

**ABORIGINAL & HISTORICAL
ARCHAEOLOGICAL & CULTURAL HERITAGE
ASSESSMENT:
5 LANDS COASTAL WALKWAY
FOR
ANDREWS NEIL URBAN DESIGN GROUP**



Detail of a 1954 aerial photograph, showing the Skillion and Broken Head.

**Final Report
March 2011**

AHMS

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GLOSSARY

Aboriginal Heritage Impact Assessment	A document developed to assess the archaeological and cultural values of an area, generally required as part of an Environmental Assessment (EA).
Aboriginal Heritage Impact Permit (AHIP)	The statutory instrument that the Director General of DECCW issues under Section 87 and/or 90 of the <i>National Parks and Wildlife Act 1974</i> to allow the impact and/or destruction of Aboriginal objects. AHIPs are not required for a project seeking approval under Part 3A of the <i>Environmental Planning and Assessment Act 1979</i> .
Aboriginal object	A statutory term defined under the <i>National Parks and Wildlife Act 1974</i> meaning, 'any deposit, object or material evidence (not being handicraft made for sale) relating to Aboriginal habitation of the area comprising NSW, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains'.
Department of Environment, Climate Change and Water (DECCW)	A State government agency that manages and regulates Aboriginal heritage under Part 5 and 6 of the <i>Environmental Planning and Assessment Act 1979</i> . It is also involved in providing technical support to the Department of Planning for projects considered under Part 3A of the <i>Environmental Planning and Assessment Act 1979</i> .
<i>Environmental Planning and Assessment Act 1979</i>	Statutory instrument that provides planning controls and requirements for environmental assessment in the development approval process. The Act is administered by DoP.
<i>National Parks and Wildlife Act 1974</i>	The primary piece of legislation for the protection of Aboriginal cultural heritage in NSW. Part 6 of this Act outlines the protection afforded to and offences relating to disturbance of Aboriginal objects. The Act is administered by DECCW.
Potential Archaeological Deposit (PAD)	An area assessed as having the potential to contain Aboriginal objects. PAD are commonly identified on the basis of landform types, surface expressions of Aboriginal objects, surrounding archaeological material, disturbance, and a range of other factors. While not defined in the <i>National Parks and Wildlife Act 1974</i> , PADs are generally considered to retain Aboriginal objects and are therefore protected and managed in accordance with that Act.
Proponent	A corporate entity, Government agency or an individual in the private sector which proposes to undertake a development project. The proponent for this project is Gosford City Council.

ABBREVIATIONS

AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
AHMS	Archaeological and Heritage Management Solutions
BP	Before the present
CHL	Commonwealth Heritage List
DCP	Development Control Plan
DECCW	Department of Environment, Climate Change and Water
DP	Deposited Plan
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
ERS	Eastern Regional Sequence
LALC	Local Aboriginal Land Council
LEP	Local Environmental Plan
LGA	Local Government Area
LTO	Land Titles Office
NHL	National Heritage List
NPW Act	<i>National Parks and Wildlife Act 1974</i>
PAD	Potential Archaeological Deposit
REP	Regional Environmental Plan
RNE	Register of the National Estate
SHR	State Heritage Register
SHI	State Heritage Inventory
WHL	World Heritage List

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Eva Day and Sharlene Freeburn, DECCW

Robert Parkinson and Efren Sayas, Land and Property Management Authority

Megan Mebberson, Office of the Registrar *Aboriginal Land Rights Act 1983*

Kashana Cohen-McMeekin, National Native Title Tribunal

EXECUTIVE SUMMARY

Background

- In late 2010 Archaeological and Heritage Management Solutions Pty Ltd (AHMS), was commissioned by Andrews Neil Urban Design Group to undertake an Aboriginal and Historical Heritage Impact Assessment of the existing route of the 5 Lands Coastal Walkway, running from MacMasters Beach to Terrigal. In addition, a series of alternate routes for the Walkway were also explored;
- Andrews Neil Urban Design Group on behalf of Gosford City Council is developing a master-plan to explore the future route of the Walkway and management of the annual 5 Lands Walk Event. This report provides contextual information on the heritage constraints and issues of the Walkway to assist the master-plan.

Aboriginal Heritage

- Aboriginal heritage was undertaken in accordance with the Department of Environment, Climate Change and Water's (2010) *Code of Practice for Archaeological Investigations of Aboriginal Objects in New South Wales*, and (2010) *Aboriginal Cultural Heritage Community Consultation Requirements for Proponents*;
- Aboriginal consultation was undertaken and included the Darkinjung LALC, Guringai Tribal Link Aboriginal Corporation, Potory Minbee Aboriginal Elders Group, and Mr. Kevin Duncan;
- The assessment included an archaeological predictive model of the Walkway using a detailed background of previous archaeological investigations in the region and information from the AHIMS database. A site survey was also undertaken in conjunction with the Aboriginal communities;
- The assessment identified that in general the Walkway was through heavily disturbed and/or previously developed areas, and the potential for preservation of archaeological materials was low. Only two areas were identified as retaining Aboriginal objects/sites [REDACTED] and First Point midden (45-3-0581, 45-3-0724, 45-3-3305, 45-3-3306), a previously documented midden that runs along the fore-dunes of Copacabana Beach. A significance assessment of both these sites identifies them as of high archaeological and cultural value. Other areas are

considered of archaeological potential, included the fore-dunes along Avoca and North Avoca beach, but no new works are proposed in these areas;

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Walkway. Similarly, no fore-dunes are proposed for additional impact;

- The assessment identified the following general recommendations for Aboriginal heritage:
 - Consultation between Gosford City Council and relevant Registered Aboriginal Parties should be maintained as appropriate throughout the design and construction of the Proposal;
 - Where possible Gosford City Council should aim to avoid impacting any known Aboriginal heritage objects, sites or places and places that have potential Aboriginal heritage or cultural values, throughout the life of the project;
 - Where impact cannot be avoided, Gosford City Council should choose partial impact rather than complete impact wherever possible and ensure that appropriate measures to mitigate impacts are developed and implemented as required and as appropriate during design, construction and operation of the project;
 - If re-location of the Walkway outside of those areas investigated is proposed, further assessment of these areas should be undertaken to identify and appropriately manage Aboriginal objects/sites/places that may be in these areas;
 - Gosford City Council should advise all relevant personnel and contractors involved in the design, construction and operation of the project, of the relevant heritage issues, legislative requirements and recommendations identified in any Aboriginal heritage impact assessments undertaken for the project;
 - In the event that previously undiscovered Aboriginal objects, sites or places (or potential Aboriginal objects, sites or places) are discovered during construction, all works in the vicinity of the find should cease and Gosford City Council should determine the subsequent course of action in consultation with a heritage professional, relevant Registered Aboriginal Parties and/or the relevant State government agency as appropriate;
 - Should suspected Aboriginal skeletal material be identified, all works should cease and the NSW Police and the NSW Coroner's office contacted. Should the burial prove to be archaeological, consultation

with a heritage professional, relevant Registered Aboriginal Parties and/or the relevant State government agency, should be undertaken by Gosford City Council.

- The assessment identified the following specific recommendations for Aboriginal heritage:

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3305, 45-3-3306) without further assessment. Such assessment should include sub-surface testing in accordance with DECCW's (2010) *Code of Practice for Archaeological Investigations of Aboriginal Objects in New South Wales* and in conjunction with the Registered Aboriginal Parties;

- No new impacts are permitted within the fore-dunes (the area between the back of the beach and residential suburbs behind) surrounding North Avoca Beach, Winney Bay, Copacabana Beach and MacMasters Beach without further assessment. Such assessment should include sub-surface testing in accordance with DECCW's (2010) *Code of Practice for Archaeological Investigations of Aboriginal Objects in New South Wales* and in conjunction with the Registered Aboriginal Parties;

- Gosford City Council should continue to liaise with the RAPs on the

immediately before and during the annual Walk Event, since both are in close proximity. Such management may include temporary fencing of these areas and/or monitoring during the day;

- Two copies of this report should be forwarded to the NSW DECCW - Planning and Aboriginal Heritage Section, North East Branch, Environment Protection and Regulation Group (Locked Bag 914, Coffs Harbour, NSW 2450); and
- One copy of the report should be forwarded to each of the registered Aboriginal stakeholders, specifically Guringai Tribal Link Aboriginal Corporation, Darkinjung LALC, Potory Minbee Aboriginal Elders Group, and Kevin Duncan.

- Recommendations made by the Registered Aboriginal Parties are reproduced in **Appendix A**, and are broadly consistent with the above. The following additional recommendation is made:

- Any vegetation clearing and earthworks in areas of high potential should be monitored by a suitably qualified person.

Historical Heritage

Documentary research and survey indicated the presence of five historical heritage items along the Walkway:

- Potential historical archaeological remains at Terrigal Haven;
- Old Post Office, 4 Ash Street, Terrigal (listed as a heritage item in the Gosford Draft Local Environmental Plan 2009);
- War Memorial, Terrigal Beach Foreshore, The Esplanade (listed as a heritage item in the Gosford Draft Local Environmental Plan 2009);
- Grave of Allan MacMaster, Corribeg Reserve, Tudibaring Parade, MacMasters Beach (listed as a heritage item in the Gosford Planning Scheme Ordinance, and the Gosford Draft Local Environmental Plan 2009);
- Potential historical archaeological remains, Winney Bay.

It is not considered that the Walkway will impact upon the first three items. The following recommendations are made with regard to the last two:

- *Grave of Allan MacMaster.* If possible, the Walkway should be redirected to avoid this area. If this is not possible, the headstone should be screened from public view for the duration of the annual Walk Event, and activities such as stalls, which may result in people lingering at the location, should not be placed in that area of Corribeg Reserve.
- *Potential historical archaeological remains, Winney Bay.* Prior to determining works or the route location in this vicinity, the high grass should be cut and a site inspection should be undertaken along with further historical research into the site's historical occupation. This further work should aim to identify a route that would avoid remains, or, if that cannot be done, it should aim to identify the extent and heritage value of the remains.

The following further recommendation is made with regard to landscape issues:

- *Landscapes.* While not directly a heritage issue, the coastal areas adjacent to beaches and the headlands, through which the Walkway would pass, have both natural and cultural landscape and scenic values which may have heritage

significance. Proposed works such as viewing platforms, lookouts and stairs in those locations as well as formed and sealed paths or major works, should be designed to minimise visual and physical impacts and blend with the predominant context of their immediate surroundings.

1. INTRODUCTION

1.1 Background

The 5 Lands Walk Event is an annual cultural event in Gosford City, which has been held over the past four years. The Walk is undertaken on the 5 Lands Coastal Walkway, a track approximately nine kilometres in length, which leads from MacMasters Beach, through Copacabana, Avoca and North Avoca, to Terrigal, NSW. The existing track has generally been developed in separate sections, without an overall plan for recreational use.

Gosford City Council now proposes to develop a Master Plan for the 5 Lands Coastal Walkway and annual Walk Event. The Master Plan will identify the infrastructure required to sustain the Walkway as a major tourism activity for the region, and also to encourage the annual Walk Event to grow. Some possible alterations and additions to the existing route have already been identified.

Andrews Neil Urban Design Group, on behalf of Gosford City Council, has commissioned Archaeological and Heritage Management Solutions Pty Ltd (AHMS) to undertake an Aboriginal and historical archaeological heritage assessment of the existing route of, and proposed alterations to, the 5 Lands Coastal Walkway. The results of the assessment will be used to inform the development of the Master Plan. The assessment may also be used as the basis for further heritage and archaeological investigations if warranted, such as test excavations), Aboriginal Heritage Impact Permit applications, and Excavation Permit applications, if the initial assessment indicates that they may be necessary.

1.2 Study Area

The study area consists of existing walking tracks and paved roads running from Terrigal in the north to MacMasters Beach in the south, along with several proposed alterations to parts of the route (see **Figure 1** and **Figure 2**). The study area falls within the Gosford Local Government Area, and is in the Parish of Kincumber, County of Northumberland.

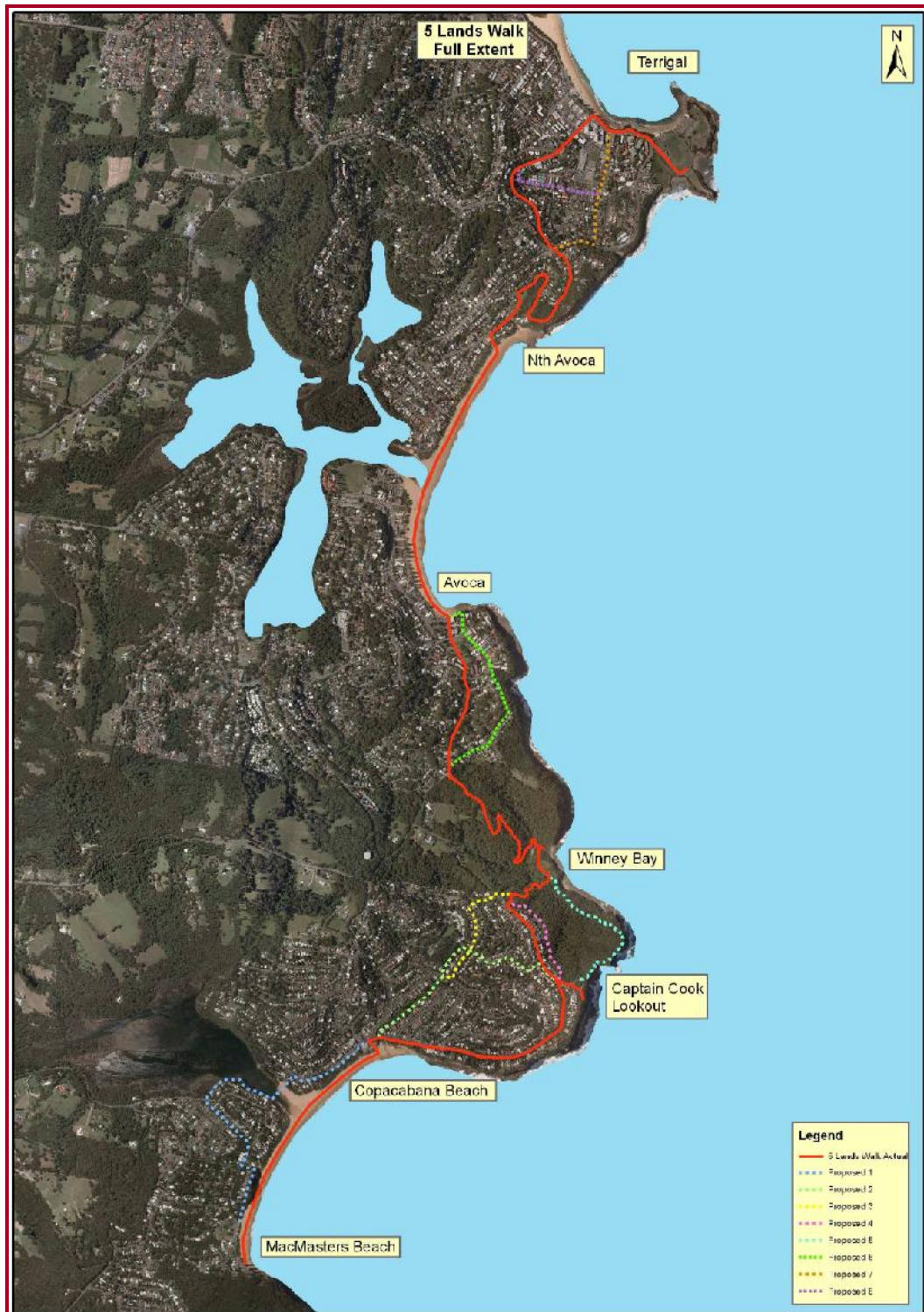


Figure 2: A plan showing the study area: the existing route is marked in a solid red line, and proposed alterations are marked in broken lines (source: Gosford City Council).

1.3 Proposed Development & Approval Context

Gosford City Council proposes to develop a Master Plan for the management of 5 Lands Coastal Walkway and the annual 5 Lands Walk Event. No specific works or developments are presently proposed, although there are a number of suggested alterations to the Walkway that may be adopted in the future. These consist of alterations to the current route, and the construction of crossings, bridges, look-outs, and/or stairs.

Development within the study area is presently subject to *Gosford Interim Development Order No. 122 (IDO No. 122)* and the *Gosford Planning Scheme Ordinance (GPSO)*. A Local Environmental Plan (LEP), which will supersede *Gosford IDO No. 122* and the *GPSO*, is in preparation. It is anticipated that the Master Plan will be developed to comply with *Gosford IDO No. 122* and *GPSO*, and that any consequent development proposals will be determined according to *Gosford IDO No. 122* and *GPSO*, until the LEP is finalised and comes into force.

The study area passes through several parcels of Crown Land, which are managed under trust by Gosford City Council. These are Reserve 53288 and Lots 282/755234, 343/755234, 2/835982, 3/828087, 7009/1057998 and part 650/1120404. Any proposed development in these lots must also comply with the *Crown Lands Act 1989*. Section 11 of the *Crown Lands Acts 1989* provides a set of principles for Crown Land management as follows:

- Environmental protection principles be observed in relation to the management and administration of Crown land.
- The natural resources of Crown land (including water, soil, flora, fauna and scenic quality) be conserved wherever possible.
- Public use and enjoyment of appropriate Crown land be encouraged.
- Where appropriate, multiple use of Crown land be encouraged.
- Where appropriate, Crown land should be used and managed in a sustainable manner.
- Crown land to be occupied, used, sold, leased, licensed or otherwise dealt with in the best interests of the State consistent with the above principles.

1.4 Assessment Aims and Objectives

The principle aims of the assessment are to:

- Outline the statutory requirements relevant to the study area with regard to Aboriginal cultural heritage and historical archaeology.
- Carry out background research to identify known items and places of Aboriginal cultural heritage and historical archaeological significance, and to identify the potential for any unknown items and places of significance.
- Undertake Aboriginal Community Consultation in accordance with the DECCW's *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*.
- Carry out a survey to re-locate and assess known items, note previously unrecorded items, and assess the Aboriginal and historical archaeological potential of the study area.
- Develop preliminary mapping of the known and potential Aboriginal cultural heritage and historical archaeological sites in the study area.
- Assess the archaeological (scientific), public and Aboriginal (social) significance of any Aboriginal sites or objects that may be impacted by the proposed development.
- Assess the cultural significance of any historical archaeological resources that may be impacted by the proposed development, and determine whether the archaeological resources could be considered 'relics' according to the NSW *Heritage Act 1977*.
- Identify any possible constraints to the development of the Walkway.
- Assess the potential for direct and indirect impact to Aboriginal cultural heritage and historical archaeology.
- Identify and recommend measures to mitigate any potential adverse heritage impacts.

The assessment is presented in two parts. The first deals with the Aboriginal cultural heritage of the study area, and the second with the historical archaeological potential.

1.5 Limitations

The AHIA is based on existing and publically available environmental and archaeological information and reports about the assessment areas and the 2011 AHMS field investigations. It did not include any independent verification of the results and interpretations of externally sourced existing reports (except where field investigations indicated inconsistencies). The AHIA includes some predictions about the probability of subsurface archaeological materials occurring in certain landforms/landscapes of the assessment areas. The predictions have been based on surface indications noted during the field investigation and environmental contexts. It is acknowledged, however, that sub-surface materials may survive in landform/landscape contexts despite surface and environmental indicators that may suggest that they do not. The converse also applies.

Aboriginal Heritage Information Management System (AHIMS) information was provided to AHMS by DECCW. Information in the AHIA reflects the scope and the accuracy of the AHIMS site data, which in some instances is limited.

The effective coverage of the field investigation was generally low due to the dense nature of the grass cover. This has meant that the findings of the AHIA are heavily reliant on general landform analysis and background understanding of the region.

1.6 Authorship

This report was written by Alan Williams, Senior Archaeologist, Fenella Atkinson, Archaeologist, and Lisa Newell, Associate Director, AHMS. Lisa Newell reviewed the draft report.

2. ABORIGINAL CULTURAL HERITAGE IMPACT ASSESSMENT

2.1 Statutory Considerations

2.1.1 *Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cwlth)*

The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Commonwealth) was enacted at a Federal level to preserve and protect areas (particularly sacred sites) and objects of particular significance to Aboriginal Australians from damage or desecration. Steps necessary for the protection of a threatened place are outlined in a gazetted *Ministerial Declaration* (Sections 9 and 10). This can include the prevention of development.

As well as providing protection to areas, it can also protect objects by *Declaration*, in particular Aboriginal skeletal remains (Section 12). Although this is a Federal Act, it can be invoked on a State level if the State is unwilling or unable to provide protection for such sites or objects.

No Aboriginal sites or places within the study area are currently subject to a Declaration.

2.1.2 *Environment Protection & Biodiversity Conservation Act 1999 (Cwlth)*

The *Environment Protection & Biodiversity Conservation Act 1999* (Commonwealth) provides protection of natural and cultural heritage places at a Federal level. The Act established three heritage registers; World Heritage, Commonwealth Heritage and National Heritage. World Heritage items are those listed for outstanding international heritage values. National Heritage items are assessed as having natural or cultural significance at a national level. The World and National Heritage lists may include items on private or state crown land. The Commonwealth Heritage list only includes items on land owned by the Commonwealth.

Items on the registers described above are protected under the terms of the *EPBC Act*. The Act requires approval before any action takes place which has, will have, or is likely to have, a significant impact on the heritage values of a listed place. Proposals for actions which could affect such values are rigorously assessed.

No places within the study area are currently included on the National, Commonwealth or World Heritage Lists.

2.1.3 Native Title Act 1993 (Cwlth)

The *Native Title Act 1993* (Commonwealth) provides recognition and protection for native title. The Act established the National Native Title Tribunal to administer claims to land by Aboriginal people. The Act also provides for Indigenous Land Use Agreements which allow native title claimants and/or holders control over the use and management of affected land and waters.

A search of the National Native Title Tribunal Registers was undertaken on 13 October 2010, and returned the following results in the Gosford Local Government Area:

Register Type	NNTT Reference Numbers
National Native Title Register	NN03/2 (NSD6003/03) & NN99/10 (NSD6023/99)
Register of Native Title Claims	Nil
Unregistered Claimant Applications	Nil
Register of Indigenous Land Use Agreements	Nil

NN03/2 and NN99/10 both relate to claims lodged by the Darkinjung Local Aboriginal Land Council, the first concerning a property at Kariong, and the second a property at Kincumber. In both instances, the Federal Court finding was that no native title rights or interests existed in relation to the land.

Neither of these results affects the study area.

2.1.4 National Parks & Wildlife Act 1974 (NSW)

The *National Parks & Wildlife Act 1974* (NPW Act) provides blanket protection for Aboriginal objects (material evidence of indigenous occupation) and Aboriginal places (areas of cultural significance to the Aboriginal community) across NSW. An Aboriginal object is defined as:

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.

An Aboriginal place is any place declared to be an Aboriginal place by the Minister for Climate Change and the Environment, under Section 84 of the Act.

It is an offence to disturb Aboriginal objects or places without a permit authorised by the Director-General of the Department of Environment Climate Change and Water (DECCW). In

addition, anyone who discovers an Aboriginal object is obliged to report the discovery to DECCW.

The operation of the NPW Act is administered by DECCW. With regard to the assessment of Aboriginal cultural heritage, DECCW has endorsed the following guidelines:

- *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (2010),
- *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (2010),
- *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (2010).

DECCW maintains the Aboriginal Heritage Information Management System (AHIMS), a database of registered Aboriginal objects and places and other heritage values in NSW. A search of AHIMS was carried out on 21 October 2010. Details of this search are provided in Section 2.4.3 below.

There are fourteen registered Aboriginal sites *in the vicinity of* the study area (Figure 8).

2.1.5 Aboriginal Land Rights Act 1983 (NSW)

The *Aboriginal Land Rights Act 1983* allows for the transfer of ownership to an Aboriginal Land Council of vacant Crown land not required for an essential purpose or for residential land. Aboriginal Land Claims for two lots through which the study area passes (Figure 3) have been registered by Darkinjung Local Aboriginal Land Council:

- Lot 343 DP 755234;
- Lot 3 DP 828087.

The claims registered for these lots by the Darkinjung LALC have no direct implications on the Aboriginal heritage assessment of the area.



Figure 3. Lot 343 DP 755234 and Lot 3 DP 828087, the subjects of Aboriginal Land Claims under the Aboriginal Land Rights Act 1983 (source of photograph: Land and Property Management Authority, SIX Viewer).

2.2 Landscape Context

2.2.1 Background

Archaeological assessment reports include information about the environmental context of study areas because of the important role environmental characteristics played in influencing the types of archaeological sites in any given area. Physical environments influenced both the type and availability of natural resources and the types of cultural activities that were carried out in the past. As a result, this also influenced the types of archaeological sites that may be found. A determination of the former environmental context is essential to develop accurate models of cultural activity, site distribution patterns and the archaeological potential of any given area. The environmental context of the study area is discussed below.

2.2.2 Geology and Soils

The study area passes through four soil landscapes (see **Figure 4**).

Skillion / Broken Head and the area to the west of the headland are within the erosional Erina Soil Landscape. The topography of this landscape consists of undulating to rolling rises and low hills. The underlying geology is the Terrigal Formation of the Narrabeen Group, consisting of lithic and quartz sandstone and siltstone, minor sedimentary breccia, claystone and conglomerate. However, there is very little rock outcrop. The type of soil varies according to the parent material, with soil depth ranging from over 100 to over 200 cm (Murphy, 1993, pp. 52-53).

The beachfronts at North Avoca, Avoca Beach and MacMasters Beach are described as the Narrabeen Soil Landscape. This consists of beaches and fore-dunes overlying Quaternary sands, and continually being modified by wind and waves. In general the sands are over 200 cm in depth (Murphy, 1993, pp. 95-96).

At North Avoca, the area immediately behind the beachfront is within the Woy Woy Soil Landscape. This is another beach landscape, and consists of level to gently undulating non-tidal coastal sand flats. The soils consist of loamy sand overlying sand, to a total depth of over 300 cm (Murphy, 1993, pp. 97-98).

At Copacabana, the study area passes through an area of the colluvial Watagan Soil Landscape, along the coast, as well as the Erina Soil Landscape further to the west. The topography of this landscape consists of rolling to very steep hills and slopes, overlying beds of quartz-lithic sandstone, siltstone, and claystone. Total soil depths vary because of the different parent materials, and movement of soil downslope, but can be up to 200 cm.

Where the ground cover has been removed, severe sheet erosion occurs (Murphy, 1993, pp. 41-42).

The Narrabeen Formation sandstone underlying the study area contains conglomerate pebble lenses, with some stone that is suitable for tool-making, including quartz, quartzite, silcrete, chert, jasper, and some igneous rocks – several of which are known to have been used by prehistoric people as a raw material. These may weather out of the sandstone, and be collected on the surface, or in creek beds. Suitable pebbles may also be found on the shore (Vinnicombe, 1980, p. III:6).

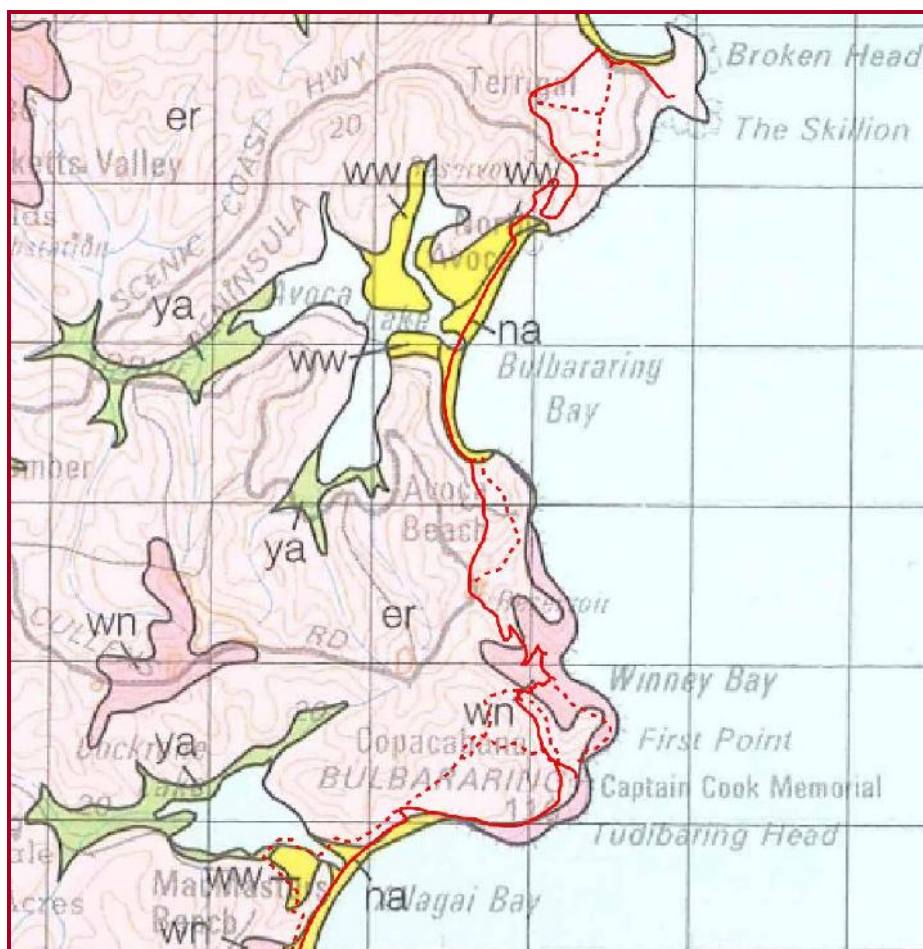


Figure 4. The study area (marked in red) overlaid on the soil landscapes map: er=Erina Soil Landscape; na=Narrabeen Soil Landscape; ww=Woy Woy Soil Landscape; wn=Watagan Soil Landscape (source of map: Murphy, 1993).

2.2.3 Flora and Fauna

The character of the native vegetation depended to a great extent on the underlying soils and topography. The vegetation of the Erina soil landscape consisted of tall open-forest with open heath in exposed coastal locations (Murphy, 1993, p. 52). Native vegetation in the Watagan Soil Landscape is tall eucalypt open-forest and closed-forest in sheltered gullies (Murphy, 1993, p. 41). There is very little vegetation over the beach Narrabeen Soil Landscape (Murphy, 1993, p. 95). However, on the Woy Woy Soil Landscape, set back from the beachfront, the original vegetation would have been an open-woodland with occasional scrub (Murphy, 1993, p. 97). Common species in the four soil landscapes are listed in Table 1, and indicate the variety of natural resources that were available to the local Aboriginal population.

Table 1. Common native plant species of the study area, listed according to soil landscape (source: Murphy, 1993).

Erina Soil Landscape	Narrabeen Soil Landscape	Watagan Soil Landscape	Woy Woy Soil Landscape
<p><i>Open Forest:</i> Blackbutt (<i>Eucalyptus pilularis</i>) Forest oak (<i>Allocasuarina torulosa</i>) Turpentine (<i>Syncarpia glomulifera</i>) Spotted gum (<i>Eucalyptus maculata</i>) Smooth-barked apple (<i>Angophora costata</i>) Grey ironbark (<i>Eucalyptus paniculata</i>) Sydney blue gum (<i>Eucalyptus saligna</i>)</p> <p><i>Heathland:</i> Coastal banksia (<i>Banksia integrifolia</i>) Black she-oak (<i>Allocasuarina littoralis</i>) Native rosemary (<i>Westringia fruticosa</i>) Sydney golden wattle (<i>Acacia longifolia</i> var. <i>sophorae</i>)</p>	<p>Sydney golden wattle (<i>Acacia longifolia</i> var. <i>sophorae</i>) Hairy spinifex (<i>Spinifex hirsutus</i>) Knobby club rush (<i>Isolepis nodosa</i>) Guinea flower (<i>Hibbertia scandens</i>)</p>	<p>Spotted gum (<i>Eucalyptus maculata</i>) Bastard mahogany (<i>Eucalyptus umbra</i>) Northern grey ironbark (<i>Eucalyptus siderophloia</i>) Rough-barked apple (<i>Angophora floribunda</i>) Grey gum (<i>Eucalyptus punctata</i>) Forest red gum (<i>Eucalyptus tereticornis</i>) Narrow-leaved stringybark (<i>Eucalyptus oblonga</i>) Forest oak (<i>Allocasuarina torulosa</i>)</p>	<p>Red bloodwood (<i>Eucalyptus gummiifera</i>) Blackbutt (<i>Eucalyptus pilularis</i>) Coastal banksia (<i>Banksia integrifolia</i>) Old man banksia (<i>Banksia serrata</i>) Wallum banksia (<i>Banksia aemula</i>) Swamp mahogany (<i>Eucalyptus robusta</i>) Smooth-barked apple (<i>Angophora costata</i>)</p>

2.2.4 Water

The study area runs parallel to the coastline, and crosses the entrances of two coastal lagoons or estuaries; Avoca Lake and Cockrone Lake. The area would have been rich in marine and estuarine resources. There are also a number of small creeks which discharge into the lagoons and bays, and which would have provided fresh water for the local population (Figure 5).

The watercourses that rise slightly inland drain to Avoca and Cockrone Lakes. The watercourses closer to the coast, in the immediate vicinity of the study area, drain to Bulbaring, Winney and Allagai Bays. There is a first-order (minor tributary) creek at each end of North Avoca / Avoca Beach; one at the northern end of Copacabana / MacMasters Beach and three at the southern (two of which flow together just before entering the Bay). Six first-order creeks drain the area behind Winney Bay, joining together to form higher order creeks before discharging into the Bay.

2.2.5 Historical Land Use and Disturbance

Alienation of the study area began in the 1820s, but the extent of development was limited into the early twentieth century. Small areas were cleared for cultivation and pasture. Timber cutting may have removed scarred trees, while lime burning is likely to have had an impact on middens. Substantial holiday and residential development began in Terrigal in the early twentieth century, and later expanded down the coast. The study area passes through built-up locations at Terrigal, North Avoca, Avoca, Copacabana and MacMasters Beach. The development in these areas is likely to have had a significant impact on any Aboriginal sites.

Between these built-up areas are a number of reserves and beaches which have remained relatively undeveloped through to the present; parts of the Skillion/Broken Head, North Avoca and Avoca Beaches, Winney Bay, Captain Cook Memorial Park, and Copacabana and MacMasters Beaches. Tracks through these areas have existed from at least the mid-twentieth century. Some development has occurred on the beaches, including the construction of surf life saving clubs. However, disturbance in these areas is likely to be limited in extent.

2.3 Regional Character - Aboriginal Land Use

While little is known about Aboriginal population numbers and social organisation prior to white settlement, at the time of first contact in 1788, Governor Philip described the Aborigines of Broken Bay as 'friendly' and 'very numerous' (HRA, 1 (2), p. 125). Prior to European settlement, the Brisbane Waters area appears to have been part of either *Guringai* or *Darkinjung* traditional land.¹ A number of current place names; including Tudibaring, Cockrone, Kurrawyba and Terrigal; are thought to be derived from Aboriginal place names. There is considerable debate about the nature, territory and range of the pre-contact Aboriginal language groups in the Brisbane Waters area. This is largely because by the time colonial diarists and missionaries began making detailed records of Aboriginal people in the 19th Century, Aboriginal groups had been reduced in number and dispersed by European settlement activity.

By studying accounts of early British settlers, we can reconstruct aspects of traditional Aboriginal lifestyle. Early observers indicate that the subsistence and economy of Aboriginal groups depended largely on the environment in which they lived. While coastal groups exploited marine and estuarine resources, hinterland groups relied on freshwater and terrestrial animals and plants. A distinction between the two lifestyles is clearly made in early European accounts. During a trip along the Hawkesbury-Nepean during 1791, Watkin Tench wrote that hinterland people:

depend but little on fish, as the river yields only mullets, and that their principal support is derived from small animals which they kill, and some roots (a species of wild yam chiefly) which they dig out of the earth

In contrast, Collins wrote that for coastal people:

Fish is their chief support ... the woods, exclusive of the animals which they occasionally find in their neighbourhood, afford them but little sustenance; a few berries, the yam and fern root, the flowers of the different Banksia, and at times some honey, make up the whole vegetable catalogue.

Tench also noted the importance of marine foods in the economy of coastal groups. According to Tench, the task of fishing was divided between husband and wife, the woman using a hook and line and the man using a fish gig (spear) (Tench, 1996, pp. 258-260). Bark canoes were often used by both men and women for fishing and fires were commonly placed in the middle of these canoes. When fish were scarce or the weather was foul, coastal

¹ Note that traditional boundaries do not necessarily correspond with the present boundaries of the Local Aboriginal Land Councils (LALC). The study area falls within the boundaries of the Darkinjung LALC.

groups turned their attention to gathering shellfish, hunting reptiles and small animals, digging fern roots, or gathering berries (Tench, 1996, pp. 258-260).

Although early observations have provided much useful information about Aboriginal society at contact, archaeological investigations have shown clear deficiencies. Archaeological excavations along the NSW coast have clearly shown that coastal people exploited a wide range of hinterland terrestrial resources, which sits in contradiction to early records that coastal people were almost exclusively 'fishers' and inland people were 'hunters'. The contradiction is probably accounted for by the visibility of fishing and gathering activities on and near the water as opposed to the relative invisibility of hunting and foraging activities in the hinterland.

From early records it is clear that quite large populations were supported along the coast. One such account comes from Tench (1996, p. 58):

on the north west arm of Botany Bay stands a village which contains more than a dozen houses and perhaps five times that number of people ... Governor Phillip, when on an excursion between the head of the harbour and that of Botany Bay, once fell in with a party which consisted of more than 300 persons

This account suggests the existence of large and probably semi-sedentary coastal groups, although Tench does say that the typical social arrangement was that, "the Indian families confine their society and connections within their own pale" (Tench, 1996, p. 58). Matthew Lynch, an early settler in the Illawarra district, recalled a battle fought at Fairy Meadow in 1830 between the Wollongong and the Bong Bong Aborigines which included "several hundred men on each side" (Organ, 1990, p. 158). These accounts suggest coastal Aboriginal populations were substantial.

Aboriginal groups living in the Hawkesbury sandstone region made extensive use of the natural rock overhangs and caverns that are characteristic of the area. George Barrington observed that "Those who build bark huts are very few compared to the whole. Generally speaking, they prefer the ready made habitations they find in the rocks". Tench described how native huts were constructed by laying pieces of bark together in the form of an 'oven'. The end result consisted of a low shelter, which was opened at one end and sufficient to accommodate one person lying down (Tench, 1996, p. 53). Tench goes on to conclude "there is reason, however, to believe that they depend less on them (huts) for shelter than on the caverns with which the rocks abound" (Tench, 1996, p. 53).

Plant management practices that bear remarkable similarity to those reported in northern Australia were also conducted along the NSW coast. For instance, there is good evidence that Aboriginal groups carried out fire-stick farming in and around Sydney, a practice that

probably extended throughout New South Wales. When the first fleet arrived in Sydney, Captain John Hunter found an environment where:

the trees stand very wide of one another, and have no underwood; in short the woods ... resemble a deer park, as much as if they had been intended for such a purpose

This is the classic result of Aboriginal firing of the landscape. Ethnographic evidence from Northern Australia suggests that the systematic burning of the landscape was carried out for a variety of reasons. 'Fire-stick farming' opened up access to land and created pockets of early succession vegetation that increased the amount of important plant foods. Early regrowth vegetation, particularly grasses, attracted animals, which in turn made them easier to hunt. Aboriginal firing of the landscape was an important tool in manipulating the environment to increase food sources.

