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Aboriginal Heritage Assessment

Lot 1 DP 1097743 and Lot 6 DP 252223
Pacific Highway,
Moonee Beach, NSW

Report to
JW Planning
Newcastle NSW
Thursday 30th May, 2013

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Table of Contents

1. Introduction	page 2
2. The Assessment Process	page 10
3. Step 1 Preliminary Assessment	page 16
4. Step 2A Desktop Study	page 18
5. Step 2B Visual Inspection	page 38
6. Step 3 Integration of Heritage Values	page 46
7. Step 4 Information regarding proposal	page 49
8. Step 5 Integration of assessment with proposal	page 50
9. Management Strategies	page 53
10. Certification	page 54
11. References	page 55
12. Glossary	page 58
13. Appendix	page 62
A. Aboriginal Community Consultation	
B. Aboriginal Community Report	
C. AHIMS Results	
D. Old Report	
E. Site Card	

1. Introduction

1.1 Background

This report has been prepared at the request of JW Planning, Newcastle, to assess the possible impact the proposed residential development may have on Aboriginal Cultural Heritage at Lot 1 DP 1097743 and Lot 6 DP 252223 Pacific Highway, Moonee Beach, near Coffs Harbour NSW.

The development proposal is being assessed under Part 3A of the Environmental Planning and Assessment Act (EP&A). For the purposes of the proposal the above two parcels of land need to be considered. However only Lot 1 has been rigorously investigated as access to Lot 6 was not available

The land has been previously assessed in 2006 as part of a development application. The Coffs Harbour Aboriginal Land Council undertook the initial assessment and found the land to be disturbed and indicated that whilst it may be possible for artefactual evidence to randomly occur within the study area, such evidence would have lost any contextual integrity. Their observations in 2006 did not reveal any evidence.

Nonetheless, despite the earlier assessment an updated assessment is a requirement of the Part 3A application process.

Although this assessment deals with a particular parcel of land in particular, a wider study area was considered. This is necessary as any Aboriginal heritage management options need to be addressed in context of the wider landscape. Similarly any assessment of Aboriginal archaeology and heritage cannot be undertaken over individual pockets of land but potential impacts of the proposal on Aboriginal heritage of the entire project must be assessed in a local and regional context.

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. However a conceptual subdivision layout is under consideration for this assessment.

Figure 1 illustrates the regional location of the study area; Figure 2 shows the study area and Figure 3 the subdivision proposal.

References in this document to the “study area” refer to that parcel of land which will be impacted by the proposal.

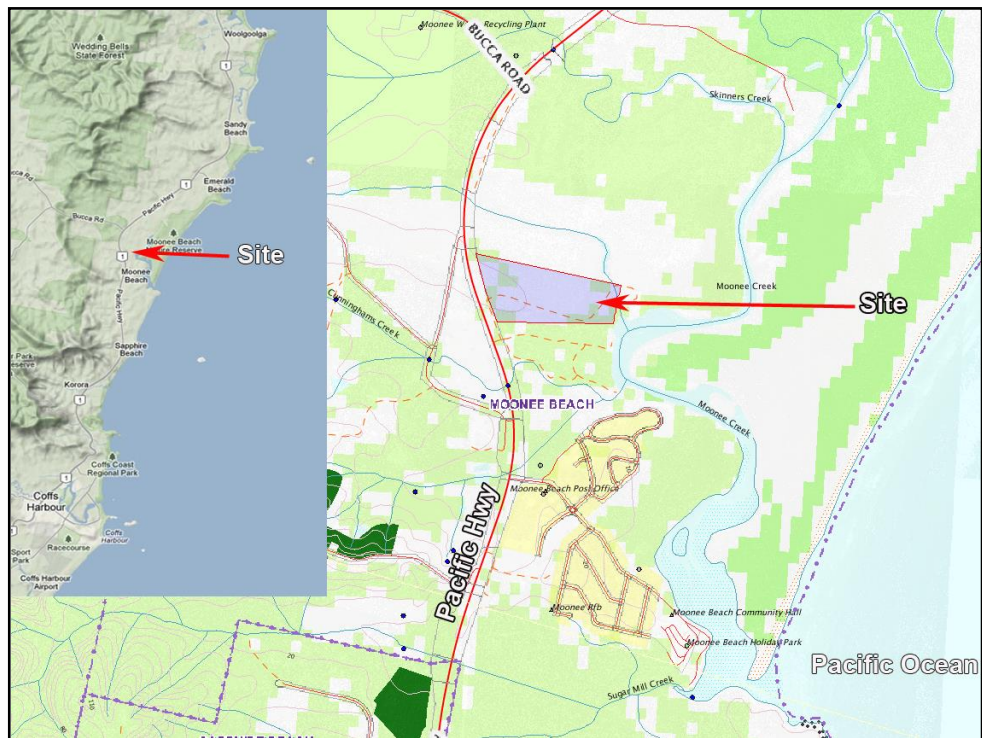


Figure 1 Regional Location



Figure 2 Study Area

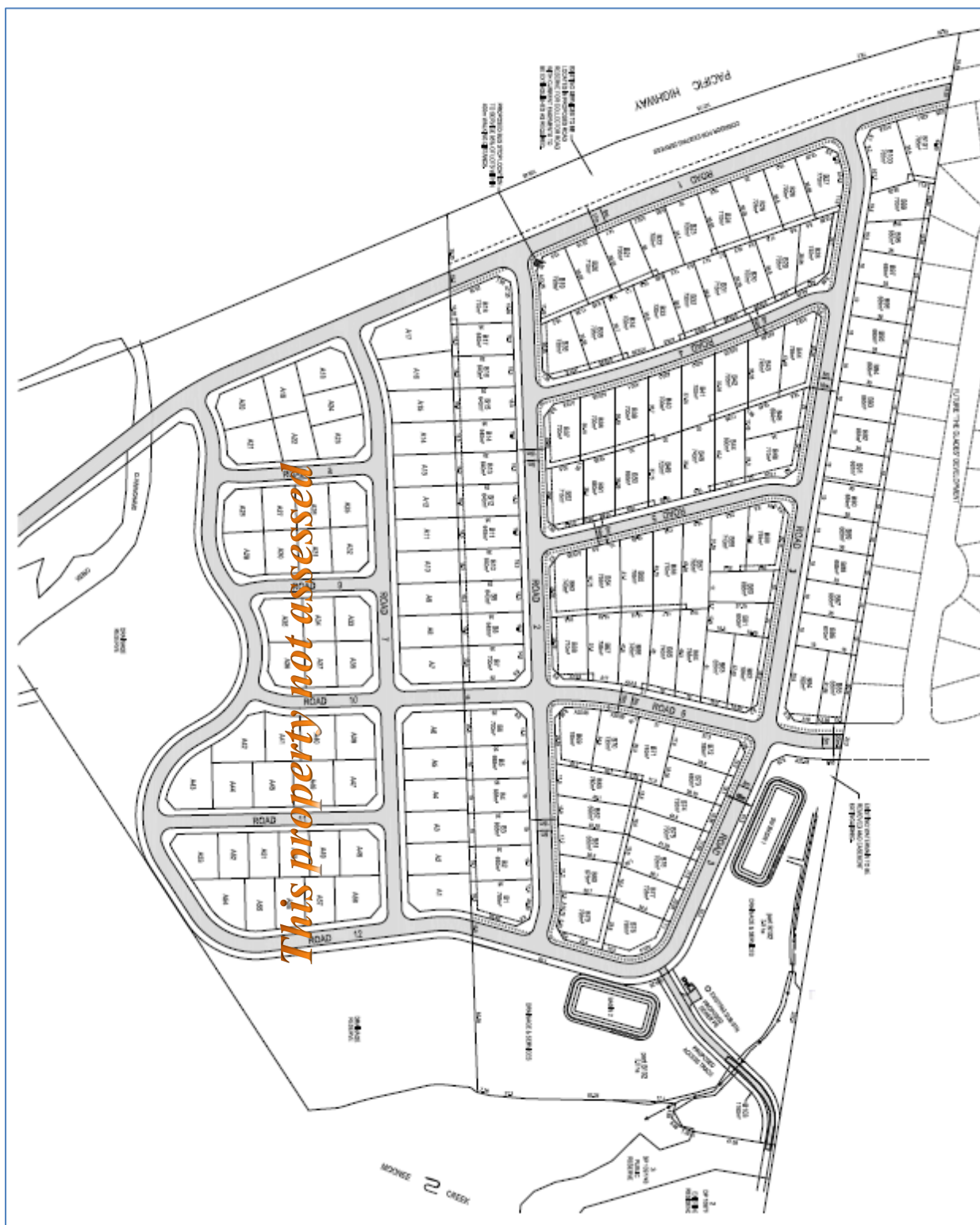


Figure 3 Subdivision Concept

1.2 Legislative Context

The *National Parks and Wildlife Act 1974*, (NPW Act) administered by the Office of Environment and Heritage (OEH), is the primary legislation for the protection of some aspects of Aboriginal cultural heritage in NSW. Section 86 of that Act has been amended (2010) and deals with harming and desecrating Aboriginal objects.

'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.

The NPW Act provides several defences to prosecution for an offence. Where a person either knows or does not know they are harming an Aboriginal object, a person has a defence under section 87 where:

- The harm or desecration concerned was authorised by an Aboriginal heritage impact permit (AHIP), and the conditions to which that Aboriginal heritage impact permit was subject were not contravened.
- Due diligence was undertaken and it was reasonably determined that no Aboriginal object would be harmed.
- Was work on land that has been disturbed for maintenance of existing roads, fire and other trails and tracks, maintenance of existing utilities and other similar services
- Land is disturbed if it has been the subject of human activity that has changed the land's surface, being changes that remain clear and observable.

Harm does not include something that is trivial or negligible.

The regulations under the Act set out a generic "Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales" for initial assessment, 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), identified as a result of a Due Diligence Assessment.

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. This is further explained at step 5 in section 8. 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).

4.2 Major projects under Part 3A EP&A Act

If your activity is a declared Part 3A project under s.75B of the EP&A Act you should refer to the 2005 (draft) Part 3A EP&A Act Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (as amended from time to time). These guidelines are available from the Department of Planning (see section 7).

As the proposal is a project to which Part 3A applies the 2005 draft DOP guidelines for projects should be considered. The 2005 draft guidelines recognise the importance of a preliminary assessment which is consistent with consideration under Part 4 and 5 of the EP&A Act. The following Figures 4 and 5 outline the two processes in flowchart form.

1 Do you need to use this due diligence code?

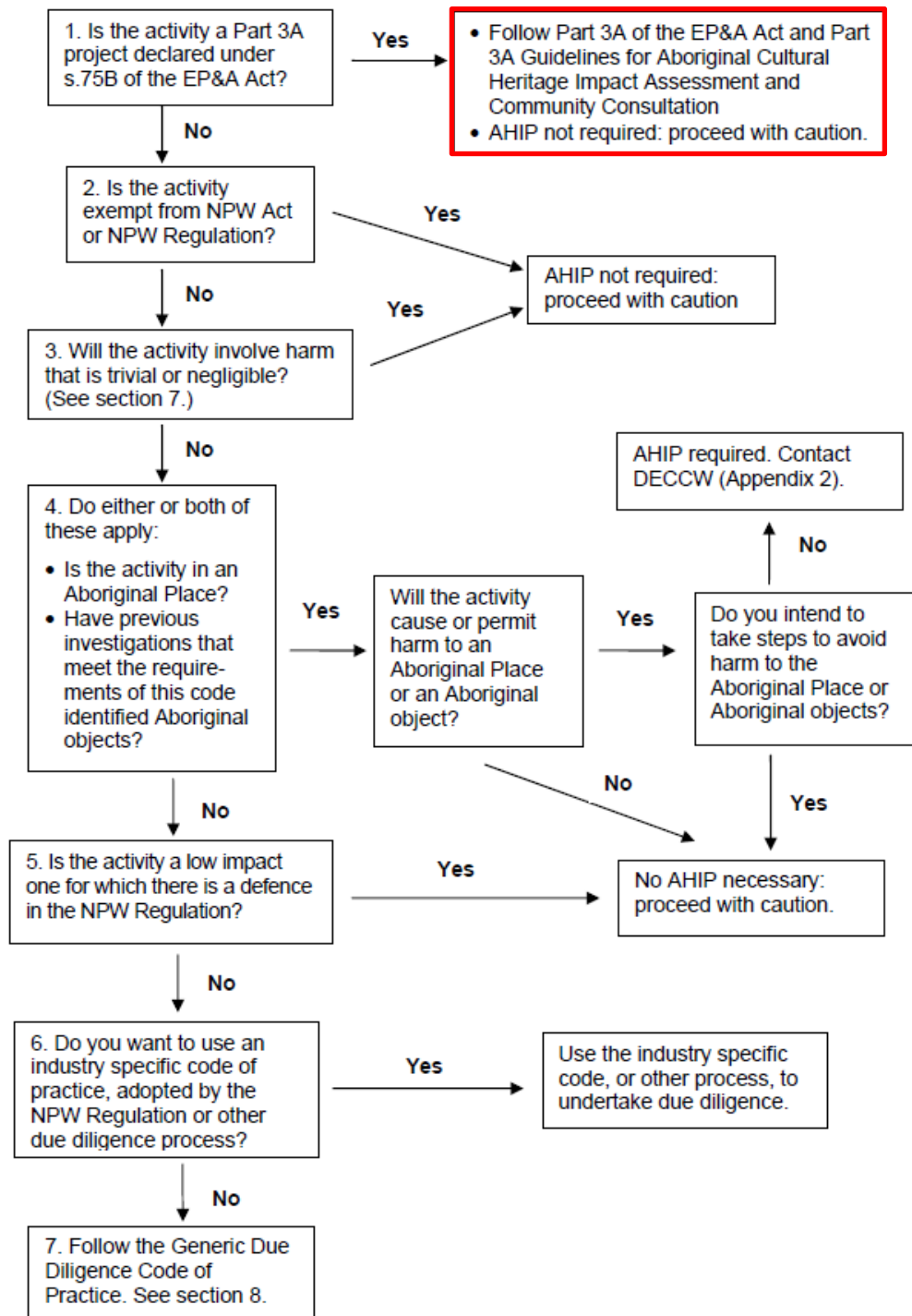


Figure 4 Due Diligence Process Flowchart from Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales, published by OEH in September 2010, page 1

