act***
>
> *Consideration of the potential impacts of development on Aboriginal heritage is a key part of the environmental impact assessment process under the Environmental Planning and Assessment Act 1979 (EP&A Act). The standards in this code can be used or adapted by proponents to inform the initial assessment of the environmental impacts of an activity on Aboriginal heritage. An environmental impact assessment which meets all of the*

requirements of this code will satisfy the due diligence test. Alternatively, you could adapt the requirements of this code, provided it still meets the ordinary meaning of exercising due diligence (see section 7.7).

If it is found through this initial assessment process that Aboriginal objects will or are likely to be harmed, then further investigation and impact assessment will be required to prepare information about the types of objects and the nature of the harm. If you are going to harm a known Aboriginal object you will need to apply for an AHIP. In this situation, the need to obtain the AHIP is in addition to any approval under the EP&A Act (unless the project is subject to Part 3A EP&A Act).

As the proposal is a planning proposal, Section 117(2) Direction 2.3 of the Environmental Planning and Assessment Act 1979, must be considered, namely;

"A planning proposal must contain provisions that facilitate the conservation of: (a) items, places, buildings, works, relics, moveable objects or precincts of environmental heritage significance to an area, in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item, area, object or place, identified in a study of the environmental heritage of the area, (b) Aboriginal objects or Aboriginal places that are protected under the National Parks and Wildlife Act 1974, and (c) Aboriginal areas, Aboriginal objects, Aboriginal places or landscapes identified by an Aboriginal heritage survey prepared by or on behalf of an Aboriginal Land Council, Aboriginal body or public authority and provided to the relevant planning authority, which identifies the area, object, place or landscape as being of heritage significance to Aboriginal culture and people."

Planning proposals should identify whether Aboriginal cultural heritage values are known or are likely to occur. As a minimum, there should be a preliminary assessment (desktop study with or without a site inspection) as to whether Aboriginal cultural heritage values are known or likely to occur in the area covered by the proposal. If cultural heritage values are known or are likely to occur, the planning proposal should indicate what further studies and consultation will be undertaken post Gateway determination and how Aboriginal cultural heritage values could be addressed through appropriate planning provisions.

It is important to note that The Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (2010) should not be used to support a planning proposal. Due diligence is an assessment of likely harm and not a detailed assessment of Aboriginal cultural heritage values.

The planning proposal must include provisions to facilitate the conservation of Aboriginal cultural heritage values in accordance with Local Planning Direction 2.3. Provisions may include:

- appropriate land use zoning (e.g. E2 conservation)
- redesign of future development to avoid harm
- incorporating areas into passive open space
- recommendations for a Development Control Plan.

If impacts to Aboriginal cultural heritage cannot be avoided, they must be minimised and managed; any impact to Aboriginal cultural heritage can only proceed in accordance with appropriate authorisation (such as an approved Aboriginal Heritage impact Permit (AHIP).

A Planning Proposal assessment would need to be in 2 stages; a preliminary assessment pre gateway and a fuller, more detailed assessment post gateway, if required

This assessment is a preliminary assessment for a pre-gateway determination.

2.0 Assessment Process

According to OEH regulated codes, (Archaeological Code of Practice and Due Diligence Code of Practice for protection of Aboriginal Objects in NSW) the objective of any archaeological investigation (where necessary) is to learn about past human societies through the study of material remains and historical, oral and environmental sources. Archaeological investigations locate, identify and study Aboriginal objects, archaeological deposits and potential archaeological deposits, and historical, oral and environmental sources to provide an assessment of the archaeological significance of the objects and the subject area.

In order to fulfil this objective the following steps need to be undertaken:

- Clearly describe the aims of the project. The rationale for the archaeological assessment must be clearly defined through these aims.
- Present a feasible and appropriate methodology for the archaeological survey and other investigations to ensure that work can be clearly linked to these aims.
- Present the findings and interpretation of the results within a wider context of archaeological knowledge and Aboriginal history.
- Ensure that the findings and interpretation of the results support the assessment of the archaeological significance of the subject area.

The purpose of the Code and Guidelines is to assist individuals and organisations to exercise due diligence when determining whether or not to obtain a permit to harm Aboriginal objects. The National Parks and Wildlife Act 1974 (NPW Act) provides that a person who exercises due diligence in determining that their actions would not harm Aboriginal objects has a defence against prosecution if they later harm an object without an Aboriginal heritage impact permit.

The Codes set out the reasonable and practicable steps which individuals and organisations can take to:

1. identify whether or not Aboriginal objects are present in an area
2. consider whether or not their activities are likely to harm Aboriginal objects (if present)
3. make a reasonable determination as to whether an Aboriginal heritage impact permit is required

The aim of this assessment is to identify the Aboriginal heritage and archaeological values of the proposed study area in particular and the landscape area in totality and the potential impacts on those values as a result of the proposal. Rather than only attempting to identify individual sites across the study area, the assessment also takes a landscaped approach to determine any potential Aboriginal archaeological evidence. This will require the identification of the range of landscape units, which are likely to contain Aboriginal archaeological evidence. This will ensure that the landscape context is assessed for significance. The landscape approach as well as previous archaeological work in the area will determine a predictive model of Aboriginal occupation of the study area.

This will be achieved through Aboriginal stakeholder consultation, surveys and literature.

This assessment also provides recommendations on the management and mitigation of impacts on known and unknown (may be uncovered through post approval work) heritage and values that may be potentially impacted by the proposal.

2.1 Assessment Personnel

The research, visual assessment and report were undertaken by Len Roberts, (BA [Arch.], Grad. Dip. Comp., Dip Sp. Ed.,) who also holds a certificate in Archaeological fieldwork, from Tel Aviv University, Israel. Len has worked on archaeological projects in Australia and overseas. Len is a member (since 1990) and was Deputy Chairperson (2007 -2011) of Karuah Local Aboriginal Land Council and currently Hon. CEO. He was appointed, in 1977, (under S32AV of the Local Government Act 1919) as a part time, non- judicial expert (having, special knowledge of and experience in law, local government administration or town planning administration) member of the Local Government Appeals Tribunal from 1977 until it was replaced by the Land and Environment Court in 1980. He has been an expert witness before the Land and Environment court on Aboriginal heritage matters. Len has also taught English and Society (Australiana) at Beifang University, Yinchuan, China as an invited lecturer in second semester 2011.

Len has undertaken archaeological work for various planning and surveying companies, as well as large organizations such as AMP, Department of Public Works, RTA, Local Government Authorities, Energy Australia, Australian Rail and Track Corporation, Rio Tinto, Woolworths and numerous other clients. The projects have ranged from small aquaculture (at sea), industrial and residential projects to large rezoning proposals, as well as linear surveys for sewerage treatment upgrades, pipelines, transmission lines, wind farms, rail line upgrades and highways.

The assessments have included Due Diligence assessments, gateway determinations, as well as assessments under, Parts 3A, 4 and 5 of the EP & A Act

Len has completed various S90 applications, as well as identifying and recording in excess of 1,000 Aboriginal objects and has authored in excess of 120 reports in the last 15 years.

2.2 Aboriginal Community Consultation

In accordance with the Office of Environment and Heritage (OEH) requirements Aboriginal community consultation needs to be undertaken as a component of the assessment.

The study area is within the Coffs Harbour Local Aboriginal Land Council (CHLALC) area. However, as the study area is in the northern section of their boundary they generally defer comment to the local Aboriginal people who are the Garby Elders Aboriginal Corporation. It is understood that should the application receive Gateway approval and further assessment is required, the Consultation guidelines will be triggered. Garby Elders understand that this is a planning proposal that may or may not receive a Gateway approval and as such are happy for this preliminary assessment to proceed. If however, the preliminary assessment indicates sensitivity they would require a cultural methodology be put in place to recover any Aboriginal cultural material post gateway. Appendix A contains their letter of recommendation.

2.3 Assessment Methodology

Various models have been proposed by archaeologists to explain Aboriginal occupation and use of the landscape environments in NSW.

The predictive or contextual model for the archaeological assessment of the site forms the basis for developing a picture of Aboriginal occupation.

The assessment of the data enables a prediction of what form of Aboriginal occupation was likely to have existed on the study area and would show the potential for finding Aboriginal Sites. A field

survey is then able to evaluate the prediction and to extrapolate reasons as to why the survey did or did not match the prediction.

The study methodology was based on data research and report compilation. The analysis and assessment of the study area's archaeological potential and the impact of the proposal required the completion of the following;

- Research

This involved a review of primary and secondary sources including written material, maps, plans, AHIMS database and other reports as outlined in the reference section (10) of this report.

- Predictive modelling;

This involved an analysis of the research to produce a model of possible archaeological deposits within the study area. In order to conduct the analysis of the research material in an effective and consistent manner the following aspects were examined:

1. Aboriginal heritage values
2. Archaeological record
3. Previous Studies
4. Landscape
5. Soils
6. Geological Features
7. Past land use

To ensure compliance under the S117 direction, it is proposed to undertake a 6 step process:

STEP 1 Preliminary assessment

The main purpose of a preliminary assessment is to identify whether there are Aboriginal cultural heritage values associated with the subject site.

This study will use the OEH Due Diligence process for the preliminary assessment. The due diligence process is a standardised process which enables transparency and can be used for all activities across all environments.

STEP 2 Information Requirements

Aboriginal heritage assessment requires a "multi-value" approach which includes a range of methods to satisfy data/information/reporting needs. The information required for understanding Cultural Landscape includes a range of data sets detailing the physical setting (landscape); the history of the peoples living on that land (documentation from archival and oral sources, as well archaeological information)

STEP 3 Integration of information and identification of heritage values

The synthesis and integration of the information collected will provide the description of the Cultural Landscape to provide the basis for identifying the range of heritage values present. It will also provide the basis for development of criteria to clearly support the identification of areas/places/landscapes/features and sites of high heritage value to be considered as candidates for conservation/protection and/or the consideration of suitable off-set strategies eg community enhancement projects. This assessment will then also support the decisions regarding which

areas/places/landscapes/features and sites will be impacted and any appropriate short and long-term mitigation requirements.

STEP 4 Information regarding the proposed development

This step will identify the nature and extent of the development and impacts on the Aboriginal heritage values across the development area. The extent of impact will include both direct and indirect impacts and their effect on Aboriginal heritage needs to be quantified to ensure that appropriate management in the context of the assessed values can be determined. Indirect impacts may affect sites or features located immediately beyond the development area or within the development area.