Plant management was not just restricted to the manipulation of the environment. Plant processing also figured prominently and enabled Aboriginal groups to broaden their range of food sources. Hunter provides an interesting account of trying to eat a poisonous yam (probably *Dioscorea bulbifera*) and getting violently sick. Hunter had seen Aborigines digging this same yam and concluded, "They no doubt have some way of preparing these roots, before they can eat them".

According to George Washington Walker's journal of 1836 (cited in Organ, 1990, p. 208), the Illawarra Aborigines processed Zamias. Walker recorded that the Aborigines,

either roast them, and pound them into a paste, steeping them in water to get rid of their acrid and hurtful properties, or get rid of these by longer period of steeping in water, so as to render them fit to be eaten in a raw state

Such plant management and processing practices were an important part of the economies of Aboriginal groups.

Ceremonial and mythological sites were important places in the cultural landscape, as sites of initiation, learning and spirituality. A series of ceremonial sites were documented in 1890 by John Service, grand-nephew of James Dunlop who settled on Brisbane Waters in 1842. Service recalled initiation ceremonies carried out on Dunlop's Boora Boora property during the 19th Century. The ceremonies were carried out on three hills behind Dunlop's house, probably at the modern Dunlops Hill. Service (1890, pp. 201-202) noted that:

The ceremony of making youths into young men was, naturally enough considered of great importance. It was performed on the three hills behind Dunlop's house. On one hill was a fire, on the second sat the chief, while on the third stood the humble candidate for honours of manhood. He was put

through several trying tests, but the chief of these was to trample out the fire without wincing and to have one of his front teeth knocked out with a stone. When the girl became a gin or wife she had her little finger struck with a tomahawk

The traditional life of the Aboriginal people was broken through the course of the early 19th Century. The impact of smallpox and influenza decimated the Aboriginal population, with individual epidemics killing large numbers of people. Early white settlement of traditional hunting lands deprived Aboriginal groups of sources of food and access to camping and ceremonial sites. This forced individuals to either relocate into the potentially hostile lands of neighbouring Aboriginal groups, partially integrate into colonial society as fringe dwellers or to resist. White settlers and the colonial administration often met resistance by Aboriginal groups with retaliatory action. A combination of these factors led to the demise of traditional lifestyles and a decrease in the Aboriginal population.

Many of the traditional groups broke up and scattered or re-aligned themselves by the time that colonial diarists, missionaries and early visitors to the area made detailed records of the Aboriginal inhabitants. The various 'tribes' referred to by colonists in the 19th Century were the result of major post-Contact social re-organisation. The displacement and dislocation from traditional lands that occurred soon after European settlement meant that remnant Aboriginal bands were forced to combine to 'to provide mutual protection and to maintain viable social and economic units' (Kohen, 1985; Ross, 1988, p. 49). Some researchers have argued that by as early as the 1820s, the pre-contact clans and bands no longer existed as identifiable groups (Attenbrow, 2002, p. 56).

Census data collected in 1827 indicates that there were five tribes within the Brisbane Water district at that time. The tribes listed were the Broken Bay Tribe, the Tuggera Beach Tribe, the Wyong Tribe, the Narara Tribe and the Erina Tribe, accounting for a total population of 65 individuals (Sainty and Johnson, 1980, p. 15). This number is relatively high when compared to Aboriginal population numbers in the settled areas about Sydney and may reflect the relative isolation of the area in the 1820s.²

Aboriginal people who stayed in settled areas during the early to mid-1800s tended to live on the fringes of white society and became increasingly dependent on welfare. Government allocations of blankets and slop clothing, bartering of fish and game for sugar, flour and alcohol reflect the changes that occurred in Aboriginal culture and lifestyle.

While many people moved on, there are some records of individual Aborigines who stayed in their traditional lands well into the 19th century. Mahroot, for example, one of a number of people described as the 'last of the Botany Bay Tribe' in the 1850s, summed up the

² By 1820 it was reported that there were only twenty Aboriginal people left in the whole of the Liverpool Police District, which included the Georges River and Botany Bay areas.

Aboriginal situation in the mid 19th century during a Colonial Government investigation into the 'condition of Aborigines' in 1845:

Well mister ... all blackfella gone! All this my country! Pretty place! Little Pickaninny, I run about here. Plenty blackfellow then: corrobory; great fight; all canoe about. Only me left now... (Waugh, 2001, pp. 32-40).

2.4 Regional Character - Previous Archaeological Work

This section discusses upon the regional and local archaeological context within which the study area is situated. For the purposes of determining settlement and site location patterns, archaeologists examine regional and local trends in the distribution of known sites in relation to environment and topography. This provides evidence about economic and social systems in the past and also assists archaeologists in predicting likely site types, site locations and the nature of the archaeological resource in any given area.

2.4.1 Regional Context

The study area is located on the northern rim of the Sydney Basin, and for the purposes of discussing regional archaeological patterning, the study area is considered to fall within the Gosford-Wyong region. Aboriginal occupation in the region dates back into the Pleistocene period. This evidence comes from calibrated radiocarbon dates retrieved from an excavated rockshelter site called *Loggers Shelter* (c. 13,015 years before present [BP]) (Attenbrow, 2003, p. 22 [Lab # SUA-931]). This site is located in the Upper Mangrove Creek catchment, approximately 35 kilometres to the northwest of the current study area.

The vast majority of sites in the Gosford-Wyong region are less than 5,000 years old. It has been argued that this is a result of increased populations and 'intensification', during this period. The prevalence of sites dating to the last 5,000 years may also be a result of the last significant rise in sea level, approximately 6,000 years ago. The sea level rise submerged many of the older sites along the coastal fringe and forced Aboriginal groups westward to the current coastline.

The archaeology of the Gosford-Wyong region has been documented through a number of academic and impact assessment investigations over the past 30 years. The majority of these investigations have been archaeological surveys; only a small number of archaeological excavations have been undertaken, particularly within the coastal zone. By 1989, in excess of 1,200 Aboriginal sites had been recorded and registered with the DECCW Aboriginal Sites Register (AHIMS) within the Gosford City local government area (Dallas and Bell, 1989, p. 34). The dominant site types are rock shelters with midden deposit, rock shelters with art, rock engravings, middens and axe grinding grooves (Attenbrow, 2002, p. 49). Burials, open artefact scatters, scarred trees and stone arrangements are less common (Attenbrow, 2002, p. 49).

The distribution, density and size of sites are largely dependent on environmental context. For instance, middens are found in close proximity to marine, estuarine and less often, freshwater bodies. Rock shelters are only found in areas of exposed sandstone escarpment

and grinding grooves are found in areas of exposed flat beds of sandstone, particularly along creek lines.

A study of the regional archaeology of Gosford LGA by Dallas and Bell (1989) made a number of findings about site location patterns in the area. The study was commissioned by Gosford City Council for future planning and management of Aboriginal heritage. Dallas and Bell found that Aboriginal sites are located throughout the LGA on all major landforms. The study demonstrated a greater density of sites in the uplands and on the fringes of lakes and lagoons than on the coastal plains and hills. Predictions about the nature and distribution of sites within the Gosford LGA were based on:

- The location, quantity and nature of the known resource;
- The degree of land disruption due to previous and current land use; and
- The environmental resource zones present within the LGA known to be utilised in Aboriginal adaptive strategies.

Following Dallas and Bell's division of landform units, the current study area falls within the 'Coastal Hills' and 'Lakes and Lagoons' units (Figure 6). Within the 'Lakes and Lagoons' unit, the study predicts that open middens, campsites and burials can be expected on undisturbed Quaternary deposits (alluvium, sands and gravels) adjacent to the lagoons fronting the ocean. However, the likelihood is noted that a considerable number of sites in this unit have been destroyed or disturbed by urban development (Dallas & Bell, 1989, p. 57). Within the 'Coastal Hills' unit, it is noted that sites are less common on the Gosford Formation sandstone (including the study area), although rock shelters and axe grinding grooves have been recorded (Dallas & Bell, 1989, p. 58).

The abundance and diversity of marine and estuarine resources on the coast resulted in more intensive Aboriginal settlement than in areas further inland. This explains the present concentration of archaeological sites along the coastal strip as indicated by Vinnicombe's 1980 regional study of the central coast. Vinnicombe calculated coastal site density at 11.5 sites per square km, compared to 5.6 sites per square km in the hinterland (Vinnicombe, 1980, Table 16).

Sites along the coast are often large and complex with a range of features suggesting relatively dense populations engaged in a diverse social and economic life. Aboriginal shell middens, artefact scatters, rock shelters, burials, art and mythological/ceremonial sites are commonly found along the coastal fringe. Environmental and topographical factors strongly influenced Aboriginal occupation patterns, which has in turn affected archaeological site location patterning. Sites are most commonly found within close proximity to fresh water sources, stone sources, and within range of resource-rich environments such as coastal foreshores, estuaries and lagoons.

Aboriginal stone artefacts are an important source of archaeological information because stone is preserved for long periods of time whereas organic materials such as bone, shell, wood and plant fibres decay. Stone artefacts provide valuable information about technology, economy, cultural change through time and settlement patterning. Stone has also been used for 'relative' dating of sites where direct methods such as Carbon dating cannot be applied. A technological sequence for stone artefacts for the region was first described in the late 1940s by McCarthy and has since been refined over time. Known as the Eastern Regional Sequence (ERS), it was based on direct dating of excavated sequences. Some debate about the precise nature and significance of the technological changes described still continues (Hiscock & Attenbrow, 1988 & 2002), therefore the ERS should be regarded only as a general guide to technological change. The ERS phases are as follows:

- Capertian. Distinguished by large uniface pebble tools, core tools, horsehoof cores, scrapers and hammerstones. Backed artefacts occasionally present. Generally dates to before 5,000 years before present (BP).
- Early Bondaian. Aspects of the Capertian assemblage continue, but backed artefacts and ground-edged artefacts increase. Artefacts during this period were predominantly made from fine-grained silicious stone such as silcrete and tuff. Generally dated from 5,000 BP to 2,800 BP.
- Middle Bondaian. Characterised by backed artefacts, particularly Bondi Points and ground-edged artefacts. Artefacts made from silicious materials, however quartz becomes more frequent. Generally dated from 2,800 BP to 1,600 BP.
- Late Bondaian. Characterised by bipolar technology, eloueras, ground-edged artefacts, and bone and shell artefacts. Bondi points are virtually absent and artefacts are predominantly made from quartz. Generally dated from 1,600 BP to contact.

Aboriginal art sites in the form of rock engravings, paintings, drawings and stencils are found along the coast, particularly in areas of outcropping bedrock. Within rockshelter sites, dry pigment drawings, paintings and engravings have been found. Pigment images were made with black charcoal, white pipeclay, red ochre or yellow ochre. Pigments were mixed with combinations of fat, ashes and blood to create a durable medium (Campbell in Attenbrow, 2002, p. 147).

Scarred and carved trees are also found within areas of old growth remnant forest on the coast and in the hinterland. Aboriginal people took bark from trees (particularly eucalypt and melaleuca species) for making shelters, canoes, shields and a variety of vessels for carrying food and equipment. Trees were also carved for ceremonial and mythological

reasons, often in association with initiation or 'bora' sites, where trees surrounding the ceremonial ground were carved with symbolic patterns and designs.

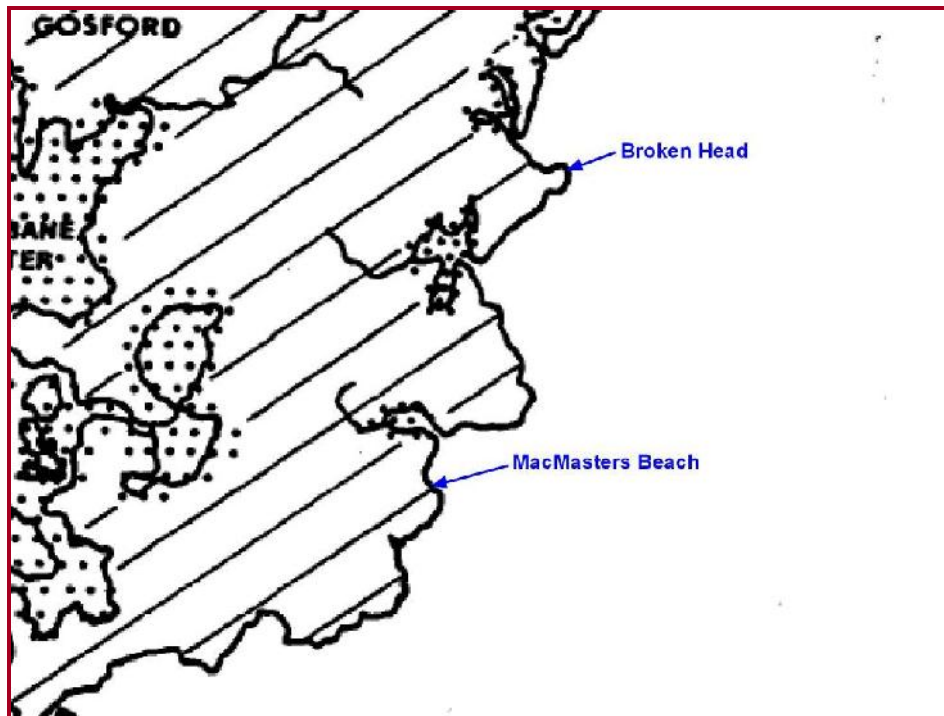


Figure 6. Detail from Dallas and Bell's map of Landform Units in the Gosford LGA; hatching indicates 'Coastal Hills' and stippling indicates 'Lakes and Lagoons' (source: Dallas & Bell, 1989, Map 2).

2.4.2 Local Context

A small number of archaeological studies have been undertaken near the study area. Archaeological investigations have been primarily surveys for development and environmental impact assessments. This section provides a review of studies in the local area as a means of determining site types and site distribution in the local area, and the nature of the archaeological resource.

Vinnicombe, 1980

In 1980 Vinnicombe completed a study of Aboriginal sites in the Gosford-Wyong area. Relevant findings, with regard to basic site type location patterns are:

- Open middens are usually in protected positions near water and shellfish resources. They occur on sand, alluvium and sandstone, often at the junction between valley bottom and hillslope;

- Open camp sites commonly occur on relatively level dry ground near water. They are often difficult to detect outside eroded or partly destroyed surfaces.
- Engraved art sites are rare on Narrabeen formations.³

Dallas and Bell, 1989

Dallas and Bell undertook a study of the Aboriginal heritage of the Gosford LGA, for planning purposes. As discussed above, the study area falls within the 'Coastal Hills' and 'Lakes and Lagoons' units, as defined by Dallas and Bell. Site types in the former unit are likely to be rock shelters and grinding grooves, while site types in the latter are likely to be middens, campsites, and burials (Dallas & Bell, 1989, pp. 57-58). The study notes that there is a greater density of sites, in the LGA, in the uplands and around the lakes and lagoons than on the coastal hills and plains (Dallas & Bell, 1989, p. 34). This is explained as a result of differences in site preservation.

The study included a comprehensive survey of the Skillion and a transect survey (non-systematic) of the coastline to the south (Dallas & Bell, 1989, Map 4). A number of sites were located at the Skillion and Broken Head, one at Tudibaring Head, and one at Allagai Bay (Dallas & Bell, 1989, Map 5). Three locations crossed by the study area are identified as archaeologically sensitive areas; the Skillion and Broken Head, the area to the north of Avoca Lake, and the surrounds of Cockrone Lake (Dallas & Bell, 1989, Map 16; see Figure 7). The areas near Avoca and Cockrone Lake are annotated 'high potential for sites and survey required'. That is, in the vicinity of the study area, the 'Lakes and Lagoons' landform units are identified as archaeologically sensitive, while the 'Coastal Hills' units are not, with the exception of an area of the Skillion and Broken Head.

³ This summary is taken from Dallas & Bell, 1989, pp. 40-41.

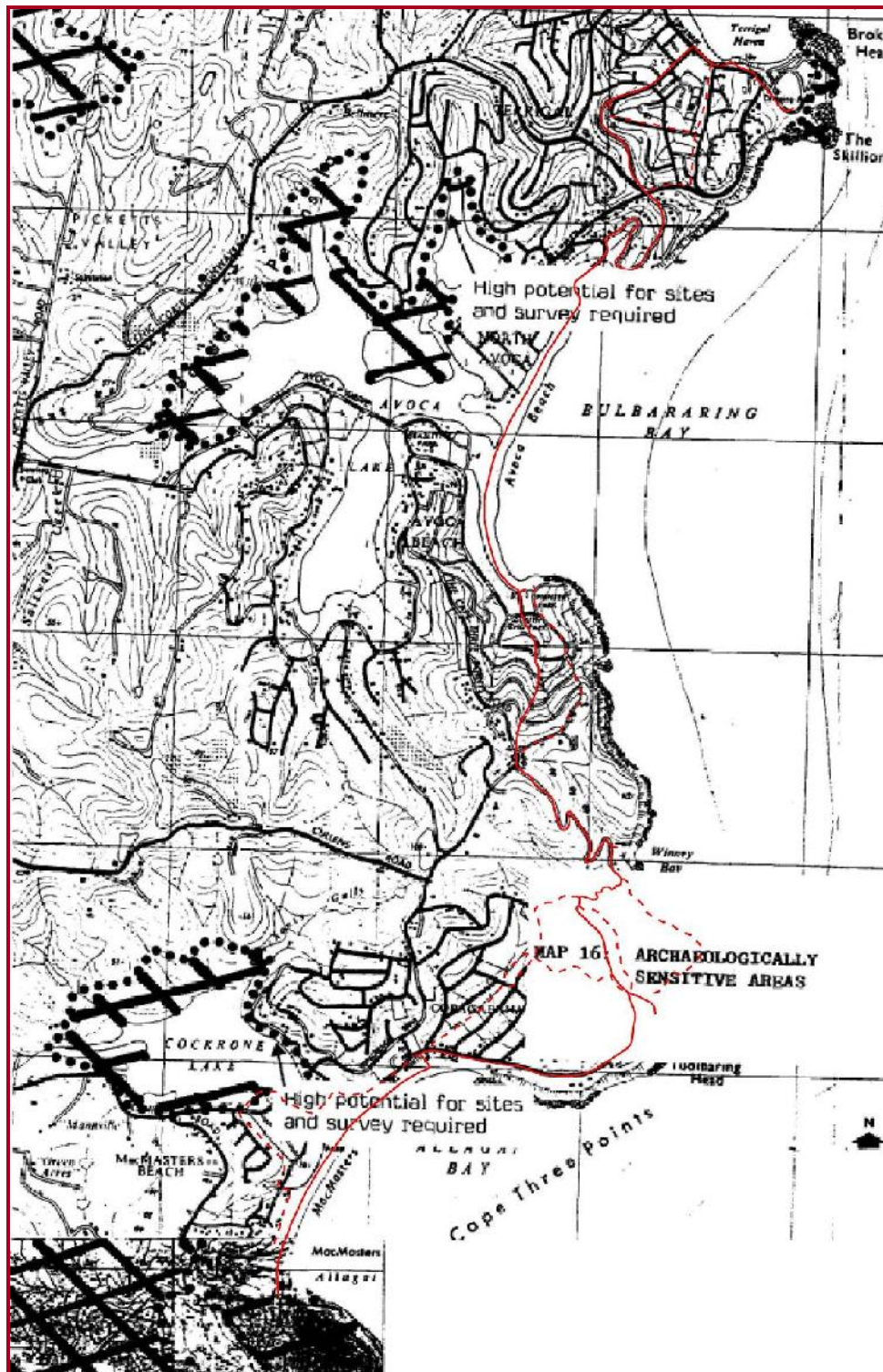



Figure 7. Detail from Dallas and Bell's maps of Archaeologically Sensitive Areas; cross-hatching indicates sensitive areas (source: Dallas & Bell, 1989, Maps 16 & 19).

Welsh, 1994

In 1994 a survey of registered Aboriginal sites within the Gosford LGA was carried out. The following information was recorded regarding registered sites in the vicinity of the study area:

Site No.	Site Type	Area	Site Condition & Comments
45-3-581	Stratified Midden	MacMasters Beach	Fair. Shell material has been exposed by wind erosion and what could be tidal movements at the northern end of the site. A dune restoration project already established has stabilised most of the site. The most northern walkway of the project has exposed charcoal deposit.
45-3-585	Engraving	The Skillion	Not located.
45-3-584	Midden	Terrigal	Not located.
45-3-724	Axe Grinding Groove	Copacabana	Not located.

English, 1996



Historical research for the present report indicates that Donald MacMaster was the owner of Portion 180 from 1860 to 1918 (see Section 3.2.2). This property included the northern half of MacMasters Beach, but not the southern half, where the burial was found. It is possible that MacMaster encroached on the southern half of the beach, or that further burials were located to the north of the known site.

Therin, 2005 & 2006

In 2005, Therin carried out an Aboriginal heritage assessment in advance of the proposed redevelopment of the Copacabana Surf Life Saving Club. Although no Aboriginal sites were identified on the property, it was suggested that this may have been due to the low levels of surface exposure and visibility. The possibility was raised that midden material (possibly with associated skeletal remains) may occur within the dune on the western edge of the study area, and it was therefore recommended that a series of augur holes be drilled over the dune.

The drilling of the augur holes the following year resulted in the discovery of three stone artefacts, which suggested the presence of a substantial artefact scatter within the dune. An area of potential archaeological deposit (PAD) was identified. Salvage excavation was recommended of the area of PAD to be impacted by the proposed development.

2.4.3 AHIMS Search Results

As discussed in Section 2.1.4, DECCW maintains the Aboriginal Heritage Information Management System (AHIMS), a database of known and registered Aboriginal sites in NSW. A search of AHIMS was carried out on 21 October 2010.⁴ The search area covered the existing route of Five Lands Coastal Walkway and the proposed alterations, and extended a further 2 km to the north, west and south. The total search area was approximately 5 km east west and 10 km north south. The search returned a result of 14 registered Aboriginal objects and places within the search area (see Table 2 and Figure 8). The site cards are reproduced in Appendix B.⁵

Of these 14 sites, nine are within or in close proximity to the study area. Only one of these nine sites is located within an area defined as 'Lakes and Lagoons' in the Dallas and Bell study; the remainder being within the 'Coastal Hills' unit. The data presently available is unlikely to be representative, as there are difficulties with exposure and visibility, and no comprehensive surveys of the area have been undertaken. However, the location of the known sites does not support the application of Dallas and Bell's sensitivity model to the coastline. The coastline should perhaps be defined as a separate landform unit, as it appears that conditions differing from the remainder of the 'Coastal Hills' unit have resulted in a higher potential for the presence of sites.

The site types recorded in general correspond with the types predicted by Dallas and Bell for the 'Lakes and Lagoons' unit, although there is also one grinding groove (a site type predicted for the 'Coastal Hills' unit), and two art sites (type not predicted for either unit).

An investigation of both the site cards and the field investigations reveal few of these sites still exist and/or are actually within close proximity to the study area. In addition, several are likely to be duplicates of each other. Despite the spatial locations as presented in Figure 8, the majority of the sites are situated on the wave platforms and/or rock surfaces at the base of the cliffs, which characterise this region. For example, 45-5-0313 was composed of rock engravings on a wave platform at Broken Head *adjacent to* the Skillion, rather than the current recorded location at the foot of the steep slope leading up to the top of the Skillion. 45-3-0585 appears to have a similar description and location, and probably reflects another part of the same site recorded later.

⁴ Client Reference No. 5 Lands Walk 100914-2.

⁵ Site Card #45-3-3305 is not included as it was not available at the time of the AHIMS search.

45-4-0584 was recorded as a midden in the general vicinity of the Skillion. This site was recorded as part of a wider central coast study of NSW in the 1970s. For this reason, the spatial location and co-ordinates given for this site were relatively vague, and its location within the AHIMS database has been the result of later interpretation and modification to the existing reference. For this reason, the location of the site could be vastly different from where it is currently shown (which is currently within the playing fields west of the Skillion). This can be further demonstrated with 45-5-0580, a site recorded as part of the same study, with a similar description and location as 45-5-0584. However, this site is spatially shown to be several hundred metres inland from the Skillion. 45-5-0583 was recorded as part of the same study, and probably has similar issues.

45-3-0582, 45-3-3357, 45-6-0021 and 45-6-0025 are not on or in close proximity to the walk or proposed alternatives. These sites are generally situated north around Wamberal Point or south at Little Bay.

Four sites are, however, in close proximity to the existing and proposed walk, 45-6-2582, 45-3-0581, 45-3-0724, 45-3-3305 and 45-3-3306. Despite, their spatial locations on **Figure 8**, these sites are all constrained to two areas:

45-3-0724, 45-3-3305 and 45-3-3306 all relate to a large midden complex situated between the Copacabana surf life saving club and the First Point wave platform immediately to the north.

Specifically, 45-3-0581 forms the first recording of the site, which was defined as a large stratified midden some 7 m from the water's edge on a sloping mass of rock (effectively the current batter of Del Monte Place at the cross section with Del Rio Drive). 45-3-3305 forms a later recording of the same deposit evident in the current batter. 45-3-0724 refers to a series of grinding grooves in a creek line in this area. Based on the general location and broad description, it is considered likely that these grinding grooves were situated within the creek line immediately north of Copacabana surf life saving club, although it has now been heavily modified and channelised, leading to probable destruction of any sites that were present. 45-3-3306 was a potential archaeological deposit (PAD) situated where the Copacabana surf life saving club is now situated. Excavations during its development identified Aboriginal objects at depths of 1.5 + m in this area. Given its relative close proximity to the midden at First Point (45-3-0581/45-3-3305), it is considered likely to be a continuation of this site, which runs along the fore-dunes in this location.

Table 2. Aboriginal sites registered in AHIMS in the vicinity of the study area.

Site ID	Site name	Context	Site Features
45-3-0313	The Skillion; SIM SITE 1/4	Open site	Art (Pigment or Engraved)
45-3-0580	Terrigal	Open site	Earth Mound, Shell, Artefact
45-3-0581	First Point	Open site	Earth Mound, Shell, Artefact
45-3-0582	Wamberal Point	Open site	Artefact
45-3-0583	Avoca Beach to Bateau Bay	Open site	Artefact
45-3-0584	The Skillion; Midden	Open site	Shell, Artefact
45-3-0585	The Skillion	Open site	Art (Pigment or Engraved)
45-3-0724	First Point / Bulbararing Trig	Open site	Grinding groove
45-3-3305	MacMasters Beach 1	Open site	Shell
45-3-3306	Copacabana SLC PAD	Open site	Potential Archaeological Deposit
45-3-3357	OW3-A	Open site	Shell
45-6-0021	Bombi	Open site	Art (Pigment or Engraved)
45-6-0025	Mourawaring; Little Beach	Open site	Shell, Artefact



Figure 8. Aboriginal sites registered in AHIMS, located in the vicinity of the study area, with the approximate route marked in pink.

2.5 Predictions

Based upon information compiled within the DECCW AHIMS and background data reviewed above, a number of conclusions can be made about the Aboriginal archaeology of the study area.

There is low potential for the presence of Aboriginal sites in the developed areas of Terrigal, North Avoca, Avoca, Copacabana and MacMasters Beach.

There are known sites at The Skillion (shell, artefact, art), the entrance to Avoca Lake (artefact), First Point (earth mound, shell, artefact), Tudibaring Head (grinding groove), Copacabana Beach (shell, PAD), [REDACTED] (artefact). It is considered that only those at Copacabana and MacMasters beaches are within close proximity to the walk and/or proposed alternatives.


According to DECCW guidelines, particular landscape features can indicate the likely existence of Aboriginal objects. As a general guide, this includes land that is not disturbed and is located in one or more of the following situations:

- Within 200m of waters,
- Within a sand dune system,
- On a ridge top, ridge line or headland,
- Within 200m below or above a cliff face,
- Within 20m of or in a cave, rock shelter, or a cave mouth (DECCW, Sept 2010, p. 12).

According to the guidelines, the probability of the presence of Aboriginal objects in these areas should be considered high. The study area includes areas of undisturbed or minimally disturbed land in the first four of these five situations; at the Skillion / Terrigal Haven, Bulbararing Bay (North Avoca and Avoca Beaches), Winney Bay, Captain Cook Memorial Park / First Point, and Allagai Bay (Copacabana and MacMasters Beaches) (see **Figure 9** and **Figure 10**). The following site types can be expected in these parts of the study area:

- **Art.** In the study area, any art sites are likely to consist of engravings on rock platforms. The rock platforms along the headlands appear, in most cases, to be submerged at high tide, and the potential for art sites in these locations is low. However, there may be suitable locations at the Skillion (the location of the registered art site) and Winney Bay.
- **Artefact.** Isolated artefacts or artefact scatters may be found on the surface. However, difficulties with low surface exposure and visibility, as noted in previous

studies, are likely to limit the discovery of this site type. Artefacts may be found in association with other site types, particularly shell (middens).

- 
- Grinding groove. Grinding grooves are generally located on rock platforms adjacent to or within creeks and along sheltered coastline. Suitable locations in the vicinity of the study area may include parts of the rock platforms around the headlands, and possible platforms exposed along the creeks in the area behind Winney Bay. Although grinding grooves have been recorded at Tudibaring Head, it is not clear when these were located, as the site-card recording notes that the grooves could not be found. It is considered that these grooves are probably located near the Copacabana surf life saving club based on the intensity of sites and the presence of a large creek there.
- Potential archaeological deposit. PADs may be located within the dune areas behind the beaches, as with the registered PAD at the northern end of Copacabana Beach. Areas of PAD can also be expected on level areas adjacent to fresh water. Site inspection will be required to identify any such locations within the study area.
- Shell. Middens can be expected, particularly on and in the vicinity of the headlands, where shellfish could be collected. Artefacts may also be present in these deposits.

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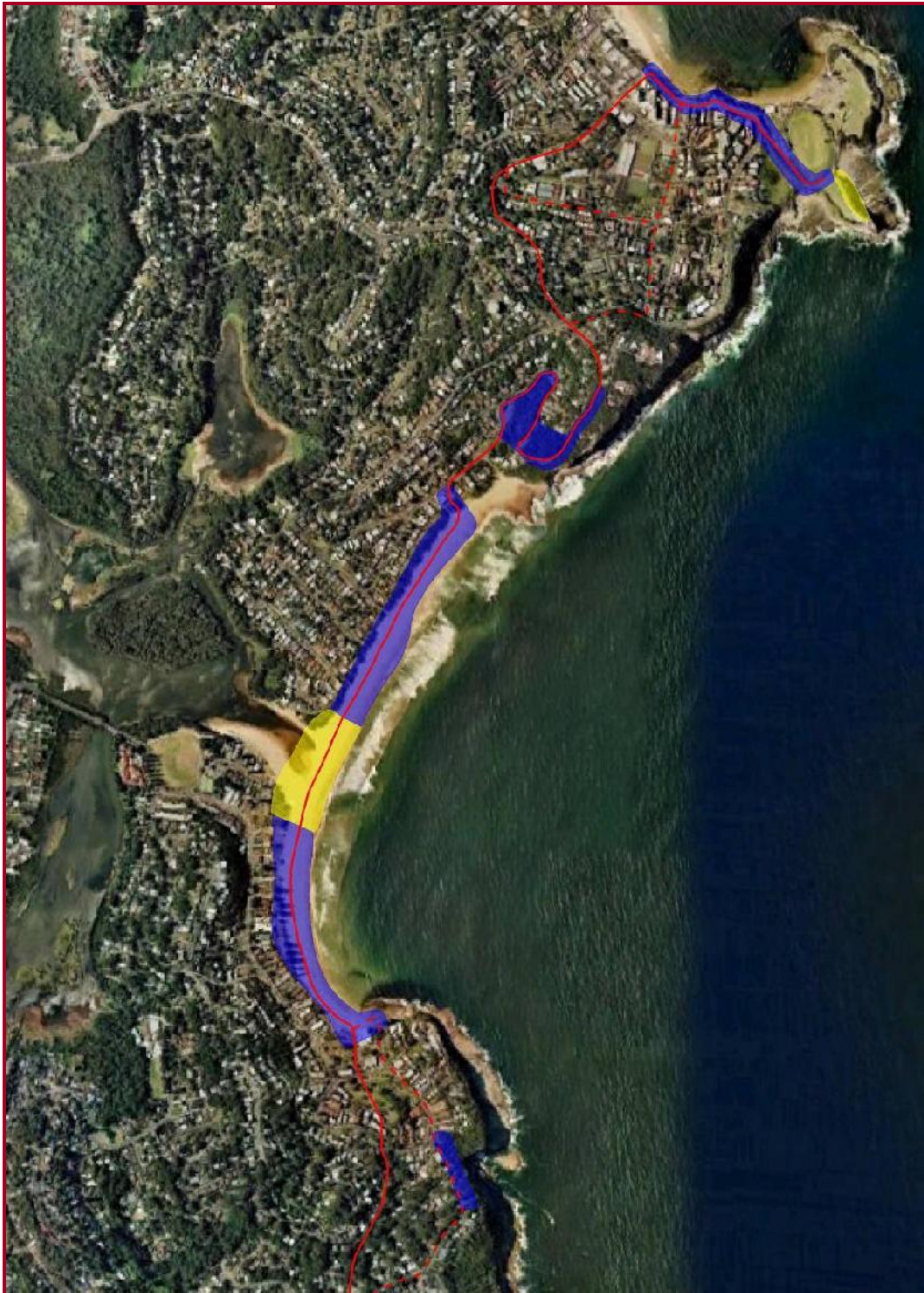


Figure 9. The northern part of the study area, showing potential Aboriginal archaeological sensitivity; yellow indicates high sensitivity (based on known sites), blue indicates moderate sensitivity (based on low disturbance) (source of base image: Google Earth).



Figure 10. The southern part of the study area, showing potential Aboriginal archaeological sensitivity; yellow indicates high sensitivity (based on known sites), blue indicates moderate sensitivity (based on low disturbance) (source of base image: Google Earth).

2.6 Aboriginal Community Consultation

2.6.1 General

Consultation with the Aboriginal communities within the study area has been undertaken in accordance with procedures set out in the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, developed by DECCW. The following procedures were undertaken (a complete log of actions and correspondence regarding Aboriginal community consultation is included in **Appendix A**).

The consultation process for this project has two aims. Firstly, to comply with the DECCW notification and consultation procedures to obtain input on our proposed assessment methodology and comment on our assessment report and management recommendations. Secondly, to identify cultural places and values that may be affected by the proposed future development of the site through consultation with knowledge holders.

2.6.2 Pre-Notification Stage

The initial stage of the consultation process consists of the identification of Aboriginal people who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and places. The following organisations were contacted with a request for information:

- DECCW;
- Darkinjung Local Aboriginal Land Council;
- Office of the Registrar, *Aboriginal Land Rights Act 1983*;
- National Native Title Tribunal;
- NTSCorp;
- Gosford City Council;
- Hunter Central Rivers Catchment Management Authority.

The responses received are reproduced in **Appendix A**. In summary, the following groups were identified as possibly having an interest in the study area:

- Darkinjung Local Aboriginal Land Council,
- Guringai Tribal Link Aboriginal Corporation,
- MINGALETTA Aboriginal and Torres Strait Islander Corporation,
- Pottery Minbee Aboriginal Elders Group,
- Kevin Duncan,

- Daniella Chedzey and Jessica Wegener,
- Jack Smith.

2.6.3 Notification and Registration of Interest

On 5 November 2010, a notice was placed in the *Central Coast Express Advocate*, containing notification of the project, and an invitation to register an interest. Notifications and invitations to register were also sent to the Aboriginal Parties identified in the first stage of consultation, namely:

- Darkinjung Local Aboriginal Land Council,
- Guringai Tribal Link Aboriginal Corporation,
- Mingaletta Aboriginal and Torres Strait Islander Corporation,
- Potory Minbee Aboriginal Elders Group,
- Kevin Duncan,
- Daniella Chedzey and Jessica Wegener,
- Jack Smith.

Registrations of interest were received from the following Aboriginal Parties:

- Suzanne Naden, on behalf of the Darkinjung Local Aboriginal Land Council;
- Tracey Howie, on behalf of Guringai Tribal Link Aboriginal Corporation;
- Jack Smith, on behalf of Potory Minbee Aboriginal Elders Group;
- Kevin Duncan.

2.6.4 Presentation of Information/Methodology

On 18 November 2010, in accordance with Sections 4.2 and 4.3 of the DECCW 2010 guidelines, a cover letter, detailed project background and proposed AHIA methodology were distributed to RAPs (Appendix A).

The cover letter and report provided information about the Proposal, the proponent, the intended approval approach, assessment approaches and processes, timeframes and the proposed field investigation (Sections 1.3 and 1.4). In addition the letter sought

information from the RAPs about how they wished to be consulted, how they wished cultural information to be managed and other relevant matters. No meetings were undertaken during this process, although all RAPs were advised that meetings could be arranged if required. A period of 28 days was provided for comments in accordance with the DECCW 2010 guidelines. All responses received have been included in **Appendix A**. Generally, responses involved endorsement of the methodology or identified minor points of concern that were integrated into the field investigation where possible.

In accordance with Section 4.1.6 of the DECCW 2010 Guidelines, information about the RAPs, the information provided to them and newspaper advertisements was sent to DECCW on 17 December 2010 (**Appendix A**).

2.6.5 Field Investigation

In addition to the information provided, as outlined in **Section 2.6.4**, all RAPs who had registered prior to field investigation commencing were afforded the opportunity to participate in the field investigations.

The field investigation was undertaken on 19 and 20 January 2011. Tracey Howie, Dave Pross and Kyle Howie (Guringai Tribal Link Aboriginal Corporation) and Sharon Hodgetts (Darkinjung LALC) participated in the field investigation.

2.6.6 Report Review

Under Section 4.3.6 of the DECCW 2010 guidelines, impacts and mitigation options identified in an AHIA require discussion and/or development with the RAPs. These were discussed in some detail throughout, and at the completion of, the field investigation. Any sites identified were discussed in relation to expected and preferred outcomes, and recommendations presented in this report have been based on these discussions.

The AHIA was provided to all RAPs for a period of 28 days between 8 February and 9 March 2011. Reports were received from Darkinjung Local Aboriginal Land Council and Guringai Tribal Link Aboriginal Corporation. All comments received from the RAPs have been integrated into the AHIA wherever possible and included in their entirety in **Appendix A**.

2.7 Field Investigation

2.7.1 Survey Method

The field investigation was undertaken between 19 and 20 January 2011 by Alan Williams and Lisa Newell (AHMS), with the assistance of Tracey Howie, Kyle Howie and Dave Pross (Guringai Tribal Link Aboriginal Corporation); Sharon Hodgetts (Darkinjung LALC) and Chris Lear (Gosford City Council).

The survey was undertaken using both vehicle and pedestrian transects. The existing walk was first driven in its entirety to identify areas of likely concern. These areas along with all new proposed alternatives were subsequently inspected on foot.