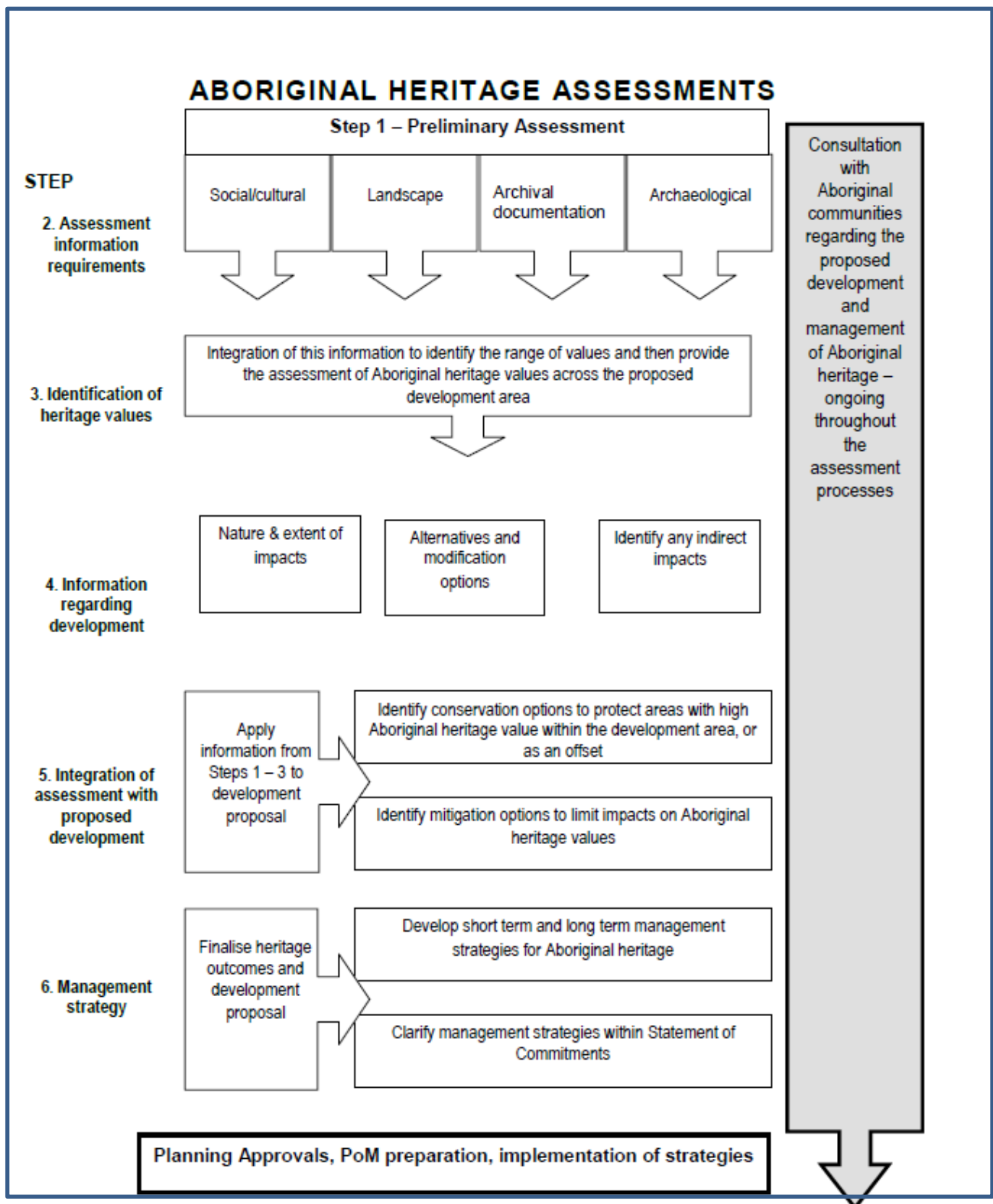


Figure 5 Part 3A Assessment Flowchart (Draft 2005 Guidelines for Aboriginal Cultural Heritage Impact Assessment and community Consultation, page 6)

This Archaeological Assessment follows the 2005 (draft) Part 3A EP&A Act Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation.

In addition to ensure consistency and standardisation across legislation the Due Diligence Generic Code (OEH) will be used as the basis for the preliminary assessment component under the 2005 draft guidelines.

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.

2.0 Assessment Process

The aim of this assessment is to identify the Aboriginal heritage and archaeological values of the proposal site area in particular and the entire study area in totality and the potential impacts on those values as a result of the proposal. This will be achieved through Aboriginal stakeholder consultation, surveys and literature. This assessment also provides recommendations on the management and mitigation of impacts on such heritage and values that are 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. 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 is currently undertaking a Masters in Indigenous Knowledge through Charles Darwin University (traditional Aboriginal law, society and practices).

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.

The visual inspection component of this assessment was undertaken on 30/11/2012 by this archaeologist in conjunction with Ian Brown and Mark Flanders from LALC, EJ Williams representing Yarra group and Cecil Laurie from the Garby Elders. Also in attendance from the LALC was Josh Anderson, a young man in training to develop understanding in recognising Aboriginal Objects. All are very experienced field officers having worked on and had oversight of many field assessments. Each has authority from the Aboriginal community to speak on Country.

2.2 Aboriginal Community Consultation

In accordance with the Office of Environment and Heritage (OEH) requirements Aboriginal community consultation was undertaken to advise, consult and oversee the Aboriginal Cultural Heritage Assessment for the project.

For this assessment the OEH Consultation Guidelines (2010) were followed. Coffs Harbour Local Aboriginal Land Council was the only organisation that expressed an interest. The Land Council was asked to use their good office to additionally contact the Garby Elders and any other appropriate Aboriginal person or organisation to determine if they wanted to be involved. There was still no response. Just prior to the visual inspection contact was made with the Land Council to see if any other representative may like to attend the field inspection. The Land Council advised known field officers of other Aboriginal organisations and the following organisations attended the visual inspection. The consultation log and correspondence is annexed at Appendix A.

In summary the following occurred:

- An advertisement was placed in the Coffs Coast Independent (Fig. 6) which covers the Coffs harbour, Moonee beach and adjacent areas on the 11/10/2012 (p.13).
- Letters written to Aboriginal people and organisations identified through agency response seeking an expression of interest in the project.
- Coffs Harbour LALC responded and was registered as a stakeholder for the project.
- Several further attempts were made to obtain additional stakeholders but no response was received. This was probably because the area in question was not necessarily an area of interest and secondly and perhaps more importantly, a good relationship exists between the various family groupings and the Land Council and the families are content for the Land Council to manage the cultural heritage matters.
- Initial meeting held with the LALC to explain the project and seek information about the area. It was revealed at that meeting that an inspection had been undertaken some years ago and it was considered disturbed land.
- Visual inspection of the study area was conducted with representatives of the land council and other community representatives Draft report forwarded to LALC for comment and feedback on 1/2/2013
- 10/4/2013 Cultural report received from stakeholders

The Aboriginal Community consultation log and Aboriginal cultural report are attached at Appendix A and B respectively.

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PUBLIC NOTICES

Aboriginal Cultural Consultation
 Call for expression of interest
 Myall Coast Archaeological Service has been engaged by JW Planning, Warners Bay, NSW 2282, to conduct an Aboriginal heritage assessment for a proposed residential development on Lot 1 DP 1097743 Pacific Highway, Moonee Beach. The assessment will be conducted under the former Part 3A requirements of the EP&A Act.
 An invitation is extended to Aboriginal people and Aboriginal Organisations who hold cultural knowledge relevant to determining the significance of Aboriginal object(s) and place(s) in the area of the proposed project to register an interest in a process of community consultation with the proponent regarding the proposed activity. Please note for legal reasons individuals will need to demonstrate their right to speak on behalf of country.
 The purpose of community consultation with Aboriginal people is to assist the proponent in the preparation (if required) of a heritage management plan and to assist the Director General in his or her consideration and determination of the Part 3A application.
 Closing date for registration of interest: 22nd October, 2012
 To obtain a registration form, please contact:
 Sue Roberts 0403 233 000
 Email:
 archaeologymyallcoast.net.au

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Figure 6 Expressions of interest advertisement

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, field survey of the site 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

- Visual Inspection

This involved the "ground truthing" of the above research with the study area's potential to reveal/conceal archaeological evidence. The visual inspection was generally conducted in accordance with the Archaeological Code of Practice, even though the Code is specifically used to undertake test excavations and to apply for an AHIP. The details of the visual inspection are contained within section 4 of this report.

The Part 3A Assessment guidelines set out a series of 6 steps to be followed:

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.

The code sets out the reasonable and practicable steps which individuals and organisations need to take in order to:

identify whether or not Aboriginal objects are, or are likely to be, present in an area and determine whether or not their activities are likely to harm Aboriginal objects (if present).

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 as 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.

These measures as negotiated with the Aboriginal community are to be included in the Statement of Commitments as part of the Environmental Assessment Report.

3.0 Step 1 Preliminary Assessment

The preliminary assessment follows the numerical sequencing and headings of the OEH Due Diligence Code. The Due Diligence code generally requires the same information outlined in the 2005 (draft) Part 3A EP&A Act Guidelines but not necessarily in the same order. Before commencing the preliminary assessment it is important to show the relationship between the 2 documents by identifying the requirements of the 2005 Draft Guidelines and where the information is found in the Due Diligence Assessment.

The 2005 Draft Guidelines preliminary assessment should include:

- a description of the location and nature of the proposed development (**DD 3.1 – 3.4 and 3.7**)
- a description of any social and cultural values including the spiritual, traditional, historical or contemporary associations and attachments which the place or area has for the present-day Aboriginal community (**DD 3.11**)
- an assessment of which of the Aboriginal cultural heritage objects and places of significance that are known or likely to occur on or near the site that are likely to be directly or indirectly affected by the proposal (**DD 3.5 and 3.7 - 3.11**)
- a description of previous land uses and any previous development on the site(**DD 3.1 – 3.2**)
- a search of existing data bases such as the Aboriginal Heritage Information Management System (AHIMS), Commonwealth and state heritage registers. (**DD 3.8**)

It is also noted in the 2005 Draft Guidelines that there may be situations where an Aboriginal heritage Assessment is not required or can be modified to account for past land uses. The Due Diligence Code has been used to determine the likelihood of heritage values and the further assessment required.

3.1 Description of Land and Activity

The study area can generally be described as Lot 1 DP 1097743 Pacific Highway, Moonee Beach. The land contains a small elevated area overlooking an estuarine flat which has formed over time from a tidal influenced marsh or swamp which potentially can still be influenced by extreme tidal events.

The land has been used for various rural pursuits such as grazing and timber getting. It is very disturbed land. The landform changes are readily observable. The proposed activity is to subdivide the land into some 96 residential lots with associated infrastructure and environmental buffers.

Land disturbance will occur through block formation through filling in the lower areas, road construction and once subdivided; housing construction.

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

Probably the greater proportion of the study area cannot be classified as disturbed in that *there have been clear and observable changes to the land surface*. However, this is not the case for higher portion of the land as it is clearly disturbed. It appears to have been disturbed through road access requirements and has been levelled for use as a log dump during timber getting purposes. It was probably also disturbed through construction of the adjacent Pacific Highway.

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 generally occur on disturbed land. Although most of the activity is limited to the disturbed areas of the study area or areas considered to have no or extremely low likelihood of archaeological evidence, the construction of the development over the low lying areas will be filled thus ensuring the ground surface is not disturbed.

3.8 Does the Aboriginal Heritage Information Management System suggest potential?

Yes, for the area along the creek bank.

3.9 Is there archaeological potential because the proposal is:

- **within 200m of waters;**
Yes, the eastern boundary of the study area is adjacent to Creek.
- **located within a sand dune;**
No.
- **located on a ridge top, ridge line, or headland;**
No. The higher area could not be described as a ridge top or ridgeline.
- **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?

Yes.

3.11 Is Desktop assessment and visual inspection required?

Yes. Desktop assessment and visual inspection is within sections 4.0 and 5.0 (Step 2)

3.12 Are further investigations and impact assessment required?

No. Discussion and reasons are contained within section 6. (Step 3)

4.0 STEP 2A 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.

According to Horton (1994) Fig 7, 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)

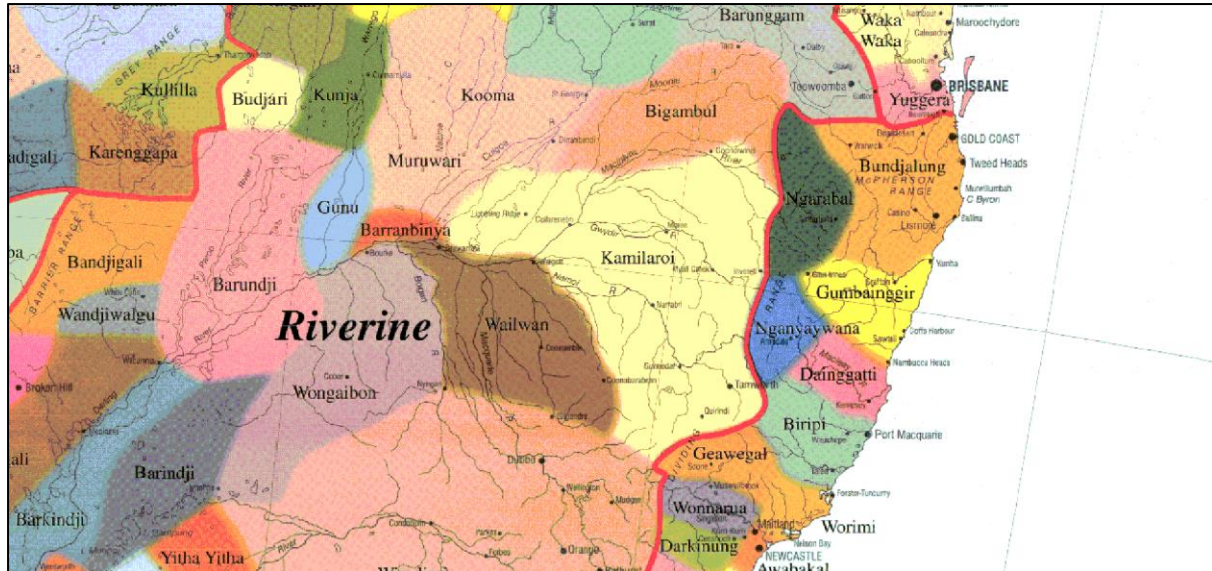


Figure 7 Horton's Map of Aboriginal Territorial Organisation

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 Gumbainggir, describing one Aborigine as:

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

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.

According to Rogers (1977), food remains found in midden deposits at Moonee Beach included shellfish, the bones of kangaroos, red-necked wallabies, dingoes, and wedge tailed shearwaters.

The nearby community of Woolgoolga appears to be a corruption of the Aboriginal word for the berries of the Lilli - Pilli, Wei-gul-gas. There are many species of Lilli Pilli, with the cherry red fruit producing variety in the Coffs Harbour region. Other important bush foods were also an easily available resource.

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 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 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.

The social structure, land use and occupation as outlined above are supported by the Aboriginal stakeholders in their report at Appendix B.

4.2 Archaeological Record

There are 8 individual Object sites listed on the AHIMS database search area centred on a 1km radius of the study area. Over 40 sets of Aboriginal Objects have been recorded in the coastal strip between Coffs Harbour and Moonee Beach. The AHIMS search area is shown at Figure 8. 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 C.

The Figure 9 illustrates the approximate location of the 8 known Aboriginal Objects within the vicinity of the study area plotted onto the map from the coordinates supplied from the AHIMS search results. In addition the Midden identified by Rogers some 4km NE of the study area is also shown.

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. The majority are stone artefacts.