STEP 5 Integration of assessment with proposed development

This involves using the above information as the basis for assessing the cultural values against the impacts from any proposed development to identify specific outcomes.

This will include consideration of the following:

- justification for any likely impact(s), including any alternatives considered for the proposal;
- Any measures which will be implemented to avoid, mitigate or offset the likely impact(s).
- Demonstration that the input by affected Aboriginal communities has been considered when determining and assessing impacts, developing options, and making final recommendations to ensure that Aboriginal cultural heritage outcomes can be met by the proposed development.

STEP 6 Management strategy for Aboriginal heritage

This section will set out the specific management outcomes arising from the above assessment stages agreed to by the developer for management of the Aboriginal heritage values. This is to include identification of the final development impacts and the places, sites and landscape areas to be avoided and protected or conserved.

It is also to include, the nature of and location of any offsets, requirements for further work such as, archaeological salvage or community collection for objects of high archaeological or community value; specific on-going management protocols for both physical conservation outcomes and specific Aboriginal community requirements. This would include a contingency plan that details the measures to be taken in the event that Aboriginal objects of significance or a nature not anticipated, such as burials or ceremonial items are discovered during the course of works on the development site.

This assessment is step 1 and Step 2; the other steps will be undertaken post gateway if required.

3.0 Step 1 Preliminary Assessment

The preliminary assessment follows the numerical sequencing and headings of the OEH Due Diligence Code.

3.1 Description of Land and Activity

The study area can generally be described as; Amble Inn, Lot 111 DP730304, 7 Tasman Street, Corindi Beach. The site is bounded by the Pacific Highway on the west, Tasman Street on the south and East and residential development to the north. It is on the main access road from the Pacific Highway to the Residential and beach area of Corindi Beach. The village is situated 33 kilometres (21 mi) north of Coffs Harbour and 50 kilometres (31 mi) south of Grafton. The original village of Corindi is slightly north along the Pacific Highway at Post Office Lane and Casson Close. Corindi means "grey" in local Aboriginal language referring to the pipeclay on the beach.

The land has been used as an adjunct to and the site of Amble Inn established in 1985. It is completely cleared; however there is a well treed buffer between tie study area and the Pacific Highway. It also has established trees along the Tasman Street boundary. It is approximately 5 ha and contains the Amble Inn, substantial carpark and associated infrastructure. It is relatively flat with an AHD around 20m.

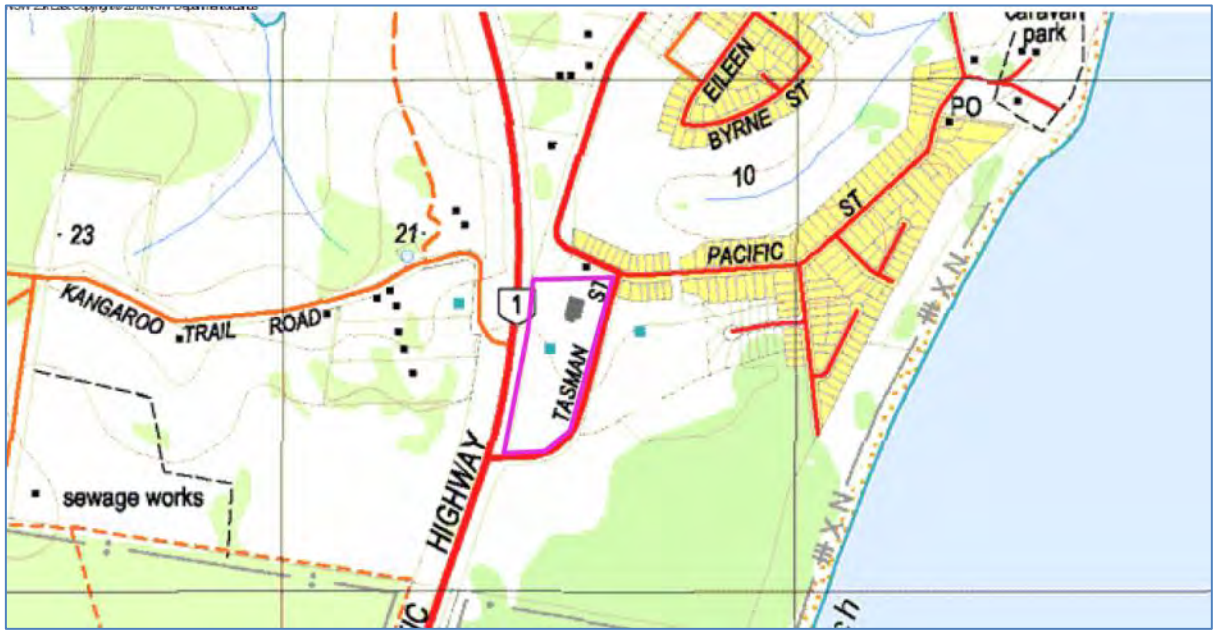

Figure 4 Study area in topographical context

The proposed activity is to subdivide the property by creating a 1.79 Ha property for Amble Inn and subdividing the remainder into some 32 600m2 residential allotments with associated road infrastructure.

Land disturbance will occur through block formation through cutting and filling, road construction and once subdivided; housing construction. Figure 5 following is a topographical representation of the study area (site)

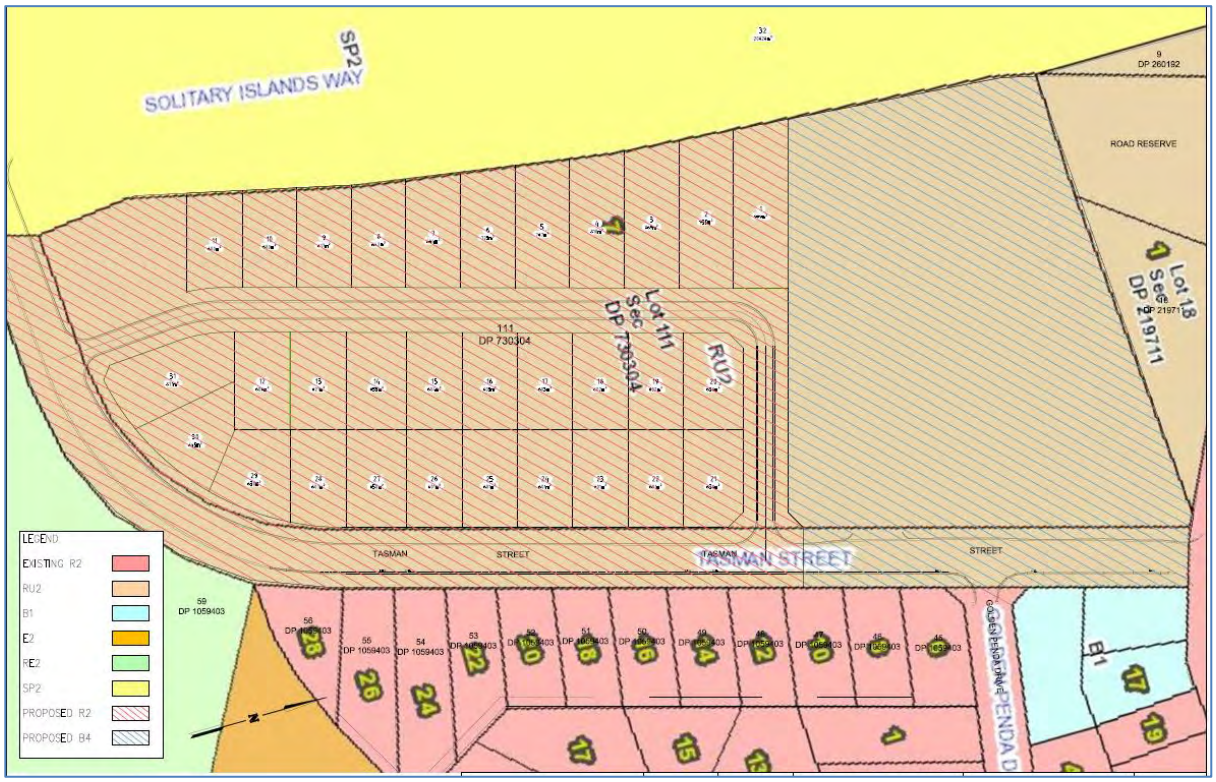

Figure 5 Development Proposal.

3.2 Is the Land defined as "Disturbed Land" or an exempt or complying development?

The NPW Act defines disturbed land as:
" Land that has been previously subjected to any activity that has resulted in clear and observable changes to the land's surface. Examples include: ***soil that has been ploughed;*** *urban development that has occurred; existing rural infrastructure such as dams and fences; existing roads, trails and walking tracks; and other existing infrastructure such as pipelines, transmission lines and stormwater drainage."*

Under a planning proposal, Aboriginal heritage values need to be assessed and not merely as a defence against harming an object through continuing activity. As such, disturbed land in a planning proposal context would constitute a land profile that has been clearly altered through construction, or substantial earthworks, rather than simply having been ploughed. Ploughing may destroy context whereas, construction tends to obliterate.

In this assessment whilst extensive clearing and cultivation has occurred, as the land profile has not been altered in the southern two thirds of the site it will be considered as not disturbed. However the allotment to the north, which contains Amble Inn and carpark, is considered disturbed due to the extensive construction and the alteration of the landscape. It is apparent that any archaeological evidence that may have existed would likely to have been obliterated.

Thus as this assessment is for a planning proposal, the greater proportion of the study area cannot be classified as disturbed in that *there have not been clear and observable changes to the land surface*. However, whilst there are no clear and observable changes to the landform, the soil profile/horizons have been modified and disturbed through lawn and garden preparation.

3.3 Is the activity exempt?
No

3.4 Will the activity involve harm that is trivial or negligible?
No

3.5 Is the activity in an Aboriginal Place or are you already aware of Aboriginal objects on the land?
No

3.6 Is the activity a low impact activity for which there is a defence in the regulation?
No

3.7 Will the activity disturb the ground surface?
Not the proposal per se, as the clearing, infrastructure works and erection of buildings for the proposal will occur at the subdivision and residential construction stages post rezoning.