The aim of the field investigation was to observe landscape conditions (including landform type, exposure, visibility, geology, soil type, vegetation, etc), existing disturbance and any Aboriginal objects, sites or places that may be present. All environmental variables were documented in accordance with descriptions outlined in McDonald et al (1998) *Australian Soil and Land Survey: Field Handbook*.

All documentation was undertaken using hand held GPS (with a specified accuracy of <10 m 95% typical), photographs and written descriptions. A series of high resolution aerial photographs was also used to document and record landscape features and Aboriginal objects, sites and places.

Each Aboriginal object, site or place that was identified during the field investigation was recorded. The level of disturbance was assessed as high, medium or low, based on the current land use and any apparent evidence of previous land uses.

2.7.2 Results

General

The study area was characterised by a series of beaches divided up by steep elevated headlands (Plates 1-3). The beaches and fore-dunes were composed of beach sand with some evidence of podsolisation in places and low-lying vegetation (a combination of maintained lawn and pioneer grasses/shrubs dominated by Bitou Bush). From the beaches steep slopes with minimal soil and frequent sandstone bedrock led up to flat undulating headlands, which retained a residual soil (composed of a shallow, frequently absent, A horizon over brown/red clays) dominated by Casuarina sp. trees.

In general, the route of the Walkway was situated on the beach front before being directed up through various residential suburbs onto the higher ground (Plate 3). The majority of the

route was situated within areas of extensive residential development and/or other areas of disturbance (such as water easements, fire trails, etc) (Plates 4-6). The Walkway itself has been in existence for several years, and even in undeveloped areas, the use and trampling of the route has led to extensive impact to the natural soil profile. The proposed alternatives were, similarly, located within areas of existing development and/or infrastructure, such as along a large retaining wall to the south of Cockrone Lagoon (Plate 7), or along an existing fire trail between Winney Bay and Cape Three Points Road, or within a heavily modified drainage line near Del Mar Drive.

Due to such high levels of existing development, the focus of the survey was on entry/exit points between the beach and the hinterland, since these areas cross fore-dunes known to be of high archaeological interest; lagoon entrances; undisturbed headlands (near Captain Cook Memorial and North Avoca surf life saving club); and rock platforms (Winney Bay). A focus was also undertaken on potential ancillary impacts, i.e. the greater access to areas of potential archaeological value, most notably Winney Bay (Plate 8).

In most cases, these areas were unlikely to have increased impacts beyond those already present, e.g. paths to and from the beach exist in most parts of the Walkway, and lagoon entrances have been formalised with retaining/sea walls. The headlands were generally less disturbed, however, the proposed Walkway will largely follow existing access tracks, fire trails or informal tracks, and the level of newly proposed impact is likely to be negligible.

Despite generally dense vegetation cover along much of the route, exposures were frequently identified due to the ongoing use and trampling. Therefore, visibility was moderate - good in many areas, most notably (and importantly) those between the beach and fore-dunes.

A summary of transects undertaken as part of the field investigation is presented in Table 3 and Figure 11.

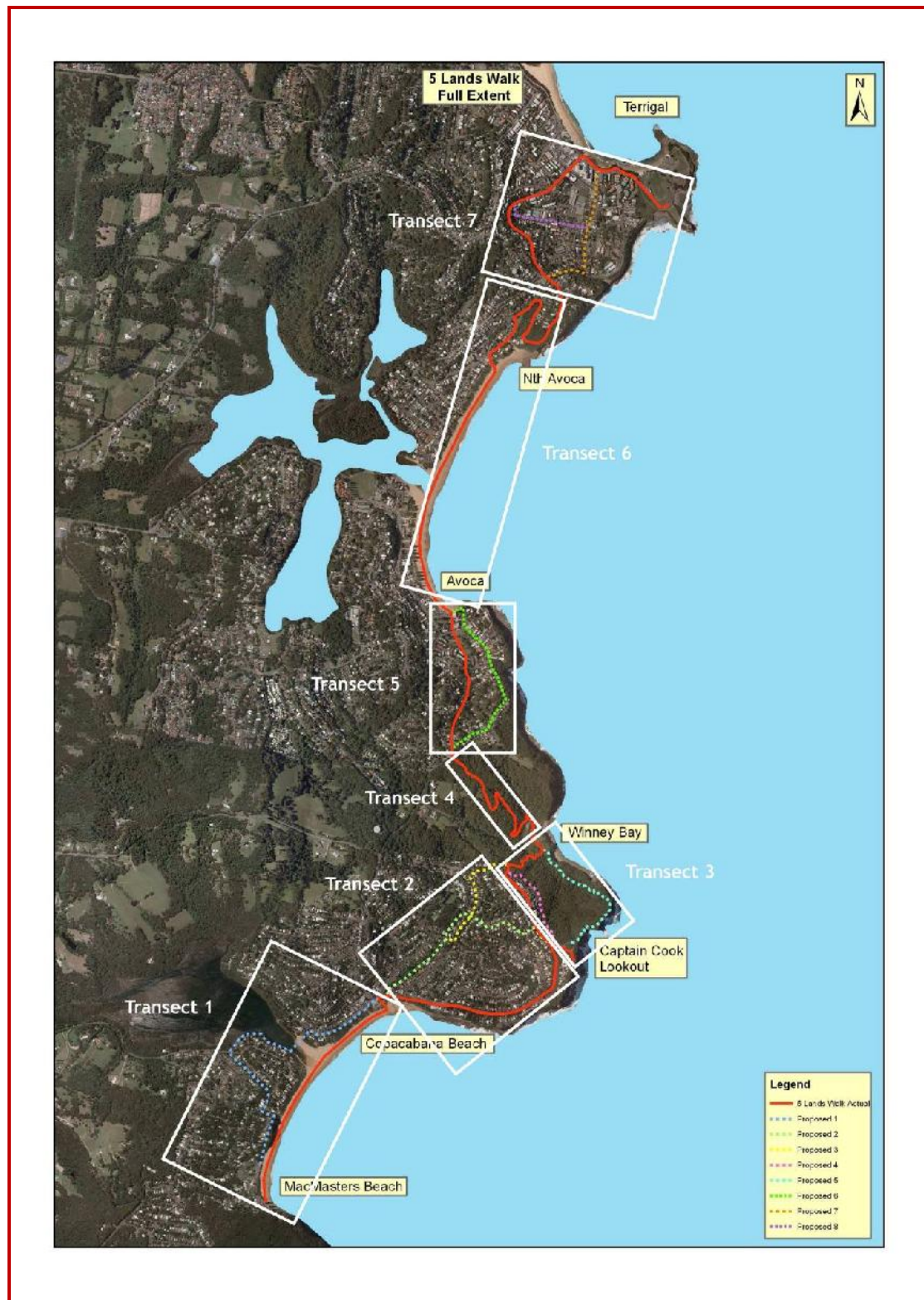


Figure 11. Map of transects investigated as part of this assessment. .

Table 3. Summary of Transects undertaken during the field survey

Transect Number	GPS Co-ordinates*	Description	Landform Type	Disturbance	Transect Area (m ²) ‡	Exposure / Visibility (%)	Effective Coverage % (m ²) †
1	Start: E 353738 N 6292074 End: E 354412 N 6293275	<p>This transect began at MacMasters Beach surf life saving club and ran to First Point, before returning via Del Monte Place, Cockrone lagoon and Tudibaring Parade.</p> <p>The transect was primarily flat and composed of the current day beach to the east and fore-dune/swamp (now largely composed of residential suburbs) to the west. A large hill around Tudbaring Parade was also included, but only peripherally investigated due to access. The transect revealed numerous archaeological sites mainly present on the slopes and fore-dunes immediately behind the beach.</p> <p>Extensive disturbance was present in the vicinity of both surf clubs, most notably the modified drainage line north of the Copacabana surf club. The lagoon and its edges revealed extensive disturbance, as well as a large retaining wall, areas along Tudibaring Parade suggest in-filling of back-swamps and other low-lying areas probably occurred here.</p>	Beach, dune, lagoon	Low - moderate	50,000	80/70	28,000 (56)

		Soils were primarily beach sand with some evidence of podsolisation and low-lying vegetation, including bitou bush, Casuarina sp. and Banksia sp.					
2	Start: E 354412 N 6293275 End: E 354996 N 6294000	<p>This transect was located within a residential suburb on gentle to moderate slopes leading from Copacabana beach up to Captain Cook Memorial. The transect included Del Monte Place, Del Mar Drive, Vista Avenue and Vista Avenue North.</p> <p>The transect was in a heavily urbanised context and revealed little natural landscape. The proposed route includes front gardens and road verges (many of which retained services and/or extensive drainage). Effective coverage was low, but it is considered unlikely that archaeological materials would have been preserved in this environment.</p> <p>A drainage line running parallel with Del Mar Drive was investigated (the same one running from the Copacabana surf life saving club). It proved to be heavily modified and channelised, previously having been a series of shallow swamps and wetlands (Pross pers. comm.).</p>	Gentle - moderate slopes	Moderate - high	60,000	10/10	600 (1)
3	Start: E 354996	This transect ran in a broad circle from Captain Cook Memorial along the headland	Ridge top, moderate	Low	26,000	20/20	1,040 (4)

	<p>N 6294000</p> <p>End:</p> <p>E 354344</p> <p>N 6293571</p>	<p>to Winney Bay and back to Del Monte Place.</p> <p>The transect revealed little disturbance forming a park/reserve on the headland. To the north the headland is flat before dropping away on moderate - steep slopes into Winney Bay, then returning up to Del Monte Place within a fire protection zone. The headland was heavily vegetated with Casuarina sp., with the low-lying areas retaining Burrawangs and other rainforest type vegetation. The proposed track was already well used/trampled and allowed good effective coverage.</p> <p>On the headland, soils were primarily residual and frequently truncated (only a clay B horizon being evident), on the slopes frequent sandstone bedrock was exposed.</p> <p>While the general area revealed limited disturbance and a permanent water source towards Winney Bay, the proposed Walkway had been extensively used (including installation of formal bridges across the creek) and no Aboriginal objects or potential were considered to be evident within the proposed impact zone.</p>	slopes				
4	<p>Start:</p> <p>E 355310</p> <p>N 6294208</p>	<p>This transect ran from Cape Three Points Road down to Winney Bay. This transect was undertaken to explore Winney Bay and identify any ancillary impacts (i.e. greater</p>	Wave platform, moderate slopes	Moderate - high	14,000	80/80	8,960 (64)

	<p>End:</p> <p>E 354748</p> <p>N 6294632</p>	<p>access to this area) through the proposed changes.</p> <p>The transect was entirely undertaken on an existing fire trail, which allowed good visibility, but had clearly led to soil erosion. Well established Eucalypts and Angophoras were present indicating little disturbance off the track - although these areas were generally steep.</p> <p>The access to Winney Bay revealed evidence of extensive impact through the construction of a sewerage pipe, which runs through the bay out to sea. However, dense vegetation did not allow for a detailed investigation of the access to Winney Bay. This area was considered to have archaeological potential based on the other beaches and bays in the area, and caution is recommended for any development that occurs in this area. The bay itself revealed little evidence of archaeological material, being frequently scoured by storm waves.</p> <p>A set of grinding grooves has been recorded in this area, but later analysis suggests they are closer to First Point than Winney Bay.</p>					
5	<p>Start:</p> <p>E 354748</p> <p>N 6294632</p>	<p>This transect runs along Endeavour Drive before heading downslope along Avoca Drive to Avoca surf life saving club. The existing Walkway also runs through various streets in</p>	Gentle - moderate slopes	Moderate - high	20,000	30/30	1,800 (9)

	End: E 354750 N 6295423	<p>this area, but these were only cursorily examined, since the track was composed of concrete in this location.</p> <p>With the exception of a small area between Endeavour Drive and Avoca Drive, this transect was encompassed completely on existing roads and paths.</p> <p>The small area between Endeavour Drive and Avoca Drive was composed of a steep heavily eroding slope. The proposed route was already partially cleared and trampled, the route clearly being used for quick access to the beach from the various nearby properties. This area retained only a truncated soil profile, as well as exposed sandstone bedrock. Vegetation was a composed of 1-2 m high shrubs and bushes, mainly weeds.</p>					
6	Start: E 354750 N 6295423 End: E 335203 N 6296984	<p>This transect includes the beachfront between Avoca and North Avoca and parts of North Avoca Road, The Avenue and Coast Road.</p> <p>Avoca beach was a flat beach with limited vegetation. Visibility was excellent, but disturbance (through modern day tides) was relatively high - the back of the beach was heavily developed and did not form a part of the assessment. Previous investigations had identified Aboriginal objects (mainly</p>	Beach, lagoon, fore-dunes	Low- moderate	60,000	60/60	21,000 (35)

		<p>isolated finds) at the lagoon mouth, but none were documented as part of this survey.</p> <p>A focus of this transect was on the track between the beach and North Avoca Parade, since it the fore-dune landforms known to have archaeological potential. However, in this area, existing tracks are already present for access to and from the beach. Further, the fore-dunes have been fenced off in several places.</p> <p>This transect also includes the steep slope at the northern end of North Avoca beach where a viewing platform is proposed. The location is on a very steep slope with limited soil profile. Investigations around the base of the cliff revealed no rockshelters or other sites of concern.</p>					
7	<p>Start: E 335203 N 6296984</p> <p>End: E 355979 N 6297742</p>	<p>This transect encompassed the northern components of the survey between Coast Road and the Skillion. This area was heavily developed - effectively encompassing modern day Terrigal.</p> <p>The transect can be characterised as a series of gentle - moderate slopes leading from the Skillion up to the Coast Road at North Avoca.</p> <p>In all cases, the existing Walkway and proposed alternatives are situated on</p>	Gentle - moderate slopes	High	52,000	5/5	130 (0.25)

		current roads and/or paths. The potential for archaeological remains to be present was considered low - nil.					
<i>Average</i>					40,286	45/39	8,790 (24)
Total					282,000		61,530

* All co-ordinates are presented as MGA employing the GDA 94 datum.

† This number is based on the survey of an approximate corridor width of 20 m multiplied by the length of transect in question.

† Effective coverage is a relationship of the visibility and exposure, specifically it is the percentage of *visible exposed* area, and can be worked out through area divided by visible percentage and then by exposure percentage.



Plate 1. Photograph of MacMasters Beach, looking south. The existing Walkway runs along the beach, a proposed alternative runs over the headland in the centre of this photograph.



Plate 2. Photograph of the Walkway, looking west. North Avoca surf life saving club is in the background. This photograph shows that even in areas of potential archaeological value (fore-dunes), the Walkway is largely pre-existing and will require no new impacts.



Plate 3. A steep slope at North Avoca beach, looking northeast. A viewing platform is proposed to be installed partway up this headland. The headland is characterised by steep slopes with minimal soil.



Plate 4. The northern end of the walk at the Skillion, looking south. While several sites have been previously recorded here, they are either on the wave platforms to the east (right) or have been destroyed through the extensive development here.



Plate 5. A section of the proposed Walkway at Avoca beach, looking north. The Walkway will be situated on or adjacent to the road; impacts may include the installation of a pathway.



Plate 6. A section of the proposed Walkway at Copacabana beach, looking north. Proposed impacts may include the installation of a pathway adjacent to the existing road.



Plate 7. Cockrone lagoon, looking east. While generally a focus of Aboriginal occupation, the lagoon mouth has been heavily modified by construction of a retaining wall, as shown here.



Plate 8. Winney Bay, looking southeast. Investigation of Winney Bay was undertaken due to potential ancillary impacts from greater access through the proposed Walkway alternatives.

Results

The field investigation identified no new Aboriginal objects or sites on the existing Walkway or proposed alternatives. However, previously documented Aboriginal objects/sites were observed and re-recorded at MacMasters and Copacabana beaches.

As outlined above, the survey revealed that much of the Walkway had been disturbed, significantly reducing the potential for in situ Aboriginal objects/sites to occur. Despite such disturbance and the lack of visible Aboriginal objects, it is still considered that the fore-dune areas of MacMasters, Copacabana, Avoca and North Avoca beaches and Winney Bay retain potential for sub-surface archaeological materials.

Two areas revealed evidence of Aboriginal objects/sites along the proposed walk (Figure 12):



First Point - Allagai Bay/MacMasters Beach Midden (45-3-0581, 45-3-0724, 45-3-3305, 45-3-3306)

North End - Easting: 354601, Northing: 6293201 (MGA 95, Area 56)

South End - Easting: 354087, Northing: 6293026 (MGA 95, Area 56)

Site Type: Midden

Site Description: This site was documented in 1972 by Eugene Stockton (45-3-0581) and subsequently re-recorded by Michael Therin in 1998 (45-3-3306). Based on the site inspection and other analysis, it is considered that 45-3-3306 (currently identified as the *former* Copacabana SLC PAD) (354335E, 6293289N) forms part of this site, and that 45-3-0724 (First Point/Bulbararing Trig grinding grooves) may have been situated in the creek bisecting the fore-dunes in this location.

The site was originally recorded as a stratified midden eroding from a perpendicular sand face overlying sloping rocks towards the north end of Copacabana Beach (Plate 10). The sloping rocks reflect the eroding lower slopes of the sandstone headland immediately to the north and now form a natural batter at the intersection of Del Monte Place and Del Rio Drive (Plate 11). The original recording notes the presence of *Dicathais* (cart-rut shell), *Cabestana* (sea snail), *Ninella* (sea snail), *Anadara* (cockle), *Melanerita* (gastropod) and *Notohaliotis* (abalone) sp. shell, as well as charcoal, fired pebbles, edge-ground axes and flakes. These were located in a narrow band of the eroding sand between 40-60 cm below the surface.

The survey undertaken as part of this study, similarly, identified the same site, with a narrow band of shell (no artefacts evident), primarily *Anadara* sp. evident within the eroding sand dune (Plates 12 and 13). Dense vegetation, Bitou bush, covering the slope did not allow for detailed recording, but the site's broad location from the back edge of the beach up the slopes to Del Monte Place could be discerned. With regard to the site's north-south extent, the northern edge could not be identified, but is assumed to extend further north around the point - the lower slope landform upon which it is situated continues for a further 150 m from the co-ordinates provided here (Plate 14). To the south, shell material and a piece of chert manuport were still evident near the boat ramp north of the creekline near the Copacabana surf life saving club (Plate 15). Given the presence of Aboriginal objects in the *former* Copacabana surf club (situated in the car park northwest of the current surf club), it seems likely that the site would have encompassed the creekline and surrounding terraces. However, given the disturbance in this southern area, the extent and survival of the midden is unknown. The Aboriginal objects from the former Copacabana surf club were recovered from over 1.5 m depth, and so there is high potential for deep sub-surface deposits to be buried in this area.

Close inspection was undertaken around the existing surf club, but no archaeological materials could be observed. Regardless, given the size, extent and potential depth of archaeological materials, it is considered that this site should encompass the fore-dunes south of the existing Copacabana surf club to the edge of the lagoon and between the back of the beach and the road edge of Del Monte Place. However, the focus of the site is clearly north of the boat ramp with lesser materials being found to the south and west.

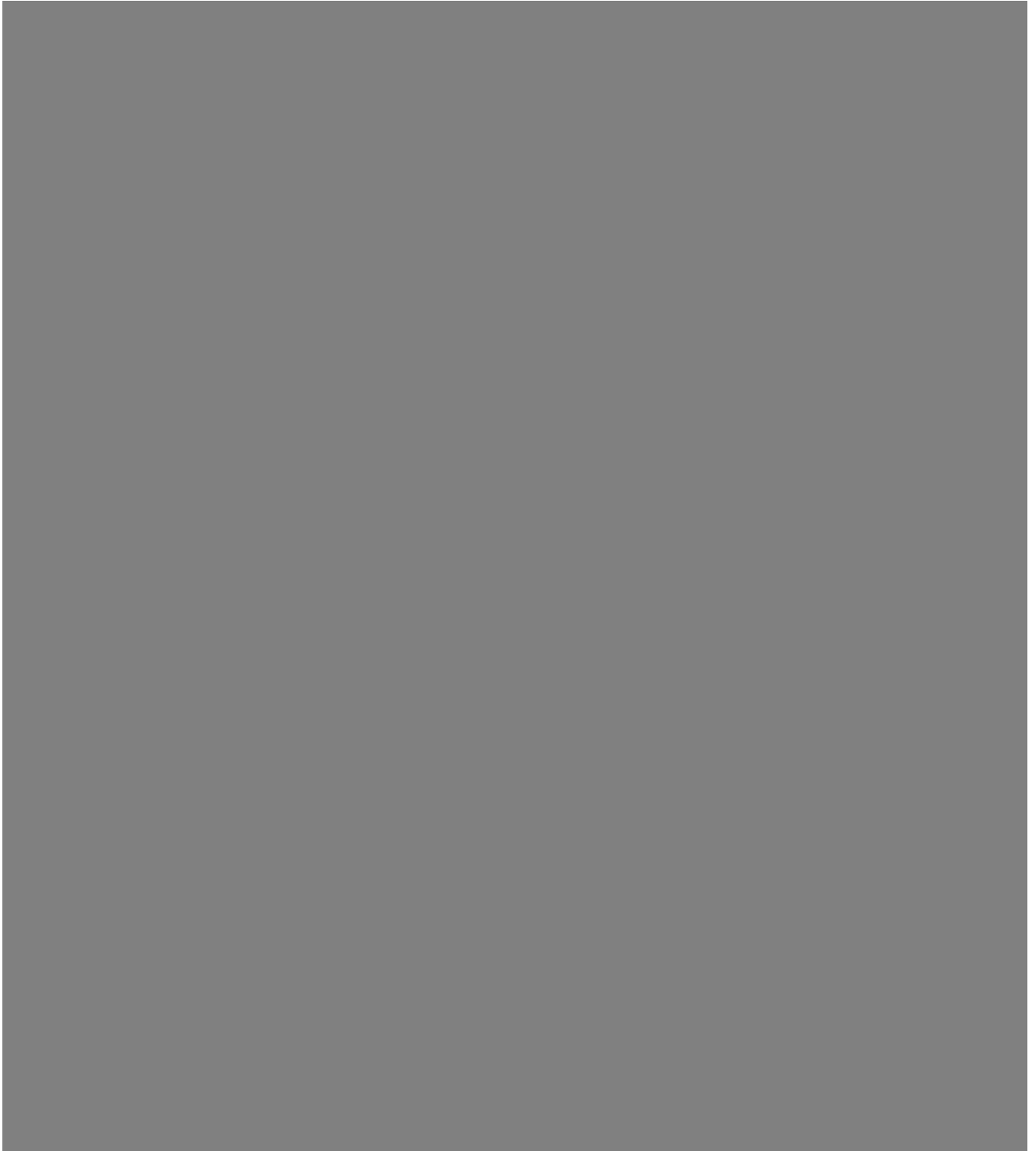




Plate 10. Photograph of the First Point Midden, looking northwest. The midden was situated on the slopes at the back of the beach. They are shown here densely covered in bitou bush. The trees are situated on the intersection of Del Monte Place and Del Rio Drive, to give an indication of location. Midden material was observed in the vegetation all the way to the right of this photograph.



Plate 11. Midden material was evident along much of the slope between First Point and the creek adjacent the Copacabana surf life saving club. This photograph is looking north towards the point and showing the deposits to the left (west).



Plate 12. Photograph of the First Point Midden, looking southwest. Tracey Howie is in the photograph inspecting some of the shell material exposed along the edge of the slope.



Plate 13. Shell material eroding out of a dune section near the northern end of the First Point midden, looking west.



Plate 14. The northern extent of the First Point midden could not be discerned, but the lower slope landform upon which it was situated continues for a further 150 m as shown in this photograph. The landform continues underneath the houses shown here and it is likely the midden would also continue.



Plate 15. A creekline north of Copacabana surf life saving club, looking southwest. This creek has been heavily modified, but may have been the location of a series of grinding grooves located in this area. It is further considered that the midden deposits to the north probably extend to the banks of this creek, although their preservation following development is unknown.

2.8 Significance Assessment

2.8.1 General

The significance of Aboriginal archaeological sites is assessed using two criteria: Aboriginal (cultural) and archaeological (scientific) significance. These criteria recognise that Aboriginal sites are valuable in a number of ways, namely:

- To the Aboriginal community as an aspect of their cultural heritage and as part of continuing traditions;
- To the broader community, for educational, historical and cultural enrichment values; and
- To the scientific community for potential research value.

The guidelines outlined in the NSW National Parks and Wildlife (now DECCW) *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (2010) provide the basis and background for the evaluation of site significance.

2.9 Cultural Significance

This area of assessment concerns the relationship and importance of sites to the Aboriginal community. Aspects of cultural significance include people's traditional and contemporary links with a given site or landscape as well as an overall concern by Aboriginal people for sites and their continued protection.

Unmodified natural features in the landscape can signify sacred sites or places of significance. As such, they are archaeologically invisible and can only be identified with the aid of Aboriginal interpretation. If such sites are known, they hold particular cultural significance to contemporary Aboriginal people. Furthermore, sites of significance are not restricted to the period prior to contact with Europeans. Often events related to the Contact-period, and at times to the period since European settlement, may be important to the local Aboriginal communities. If these events relate to a specific place in the landscape, then that place (i.e. the site) may become sacred or highly significant to the local Aboriginal communities.

During the field assessment, only two sites were identified (see Section 2.7). In both cases, these sites represent midden material, [REDACTED] Discussions with the RAPs during the field survey indicate that these sites are considered to retain significant cultural values, most notably due to the presence or potential to retain human remains.

The perspectives of the Aboriginal community were sought following the distribution of this report as a draft. All comments received from the Aboriginal community relating to this report are presented in Appendix A.

2.9.1 Scientific Significance

Scientific value is associated with the research potential of a site. Rarity and representativeness are also related concepts that are taken into account. Research potential or demonstrated research importance, is considered according to the contribution that a heritage site can make to present understanding of human society and the human past. Heritage sites, objects or places of high scientific significance are those which provide an uncommon opportunity to provide information about the specific age of people in an area, or a rare glimpse of artistic endeavour or a chronological record of changing life through deep archaeological stratigraphy.

The comparative rarity of a site is a consideration in assessing scientific significance. A certain site type may be "one of a kind" in one region, but very common in another.

Artefacts of a particular type may be common in one region, but outside the known distribution in another.

The integrity of a site is also a consideration in determining scientific significance. While disturbance of a topsoil deposit with artefacts does not entirely diminish research value, it may limit the types of questions that may be addressed. A heavily cultivated paddock may be unsuited to addressing research questions of small-scale site structure, but it may still be suitable for answering more general questions of implement distribution in a region and raw material logistics.

The capacity of a site to address research questions is predicated on a definition of what the key research issues are for a region. In the region including the study area, the key research issues revolve around the chronology of Aboriginal occupation and variability in stone artefact manufacturing technology. Sites with certain backed implements from the Holocene are very common, but sites with definite Pleistocene evidence are extremely rare, and hence of extremely high significance if found.

2.9.2 Assessment

This section assesses each Aboriginal object, site or place identified in the field survey. It seeks to incorporate both cultural and scientific values outlined above. Generally, cultural values over-ride any scientific significance ranking, and therefore where an Aboriginal object, site or place is identified as having cultural values, it is not contested by scientific findings. Where specific cultural values are not provided by the RAPs, scientific assessment and significance is assigned to the Aboriginal object, site or place in question.

The study area is located in an area where little archaeological investigation has happened previously. With the exception of a few studies, mainly surveys, over the last 30 years, the area has had limited investigation for archaeological material or analysis. Studies have occurred in the general areas, including those of V. Attenbrow at Upper Mangrove Creek and R.J. Lampert and J.V. Megaw in parts of Broken Bay, but these have been focussed on very different typed of archaeological sites (mainly rockshelters) to those identified here. The closest archaeological investigations to the findings of this study with regard to landform, site, type, location, etc, are probably those by K. Dyll at the Swansea Inlet and Stockton Bight. These studies, undertaken in the 1970s, identified a 7,000 year sequence of occupation and exploitation of the ocean resources and adjacent rock platforms. Further afield, those of I. McBryde in the Clarence River (most notably Wombah midden), similarly, show long term exploitation of the ocean fringe. In many of these cases, human remains were recovered from midden deposits.

The general absence of archaeological study in this region, combined with the presence of stratified deposits and potential for dietary analysis and/or burial practices make this area of immense archaeological value.

The field investigations identified two archaeological sites within or in close proximity to the Walkway or its proposed [REDACTED]

[REDACTED]

Both factors make these sites of significantly high research potential. Middens are fairly common along the NSW coast, and the sites cannot necessarily be considered of low representativeness, [REDACTED]

While it is not recommended, given the sensitivity of the sites, both would support wider public interpretation of Aboriginal occupation of the area, and thereby retain public significance.

Both sites are, therefore, considered of high archaeological significance. It must be noted, however, that extensive development in the area has led to impacts to both of these sites and their integrity/condition could not be adequately assessed as part of the field survey. The significance assessment here has been based on precautionary principles and current information, further research and/or other information may lead to a re-assessment of these sites' significance.

2.10 Potential Impacts

Based on the current Walkway and the proposed alternatives, there are no potential impacts to any areas of Aboriginal heritage.

The Walkway does occur in close proximity to [REDACTED] and First Point midden (45-3-0581, 45-3-0724, [REDACTED]). The Walkway is existing and requires no new development. Similarly, the Walkway through the fore-dune areas, where archaeological material has potential to occur, is already existing and no new works are proposed.

Given the proximity of the two sites to the existing Walkway, however, recommendations have been included to avoid ancillary and/or inadvertent impacts through trampling, sign installation, the construction of stalls, etc, in these areas.

Any development along Del Monte Place between the Copacabana surf life saving club and the lagoon should focus on the west side of the road, since the fore-dunes (which are included in the First Point midden curtilage) do occur up to the east side of the road edge. The road edge is generally highly disturbed and any proposed development is likely to be very shallow (<30 cm), and the risk of impacting archaeological materials in this area is considered low.

2.11 Conclusions

2.11.1 General

The assessment revealed that much of the 5 Lands Coastal Walkway and proposed alternatives have previously been developed and/or impacted through a variety of factors. Despite poor visibility, the field survey identified few Aboriginal heritage issues along the route due to existing development and/or an absence of proposed development within areas considered to retain archaeological potential.

The assessment identified two areas retaining Aboriginal objects/sites, both previously recorded. [REDACTED]

Point midden (45-3-0581, 45-3-0724, 45-3-3305, 45-3-3306), located between the fore-dunes between Cockrone lagoon and First Point, and encompassing the former and current Copacabana surf life saving clubs. In relation to the latter, only the northern edge of the beach (between the wave platform and the surf club) identified any archaeological remains, but it is considered a high risk for materials to occur in other parts of the dune system in this area.

Based on current Walkway and the proposed alternatives, neither of these sites would be impacted as part of the development. However, both sites are in close proximity to parts of the Walkway, and it is recommended that they be avoided and [REDACTED]

[REDACTED] during the Walk Event. It is also recommended that [REDACTED] staff and/or Aboriginal representatives before the Walk Event begins to ensure any sensitive material (such as human remains) can be managed appropriately.

It is considered that all fore-dunes (the area between the beach and residential suburbs behind) where extensive development has not occurred along the route have potential to retain archaeological materials. These include those around the North Avoca surf life saving club, Winney Bay, Copacabana Beach and MacMasters Beach. Detailed recording and/or discussion of these areas has not been included, since the proposed works are unlikely to

impact any of them – the Walkway generally having existing tracks and walkways in these areas already. However, should the Walkway propose to modify any of these areas, additional assessment and/or investigation would be required.

2.11.2 General Recommendations

The following general recommendations are relevant:

- Consultation between Gosford City Council and relevant Registered Aboriginal Parties should be maintained as appropriate throughout the design and construction of the Proposal;
- Where possible Gosford City Council should aim to avoid impacting any known Aboriginal heritage objects, sites or places and places that have potential Aboriginal heritage or cultural values, throughout the life of the project;
- Where impact cannot be avoided, Gosford City Council should choose partial impact rather than complete impact wherever possible and ensure that appropriate measures to mitigate impacts are developed and implemented as required and as appropriate during design, construction and operation of the project;
- If re-location of the Walkway outside of those areas investigated is proposed, further assessment of these areas should be undertaken to identify and appropriately manage Aboriginal objects/sites/places that may be in these areas;
- Gosford City Council should advise all relevant personnel and contractors involved in the design, construction and operation of the project, of the relevant heritage issues, legislative requirements and recommendations identified in any Aboriginal heritage impact assessments undertaken for the project;
- In the event that previously undiscovered Aboriginal objects, sites or places (or potential Aboriginal objects, sites or places) are discovered during construction, all works in the vicinity of the find should cease and Gosford City Council should determine the subsequent course of action in consultation with a heritage professional, relevant Registered Aboriginal Parties and/or the relevant State government agency as appropriate;
- Should suspected Aboriginal skeletal material be identified, all works should cease and the NSW Police and the NSW Coroner's office should be contacted. Should the burial prove to be archaeological, consultation with a heritage professional, relevant Registered Aboriginal Parties and/or the relevant State government agency, should be undertaken by Gosford City Council;

2.11.3 Specific Recommendations

- [REDACTED]
without further assessment. Such assessment should include sub-surface testing in accordance with DECCW's (2010) *Code of Practice for Archaeological Investigations of Aboriginal Objects in New South Wales* and in conjunction with the Registered Aboriginal Parties;
- No new impacts are permitted within the fore-dunes (the area between the back of the beach and residential suburbs behind) surrounding North Avoca Beach, Winney Bay, Copacabana Beach and MacMasters Beach without further assessment. Such assessment should include sub-surface testing in accordance with DECCW's (2010) *Code of Practice for Archaeological Investigations of Aboriginal Objects in New South Wales* and in conjunction with the Registered Aboriginal Parties;
- Gosford [REDACTED]
[REDACTED] First Point midden (45-3-0581, 45-3-0724, 45-3-3305, 45-3-3306) immediately before and during the Walk Event, since both are in close proximity. Such management may include temporary fencing of these areas and/or monitoring during the day;
- Two copies of this report should be forwarded to the NSW DECCW - Planning and Aboriginal Heritage Section, North East Branch, Environment Protection and Regulation Group (Locked Bag 914, Coffs Harbour, NSW 2450); and
- One copy of the report should be forwarded to each of the registered Aboriginal stakeholders, specifically Guringai Tribal Link Aboriginal Corporation, Darkinjung LALC, Potory Minbee Aboriginal Elders Group, and Kevin Duncan.

Recommendations made by the Registered Aboriginal Parties are reproduced in **Appendix A**, and are broadly consistent with the above. The following additional recommendation is made:

- Any vegetation clearing and earthworks in areas of high potential should be monitored by a suitably qualified person.

3. HISTORICAL HERITAGE AND ARCHAEOLOGICAL IMPACT ASSESSMENT

3.1 Statutory Considerations and Heritage Listings

Historical heritage and archaeology in New South Wales can be protected by a number of pieces of legislation; Commonwealth, State and local. Those of relevance are summarised below, with an explanation of how they apply to the proposed development of the study area.

3.1.1 Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) provides a statutory framework for protecting and managing significant environmental and cultural heritage places, flora, fauna and environmental communities. The Act establishes the National Heritage List (NHL) and the Commonwealth Heritage List (CHL) and provides protection for places included in the two lists. The Act also provides protection for those Australian places inscribed on the World Heritage List (WHL).

The study area does not include any places of historical heritage value that are listed on the WHL, the NHL, or the CHL.

3.1.2 Environmental Planning and Assessment Act 1979 (NSW)

The *Environmental Planning and Assessment Act 1979*, together with the *Heritage Act 1977* and the *National Parks and Wildlife Act 1974*, combine to form an integrated system for managing environmental heritage in NSW.

The study area falls within the Gosford Local Government Area (LGA). The relevant environmental planning instruments are the *Gosford Interim Development Order 122* and the *Gosford Planning Scheme Ordinance*. These are due to be superseded by the *Draft Gosford Local Environmental Plan 2009*. All three instruments these contain schedules of heritage items, and provisions for protecting and managing listed heritage items.

The study area is not in the vicinity of any item listed in Schedule 2 Environmental Heritage of the *Gosford IDO No. 122*.

The study area is in the vicinity of one item listed in Schedule 8 Environmental Heritage of the *GPSO*:

- Gravestone, Corribeg Reserve, Tudibaring Parade, MacMasters Beach.

The study area is in the vicinity of three items listed in the heritage schedule of the *Draft Gosford LEP 2009*:

- Item 242 Old Post Office, 4 Ash Street, Terrigal Local Significance;
- Item 269 War Memorial, Terrigal Beach Foreshore, The Esplanade Local Significance;
- Item 338 Grave of Allan MacMasters, Corribeg Reserve, Tudibaring Parade, MacMasters Beach Local Significance.

The study area does not include any items listed in the heritage schedules of the *Gosford IDO 122* or the *Draft Gosford LEP 2009*.

3.1.3 Heritage Act 1977 (NSW)

The NSW *Heritage Act 1977* is designed to conserve the environmental heritage of New South Wales and regulate development impacts on the state's heritage assets. Significant historical archaeological features are afforded automatic statutory protection by the relics provisions of the Act. A 'relic' is defined as:

any deposit, artefact, object or material evidence that:

- a) relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and*
- b) is of State or local heritage significance*

It is an offence to disturb or excavate land, where this may affect a relic, without an Excavation Permit or endorsed Exception or Exemption Notification issued by the Heritage Branch of the Department of Planning on behalf of the Heritage Council of NSW.

The *Heritage Act 1977* establishes the State Heritage Register (SHR), a list of places and items of State heritage significance. The Act provides statutory protection for items included on the SHR. Approval from the Heritage Council of NSW is required prior to undertaking work that results in the alteration or modification of an SHR-listed item.

The study area does not include any items listed on the SHR.

The *Heritage Act 1977* requires that State government agencies maintain registers of heritage assets within land that they own and/or manage. These listings are reproduced in the State Heritage Inventory.

The study area does not include any items listed in State Government agency Heritage and Conservation Registers, as reproduced in the State Heritage Inventory.

3.1.4 Non-Statutory Listings

There are a number of non-statutory and information only heritage lists which are relevant to the study area. In addition, several heritage studies have been carried out which include the study area. These lists and studies have been reviewed for listed items in the study area.

Non-Statutory/Information Heritage Lists

The following relevant non-statutory heritage lists have been searched:

- Register of the National Estate (RNE)
- State Heritage Inventory (SHI) (which lists places and items in State and local heritage schedules)
- Register of the National Trust of Australia (NSW)

The study area is in the vicinity of one item listed in the SHI:

- Allen MacMaster's Gravestone, Tudibaring Parade, MacMasters Beach.

The study area does not include any items listed in the RNE, the SHI or the Register of the National Trust.

Table 3. Summary of historical heritage listings in the vicinity of the study area.