Figure 8 AHIMS Search Area as provided by AHIMS

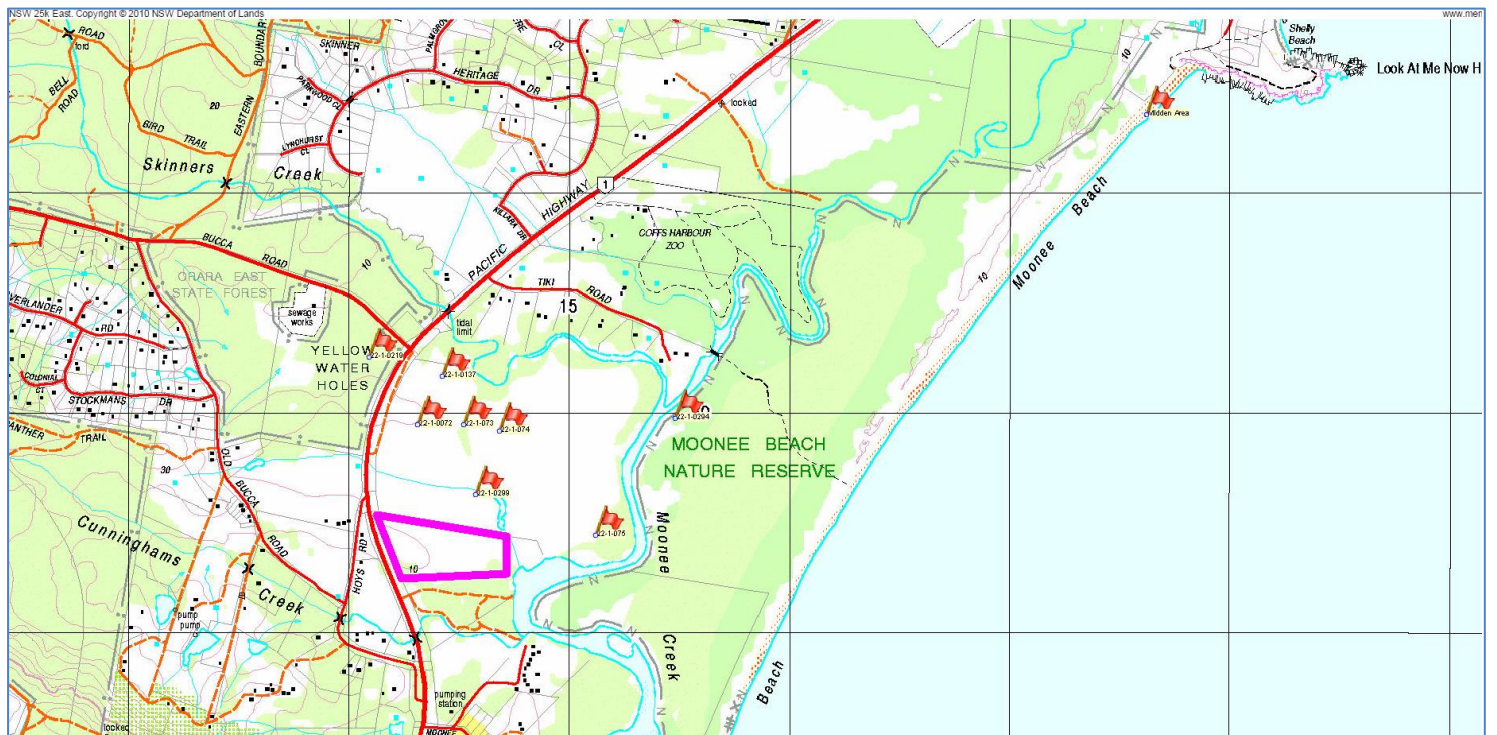


Figure 9 Known Aboriginal Objects

Without segregating the individual sites into the number of artefacts contained within each site but aggregating them into artefact type the following is revealed;

- 1 midden and associated artefacts
- 1 scarred tree
- 7 sets of stone artefacts

Also known is a major stone-working site at Look-At-Me-Now Headland at the north end of Moonee Beach.

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 middens tend to be located close to the ocean often along the fore dunes, but also in association with freshwater resources.

4.3 Previous Studies

Locally, several archaeological surveys have been conducted, that are of interest to this study. Many of the Aboriginal Objects identified at Figure 9 were observed during those surveys and discussed below.

Rogers, 1975 - 1977 Undertook research investigations into Middens along the Sapphire to Woolgoolga coastline which revealed some of the food resources used by the early people.

Of greater relevance to this study were more recent areal studies in similar landscapes to the study area.

In 2003, Dallas and Tuck surveyed an 80 hectare property that stretches for 1.3 kilometres along the eastern side of the Pacific Highway reserve north of Split Solitary Road at Sapphire. Two artefact scatters/open campsites (#22-1-168 and #22-1-169) and two isolated stone artefacts (#22-1-166 and #22-1-167) were recorded, and potential archaeological deposits (PADs) were considered likely to be present at three of these locations. The PADs were situated on spur/knoll crests and an elevated rise adjacent to swamps. Test excavations (Davies 2004) and later partial salvage (Davies 2006a) of both these and one additionally identified PAD confirmed their archaeological potential, recovering a total of 2,939 artefacts. The assemblage comprised flaked pieces, flakes, blades, cores, choppers, axes, microliths and hammerstones made primarily on volcanic stone materials, and reflected a concern for the early stages of tool manufacture. Owing to the high proportion of artefacts with pebble cortex, most of the raw materials appeared to have been locally sourced. Most of the subsurface artefacts were recovered within the topsoil at a depth of around 20 centimetres, close to its interface with the underlying B horizon. In the absence of shellfish and bone remains it was concluded that the regular consumption of food did not occur, and that the sites represented task-specific rather than main campsites (Davies 2006a:58).

Relevance:

The study area contains a crest overlooking estuarine lowland and artefacts were found within 20cm of topsoil of that spur.

A property adjoining the northern boundary of that investigated by Dallas and Tuck (2003) and Davies (2004, 2006a) was surveyed by Umwelt Environmental Consultants (2006). This resulted in

the recording of two stone artefacts on a track above paperbark swamp (#18-1-024), artefacts and shell fragments associated with a previously registered midden (#22-1-051) near the confluence of Moonee and Sugar Mill Creeks, and a scatter of six artefacts on a broad low ridge on the southern boundary. These latter artefacts were held to form a northward extension of PAD 3 (#22-1-198) previously tested and salvaged by Davies (2004, 2006).

Relevance:

The study area is in proximity of Moonee Creek

A 3.15 hectare area adjoining the eastern edge of the highway reserve south of Moonee Beach Road was surveyed by Dallas and Tuck in 2004(a). A scatter of four stone artefacts and two pebble manuports were recorded on a driveway traversing a narrow spur saddle 500 metres inland of the Moonee Creek estuary.

Relevance:

The study area has similar landform

Three artefact scatters (#22-1-072, #22-1-074 and #22-1-075), three isolated finds and two adjacent scarred blackbutt trees (#22-1-073) were recorded during survey of a 95 hectare area directly opposite, between the eastern highway margin and Moonee Creek (Collins 1994b). This area is dissected by a low spur flanked in the north and east by narrow alluvial flats bordering estuarine reaches of Skinners and Moonee Creeks, and in the south by an extensive poorly-drained alluvial plain. Of the recorded artefact scatters, one was exposed on a gently-sloping track below the spur crest, while the other two were found on the bank of Skinners Creek. Two isolated artefacts and the scarred trees were also associated with estuary banks.

Relevance:

The study area has similar landform

North of Skinners Creek, Byrne (1987) made a preliminary assessment of a large land parcel that extends west across the highway from the Moonee Creek estuary to encompass low-lying alluvial plains and bedrock-soil knolls and spurs. The field inspection focussed on the bank of Moonee Creek and the more elevated landforms. A scatter of stone artefacts was detected on a level spur crest. Various sections of Byrne's (1987) study area were later inspected in more detail, resulting in the recording of a scarred swamp mahogany tree (#22-1-053) near Moonee Creek (Navin 1991), a small artefact scatter (#22-1-071) on the bank of Skinners Creek, an isolated artefact on a minor spur, and two larger scatters (#22-1-069 and #22-1-070) on the crest of a more substantial spur (Collins 1994a,1995). The survey areas were dominated by alluvial plains, but no archaeological evidence was found in such a context.

Relevance:

The study area has similar landform

Davies (2006b) conducted a survey of a 14.4 hectare area south of Fiddaman Road, between the Pacific Highway and Emerald Beach village. This area comprised a low ridge fringed to the south by alluvial plains and Moonee Creek. A low-density distribution of 18 surface artefacts was found on the ridge crest (#22-1-220). Follow-up salvage excavations (Davies 2007) revealed artefacts within the topsoil of the entire ridge, with the highest densities occurring on the level crest, where up to 123 artefacts per square metre were recovered. The assemblage was dominated by flakes and cores, with small numbers of blades, microliths, backed blades, scrapers, choppers, hammerstones and

split cobbles. Of the 1,277 salvaged artefacts, almost half were derived from cobbles, mainly of volcanic origin.

Relevance:

Type and origin of artefacts likely to be discovered if present within the study area

In addition investigations were undertaken for the Pacific Highway Upgrade from Sapphire to Woolgoolga and whilst Aboriginal objects were identified in various situations along the route none were of interest to this survey although it tended to reinforce the existing knowledge of Aboriginal occupation.

Relevance:

The study area is bordered by the Pacific Highway

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.

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

Work by Klaver and Heffernan (1991) which was an assessment of sites in the Greater Taree Council area, 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.

- **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 Aborigines 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.

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

A report for the Brigalow country was 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.

- **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.

- **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. 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).”

- **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.

With respect to the Moonee Beach area it appears the elevated areas overlooking estuarine swamps or creeks was favoured short term occupation or foraging areas. Aboriginal objects are more likely to be found on these crests within 20cm of topsoil. Freshwater was a factor in establishing longer term camping.

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 at sea level on the, eastern boundary and most of the area until the western boundary where it elevates to 10m AHD

The following Figure 10 (the NSW 25k east topographical map in 3D) shows the relative landform/landscape profile of the estuarine floodplain, slopes and surrounding hills.



Figure 10 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 susceptibility of land to sheet and rill erosion is governed largely by the topsoil texture, slope of the land, length of slope and the probability of intense summer rainfalls. 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.

The following map details the soil profile. It shows the soil in the study area classified as A2 which contains duplex to sand soils. This results in seasonally perched water in the subsurface sand, which may become fluid. Duration depends on rainfall incidence and site.

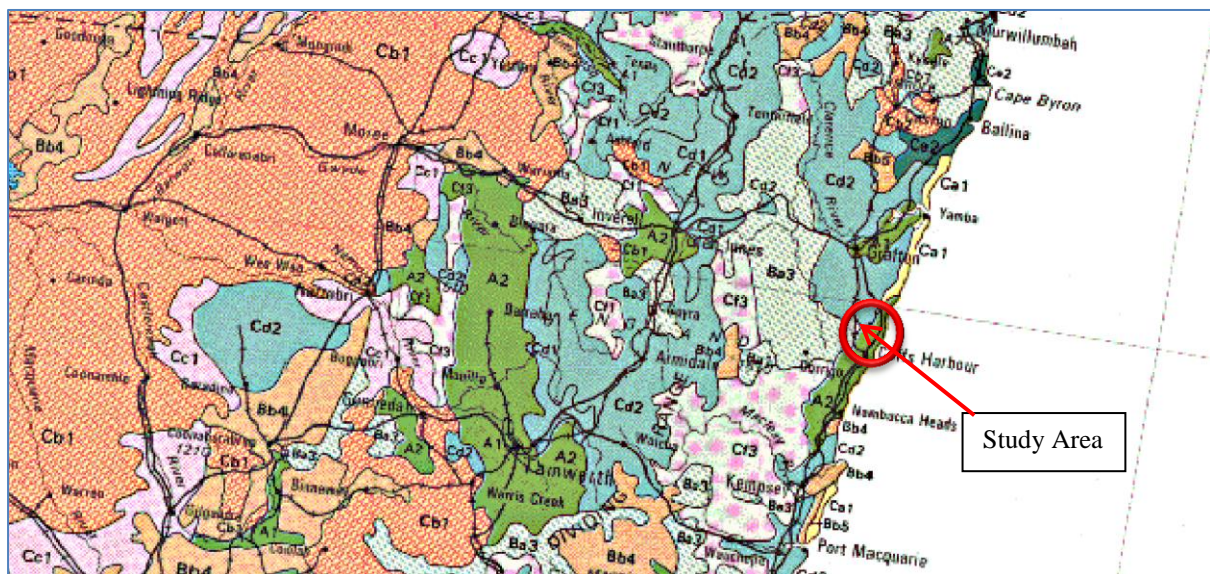


Figure 11 Soil Classification

According to a soil sample undertaken some 500m south of the study area (NSW Soils database: SALIS) Grid Reference: Easting 514604, Northing 6658888

Physiography: swamp in floodplain under swamp complex on lacustrine lithology and used for timber/scrub/unused. Elevation 1m. Profile is very poorly drained; erosion hazard is slight, and no salting evident.

Soil Type: Supratidal swamp adjacent to supratidal flat/intertidal flat with littoral veg. (eg. mangroves).

Soil Description:

Layer 1 00.00 - 00.25 motley clay loam, clay loam with moderate pedality (sub-angular blocky 10 - 20 mm), abundant (>100/10x10cm) roots (<1mm), field pH is 7. Coarse fragments are not evident, pans are not evident. Segregations are not evident, not evident; smooth clear (20-50 mm) boundary to...

Layer 2 00.25 - 00.70 motley sandy clay loam with massive structure many (25-100/10x10cm) roots (<1mm), field pH is 6.5. Coarse fragments are not evident, pans are not evident. Segregations are not evident, not evident. Layer notes are: Rusty roots (red mottle); smooth gradual (50-100 mm) boundary to...

Layer 3 00.70 - 00.95 motley sandy clay with massive structure few (1-10/10x10cm) roots (<1mm) , field pH is 6 . Coarse fragments are not evident, pans are not evident. Segregations are not evident, not evident; smooth gradual (50-100 mm) boundary to...

Layer 4 00.95 - 01.10 motley clay with massive structure few (1-10/10x10cm) roots (<1mm) , field pH is 6 . Coarse fragments are not evident, pans are not evident. Segregations are not evident, not evident. Layer notes are: Rusty roots (red mottle). ; Smooth gradual (50-100 mm) boundary to...

Layer 5 01.10 - 01.35 motley silty clay with massive structure none roots (<1mm), field pH is 5.5. Coarse fragments are not evident, pans are not evident. Segregations are not evident, not evident; smooth gradual (50-100 mm) boundary to...

Layer 6 01.35 - 01.90 motley sandy clay with massive structure none roots (<1mm), field pH is 7. Coarse fragments are not evident, pans are not evident. Segregations are not evident, not evident; smooth abrupt (5-20 mm) boundary to...

Comment:

Generally, the study area soil is sandy clay and loam. The majority of the land is considered intertidal swamp. Such soil would not be conducive to subsurface evidence as any evidence would be at depth and would be chronologically mixed as there would be limited for the soil horizons to hold the evidence.

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. The following map shows the geological composition of the study area. It shows the study area lies mainly on carboniferous volcanic bedrock which may tend to stabilise the land from coastal erosion. There may be occasional outcrops which may help establish dunes and sandy hills.

Comment:

Although there is no indication of a geological abnormality or feature that would suggest special significance to the landscape based on the geological mapping, however there is the possibility rock outcrops could occur that could have been used for grinding grooves and shelter.