3.8 Does the Aboriginal Heritage Information Management System suggest potential?
No There are no Objects located within 200m of the study area but 12 are located within 1km. The nearest is a scarred tree some 500m to the east. See section 4 for further detail.

3.9 Is there archaeological potential because the proposal is:

- **within 200m of waters;**
  No
- **located within a sand dune;**
  No.
- **located on a ridge top, ridge line, or headland;**
  No. **located within 200m below or above a cliff face;**
  No
- **within 20m of or in a cave, rock shelter, or a cave mouth;**
  No

3.10 Can harm be avoided to the object or disturbance of the landscape feature?
N/A

3.11 Is Desktop assessment and visual inspection required?
Yes. Desktop assessment is required but a visual inspection is not required at this stage. The desktop assessment forms part 4 of this report (step 2)

3.12 Are further investigations and impact assessment required?
In order to satisfy the opinions of the Aboriginal community an assessment under the Archaeological Code would be warranted post gateway.

4.0 STEP 2 Information Requirements (desktop study)

An understanding of environmental factors within the local landscape provides a context for analysing past human occupation and history of an area. The analysis of environmental factors contributes to the development of the predictive modelling of archaeological sites, as well as providing a basis to contextualise the archaeological material and to interpret patterns of past human behaviour.

In particular, the nature of the local landscape including topography, geology, soils, hydrology and vegetation are factors which affect patterns of past human occupation.

Aboriginal occupation of the landscape and land use practices changed over time. Landuse has the potential to affect the visibility of archaeological material; they may obscure, or expose archaeological sites. In addition, previous disturbances may have exposed archaeological material, such as excavation for dams or other ground disturbing works. It is important that such factors are also considered when making assessments of archaeological resources in an area and understanding the distribution of observed sites.

Whilst this report is primarily focussed on the archaeological aspects of Aboriginal heritage, it is important to acknowledge and assess the importance of Aboriginal cultural context regarding places and landscapes.

4.1 Aboriginal Cultural Context

The estimated minimum viable population of about five hundred was the average size of a so-called tribe in Australia. Several anthropologists feel that 'tribe' does not accurately reflect the interaction and make-up of Aboriginal Australia, preferring the term 'band' to be the most appropriate term to describe the basic social and economic unit of Aboriginal society. It is described as a small-scale population, comprising between 2 to 6 extended family units, who together occupied and exploited a specific area.

The band was by no means a social or cultural isolate but, rather, interacted with other bands in a variety of ways. Typically these interactions involved visits, marriage, ceremonies and trade. As a result of these interactions, clusters of bands were formed; wherein there was a sense of collective identity, often expressed in terms of common and distinctive language.

In recent times the territories of Aboriginal bands generally encompassed the drainage basin of one river and stretched from the shoreline up to the top of an escarpment, another river or prominent landform feature.

The bands developed into regional groupings or cultural areas of interacting Aboriginal societies possessing broadly similar languages, social organisation and customs, material culture and art styles, ways of life and environment. According to the work by Peterson (1986), there is a general correlation between culture areas and major drainage basins, which has been explained on the grounds that a drainage basin is unified by its river system and bounded by its catchment. Water supply determines plant cover and therefore the availability of food and consequently, Aboriginal population density.

The earliest inhabitants were hunters and gatherers living off the abundant wildlife. The varied environment - terrestrial, rivers and estuaries, sand dunes and mountains provided a diet of oysters, fish, turtles, kangaroos, wallabies, possums, pigeons, bats, wild fruits and roots.

Trees were an important resource. In addition to providing the raw materials needed to produce products that were utilised in everyday life, trees also provided access to the birds and animals that

made use of them. Tree climbing using steps gouged by hatchets, allowed aborigines to access a variety of foodstuffs including wild honey, possums, flying foxes koalas and bird eggs.

There is an assumption that prior to European settlement the land was heavily forested. However, according to early settler's accounts and the Aboriginal oral history, this was not so as regular, light burning was the pattern all over Australia at the time of first European contact. The fires were of low intensity, which meant that they consumed the litter of leaves and branches on the forest floors but did not burn down the trees. Walsh, (p26), cites extracts from the accounts of early explorers,

> *"The extracts from letters, diaries and journals of early European settlers, explorers and government officials describe a parklike landscape of grasslands and grassed open forest lands with very few areas of thick forest. The cessation of regular burning following European settlement allowed a growth of thick forest of young trees that, together with an increasing understorey, choked out the grasses."*

Other uses of fire were for longer term hunting strategies. After firing, the Bush would regenerate; new grass would spring up and attract kangaroos and other animals, on which the hunters could prey. Likewise, fire encouraged the regrowth of eucalyptus trees and of edible plant roots. The ashes acted like manure, and sweet, new green shoots would spring up after the first hard rain following the burn.

The term 'fire-stick farming' has been applied to this aspect of hunting. Aborigines never put out their fires. Campfires were left burning, as were signal fires, including those lit in a sequence to indicate the direction of travel of humans or game.

The food resources available controlled the Aboriginal population, which in turn were related to water resources: the areas with the highest rainfall were generally richest in food. When food was difficult to obtain, the food quest simply required more time and effort rather than new strategies. Thus when times were hard, the people could simply move more often and further afield.

The typical Australian Bands economy is flexible with a wide variety of foods being sought and advantages being taken of seasonal abundance or chance events, such as the stranding of a whale. Aboriginal Australia was not vulnerable to famine through the failure of one crop.

The simplicity and self-sufficiency of Aboriginal society was observed by Captain Cook in 1770, and cited in Beaglehole, 1955 (p.399).

> *"From what I have said of the natives of New Holland they may appear to some to be the most wretched people on earth, but in reality they are far more happier than we Europeans. They live in a tranquillity which is not disturbed by the inequality of condition: the air and sea of their own accord furnishes them with all things necessary for life, they covet not magnificent houses, household stuff etc., they lie in a warm and fine climate and enjoy a very wholesome air, so that they have very little need of clothing and this may seem to be fully sensible of, for many to whom we gave cloth etc. to, left it carelessly upon the sea beach and in the Woods as a thing they had no matter of use for. In short they seemed to set no value upon any thing we gave them, nor would they ever part with anything of their own for any one article we could offer them; this in my opinion argues that they think themselves provided with all the necessary's of life and that they have no superfluities."*

The above comment is probably the first recorded by a European with respect to Aboriginal society and culture. It sets the background or the context in which to assess the cultural significance of an area. From a first contact European perspective it appears that items of value were carried and kept whereas, items of little value discarded. Permanent dwellings were of no interest, nor European

belongings. They were not wretched but happy and content. The environment and landscape provided for their needs.

According to Horton (1994) Fig 6, the Band that would be of interest to this survey, would be the family groupings of the Gumbainggir. The Gumbainggir occupied the Mid North Coast from the Nambucca to the Clarence River. Their neighbours to the south are the Dunghutti (Kempsey), to the north, the Bundjalung (Byron Bay area) and to the west, the Ngarabal (Glen Innes) and Nganyaywana (Anaiwan) (Armidale

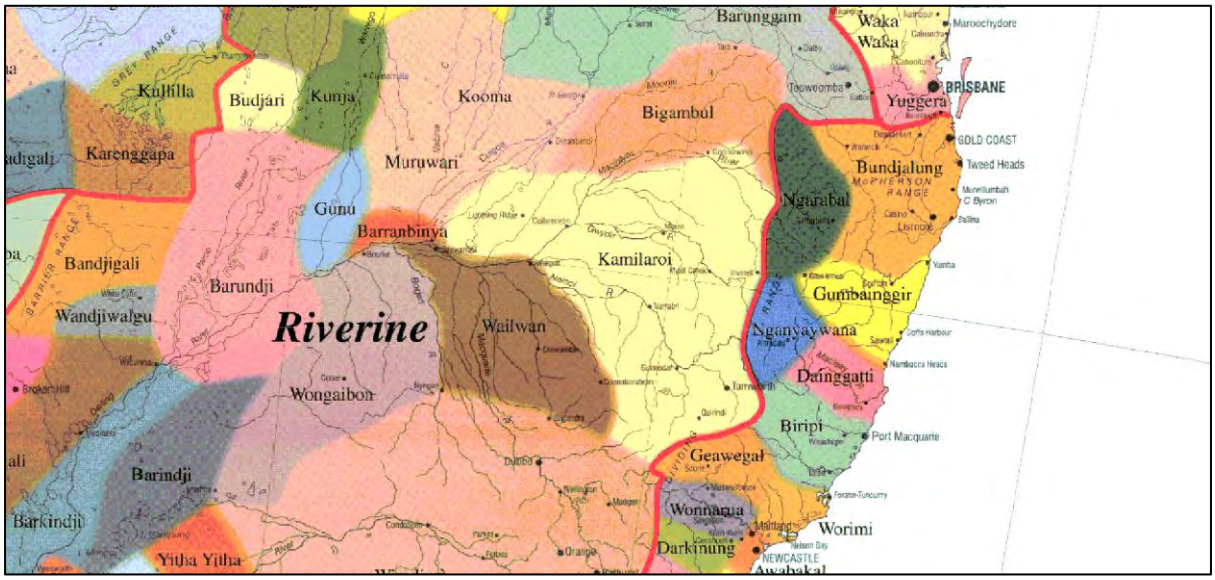

Figure 6 Horton's Map of Aboriginal Territorial Organisation

The Gumbainggir comprised several distinct but interrelated groupings of people, each associated with a separate geographical area. The Gumbainggir people and culture have been described and discussed by a number of European writers and early anthropologists. According to Tindale, 19th century Colonial Surveyor Clement Hodgkinson commented on the Gumbaingirr, describing one Aborigine as:

"pre-eminently remarkable from his tallness and Herculean proportion."

The ethnohistory of the Gumbaingi people has been well researched a by Collins (2016) and an extract of that work is here cited:

"The traditional country of the Gumbainggir (Gumbaynggirr) Aboriginal people extends from the Clarence River at Grafton to at least as far south as Nambucca Heads (Enright 1934; Smythe 1948; Hoddinott 1978; Eades 1979), and encompasses Corindi Beach. At the time of first European incursion, the Gumbainggir comprised several distinct but interrelated groupings of people, each associated with a separate geographical area, the boundaries of which were defined, generally known, and clearly established in mythology (Creamer 1974; cf Chevally 1946). Alliances and linguistic continuities between these land-owning groups were maintained through a system of regulated movement undertaken for ceremonial, ritual, and social/secular purposes (Godwin 1997; Morris 1994).