Statutory Heritage Listings	World Heritage List	-
	National Heritage List	-
	Commonwealth Heritage List	-
	Gosford IDO No. 122	-
	GPSO	Gravestone, Corribeg Reserve, Tudibaring Parade, MacMasters Beach
	Draft Gosford LEP 2009	Item 242: Old Post Office, 4 Ash Street, Terrigal, Local Significance Item 269: War Memorial, Terrigal Beach Foreshore, The Esplanade, Local Significance Item 338: Grave of Allan MacMasters, Corribeg Reserve, Tudibaring Parade, MacMasters Beach, Local Significance
Non-Statutory Listings	Heritage & Conservation Registers	-
	Register of the National Estate	-
	State Heritage Inventory	Allen MacMaster's Gravestone, Tudibaring Parade, MacMasters Beach
	Register of the National Trust	-

3.2 History

Research into the history of the study area has been carried out using the following collections:

- Land and Property Information Authority,
- State Library of NSW,
- State Records NSW (online collection),
- Heritage Branch library,
- Gosford City Library Local History Resources (online collection).

3.2.1 Terrigal, Avoca, Copacabana, MacMasters Beach

Three headlands of the Central Coast were sighted and named by Captain Cook in 1770; First Point, Second Point (now Mourawaring Point, south of MacMasters Beach), and Third Point (Bomby Point, south of Little Beach). This is remembered by the present Captain Cook Memorial Park, Lookout and monument at First Point.

European settlement in the Gosford area began in the early 1820s, with settlement focused on the entry points around Brisbane Water and Mangrove Creek. This early settlement was based on the exploitation of the natural resources of the area, in particular timber, and shell middens, which were processed to form lime. From c1830, the population of the area grew, and a town was formed at Gosford.

Although settlement also began along the coast, in the study area, in the 1820s, the population remained sparse throughout the nineteenth century. Many of the first residents were small-scale farmers. Peter Campbell, the first resident landowner in the MacMasters Beach area, had begun farming by 1826 (Strom, 1985, p. 6). Timber cutting also remained an important industry through the nineteenth century. In c1870 a sawmill was established at Terrigal by Thomas Davis, who was also a shipbuilder and blacksmith (Dundon, 1978, p. 79).

In 1891, there were only four householders in the Cockrone Lake area, and the total population was recorded as eleven (Strom, 1985, p. 12). At the turn of the century, the only known occupants of the MacMasters Beach area were the MacMaster family (Strom, 1985, p. 16). The MacMasters were subsistence farmers, and it is likely that others in the district were as well.

In the early twentieth century, the region began to be used as a holiday destination. This was reflected in the construction of private holiday houses, and guest and boarding houses. This development was originally focused on Terrigal. One of the first guest houses was the

Haven, built in 1902, to the north of the study area (Dundon, 1978, p. 76). Strath-Haven guest house, on the corner of Kurrawyba Street and The Esplanade, was standing by 1911 (Dundon, 1978, p. 81). On the opposite corner was constructed the Terrigal Picture Palace, General Store and Refreshment Rooms (Dundon, 1978, p. 86; Dundon, 1985, p. 24). The 'Ocean Wave' was another guest house, on the corner of Ash Street and The Esplanade (Dundon, 1985, p. 26). Kurrawyba House stood on the corner of Kurrawyba Avenue and Cadell Street (Dundon, 1980, p. 39).

Work was carried out at Terrigal Beach in the late 1930s, including draining a large swamp, building rock baths, extending parking area at foot of hill, piping the drain, constructing stone paths from the road terminating in steps to the beach (Dundon, 1985, p. 27).

Access to the areas south of Terrigal remained comparatively difficult. Although there was one private holiday home, Banavie, at MacMasters Beach by 1920 (Strom, 1985, p. 19), farming remained the principal occupation. The farms appear to have been used for cultivation rather than pasture, and some orchards were established. Although most of the area had been alienated by this stage, much remained uncleared and undeveloped.

The growth in popularity and use of motor cars improved access to the area. The creation of the Scenic Coast Highway, now the Scenic Road, was a concept of the Erina Shire Development League. A Coastal Scenic Road League was formed in 1930s, and money was secured under Government's relief work scheme to improve the road from Terrigal south to Wagstaffe (Strom, 1985, p. 34). However, the Depression and the Second World War slowed holiday developments in the area (Strom, 1985, p. 36). It was not until the second half of the twentieth century that subdivisions and development took off. Although the region has remained a popular holiday destination, the permanent population has grown substantially.

3.2.2 Study Area

The present route of, and proposed alterations to, 5 Lands Coastal Walkway pass through eight Portions of the Parish of Kincumber (see Table 4 and Figure 13). These Portions are discussed, from north to south, in the following section.

Portion 220

Portion 220 comprises the area known as Terrigal Haven, including the Skillion. This area was originally part of Portion 69, promised to John Murray Gray in 1825 (see below). However, in the 1855 subdivision of the property, Terrigal Haven was set aside as a town common, known as 'Broxmouth Ville Common' (Gosford City Council, 2009, Appendix 4). In about 1870, the reserve was leased by Tom Davis, who established a sawmill and shipyard there (Parkinson, 2009, p. 82). Davis' works at Terrigal Haven also included a blacksmith's shop (Dundon, 1978, p. 79).

Davis was already an established shipbuilder, and had originally operated at Davistown, before moving to Terrigal (Dundon, 1980, p. 38). Timber was transported to the yard by means of a light tramway, the route of which is today followed partly by Tramway Road (Dundon, 1980, p. 38). By the late 1870s, Davis provided work, either directly or indirectly, to about 120 people, and was the major employer in the region (Dundon, 1978, p. 79; Gosford City Council, 2009, Appendix 4).

Davis built Terrigal House for his family home, on Portion 69, to the west of his yard. A plan from 1894 shows the extent of Davis' operations on Portion 220, together with the house on Portion 69 (Figure 17). The property includes a large dam, which was used to supply water for the sawmill's boilers (Gosford City Council, 2009, Appendix 4). The buildings include huts and cottages, probably for the occupation of the workers. The undeveloped areas are described as 'hilly coast scrub land' and 'buffalo grass slopes'.

Davis died in 1893 (Dundon, 1985, p. 23). The family surrendered their rights to the Common to the Commercial Bank of Australia (Gosford City Council, 2009, Appendix 4), and moved to a new house, further to the north (Parkinson, 2009, p. 76). Terrigal House was then used as a holiday house. It was demolished in c1958 for the construction of a Catholic Church, with associated school, hall and presbytery (Parkinson, 2009, pp. 85 & 87). In 2002 the site was again redeveloped, and a block of flats was built (Parkinson, 2009, p. 85).

In 1912, a school was built at the Haven, on two acres of land set aside by the Lands Department (Parkinson, 2009, p. 237; Gosford City Council, 2009, Appendix 4). The school was moved in 1937 (Parkinson, 2009, p. 242). The area around the base of the Skillion was used as a quarry in the 1930s (Parkinson, 2009, p. 82). The growing popularity of Terrigal as a holiday destination was reflected in the use of the Haven. It was the location of a major caravan park from the 1940s through to 1974 (Gosford City Council, 2009, Appendix 4). The 1954 photograph shows a number of buildings at the Haven, most of which are located along the beach on the north-western side (Figure 28). Although the dam appears to have been filled in, its outline is still visible.

Portion 69

Portion 69 was promised to John Murray Gray in 1825 (Parkinson, 2009, p. 27). Gray had arrived in the colony in 1819, and was the Government Pilot in the 1820s (Parkinson, 2009, p. 26). Although Gray did not occupy the property himself, he employed overseers and convicts to clear land, build huts, and run cattle (Parkinson, 2009, p. 27). Gray mortgaged the property, and lost it in 1839 (Parkinson, 2009, p. 32). In 1850 it was sold to George Alfred Lloyd, and in 1855 the property was sold to a group of Maitland farmers (Parkinson, 2009, pp. 32 & 44). It is probable that at least part of the property was acquired by Davis, as the 1894 plan shows the Davis' house on Portion 69 (Figure 17).

Subdivision of the eastern part of the property, near the Skillion, began in the early twentieth century (see **Figure 21** to **Figure 26**). By 1954, the roads followed by the present Five Lands Walk and proposed alterations had been laid out and many of the adjoining lots had been developed, although an area along the western side of Kurrawyba Avenue remained uncleared (**Figure 28**). By 1991, the area was further developed (**Figure 30**).

Portion 167

The 1874 plan of Portion 167 shows a cottage on the property, and describes it as follows; 'Applicant in residence / Improvements a Cottage and Hut worth £70 / Soil Alluvial on Sandstone / Water in Creeks shown / Timber; Mahogany, Blackbutt, Oak / Land fit for rough pasture' (**Figure 16**). The resident at this time was James Jackson. The property was later acquired by Thomas Davis (see Portion 220 above). According to Parkinson (2009, p. 73), Davis bought the property in 1890 but had already been in occupation of the land for several years beforehand.

The 1954 photograph shows that some subdivision and development had occurred in the eastern part of the property. The north-eastern part of the property was still largely undeveloped, although the tracks followed by Five Lands Walk were in existence (**Figure 28**).

Portion 44

Little documentary evidence has so far been located regarding the history of this property. It was granted to John Moore in 1839, but he may have taken ownership earlier, in 1830 (Dundon, 1980, p. 42). The property was named Avoca, after a region in Ireland (Dundon, 1980, p. 42). A plan from 1831 shows a structure on the property, but it is likely that this illustration was a later addition to the plan (**Figure 14**). It is possible that the property passed into the ownership of Charles Byron Ives. It was later acquired by Henry Ferdinand Halloran, along with other neighbouring properties (Parkinson, 2009, p. 305). Halloran began subdivision and sale in 1920, but it was not until the late 1940s and 1950s that the sale of the lots took off (Parkinson, 2009, p. 307). By 1954, a number of roads and tracks had been laid out, including most of those followed by Five Lands Walk, and houses had been built on most of the lots along the beachfront, and several of the others to the west (**Figure 28**).

Portion 343

This property was granted to Thomas Carlton, probably in c1920. A plan of the property was drawn up in the following year, and indicates that it had remained largely undeveloped, although a small garden was fenced off (**Figure 19**). The property was described in the plan as follows: 'Good sandstone ridges / Good grazing when improved / Dense stringybark gum,

turpentine, mahogany, oak, honeysuckle and tea tree with dense brushy scrub in gullies / Permanent water'.

It is possible that Portion 343 was later bought by Reginald Thomas Broadbridge (CP 5899.2111). The 1954 aerial photograph shows that parts of the property were cleared, presumably for cultivation, and there were one or two structures in the cleared areas (Figure 29). In 1991 the cleared areas remained, and a track is visible leading down through the property. The remainder is still uncleared and undeveloped (Figure 31). The property is now parkland.

Portion 180

This property, consisting of 600 acres, was promised to Robert Campbell in the 1820s. Campbell did not occupy or use the land, and lost ownership in 1828 when he became bankrupt (Strom, 1985, p. 6). The property changed hands a number of times before being acquired by John Tooth (Strom, 1985, p. 8), who received the grant in 1834. Tooth was a merchant and brewer, who had arrived in Sydney in 1828 (Walsh, 1976). He does not appear to have made use of Portion 180.

In 1855 the property was sold to Allan MacMaster. The MacMaster family had immigrated from Scotland in 1839, and called their property Corribeg, after their home. The MacMasters cultivated a small part of the property, and raised some cattle and other animals. They were essentially subsistence farmers (Strom, 1985, pp. 8 & 20). Allan MacMaster died in 1860, and was buried at the south-east corner of the farm, on the edge of the cultivated area. The headstone was removed in the 1960s, but was returned in 1985 (Strom, 1985, p. 49).

Corribeg was inherited by MacMaster's son Donald. He and his wife Elizabeth continued to live on and farm the property, with their four children. They built a sawn-log cottage to replace the original house (Strom, 1985, pp. 12 & 50). In 1866 a road was surveyed from Kincumber to the south-west corner of Corribeg, formalising the track which had long since been in use (Strom, 1985, p. 9).

Donald MacMaster sold some parts of the property; 250 acres to George Frost in 1899, 15¼ acres to Jack MacMaster in 1900, 29½ acres to Isaac Dacker in 1910 (Strom, 1985, p. 25). Frost's 250 acres consisted of the eastern part of Corribeg, through which Five Lands Walk now runs. Frost was given a right-of-way from the south-west boundary, which is now followed by parts of Scenic Road, Lakeside Drive, and Helen Drive (Strom, 1985, p. 10).

In the early 1920s the remainder of Corribeg was subdivided for sale, into 16 large lots (Strom, 1985, p. 25). The lots to the north of Cockrane Lake were used for farming, including orcharding, through to at least the early 1940s (Strom, 1985, pp. 38-39). One of the lots, on the south side of the Lake, was further subdivided in 1923, as the 'Tudibaring

Ocean Beach and Lake Estate. This subdivision was intended for holiday homes, or weekenders (Strom, 1985, p. 27). Almost all of the land was disposed of by 1950 (Strom, 1985, p. 27).

In the 1950s, Frost's property and three of the large MacMaster lots were bought by North Coast Realty. These properties were subdivided, and sale began in 1954. The area was still seen as a holiday place at this time. A large area of the headland was not subdivided, and has since been acquired as a public reserve (Strom, 1985, p. 42). An obelisk has been placed in this area to commemorate the naming of Cape Three Points by Captain James Cook in 1770 (Strom, 1985, p. 42). Cockrane Lake was also dedicated as a public recreation space in the late 1950s (Strom, 1985, p. 42).

By 1954, houses had been built on many of the lots to the south of Cockrane Lake. To the north of the Lake, the headland remained largely untouched, although some areas had been cleared for cultivation (Figure 29). Subdivision and development has since been extended onto the headland, although the north-eastern area remains uncleared (Figure 31).

Portion 162

In 1876, Portion 162 was included in a general reservation of all vacant Crown Land on the seaboard between Port Stephens and Jervis Bay (Strom, 1985, p. 11). The property was leased to Samuel Scaysbrook for agricultural purposes in 1919. In 1921, when the reservation was revoked, Scaysbrook converted the lease to a purchase (Strom, 1985, p. 18). The 1925 plan of the property shows a hut on the southern boundary surrounded by a fenced area of cultivation, the remainder is described as 'Undulating Rich soil / Gum, blackbutt, oak and mahogany / Scrubby' (Figure 20). Farming of the property continued into the early 1940s (Strom, 1985, p. 38).

In 1947, Ella Stewart, Scaysbrook's daughter, subdivided the property into 40 lots. The subdivision was known as the Allagai Estate. An area along the eastern end of the grant was set aside as a reserve. By 1953 all the lots had sold (Strom, 1985, p. 40). The 1954 photograph shows that although part of the property had been cleared, and some roads had been laid out, only a few houses had been built (Figure 29). By 1991 most of the lots had been developed, but the reserve along the eastern boundary remained uncleared (Figure 31).

Portion 161

This property, consisting of 40 acres, was bought by William Grieg in 1866 (Strom, 1985, p. 15). Grieg already owned a property to the west, in Little Valley, but he lived on Portion 161 from about 1866 until his death in c1890 (Strom, 1985, p. 12). By 1867 part of the property had been cleared, and a hut had been built (Figure 15). The property is described in the plan as follows: 'Formation; sandstone / Soil; sandy with marine deposits / Water;

permanent and plentiful / Timber; blackbutt, gum, blood wood, Oak scrub, honeysuckle' (CP695.1501).

Portion 161 was bought by John MacMaster in 1914. MacMaster built a house called Banavie on the property; he and his family used it as a holiday home (Strom, 1985, p. 21). In 1924 MacMaster subdivided the property into 140 allotments (Strom, 1985, p. 32). The lots were still selling in the late 1920s (Figure 27). By 1954, although some houses had been built, much of the property remained undeveloped and uncleared (Figure 29). By 1991, further lots had been developed (Figure 31).

Four of the lots, on the corner of Gerda Road and Marine Parade, were acquired by Gosford Shire Council; this is now Banavie Reserve, and is used as children's playground (Strom, 1985, p. 32).

3.2.3 Discussion

The early non-Indigenous history of the study area is one of small-scale farming, and a small, dispersed population. Huts or homesteads were built on the properties, however, no known hut or homestead location is the study area. Allan MacMaster's burial is thought to be in the general location of his headstone, which is located in Corribeg Reserve, however, the exact location of the burial is not known. The study area includes the Reserve in which the headstone is located as one of the proposed alterations to the route of the Walk.

Between c1870 and c1893, Davis' sawmill and shipyard operated at Terrigal Haven. A plan dating to the end of this period shows a large number of associated structures in the area, together with a dam, and it is possible that earlier structures also existed. By 1911, it appears that all of these buildings had been removed, although the dam remained. A school was constructed at the Haven in 1912, and remained standing until 1937. Subsequent developments in the area have included excavation for levelling, and are likely to have had a significant impact on remains from the earlier occupation. However, it is possible that fragmentary historical archaeological remains are present in the area.

The next stage in the development of the area was the construction of holiday homes, and associated infrastructure, followed by the growth of the areas as residential centres. This development was initially concentrated at Terrigal, but later spread along the coast to the south. A number of structures from this period remain standing, including the old Post Office at 4 Ash Street, Terrigal. There is also the potential for the survival of historical archaeological remains from this period. However, in general, the streets laid out at this time have remained in their original alignment, and where it passes through the developed areas, the study area largely follows existing streets. The potential for impact on standing structures or archaeological remains from this period is therefore low.

The documentary evidence indicates that there have been a number of structures on, and just behind, the beaches, including dressing sheds, surf clubs and steps. Material evidence of these is likely to have been largely removed at the time of demolition, and to have been further impacted by the sea. However, it is possible that fragmentary remains survive.

Table 4. Summary of the Portions through which the study area passes.

Portion No.	Grantee	Date	Area	Name
44	John Moore	30 Sept 1839	610a 14p	Avoca
69	J M Gray	6 July 1833	640a	Broxmouth Ville
161	William Grieg			
162	Samuel Scaysbrook			
167	Thomas Davis		97a 1r	
180	John Tooth	26 Nov 1834	600a	
220				
343	Thomas Carlton		38a 3r 30p	



Figure 13. Detail of a map of the Parish of Kincumber, showing the study area (source: Land and Property Management Authority, Parish Map Preservation Project, Image ID. 10885701).

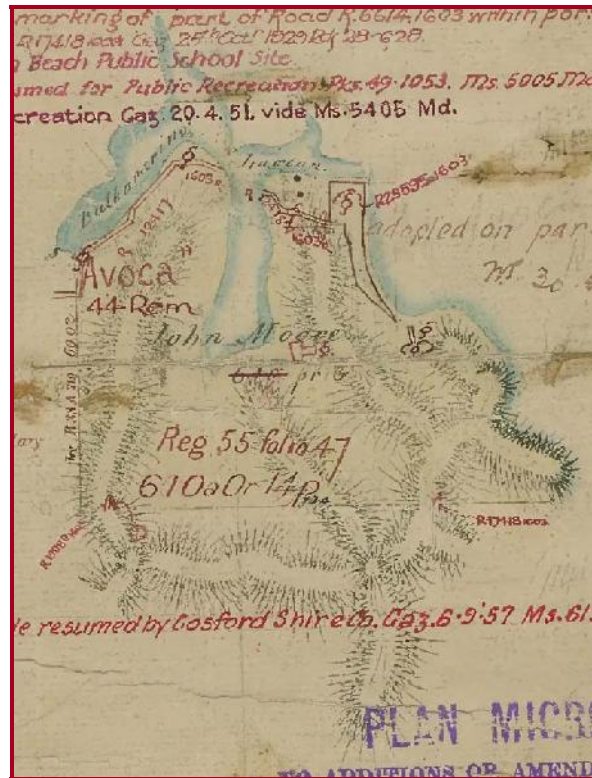


Figure 14. An 1831 plan of Moore's property Avoca (source: Land and Property Management Authority, Crown Plan 1.719).



Figure 15. An 1867 plan of Grieg's Portion 161 (source: Land and Property Management Authority, Crown Plan 695.1501).

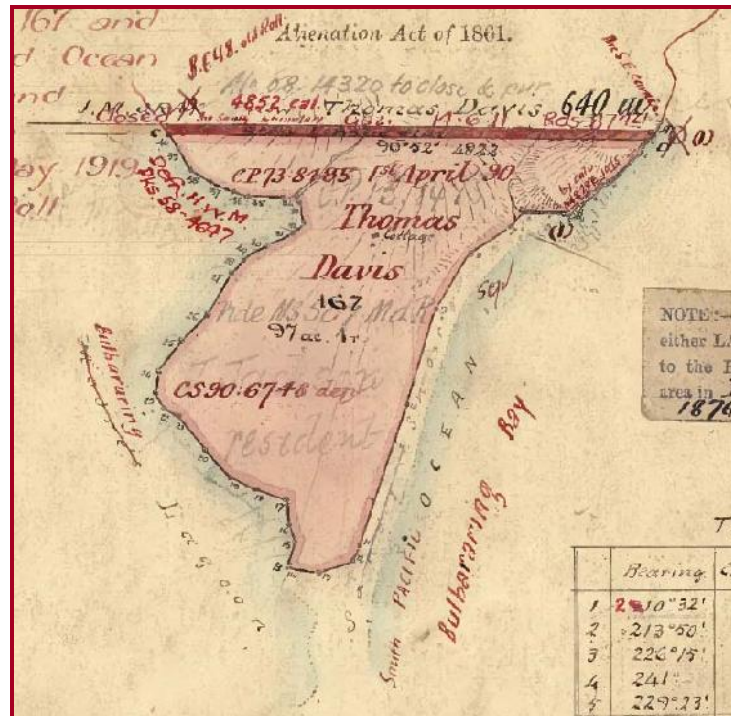


Figure 16. An 1874 plan of Davis' Portion 167 (source: Land and Property Management Authority, Crown Plan 119.2111).

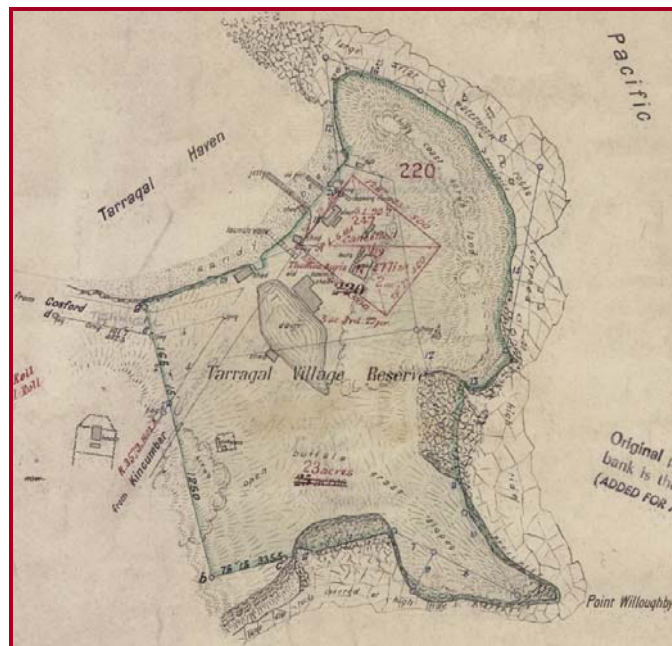


Figure 17. An 1894 plan of Davis' Portions 220 and 247 (source: Land and Property Management Authority, Crown Plan 3368.2111).

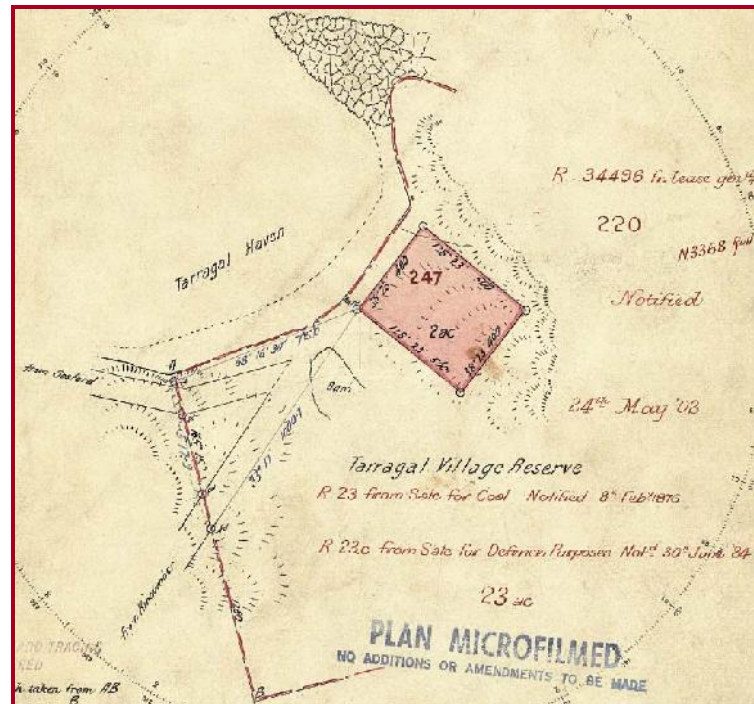


Figure 18. A 1911 plan of Portion 247, now a public reserve (source: Land and Property Management Authority, Crown Plan 4771.2111).

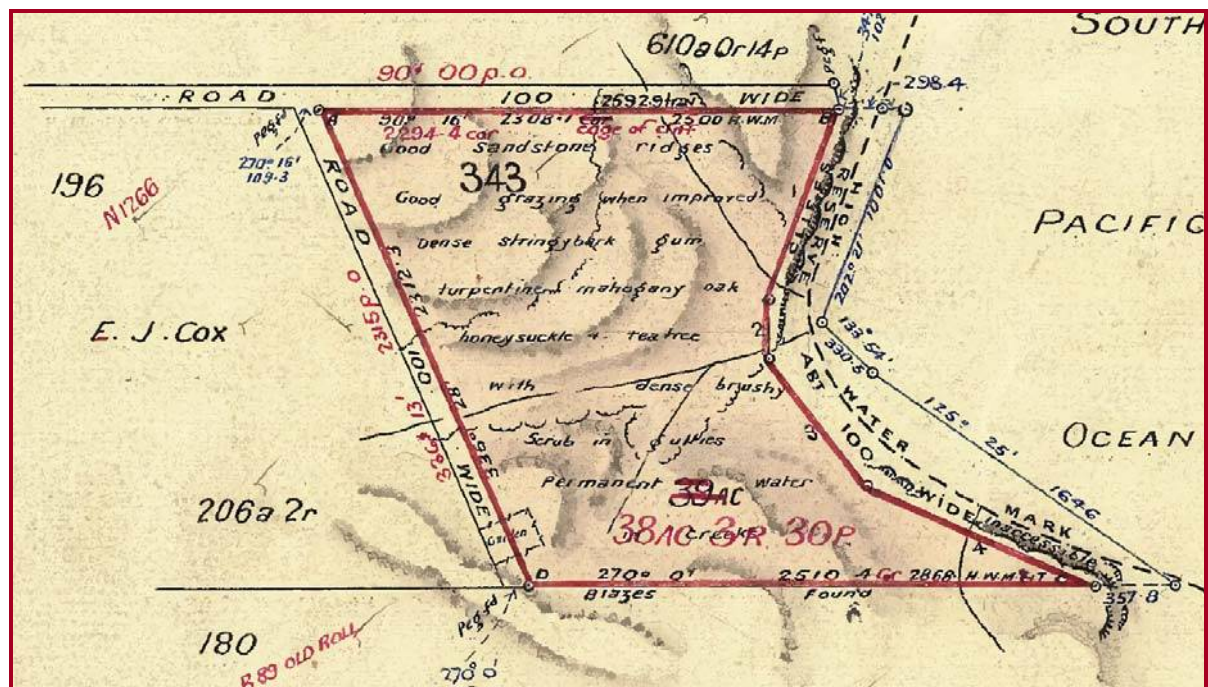


Figure 19. A 1921 plan of Carlton's Portion 343 (source: Land and Property Management Authority, Crown Plan 5899.2111).

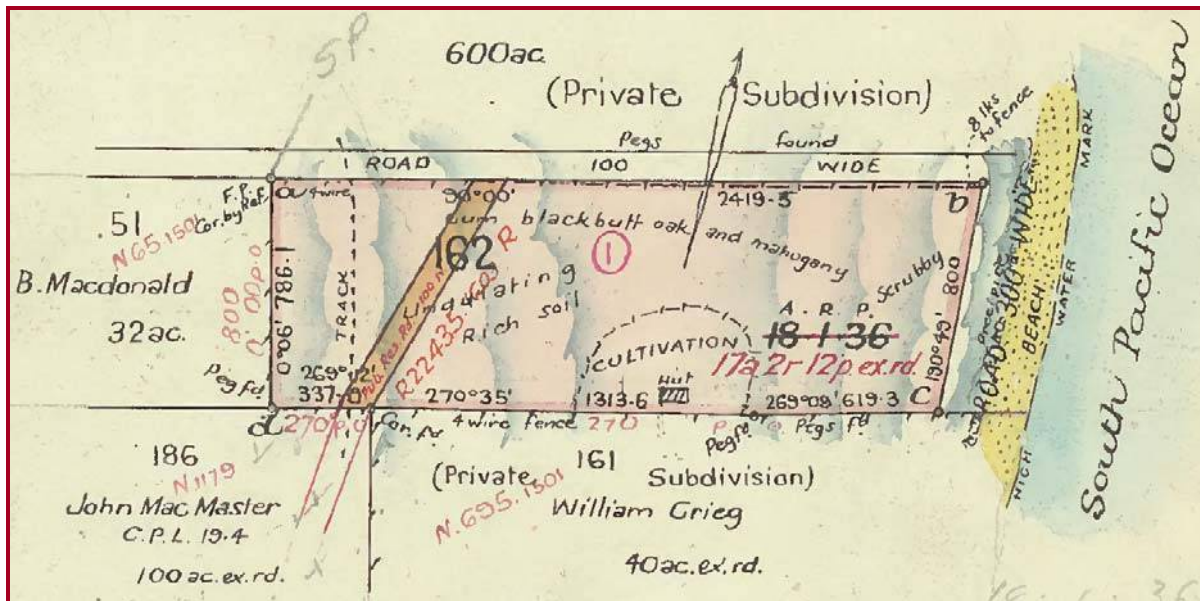


Figure 20. A 1925 plan of Scaysbrook's Portion 162 (source: Land and Property Management Authority, Crown Plan 6250.2111).



Figure 21. Plan of the 1911 Terrigal subdivision (source: Gosford Library, Local History Collection, Subdivision Maps - Terrigal).

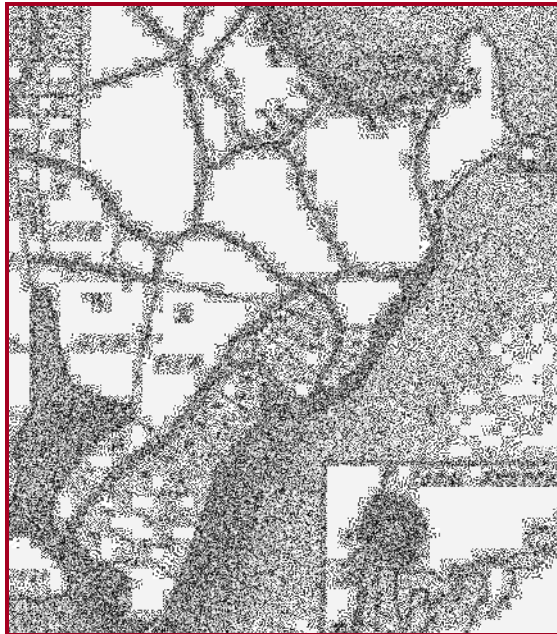


Figure 22. A plan of the 1912 Terrigal Estate subdivision (source: Gosford Library, Local History Collection, Subdivision Maps - Terrigal).

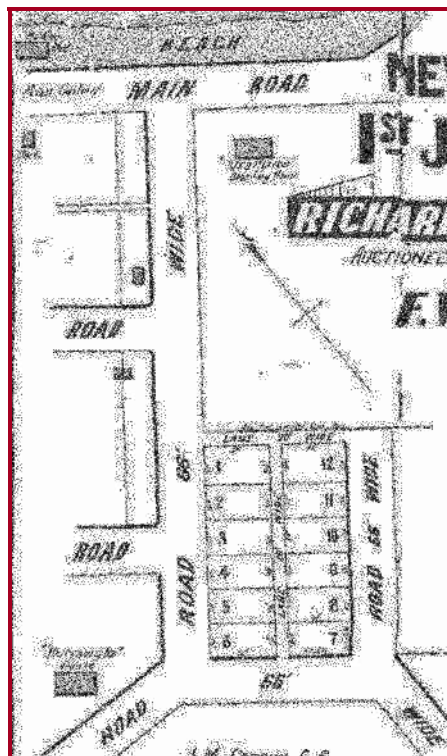


Figure 23. A plan of the 1918 Langfield Hill subdivision at Terrigal (source: Gosford Library, Local History Collection, Subdivision Maps - Terrigal).

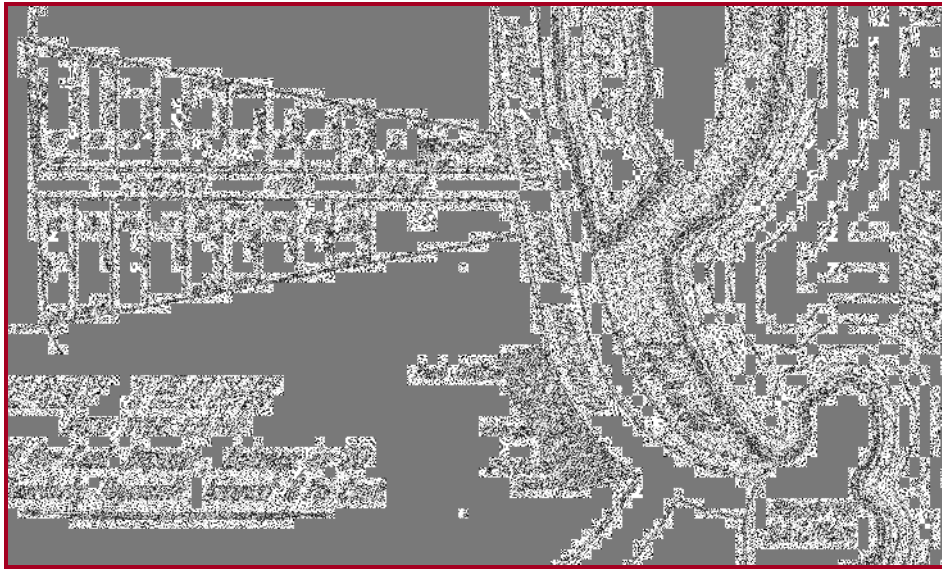


Figure 24. Plan of the 1924 Haven Estate subdivision, at Terrigal (source: Gosford Library, Local History Collection, Subdivision Maps - Terrigal).



Figure 25. A plan of the 1926 Kurrawyba Estate No. 2 subdivision at Terrigal (source: Gosford Library, Local History Collection, Subdivision Maps - Terrigal).

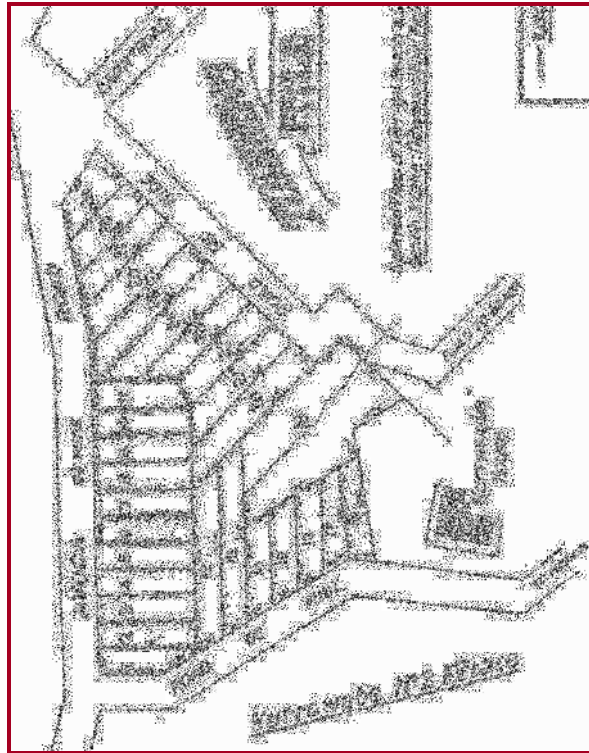


Figure 26. A plan of the 1927 Kurrawyba Estate No. 3 subdivision at Terrigal (source: Gosford Library, Local History Collection, Subdivision Maps - Terrigal).



Figure 27. A plan of the 1927 Banavie Estate subdivision at MacMasters Beach (source: Gosford Library, Local History Collection, Subdivision Maps - MacMasters Beach).

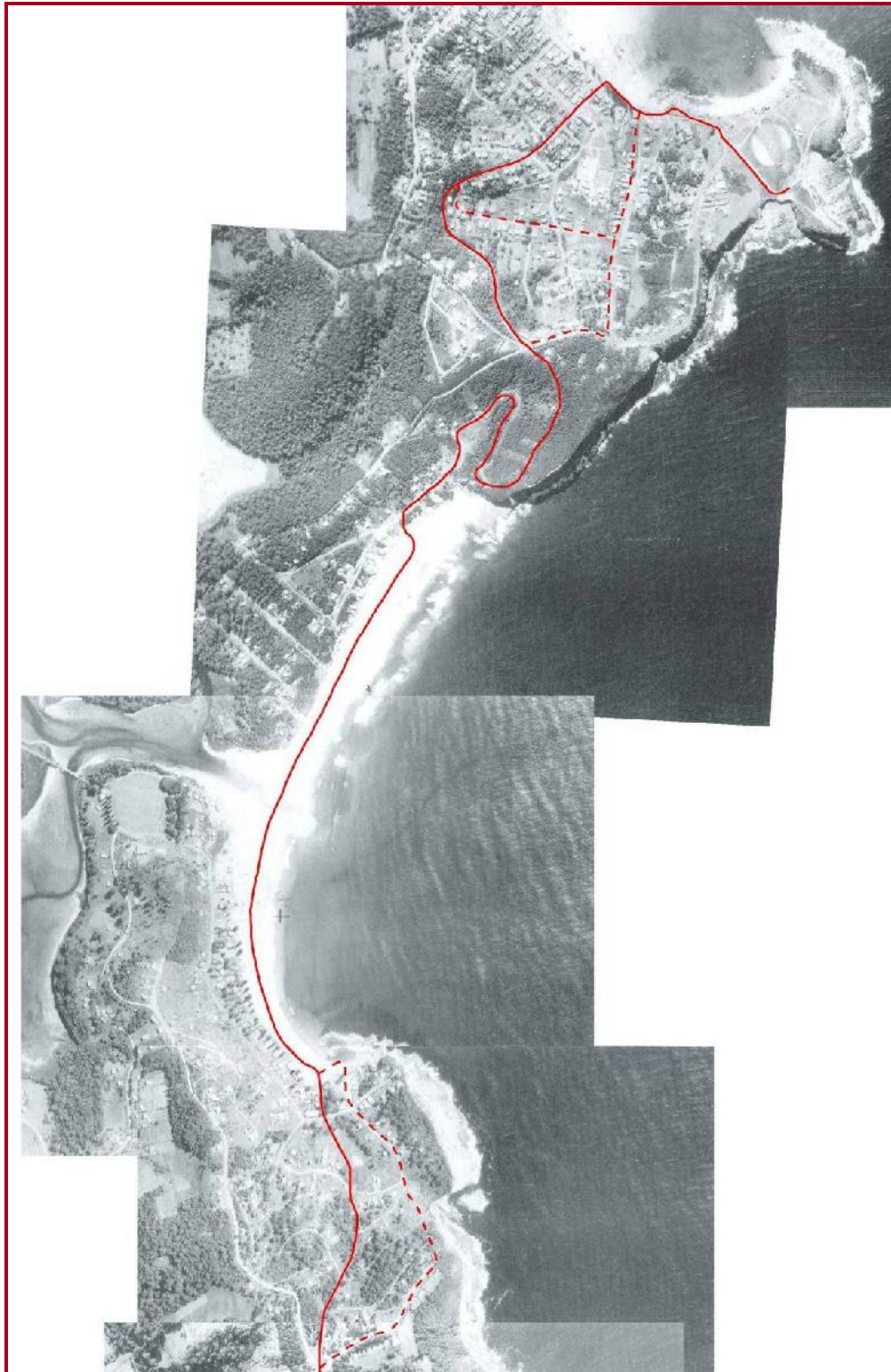


Figure 28. 1954 aerial photographs showing the northern half of the study area, indicated in red (source: Land and Property Management Authority).