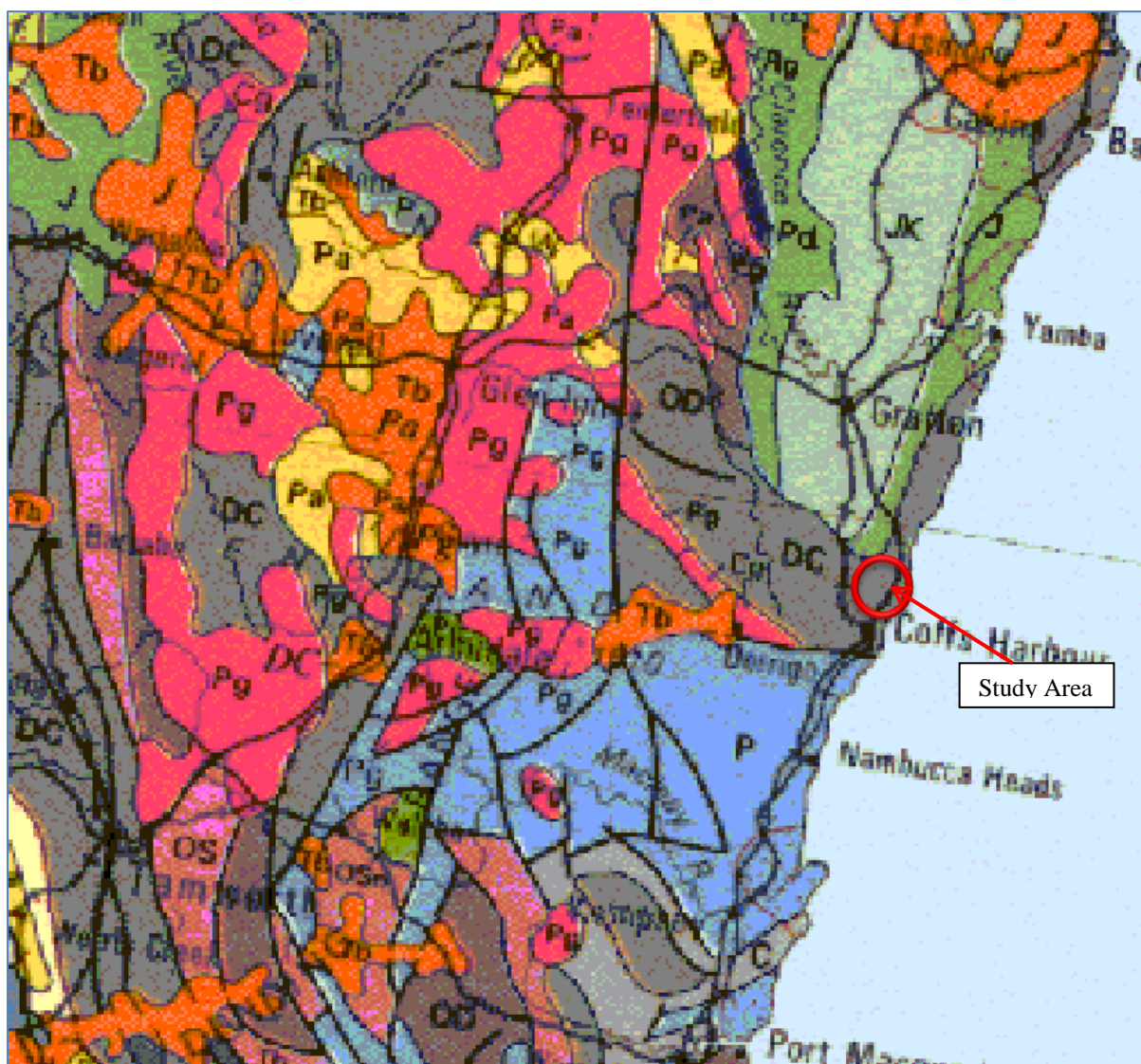


Figure 12 Geological Classification

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. Cultivation, with the associated stick raking and stone gathering also tended to destroy surface evidence. However cultivation and pastoral land use also helped preserve the archaeological record. In some cases cultivation would expose evidence in others, cover the evidence.

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*

European settlement of the wider area was linked with the development of Grafton and Coffs Harbour.

The European settlement of the area north of Coffs Harbour in the vicinity of the study area was precipitated by two events in the late 19th century. First, the release of land for conditional purchase on the coast in the 'Parish of Moonee' (proclaimed 1881), and second, the discovery of gold in the Orara Goldfields, to the west and northwest of the study area.

With the release of land in the Parish of Moonee in 1881, people began to move into the area north of Coffs Harbour, with a significant proportion moving from the already established Bellinger and Clarence River Districts. Generally the families that moved into the Moonee Parish were engaged in farming and agriculture, or the timber trade.

Legend has it that the first Europeans to the area were escaped convicts taking refuge on Muttonbird Island. Timber getters were the first to settle in the area in 1841. The busy Port was frequented by up to 450 ships a year until the Carywell was wrecked in 1865. The Harbour's navigation hazards were confirmed by the loss of the Carywell and led to a shipping boycott of the harbour until the construction of a lighthouse in 1878. The town was originally named 'Korff's Harbour' by John Korff in 1847. It was renamed Coffs Harbour when the town site was reserved in 1861.

Timber cutting remained the most important industry well into the 1900's, flourishing after the completion of the Jetty in 1892. Gold mining, fruit growing, dairying, and sugar cane farming also became popular, although many of these earlier ventures failed. Fijian Bananas were introduced by Herman Reick in 1881 and the banana growing industry took off in the early 1900's as the population swelled during the construction of the railway and the harbour breakwall. Banana growing gained further momentum in the 1920's as the plantations to the north were wiped out by disease.

With the arrival of the railway in 1915 & the completion of the link through to Sydney in 1923, the tourism industry in Coffs Harbour developed rapidly.

Implications

The land in the study area has been disturbed by European Activities since 1820. The land has been used for various agricultural and rural pursuits. Although Aboriginal occupation occurred within the study area, evidence of such occupation appears remote as the past land use has probably destroyed all but scattered and isolated stone artefacts.

- *Aboriginal*

Aboriginal people believe they have occupied their land since the Dreaming, and stories of the Dreaming show the link between land and people.

Dallas in her 2008 report outlined the Aboriginal history of the area. The work undertaken by Dan Tuck was rigorously researched. The thoroughness of that research deserves due acknowledgement and is respectfully cited:

At the time when settlement was being established in the Moonee area in the late 19th century, there was still a considerable Aboriginal population in the area. Benjamin Holder, descendant of James Skinner, noted in his history of the Moonee Creek Settlement, that:

‘There quite a number of were a number of Aboriginals camping in the Moonee area in those early days, and the majority of them were quiet and shy. The only times they came near the settlement was when they came to ask for flour, tobacco or tea. Latter, about a dozen or so used to help out on the farm. The Aboriginals had day shelters over near the sand dunes on the north end of Moonee Beach. Their main camps were back towards the hills. One camp was near where the Coffs Harbour gun club now is, which is typical of the low hills and slopes used for the main camps’.

In 1885/86, the Aboriginal campsite near the Coffs Harbour Gun Club was the scene of ‘a small conflict’ between two opposing Aboriginal groups. One of the tribesmen, a Tommy Two-head, was wounded and taken in by the Skinners during the skirmish. Tommy died two days after the battle and was buried on the Skinners property, just south of the Moonee Creek sawmill. At around the same year, the Skinners also witnessed a corroboree at the Gun Club site that was followed by an initiation of two young tribesman at a Bora ground, ‘high on a hill approximately half a mile west of the “Emerald Beach Water Tower”’.

The Cedar industry slowed in the 1880s and the growth of cash crops such as sugarcane and bananas, which had been grown on the Mid North Coast with varying success since the c1860s, became more important to the communities in the vicinity of Coffs Harbour. Aboriginal people, along with Chinese and Punjabi labourers, contributed significantly to the operation of these industries, collectively supplying cheap, seasonal labour. It was reported in 21 January 1886, for example that:

‘At Mr Small’s Mill, a great mob of blacks are busy stripping the cane...and work in connection with the mill is in full swing’.

Other rural industries that Aboriginal people gained employment in were tomato and potato picking as well as railway construction and the gold mining industry. For example, local Aborigines supplied wild bees honey sourced from the forests surrounding the gold fields.

The Government Census of 1891 informs us that there were 299 people living east of the range at that time – and one Aborigine. The census indicates that this person lived at Coffs Creek with a Mr Alfred Toole. This is clearly not accurate picture of the Aboriginal population at the time, as around Coffs (as was the case in many towns), disposed Aborigines had established rough camps on the outskirts of town. Camps established in the vicinity of Coffs Harbour included one on the south bank of Coffs Creek (near the current swimming pool) and another on the south side of the harbour near the current Deep Sea Fishermen's Club.

Government controlled reserves were also established, for example, on the shores of Back Creek, an arm of the Bellinger, known as the Yellow Rock Reserve. Other missions and reserves established for Gumbaingirr people after 1883 included the Bellbrook Reserve (c1883), Burnt Bridge (c1898) and Nymboida (c1910). Generally Aboriginal Reserves were not pleasant places to live and many people sought work and moved away from such reserves to less controlled areas. In addition to the reserves, some Aboriginal groups and families established their own settlements such as those set up at Urunga, Bellinger, Red Rock, Corindi and Nambucca.

Implications:

As land was given as freehold to the new settlers, and as fences, farms and houses were constructed, Gumbaingirr people found it more and more difficult to travel from camp to camp. Many Gumbaingirr 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, 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.

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

Whilst only one scarred or carved or modified tree has been identified in the general area, it is possible to observe a modified tree. Most modified trees have been either removed by past logging or destroyed by fire or naturally deteriorated.

Middens

Middens have been found along the foreshore of the nearby coast. Estuarine middens have not been recorded, but are always a possibility adjacent to tidal rivers and creeks, depending on access and favourable climatic conditions as well as a seasonal or particular shellfish habitat. The study area is adjacent to Moonee Creek and estuarine middens cannot be ruled out.

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 will be on the crest or rise overlooking the estuarine flat/ swamp. Artefacts may also occur within 400m of Moonee Creek depending on particular landform and access attributes.

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).

Figure 13 following illustrates the areas that may contain archaeological evidence.

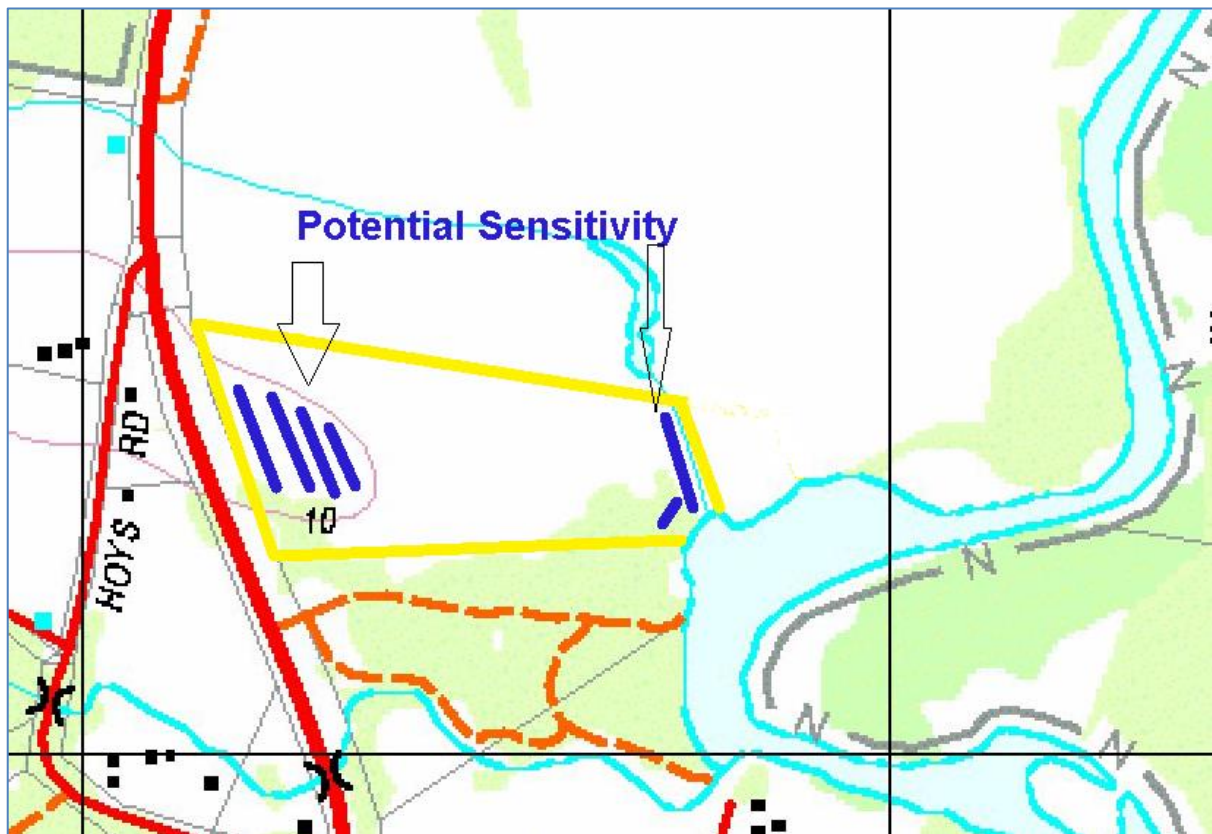


Figure 13 Potential artefactual locations

5.0 STEP 2B Information Requirements (Visual Inspection)

The integration of the information consists of checking the predictive modelling against the on ground reality. The developed predictive modelling indicated that any archaeological evidence would be found in the non- disturbed areas of creek catchments and would generally consist of artefacts and maybe grinding grooves.

Although the entire study area was considered in this assessment it need also to be considered in context of the lands relationship to the water and land features nearby which would have impacted on the use of the study area by Aboriginal people

5.1 Strategy

The following was used to inform the visual inspection of the proposal.

- Vehicle traverse used for reconnaissance observations of the proposal area to inform and design a pedestrian survey strategy for the area and any other areas adjacent to the proposal considered not to be disturbed under the NPWS Act.

5.2 Method

- As the proposal is areal, the entire land area of the proposal was inspected by car for reconnaissance observations prior to implementing a survey strategy.
- Survey on foot of those areas deemed by observation to have even the slightest probability to contain evidence of Aboriginal occupation.
- Accurately define and name survey units
- Include representative photographs of survey units and landforms where informative
- Record landform and general soil information for each survey unit
- Record the land surface and vegetation conditions encountered during the survey and how these impact on the visibility of objects
- Record any Aboriginal objects (including those already registered on AHIMS or otherwise known) observed during the survey
- Record survey coverage and calculate survey effectiveness

As the proposed development footprint is over 2 distinct landform units; estuarine flat and small rise, the development footprint was broken into 2 survey units based on topography. Each survey unit was investigated separately.

Unit 1 Rise

Unit 2 Estuarine flat

The survey units were then specifically and exhaustively examined on foot, paying particular attention to the watercourses, bare ground and erosion features. At the conclusion of the examination of the various survey units, adjacent individual trees that were considered to be of appropriate age and size were examined.