During the course of everyday life, the Gumbainggir groups operated in smaller kin-related social units that gathered and then dispersed as conditions demanded (Morris 1994:4). As stated by McDougall (1900:116), "each tribe kept its own belt of country, and separated into small camps, and

only collected together on special occasions". "About fifty lived in the camps generally, but at times greater numbers stayed for a few months when food was plentiful" (England undated)."

According to the Aboriginal knowledge holders, many of the artefacts found across the landscape today were generally discards and of little importance, yet they are protected by law, whilst the real value which lies in the landscape and the sense of place ,which provided "all the necessary's of life," is not.

It is important in assessing the cultural significance of a place that one does not focus on the discards but on the connection to land. Whilst all land and all objects are significant to the Aboriginal community as they tell a story of place; past and present, not all objects are seen as "valuable". According to the Aboriginal knowledge holders, stone flakes (for instance) in Aboriginal society are superfluous but grinding grooves, hearths, rock shelters, carved trees and ceremonial grounds indicate a sense of connection to the past and present and valued. Cultural assessment should be seen in the context of "home" not through the nebulous value of stone discards that are generally found at the lowest point in a landscape and from not whence they originated.

4.2 Archaeological Record

The AHIMS database search area places the study area in a very broad archaeological context in which to assess archaeological potential. These individual sites may contain 1 or many artefacts. The search results of the Aboriginal Heritage Management System are found at Appendix B.

There are no objects located within the study area or within 50 metres. However there are 12 Objects within 1km. Figure 7 shows the approximate location.

The majority of objects were located during specific cultural assessments and tend to skew results to only that land which has been investigated. However patterns of Aboriginal land use can be postulated from that information.

It should be noted that in regards to the Database:

• Object records for many places are incomplete to varying degrees: grid references are not always accurate (due to errors on the part of field investigators or data processors) and unless the original site cards and associated reports are accompanied by detailed maps at 1:25,000 scale, it can be very difficult to check the accuracy of the grid references.

• Objects can be sometimes recorded more than once by different field investigators and registered as separate sites or not necessarily recorded.

• Not all reports and cards are available for inspection.

• Recent studies have not as yet been registered.

Within the wider region some studies revealed an abundance of Objects whilst others revealed none. Such a dichotomy of observation of artefacts may be affected by a number of possible factors singularly or in combination; and in order to adequately assess the observational record it is important to address those factors;

- Differences in observer styles
  Whilst observer styles will always play a part in observation of artefacts, it must be noted that within a wide variety of landscape and area the same study teams had areas of high concentration and no concentration of artefacts. Differing archaeological survey teams had the same Aboriginal Sites Officers and therefore minimised style difference. Several areas were surveyed by differing teams independent of each other at different times with no marked difference in the archaeological record. Despite observer styles the survey teams consistently

reinforced the pattern of artefact distribution across the landscape. In addition the archaeologists undertaking the surveys are well qualified and experienced and therefore any differences in observer styles appear not to have affected the archaeological observation.

- Survey visibility
  That is, the extent to which an observer can detect the presence of archaeological material at or below a given place and is generally affected by seasonal factors such as grass cover, level of water in creeks etc. It is a given, that the archaeological record is affected by surface visibility, however it would appear that the visibility across the study areas has been consistent and therefore archaeological observation is equally consistently affected. Surface visibility is not a factor contributing to assessment. However historical landuse is..

- Integrity of soil profile and landscape
  Whether a study area will contain archaeological evidence is dependent on the level of disturbance of a site. Filling, levelling ploughing road construction and other processes will affect observation. Construction, levelling and creation of a park like landscape has affected the soil profile and potential archaeological integrity. That is the soil profile will have been disturbed to such an extent that any archaeological evidence will have a mixed depository stratum.

- Depositional qualities of the study area
  This perhaps is probably the fundamental aspect for concealing/revealing objects. Stone artefacts on slopes will be affected by natural surface processes. Initially deposited on the surface an object will be subjected to differing rates of burial and exposure, dependent upon climactic conditions and bioturbation agents. Objects are known to migrate vertically downwards within a soil profile or be carried over the surface toward a lower landscape by means of wind, rain and other natural processes. Thus a range of natural processes will influence artefact distribution and any interpretation of such distribution must consider the effects and intensity of such natural processes. However, for the purpose of this analysis it is not so much where the objects are found but the densities of any finds, which will tend to indicate the degree or intensity of Aboriginal occupation. The study area does not lend itself to bring a repository for runoff artefacts.

- Aboriginal Occupation Patterns
  The observation or non - observation of artefacts or objects in a given place may be directly proportional to the level of Aboriginal occupation. Taking into account the various natural processes within a landscape and the factors as outlined previously may suggest quite emphatically a pattern of Aboriginal occupation. Areas of danger to children, poor amenity and adverse exposure to the elements, would not be used as frequently if at all, to more favourable locations. The area in a landscape occupation context does not lend itself to intensive occupation.

Comment:

The Database search is not reliable in determining archaeological potential for the study area but does indicate occupation of the Corindi area. An examination of the location of the landscape context of the artefacts reveals that they are generally associated with a water or food source. The artefact scatters tend to be found on elevated ground above swamplands and marsh along the creeks and estuaries. The study area does not have the same attributes as the areas where artefacts have been observed. The entirety of Corindi Beach forms part of a cultural landscape of high traditional, historic and contemporary attachment and value. The study Area itself is remembered as a transit route to the beach and hinterland, but is not known to contain any specific sites/places of special social/cultural or historic importance.

Figure 7 Known Objects on AHIMS as compiled by JP Collins (2016) Aboriginal Cultural Assessment for Central Haven PTY LTD

4.3 Previous Studies

Locally, at least 13 archaeological surveys have been conducted, in the Corindi beach area. Those studies generally identified the Aboriginal Objects registered on the AHIMS Database.

Appleton, J. 1998, The archaeological investigation of the site of a proposed subdivision of Lots 45-50 and 58, DP 752820, Corindi Beach, mid north coast, NSW. Report to Anthony L. Ferris.

Comment

Assessmentforresidentialsubdivision.5 artefact scatters identified within 40m creek banks and ridge. 55 stone artefacts recovered. Area identified for transitory camping. No immediate relevance to study area but reinforces the occupation and importance of the Corindi –Red Rock –Pipe Clay Lake area.

Appleton, J. and W. Beck 1995, The archaeological investigation of the site of the proposed Corindi sewerage scheme north of Coffs Harbour, mid north coast, NSW. Report to the NSW Department of Public Works and Services.

Comment

Sewerage scheme assessment 208 artefacts retrieved from a a ridge crest. Area was identified as a small camp used by transitory groups. *No immediate relevance to study area but reinforces the occupation and importance of the Corindi –Red Rock –Pipe Clay Lake area.*

Cane, S. 1988, The Red Rock mob. Aboriginal relationships with the Red Rock-Corindi Beach area, NSW. Report to Grafton Lands Office.

Comment

An ethnographic assessment to determine Aboriginal relationships with the Red Rock Corindi area. Several small middens identified. No immediate relevance to study area but reinforces the occupation and importance of the Corindi –Red Rock –Pipe Clay Lake area.

Collins, J. 2003, Lot 372 DP 1026829 Pacific Street, Corindi Beach NSW mid-north coast. Cultural heritage assessment. Report to Quarry Dogs Pty Ltd and Northern Blue Pty Ltd.

Comment

An assessment for rezoning to residential land. No archaeological materials or PADs were detected, nor did the allotment contain registered sites or places. On the basis of the survey results, known site distributions and its environmental and disturbance context, it was concluded that Lot 372 has a low level of archaeological sensitivity. Relevance to study area is west of Corindi beachfront as is the study area, but study area is even further west.

Collins, J. 2015, Part Lot 1 DP 507448 and part Lot 4 DP793340, Cox Lane, Corindi, Coffs Harbour LGA. Aboriginal cultural heritage assessment. Report to Coffs Harbour and District Local Aboriginal Land Council and Ajit Singh Nurpuri.

Comment

An assessment of 2 contiguous lots following detection of stone artefacts on one of the lots. It was concluded that the scatter was the discard of simple artefact reduction as an opportunistic stopover.

Collins, J. 2016, Lorikeet Tourist Park and Home Village, Lot 34 DP 600591, 210 Eggins Close, Arrawarra NSW- proposed extension and existing boundary relocation. Aboriginal cultural heritage assessment. Report to Coastplan Consulting.

Comment

2 stone artefacts identified on ridgeline. No immediate relevance to study area but reinforces the occupation and importance of the Corindi –Red Rock –Pipe Clay Lake area.

Collins, J. Planning Proposal, Lot 372 DP 1026829, 97 Pacific Street, Corindi Beach NSW Aboriginal cultural heritage assessment.

Comment

That assessment was an update of the 2003 assessment and was required prior to consideration of a planning proposal. The assessment concluded that there were "no grounds to support the need of any special land use zone/s to protect areas of high Aboriginal cultural heritage value within the Planning Area. It is recommended that no further Aboriginal cultural heritage constraints be placed upon the rezoning as currently proposed."

Dallas, M. and B. Morris 1994, Archaeological and anthropological study of an option of the Corindi Beach sewerage scheme. Report to the NSW Department of Public Works.

Comment

Assessment for a sewerage scheme. Artefacts and a PAD identified. No immediate relevance to study area but reinforces the occupation and importance of the Corindi –Red Rock –Pipe Clay Lake area.

Davies, S.J. 2007, Cultural heritage assessment. Lot 2 DP10132990 197 Red Rock Road, Red Rock, northern NSW. Report to GHD.

Comment

Assessment for residential subdivision in the Red Rock area 52 scarred trees, 12 isolated artefacts 6 artefact scatters 6 cultural places, 2 stone quarries, one area of clay resource and 5 PADs identified. All were identified with historic post European campsites. Davies commented that," seem to represent transient use…". No immediate relevance to study area but reinforces the occupation and importance of the Corindi –Red Rock –Pipe Clay Lake area.

Kuskie, P.J. 2007, Indigenous heritage impact assessment of the proposed upgrade of the Pacific Highway between Woolgoolga and Wells Crossing, NSW. Report to GHD Pty Ltd.