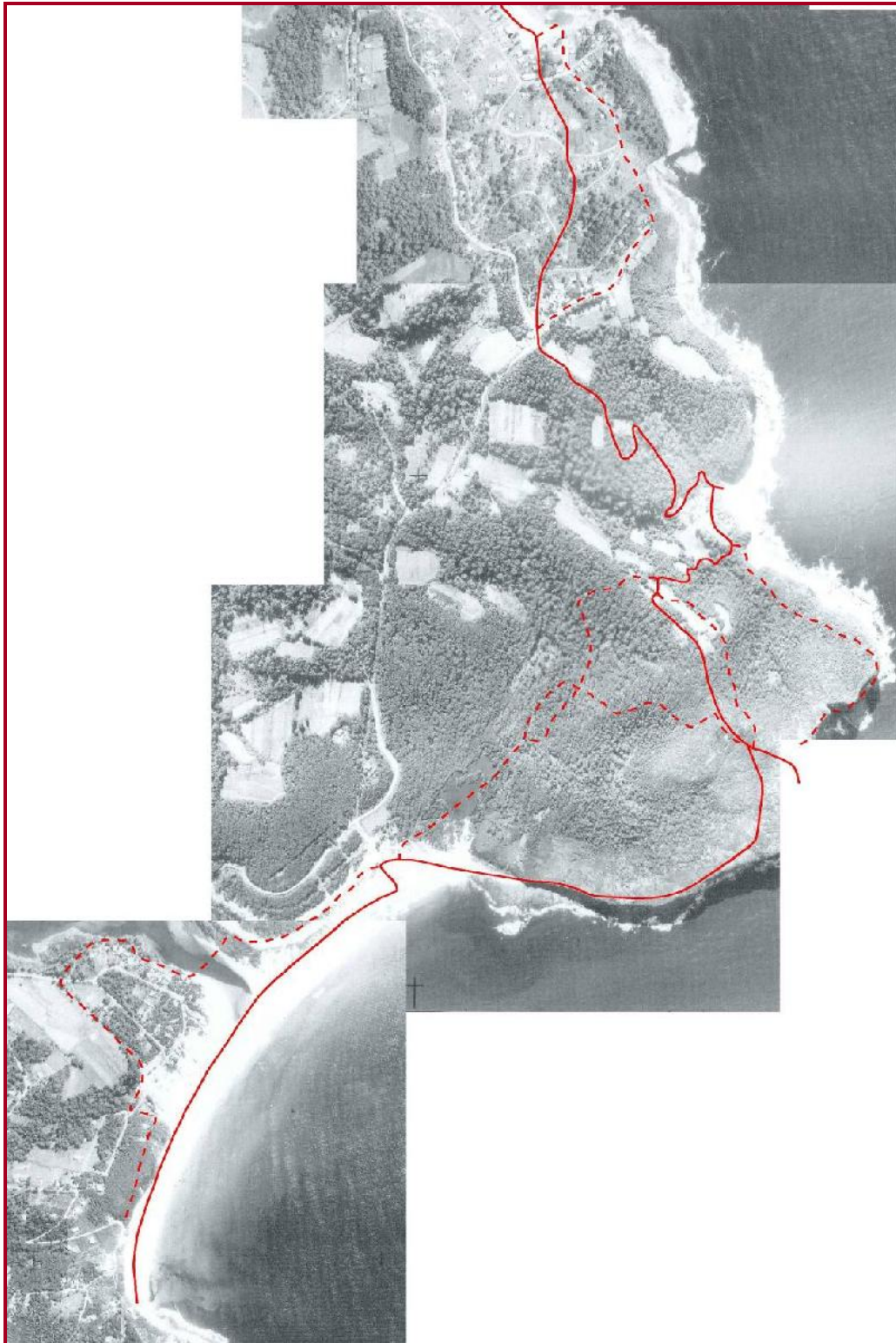


Figure 29. 1954 aerial photographs showing the southern half of the study area, indicated in red (source: Land and Property Management Authority).



Figure 30. 1991 aerial photographs showing the northern half of the study area, indicated in red (source: Land and Property Management Authority).



Figure 31. 1991 aerial photographs showing the southern half of the study area, indicated in red (source: Land and Property Management Authority).

3.3 Potential Constraints and Issues

There are four known heritage items and archaeological resources within, or close by the study area (see Figure 32 and Figure 33). The field inspection indicated that two additional (unknown) potential historical archaeological resources may be within, or adjacent to the proposed Walkway route - at the southern slope at Terrigal Haven, and on the flat at Winney Bay where land surface disturbances and weed vegetation indicate that remains relating to previous farming structures may survive. Other archaeological remains may survive along some road verges and tracks where remnants of previous road and pedestrian works (steps, verges) may survive, but this is common across NSW and is not specific to the subject land.

Each of the known heritage items and the two potential archaeological sites is discussed below.

Terrigal Haven: Potential historical archaeological relics associated with previous village occupation and a public school (Plate 16).

The historical research material and field inspection indicated that potential archaeological relics relating to Davis' sawmill and shipyard may survive at Terrigal Haven, but if they do, they are well away from the Walkway and likely to be located beneath roads, car parks and grassed land near the water's edge. The Walkway is about 200 m south.

Site inspection revealed that while no extant archaeological or structural remains are visible above the land surface at Terrigal Haven along or near the proposed route, weed vegetation and terrace remnants on the grassed slope between Scenic Highway and the oval, which is adjacent to the Walkway, indicate where remains may be located. Historical plans indicate that this is not the area of the previous school building or early village structures which were located to the north-east, beyond the oval (previously the Dam).

The 1894 Davis Plan indicates 'cottages' in the vicinity, though they were most likely located atop the ridge (outside the current Reserve boundary) rather than on the steep slope. Should they have existed on the slope, it is likely that they would be timber cottages on extended brick support piles, and while their construction and use may have disturbed topography and soils, they would not have left a substantial or meaningful archaeological resource. It is most likely that the terracing and weeds are related to landscaping, services or more recent works.



Plate 16. Northern end of the Walkway at the Skillion, looking south. Vegetation mid-slope indicates location of ground disturbance which may reflect previous occupation.

Old Post Office, 4 Ash Street, Terrigal: Heritage listing in *Gosford DLEP*.

The Old Post Office would be unaffected by the proposed Walkway which would pass its doors but not directly affect it. Conversely, the Walkway passing the building could bring its current use as a restaurant to the attention of potential new patrons, whose use would assist to contribute to the successful adaptive re-use of the building.

War Memorial, Terrigal Beach Foreshore, The Esplanade: Heritage listing in *Gosford DLEP*.

The War Memorial at Terrigal Beach would be unaffected by the Walkway which would pass directly adjacent to it, but improvements and changes in that location are not proposed. As the Memorial is an open, well-lit and supervised location that is subject to heavy local and visitor use, it is unlikely that the Walkway would expose the memorial to greater vandalism risk or physical damage than may currently exist.

Grave (actually headstone) of Allan MacMaster, Corribeg Reserve, Tudibaring Parade, MacMasters Beach: Heritage listing in *GPSO* and *Gosford DLEP*.

The Headstone from Allan MacMaster's grave is located in a treed and relatively secluded, unlit site at Corribeg Reserve. A sign adjacent to the headstone indicates that Allan MacMaster's grave is located elsewhere (location unknown). The headstone is inscribed and placed directly into the earth. It stands alone except for the adjacent sign and at present is in a sufficiently obscure location to currently avoid widespread knowledge about it and the risk of associated vandalism.

The Walkway would pass directly adjacent to the stone, through Corribeg Reserve. While there are no works or routes planned that would directly affect the stone, the Walkway could bring the stone to notice of a wider community than is currently aware of its location. This, coupled with its relatively obscure location, increases the risk of future vandalism to the stone such as 'tagging', obscuring or defacing, or pushing over and breaking up the stone.

Potential Archaeological Remains, Winney Bay: Noted on Site Survey (Plate 17).

Winney Bay is located north of Captain Cook Headland, south of Avoca Beach. A substantial clearing lies east of the tree-line which follows the western extent to the coastal rock platform that forms the Bay (no sandy beach is at that location). In the clearing there are several cement platforms, various disturbed structural remains and blackberry and other weed growth which are indicators of previous land use disturbance and potential archaeological resources. The extent and height of ground cover precluded detailed inspection. A Google Earth view also indicates various tracks and other refuse articles and remains are scattered through the site.

The land use history (above) and Figure 13, indicate that the land through which the Walkway would pass at Winney Bay was owned by Thomas Carlton by 1930. No previous occupation of the land is apparent from research completed to date, and any archaeological resources at Winney Bay are likely to date to Carlton's or later ownership. It can be conjectured that remains that may survive would relate to residential and small holding uses, and be highly disturbed by subsequent occupation, change and uses, including squatting and camping.

The Walkway is planned to traverse Winney Bay near and perhaps directly over and affecting potential archaeological remains at that location. There is potential for archaeological resources to be directly affected. Further, more detailed, assessment would be required to identify the type and extent of any likely impacts, and whether the potential remains are of sufficient significance to warrant redesign or archaeological assessment and investigation.



Plate 17. . Winney Bay - weed areas and flat terrain indicating land disturbance and weed growth associated with previous occupation and potential historical archaeological remains.

3.4 Discussion and Recommendations

The proposed Walkway and associated works would not directly disturb or adversely affect any known built, landscape or archaeological heritage items listed on the Gosford LEP. No action or route reconsideration is required with regards to the Post Office or War Memorial at Terrigal and while the proposed Walkway route passes through Terrigal Haven, its associated works are unlikely to affect the slope to the south-west of the oval between the Scenic Highway that may hold some archaeological resources.

MacMaster's Headstone: Increased visitor numbers and frequency through Corribeg Reserve, may increase the level of vandalism risk to MacMaster's Headstone post Walk Event. It is recommended that it possible, the Walkway be re-directed to avoid this area, or if that is not feasible, the headstone is screened from public view for the duration of the Walk Event and that activities such as food stalls or aid stalls, which may result in people lingering at the location, are not placed in that area of Corribeg Reserve.

Winney Bay: Depending on the extent, nature and location of proposed works and Walkway route at Winney Bay, there is some potential that archaeological remains at that location may be disturbed. As the nature, extent, and significance of the remains is not currently known, it is recommended that prior to determining works or the route location, the high grass is cut and further historical research of the history of the site's occupation and a site inspection be undertaken in this area. The further work should aim to identify a Walkway route that would avoid remains, or if that cannot be done, it should aim to identify the location of the remains and whether the remains are of any heritage value.

It is highly likely that the remains at Winney Bay would not be of heritage value and so may not need to constrain plans or route options for the Walkway, however, this cannot be determined at this point.

Landscapes: While not directly a heritage issue, the coastal areas adjacent to beaches and the headlands, through which the Walkway would pass, have both natural and cultural landscape and scenic values which may have heritage significance. Proposed works such as viewing platforms, lookouts and stairs in those locations as well as formed and sealed paths or major works, should be designed to minimise visual and physical impacts and blend with the predominant context of their immediate surroundings.

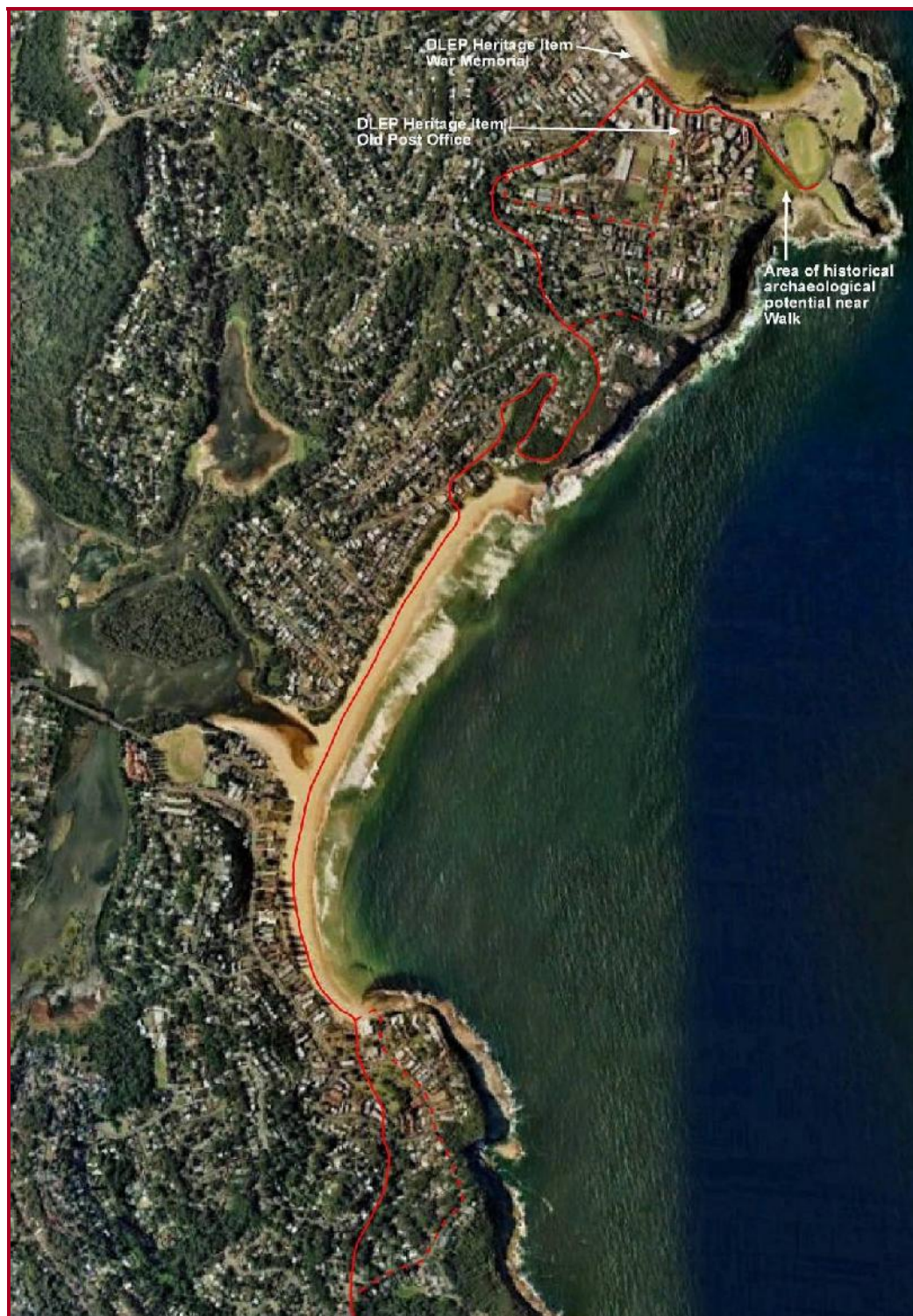



Figure 32. The northern part of the study area, with the identified heritage items (source of image: Google Earth).



Figure 33. The southern part of the study area, with the identified heritage items (source of image: Google Earth).

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APPENDICES

APPENDIX A - ABORIGINAL COMMUNITY CONSULTATION

CONSULTATION LOG

Group	Representative	Date	Comments	AHMS Contact
Darkinjung LALC	Sean Gordon	11.10.10	Request for information on Aboriginal stakeholders	Alan Williams
Gosford City Council	General Manager	11.10.10	Request for information on Aboriginal stakeholders	Alan Williams
Hunter-Central Rivers CMA	General Manager	11.10.10	Request for information on Aboriginal stakeholders	Alan Williams
DECCW	Miranda Morton	11.10.10	Request for information on Aboriginal stakeholders	Alan Williams
National Native Title Tribunal	-	11.10.10	Register Search request	Fenella Atkinson
Office of the Registrar, <i>Aboriginal Land Rights Act 1983</i> (NSW)	-	11.10.10	Land Claim Register search request	Fenella Atkinson
NTS Corp	Senior Notifications Officer	11.11.10	Request for information on Aboriginal stakeholders	Fenella Atkinson
Gosford City Council	Chris Lear	12.10.10	Response advising of four Aboriginal stakeholder groups.	Alan Williams
National Native Title Tribunal	Kashana Cohen-McMeekin	13.10.10	Response advising of one Aboriginal group with an interest in the Gosford LGA.	Fenella Atkinson
Office of the Registrar, <i>Aboriginal Land Rights Act 1983</i> (NSW)	Courtney Field	23.10.10	Response advising that DLALC has registered land claims over two lots included in the study area.	Fenella Atkinson
Hunter-Central Rivers CMA	David Green	29.10.10	Response recommending contacting DECCW.	Alan Williams
DECCW	Glenda Roberts	2.11.10	Response advising of four known Aboriginal parties considered likely to have an interest in the project.	Kris Gallen
Darkinjung LALC	Suzanne Naden	2.11.10	No Traditional Owners with either Native Title or NSW Aboriginal Land Rights Act 1983 in the Darkinjung LALC boundaries.	Alan Williams

Group	Representative	Date	Comments	AHMS Contact
- Darkinjung LALC - Guringai Tribal Link AC Mingaletta ATSIC Potory Minbee AEG	Daniella Chedzey & Jessica Wegener Sean Gordon Kevin Duncan Tracey Howie - -	3.11.10	Mailed notification of project, and invitation to register an interest.	Fenella Atkinson
- Darkinjung LALC - Guringai Tribal Link AC	Daniella Chedzey & Jessica Wegener Suzanne Naden Kevin Duncan -	4.11.10	Emailed digital version of notification and invitation to register an interest. Delivery failed to Guringai Tribal Link AC.	Fenella Atkinson
-	-	5.11.10	Notification of project and invitation to register an interest, advertised in <i>Central Coast Express Advocate</i> .	Gosford City Council, Alan Williams
Kevin Duncan	Kevin Duncan	5.11.10	Registered his interest in the project	Alan Williams
Kevin Duncan	Kevin Duncan	7.11.10	Confirmed receipt of Kevin's e-mail.	Alan Williams
Darkinjung LALC	Suzanne Naden	8.11.10	Registration of interest in the project.	Fenella Atkinson
Darkinjung LALC	Suzanne Naden	8.11.10	Confirmed receipt of Suzanne's email.	Fenella Atkinson
Guringai Tribal Link AC	Tracey Howie	8.11.10	Registered her interest in the project	Alan Williams
Guringai Tribal Link AC	Tracey Howie	8.11.10	Confirmed receipt of Tracey's e-mail.	Alan Williams
Kevin Duncan, Guringai Tribal Link AC, Darkinjung LALC	Tracey Howie, Suzanne Naden	18.11.10	Sent out methodology.	Anna Biggs
Gosford City Council	Gary Chestnut	19.11.10	Response advising of five known Aboriginal parties considered likely to have an interest in the project.	Alan Williams

Group	Representative	Date	Comments	AHMS Contact
Potory Minbee AEG	Jack Smith	22.11.10	Jack said that he is the chairman of the Potory Minbee Aboriginal Elders Group. They would like to be involved in the project. Draft methodology to be sent to Jack at 56 Tasman Avenue, Killarney Vale.	Fenella Atkinson
Potory Minbee AEG	Jack Smith	22.11.10	Sent out methodology.	Fenella Atkinson
Darkinjung LALC	-	13.12.10	Left message for Suzanne.	Fenella Atkinson
-	Kevin Duncan	13.12.10	Called to remind Kevin that response to methodology due Monday 20 December. Kevin would like to be involved in the survey, but does not have insurances - he will look into getting them. Fenella said that AHMS does not generally have people on paid fieldwork without their own insurances, but would check with client whether other arrangements could be made. Kevin is available in early January.	Fenella Atkinson
Guringai Tribal Link AC	Tracey Howie	13.12.10	Called to remind Tracey that response to methodology due Monday 20 December. Tracey would like a representative involved in the survey, has insurances, would be available early January.	Fenella Atkinson
Potory Minbee AEG	Jack Smith	13.12.10	Called to remind Jack that response to methodology due Monday 20 December. Jack has received the paperwork but did not have it with him, and asked to be contacted on Tuesday morning.	Fenella Atkinson
Darkinjung LALC	Suzanne Naden	14.12.10	Emailed to remind Suzanne that response to methodology due Monday 20 December, and to ask about availability and rates for survey.	Fenella Atkinson
Potory Minbee AEG	Jack Smith	14.12.10	Called Jack three times (times of his choosing). He was not able to discuss the project at these times, and asked to be contacted on Thursday morning.	Fenella Atkinson
Guringai Tribal Link AC	Tracey Howie	15.12.10	Provided an e-mail supporting the methodology proposed	Alan Williams

Group	Representative	Date	Comments	AHMS Contact
Potory Minbee AEG	Jack Smith	15.12.10	Jack rang. The Elders Group has cultural knowledge of the area, and experience in surveys and work with archaeologists. They have been involved in the development of 5 Lands Walk (along with the Land Council and the Aboriginal community). They would like to have a representative involved in the survey, and would submit a report following the survey. No insurances. Fenella to check with client whether other arrangements could be made. Jack to send fax stating the above. Fenella to send Jack copy of the AHIMS search results.	Fenella Atkinson
Potory Minbee AEG	Jack Smith	15.12.10	AHIMS search results posted to Jack.	Fenella Atkinson
DECCW Darkinjung LALC	- Suzanne Naden	17.12.10	Details of Registered Aboriginal Parties sent to DECCW & DLALC.	Fenella Atkinson
Darkinjung LALC	Suzanne Naden	20.12.10	Email response to proposed methodology. The entire area is of relevance to the Land Council, and they would like to participate in the survey. They believe that more than two days will be required for the survey.	Fenella Atkinson
-	Kevin Duncan	22.12.10	Email response to proposed methodology. Kevin has a traditional heritage connection to Darkinjung country, including the whole of the study area. He would like to participate in the survey, and review of the assessment, and receive a copy of the final report. He agrees with the proposed methodology.	Alan Williams & Fenella Atkinson
Guringai Tribal Link AC -	Tracey Howie Kevin Duncan	5.1.11	Email to let Tracey and Kevin know that survey (originally planned for week starting 10 January) will be delayed slightly, hopefully just by one week.	Fenella Atkinson
Guringai Tribal Link AC	Tracey Howie	6.1.11	Email from Tracey with genealogy details prepared by NTS Corp.	Alan Williams & Fenella Atkinson

Group	Representative	Date	Comments	AHMS Contact
Guringai Tribal Link AC	Tracey Howie	11.1.11	Call to Tracey to let her know that client has decided to engage only DLALC for the survey. Tracey's view is that this will not provide adequate cultural knowledge for the assessment of the Aboriginal cultural heritage values of the study area. This will lead to difficulties should any permits etc be required. Tracey will seek advice from DECCW.	Fenella Atkinson
-	Kevin Duncan	11.1.11	Call to Kevin to let him know that client has decided to engage only DLALC for the survey. Kevin's view is that this will not provide adequate cultural knowledge for the assessment of the Aboriginal cultural heritage values of the study area.	Fenella Atkinson
Potory Minbee AEG	Jack Smith	11.1.11	Jack's phone was answered by a woman, who said that Jack is very ill in hospital and is not able to speak on the phone. She said that it would not be a good idea to call back later, and that DLALC would be the best contact for archaeological matters.	Fenella Atkinson
DECCW	Glenda Roberts	11.1.11	Glenda called after speaking with Tracey. The consultation process must be fair, transparent and equitable. It must be conducted in such a way as to fulfil the aims outlined in the DECCW guidelines. Only Aboriginal groups and individuals can determine who has relevant cultural knowledge. The nature of the consultation process can be determined by the proponent and the RAPs, but DECCW does not consider financial reasons to be an adequate determining factor. In the event that DECCW needs to review the assessment, they may find the consultation process to be inadequate and require that it be re-done.	Fenella Atkinson
Guringai Tribal Link AC -	Tracey Howie Kevin Duncan	11.1.11	Gave Tracey and Kevin contact details for Chris Lear (Gosford Council), as requested by Troy Harvey. Fenella said that she would email client with details of Tracey and Kevin's concerns.	Fenella Atkinson

Group	Representative	Date	Comments	AHMS Contact
Potory Minbee AEG	Dorothy	12.1.11	Letter to alternate address (M5 The Palms, 160 Carolina Park Rd, Avoca Beach) to request alternate representative, as Jack is not presently available.	Fenella Atkinson
Potory Minbee AEG	Dorothy	17.1.11	Dorothy rang to advise that much of the Five Lands Walk has been designed with Phil Bligh and Kevin Duncan, so cultural information could be obtained from them.	Alan Williams
Darkinjung LALC Guringai Tribal Link AC	Sharon Hodgetts Tracey Howie, Dave Pross, Kyle Howie	19&20.1.11	Survey of Five Lands Walk, and proposed alterations.	Alan Williams, Lisa Newell
		7.2.11	Advice received from Chris Lear (Gosford City Council) that Jack Smith has passed away.	Fenella Atkinson
-	Kevin Duncan	8.2.11	Call to ask Kevin whether he knew of anyone who could represent Potory Minbee AEG, or whether he could represent them himself, as he is a member of the group and he had been suggested. Kevin advised that he could act as a representative.	Fenella Atkinson
Darkinjung LALC Guringai Tribal Link AC Potory Minbee AEG -	Suzanne Naden Tracey Howie Kevin Duncan Kevin Duncan	8.2.11	Posted draft report for review, with request for comments by 9 March. Email to say that draft in the mail.	Fenella Atkinson, Kris Gallen
Guringai Tribal Link AC	Tracey Howie	14.2.11	Tracey emailed report on survey and assessment of Walk.	Alan Williams
Darkinjung LALC Guringai Tribal Link AC Potory Minbee AEG -	Suzanne Naden Tracey Howie Kevin Duncan Kevin Duncan	25.2.11	Email to RAPs requesting views/comments on public distribution of AHIA report and map showing Aboriginal heritage items along course of Walk.	Alan Williams, Fenella Atkinson
Darkinjung LALC	Suzanne Naden	1.3.11	Suzanne not available to speak on phone, Fenella sent reminder email.	Fenella Atkinson

Group	Representative	Date	Comments	AHMS Contact
Guringai Tribal Link AC	Tracey Howie	1.3.11		Fenella Atkinson
Potory Minbee AEG -	Kevin Duncan Kevin Duncan	1.3.11	Kevin is happy for the report and map to be made public.	Fenella Atkinson
Darkinjung LALC Potory Minbee AEG -	Suzanne Naden Kevin Duncan Kevin Duncan	7.3.11	Fenella emailed reminder that comments on draft report due 9 March.	Fenella Atkinson
Darkinjung LALC	Suzanne Naden	8.3.11	Suzanne emailed to say that report prepared and would be sent through on 9 March.	Fenella Atkinson
Darkinjung LALC	Suzanne Naden	9.3.11	Suzanne emailed Darkinjung LALC report.	Fenella Atkinson
Potory Minbee AEG -	Kevin Duncan Kevin Duncan	10.3.11	Kevin emailed response to draft.	Fenella Atkinson

RESPONSES FROM AGENCIES

Darkinjung Local Aboriginal Land Council

From: Suzanne Naden
Sent: Tuesday, 2 November 2010 9:23 AM
To: 'alan@arksolutions.com.au'
Cc: Sean Gordon
Subject: Darkinjung LALC - Response
Importance: High

Hi Alan

Sorry for the delay in responding to your request for information on Aboriginal Stakeholders regarding the Five Lands Walk.

There are currently no registered Traditional Owners with either Native Title or NSW Aboriginal Lands Rights Act 1983 in the Darkinjung LALC boundaries.

If you wish to discuss this matter further please do not hesitate to contact me on the numbers listed above.

cheers

Suzanne Naden

Operations Manager

Darkinjung Local Aboriginal Land Council

168 Pacific Highway, Watanobbi NSW 2259

PO Box 401 Wyong NSW 2259

Ph |02 4351 2930 Fx |02 4351 2946

www.darkinjung.com.au

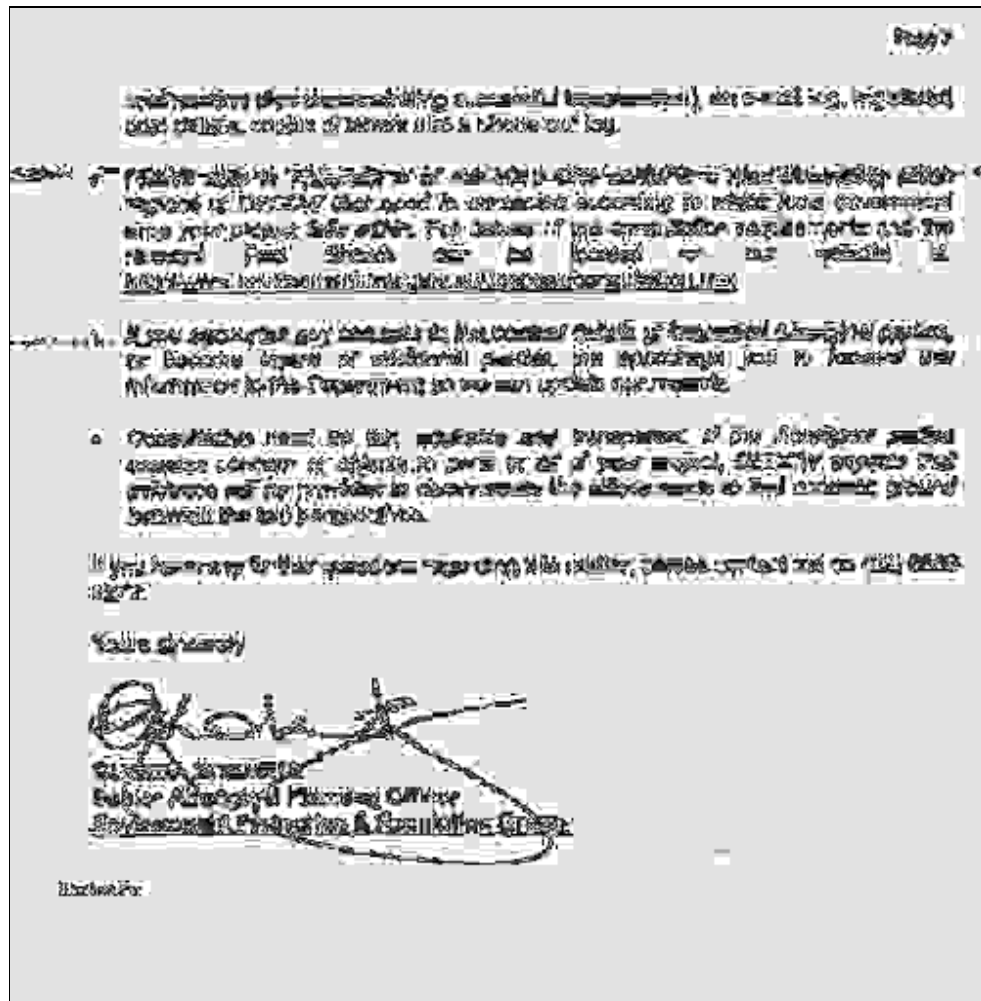
Please consider the environment before printing this email

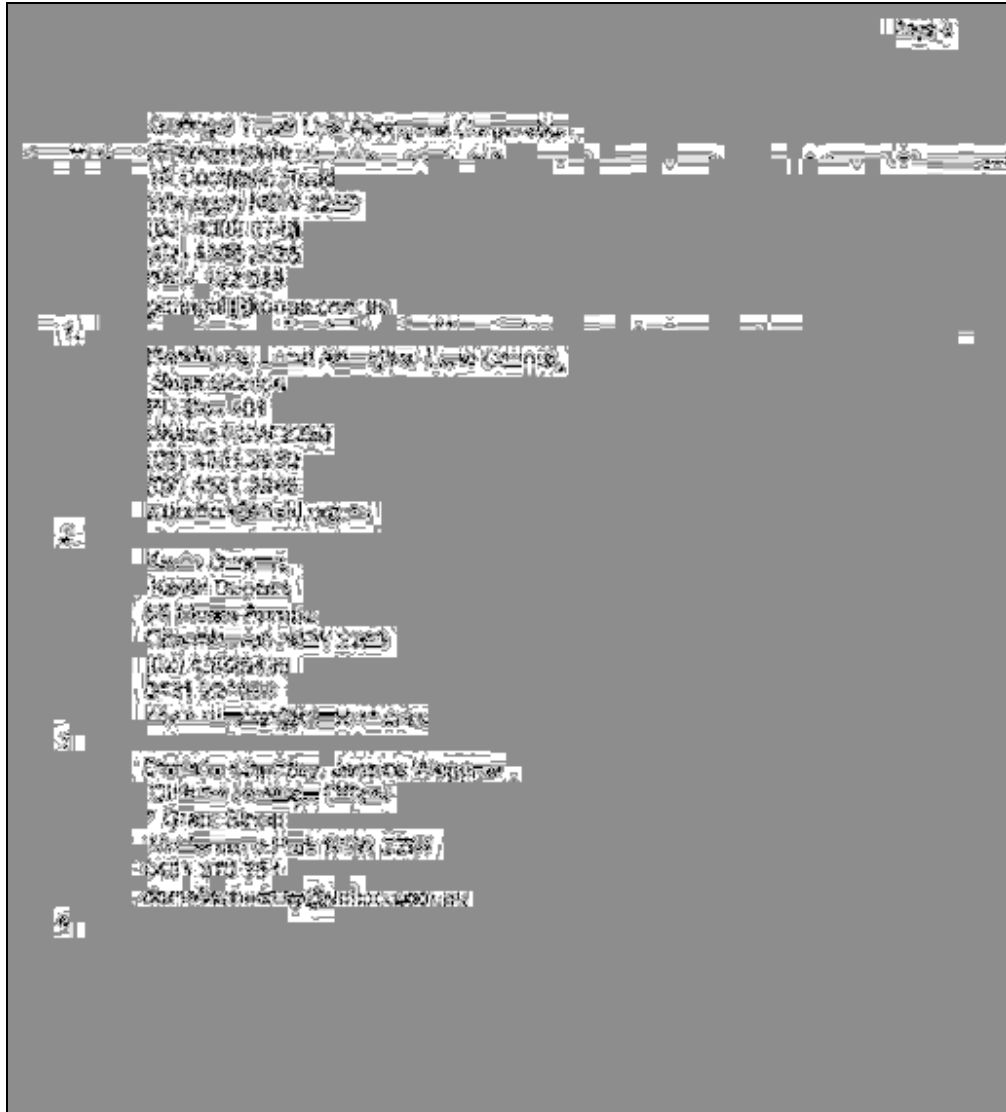
The Darkinjung Local Aboriginal Land Council respects the privacy of individuals and strives to comply with all areas of the Privacy Act.

The contents of this email are intended for the purpose of the person or persons named in either the "To" or "CC" boxes of the email.



Any person not named in these boxes in receipt of this email should immediately delete this email and advise the sender accordingly.







Gosford City Council

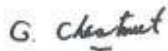
		
Telephone (02)	4325 8222	Please Quote:
		8742549 Gary Chestnut.ak 17 November 2010
Archaeological & Heritage Management Solutions 349 Annandale Street ANNANDALE NSW 2038		Gosford City Council 49 Mann Street Gosford NSW 2250 PO Box 21 Gosford NSW 2250 DX 7211 Gosford Telephone: 02 4325 8222 Facsimile: 02 4323 2477 goccity@gosford.nsw.gov.au www.gosford.nsw.gov.au ABN 76 303 458 861
Attention: Alan Williams		
Dear Sir		
Request for Information on Aboriginal Stakeholders for works on the Five Lands Walk between Copacabana Beach to Terrigal NSW		
I refer to your letter of 6 October 2010 seeking information on relevant Aboriginal communities and provide the following:		
Darkinjung Local Aboriginal Land Council 61 Howarth Street Wyong PO Box 401 WYONG NSW 2259 Ph: 43512930		
Pottery Minbee Aboriginal Elders Group M5 The Palms 160 Carolina Park Road Avoca Beach NSW 2251		
Jack Smith Mob: 0431394245 Ph: 02 43 812 942 Jenkoori@bigpond.com		
Mingaletta Aboriginal and Torres Strait Islander Corporation 277 West Street, Umina Beach (behind Library) PO BOX 691 WOY WOY NSW 2256 Ph: 02 4342 7515 Fax: 02 4342 6823		

Page 2

Guringai Tribal Link Aboriginal Corporation
19 Coolabah Rd, Wyongah, 2259.
Phone: 4392 8743
Mobile: 0404 182 049
Email: guringai@koeee.com.au


I trust this information is of assistance with your heritage assessment.

Yours faithfully



Gary Chestnut
Manager Development

Office of the Registrar, *Aboriginal Land Rights Act 1983*



OFFICE OF THE REGISTRAR
ABORIGINAL LAND RIGHTS ACT 1983 (NSW)

11-13 Mansfield Street
Crows NSW 2031
PO Box 112, Crows NSW 2031
T: 02 9562 6322 F: 02 9562 6350

Fenella Atkinson
Archaeological and Heritage Management Solutions
349 Annandale Street
Annandale NSW 2038

21 October 2010

Dear Fenella

Request - Search for Aboriginal Land Claim

I refer to your letter dated 11 October 2010 to search the Register of Aboriginal Land Claims database in relation to land you described as:

**Lots 282 & 343 DP755234
Lot 2 DP835982
Lot 3 DP828087
Lot 7009 DP1057998
Pt Lot 650 DP1120404
Reserve 53288**

Parish: Kincumber County: Northumberland


I have searched the Register of Aboriginal Land Claims database and the following lots are currently the subject of Aboriginal land Claims:

**Lot 343 DP 755234
Lot 3 DP 828087**

The land claims have been registered by Darkinjung Local Aboriginal Land Council. If you require further information regarding Aboriginal Land Claim 17410 which affects these land parcels, please contact Darkinjung Local Aboriginal Land Council directly.

The remainder of the subject land described does not appear on the Register as being affected by an Aboriginal Land Claim in pursuant to sections 36 or 37 of the *Aboriginal Land Rights Act 1983*.


Yours sincerely




per Courtney Field
Administrative Officer
Office of the Registrar, *Aboriginal Land Rights Act 1983*

Please Note: Search Requests should not be made over privately owned land. Crown Land is the only land in NSW that is likely to be affected by an Aboriginal Land Claim under the Aboriginal Land Rights Act. It is not necessary to make a search over privately owned – even if an Aboriginal Land Claim has been made over privately owned land it would be refused as soon as this is known.