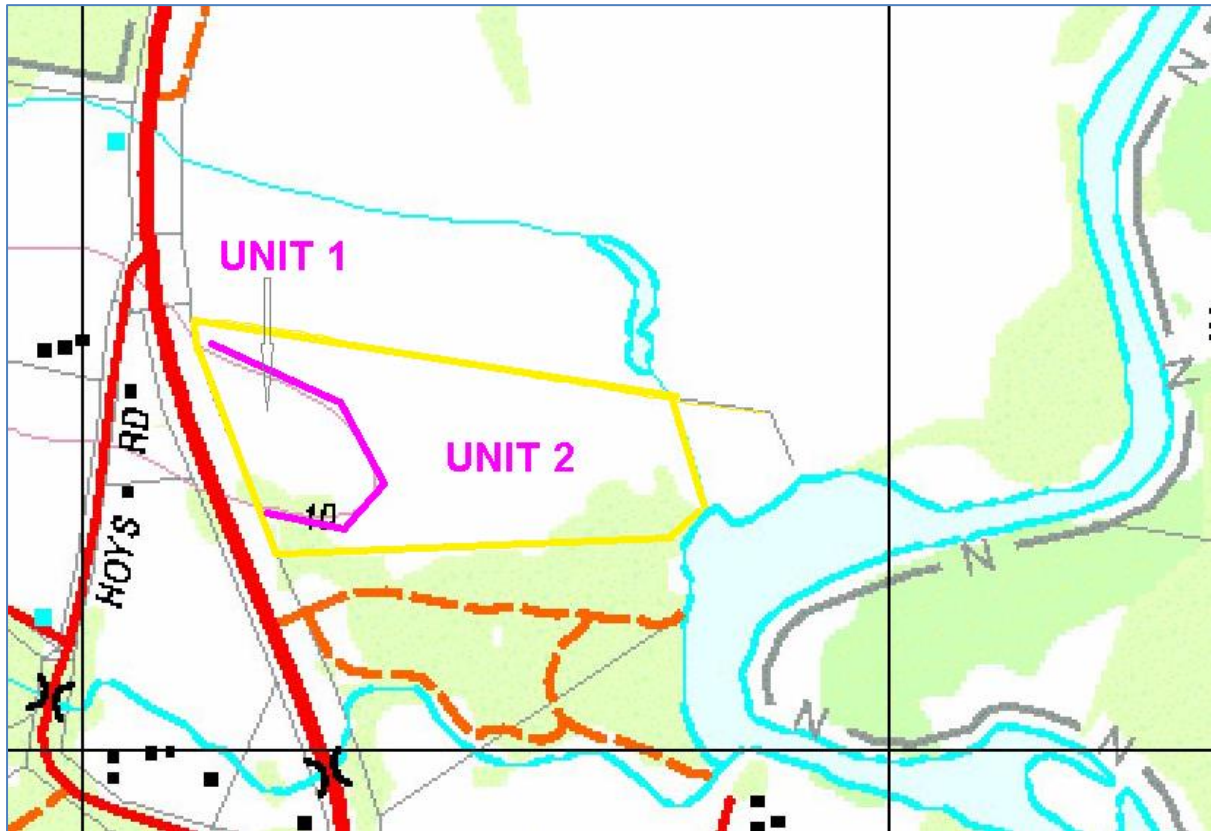


Figure 13 Survey Units

5.3 Coverage Data

The effectiveness of archaeological field survey is to a large degree related to the degree of ground surface visibility. The dominant factor affecting the ground surface visibility was the disturbed and modified nature of the ground.

Although the total amount of exposure was limited, it is believed there was sufficient landform type and exposure to indicate any potential archaeological material that may be present.

The characteristics of each unit and effective survey coverage are as follows:

Unit 1

Unit 1 consists of two parts. One part is a cut and levelled area. It contains very limited vegetation and essentially no topsoil. The 2nd part of Unit 1 is the slope which contains sparse regrowth tree coverage and limited pasture. The levelled area contained gravel roadway and exposed areas. The topsoil was very minimal and exposed bedrock could be observed over most of unit 1 including the slope. The entire unit area was examined on foot. Survey coverage was 90% and visibility was extremely good.



Plate 1 Unit 1

Unit 2

Unit 2 is mostly an estuarine flat which has been used for or grazing. It contains introduced grasses and has been regularly ploughed and slashed. The area is easily waterlogged and whilst it has good exposure in parts was considered not conducive to containing above ground evidence. Unit 2 had a gravel road on its southern boundary which also ran along the eastern boundary. In the south eastern corner closest to Moonee creek the area was treed and indicated potential to contain archaeological evidence. This portion of unit 2 has already been zoned as environmental and will be a buffer between any development and Moonee Creek. That area east of the driveway towards the river, whilst not part of the proposal is considered to be a potential archaeological deposit. However, it was not inspected and could not be conclusively determined as such. As that area is a conservation area such investigation is neither warranted nor necessary,

The trees and the area around their bases were individually inspected and whilst no artefacts were observed, stone scatters were observed on the neighbouring property to the south east, closer to Moonee Creek. It appeared from a distance that they may be Aboriginal Objects.



Plate 2 Unit 2 looking towards Unit 1

<i>Survey unit</i>	<i>Topography</i>	<i>Surface slopes</i>	<i>Visibility</i>	<i>Area available for detection</i>	<i>Finds</i>	<i>Archaeological Survey constraints</i>
Unit 1	Levelled , cut and fill, rock layered rise	Generally <5% But up to 10%	Very good	80%	Artefact Scatter	Highly disturbed land. Minimal or non-existent topsoil
Unit 2	Estuarine flat	<5%	fair	20%	Nil but the environmentally zoned area could be considered to have archaeological sensitivity	Grass covered low lying flats that would be inundated from time to time. Any artefacts would not remain on the surface but be washed away or sink below the surface.

Table1 Survey Effectiveness

5.4 Findings

An artefact scatter was identified on the gravel driveway in unit 1. The individual artefacts consisted of a red silcrete flake, a greywacke flake, a baked greywacke flake and a white quartz core. The red silcrete flake was only 3m distant from the others which were in close proximity to one another.

The context of the finds was in a gravel driveway. The site had been levelled and appeared to have been used in the past as a log dump for timber getting. The artefacts were located within in a very disturbed context. There was very little topsoil, if any at all and the underlying soil composition appeared to be bedrock.

Artefact scatters often indicate subsurface deposits generally within the first 200mm of topsoil. In this case, as topsoil was virtually non-existent, there is little likelihood of the artefacts indicating subsurface potential.

There are 2 possibilities for the existence of the artefacts;

1. They were residual pieces of occupation that remained after the levelling of the site, with many others being removed or;
2. They were brought in with the gravel as road fill.



Plate 1 Silcrete flake



Plate 2 Greywacke flake, a baked greywacke flake and a white quartz core

The fact that the artefacts were in a context of spread gravel it is likely that the artefacts were imported with the gravel. One of the members from the CHLALC who inspected the area in 2006 remembers examining the Unit 1 area carefully and is confident the artefacts were not there then and the land has not changed since. (See 2006 CHLALC report Appendix B). The landowner advises that the road was re-sheeted with gravel a few years ago from a quarry on Bucca Road some 2km to the west. An examination of that quarry indicates that it overlooks the headwaters of Skinners Creek and the landform indicates probable extensive Aboriginal Occupation.

Irrespective of the origin of the artefacts they are Aboriginal Objects and must be assessed for significance. Previous archaeological reports and the landform tend to indicate Aboriginal use of the area and it was expected that artefacts would be found.

A very thorough search of the unit was undertaken and no other artefacts were identified. There was no evidence of any form of gravel or stones within the unit except for the driveway and immediate surrounds.

The artefacts appear to be introduced with imported fill/gravel materials and have no contextual integrity.

5.4.1 Artefact Scatter Description AS1

GPS Reference: 514262E 6659346N Map Name: Moonee Beach 1:25000

Environmental Context/Vegetation: Gravel Driveway on levelled rise eastern boundary of Pacific Highway.

Type/Depth of Deposit: gravely driveway disturbed and levelled rise with minimal topsoil, No opportunity for subsurface deposit

Description:

1 red silcrete flake, triangular in shape 3cm X 3cm X 3cm

1 greywacke flake, approximately 2cm square but irregular

1 baked greywacke flake irregular in shape and 3cm X 2cm

1 white quartz core 2cm X 2cm. This core shows reduction wear. However quartz is difficult to state categorically that it is an artefact as it can easily be worked through mechanical means particularly if with other imported gravel. In this case the quartz was an isolated piece and no other quartz gravel was observed.

The knowledge holders present did not attribute any special significance to the artefacts as they were neither unusual nor rare. They were also poor examples of Aboriginal Objects.

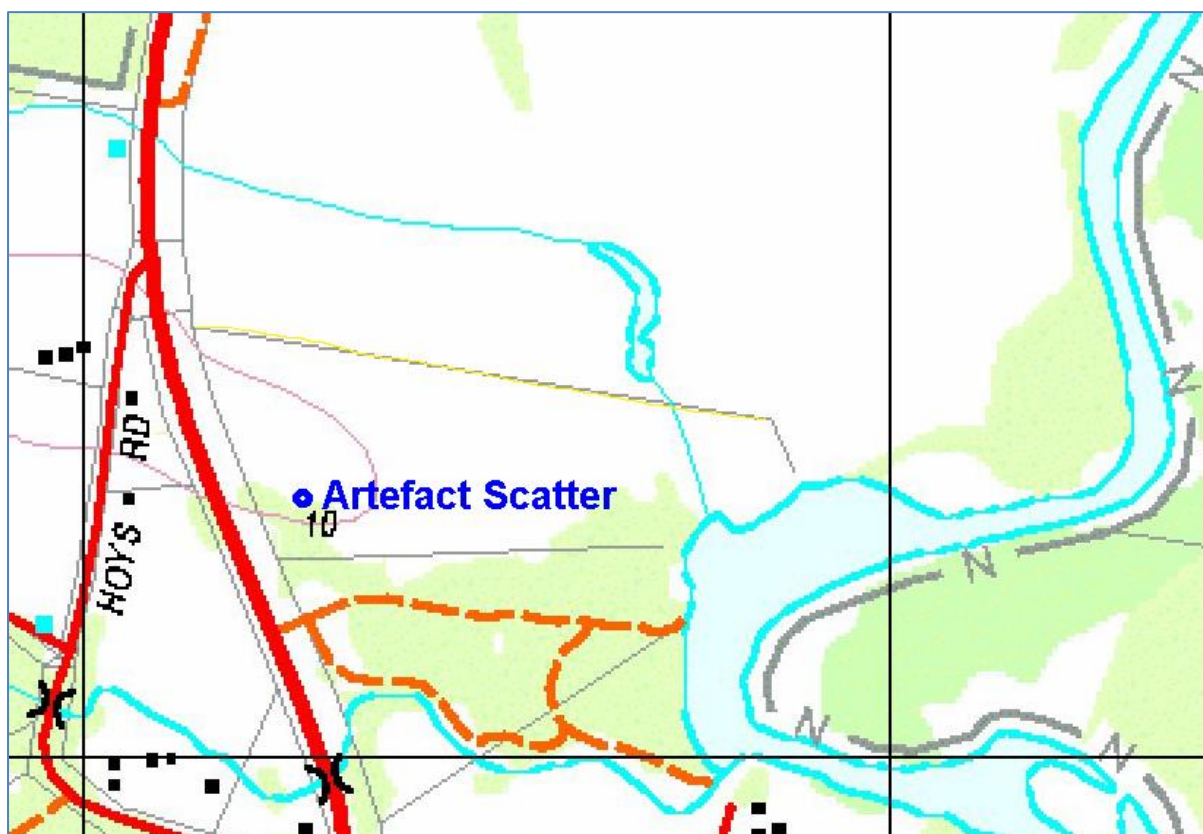


Plate 3 AS1 Location

6.0 Step 3 Integration of information and identification of heritage values

The integration of the information consists of checking the predictive modelling against the on ground reality. The developed predictive modelling indicated that any archaeological evidence would be found in the non- disturbed areas of creek catchments and would generally consist of artefacts and maybe grinding grooves.

6.1 Key principles in determining Occupation Pattern

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

The study area technically/practically has a boundary with Moonee Creek. This in itself suggests the area has potential to be a resource. However, potable or drinking water is not readily available. However, seasonally such water would have been available. There is no question that the study area would have been a resource area for Aboriginal people

2. Food resource

The study area does not appear to contain any unusual food resource that would not be found within the region but seasonally, oysters, shellfish and other marine delicacies would be available as special food resources.

3. Geological features

There is no unusual, unique and prominent geological attributes within the study area.

4. Ease of access

The study area is easily accessible on foot for all age groups, however, its swampy type conditions would have attracted mosquitos and would not have been a favoured access area to the waters of Moonee creek. To the north and to the south minor creeks flow into Moonee Creek and they would have been more favoured for access and resource potential

5. Connectivity

The study area does not appear to link other areas except that Moonee Creek and its tributaries would have linked the coast and hinterland. The coastline was a favoured travel route at least seasonally. The low rise in the west of the property is part of the wider landform unit overlooking and following Moonee Creek. The rise is part of the landform that connects to yellow waterholes which is a known significant resource and feature for Aboriginal People

6. Safety

The study area is not dangerous or close to dangerous landforms. However the estuarine nature of the landform and its associated potential health issues from insects and reptiles would not make it conducive for family occupation. There does not appear to be natural protection from harsh and extreme weather. There are no commanding views from various parts of the study area.

7. Archaeological evidence

Whilst an artefact scatter has been identified within the study area, the spatial distribution is probably more indicative of the occupation of the total area landscape rather than just the immediate area itself. The overall lack of evidence probably also suffers from the highly disturbed nature of much of the land. Nonetheless there is sufficient evidence to attribute intermittent Aboriginal occupation to the study area and its environs.

Comment

Although the majority of the study area has been disturbed, it is still possible to suggest the occupation context and landuse. The information from the above 7 principles indicate:

- The study area was occupied by the Aboriginal community. Food and other practical resources were available 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.

All in all the occupation of the study area appears to be centred on the abundance of special and seasonal marine delicacies. 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 use.

6.2 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*

There is scientific value to the study area.

- *Aesthetic value*

The sensory, scenic, and creative milieu of various parts of the landscape evokes feelings of a sense of place and its past use, but does not evoke any special or unusual use.

Comment

Aboriginal Heritage is centred on Moonee Creek, its tributaries particularly the confluence with Skinners Creek and more importantly Yellow Waterholes. Moonee Beach and the coastline was also a favoured area. It must be noted that the study area is but part of the wider landform centred on Moonee Beach and Yellow Waterholes; a substantial occupation area for Aboriginal people!

Whilst all landscapes are of significance to Aboriginal people there are no areas of archaeological or cultural significance within the study area.

7.0 STEP 4 Information regarding the proposed development

The extent of impact both direct and on Aboriginal heritage is discussed to ensure that appropriate management in the context of the assessed values can be implemented.

The proposal is basically for a subdivision that will ultimately involve residential development and associated infrastructure.

All new development has the potential in the future to alter water use, water flows and soil erosion outside the proposal area. This is particularly the case with the environmental area that may contain archaeological evidence.

It is not possible to predict with any certainty the level of such indirect impact, if any, however it is possible, through appropriate management strategies to alleviate or minimise any accidental harm.

It is never possible to alleviate deliberate harm and this remains a risk with or without the proposed development proceeding. it is important to note that whilst all landscape is significant to the Aboriginal community, the majority of the landscape within the proposal area is considered to be disturbed and any cultural value to or likely evidence within the proposal area lacks integrity and likely to be obliterated.

8.0 STEP 5 Integration of assessment with proposed development

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

- *justification for any likely impact(s), including any alternatives considered for the proposal;*
As discussed previously the only impacts from the proposed development directly or indirectly on Aboriginal heritage will be on the artefact scatter. As the scatter is on a property road, upgrading of that road would be exempt from the definition of harming an Aboriginal Object. It appears that the objects were imported with gravel to upgrade the road a few years earlier. The artefact scatter is not considered to be of special significance. The objects could be collected and placed elsewhere on site out of harm's way. The other alternative is to leave them be an allow them to be harmed with the development of the road. The determination of the course of action will need to be addressed by the Aboriginal community in a post approval management plan. All landscapes that may have archaeological potential are outside the development area and will not be developed and covered by a conservation environmental zone.
- *any measures which will be implemented to avoid, mitigate or offset the likely impact(s).*
A management plan will be implemented to deal with the artefact scatter within the study area as well as mitigating any impacts (albeit unlikely) to any unknown objects that may be discovered in the course of the development construction.
- *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 acceptable Aboriginal cultural heritage outcomes can be met by the proposed development.*

The affected Aboriginal community represented by the stakeholders (which was established through the application of the OEH consultation requirements) has been consulted throughout this assessment and has had input into the assessment as follows:

- All relevant Aboriginal people or Aboriginal organisations were given the opportunity to express an interest in being consulted and involved in the assessment. Appendix A contains the consultation log.
- On the 28/11/2012 registered stakeholders met with this archaeologist for presentation of the proposal, discuss concerns and knowledge and develop procedures for the visual inspection.
- 30/11/2012 undertook visual inspection and made recommendations to be included in the report for consideration
- 1/2/2013 the draft report sent to stakeholders to offer suggestions and approve its finalisation and compile a draft Cultural Heritage Report outlining their input and recommendations to be included in this assessment.