Comment

An assessment for the Pacific Highway Upgrade. 6 artefact scatters containing from 2- 21 stone artefacts and 9 isolated finds. Most were found on ridgelines. Relevance to study area in that study area relates to Pacific Highway and would have been examined in assessment but not of interest but reinforces the occupation and importance of the Corindi –Red Rock –Pipe Clay Lake area

Smith, A. 1997b, Corindi Beach South 1. Excavation report and preliminary results. Report to the Yarrawarra Aboriginal Corporation and the NSW National Parks and Wildlife Service.

Comment

Salvage of eroding midden material on foredune for beach access upgrade. Midden material excavated form 800-1200 years ago. No immediate relevance to study area but reinforces the occupation and importance of the Corindi –Red Rock –Pipe Clay Lake area.

Smith, A. 1998, An archaeological survey and excavation of the Skinner's camp site, Corindi Beach. Report to the Yarrawarra Aboriginal Corporation.

Comment

Subsurface investigation and mapping of post European, historic, Aboriginal campsites. Aboriginal and European artefacts identified. No immediate relevance to study area but reinforces the occupation and importance of the Corindi –Red Rock –Pipe Clay Lake area.

Starling, J. 1974, A survey of Aboriginal sites on the north coast of NSW, 1970-71. Report to the SIM Committee.

Comment

An assessment undertaken prior to sandmining. A shell midden was identified at Corindi Headland. No immediate relevance to study area but reinforces the occupation and importance of the Corindi – Red Rock –Pipe Clay Lake area.

On a state wide basis, several studies have been undertaken which have proven to be definitive works for understanding the correlation of landscape and archaeological potential.

- **Importance of wetlands**

Archaeological investigations by Kuskie (1994), Ruig (1995) and Effenberger and Baker (1996) on margins of various wetlands indicate that artefacts could be found on all types of landscapes abutting wetlands with density in direct correlation to distance from the margin.

Relevance:

The study area is adjacent to a coastal wetland which indicates potential for resources and therefore potential seasonal use of the study area. The following figure indicates the proximity of the wetland (blue) and its area of influence (hatched). The area of influence, based on the above studies, is where the area that may have probability of revealing artefacts. It must be noted development has already occurred within the area of influence and artefacts were not observed.

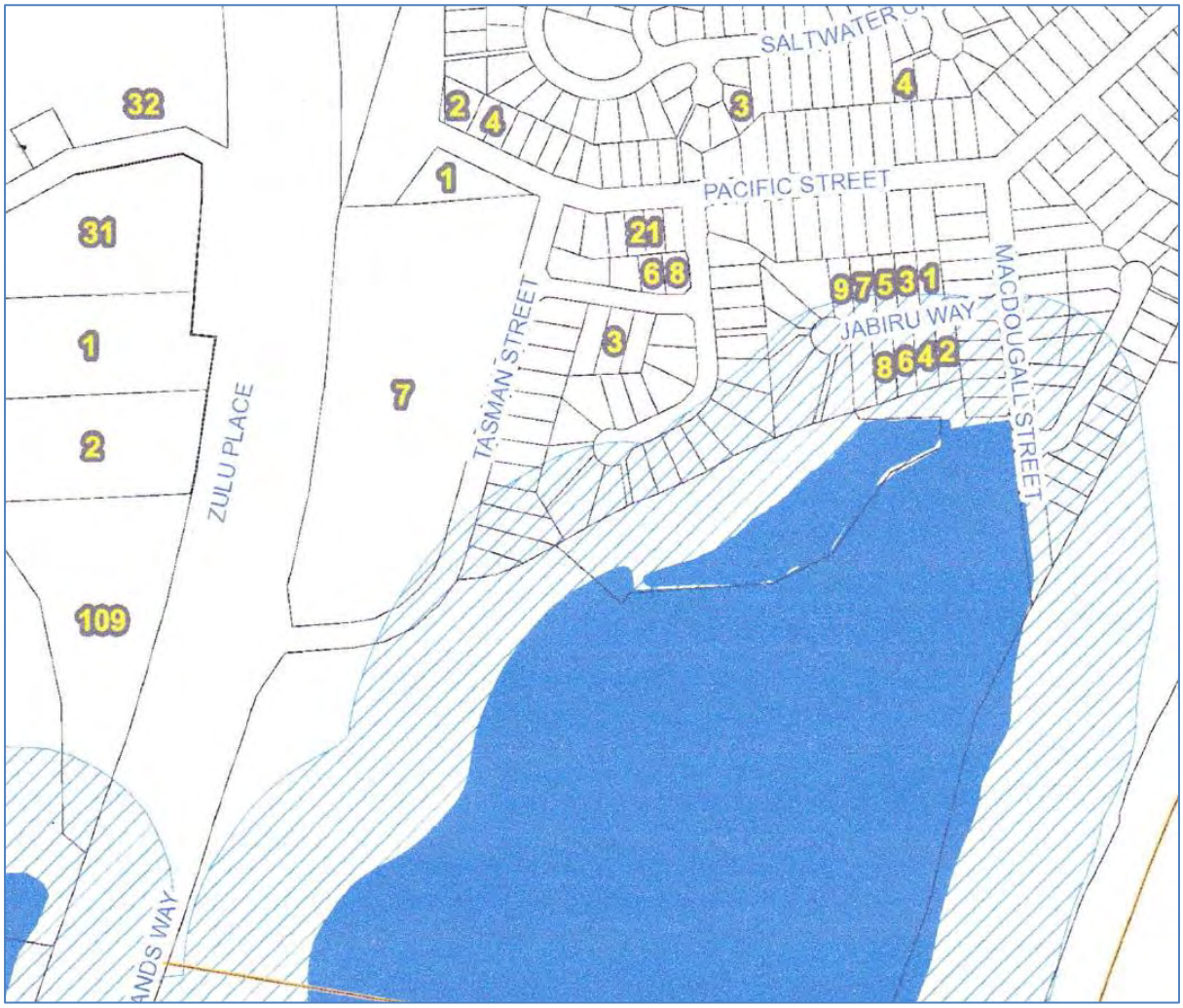

Figure 8 Adjacent Coastal Wetland

- **Relationship of Objects and Distance from Water /Song trails**

A report for the Brigalow country undertaken by the Resource and Assessment Council titled Aboriginal cultural heritage assessment NSW western regional assessments final report September 2002 – Brigalow Belt South Stage 2. This large scale landmark study analysed the finding of separate independent studies and was able to establish an information base that highlighted Aboriginal association with forests, travelling stock routes (early roads), rural properties and towns.

The study showed that of the sites recorded, 50% were within 200 metres of water and Aboriginal occupation may have occurred for prolonged periods under the right conditions, made possible by a different array of water features (chains of ponds) that existed prior to European usage of the forests.

Relevance:
The study area is some distance from permanent water source, however may have formed part of a Song Trail.

- **Relationship between Stream Order and occupation pattern**

A survey by Jo McDonald 1988 was an east west survey from Dubbo to Tamworth. The report found stream order influenced occupation pattern. Stream order is a measure of the relative size of streams. The smallest tributaries are referred to as first-order streams and so on. Her analysis concluded that;

> *"The size (density and complexity) of archaeological features will vary according to the permanence of water (i.e. stream order), landscape unit and proximity to lithic resources in that density and complexity are greater in 4th order (major creeklines and rivers)."*

Relevance:
The study area has no drainage channels.

- **Relationship of landform type and ceremonial areas**

Work by Klaver and Heffernan (1991) identified landscape attributes for ceremonial sites. Citing an earlier work by Fitzpatrick (1986), they stated, "Ceremonial grounds were said to comprise two rings, one on top of a low ridge and the other in a level place below. The latter was…"established in a roomy place, so that all the gins could camp there close to the ring." This aligns with this author's findings at North Arm Cove and Kings Hill, Raymond Terrace.

Relevance:
The study area does not have attributes for ceremonial areas.

- **Relationship between Object type and landscape**

Brayshaw, in 1986 conducted a Study of Colonial Records of the Aborigines of the Hunter Valley and was able to present an account of the environment and way of life of the Aboriginals at the time of colonial settlement. Her study also indicated areas and landforms of Aboriginal use and occupation. Dean-Jones and Mitchell (1993) conducted a similar assessment of archaeological sites in the Hunter Valley.

The above studies indicated:

- Open campsites would be near water holes
- Grinding grooves are more likely to be found in rocky outcrops exposed by erosion or in creek beds.
- Scarred trees may be present in any type of landscape, but this would depend on the age and type of tree.
- Artefacts are more likely to be found along creek and drainage lines
- Stone arrangements and ceremonial artefacts are more likely to be found in significant landscape aspects such as caves and hills.
- Artefacts can be found in any landscape in proximity to an abundant food/water source.
- Archaeological evidence is more likely to occur in undisturbed areas.

Relevance:
The study area has: disturbance through extensive cultivation; does not contain waterholes; has no ceremonial attributes, no rock outcrops and no drainage lines. However it does appear to be part of a song trail connecting the coast to the hinterland.

- **Burials**

With respect to burials, work by Donlon (1990), where she analysed skeletons uncovered on beaches on the Central Coast of NSW, ethnographic reports by Bennett 1929, along with other research cited by Mulvaney and Kamminga (1999), has tended to indicate that whilst burials could be found almost anywhere and diverse in practice, intentional or formal burials, generally in Eastern NSW, consisted of isolated burials being placed in sandy type soil, near the high water mark, and sufficient soil depth to bury the person vertically in a sitting position and with various belongings. In the Central west of NSW according to Garnsey (1942: p.23ff), the body was placed in a squatting position; with the elbows placed on the knees and the head between the hands. In this position, the body was placed at the foot of a Coolabah tree facing east. A blaze on the tree was also carved in tribal markings to show the man's status. These carved trees were apparently only associated with the graves of the spiritual leaders. For the period of mourning, the body remained out of the ground. The only recorded cemeteries are within the Murray River corridor or at Broadbeach in Queensland. Most burials are discovered by accident.

Relevance:
The study area does not have landscape conducive to burials.

- **Occupation Pattern**

A general pattern is emerging that more concentrated remains of Aboriginal occupation are associated with wetland or swamp resources along the principal rivers of the region and/or where resources suitable for the manufacture of tools are present.

The pattern of Aboriginal occupation was underpinned by 2 tenets:

- Aboriginal camping areas were always situated in areas of good shelter and good resources
- Base campsites would be near reliable water.