National Native Title Tribunal



**National
Native Title
Tribunal**



13 October 2010

Fernella Atkinson
Archaeologist
AHMS
349 Annandale Street
ANNANDALE

**New South Wales and
Australian Capital Territory
Registry**
Level 25, 25 Bligh Street
Sydney NSW 2000
GPO Box 9973
Sydney NSW 2000
Telephone (02) 9235 6300
Facsimile (02) 9233 5613

Our Reference: 3833/10kc
Your Reference: Five lands Walk

Dear Fernella

Native Title Search Results of Gosford Local Government Area


Thank you for your letter of 11 October 2010.

My search on 13 October 2010 found:

Register Type	NNTT Reference Numbers
National Native Title Register	NN03/2 (NSD6003/03) & NN99/10 (NSD6023/99)
Register of Native Title Claims	Nil.
Unregistered Claimant applications	Nil.
Register of Indigenous Land Use Agreements	Nil.

I have included extracts from the National Native Title Register, mapping of the application areas, mapping of the application areas and a NNTT Registers fact sheet to help you understand the search result.

Please note that there may be a delay between a native title determination application being lodged in the Federal Court and its transfer to the Tribunal. As a result, some native title determination applications recently filed in the Federal Court may not appear on the Tribunal's databases.

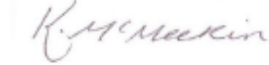


Resolution of native title issues over land and waters.

Freecall 1800 640 501
www.nntt.gov.au

If you need more information please call me on 1800 640 501.

Yours sincerely



Kashana Cohen-McMeekin
Receptionist/Search Coordinator
Telephone (02) 9235 6300
Facsimile (02) 9235 5613
Email Kashana.Cohen-McMeekin@nntt.gov.au

Encl



**NATIONAL NATIVE
TITLE TRIBUNAL**

Extract from the National Native Title Register

Federal Court Number: NSD6003/03

Federal Court Name: Darkinjung Local Aboriginal Land Council

Determining Body: Federal Court of Australia

Determination Date: 17/12/2003

Additional Information:

Not Applicable

Matters Determined:

No native title rights and interests exist in relation to the land referred to in Folio Identifier
513/727686.

End of Entry



NATIONAL NATIVE
TITLE TRIBUNAL

Extract from the National Native Title Register

Federal Court Number: NSD6023/99

Federal Court Name: Darkinjung Local Aboriginal Land Council v The New South Wales
Aboriginal Land Council

Determining Body: Federal Court of Australia

Determination Date: 11/10/2000

Additional Information:
Not Applicable

Matters Determined:
That there are no native title rights or interests existing in relation to the whole of the land
comprised in lot 460 in deposited plan 755234 at Kincumber in the State of New South Wales.

Attachments:
Attachment "A", map of the application area, 1 of 1, A3, Attached 8/12/99

(If not attached, these are available from the National Native Title Tribunal by phoning freecall 1800
640 501)

End of Entry



Searching the NNTT Registers in New South Wales

Search service

On request the National Native Title Tribunal will search its public registers for you. A search may assist you in finding out whether any native title applications (claims), determinations or agreements exist over a particular area of land or water.

In New South Wales native title cannot exist on privately owned land including family homes or farms.

What information can a search provide?

A search can confirm whether any applications, agreements or determinations are registered in a local government area. Relevant information, including register extracts and application summaries, will be provided.

In NSW because we cannot search the registers in relation to individual parcels of land we search by local government area.

Most native title applications do not identify each parcel of land claimed. They have an external boundary and then identify the areas not claimed within the boundary by reference to types of land tenure e.g., freehold, agricultural leasehold, public works.

What if the search shows no current applications?

If there is no application covering the local government area this only indicates that at the time of the search either the Federal Court had not received any claims in relation to the local government area or the Tribunal had not yet been notified of any new native title claims.

It does not mean that native title does not exist in the area.

Native title may exist over an area of land or waters whether or not a claim for native title has been made.

Where the information is found

The information you are seeking is held in three registers and on an applications database.

National Native Title Register

The National Native Title Register contains determinations of native title by the High Court, Federal Court and other courts.

Register of Native Title Claims

The Register of Native Title Claims contains applications for native title that have passed a registration test.

Registered claims attract rights, including the right to negotiate about some types of proposed developments.

Register of Indigenous Land Use Agreements

The Register of Indigenous Land Use Agreements contains agreements made with people who hold or assert native title in an area.

The register identifies development activities that have been agreed by the parties.

Application summaries

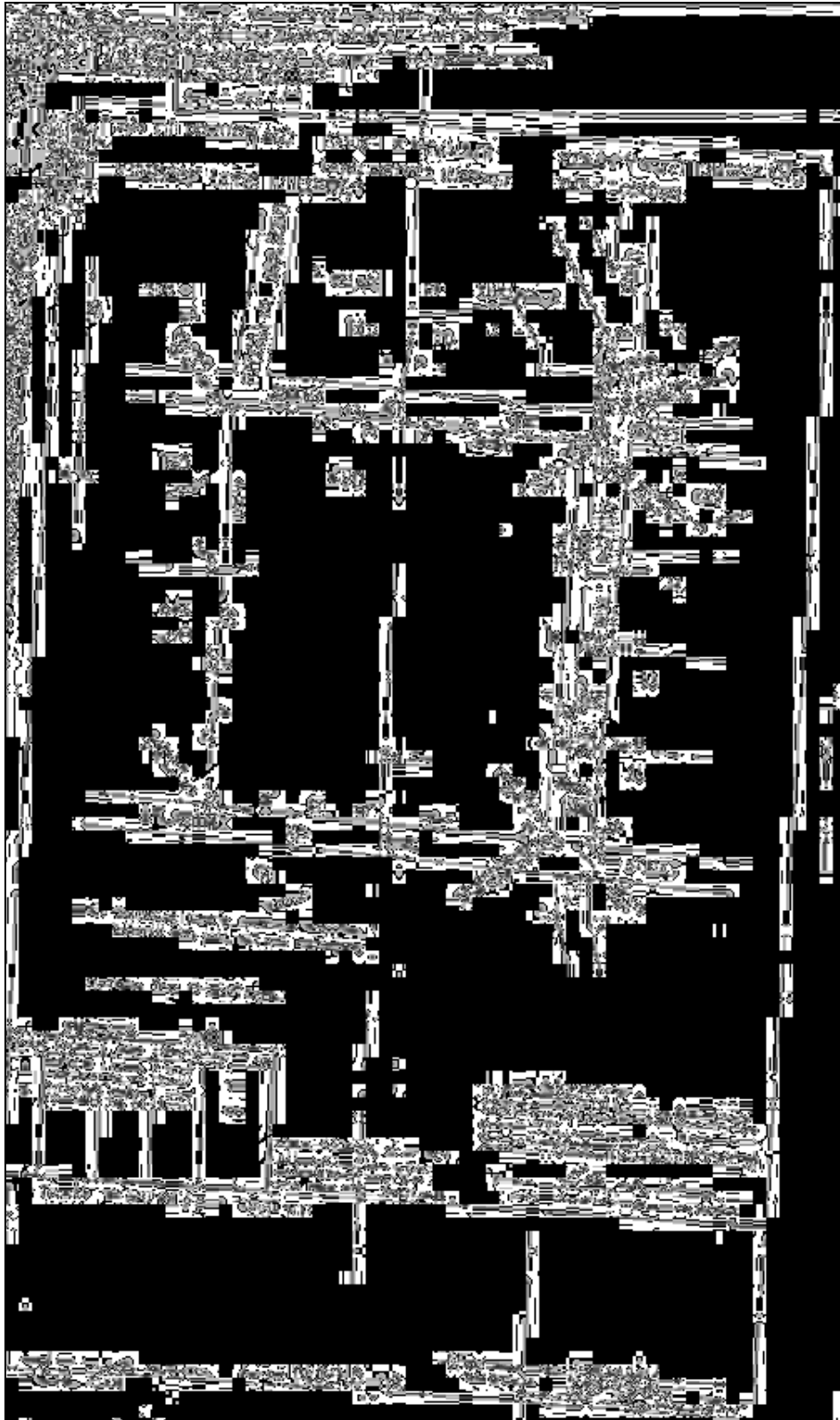
An application summary contains a description of the location, content and status of a native title claim.

This information may be different to the information on the Register of Native Title Claims, e.g., because an amendment has not yet been tested.




How do you request a search?

A search request form is available on the Tribunal's web site at:
<http://www.nntt.gov.au/registers/search.html>
This form says how much searches cost.
Mail, fax or email your request to the Tribunal's Sydney registry, identifying the local government area/s you want searched.

Email: SydneySearch@nntt.gov.au
Fax: (02) 9233 6613
Address: GPO Box 9973, Sydney NSW 2001
Phone: (02) 9235 6300



Hunter Central Rivers Catchment Management Authority



Alan Williams
Senior Archaeologist
Archaeological & Heritage Management Solutions
349 Annandale Street
ANNANDALE NSW 2038

Your Ref: 100914-2
Our Ref: Gos 096

Dear Mr Williams

Re: Request for Information on Aboriginal Stakeholders for works on the Five Lands Walk

Thank you for your letter dated 6 October 2010 requesting assistance in identifying Aboriginal stakeholder groups who may have an interest in the area covered by the five lands walk between Copacabana and Terrigal.

The Hunter-Central Rivers Catchment Management Authority (CMA) engages with many Aboriginal communities in our region on Natural Resource Management (NRM) projects and initiatives. The *Hunter-Central Rivers Catchment Action Plan 2006-2015* (CAP) contains a number of guiding principles to maintain and improve the culture and heritage values of culturally significant landscapes. The following extracts from the CAP provide you with general guidance on Aboriginal culture and heritage:

- Our association with Aboriginal heritage should be maintained and practiced so that all people in the Hunter-Central Rivers region can respect and understand Aboriginal cultural heritage values. Knowledge of the past, and connecting values with Aboriginal people in the region, can also teach us about what we can provide for our future. It is therefore essential to maintain and improve Aboriginal culturally significant landscapes so that they are maintained for use by present and future generations.
- Aboriginal people should be formally consulted during the planning stages of any activity or development to identify if the proposal will impact negatively on Aboriginal culture and heritage. Some places have gender specific meanings and it may be more appropriate, for example, to consult Aboriginal women rather than men in some circumstances. Consideration should also be given to family hierarchies or responsibilities that prevent some individuals from speaking about certain Aboriginal culture and heritage.
- Any Aboriginal culture and heritage that is identified in an area (by Aboriginal or non-Aboriginal recognition techniques) should be managed through a process of consultation and close collaboration with the relevant traditional owners (where this is not available, the use of respective 'caretakers/guardians' should be adopted). This process should have a formal agreement or plan on the manner, timing, and amount of consultation and involvement of all parties involved in the process.

Gosford Office – PO Box 1267 Gosford NSW 2250 -
Tel: 02 4324 3844 - Fax: 02 4323 3960 - ABN: 50 602 455 909

- The precautionary principle should be used for protecting culture and heritage. Where there is uncertainty about the value of culture and heritage, the management of that place should be limited by any negative impact on the locality.

(Source: *Hunter-Central Rivers Catchment Action Plan 2006-2015*)

The HCRCMA acknowledges that CMAs have been listed in *Section 4.1.2 (g)* of the *Aboriginal cultural heritage consultation requirements for proponents 2010*, under *Part 6, National Parks and Wildlife Act 1974*, as a source of information to obtain the “names of Aboriginal people who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/or places”.

However, the CMA is not the primary source for contacting, or managing contact lists of, Aboriginal communities or persons that may hold information to comment on land-use planning issues. In addition, the CMA does not consider cultural heritage issues that relate to land-use planning in general – the CMA only considers culture and heritage issues in the context of natural resource management.

It is recommended that you contact the Department of Environment Climate Change and Water (DECCW) for contact lists of persons and organisations that may want to comment on your proposal.

If you require any further information please do not hesitate to contact Deborah Swan, the CMA's Aboriginal Support Officer at Gosford on 4337 1204.

Yours sincerely



David Green
Catchment Coordinator for
Fiona Marshall
General Manager

1 November 2010

NOTIFICATION ADVERTISEMENT

Central Coast Express Advocate, 5 November 2010.

Gosford City Council
Notification and
Registration of
Aboriginal Interest
ABORIGINAL HERITAGE
INVESTIGATION OF THE
FIVE LANDS WALK

Andrews Neil Pty Ltd on behalf of Gosford City Council is undertaking preliminary studies to assist in the development of a masterplan to explore management options for the Five Lands Walk between Copacabana Beach and Terrigal. AHMS has been asked to undertake the investigation of Aboriginal Heritage along the walk as part of this process.

As part of the assessment process for this project, we will be undertaking Aboriginal community consultation in accordance with DECCW Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010. Under Section 4.1.3 of the requirements, we are seeking registrations of interest from Aboriginal groups or individuals for the assessment and any subsequent Aboriginal Heritage Impact Permits or approvals that may be required under Part 6 of the *National Parks and Wildlife Act, 1974*. Specifically, we are inviting Aboriginal people who can provide cultural knowledge of the region to register an interest. Registrations must be received by **19 November, 2010**. Please register in writing to Alan Williams, AHMS, 349 Annandale Street, Annandale NSW 2038, email: alanw@arksolutions.com.au; telephone: 9555 4000.

www.gosford.nsw.gov.au

INVITATION TO REGISTER INTEREST



ARCHAEOLOGICAL & HERITAGE MANAGEMENT SOLUTIONS

SYDNEY

349 Annandale St,
Annandale, NSW 2038
P: (02) 9555 4000
F: (02) 9555 7005

MELBOURNE

7/11 Merrifield St,
Brunswick, VIC 3056
P: (03) 9388 0622

PERTH

PO Box 9077,
Nicholson Rd, Subiaco,
WA 6008
P: (08) 9382 4657

BRISBANE

South Brisbane Bus. Centre
PO Box 3048
South Brisbane, QLD 4101
P: 0415 031 806

E: info@arksolutions.com.au

W: www.ahms.com.au

ABN: 45 088 058 388

ACN: 088 058 388

3 November 2010

Our ref: 100914-2

Name,
Address,
Address,
Address.

Re: Notification and Invitation to Register an Interest: 5 Lands Walk, Terrigal to MacMasters Beach

Dear Sir or Madam,

In accordance with NSW Department of Environment, Climate Change and Water's (DECCW) *Aboriginal Cultural Heritage Consultation Requirements for Proponents, 2010*, I am writing to notify you that we have been engaged by Andrews Neil Pty Ltd, on behalf of Gosford City Council, to undertake the assessment and / or Aboriginal Heritage Impact Permit (AHIP) applications for 5 Lands Walk, a walking track running from Terrigal to MacMasters Beach, NSW (see attached map).

Gosford City Council proposes to develop a Master Plan for 5 Lands Walk, to identify the infrastructure required to sustain and develop the Walk as a major tourism activity for the region. The assessment process is intended to identify Aboriginal cultural values along the route of the Walk, and provide a basis for their management and for any required AHIP applications.

As part of the assessment process for this project, AHMS will be undertaking Aboriginal community consultation in accordance with DECCW *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*. The Aboriginal community consultation will assist the preparation of the assessment and/or AHIP applications, and assist the Director General of DECCW in his or her consideration and determination of any applications.

AHMS has been advised that Group/Individual Name may have an interest in the project. Under Section 4.1.3 of the requirements, we are seeking registration of interest from Aboriginal groups or individuals for the assessment and any subsequent Aboriginal Heritage Impact Permits or approvals that may be required under Part 6 of the *National Parks and Wildlife Act, 1974*. Specifically, we are inviting Aboriginal people who can provide cultural knowledge of the area of the proposed project to register an interest.

Registrations must be received by **19 November 2010**. Please register in writing to Alan Williams (A: AHMS, 349 Annandale Street, ANNANDALE NSW 2038; E: alanw@arksolutions.com.au; T: 02 9555 4000).

Should you register an interest, please note that we are required to forward your details to DECCW and the Darkinjung Local Aboriginal Land Council, unless you specify that you do not wish your details to be released.

Please don't hesitate to contact me on (02) 9555 4000 if you have any queries or concerns.

Yours sincerely,

Fenella Atkinson.
Archaeologist.




Archaeological and Heritage Management Solutions Pty Ltd

349 Annandale St, Annandale, NSW 2038 Phone (02) 9555 4000 Fax (02) 9555 7005
Email info@arksolutions.com.au ACN:088 058 388 ABN: 45 088 058 388



REGISTRATIONS OF INTEREST

Darkinjung Local Aboriginal Land Council



**DARKINJUNG LOCAL
ABORIGINAL LAND COUNCIL**

168 PACIFIC HIGHWAY,
WATANOBBY NSW 2259
POSTAL ADDRESS:
P.O. BOX 401, WYONG NSW 2259

A.B.N. 99 583 297 167
TELEPHONE: (02) 4351 2930
FAX: (02) 4351 2946
EMAIL: darkinjung@dlalc.org.au

Att: Ms Fenella Atkinson
Archaeological & Heritage Management Solutions
349 Annandale Street
ANNANDALE NSW 2038
Your ref: 100914-2

8th November 2010

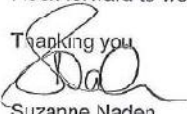
Dear Fenella

RE: GOSFORD CITY COUNCIL – FIVE LANDS WALK MASTERPLAN,

I am formally registering Darkinjung Local Aboriginal Lands Council's expression of interest for the above project.

Can you please forward all information directly to Suzanne Naden, Operations Manager via email: s.naden@dlalc.org.au, I can also be contacted on the office number as listed above or alternatively my mobile number is 0404473569.

I look forward to working with you in the future.

Thanking you

Suzanne Naden
Operations Manager

Kevin Duncan

From: "kevin.duncan@bigpond.com" <kevin.duncan@bigpond.com>
Date: 5 November 2010 18:43:41 AEDT
To: Alan Williams <AlanW@arksolutions.com.au>
Subject: 5 Lands Walk Aboriginal Heritage Assessment
Reply-To: "kevin.duncan@bigpond.com" <kevin.duncan@bigpond.com>

Hi Allen,I would like to confirm my cultural interests and participation in the upcoming Aboriginal Cultural Heritage Assessment of the planned 5 Lands Walking track,Thank You,In Unity,Kevin Duncan.

Guringai Tribal Link Aboriginal Corporation

-----Original Message-----

From: Tracey Howie [<mailto:tracey@guringai.com.au>]

Sent: Monday, 8 November 2010 5:38 PM

To: Alan Williams

Subject: Aboriginal heritage investigation. 5 Lands walk, Gosford.

Dear Alan,

Please register Guringai Tribal Link Aboriginal Corporation (GTLAC) with the Aboriginal Heritage Investigations and any subsequent associated works, of the Five Lands Walk in the Gosford region.

Kind regards,

Tracey Howie

GTLAC

Ph: 0404 182049

DRAFT METHODOLOGY



ARCHAEOLOGICAL & HERITAGE MANAGEMENT SOLUTIONS

SYDNEY

349 Annandale St,
Annandale, NSW 2038
P: (02) 9555 4000
F: (02) 9555 7005

E: info@arksolutions.com.au

MELBOURNE

7/11 Merrifield St,
Brunswick, VIC 3056
P: (03) 9388 0622

W: www.ahms.com.au

PERTH

PO Box 9077,
Nicholson Rd, Subiaco,
WA 6008
P: (08) 9382 4657

ABN: 45 088 058 388

BRISBANE

South Brisbane Bus. Cente
PO Box 3048
South Brisbane, QLD 4101
P: 0415 031 806

ACN: 088 058 388

19 November 2010

Our ref: 100914-2

Name,
Address,
Address.

Re: Aboriginal Cultural Heritage Impact Assessment of 5 Lands Walk, Terrigal to MacMasters Beach: Project Information and Proposed Methodology

Dear Sir or Madam,

Thank you for your registration of interest in the Aboriginal cultural heritage impact assessment (AHIA) of 5 Lands Walk. Your interest in the project has been formally registered in accordance with NSW Department of Environment, Climate Change and Water (DECCW) *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*. A brief description of the project is attached below.

This document provides information on the project and outlines our proposed approach to the assessment. To ensure appropriate consultation can be undertaken, can you please provide the following information:

- A nominated representative of your organisation with whom to undertake consultation;
- A clear identification of the organisation you are representing;
- Your nominated individual's contact information including phone number, fax number, postal address and e-mail (if available);
- What level of consultation you wish to be involved in? Do you wish to be involved in the fieldwork? Do you simply want a copy of the final report?
- The localities/areas of the assessment you are interested in being consulted on (i.e. the entire route or just a suburb or particular area); and
- If you wish to be involved in any meetings or fieldwork, please ensure we have current copies of public liability, workers compensation and professional indemnity (if available) insurances as soon as possible. Please also provide details of current hourly, half day and full day rates;

We are now proceeding to the next stages of the consultation and assessment process, and AHMS would like to ask for your assistance in the following two matters:



Archaeological and Heritage Management Solutions Pty Ltd

349 Annandale St, Annandale, NSW 2038 Phone (02) 9555 4000 Fax (02) 9555 7005
Email info@arksolutions.com.au ACN:088 058 388 ABN: 45 088 058 388

- Review of our proposed assessment methodology; and
- Response to a series of questions provided in **Appendix 1** of this document.

Please note that responses to both of these points are due by 20 December 2010. The details are below.

Proposed Methodology

Please find attached our proposed methodology for Aboriginal heritage assessment and archaeological survey of the subject land. I would appreciate it if you could review our proposed methodology and provide AHMS with your comments by **20 December 2010**. We have attached a response form. This form is simply for your convenience and you are under no obligation to use it.

In particular, please consider the following points:

- To your knowledge, are there any objects or places of cultural value to Aboriginal people in the area of the subject land?
- Are there any protocols, for instance with regard to sensitive information, that should be adopted into the information-gathering and assessment methodology?

All correspondence should be forwarded to:

Alan Williams,
AHMS,
349 Annandale Street,
Annandale NSW 2038.

E: alanw@arksolutions.com.au

Survey

Following receipt of comments from Registered Aboriginal Parties within the prescribed 28 days, we intend to undertake the site survey work in the week beginning **10 January 2011**. However, we will contact all Registered Aboriginal Parties to confirm the survey dates during the comment period.

You will note that our proposed methodology requires a survey. As we have received multiple registrations of interest, it may not be possible to involve every Registered Aboriginal Party in this initial phase of site survey work. We will, however, be providing a draft copy of our report to all Registered Aboriginal Parties upon completion of the assessment. We will also be requesting a written response on the cultural heritage significance of the subject land, the results of the assessment and our recommendations for management of Aboriginal heritage during any future development at the site. We will be allowing 28 days to receive responses on the draft report before finalising. During the review period, if required, we will also invite all Registered Aboriginal Parties to attend a meeting to discuss the project with representatives of AHMS and Gosford City Council.

If you wish to be involved in the site survey we request that you formally provide us with a written offer to provide cultural heritage services by **20 December 2010**. All offers should include the following details:

- Your nominated site/field officers and information on their experience (if available).
- Your written views and comments on the proposed field survey methodology outlined below; and
- Any areas of the survey you are particularly interested in and/or retain demonstrated cultural knowledge of (please provide such information as part of your response). As outlined above, it is unlikely that every organisation will be able to visit every part of the proposed development, therefore if you have specific areas of interest within the assessment area, please identify them now.

Upon receipt of all offers we will select Aboriginal community representatives based on the criteria set out above and on our requirements for survey crew. The ultimate objective will be to improve the results of the survey by engaging Aboriginal representatives who have the expertise to assist in the archaeological survey, who have cultural knowledge about the area and can communicate the results of our work to the local Aboriginal community.

Upon receipt of all comments from the Registered Aboriginal Parties in this project, we will discuss Aboriginal participation and costs with our client in relation to the site survey. If you are not engaged in the field work for the initial investigations, we will where possible attempt to accommodate all suitably qualified representatives during future investigations at the site (if required).

Thanks again for your interest in this project and we look forward to receiving your submissions. If you have any questions or enquiries, please contact Alan Williams or Fenella Atkinson on 02 9555 4000.

Yours faithfully,

A handwritten signature in dark ink, appearing to read 'F. Atkinson', with a stylized flourish at the end.

Fenella Atkinson.

Archaeologist.

Project Information

The 5 Lands Walk is an annual cultural event which has been held over the past four years. The Walk is a track approximately nine kilometres in length, which leads from MacMasters Beach, through Copacabana, Avoca and North Avoca, to Terrigal (see **Figure 1**). The existing track has generally been developed in separate sections, without an overall plan for recreational use. Some sections are used by the public all year round, while other sections are steep and slippery. In addition, minimal attention has been paid to environmental protection.

Gosford City Council therefore proposes to develop a Master Plan for 5 Lands Walk. The Master Plan will identify the infrastructure required to sustain the walk as a major tourism activity for the region, and also to encourage the annual event to grow. Some possible alterations to the existing route have already been identified (see **Figure 1**).

Andrews Neil, on behalf of Gosford City Council, has commissioned AHMS to undertake an Aboriginal cultural heritage assessment of the existing route of and proposed alterations to 5 Lands Walk. The assessment is intended to:

- Identify places of Aboriginal cultural heritage significance in the vicinity of the existing route and proposed alterations; and
- Make recommendations for the management of the identified Aboriginal cultural heritage values.

The results of the assessment will be used in the development of the Master Plan. The assessment may also be used as the basis for further investigation (test excavation) and Aboriginal Heritage Impact Permit applications, if necessary.

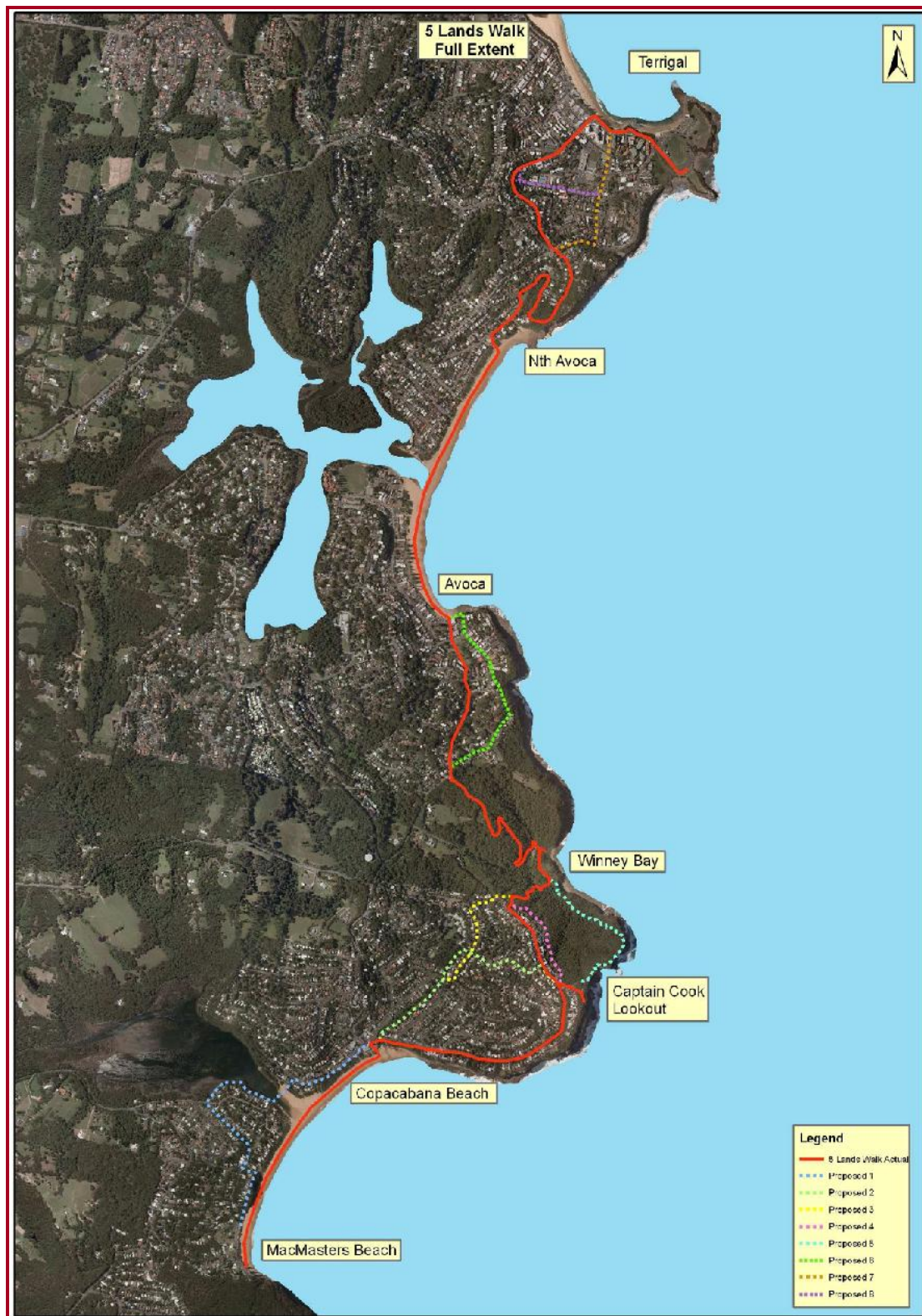


Figure 1. Overview plan of 5 Lands Walk. The existing route is shown in red, and the proposed changes to the route are indicated by dotted lines.

Proposed Methodology for Assessment and Survey of 5 Lands Walk

Assessment

Our proposed work plan for the assessment involves the following stages:

- a) Aboriginal community consultation in accordance with the requirements of the DECCW *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*;
- b) Archaeological background research, including a review of previous archaeological studies in the area and a search of Aboriginal heritage databases including the DECCW Aboriginal Heritage Information Management System (AHIMS);
- c) Predictive modelling of site types and locations across the subject land;
- d) Systematic archaeological survey of the subject land to identify Aboriginal sites or objects on ground surfaces and to identify areas of sub-surface potential archaeological deposit (PAD);
- e) Photography will be used to document the environmental and archaeological features of the survey area;
- f) Assessment of the significance of any Aboriginal sites, objects and/or places identified; and
- g) A report presenting the results of the investigation, including an assessment of significance and recommendations for potential mitigation measures that will be required to ensure the retention and preservation of archaeological materials where possible. A draft report will be provided to all registered Aboriginal groups for comment prior to finalisation of the report.

Survey

We will require assistance from the Aboriginal community to obtain information about any Aboriginal places based on cultural knowledge of the area, and to assist in the archaeological site survey. We have allowed up to two days to undertake the survey.

Parts of the route are within road reserves in developed areas, and are likely to be highly disturbed. Therefore, although the whole of the existing route and proposed alterations will be surveyed, particular attention will be paid to:

- The location of known Aboriginal sites (identified through the AHIMS database);
- Areas where potentially undisturbed soil profiles may be located;
- Areas, such as tracks and roads across the study area, which are likely to contain exposed soils and cuttings that reveal sections of soil profiles.

Our proposed survey crew will include archaeologists and representatives of the Registered Aboriginal Parties. Any Aboriginal sites, objects or places identified during survey will be recorded with standard DECCW AHIMS Site Recording Forms and the locations will be recorded with a hand-held GPS. Information derived from the survey will be critical in developing strategies for management of Aboriginal heritage during any future development of the study area.

Aboriginal Cultural Heritage Assessment of 5 Lands Walk: Proposed Methodology

I have been sent information on the proposed methodology for the Aboriginal cultural heritage assessment of 5 Lands Walk. I endorse the proposed methodology, unless otherwise stated below, or with the following amendments:

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.....

.....

.....

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.....

.....

.....

.....

Name.....


Organisation.....

Signature.....

AHMS
349 Annandale Street
Annandale NSW 2038
Ph (02) 9555 4000
Fax (02) 9555 7005

RAP RESPONSES TO METHODOLOGY

Darkinjung Local Aboriginal Land Council



**DARKINJUNG LOCAL
ABORIGINAL LAND COUNCIL**

168 PACIFIC HIGHWAY,
WATANOBBY NSW 2259
POSTAL ADDRESS:
P.O. BOX 401, WYONG NSW 2259

A.B.N. 99 583 297 1
TELEPHONE: (02) 4351 29
FAX: (02) 4351 29
EMAIL: darkinjung@dlalc.org.au

AHMS
Att: Mr Allan Williams
349 Annadale Street
ANNADALE NSW 2038

20TH December 2010

Dear Mr Williams

**RE: Proposed Methodology for Aboriginal Heritage Assessment for the Five Lands Walk,
Terrigal to MacMasters Beach Project**

Thank you for the opportunity to formally respond to the Draft methodology for the Aboriginal heritage assessment for the above project.

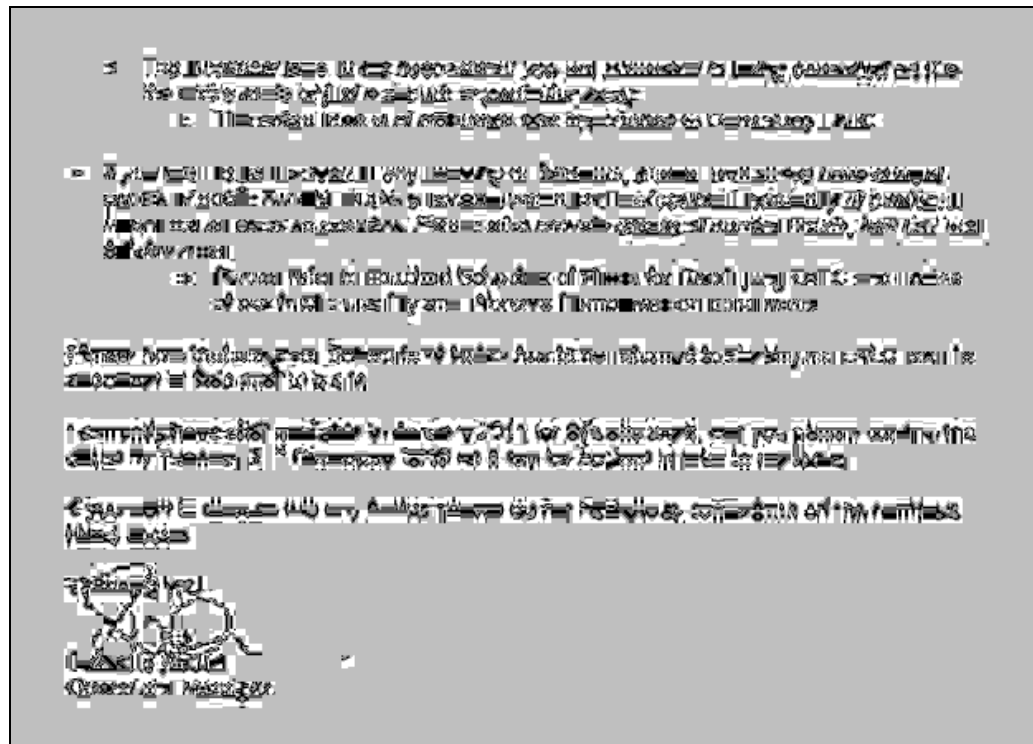
Darkinjung LALC has now reviewed the proposed methodology and provides the following issue and recommendations that we wish yourself and Gosford City Council to consider.

Possible impacts/issues

- Why the allocation of only 2 days to completed the site survey of such a large area?
 - The issue is that it will take longer than two days to conduct this site survey

Recommendations

- Nominated representatives of your organization with whom to undertake consultation
 - Suzanne Naden Operations Manager Darkinjung LALC
- A clear identification of the organization you are representing
 - Darkinjung LALC is the first and foremost identified group on the Central Coast that is legally constituted to provide information on Culture and Heritage. There is no currently registered Traditional Owners on the Central Coast.
- Your nominate individual contact information including phone number, fax number, postal address and e-mail
 - Suzanne Naden Operations Manager ph: 43512930 mb: 0404479569
 - Po Box 401 WYONG NSW 2259
 - Email: suzannenaden@dlalc.org.au
- What level of consultation you wish to be involved in? Do you wish to be involved in the fieldwork? Do you simply want a copy of the final report?
 - Darkinjung LALC will participate in the Aboriginal Heritage Assessment site survey and fieldwork



Guringai Tribal Link Aboriginal Corporation

-----Original Message-----

From: Tracey Howie [<mailto:tracey@guringai.com.au>]

Sent: Tuesday, 14 December 2010 6:11 PM

To: Alan Williams

Subject: Methodology comments. Five Lands Walk, Central Coast, NSW.

Dear Alan,

Guringai Tribal Link Aboriginal Corporation (GTLAC) have read and discussed the proposed methodology for the Aboriginal Cultural Heritage Impact Assessment to be conducted on the Five Lands Walk, Central Coast, NSW and agree with this methodology, as set out by Archaeological and Heritage Management Solutions Pty.Ltd. (AHMS).

Kind regards,

Tracey Howie

Chairperson

0404 182049



NTSCORP LIMITED
ACN No. 098 971 209 ABN No. 71 098 971 209

Tracey-lee Howie

Tuesday, 29 April 2008

Dear Tracey,

In response to your request of 15 April please find enclosed two copies of a genealogy of your ancestors, based on certificates that NSW Native Title Services was able to acquire from the NSW Births, Deaths and Marriages Registry and other sources where quoted. This genealogy represents information collected so far. Further information may be discovered in the future which alters the genealogy.

In my opinion, based on available documentary evidence and your oral testimony, you have a clear connection to the Gosford area going back to Charlotte Ashby (nee Smith), her mother Sophy and grandparents Boongaree and Matora.

If you notice any errors or if you would like to arrange for further consultations regarding your family history please call me on 02 9310 3188 or email mbennett@ntscorp.com.au.