During the meeting on 28/11/2012 it was discussed that several options have previously been considered for management of archaeological evidence where its distribution conflicts with development proposals. These include:

- Destroy without salvage
- Destroy with collection
- Use of zoning or development control to restrict construction etc. to parts of the land where no archaeological evidence occurs, and is not considered likely to occur.
- Use of Conservation Zones or Agreements for sensitive or significant areas.
- Sub surface testing programs to provide additional evidence of site extent.
- Small scale salvage excavation, within a defined area.
- Full detailed salvage excavation, with moderately large sample areas relative to assumed total site area.
- Use of broad area, mechanically assisted excavation or linear scrapes.
- Monitoring during construction or other development.

It was the unanimous recommendation that all the known Objects and areas that were likely to be of significance to the Aboriginal community should be preserved by leaving in situ. It was further recommended that unless it was deemed absolutely necessary archaeological subsurface work was not warranted as it was intrusive and destroyed rather than protected Aboriginal heritage.

With the above in mind, and after due and deliberate consideration with the registered Aboriginal stakeholders, the following recommendations are made:

- With respect to Aboriginal heritage the proposed development's impacts on Aboriginal values are minimal nonetheless there will be impact on some Aboriginal Objects that have lost their integrity and context. Therefore a management plan should be developed in consultation with the Aboriginal stakeholders. This plan may include but not limited to:
 - a. The bagging, tagging and collection of any artefacts that may be unearthed during the construction process and kept with CHLALC until an appropriate keeping place is determined by the management plan.
 - b. Aboriginal Cultural Education Program should be developed by the proponent for the induction of personnel involved in the construction activities in the project area in consultation with KLALC.

In addition the following measures will be implemented to avoid any future (unlikely) impact(s):

- To further mitigate potential indirect impacts, the proponent should continue to consult with the Stakeholders during all phases of development to ensure enhanced and achievable options for benefit to the Aboriginal community is accrued. These options may include work programs, cultural heritage enhancement options and business partnership opportunities.

The registered stakeholders concurred with the findings and recommendations of the report and jointly signed the Aboriginal Cultural report.

The attached correspondence from the Aboriginal community in Appendix A demonstrates that the input of the registered Aboriginal stakeholders has been considered when determining and assessing the impacts, developing options, and making final recommendations to ensure that Aboriginal cultural heritage outcomes can be met by the proposed development.

It must be noted that the Aboriginal Stakeholders have no objection from a cultural heritage perspective for the proposal proceeding as all known areas, objects and features of high value to the Aboriginal community are outside footprint of the proposed development.

9.0 STEP 6 Management strategy for Aboriginal heritage

This step involves identifying management strategies to be implemented post-approval, including:

- *identification of the nature of and location of any offsets;*
There is no need for any offsets as the only Aboriginal Objects that will be impacted directly or indirectly by the proposal will be subject to a management plan that either leaves them in situ or relocates them to an area on site that will not be impacted by the proposal.
- *requirements for further work such as archaeological salvage or community collection for objects of high archaeological or community value;*
The only requirements for further work within the proposal area will be part of the proposed management plan which may include community collection, but the identified Aboriginal Objects are not considered to have high archaeological or community value. Salvage or subsurface investigation is not warranted as all known Aboriginal objects will be left in situ.

As Lot 6 was not inspected or investigated it is not possible to make any specific conclusions regarding that lot. It however, needs to be considered with Lot 1 in a total Aboriginal Heritage landscape context. No development should occur on Lot 6 until a rigorous Aboriginal heritage assessment is conducted.

- *Specific on-going management protocols for both physical conservation outcomes and specific Aboriginal community requirements.*
The following specific management outcomes arising from the above assessment stages for management of the Aboriginal heritage values are enumerated below.
 - A post approval management plan to be prepared for the Aboriginal objects as per Aboriginal community requirements with ongoing consultation with Aboriginal community throughout the development process.
 - The management plan is to be prepared in consultation with the Aboriginal stakeholders to consider preservation and protection of key Aboriginal heritage values and to deal with measures to be taken in the event that new Aboriginal objects of significance or a nature not anticipated, such as burials or ceremonial items are discovered during construction. This plan may include and not limited to:
 - a. The bagging, tagging and collection of any artefacts that may be unearthed during the construction process and kept with CHLALC until an appropriate keeping place is determined by the management plan.
 - b. Aboriginal Cultural Education Program should be developed by the proponent for the induction of personnel involved in the construction activities in the project area in consultation with KLALC.

10.0 Certification

This report was prepared in accordance with the brief given by JBA Planning to assess of the impact of the proposed development on Aboriginal heritage and was undertaken to demonstrate due diligence.

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 Local Aboriginal Land Council and the registered stakeholders. The attached correspondence from the Aboriginal community forms part of this certification and report.

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, neither MCAS nor the Local Aboriginal Land Council and stakeholders can 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

A handwritten signature in cursive script, appearing to read 'L B Roberts'.

(Archaeologist)

1/2/2013

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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.

Australia Geology

Source: Specially compiled in 1979-80 by G.W-Addario, W.D. Palfreyman, A.J. Stewart, J.M. Bultitude and R.A. Chan, Bureau of Mineral Resources, Geology and Geophysics, Canberra. Geological data published and unpublished information by BMR, State geological surveys, the Commonwealth Scientific and Industrial Research Organisation, universities and companies.

Australia Soil Resources

Source: Specially compiled 1976-77 by K.H. Northcote, Division of Soils, CSIRO, Adelaide, from 'A Soil Map of Australia' (1:5000 000) accompanying A Description of Australian Soils by K. H. Northcote and others (Commonwealth Scientific and Industrial Research Organisation, Australia, 1975)

12.0 Glossary

Aboriginal Site

1. 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 of 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 (1989) 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 of 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 and 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 100 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 scar - 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 were 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 (Speight 1990: 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 of tidal waters is defined as the high water mark. ²

12.0 Appendix

- (B) Aboriginal Community Consultation
- (C) Aboriginal Cultural Heritage Report
- (D) AHIMS Results
- (E) Old report

APPENDIX A

Consultation Log

1. Stakeholder Identification

- 2/10/2012 Letters written and sent to
 - (a) the relevant DECCW EPRG regional office (Coffs harbour)
 - (b) Coffs harbour and District Local Aboriginal Land Council(s)
 - (c) the Registrar, *Aboriginal Land Rights Act 1983* for a list of Aboriginal owners
 - (d) the National Native Title Tribunal for a list of registered native title claimants, native title holders and registered Indigenous Land Use Agreements
 - (e) Native Title Services Corporation Limited (NTSCORP Limited)
 - (f) Coffs Harbour Council
 - (g) Northern Rivers Catchment Management authority
 Sample of letter sent attached at end of this log

- Advertisement Placed in Coffs Coast Independent 24/5/2012

- The following people/organisations identified from response to the above (The only organisation to provide a response with information was OEH. No response was received from the advertisement) were emailed or written to on 5/10/2012 informing them of the opportunity to register an interest in the project:

1. Garby Elders
Cultural Heritage Officer
PO Box 102
CORINDI BEACH NSW 2456
2. Coffs Harbour and District Local Aboriginal Land Council
Chris Spencer
PO Box 6150
COFFS HARBOUR NSW 2450
(02) 6652 8740
chris@coffsharbouralc.com.au
3. Garlambirla Guuyu-girwaa Aboriginal Corporation
Richard Widders
PO Box 6904
PARK BEACH NSW 2450
0408 254 152
aboriginaelders.coffsharbour@hotmail.com
4. Mudjay Elders
Cultural Heritage Officer
11 Anderton Street
COFFS HARBOUR NSW 2450
5. Bagawa Birra Murri Aboriginal Corporation
Susan Hoskins
31 Soren Larson Cres.
BOAMBEE EAST NSW 2452
6. Yarrawarra Aboriginal Corporation
E J Williams
PO Box 102
CORINDI BEACH NSW 2456
(02) 6640 7100
(02) 6649 2331
manager@yarrawarra.org.au
7. Mimi Mothers Aboriginal Corporation
Marcia Hillery
90 High Street
BOWRAVILLE NSW 2449
(02) 6564 8855
(02) 6564 8844
manager@miimi.org.au
8. Muurrbay Aboriginal Language and Cultural Co-operative Ltd
Ken Walker
14 Belwood Rd
Via NAMBUCCA HEADS NSW 2448
(02) 6569 4294

9. Gumbaynggirr Native Title Group
Cultural Heritage Officer
14 Belwood Road
NAMBUCCA HEADS NSW 2448
10. Ciaron Dunn
95 Joseph Street
KINGSWOOD NSW 2747
0408 616 961
ciarondunn@hotmail.com
11. Gumbaynggirr Elders
Cultural Heritage Officer
PO Box 400
NAMBUCCA HEADS NSW 2448
12. Ngurrula Aboriginal Corporation
Noel Campbell
PO Box 62
MACKSVILLE NSW 2447
(02) 65684400
(02) 65684422
ngurrula@midcoast.com.au
13. Uncle Thomas Kelly and Family
Mr Thomas Kelly
12 Raleigh Street
URUNGA NSW 2455
0432 168 593 (C/- neice Suzie Kelly)
14. D F T V Enterprises
Derrick Vale Sr
5 Mountbatten Close
RUTHERFORD NSW 2320
0438 812 197
deckavale@hotmail.com

A sample letter sent to potential stakeholders is appended as part of this log.

- The following replied by the closing date and were registered as Stakeholders. There were no responses after the closing date.

CHLALC

2. Presentation of information about the proposed project and gathering information about cultural significance

- Information on project sent to Chris Spencer CEO of CHLALC on 17/10/2012
- Follow up emails and phone conversations 5/11 and 12/11 Purpose being to see if Chris was able to see if other Aboriginal Parties, particularly the Garby Elders wished to be involved in survey even if not interested in being registered as stakeholders.
- Meeting held with the stakeholders at Coffs harbour LALC on 28/11/2012 to explain the project and seek information from the stakeholders

3. Review of draft cultural heritage assessment report

- Draft report forwarded to stakeholders for comment and feedback on 1/2/2013
- Cultural report received from stakeholders on 10/4/2013 and forms Appendix B of this report.



Myall Coast Archaeological Services

"Tall Pines"
Tea Gardens. 2324

Phone/Fax: 49971011

Email: archaeology@myallcoast.net.au

Mobile: 04 03 07 1922

ACN 002 992 430

The Manager,
National Native Title Tribunal
Level 4, Commonwealth Law Courts Building
1 Victoria Avenue
GPO Box 9973
Perth WA 6848
Telephone: (08) 9268 9700
Freecall: 1800 640 501
Facsimile: (08) 9268 7299
Email: enquiries@nntt.gov.au

Dear Sir or madam,

I am writing to you as per the DECCW Consultation Guidelines 2010 under Part 6 of the NPW Act.

Myall Coast Archaeological Service has been engaged by JW Planning to undertake an archaeological and cultural heritage assessment for a proposed Part 3A Environmental Assessment report for Moonee Parklands Development MP 09_0067 - Coffs Harbour LGA. The assessment will be conducted under the former Part 3A requirements of the EP&A Act.

OEH advises that you may be an appropriate source of information for the names of Aboriginal people who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/or places.

If you do hold such information it would be appreciated if you could forward such information within 7 days of the date of this letter. The information supplied will be used to assist the proponent in the preparation (if required) of a heritage management plan and to assist the Director General in his or her consideration and determination of the Part 3A application.

Please note the information you provide regarding the stakeholder list may be used in court if challenges are made to the validity of the registered stakeholder list. It is therefore important that you supply the basis upon which you came to the conclusion that, those on the list are active Aboriginal organisations and/or Aboriginal persons; and are able to speak on country.

If the information you have furnished has not been verified or validated could you please respond accordingly. A nil response within the timeframe will indicate that you are unable to provide such information

Thank you for your assistance in the matter.

Yours sincerely
Kind regards,

Len Roberts
Archaeologist
2/10/2012

Dear Potential Stakeholder,

I am writing to you as per the DECCW Consultation Guidelines 2010 under the NPW Act 1974 as amended. Myall Coast Archaeological Service has been engaged by JNW Planning to undertake an archaeological and cultural heritage assessment for a proposed Part 3A Environmental Assessment report for Moonee Parklands Development MP 09_0067 - Coffs Harbour LGA. The assessment will be conducted under the former Part 3A requirements of the EP&A Act.

I am writing to you as your name has been forwarded to me as An Aboriginal person who may have an interest in Aboriginal Cultural matters in the above area and may have a right to be consulted regarding the project.

The purpose of the consultation is to:

- Assist in determining appropriate decisions and recommendations, informed by Aboriginal people who hold cultural knowledge relevant to determining the cultural significance of objects and/or places regarding the conservation and management of Aboriginal objects and/or places.
- Assist the proponent in the preparation (if required) of an Aboriginal heritage Management Plan
- Ensure opportunity for effective involvement of Aboriginal people or groups with relevant cultural knowledge in the heritage-impact assessment processes
- Enable Aboriginal people to efficiently identify those within their communities who hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or places.

The objective of community consultation is to ensure that Aboriginal people have the opportunity to improve assessment outcomes by:

- providing relevant information about the cultural significance and values of the Aboriginal object(s) and/or place(s)
- influencing the design of the method to assess cultural and scientific significance of Aboriginal object(s) and/or place(s)
- actively contributing to the development of cultural heritage management options and recommendations for any Aboriginal object(s) and/or place(s) within the proposed project area
- Commenting on draft assessment reports before they are submitted by the proponent for consideration to the consent authority

An invitation is extended to you as an Aboriginal person or Aboriginal Organisation if you hold cultural knowledge relevant to determining the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation with the proponent regarding the proposed activity. Please note for legal reasons individuals will need to demonstrate their right to speak on behalf of country.

Only Aboriginal persons or Aboriginal organisations can register an interest. If an Aboriginal organisation i.e. Land Council or Registered and active Aboriginal Corporation wishes to register an interest then a representative must be nominated. By law, a company, partnership, trust or business entity is not considered to be an Aboriginal organisation. **You cannot register an interest on behalf of another person.**

According to the Consultation Guidelines the qualifications of those who can register their interest as an Aboriginal party are those people who:

- continue to maintain a deep respect for their ancestral belief system, traditional lore and custom
- recognise their responsibilities and obligations to protect and conserve their culture and heritage and care for their traditional lands or Country
- Have the trust of their community, knowledge and understanding of their culture, and permission to speak about it.

If you meet the qualifications and would like to register an interest please provide the following Information. It is important that all information is supplied to allow proper consideration of your request.