Comment:
The archaeological evidence suggests that base camps were located close to freshwater and food sources. The campsites were in favourable climactic conditions, safe, not only from intruders but also for young children. Campsites were therefore not near fast, flowing rivers, dangerous swampy areas or steep cliffs. (Many Dreamtime stories were developed to keep children away from dangerous areas). Trails from campsites and to other clans were generally along creek lines or ridgelines.

Although archaeological evidence is generally associated with creeks because they are the lowest elevation and natural depositional areas, it is more likely that camping occurred on higher ground.

The study area constitutes a highly disturbed portion of low-lying floodplain landward of a coastal dune system that contains recorded stratified shell midden and midden lenses. The middens contain a range of cultural materials suggestive of home base occupation rather than use as seasonal camps or shell processing “factories”. Prior to clearing, Lot 372 supported lowland paperbark forest and is unlikely to have ever been conducive to traditional Aboriginal occupation in its own right. While there is little doubt that the allotment would have been visited by seasonal, transitory groups, cultural discard is likely to have been restricted to isolated stone artefacts.

With respect to the study area it appears that it does not have attributes for occupation other than the occasional overnight opportunistic stay.

4.4 Landscape

The differing landscape creates different land use. For instance swampy or poorly drained land would not be conducive to campsites or burial grounds. Whereas, caves and rock shelters would give rise to artwork, and practical purposes such as shelter or women's birthing areas. Early roads, stock routes and river crossings during European settlement often followed Aboriginal Song Trails (walking trails) and natural features adjacent to such trails were of significance for various reasons. Over the years, the main highways and roads have been realigned and adjusted, but initially the roads between settlements which were generally established around Aboriginal camping grounds, followed the Aboriginal trails.

The landscape survey and classification followed in this report is that formulated by Speight and others in the Australian Soil and Land Survey, Field Handbook, Second Edition.

Landform is basically divided into 2 classifications, the classification covering a larger area is known as Landform Pattern, which can then subdivided into smaller areas known as Landform Elements. About 40 types of landform pattern are defined and include, for example, floodplain, dunefield and hills. Whereas, about 70 of the smaller landform elements are defined, including cliff, footslopes and valley flat. Relative elevation classes have been standardised and used throughout Australia. The landscape is divided into the following classes:

Landform	Relative Elevation
Plains	0-9 m
Rises	9-30 m
Low hills	30-90 m
Hills	90-300 m
Mountains	>300 m

Landforms as well as having morphological characteristics (surface dimensions) have been formed by processes. The formation processes can interact to produce an array of landforms. For example, plains can be separated into depositional plains of various kinds or erosional surfaces (peneplain). The formation process contributes to the concealing/revealing and the preserving/destroying of archaeological evidence. The identification of landform is paramount in predicting areas that have the potential to contain archaeological evidence.

Comment:

Topography, hydrology and drainage are important for understanding how accessible an area was for Aboriginal occupation, as well as providing information on available water resources vital to the sustainability of any population.

The study area landform pattern is generally part of the coastal floodplain, with an AHD of approximately 17m - 5m across the site in a north to southeast direction. The following Figure shows the relative landform/ landscape profile of the wider area.

Figure 9 details the landscape context.

Figure 9 Landscape Context

4.5 Soils

Where an archaeological survey is only a surface investigation, any information relating to subsurface information is important, in that it indicates:

- The possibility of archaeological evidence beneath the surface.
- The possibility of archaeological evidence destroyed through erosion or other natural phenomena.
- The possibility of archaeological evidence preserved through soil/sand deposition.

The main soil features of interest are the depth of deposits, stability of the soil composition and the depositional age of the soil groups. Detailed analysis of the effects of different soils on the burial process of archaeological remains can only be carried out during an excavation.

The topsoil or A horizon is where most nutrients, organic matter, seed and macroporosity so desirable for a seedbed exists. If this is stripped away through soil loss the fertility of the soil is lost and productivity reduced. The first few centimetres of soil also generally contain artefacts.

Soils over the land are generally comprised of consolidated alluvial materials. The slopes over the land are not considered steep and there is no evidence of slope instability.

Comment:

The soil characteristics do not indicate any particular artefact holding capacity.

4.6 Geological Features

The geological data allows for analysis of the landscape to determine any special features that may contribute to historical Aboriginal occupation. There may be particular outcrops or features that would suggest significant Aboriginal use.

Comment:

There is no indication of a geological abnormality or feature that would suggest special significance to the landscape.

4.7 Past Land Use

Past Aboriginal activities are not well manifested by archaeological record because many activities did not leave material evidence or because the material evidence was not durable. Many of the implements were organic material, such as wood and bone and readily decayed when exposed to the elements. Even burials, are subject to the acidic condition of the soil.

Durable evidence, such as stone and rock implements, is affected by European land use. Easily recognisable implements such as stone axes, have found their way into many private collections, well before it became illegal to do so, with no record of the location of the find.

In general, the archaeological record is dependent on the exposure of sites through erosion, weathering, fire, drought and anthropogenic activities.

The vegetation within the study area is predominantly Open Forest dominated by various species. The majority of the trees appear to be of a similar age and would probably be less than 20 years of age.

The current vegetation does not give a good indication of the archaeological potential as it is basically regrowth or introduced grasses and pasture and is not necessarily indicative of what was there over 200 years ago.

The variety of vegetation that was probably on the subject site at European contact would also have lent itself to the fostering of animal food resource. Many of the current animal and bird species found on the subject site most probably existed on the site at European occupation although as to the abundance is speculative but probably more intense and greater variety.

- *European*

The subject land has been cleared, undergone substantial construction and landscaped, and is currently maintained for this use.

Implications

The land in the study area has been disturbed by European Activities since 1820. The land has been used for various rural and lifestyle pursuits. Although Aboriginal occupation occurred within the study area, evidence of such occupation appears remote, as the past land use has probably destroyed any likely evidence.

- *Aboriginal*

  The known archaeological evidence tends to suggest that base camps were located close to freshwater and food sources. The campsites were in favourable climactic conditions, safe, not only from intruders but also for young children. Campsites were therefore not near fast, flowing rivers, dangerous swampy areas or steep cliffs. Many Dreamtime stories were told of mythical creatures to keep children away from dangerous areas. Trails from campsites and to other clans were generally along creek lines or ridgelines.

  Prior to European settlement the area was inhabited by Aboriginal people who roamed freely across the river flats and through the timbered hill country. They lived in harmony with the land, only taking what they required from the bounty of game available. They also adopted burning off practices as the new shoots which emerged after fire attracted kangaroos which they surrounded and killed with clubs and spears) barbed with sharp stones.

Implications:

As land was given as freehold to the new settlers, and as fences, farms and houses were constructed, Aboriginal people found it more and more difficult to travel from camp to camp. Many Aboriginal people were forced onto Missions and Reserves. This meant that much of the traditional areas were now occupied and a loss of historical understanding of the relationship between the land and the people has occurred. Such lack of understanding can only be overcome through the stories of the knowledge holders being related to the landscape that was once there.

4.8 Predictive Model

According to Orton (2000),"In archaeology, predictive modelling refers to a process that considers variables that may influence the location, distribution and density of sites, features or artefacts across the landscape. As well as a review of the results of previous archaeological work and available ethnographic information (to make judgements about past Aboriginal settlement of the landscape), the variables often included in a predictive model are environmental and topographic variables such as soils, distance from landscape features, slope, landform elements, and cultural resources."

A predictive model of Aboriginal object location is constructed to identify areas of high archaeological sensitivity (i.e. locations where there is a high probability of an archaeological site occurring), so it can be used as a basis for the planning and management of Aboriginal sites. Predictive modelling involves reviewing existing literature to determine basic patterns of site distribution. These patterns are then modified according to the specific environment of the study area to form a predictive model of site location. A sampling strategy is employed to test the predictive model and the results of the survey used to confirm refute or modify aspects of the model.

The use of land systems and environmental factors in predictive modelling is based upon the assumption that they provide distinctive sets of constraints, which influenced Aboriginal land use patterns. Following from this is the expectation that land use patterns may differ between each zone, because of differing environmental constraints and that this may result in the physical manifestation of different spatial distributions and forms of archaeological remains.

The predictive model is based on information from the following sources:

- Identification of land systems and landform units
- Previous archaeological surveys conducted within the region
- Distribution of recorded sites and known site density
- Traditional Aboriginal landuse patterns
- Known importance of any part of the study area to the local Aboriginal community

The types, contents and distribution of sites within the study area can be predicted using such modelling.

The following raw materials have been identified in the region (in order of frequency) silcrete, shell indurated mudstone, silicified tuff, chert, quartz and other materials. Artefacts types identified in order of frequency are flakes, cores and tools.

An analysis of the density of distribution, site type and landscape context shows that any archaeological evidence will tend to be middens, scarred trees, stone artefacts associated with a watercourse or midden and occasional ceremonial Objects such as grinding grooves will be dependent on a sandstone outcrop associated with a water course. It is not likely that burials or

ceremonial areas will be found given the ethnographic and historical record shows them to be elsewhere. Ceremonial areas, like churches and war memorials today. Tended to serve a wider area.

Where there is a potential for sub-surface deposit with artefacts (such as flaked stone) it is identified as a PAD. Sub-surface deposits are important as they have the potential to contain intact in-situ archaeological material. In some cases, they may contain material that can be placed in chronological sequence. PADs are significant because they may contain new scientific and cultural information and have the potential to further our understanding of past Aboriginal occupation of the region. Generally PADs in the area are associated with middens.

The recorded archaeological data suggests that there is a correlation between watercourses and the presence of Aboriginal sites. There is higher potential for sites to be identified within 200m of a water course, than further away. Sites are likely to occur within flat, open depression, simple slope and crest formations.

The results of past archaeological assessments/investigations and the distribution of recorded sites/materials suggest a landuse system which has resulted in a widespread distribution of usually small scatters of stone artefacts reflective of specialised-activity encampments/stopping places on ridges/spurs and floodplains in close proximity to estuaries, creeks/gullies and swamps within the coastal hinterland.

Prediction of Site Type, Location and Density
Based on the foregoing information (Section 4) the likely site types to be found within the study area depending on the level of disturbance are:

Isolated stone artefacts
These can be located anywhere in the landscape and represent the remnant of a dispersed artefact scatter (open campsite), the simple loss or random discard of artefacts or anthropogenic and natural processes.