Thankyou for your patience while this genealogy was researched. Please note that NTS Corp was previously known as NSW Native Title Services

Regards,

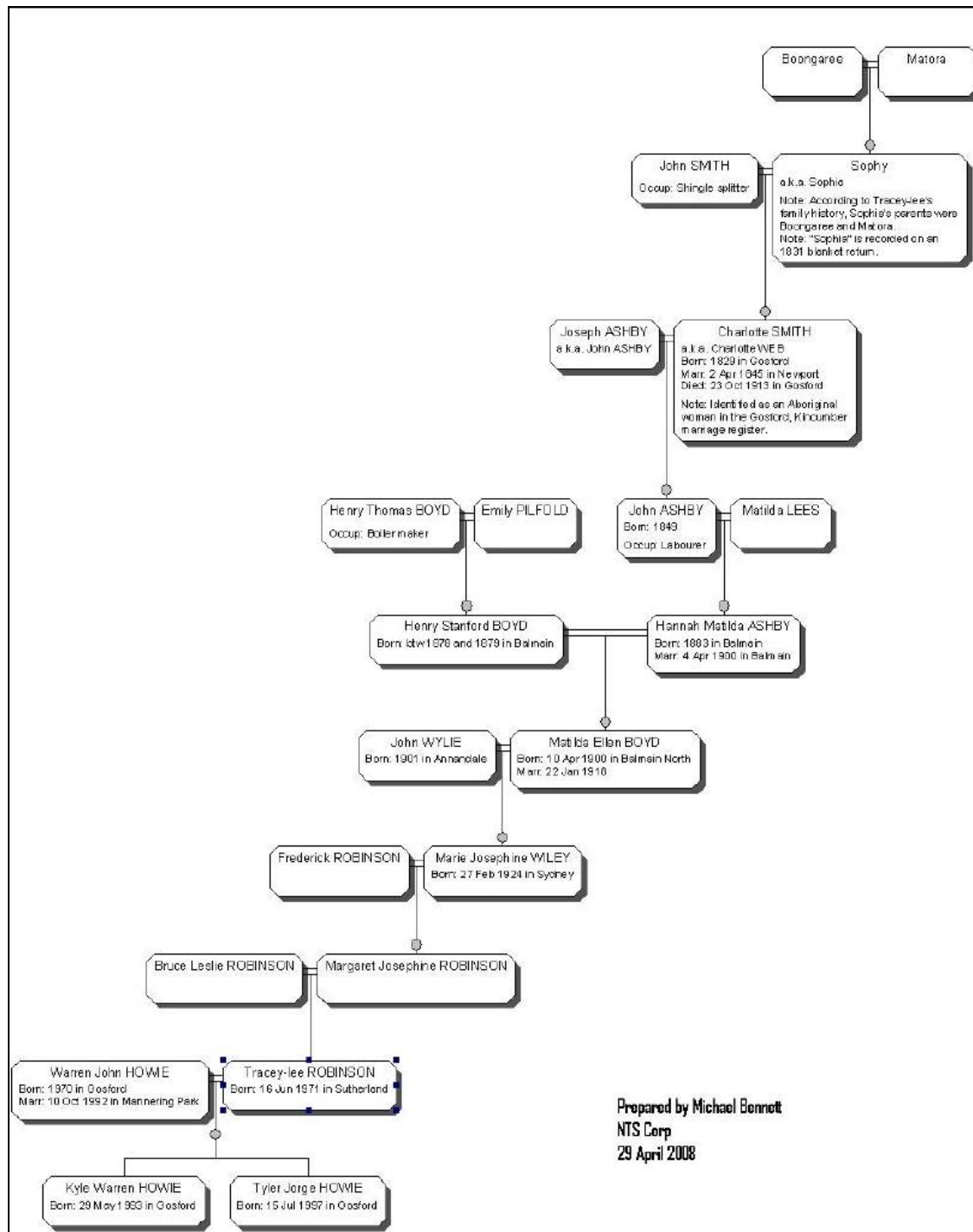
Michael Bennett
Historian
NTS Corp

HEAD OFFICE

Suites 9 & 15, 245 Chalmers Street Redfern NSW 2016 • PO Box 2105 Strawberry Hills NSW 2012 • DX 22525 Surry Hills NSW 2010
Phone: + 61 2 9310 3188 • Fax: + 61 2 9310 4177 • Freecall: 1800 111 844

REGIONAL OFFICES

COFFS HARBOUR • Suite 2, 133 West High Street, Coffs Harbour NSW 2450 • PO Box 156 • Phone: + 61 2 8651 4588 • Fax: + 61 2 8651 7954
DUBBO • Chr Darling & Wingewarra Streets Dubbo NSW 2830 • PO Box 982 • Phone: + 61 2 6882 5788 • Fax: + 61 2 6882 6157



Kevin Duncan

①

Aboriginal Cultural Heritage Impact Assessment
of 5 Lands Walk, Terrigal to MacMasters Beach

1) I do not represent any organization my
registered interests are in having a traditional
heritage connection to Darkinjung country.
There for my representation is with and for
my family interest.

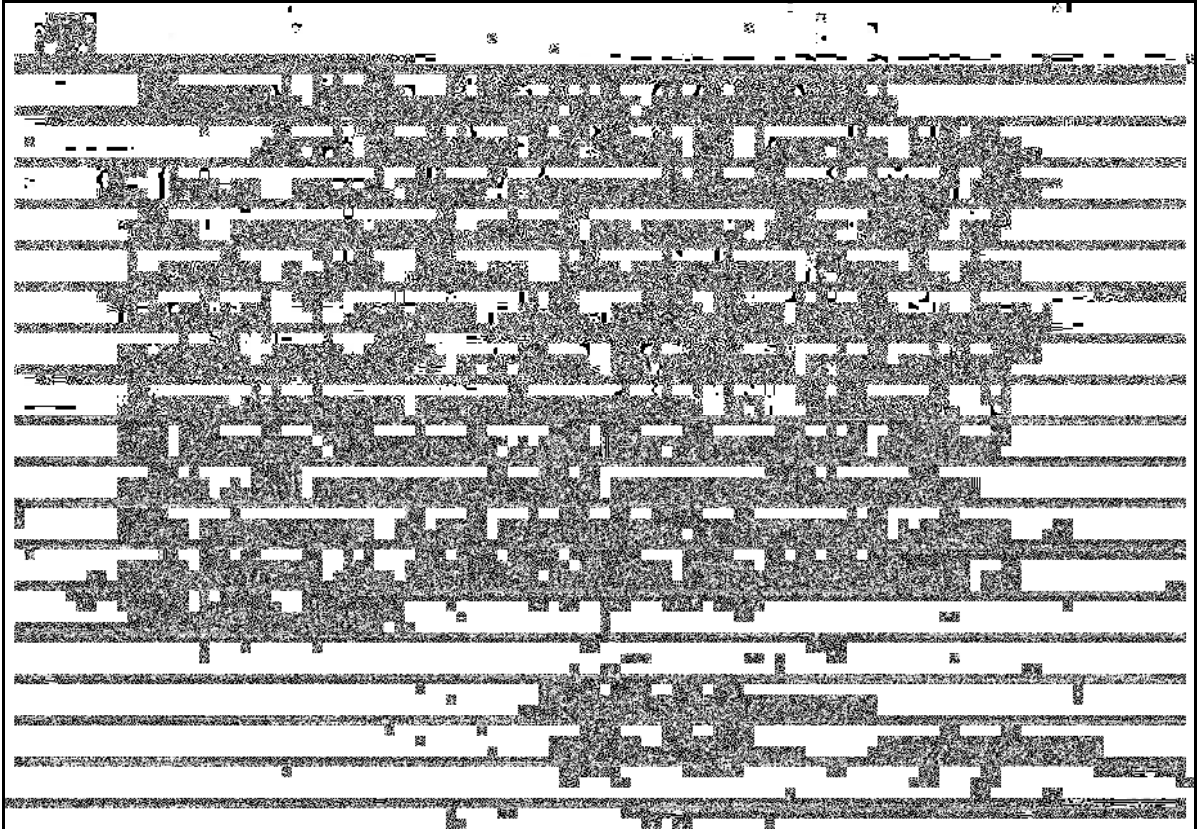
2) Contact Details. Kevin Duncan 95 Maala Pde
Charmhaven NSW 2263.
Ph: 0243925426 M: 0431224099
Email: Kevin.duncan@bigpond.com

3) Consultation Level,
I would like to be involved in the proposed
fieldwork study and assessment including a
copy of the final report.

4) The areas of Assessment or localities of the
proposed surveys that would be in my
interests would include the whole route.

5) I don't at this time have any public liability
cover, workers compensation or insurances.

6) SURVEY RATES



RAP REPORTS AND RESPONSES TO DRAFT ASSESSMENT

Darkinjung Local Aboriginal Land Council



DARKINJUNG LOCAL ABORIGINAL LAND COUNCIL

168 PACIFIC HIGHWAY,
WATANOBBI NSW 2259
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TELEPHONE: (02) 4351 2930
FAX: (02) 4351 2946
EMAIL: darkinjung@dlalc.org.au
www.darkinjung.com.au

Ms Fenella Atkinson
Archeologist
AHMS
349 Annadale Street
ANNADALE NSW 2038

9th March 2011

Dear Fenella

RE: Aboriginal Site Assessment Survey for Proposed 5 Lands Walk Construction

Please find attached Darkinjung Local Aboriginal Lands Council's formal recommendations regarding the site survey conducted for the proposed Masterplan as noted above.

However we do recommend that you follow the following procedures if you do unearth any significant material or artifact.

If you wish to discuss the full report or recommendations please do not hesitate to contact me directly on the numbers above.

Thanking you

A handwritten signature in black ink, appearing to read "Suzanne Naden".

Suzanne Naden
Operations Manager

**Aboriginal Cultural Heritage Site
Assessment Report**

**5 Lands Walk
MacMasters, Copacabana, Avoca, North
Avoca and Terrigal Beaches.**

January 2011

Prepared by: Sharon Hodgetts

**For Darkinjung Local Aboriginal Land
Council**

**PO Box 401
Wyong NSW 2259
02 - 43512930**

Aboriginal Heritage Site Assessment Report

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Aboriginal Heritage Site Assessment Report

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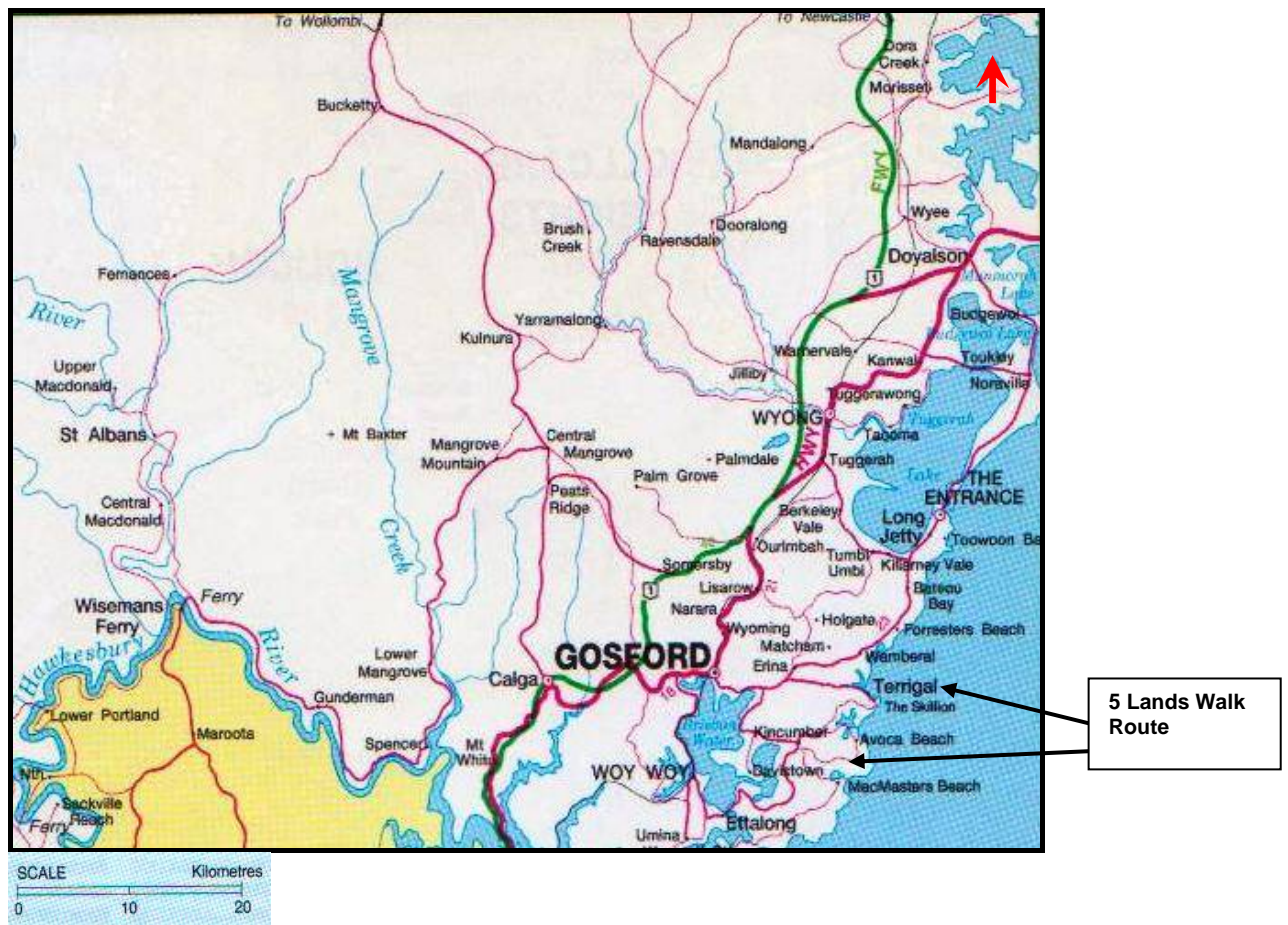


Figure 1: Map showing location of 5 Lands Walk route, study site.

Source: UBD 2006 Central Coast. From Morisset to Mooney Street Directory.



Figure 2: Map shows the route and proposed routes of the 5 Lands Walk and the approximate location of the Study Site.
Source: AHMS

1. Introduction

This report has been prepared as part of an Aboriginal Heritage Assessment for Darkinjung Local Aboriginal Land Council and on behalf of Archaeological and Heritage Management Solutions (AHMS) and Gosford City Council.

The aim of the assessment is to identify Aboriginal Archaeology, places, or objects of significance to the Aboriginal community, and for the site's developer to meet the statutory obligations and requirements under the National Parks and Wildlife Act (1974) and the Environmental Protection Act (1979).

The assessment was undertaken over two days.

2. Description of study area and Development Proposed

The study area is situated within the boundaries of the Darkinjung Local Aboriginal Land Council. Darkinjung Local Aboriginal Land Council (DLALC) is located on the Central Coast of New South Wales, its boundaries stretch from Catherine Hill Bay to the North, Hawkesbury River to the South, the Pacific Ocean to the East and the Watagan Mountains to the West (Darkinjung Local Aboriginal Land Council).

The assessment site follows current roads, walking trails and council reserves through the suburbs of MacMasters Beach, Copacabana Beach, Avoca Beach, North Avoca Beach and Terrigal, approximately 7 kilometres south-east of Gosford NSW.

Gosford City Council proposes to establish and upgrade sections of the current 5 Lands Walk route between MacMasters Beach and Terrigal and to establish a permanent signposted walkway that covers as much of the coastline and natural environment as is both physically and culturally safe, to improve access to members of the public.

The landscape and vegetation in the area is dominated by the coast line estuary, native bushland and urban development. The route covers areas with native and weed species of plants, within areas of open grass, thick bushland, council reserves, beaches, lagoons, shoreline, roadways, footpaths and walking trails.

The vegetation within the area of the 5 lands walk consist of various vegetation zones many of which consists of Paper Barks (*Melaleuca* spp), Blackbutt, (*Eucalyptus pilularis*), Turpentine (*Syncarpia glomulifera*), Spotted Gum (*Eucalyptus maculata*), Smooth Barked Apple/Sydney Red Gum (*Angophora costata*), Sydney Blue Gum (*Eucalyptus saligna*), Coast Banksia (*Banksia integrifolia*), Forest Oak (*Allocasuarina torulosa*) and Sydney Golden Wattle (*Acacia longifolia*) including native vines and climbers. Also observed were introduced weed species such as Lantana (*Lantana camera*) and Kikuyu (*Pennisetum clandestinum*).

3. Description of Impact.

The impact will be a result of earth works including some land and vegetation clearing and shallow excavation of soil to install formed paths and in some section improve safety. The route follows existing roads, walking trails and paths in some parts, while in others the paths may need to be formed and improved. In several sections a viewing platform is also proposed. Most of the route is mainly located on previously disturbed areas along public roads, paths and dirt walking tracks.

The main types of impact from this type of development are in the form of excavation and erosion, including impact from excavation and construction machinery and associated infrastructure on and around the site. These actions can expose and/or destroy artefacts on top of, or below the soil surface. Impact can also include the destruction of vegetation and the surrounding landscape which can contain Aboriginal remains or cultural places. Other impacts associated with the 5 Lands Walk constructions and improvement process may include alteration to the water and drainage patterns.

This type of development could impact on any potential Aboriginal archaeological sites located in undisturbed areas of the site. The Aboriginal material culture most at risk from this type of development is Aboriginal shell middens, burials, scar trees, open sites and isolated artefact. Other forms of Aboriginal sites at risk include cultural and spiritual places. Adverse impact could include exposure of artefacts or burials and other Aboriginal archaeology and destruction of Aboriginal places, through water runoff and soil erosion, impact from machinery, construction infrastructure and treadage. These impacts could occur during the construction phase of the project, while after development impacts from altered runoff and natural water movement are also a threat. The greatest impact on Aboriginal heritage places in NSW occurs in the form of soil erosion (Byrne 1997:1). Runoff and erosion can potentially cause siltation and destruction of Aboriginal archaeological sites. Indirect impacts may occur in the form of alterations to drainage and erosion patterns (Byrne 1997:2).

Trampling and treadage has had a significant impact on Aboriginal sites in NSW. The impact of treadage on open sites can result in displacement and damage to individual artefacts. Treadage can also initiate soil erosion (Byrne 1997:3). Trampling and treadage may be one of the main risks to midden sites before and after construction within the walking route.

Machinery and vehicles used in the development and post development phase has the potential to destroy or adversely alter sites if the area is not adequately protected.

4. Qualifications, Relevant Experience and Community Endorsement

I have completed Certificate III Horticulture, Parks and Garden through the TAFE Open Training and Education Network (OTEN), Certificate III Conservation and Land Management, Specialising in Indigenous Land Management through the Ryde College of TAFE Ryde NSW and have completed the Diploma in Indigenous Archaeology at the University of New England, Armidale NSW.

I have worked under the guidance of Darkinjung Local Aboriginal Land Council and have the endorsement of the council and the local Aboriginal community.

5. Statutory Requirements and Legislation.

Aboriginal heritage and places are protected by law under Legislation. Two basic pieces of legislation concerned with Aboriginal Heritage Management are the *National Parks and Wildlife Act 1974* (NPW Act) and The *Environmental Planning and Assessment Act 1979* (EP&A Act)

Section 84 of the *National Parks and Wildlife Act (1974)* provides protection for 'Aboriginal Places'. The act defines Aboriginal places as 'areas of cultural significance to the Aboriginal Community'. Section 90 of this Act gives protection for all 'Aboriginal Relics'. The act defines Aboriginal relics as 'any material evidence of the Aboriginal occupation of New South Wales'. The Minister will gazette areas as Aboriginal places if satisfied that adequate evidence exist to show that the area was or is of special importance to the Aboriginal community.

The *National Parks and Wildlife Act 1974* (NPW Act) Legislation does not structure any formal mechanisms to make sure that areas with potential to contain Aboriginal sites or places of special significance are evaluated before impact on those areas. It is the *Environmental Planning and Assessment Act* (EP&A Act) which carries out this function.

The *Environmental Planning and Assessment Acts* principal function is to consider 'environmental impacts' in land use and decision making. Environmental impacts include impacts on Aboriginal Heritage. There are three main sections in the EP&A Act which are applicable to Aboriginal Heritage. Part III, administrate the preparation of planning instruments; Part IV relates to development evaluation process for local government (consent) authorities; and Part V which communicate to activity approvals by Government (determining) authorities.

Part III of the Act governs the preparation of the following three planning instruments: 1. State Environmental Planning Policies (SEPPs); 2. Regional Environmental Plans (REPs); 3. Local Environmental Plans (LEPs). These planning instruments dictate allowable uses and potential constraints on land use. When preparing planning instruments the Department of Urban Affairs and Planning have guidelines which should be followed. These guidelines list Aboriginal sites and places of significant to the Aboriginal community as values which should be assessed.

Part IV of the legislation governs the decision making process by local government authorities during a development application. Section 90 of the Act lists impacts which must be considered before development approval is granted. Under section 90 (1) 9b consideration must be given for 'the impact of that development on the environment (whether or not the subject of an environmental impact statement)'. Section 90 (1) 9b includes Aboriginal sites and heritage.

Part V of the legislation governs the decision making process by State Government authorities for activities conducted by that agency or under authority from the agency are controlled by Part V of the EP&A Act. It is mandatory for these agencies to consider environmental impacts of proposed activities then, determine whether the level of impact is adequate to necessitate the planning of an Environmental Impact Statement (EIS). Environmental impacts include Aboriginal sites and places. The Department of Planning New South Wales has created a set of guidelines for explaining Section 112 which requires that Aboriginal Heritage is assessed as part of the process (Byrne 1997: 2-3).

There are number of recent amendments to the *NPW Act 1974*. The amendments include a number of draft guidelines including the process of due diligence. The process of due diligence under the DECCW guidelines require that a proponent of a development assess impacts of the proposed activity. These guidelines can be viewed on the NSW Government, Environment Climate Change and Water (DECCW) website.

Below is a brief explanation of the process from the DECCW web site,

'The purpose of due diligence is to identify whether Aboriginal objects are present in an area, and to determine whether a proposed activity will have impacts on Aboriginal objects. Therefore it is essential to identify and understand all the expected impacts of the proposed activity.

There are two categories of activity used for assessing impacts:

- Activities involving no additional surface disturbance
- Activities causing additional surface disturbance.

For activities causing additional surface disturbance, it is necessary to determine whether an activity is proposed for:

- a) a developed area or a previously disturbed area, or
- b) an undisturbed area.

For activities in previously developed or disturbed areas, it is then necessary to determine whether the new activity will create significant additional surface disturbance. If it will, then the process for undisturbed areas will apply'.

Due diligence involves taking reasonable and practicable measures to determine whether your actions will harm an Aboriginal object and if so avoiding that harm (NSW Department of Environments, Conservation Climate Change and Water).

Any assessment should always be carried out in accordance with DECCW's (2010) *Code of Practice for Archaeological Investigations of Aboriginal Objects in New South Wales* and in conjunction with any registered Aboriginal stakeholder.

6. Aboriginal Cultural Heritage, Values and Significance.

Aboriginal people have inhabited Australia between 50,000 and 60,000 years, evidence for this can be found from material dated from Malakunanja and Nauwalabila rock shelter in the Northern Territory (Mulvaney & Kamminga 1999:141). Further evidence for human occupation is displayed through the skeletal remains of Mungo 3 discovered at Lake Mungo New South Wales. These remains have been dated to be between 28 000 and 32 000 years old (Morwood 2002:12). Aboriginal people's occupation of the Central Coast shown through Aboriginal archaeological material and spiritual places provides the local Aboriginal community with a sense of connection to the land, the people and culture. These materials and places present tangible evidence of the past and should be conserved.

The first inhabitants of the Central Coast region were members of the Darkinjung (Darginung, Darginyung), language group. Several researches and publications show tribal or language group boundaries within similar areas, but exact boundaries are unlikely. Boundaries are a European concept and there was likely a zone between language groups which was shared and utilised by neighbouring groups.

Stone artefacts in the Upper Mangrove Creek area of the Central Coast have been dated between 10,000 to 15,000 years old (Attenbrow 2002: 153). These provide some reliable evidence of Aboriginal people's occupation of the region.

European exploration of the Central Coast area began soon after the arrival of the First Fleet in 1788. Settlement of the Hawkesbury River began about 1794 and in 1820 the area between the Hawkesbury and the Hunter Rivers become available for settlement (Brisbane Water National Park Plan of Management 1992:19). European settlement and associated impacts had a dramatic effect on Aboriginal people, their cultural beliefs and practice and the cultural material left behind.

Evidence for Aboriginal habitation, includes middens, which consist of shell, bone, charcoal, tools and sometimes burials. A midden is likely to contain only a selection of shell fish species available in the local environment. It may contain a high proportion of individuals of a edible size, stone artefact, charcoal from camp fires, pumice, coral, faunal bone and human burials (Bynes1997:5). Shell middens are also important scientifically they can be dated, they provide precious information about Aboriginal use of the environment and changes in behaviour over time. Other evidence includes, fish traps and stone arrangements, deposits in sandstone shelters, including artefact, charcoal, shell and bone remains, rock engravings and pigment art. Further forms of Aboriginal cultural evidence can consist of abraded channels, grooves and grinding stones, axe grinding grooves, scarred and carved trees, water holes, quarry sites, open sites or camp sites, stone artefact scatters, graves, earth mound, walking trails along trading routes, mythological and

ceremonial sites. In some cases landscape modification can provide evidence of Aboriginal people's occupation.

The landscape surrounding an Aboriginal place or site is also very important to Aboriginal people; the landscape can be an extension of a site, or the landform and features that form the landscape can be the site. Aboriginal sites can also be connected through sight lines to other sites or places of significance.

Considering this, changing the context of an Aboriginal site by landscape degradation compromises the spiritual and cultural connection that Aboriginal people have to the land and or the site. In many cases destruction of a landscape can be considered destruction of an Aboriginal site.

The Darkinjung, people were fishers, hunters and gatherer of plants and animals of the land, rivers, estuaries and sea. These places including the hills, valleys, creeks, wetlands, lakes and coastline provided food, medicines, and raw material for tools, weapons, shelter and decoration. These environments and landforms also provided the basis for spiritual and cultural life and are of value and significance to the local Aboriginal community.

Certain environments can be considered to have a higher Aboriginal archaeological potential because of their ecology and landform and the associated flora, fauna and other resources needed for everyday life. The proposed development site lies in an area with a high Aboriginal archaeological value. This is because of the surrounding, mountains, lakes, creeks, and associated woodland and wetland habitats and especially the coastline and beach. These environments and ecological zones provided the local Aboriginal population with many food and other natural resources.

Therefore considering the long Aboriginal occupation of Australia and the Central Coast it could be predicted that most areas, particularly those with minimal disturbance have the potential to produced Aboriginal people's archaeological material. A number of places and sites can hold spiritual and cultural importance to the local Aboriginal community through their physical link to ancestors and the past. This connection attaches the community to land, traditions and strengthens bonds within the Aboriginal community. These Aboriginal materials, places and landscapes have value and significance to the local Aboriginal community and need to be protected.

7. The Site. Proposed 5 Lands Walk.

The site comprises of a walking route, situated within a region on the Central Coast of NSW between MacMasters Beach and Terrigal. The route travels through urban areas, streets, along footpath, along the beach fronts, through bushland, and along cliff tops along the coast. The assessment site covers an area of approximately 4km metres long between, GPS readings 56 H 56 H 356008 6297806 and 56 H 353701 6292103.

The study site is surrounded by various hills, ranges, valleys, creeks, wetlands, estuaries, beaches and coast line, as shown previously these types of environments and the resources they provided to local Aboriginal people, was very important and therefore as a result there have been a number of Aboriginal sites recorded within the vicinity of the assessment area.

the surrounding area include, First Point (45-3-0581), First Point / Bulbararing Trig (45-3-0724), MacMasters Beach 1 (45-3-3305), The Skillion Terrigal (45-3-0313, 45-3-0580, 45-3-0584, 45-3-0585), Terrigal (45-3-0580), Wamberal Point (45-3-0582), Avoca Beach to Bateau Bay (45-3-0583), OW3-A(45-3-3357), Bombi (45-6-0021), and Mourawaring; Little Beach (45-6-0025). A number of these other site were investigated and found that their location, often either relates to other sites within close proximity to each other, the site may no longer be in existent or the location may be incorrect.

Details of recorded Aboriginal sites in the area can be found on the Department of Environment and Climate Change and Water (DECCW) Aboriginal Heritage Information Management System (AHIMS).

The topography of the assessment area ranges from relatively flat along the beaches to gently sloping and steep along the streets and headlands.

The vegetation within the area of the 5 Lands Walk, Terrigal to MacMasters Beach is dominated by the coast environment. The vegetation within the area can be classified as Coastal Narrabeen Moist Forest, which includes Sydney Blue Gum (*Eucalyptus saligna*), Narrabeen Coastal Blackbutt Forest which includes Blackbutt (*Eucalyptus pilularis*) and Temperate Coastal Rainforests

The main plant species observed on the site include, Paper Barks (*Melaleuca* spp), Blackbutt (*Eucalyptus pilularis*), Turpentine (*Syncarpia glomulifera*),

Spotted Gum (*Eucalyptus maculata*), Smooth Barked Apple/Sydney Red Gum (*Angophora costata*), Sydney Blue Gum (*Eucalyptus saligna*), Coast Banksia (*Banksia integrifolia*) and Forest Oak (*Allocasuarina torulosa*), Tuckeroo (*Cupaniopsis anacardioides*), Cheese Tree (*Glochidion ferdinandi*), Geebung (*Persoonia* spp), Lilypilly (*Syzygium and Acmena* spp), Mat Rush (*Lomandra longifolia*), Bracken (*Pteridium esculentum*), Macrozamia (*Macrozamia communis*), Birds Nest Fern (*Asplenium australasicum*), including native vines and climbers. Also observed were introduced and weed species such as Lantana (*Lantana camera*), Kikuyu (*Pennisetum clandestinum*) and urban garden plantings.

Many of the native plant and faunal species found in area of The 5 Lands Walk site are considered a valuable food and material resource for the local Aboriginal inhabitants. Examples of those resource plants found in the area are; Mat Rush (*Lomandra longifolia*), used for string and food (Stewart & Percival 1997:33-35) and Bracken (*Pteridium esculentum*) also used for food and medicine (Stewart & Percival 1997:44). Macrozamia (*Macrozamia communis*) also known as cycads or Burrawang that have seeds that are rich in carbohydrates but also are very poisonous. The seeds need to be soaked in running water for several days to leach the poison, then crushed into flour, rolled into cakes then roasted. Many of the Paper barks (*Melaleuca* spp), Tea Trees (*Leptospermum* spp), provide food, medicinal and other resources through the nectar from flowers, leaves and bark (Robinson 1991:55).

Many of the Gum Trees (*Eucalyptus*, *Angophora*, *Corymbia* spp etc) provide resource from various parts of the plant. The resources include string, tools, weapons, shelter, canoes, food, medicinal and spiritual uses.

The undisturbed areas of the assessment site are considered to have potential for Aboriginal sites or artefacts which may be concealed by the thick vegetation, or be covered by leaf litter, sand and silt. The areas include places where there has been minimal disturbance, areas with intact soil and vegetation. Parts of the study site with a lower potential for Aboriginal archaeology include disturbed areas such as along the road site and sewer easements and roads and tracks. In the past these activities could have negatively impacted on, or destroyed, any Aboriginal archaeology on the site.

8. Assessment Methodology.

The main strategy used to assess the area was to consult the relevant topographical and survey maps. The aim was to physically walk over the site where access was not restricted by very dense vegetation or dangerous topography and concentrate on areas with higher Aboriginal archaeological potential. Reference to topographical and survey maps was the main method used to assess areas of the site with the potential for Aboriginal archaeology and cultural heritage value, then to inspect these sites in more detail on foot.

9. Assessment Fieldwork.

The assessment of the site, (the proposed 5 Lands Walk route) for Aboriginal archaeology and sites was conducted on the 19th and 20th January 2011. Involved in the assessment of the site representing Darkinjung Local Aboriginal Land Council was I, Sharon Hodgetts, representing AHMS, was Archaeologist, Allan Williams and Lisa Newell, from Gosford City Council, was Chris Lear and from Guringai Tribal Link Aboriginal Corporation (Guringai TLAC) was Tracy Howie, Kyle Howie and David Pross.

The aim was to physically walk over the route in areas of the proposed walk that covers the beaches, walking tracks and areas of vegetation, while motor vehicles were used in the areas of the walk that covered sealed road ways and areas with previous disturbance. Most areas along the exposed beaches were inspected, but only in areas where the walk was thought to impact potential middens or rock platforms which may contain rock art. This was considered a preliminary survey of the site to identify areas with a higher Aboriginal archaeological potential then to investigate those areas in more detail. Areas outside the direct impact zone that may have a high potential for Aboriginal sites, were also considered.

This is a summary of the 8 transect walked, a more detailed description can be discussed by contacting myself, Sharon Hodgetts the author of this report.

Day One.

Transect 1 Weather conditions were fine and sunny.

This transect starts from Terrigal Haven Terrigal (GPS reading 56 H 356008 6297806) and travels by vehicle, south then south-west along the Scenic Highway turning south into Coast Road, North Avoca and accessing North Avoca Beach, via a walking track (GPS reading 56 H 0355129 6296942). A constructed look out is proposed within an area of thick vegetation on the point in Turrigal Public Reserve to the east of the walking track.

The visibility on this transect was good along the roads but poor along the walking track to North Avoca Beach, visibly on the beach was good. Access to the proposed viewing platform on the headland adjacent North Avoca Beach was constrained by thick vegetation, therefore visibility was very poor.

No visible Aboriginal archaeology was located within this transect.

Transect 2

This transect is accessed from Del Monte Place Copacabana, turning east towards Captain Cook Look out (GPS reading 56 H 355416 6293567). Proceeding through Captain Cook Memorial Park and travelling north-east, by foot past an area allocated for one of the a proposed look outs (GPS reading 56 H 355416 6293567), then continuing from the look out and turning north-west along a walking track, then after that, north into to Winney Bay. From Winney Bay (GPS reading 56 H 355283 6294094), the transect then turns south-west over a small creek and ascends through bushland to the Bush Fire Assets Protection Zone behind houses along Del Monte Place (GPS reading 56 H 355066 6293979). The transect then follows the Bush Fire Assets Protection Zone in a south-east direction back to the access road to Captain Cook Look out.

The ground visibility was poor along the cliff side, Winney Bay and the Bush Fire Assets Protection Zone to the roadway.

No visible Aboriginal archaeology was located within this transect

Transect 3

This transect starts from the Copacabana Surf Life Saving Club (GPS reading 56 H 354270 6293190), and continues by foot, in a south-west direction along Del Monte Place Copacabana. The transect then enters the access track to Cochrane Lagoon (GPS reading 56 H 353949 6293074). From the western side of Cochrane Lagoon, the transect follows the foreshore reserve in a north-western direction along a walking trail. The transect then exists the reserve at Lakeside Drive MacMasters Beach (GPS reading 56 H 353499 6292959).

The transect continues from Lakeside Drive accessing then, following a lane way in a south-east direction which lies between Three Points Avenue and Newel Road. The transect exist the lane at Tudibaring Avenue MacMasters Beach (GPS reading 56 H 353722 6292721), then follows Tudibaring Avenue in a south-south-west direction until turning south-east into a beach access track opposite Tungarra Parade (GPS reading 56 H 353690 6292610). Following the beach access track, the transect then continues to the Beach.

From MacMasters Beach the transect proceeds south-west along the beach past a cliff face (GPS reading 56 H 353765 6292455). A section of the proposed walk is potentially to be located above the cliff face within a vegetated area. This area may also include a proposed constructed lookout. The area was inaccessible at the time of the survey.

The transect continues to the start of the proposed walk at MacMasters Beach Surf Life Saving Club (GPS reading 56 H 353701 6292103). The transect then turns and heads in a north then north-east direction back along MacMasters and Copacabana Beach, finishing at the northern end of Copacabana Beach (GPS reading 56 H 354560 6293153).

The visibility on this transect was good along the beaches and roadway but poor in areas of thick grass cover, such as along a lane way between the Three Points Avenue and Newel Road.

No visible Aboriginal archaeology was located within this transect. Two Registered sites were inspected but the contents were not visible (Middens). One site was at MacMasters Beach Surf Life Saving Club (site) and the other at Copacabana Surf Life Saving Club (site). Shell, possibly midden material was observed in the sand dunes at the northern end of Copacabana Beach.

Day Two

Transect 4

This transect start from the Terrigal Haven (GPS reading 56 H 356008 6297806) and travelling by vehicle, proceeds north-west along Terrigal Esplanade then turning south-west into Karrawyba Avenue. Karrawyba Avenue then loops around to the south-east into Auld Street (GPS reading 56 H 355111 6297722). The transect then follows Auld Street and over Wilson Road into Henley Avenue and into Ash Street. The transect turns south and proceeds along Ash Street to end at the intersection with The Scenic Highway (GPS reading 56 H 355433 6297380).

The ground visibility on this transect was poor in some areas and good in others, along the road ways

No visible Aboriginal archaeology was located within this transect

Transect 5

This transect is accessed from the Scenic Highway south into Coast Road and following to the intersection with North Avoca Parade, until reaching North Avoca Surf Lifesaving Club. The transect starts from the North Avoca Surf Lifesaving Club, the transect then follows a short beach access track to North Avoca Beach where the transect ends (GPS reading 56 H 354998 6296839).

The visibility on this transect was good along the walking track which access the beach

No visible Aboriginal archaeology was located within this transect

Transect 6

This transect starts from the Avoca Surf Lifesaving Club via Avoca Drive, Avoca (GPS reading 56 H 354740 6295445). The transect follows a walking path in an eastern direction between the beach and the surf club. The transect then turns to the south and follows the eastern end of Avoca Drive, over Burns Street continuing to Ascot Avenue (GPS reading 56 H 354978 6295152). From Ascot Avenue the transect then leaves the road way and enters a vegetated reserve and walking trail. The reserve and transect continues over Fairscene Crest (GPS reading 56 H 355026 6295062) through the reserve and over Arden Ave, entering the reserve again and existing at Endeavour Drive Avoca (GPS reading 56 H 355056 6294956).

The visibility on this transect was good along the road ways but poor in vegetated areas along the walking tracks between Fairscene Crest, Arden Ave and Endeavour Drive.

No visible Aboriginal archaeology was located within this transect

Transect 7

This transect is accessed from Cape Three Points Road Avoca. The transect starts from a water tower (GPS reading 56 H 354752 6294615) and follows in a southern direction by foot along a dirt 4 wheel drive track through Captain Cook Memorial Park to the rock platforms on the shores of Winney Bay (GPS reading 56 H 355277 6294212).

The visibility on this transect was good along the dirt road and walking track but became poorer with increased vegetation closer to Winney Bay.

Visible possible Aboriginal archaeology was located within this transect. At Winney Bay between the foreshore and beach there was evidence of shell material, possible washed down slope from a potential midden site (GPS reading 56 H 355277 6294212). No other visible Aboriginal archaeology was located within this transect.

Transect 8

This transect start from Del Rio Drive Copacabana. The transect travels by foot in a south-west direction following a creek/ storm water drain easement. The transect finishes at Del Monte Place.

The visibility on this transect was poor, due to thick grass cover along the easement which follows the creek.

A registered Aboriginal site (axe grinding grove) was thought to be located within the creek. The site was not relocated. This was possibly due to past disturbed of the creek. The site may now be either covered by silt or have been destroyed. No visible Aboriginal archaeology was located within this transect.



Figure 3: Map shows the approximate location of Transect 1 (high lighted in yellow) driven and walked along the route.