Name

Residential Address

Postal address (if applicable)

Phone

Email (if applicable)

Organisation you are representing (if applicable)

Authority to speak on country

To register your interest, please contact in writing:

S J Roberts

Myall Coast Archaeological Services

PO Box 330

Raymond Terrace. 2324

Email: archaeology@myallcoast.net.au

Closing date for Registration 5pm 22/10/2012

For record purposes the registration must be in writing. So if you have expressed an interest previously please provide the above information as well. If you are aware of others please pass a copy of this letter to them so that they can respond personally.

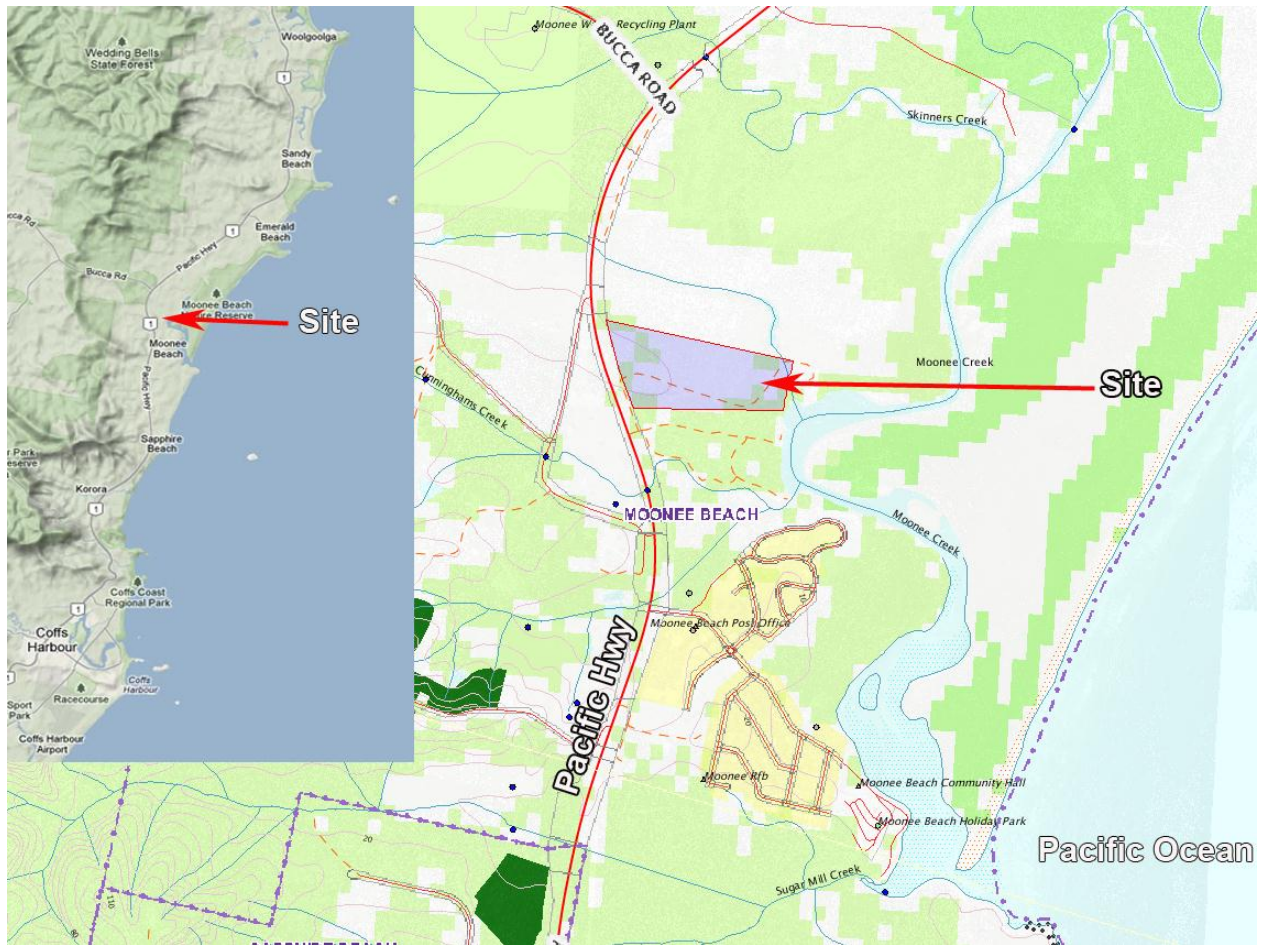
Please note Aboriginal people who are registering an interest, your details will be forwarded to DECCW and the Local Aboriginal Land Council (LALC) unless you specify that you do not want your details released.

Once a stakeholder list has been established you will be advised of a consultation meeting for the community to determine the stakeholders and to discuss project options. Your earliest response would be greatly appreciated.

Kind regards

S J Roberts

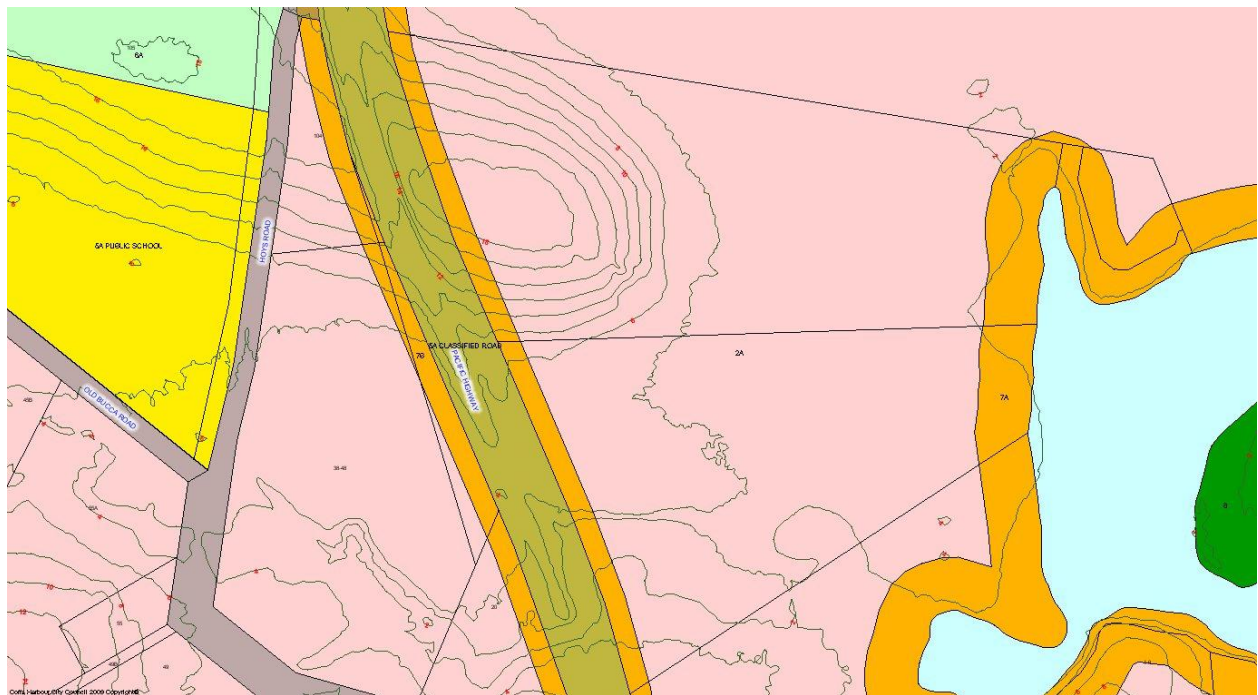
5/10/2012



Regional Location



Study area



Zoning map: Pink residential, orange conservation

APPENDIX B



Coffs Harbour & District Local Aboriginal Land Council

Cnr Pacific Highway & Arthur Street, Coffs Harbour 2450
PO Box 6150, Coffs Harbour Plaza NSW 2450

Phone: (02) 6652 8740

Fax: (02) 6652 5923

10th April 2013

Attention: Mr Len Roberts

Myall Coast Archaeological Service

Via Email: len@myallcoast.net.au

Re: Aboriginal Cultural Heritage Assessment, Lot 1 DP 1097743 Pacific Highway, Moonee Beach NSW.

Dear Mr Roberts,

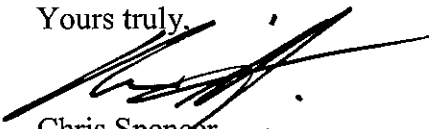
Thank you for providing the Coffs Harbour and District Local Aboriginal Land Council (CHDLALC) with a draft copy of the report recommendations for the proposed residential development of Lot 1 DP 1097743, Pacific Highway, Moonee Beach NSW.

After reviewing the report recommendations the CHDLALC is satisfied that the report reflects the discussions held during the course of the Aboriginal Cultural Heritage assessment process.

In summary the CHDLALC endorses the Myall Coast Archaeological Service's Cultural Heritage report of the proposed residential development of Lot 1 DP 1097743, Pacific Highway, Moonee Beach NSW in its current form.

If you have any questions in relation to this matter please contact the undersigned on the number listed above.

Yours truly,



Chris Spencer
Chief Executive Officer

APPENDIX C

Lennard Roberts
6783 Pacific Highway
Tea Gardens New South Wales 2324
Attention: Lennard Roberts
Email: len@myallcoast.net.au

Date: 04 February 2013

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lot : 1, DP:DP1097743 with a Buffer of 0 meters, conducted by Lennard Roberts on 04 February 2013.

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 \(http://www.nsw.gov.au/gazette\)](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 to 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.

Lennard Roberts
6783 Pacific Highway
Tea Gardens New South Wales 2324
Attention: Lennard Roberts
Email: len@myallcoast.net.au

Date: 04 February 2013

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lot : 1, DP:DP1097743 with a Buffer of 1000 meters, conducted by Lennard Roberts on 04 February 2013.

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:

8	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.
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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref Number : MB3
Client Service ID : 91221

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
22-1-0072	DH 2;Moonee (Site 2)	AGD	56	514314	6659977	Open site	Valid	Artefact : -	Open Camp Site	100810
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							
22-1-0073	DH 4;Moonee;	AGD	56	514520	6659980	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							
22-1-0074	DH 4;Moonee (Site 5)	AGD	56	514682	6659949	Open site	Valid	Artefact : -	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							
22-1-0075	DH 6;Moonee;	AGD	56	515120	6659480	Open site	Valid	Artefact : -	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							
22-1-0137	CHSS-12	AGD	56	514420	6660200	Open site	Valid	Artefact : 5		
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							
22-1-0219	MBS4	AGD	56	514091	6660288	Open site	Valid	Artefact : 1		
	<u>Contact</u> T Russell	<u>Recorders</u>	<u>Permits</u>							
22-1-0299	Site 1 Rothwell Boys	AGD	56	514573	6659660	Open site	Valid	Artefact : 9		
	<u>Contact</u> Searle	<u>Recorders</u>	<u>Permits</u>							
22-1-0294	Site6	GDA	56	515480	6660008	Open site	Valid	Artefact : 2		
	<u>Contact</u> Searle	<u>Recorders</u>	<u>Permits</u>							

Report generated by AHIMS Web Service on 04/02/2013 for Lennard Roberts for the following area at Lot : 1, DP:DP1097743 with a Buffer of 1000 meters. Additional Info : Part 3a Arch
Assessment. Number of Aboriginal sites and Aboriginal objects found is 8

This information is not guaranteed to be free from error omission. Office of Environment and Heritage (NSW) and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

Lennard Roberts
 6783 Pacific Highway
 Tea Gardens New South Wales 2324
 Attention: Lennard Roberts
 Email: len@myallcoast.net.au

Date: 04 February 2013

Dear Sir or Madam:

**AHIMS Web Service search for the following area at Lot : 1, DP:DP1097743 with a Buffer of 0 meters,
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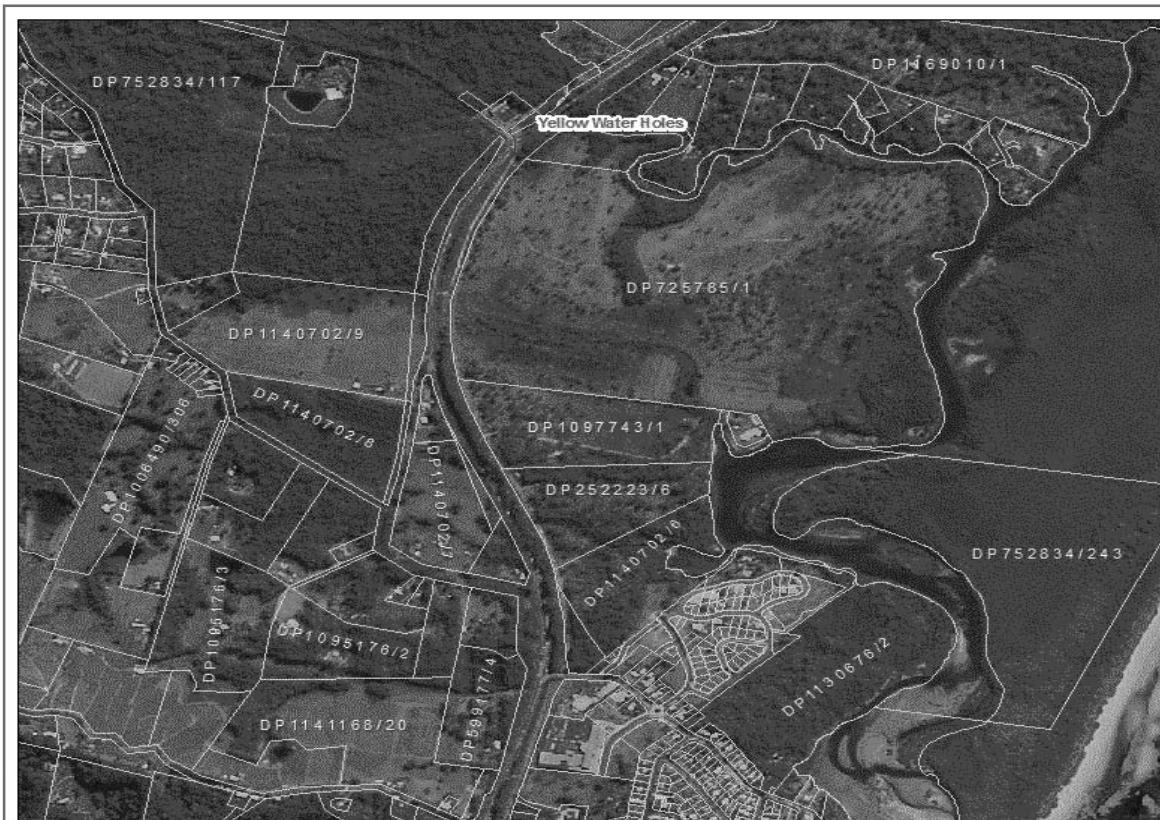
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- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

Lenn0rd Roberts
6783 P0cific Highw0y
Te0 G0rdens New South W0les 2324
Attention: Lenn0rd Roberts
Em0il: len@my0llco0st.net.0u
De0r Sir or M0d0m:

D0te: a4 Febru0ry 2a13

AHIMS Web Service search for the following area at Lot : 1, DP:DP1097743 with a Buffer of 1000 meters, conducted by Lennard Roberts on 04 February 2013.

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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.