Stone artefact scatters (open campsites)
This type of site can range from as few as two stone artefacts to an extensive scatter containing a variety of tools and flaking debris, sometimes with associated materials such as bone, shell, ochre, charcoal and hearth stones. An artefact scatter does not necessarily mark a place where actual camping was carried out, but may instead be the product of specialised and/or short-term activities involving some level of stoneworking or whilst in transit from one occupation area to another. Artefact scatters may occur as surface concentrations or indicate subsurface stratified deposits.

Scarred Trees
Given the cleared nature of the land scarred or modified trees are unlikely.

Location
Artefacts in the wider area have been found on well-drained low-gradient footslope immediately adjacent to a swamp. Low crests or rises for instance, would have a high level of potential sensitivity. The potential location of artefacts within the study area is unlikely.

Density
Based on adjacent recorded average data density of artefacts will be low and generally in the order of less than 3 artefacts per hectare. However, where a concentrated occupation site occurred numerous artefacts possibly into the thousands can be revealed (Davies 2006). It is unlikely that artefacts will be found in any level of concentration.

4.9 Landscape Significance Assessment

It is important to stress that the significance of a cultural landscape is not dependent on archaeological evidence being significant in itself but the interrelatedness of the individual objects to the cultural landscape as a whole. Through understanding the cultural landscape in an holistic manner one may be able to appreciate the associations that may exist between Aboriginal objects and other features within the landscape.

Using the criteria outlined earlier the significance of the study area in an Aboriginal cultural heritage context can be assessed as follows:

- *Social value*

Much of the oral tradition and knowledge has been lost to the Aboriginal communities today. However as research and surveys discover and reveal greater understanding of the past, communities are rediscovering and appreciating what has gone before. At the present time, there does not appear to be spiritual, traditional, historical or contemporary associations and attachments which the place or area has for the present-day Aboriginal community. Similarly there does not appear to be associations with tragic or warmly remembered experiences, periods or events. However that is not to say that discovery of evidence or knowledge of past spiritual connection to the place will not rekindle such association.

- *Historic value*

At this time, there does not appear to be an association of the study area with a person, event, phase or activity of importance to the history of the Aboriginal community.

- *Scientific value*

Technically, there is **NO** scientific value to the study area as there has not yet been any field survey to determine archaeological evidence.

- *Aesthetic value*

The sensory, scenic, and creative milieu of various parts of the landscape does not evoke feelings of a sense of place and its past use.

Comment

Aboriginal Heritage is centred on the Corindi River, Red Rock and the coast and the intransient use of the wider landscape. Whilst all landscapes are of significance to Aboriginal people there are no known areas of archaeological significance within the study area. However there may be a link to a song trail – The Kangaroo Road trail which appears to have been broken by the construction of the Highway and new motorway. That is the study area may have formed part of the song trail.

4.10 Aboriginal Occupation Assessment

Roberts, 2009 formulated 7 key principles to determine probable Aboriginal land use of a particular area.

Using those principles it is possible to place the study area into Aboriginal occupation context and use.

1. Proximity to water

   There is permanent water on site.

2. Food resource

   The study area does not appear to contain any unusual favourable, seasonal or special food resources.

3. Geological features

   There are no unusual, unique or prominent geological attributes within or adjacent to the study area.

4. Ease of access

   The study area is easily accessible on foot for all age groups

5. Connectivity

   The study area may have been part of a song trail that may have linked significant landscape features from the coast to the hinterland..

6. Safety

   The study area is not extremely dangerous or close to dangerous or unhealthy landscapes. However, coastal floodplains were not favoured camping areas because of insects, and lack of freshwater. There does not appear to be natural protection from harsh and extreme weather. There is no particular view.

7. Archaeological evidence

   Only 12 recorded objects are within 1km of the study area and are concentrated closer to the coast. This tends to suggest unlikely archaeological evidence within the study area..

Comment

The information from the above 7 principles indicate:

The study area was occupied by the Aboriginal community as a transitory corridor. Food and other practical resources were available nearby and there were no access constraints. However there are no indications that any of the study area was intensively or extensively used on a permanent basis. The lack of areas such as grinding grooves and low density of archaeological evidence suggest occasional or less intensive use. The landscape and archaeological evidence not too distant from the study area indicate more favourable areas for permanent, occasional and more intensive camping.

The study area was probably used as a resource and rest area on the way to more permanent or intensive occupation sites. There does not appear to be any landscape attributes that would suggest more than occasional opportunistic use.

This desktop assessment has found no evidence to suggest that the proposed rezoning (and any arising development) would affect significant archaeological sites/materials. Given the landscape setting and extensive disturbance already sustained, it is considered that impacts on the archaeological resource (if any) would be restricted to the destruction of a dispersed low density distribution of isolated stone artefacts lost or randomly discarded during the course of transit occupation.

The locations of artefacts cannot be and is not predicted.

Taking all available information into account, it is concluded that the archaeological potential of the study area is not sufficient to warrant further intensive investigation.

Nonetheless, the Garby Elders advise of strong connections to a Song Line utilising the Kangaroo trail and Corindi Beach area. The study area may have formed part of that Song Line. It appears that the highway upgrade may have severed that connection

5.0 Recommendations

Given the archaeological finds across the wider landscape and the cultural knowledge of the area, further intensive archaeological work is not required post gateway to determine the actual likelihood of significant evidence of Aboriginal occupation.

In all probability it is unlikely that any archaeological evidence exists within the study area and development is unlikely to impact potential archaeological evidence.

However an assessment of the cultural connection significance of the relationship of the Song Line to the study area needs to be undertaken.

1. It is therefore recommended that following a positive gateway determination, a post approval cultural values assessment (not an archaeological assessment) be conducted in consultation and collaboration with the Garby Elders to consider and implement appropriate recognition and preservation of historic Aboriginal heritage values and in particular the Song Line of the Corindi Beach and Kangaroo Trail area.
2. That no further archaeological assessment is undertaken.

6.0 Certification

This preliminary Aboriginal heritage assessment was prepared in accordance with the brief given by Geoff Smyth and Associates to assess of the impact of the proposed rezoning on Aboriginal heritage and was undertaken to consider and assess Aboriginal cultural heritage values and to demonstrate a Due Diligence process.

To the best of our knowledge the report accurately reflects the archaeological survey, findings and results, as well as the input and recommendations of the Garby Elders.

Whilst every care has been taken in compiling this report to determine the impact the proposal may have on Aboriginal Heritage and to demonstrate a due diligence process, MCAS cannot warrant or guarantee that due diligence has been met. It is the responsibility of the individual or proponent to ensure that they have undertaken due diligence.

Signed

(Archaeologist)
27/03/2018

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Maps

Central Mapping Authority

Topographical Map NSW 25k East. Copyright © 2010 NSW Department of Lands

Aboriginal Australia

Source*: Aboriginal Australia by David R. Horton. Names and regions as used by D. Horton in his book "The Encyclopaedia of Aboriginal Australia" published in 1994 by Aboriginal Studies Press for the Australian Institute of Aboriginal and Torres Strait Islander Studies.*

8.0 Glossary

Aboriginal Site

I. Occupation Sites

Evidence of human occupation, which includes food remains, stone tools, baked clay, fire-blackened and fire-cracked stones and charcoal, is found in a range of sites known collectively as occupation sites

- *Shell middens.* These sites are found on the coastline and along the edges of rivers and lakes. It is a deposit composed of the remains of edible shellfish and also usually contains fish and animal bones, stone tools and campfire charcoal.

- *Rock shelters with archaeological deposit.* In rock outcrops such as sandstone and granite, overhangs sometimes form creating useable shelters. Sediment from fires, roof fall, discarded stone tools and food remains form a deposit protected within the shelter and this deposit can be excavated by archaeologists to study patterns of Aboriginal life.

- *Open campsites.* These sites are mostly surface and associated subsurface scatters of stone artefacts, sometimes with fireplaces. They exist throughout the landscape and are the most common site type in rural areas, While found in all environmental locations larger and denser sites tend to be found on riverbanks and lower slopes racing watercourses, as well as ridgelines and other areas that offers movement routes. The study or open sites can assist in understanding patterns of Aboriginal land use.

- *Base camp.* This is the name applied to the major or main area of habitation. They tended to be close to a permanent water source and food source. Generally well sheltered. These camps would be rotated for hygiene reasons. They are different to smaller open campsites, which were mainly camps on transport routes or overnight areas on hunting forays.

2. Aboriginal Reserves and Missions

These places are very important to Aboriginal people today. Although Aboriginal people were often moved to reserves by force and were restricted by harsh regulations, the reserves became home to many people, where they and their families were born, lived and died. Historic cemeteries at many reserves are still cared for by the local Aboriginal community.

3. Rock Paintings

Aboriginal paintings are found on the ceilings and walls of rockshelters, which occur wherever suitable rock surfaces and outcrops, exist. Figures include humans, kangaroos, emus, echidnas, grid patterns, animal tracks, boomerangs, axes, hand stencils and other motifs. Paintings are made with white, red, yellow and black pigments. The motifs may be drawn, painted or stencilled, and charcoal drawings are common as well.

4. Rock Engravings

These occur usually where there is a suitable exposure of fairly flat, soft rock or in rock overhangs. The outlines of motifs were made by hitting the rock surface with a sharp stone to make small holes or pits. Sometimes the pits were jointed to form a groove, by rubbing with a stone. People, animal shapes and tracks are common as well as non-figurative designs such as circles.

5. Grinding Grooves

Grooves are located on flat rock exposures close to a stream or rock hole. They vary in size but are generally long (about 30-40cm in length) and elliptical in shape. Stone axes were ground into the softer stone allowing a working edge to be created or sharpened- Deeper grooves may have been used to work spears or other thin implements.

6. Quarries

Quarry sites occur wherever there are outcrops of siliceous or igneous rock. Stone material was used in creating stone tools, which in turn were used to work wood and provide people with tools to assist in hunting

and gathering activities. Siliceous rock is easily flaked and made useful cutting and scraping tools whereas igneous rock was preferred for edge-ground tools, particularly axes.

7. Ceremonial grounds

These sites were used for initiation ceremonies, marriages, tribal meetings and other important functions and are of great significance to Aboriginal people. Bora rings, which are one or more raised earth rings, were used for male initiations.

8. Stone arrangements

These range from simple stone mounds to complex circles and pathways. Arrangements are found throughout inland New South Wales as well as the coast, where fish traps were sometimes constructed.

9. Carved and scarred trees

Tree bark was used for constructing canoes, shelters, coolamons and shields. Distinctive scars are left from bark removal and can usually be differentiated from natural scars. Carved trees are more distinctive, exhibiting patterns etched into the wood of the tree. They can occur throughout the state although clearing and forestry practices have greatly reduced numbers.

A range of diagnostic criteria has been developed to assist in the identification of Aboriginal scarred trees. The following criteria are based on archaeological work conducted by Simmons (1977) and Beesley (I989) It should be noted that these criteria have never been quantitatively tested or quantified using non-relative criteria such as absolute dating or an analysis of pre-occluded scar morphologies. This is because radiocarbon dating or dendrochronology is mostly inconclusive. and the removal of regrowth exposes trees to further damage.

1. **The scar does not normally run to ground level**: (scars resulting from fire, fungal attack or lightning nearly always reach ground level). However, ground termination does not necessarily discount an Aboriginal Origin (some ethno-historic examples of canoe scars reach the ground);

1. (A). **If a scar extends to the ground, the sides of the original scar must be relatively parallel**: (natural scars tend to be triangular in shape):

2. **The scar is either approximately parallel sided or concave, and symmetrical**: (few natural scars are likely to have these properties except fire scars which may be symmetrical but are wider at the base than their apex. Surveyors marks are typically triangular and often adzed);

3. **The scar should be reasonably regular in outline and regrowth**: scars of natural origin tend to have irregular outlines and may have uneven regrowth:

4. **The ends or the scar should be shaped, either squared off, or pointed** (often as a result of regrowth): (a 'keyhole' profile with a 'tail' is suggestive of branch loss);

5. **A scar which contains adze or axe marks** on the original scar surface is likely to be the result of human scarring. Their morphology arid distribution may lend support to an interpretation of an Aboriginal origin: (marks produced after the scarring event may need to be discounted):

6. **The tree must date to the time of Aboriginal bark exploitation within its region**: (an age *of at least* I00 years is prerequisite)

7. **The tree must be endemic to the region**: (and thus exclude historic plantings).

Field based identification of Aboriginal scars, is based on surface evidence only and will not necessarily provide a definitive classification. In many cases the possibility of a natural origin cannot be ruled out, despite the presence or several diagnostic criteria or the balance or interpretation leaning toward an Aboriginal origin. For this reason interpretations of an Aboriginal origin are qualified by the recorder's degree of certainty. The following categories are used

Definite Aboriginal scar - This is a scar that conforms to all of the criteria and/or has in addition a feature or characteristic that provides definitive identification, such as diagnostic axe or adze marks or an historical identification. All conceivable natural causes of the scar can be reliably discounted.

Aboriginal origin is most likely - This is a scar that conforms to all of the criteria and where a natural origin is considered unlikely and improbable.

Probable Aboriginal sear - this is a scar that conforms to all of the criteria and where an Aboriginal origin is considered to be the most likely. Despite this, a natural origin cannot be ruled out.

Possible Aboriginal scar - This is a scar which conforms to all or most of the criteria and where an Aboriginal origin cannot be reliably considered as more likely than alternative natural causes. The characteristics of this scar will also be consistent with a natural cause.

10. Burials

Aborigines feel equally as respectful about prehistoric burials as modern cemeteries. As Aborigines have lived in Australia for over 30 000 years burials are seen as part of a continuing culture and tradition as well as offering valuable archaeological information. The dead wore sometimes cremated, sometimes placed in trees or rock ledges and sometimes buried. Burials exist throughout New South Wales and can be accidentally uncovered in construction work or become exposed through erosion. It is important that if a skeleton is found it be reported to the police, to a representative of the National Parks and Wildlife Service and to the relevant Aboriginal community group.

II. Natural sacred sites

Many features of the landscape, such as mountains, rocks, waterholes etc., are regarded as sacred sites by Aborigines. They are places associated with Dreamtime ancestors and usually can only be identified by Aboriginal people. They retain a high significance to Aborigines.

Fire- stick Farming

The process of burning to aid in hunting. Animals could be speared or clubbed as they fled to escape the flames. Other uses of fire were for long term hunting strategies. After firing, the bush would regenerate attracting animals on which the hunters would prey. (Flood, p250)

Flake fragment of stone that was used as a tool for weapons, scrapers etc.

Geographical

AHD (Australian Height Datum) Australian standard measurement from the mean high sea level.

Swamp. An almost level, closed, or almost closed depression with a seasonal or permanent water table at or above the surface, commonly aggraded by overbank stream flow (Speight1990: 33).

Legal

Activity means a project, development, activity or work (ie this term is used in its ordinary way, and does not just refer to an activity as defined by Part 5 EP&A Act)

Disturbed land or land already disturbed by previous activity Land that has been previously subjected to any activity that has resulted in clear and observable changes to the land's surface. Examples include: soil that has been ploughed; urban development that has occurred; existing rural infrastructure such as dams and fences; existing roads, trails and walking tracks; and other existing infrastructure such as pipelines, transmission lines and stormwater drainage.

Due diligence Taking reasonable and practicable steps to avoid harm and protect Aboriginal objects.

harm an object or place includes any act or omission that:
(a) destroys, defaces or damages the object or place, or
(b) in relation to an object—moves the object from the land on which it had been situated, or

(c) is specified by the regulations, or
(d) causes or permits the object or place to be harmed in a manner referred to in paragraph (a), (b) or (c),
but does not include any act or omission that:
(e) desecrates the object or place, or
(f) is trivial or negligible, or
(g) is excluded from this definition by the regulations.

Sand Dune Refers to sand ridges and sand hills formed by the wind, usually found in desert regions, near a lake or in coastal areas. In areas of Western NSW, windblown dunes can occur along the eastern edges of ephemeral lakes (called lunettes dunes). They can also occur along the banks of rivers.

Waters means the whole or any part of: any river, stream, lake, lagoon, swamp, wetlands, natural watercourse, tidal waters (including the sea). Note: the boundary or tidal waters is defined as the high water mark. [2]

9.0 Appendix

(A) Karuah Local Aboriginal Land Council letter
(B) AHIMS Results

APPENDIX A

Garby Elders Aboriginal Corporation
172 Red Rock Road
CORINDI BEACH NSW 2456
ABN: 98 500 493 497

3rd April 2018

Geoff Smyth & Associates
Town Planning & Development Advice
PO Box 1925
COFFS HARBOUR NSW 2450

Re: Proposed Rezoning Amble Inn, 7 Tasman Street, Corindi Beach Lot 111 DP 730304

Dear Geoff

We the Garby Elders wish to express our interest in the above proposed rezoning Amble Inn, 7 Tasman Street, Corindi Beach Lot 111 DP 730304 as per letter received from your service to Milton Duroux dated 9th March 2018.

We wish to advise that we the Garby Elders of Corindi Beach have very strong cultural connections all over Corindi Beach and surrounding areas this includes Kangaroo Trial all the way through to McDougall Street's ridge line and adjacent slopes this is known as McDougall's run which leads a walking path down to Nambucca Heads which takes in the your proposed development.

We have notified Office of Environment and Heritage (OEH) of your intentions and advise that we would strongly recommend that a cultural methodology be put in place before any excavation commences prior to the proposed rezoning to recover all cultural artefacts/tools or skeletal (human) remains.

We appreciate your cooperation and look forward to your reply, if any further information is required please contact out senior sites officer on number provided below.

Yours sincerely

Deborah Dootson
For Garby Elders Aboriginal Corporation
Cecil (Uncle Bing) Laurie - Garby Elder/Director
Milton Duroux - Director
Noeline Dootson - Director
Anthony Dootson - Garby Elder's, Cultural Senior Site Officer - **0405 708 865**

APPENDIX B

AHIMS Web Services (AWS)
Search Result

Purchase Order/Reference : corindi 1

Client Service ID : 350221

Susan Roberts

6783 Pacific Highway 6783 Pacific Highway
Tea Gardens New South Wales 2324

Attention: Susan Roberts

Email: sue@tallpines.net.au

Date: 11 June 2018

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lot : 111, DP:DP730304 with a Buffer of 50 meters, conducted by Susan Roberts on 11 June 2018.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.

A search of the Office of the Environment and Heritage AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

0	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the NSW Government Gazette (http://www.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Office of Environment and Heritage's Aboriginal Heritage Information Unit upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Office of Environment and Heritage and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date .Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

3 Marist Place, Parramatta NSW 2150
Locked Bag 5020 Parramatta NSW 2220
Tel: (02) 9585 6380 Fax: (02) 9873 8599

ABN 30 841 387 271
Email: ahims@environment.nsw.gov.au
Web: www.environment.nsw.gov.au

AHIMS Web Services (AWS)
Search Result

Purchase Order/Reference : corindi2

Client Service ID : 350222

Susan Roberts

Date: 11 June 2018

6783 Pacific Highway 6783 Pacific Highway
Tea Gardens New South Wales 2324

Attention: Susan Roberts

Email: sue@tallpines.net.au

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lot : 111, DP:DP730304 with a Buffer of 1000 meters, conducted by Susan Roberts on 11 June 2018.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.

A search of the Office of the Environment and Heritage AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

12	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the NSW Government Gazette (http://www.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Office of Environment and Heritage's Aboriginal Heritage Information Unit upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Office of Environment and Heritage and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date .Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

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ABN 30 841 387 271
Email: ahims@environment.nsw.gov.au
Web: www.environment.nsw.gov.au

AHIMS Web Services (AWS)
Search Result

Purchase Order/Reference : corindi3

Client Service ID : 350223

Susan Roberts

6783 Pacific Highway 6783 Pacific Highway
Tea Gardens New South Wales 2324

Attention: Susan Roberts

Email: sue@tallpines.net.au

Date: 11 June 2018

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lot : 111, DP:DP730304 with a Buffer of 200 meters, conducted by Susan Roberts on 11 June 2018.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.

A search of the Office of the Environment and Heritage AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

0	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the NSW Government Gazette (http://www.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Office of Environment and Heritage's Aboriginal Heritage Information Unit upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Office of Environment and Heritage and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date .Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

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