AHIMS Web Services (AWS) Extensive search - Site list report

Your Ref Number : MB3
Client Service ID : 91221

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
22-1-0072	DH 2;Moonee (Site 2)	AGD	56	514314	6659977	Open site	Valid	Artefact : -	Open Camp Site	100810
	Contact	Recorders	Ms.Jacqueline Collins, Miss.Nicola Roche					Permits		
22-1-0073	DH 4;Moonee;	AGD	56	514520	6659980	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	
	Contact	Recorders	Ms.Jacqueline Collins					Permits		
22-1-0074	DH 4;Moonee (Site 5)	AGD	56	514682	6659949	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	Ms.Jacqueline Collins, Miss.Nicola Roche					Permits		
22-1-0075	DH 6;Moonee;	AGD	56	515120	6659480	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	Ms.Jacqueline Collins					Permits		
22-1-0137	CHSS-12	AGD	56	514420	6660200	Open site	Valid	Artefact : 5		
	Contact	Recorders	Ms.Jacqueline Collins					Permits		
22-1-0219	MBS4	AGD	56	514091	6660288	Open site	Valid	Artefact : 1		
	Contact T Russell	Recorders	Environmental Resources Management Australia					Permits		
22-1-0299	Site 1 Rothwell Boys	AGD	56	514573	6659660	Open site	Valid	Artefact : 9		
	Contact Searle	Recorders	Miss.Nicola Roche					Permits		
22-1-0294	Site6	GDA	56	515480	6660008	Open site	Valid	Artefact : 2		
	Contact Searle	Recorders	Miss.Nicola Roche					Permits		

Report generated by AHIMS Web Service on 04/02/2013 for Lennard Roberts for the following area at Lot : 1, DP:DP1097743 with a Buffer of 1000 meters. Additional Info : Part 3a Arch
Assessment. Number of Aboriginal sites and Aboriginal objects found is 8

This information is not guaranteed to be free from error omission. Office of Environment and Heritage (NSW) and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

APPENDIX D



Coffs Harbour & District Local Aboriginal Land Council

Cnr Pacific Highway & Arthur Street, Coffs Harbour 2450
PO Box 6150, Coffs Harbour Plaza NSW 2450

Phone: (02) 6652 8740

Fax: (02) 6652 5923

10th January 2006

Attention: Mr Geoff Smyth

Geoff Smyth Consulting
PO Box 1925
Coffs Harbour, NSW, 2450

RE: CULTURAL HERITAGE INSPECTION LOT 6 DP 252223 PACIFIC HIGHWAY, MOONEE

Dear Mr Smyth,

Thank you for the opportunity to perform a Cultural Heritage inspection of the above mentioned property. The aims of this inspection were to ascertain if any Cultural Heritage constraints exist within the proposed development plan.

On the 15th December 2005, Mr Mark Flanders, Senior Cultural Heritage Officer and Mr Chris Spencer, Cultural Heritage Officer of Coffs Harbour and District Local Aboriginal Land Council performed a Cultural Heritage inspection of Lot 6 DP 252223, Pacific Highway, Moonee.

During this inspection it was noted that there was high disturbance of the property through previous land uses, which would minimize the potential of Cultural Heritage materials being located in situ. No objects of Aboriginal origin were identified during this inspection.

However, it should be noted that it is possible that objects may be deposited within the property and it is further recommended that should any materials be unearthed during the course of work (E.g. skeletal remains, stone tools and/or shell deposits) be deemed to have possible ties of Aboriginal origin, works in the vicinity of the find must cease immediately and Coffs Harbour and District Local Aboriginal Land Council notified immediately to establish the origin of the material/s, before works can recommence in the area of the find.

If you have any questions in relation to this matter, please do not hesitate to call Chris Spencer or myself on the above number.

Yours truly,

Mark Flanders
Senior Cultural Heritage Officer

APPENDIX E



Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville NSW 2220



Office of
Environment
& Heritage

Office Use Only

Site Number

Date received / / Date entered into system / / Date catalogued / /

Entered by (I.D.)

Information Access

☒ Gender/male ☐ Gender/female ☐ Location restriction ☐ General restriction ☐ No access

For Further Information Contact:

☒ Nominated Trustee

Title Surname First Name Initials
C E O S p e n c e r C h r i s
Organisation C o f f s H a r b o u r L A L C
Address P O B o x 6 1 5 0 C o f f s H a r b o u r
Phone number 6 6 5 2 8 7 4 0 Fax 6 6 5 2 5 9 2 3

☒ Knowledge Holder

Title Surname First Name Initials
C E O S p e n c e r C h r i s
Organisation C o f f s H a r b o u r L A L C
Address P O B o x 6 1 5 0 C o f f s H a r b o u r
Phone number 6 6 5 2 8 7 4 0 Fax 6 6 5 2 5 9 2 3

Aboriginal Heritage Unit or Cultural Heritage Division Contacts

Geographic Location

Site Name M B A S 1

Easting 5 1 4 2 6 2 Northing 6 6 5 9 3 4 6 AGD/GDA GDA

Mapsheet M o o n e e B e a c h 1 : 2 5 0 0 0

Zone 56 Location Method Non-Differential GPS

Other Registration

Primary Recorder

Title Surname First Name Initials
M R R o b e r t s L e n n a r d
Organisation M y a l l C o a s t A r c h a e o l o g y
Address 6 7 8 3 P a c i f i c H w y t e a G a r d e n s
Phone number 4 9 9 7 1 0 1 1 Fax 4 9 9 7 1 0 1 1
Date recorded 30/11/2012

Office Use
Only

Client on
system

☐

Client on
system

☐

Client on
system

☐

OPEN/CLOSE SITE ☒ Open Site

Site Context

Landform

- ☐ Mountainous
☐ Plain
☐ Rolling hills
☐ Steep hills
☐ Undulating plain

Landform Unit

- ☐ Beach
☐ Coastal rock platform
☐ Dune
☐ Intertidal flat
☐ Lagoon
☐ Tidal Creek

☐ Tidal Flat☐ Cliff☐ Crest☐ Flat☐ Lower slope☐ Mid slope☐ Upper slope☐ Plain☒ Ridge☐ Tor☐ Valley flat☐ Levy☐ Stream bank☐ Stream channel☐ Swamp☐ Terrace☐ Terrace flat

Slope

 degrees

Vegetation

- ☐ Closed forest
☐ Grasslands
☐ Isolated clumps of trees
☐ Open forest
☐ Open woodland
☐ Scrub
☐ Woodland
☐ Cleared
☐ Revegetated
☐ N/A

Land use

- ☐ Conservation
☐ Established urban
☐ Farming-intensive
☒ Farming-low intensity
☐ Forestry
☐ Industrial
☐ Mining
☐ Pastoral/grazing
☐ Recreation
☐ Semi-rural
☐ Service corridor
☐ Transport corridor
☐ Urban expansion
☐ N/A

Water

Distance to permanent water source metresDistance to temporary water source metresName of nearest permanent water source Name of nearest temporary water

Directions for Relocation

The proper entrance is on Eastern side of Pacific Highway
 750m Nth of Moone Beach Road intersection and 950m South
 of Bucca Road intersection. Scatter is on gravel driveway
 approximately 75m from entrance

Current Land Tenure

☐ Public National Park / other Government Dept.☒ Private

Primary report

I.D. (I.D. Office Use only)

Roberts, L.

Aboriginal Heritage Assessment

Lot 1 DP 1097743 and Lot 6 DP 252223

Pacific Highway,

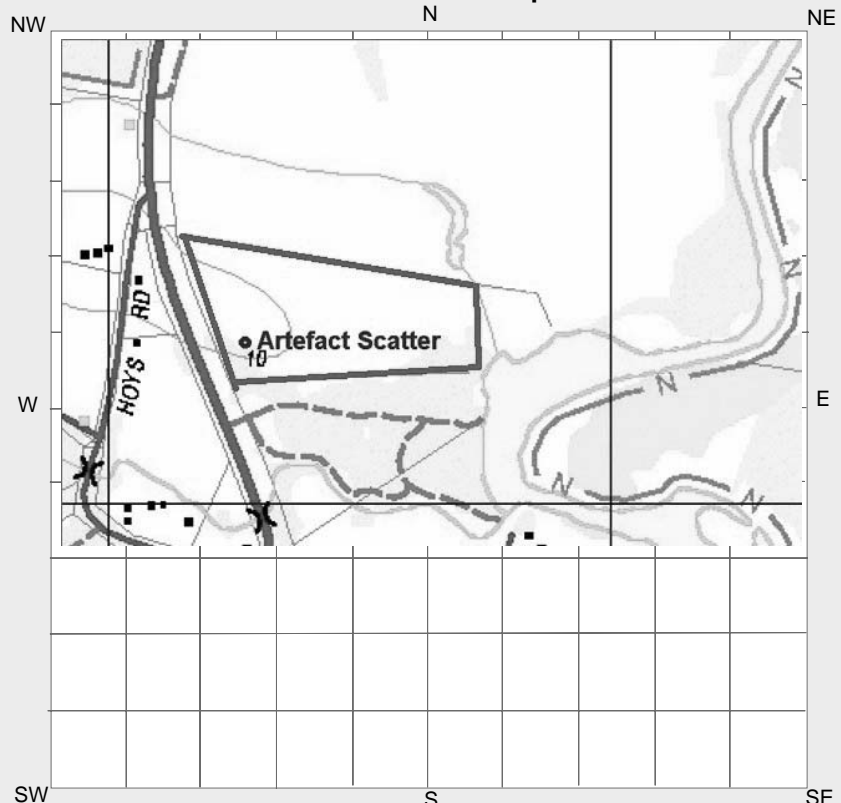
Moone Beach, NSW

Report to JW Planning Newcastle NSW

Thursday 30th May, 2013

by Myall Coast Archaeological Services

Site Location Map



General Site Information

Closed Site

Shelter/Cave Formation

- ☐ Boulder
- ☐ Wind erosion
- ☐ Water erosion
- ☐ Rock collapse

Rock Surface Condition

- ☐ Boulder
- ☐ Sandstone platform
- ☐ Silica gloss
- ☐ Tessellated
- ☐ Weathered
- ☐ Other platform

Condition of Ceiling

- ☐ Boulder
- ☐ Sandstone platform
- ☐ Silica gloss
- ☐ Tessellated
- ☐ Weathered
- ☐ Other platform

Shelter Aspect

- ☐ North
- ☐ North East
- ☐ East
- ☐ South East
- ☐ South
- ☐ South West
- ☐ West
- ☐ North West

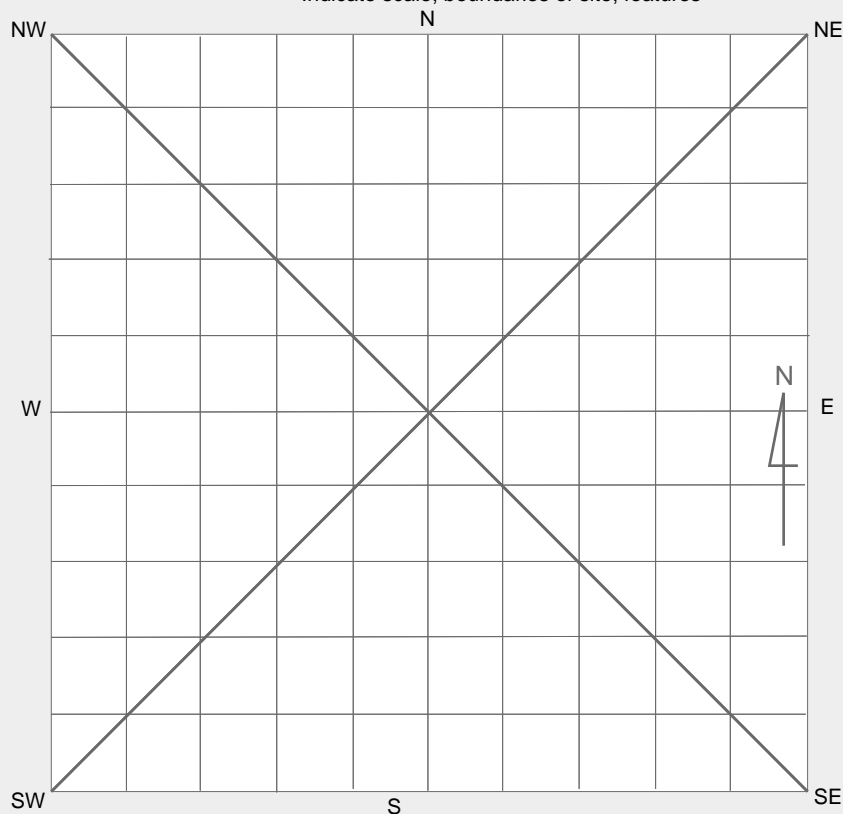
Open Site

Site Orientation

- ☐ N-S
- ☐ NE-SW
- ☐ E-W
- ☐ SE-NW
- ☒ N/A

Features

- ☐ 1. Aboriginal Ceremony & Dreaming
- ☐ 2. Aboriginal Resource & Gathering
- ☐ 3. Art
- ☒ 4. Artefact
- ☐ 5. Burial
- ☐ 6. Ceremonial Ring
- ☐ 7. Conflict
- ☐ 8. Earth Mound
- ☐ 9. Fish Trap
- ☐ 10. Grinding Groove
- ☐ 11. Habitation Structure
- ☐ 12. Hearth
- ☐ 13. Non Human Bone & Organic Material
- ☐ 14. Ochre quarry
- ☐ 15. Potential Archaeological Deposit
- ☐ 16. Stone Quarry
- ☐ 17. Shell
- ☐ 18. Stone Arrangement
- ☐ 19. Modified Tree
- ☐ 20. Water Hole

Site Plan Indicate scale, boundaries of site, features

Site Dimensions

Closed Site Dimensions (m)

- Internal length
- Internal width
- Shelter height
- Shelter floor area

Open Site Dimensions (m)

- 2 0m Total length of visible site
- 2 0m Average width of visible site
- 4 0 0m 2 Estimated area of visible site
- 2 0m Length of assessed site area

Aboriginal Community Interpretation and Management Recommendations

Artefacts have lost integrity and context repatriation on site as part of a management plan

The knowledge holders present did not attribute any special significance to the artefacts as they were neither unusual nor rare. They were also poor examples of Aboriginal Objects.

Preliminary Site Assessment

Site Cultural & Scientific Analysis and Preliminary Management Recommendations

Artefact Scatter Description

AS1

GPS Reference: 514262E 6659346N Map Name: Moonee Beach 1:25000

Environmental Context/Vegetation: Gravel Driveway on levelled rise eastern boundary of Pacific Highway.

Type/Depth of Deposit: gravely driveway disturbed and levelled rise with minimal topsoil, No opportunity for subsurface deposit Description:

1 red silcrete flake, triangular in shape 3cm X 3cm X 3cm

1 greywacke flake, approximately 2cm square but irregular 1 baked greywacke flake irregular in shape and 3cm X 2cm

1 white quartz core 2cm X 2cm. This core shows reduction wear.

This section should only be filled in by the Endorsees

Endorsed by: ☒ Knowledge Holder ☒ Nominated Trustee ☐ Native Title Holder ☐ Community Consensus

Title

Surname

First Name

Initials

C E O

S p e n c e r t

C h r i s

Organisation

C o f f s h a r b o u r L A L C

Address

P O B o x 6 1 5 0 C o f f s H a r b o u r

Phone number

6 6 5 2 8 7 4 0 Fax

Attachments (No.)

- ☐ A4 location map
☐ B/W photographs
☐ Colour photographs
☐ Slides
☐ Aerial photographs
☐ Site plans, drawings
☐ Recording tables
☒ Other
☐ Feature inserts-No. ☐

Comments

quartz is difficult to state categorically that it is an artefact as it can easily be worked through mechanical means particularly if with other imported gravel. In this case the quartz was an isolated piece and no other quartz gravel was observed.