Source: Map Source

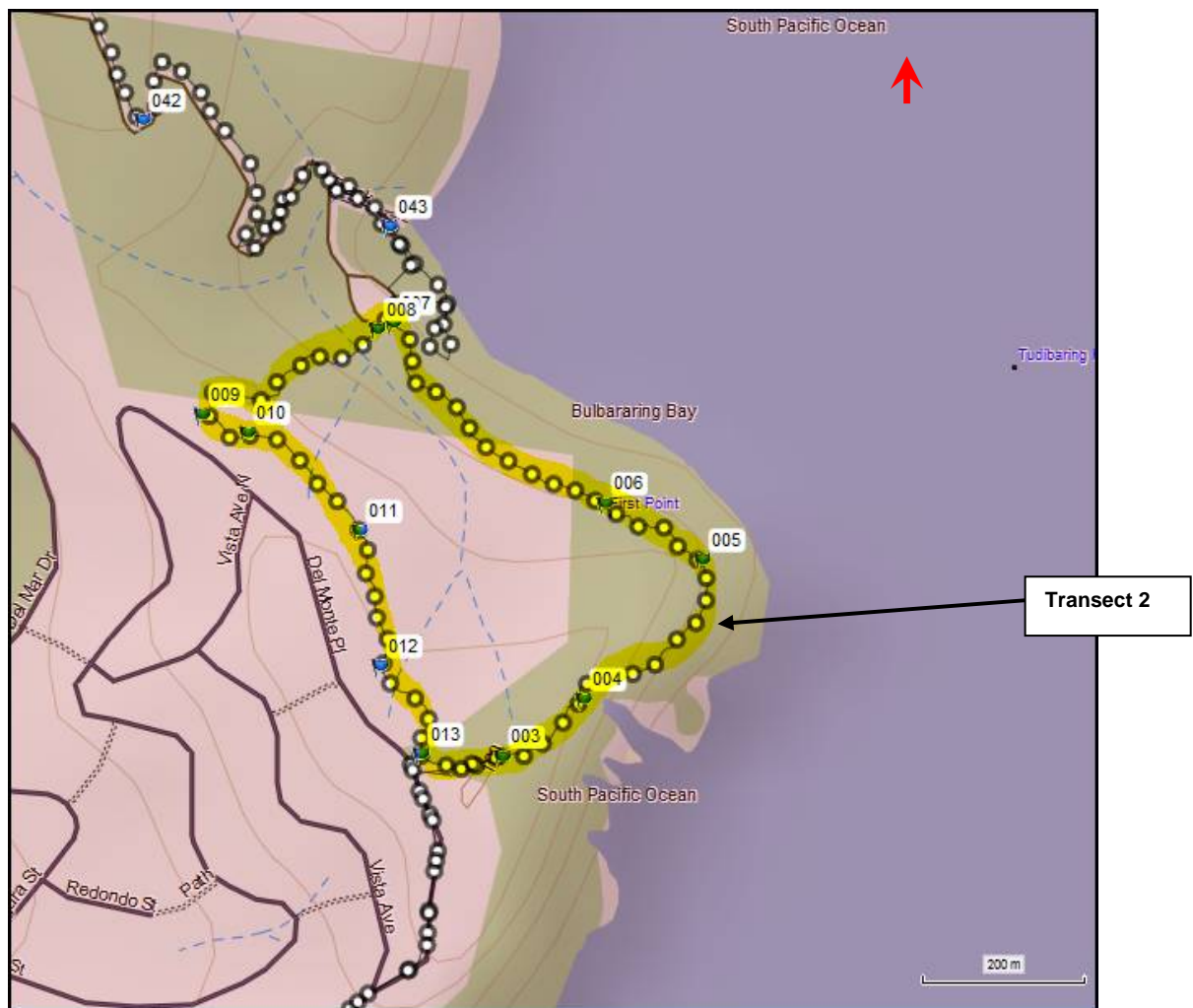


Figure 4: Map shows the approximate location of Transect 2, (high lighted in yellow), driven and walked along the route.

Source: Map Source

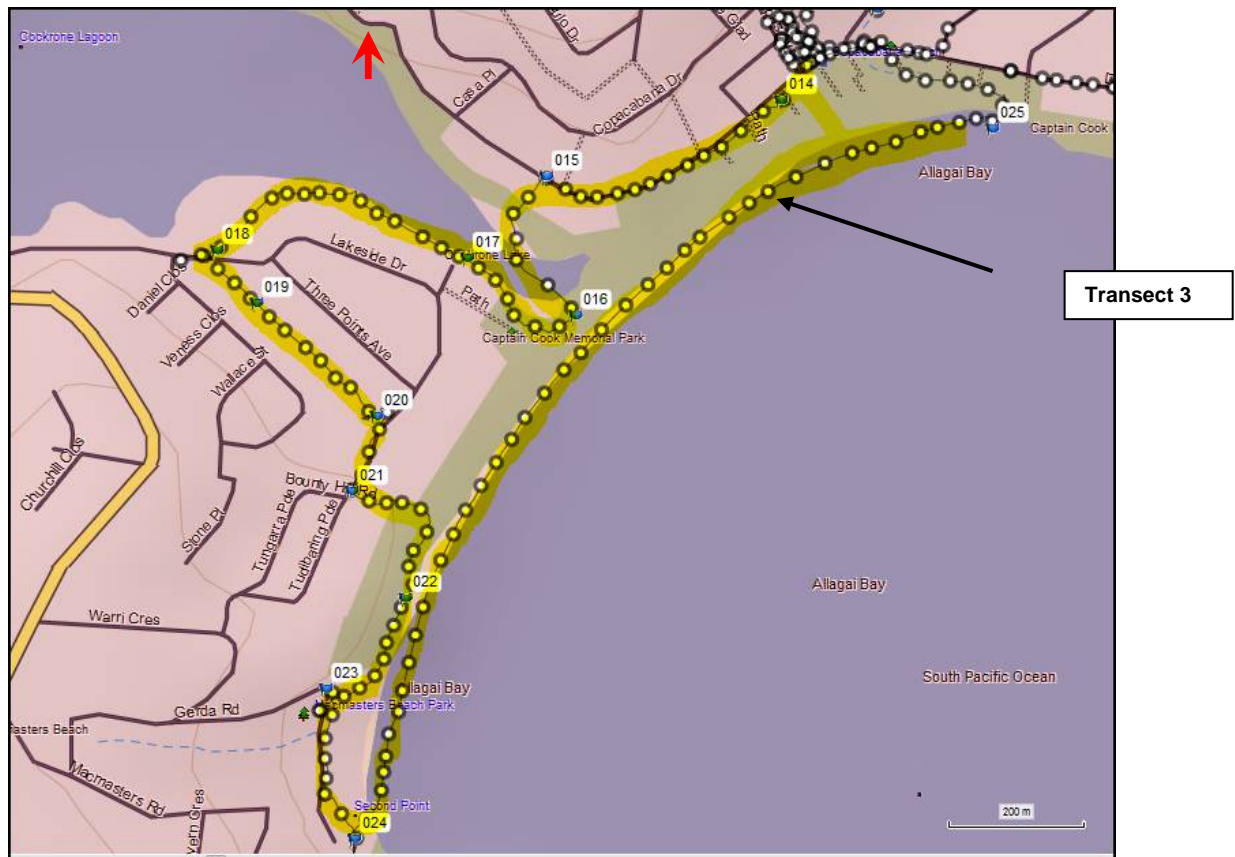


Figure 5: Map shows the approximate location of Transect 3 (high lighted in yellow) driven and walked along the route.

Source: Map Source



Figure 6: Map shows the approximate location of Transect 4 (high lighted in yellow), driven and walked along the route.

Source: Map Source

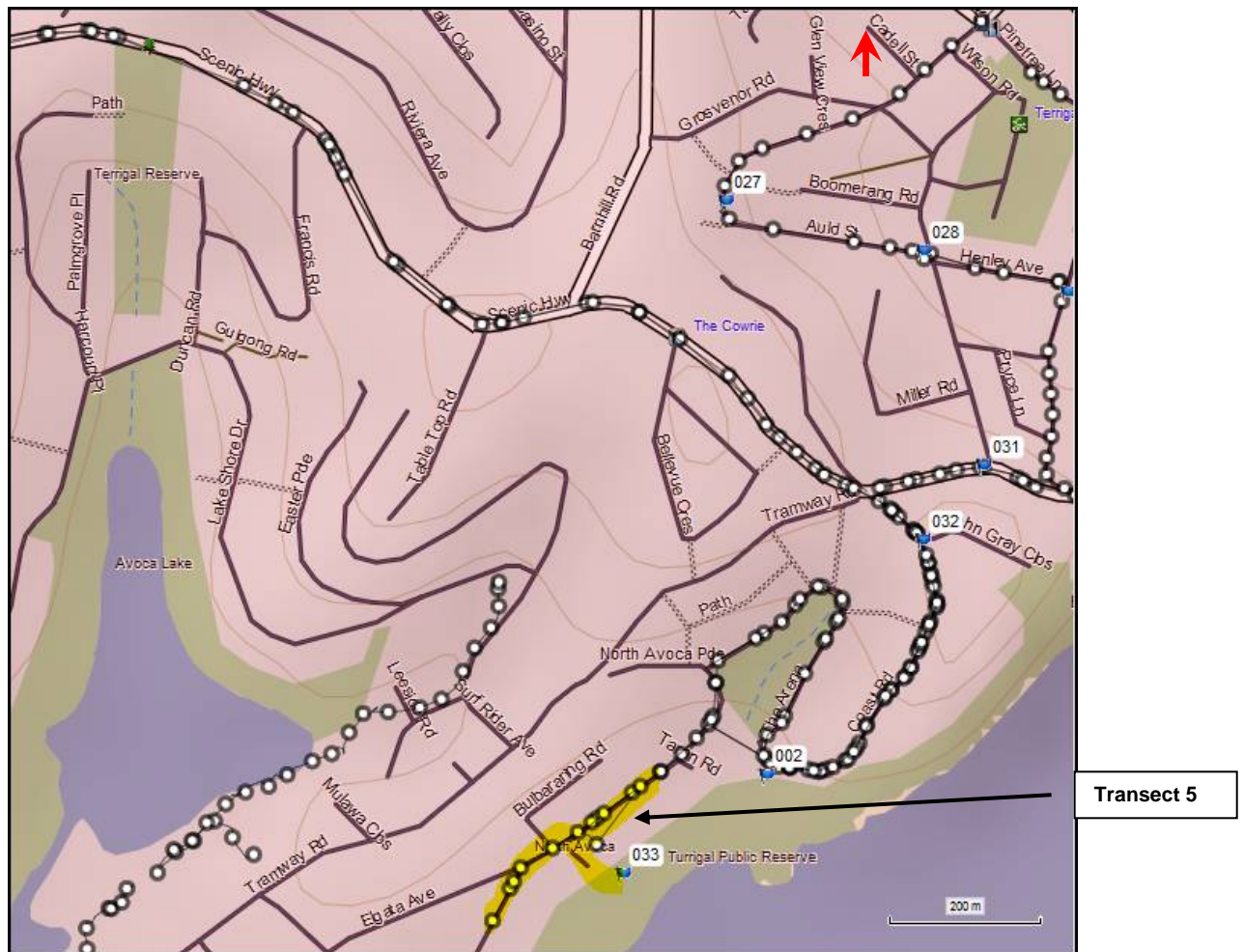


Figure 7: Map shows the approximate location of Transects 5 (high lighted in yellow), driven and walked along the route.

Source: Map Source



Figure 8: Map shows the approximate location of Transects 6 (high lighted in yellow), walked along the route.

Source: Map Source

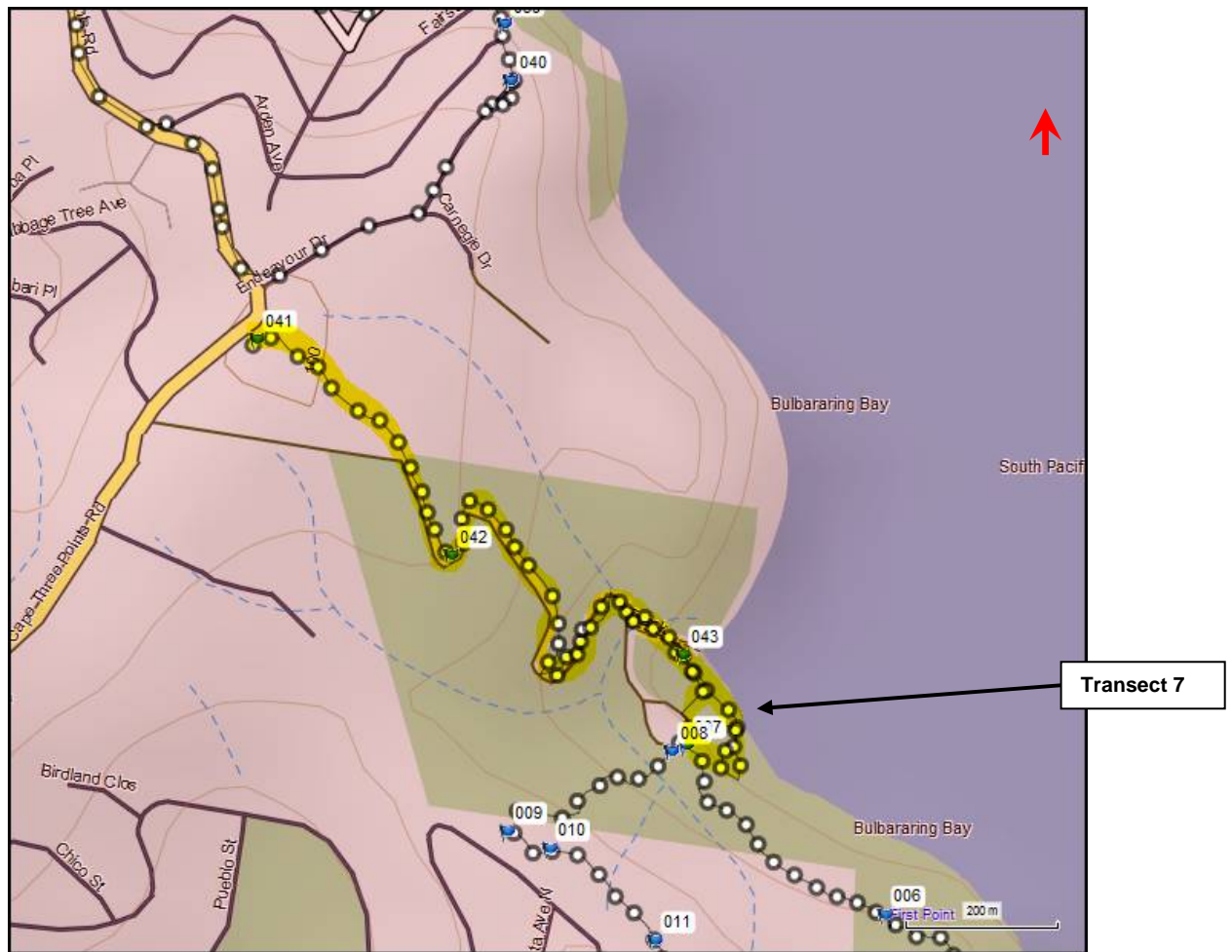


Figure 9: Map shows the approximate location of Transects 7 (high lightered in yellow), walked along the route.

Source: Map Source

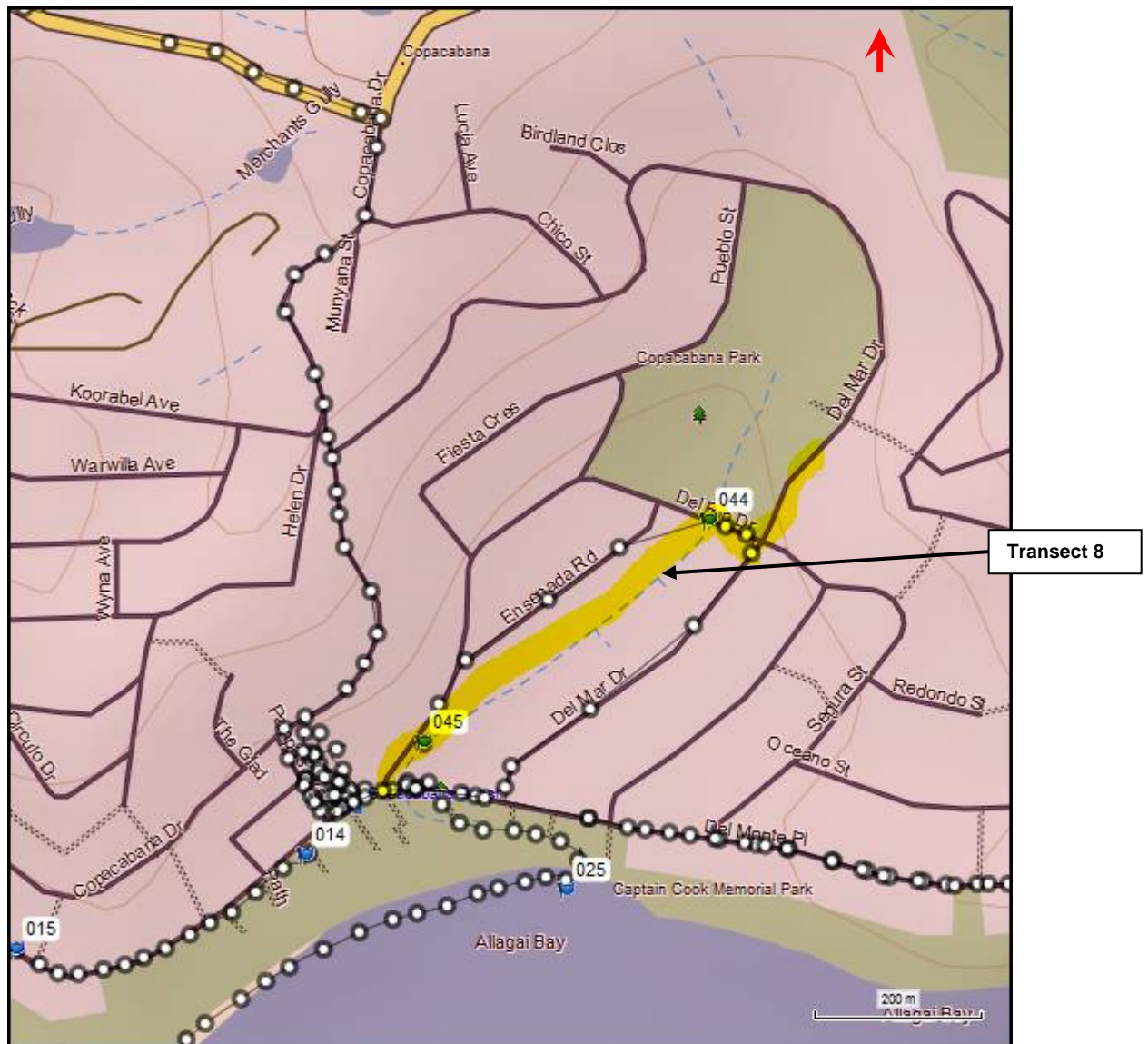


Figure 10: Map shows the approximate location of Transects 8 (high lighted in yellow), walked along the route.

Source: Map Source

10. Photographs.



(Photograph S. Hodgetts)

Figure11: Photograph shows Terrigal Haven to the west, start of Transect 1 (end of 5 Land Walk) part of the 5 Lands Walk route.



(Photograph S. Hodgetts)

Figure 12: Photograph shows the study site, part of Transect 1, Coast Road to North Avoca Beach.



(Photograph S. Hodgetts)

Figure 13: Photograph shows the study site, Transect 1, North Avoca.



(Photograph S. Hodgetts)

Figure 14: Photograph shows the study site, Transect 1, North Avoca Beach.



(Photograph S. Hodgetts)

Figure 15: Photograph shows North Avoca Beach, facing south towards Avoca beach.



(Photograph S. Hodgetts)

Figure 16: Photograph shows part of Transect 2, from Captain Cook lookout Copacabana facing north toward Winney Bay, Avoca and Terrigal



(Photograph S. Hodgetts)

Figure 17: Photograph shows part of Transect 2, from Captain Cook look out Copacabana facing north.



(Photograph S. Hodgetts)

Figure 18: Photograph shows part of Transect 2, from Copacabana facing north, Winney Bay,



(Photograph S. Hodgetts)

Figure 19: Photograph shows Transect 2, from Copacabana.



(Photograph S. Hodgetts)

Figure 20: Photograph shows a Macrozamia with fruit, within a section of Transect 2, Copacabana. The Macrozamia is a edible Bush tucker, but is poisonous if not pre-treated.



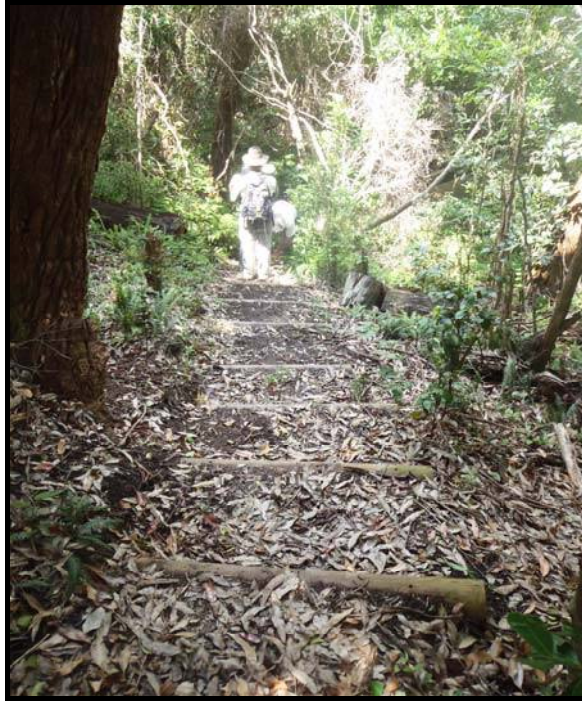
(Photograph S. Hodgetts)

Figure 21: Photograph shows part of Transect 2, Winney Bay.



(Photograph S. Hodgetts)

Figure 22: Photograph shows Transect 2, from Winney Bay heading back up to Copacabana.



(Photograph S. Hodgetts)

Figure 23: Photograph shows part of Transect 2 to Copacabana from Winney Bay



(Photograph S. Hodgetts)

Figure 24: Photograph shows part of Transect 2, crossing a small creek, to Copacabana from Winney Bay.



(Photograph S. Hodgetts)

Figure 25: Photograph shows vegetation within parts of Transect 2, Copacabana from Winney Bay.



(Photograph S. Hodgetts)

Figure 26: Photograph shows parts of Transect 2, Copacabana.



(Photograph S. Hodgetts)

Figure 27: Photograph shows parts of Transect 2, the Bush Fire Assets Protection Zone Copacabana.



(Photograph S. Hodgetts)

Figure 28: Photograph shows Bush Fire Assets Protection Zone Copacabana



(Photograph S. Hodgetts)

Figure 29: Photograph shows parts of Transect 2, Bush Fire Assets Protection Zone Copacabana.



(Photograph S. Hodgetts)

Figure 30: Photograph shows the track existing from the Fire Assets Protection Zone to Captain Cook Look out, Copacabana.



(Photograph S. Hodgetts)

Figure 31: Photograph shows Copacabana Beach, Transect 3.



(Photograph S. Hodgetts)

Figure 32: Photograph shows part of Transect 3, MacMasters Beach from Copacabana



(Photograph S. Hodgetts)

Figure 33: Photograph shows part of Transect 3, Cochrane Lagoon Copacabana.



(Photograph S. Hodgetts)

Figure 34: Photograph shows part of Transect 3, Cochrane Lagoon MacMasters Beach/ Copacabana.



(Photograph S. Hodgetts)

Figure 35: Photograph shows part of Transect 3, MacMasters Beach side of Cochrane Lagoon



(Photograph S. Hodgetts)

Figure 36: Photograph shows western side of Cochrane Lagoon, MacMasters Beach.



(Photograph S. Hodgetts)

Figure 37: Photograph shows part of Transect 3, a track along Cochrane Lagoon MacMasters Beach.



(Photograph S. Hodgetts)

Figure 38: Photograph shows part of Transect 3, MacMasters Beach.



(Photograph S. Hodgetts)

Figure 39: Photograph shows part of Transect 3, Lake side Drive MacMasters Beach.



(Photograph S. Hodgetts)

Figure 40: Photograph shows part of Transect 3, the easement between Three Points Ave and Newell Road MacMasters Beach.



(Photograph S. Hodgetts)

Figure 41: Photograph shows Tudibaring Parade, part of Transect 3, MacMasters Beach.



(Photograph S. Hodgetts)

Figure 42: Photograph shows the access track, to MacMasters Beach part of Transect 3.



(Photograph S. Hodgetts)

Figure 43: Photograph shows part of Transect 3, MacMasters Beach.



(Photograph S. Hodgetts)

Figure 44: Photograph shows part of Transect 3, MacMasters Beach



(Photograph S. Hodgetts)

Figure 45: Photograph shows part of Transect 3, MacMasters Beach.



(Photograph S. Hodgetts)

Figure 46: Photograph shows stairs from MacMasters Beach to MacMasters Beach car park, part of Transect 3.



(Photograph S. Hodgetts)

Figure 47: Photograph shows Gerda Road MacMasters Beach part of Transect 3.





(Photograph S. Hodgetts)

Figure 49: Photograph shows Copacabana Beach and an area which is thought to be a fish trap site



(Photograph S. Hodgetts)

Figure 50: Photograph shows shell material from a potential midden beneath the fore dunes along the eastern section of Copacabana Beach.



(Photograph S. Hodgetts)

Figure 51: Photograph shows a path along Ash Street Terrigal, part of Transect 4, which forms part of the proposed 5 Lands Walk route



(Photograph S. Hodgetts)

Figure 52: Photograph shows North Avoca Beach, part of Transect 5.



(Photograph S. Hodgetts)

Figure 53: Photograph shows North Avoca Beach to Avoca Beach, part of Transect 5.



(Photograph S. Hodgetts)

Figure 54: Photograph shows Avoca Beach looking towards North Avoca Beach part of Transect 6.



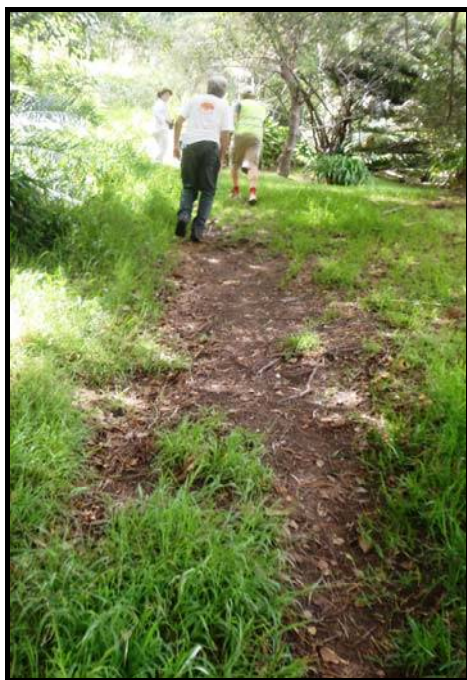
(Photograph S. Hodgetts)

Figure 55: Photograph shows Avoca Beach Surf Club, part of Transect 6. The paved path in the foreground forms part of the 5 Lands Walk route



(Photograph S. Hodgetts)

Figure 56: Photograph shows Transect 6, Avoca Drive, Avoca Beach. This part of the route extends along the road and on to a path which then enters bushland in the back ground of the photograph.



(Photograph S. Hodgetts)

Figure 57: Photograph shows an access track at the end of Avoca Drive/Ascot Ave towards Fairscone Close, part of Transect 6



(Photograph S. Hodgetts)

Figure 58: Photograph shows part Transect 6, facing back towards Avoca Drive/Ascot Ave.



(Photograph S. Hodgetts)

Figure 59: Photograph shows part of Transect 6, between Fairscene Cl and Arden Ave Avoca.



(Photograph S. Hodgetts)

Figure 60: Photograph shows part of Transect 6, between Fairscene Close and Arden Ave Avoca.



(Photograph S. Hodgetts)

Figure 61: Photograph shows part of Transect 6 from Arden Ave Avoca



(Photograph S. Hodgetts)

Figure 62: Photograph shows the path which is part of Transect 6, looking towards Endeavour Drive Avoca Beach.



(Photograph S. Hodgetts)

Figure 63: Photograph shows part of Transect 7. The dirt track access to Winney Bay near Copacabana and forms part of the 5 Lands Walk route



(Photograph S. Hodgetts)

Figure 64: Photograph shows part of Transect 7, access to Winney Bay



(Photograph S. Hodgetts)

Figure 65: Photograph shows part of Transect 7, the sewer out-fall sign, Winney Bay.



(Photograph S. Hodgetts)

Figure 66: Photograph shows shell possibly from a midden site further up the slope of from Winney Bay.



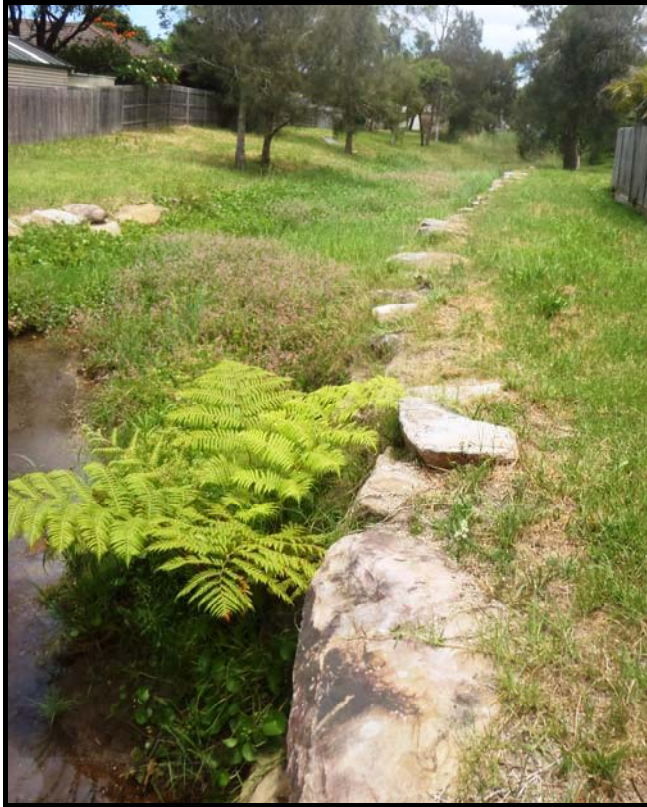
(Photograph S. Hodgetts)

Figure 67: Photograph shows Winney Bay, part of Transect 7.



(Photograph S. Hodgetts)

Figure 68: Photograph shows part of Transect 8, Del Rio Drive Copacabana which forms part of the 5 Lands Walk route.



(Photograph S. Hodgetts)

Figure 69: Photograph shows part of Transect 8, a drainage line (creek) and easement at Copacabana. The proposed 5 Lands Walk will follow this drainage line to the beach.



(Photograph S. Hodgetts)

Figure 70: Photograph shows part of Transect 8, drainage line and easement Copacabana.



(Photograph S. Hodgetts)

Figure 71: Photograph shows part of Transect 8, the end of the drainage line and easement (creek) before it enters Copacabana Beach

11. Fieldwork Results.

[REDACTED]

[REDACTED]. Shell material was also observed to the northern end of Copacabana
[REDACTED]. This material is thought to be part of a midden, possibly an extension
of the site, Copacabana Surf Life Savings Club (45-3-3306).

12. Recommendations.

There is a possibility for objects, or sites of Aboriginal archaeology within the study area. All have Aboriginal Cultural Heritage value. Areas of higher Aboriginal archaeological potential are those areas with minimal disturbance, including certain areas of thick vegetation and areas along the lagoon foreshore and sand dunes.

There is a low possibility for objects or sites of Aboriginal archaeology in the disturbed areas of the study area, particularly along the previous disturbed areas along the road side and the urban zones.

The assessment area has poor ground visibility along most of the route due to the road ways and the thick vegetation and grass ground cover. There are sections along the route with better ground visibility usually along dirt walking tracks and beaches.

Sites in beach side, sand dunes and estuary areas have a high potential to contain Aboriginal shell middens (including the potential for burials), these may have been destroyed in the past, but some can still be located below the soil or sand surface. Areas of rock platforms have the potential to contain rock engraving and rock art sites. Areas of older growth bushland have the potential to contain Aboriginal scare or carved trees, while rock located within creek beds have the potential to contain Aboriginal axe grinding groove sites

The main areas of concern within in the study area are,

- The proposed constructed look outs within Transect 1, (GPS reading 56 H 355172 6296971), Transect 2 (GPS reading 56 H 56 H 355642 6293810) and Transect 3 (GPS reading 56 H 56 H 353765 6292455). These sites could not be adequately assess due to the vegetation cover resulting in poor ground visibility.
 - Transect 3, Copacabana Surf Club registered midden and occupation site, Copacabana Surf Life Savings Club (45-3-3306). Also the northern area of Copacabana Beach fore dunes which contains a continuation of midden, possible extending from under the surf club (GPS reading 56 H 354560 6293153).
- Transect 4, MacMasters Beach Surf Life Saving Club (GPS reading 56 H 353659 6292321), registered midden site, MacMasters Beach Burial (45-6-2582).
- Transect 8, Winney Bay foreshore, possible midden site (GPS 56 H 355277 6294212).
 - Any areas within sand dunes, any areas with minimal disturbance, intact vegetation and landscape.

Therefore considering the points above the following is recommended, that the study site be monitored for Aboriginal archaeology when vegetation clearing and earth works begin on the sites in high potential areas such as those suggested above. Sections of the walking route that are within close proximity to any known or register sites should have a reasonable buffer zone such as fencing during the time of walk or any associated works. Earth works should be undertaken in a judicious manner until the subsoil profile and any inclusions can be determined, this is because of the potential for Aboriginal shell midden and burials and isolated artefacts to be located in the area.

Employee's, contractors, and personnel employed and contracted by Gosford City Council as part of the construction of the proposed 5 Lands Walk, constructed lookouts and associated infrastructure should receive basic training in the recognition of Aboriginal archaeological material and have an awareness of the importance of such material and places to both the Aboriginal, and non Aboriginal, community. They should also be made aware of the legal implications of removal, disturbance and damage to any Aboriginal people's material and sites.

When vegetation clearing or earth work activities are conducted, workers should be observant and keep a look out for surface shell, bone, charcoal, stone tools, or any other artefact material. If any Aboriginal artefact material is found, the area should be avoided until a suitably qualified person, such as a Cultural Heritage Officer from Darkinjung Local Aboriginal Land Council, or Archaeologist, can investigate the material further. When any Aboriginal artefact material or sites are discovered the NSW Department of Environment Climate Change and Water (DECCW) and Darkinjung Local Aboriginal Land Council should be notified.

Overview of recommendation;

1. Monitoring and inspection for Aboriginal archaeology in the high potential areas of the proposed works, associated with the 5 Lands Walk. This should be carried out by a suitably qualified person such as a Cultural Heritage Officer from Darkinjung Local Aboriginal Land Council during site preparation and construction, including vegetation clearing and earth works.
2. Potential areas such as the proposed constructed lookouts within Transects 1, 2 and 3 should be inspected and monitored at the time of vegetation clearing.
3. The possible midden site at Winney Bay, any works in this location should be inspected and monitored.
4. Any works in close proximity to areas along the sand dunes or areas with minimal disturbance, intact vegetation and landscape should be inspected and monitored.

5.



6. Any earthworks are to be carried out in a cautious manner until the subsoil profile and any inclusions can be determined.
7. Gosford City Council's, employees, contractors and personnel should receive basic training in the recognition of Aboriginal archaeological material.
8. If Aboriginal archaeological material is found, the area should be avoided by construction and development personnel and equipment until a suitably qualified person, such as a Cultural Heritage Officer from Darkinjung Local Aboriginal Land Council or Archaeologist can investigate the material further
9. Notification of the NSW Department of Environment and Climate Change and Water (DECCW) and Darkinjung Local Aboriginal Land Council when any artefact material or sites are discovered.

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UBD Street Directory. 2006, Central Coast from Morisset to Mooney Mooney Street Directory, 16th Edition,

Acknowledgments

Allan William and Lisa Newel Archaeological Heritage Management Systems (AHMS)

Chris Lear Gosford City Council
Tracy Howie, Kyle Howie and David Pross Guringai Tribal Link Aboriginal Corporation (Guringai TLAC)

Darkinjung Local Aboriginal Land Council, Wyong NSW

Guringai Tribal Link Aboriginal Corporation



Guringai Tribal Link

Aboriginal Corporation

ABN 18 351 198 069. ICN 4270

(Traditional Owners of the NSW Central Coast)

PO Box 4061,
Wyongah NSW 2259

Phone: (02) 4396 8743

Fax: (02) 4396 9525

Mobile: 0404 182 049

Email: tracey@guringai.com.au

4th February, 2011

Alan Williams
Archaeologist
Archaeological and Heritage
Management Solutions. Pty.Ltd.
Emailed to: alan@arksolutions.com.au

Dear Alan,
Please find following;
* GTLAC report for 5 Lands Walk, MacMaster's Beach to Terrigal, NSW.

Thank you for including the Guringai Mob in this project.
We look forward to working with you in the future.

Tracey-lee Howie
Chairperson
Female Cultural
Heritage Officer
(contacts above)

ABORIGINAL CULTURAL HERITAGE
IMPACT ASSESSMENT REPORT
FOR
5 LANDS WALK
MacMASTER's BEACH to TERRIGAL
GOSFORD, NSW.

Prepared by Guringai Tribal Link Aboriginal Corporation.

INTRODUCTION:

Guringai Tribal Link Aboriginal Corporation(GTLAC) was contacted by Archaeological and Heritage Management Solutions, Pty.Ltd, (AHMS) on behalf of Gosford City Council, for our participation in an Aboriginal Cultural Heritage Impact Assessment for the 5 Lands Walk, from MacMaster's Beach to Terrigal, NSW.

This assessment was to establish the presence or absence of Aboriginal materials/artefacts, scar trees, rock engravings, camping/hunting areas and areas of Cultural significance, to assess potential impacts to them if any proposed improvements to the walking track and the construction of viewing platforms be ventured.

STUDY AREA:

The study area is within the Gosford Local Government Area, consisting of a walking track approx. 9kms in length, continuing through, Terrigal, North Avoca, Avoca, Copacabana and MacMaster's Beach, known as the 5 Lands Walk. Additional areas outside the existing track route were also surveyed, to allow for minor alternate routes for easier accessibility.

METHODOLOGY:

The survey was conducted on foot through the undeveloped sections, Public property and road verges along the track.

Representatives for GTLAC were, Tracey Howie, Kyle Howie and David Pross.

HISTORICAL INFORMATION:

The study area for the 5 Lands Walk, has been and still is, home to the Guringai speaking Mob (Wanangini), for generations and seasonally occupied in various locations by the Darginyung and Awaba peoples. Pre and post European settlement.

Well known and documented members of the Guringai mob were; Boongaree, Matora, Mosquito, Jewfish, Cora(Gooseberry), Flathead, Long Dick, Sophy (Booratora), Kitty and Charlotte Ashby.(nee.Webb).

Thier presence in this area was initially recorded pre 1790. References to these Guringai speaking people are located on Government Blanket list and Court Bench records taken in the Gosford/Wyong areas and Colonial Secretary minutes, which are held at Gosford City Library and early recordings from surveyors John Fraser,Chappell, Felton & Sarah Matthews, journals written by Rev.L.E.Threlkeld, Rev. Glennie, Matthew Flinders, Augustus Earl, R.H Mathews, and current AIATSIS maps.

The traditional areas occupied by the Guringai speaking comprises of; All of Port Jackson catchment, including

the tributaries of Middle Harbour and Lane Cove River, the Broken Bay catchment, including tributaries of Brisbane Water, Cowan Creek and Pitt Water, the water shed along Peats Ridge, following along the range through to Kulnura, as well as the Lakes of the Central Coast to lower Lake Macquarie.

Guringai - People of the Coast.

Darginyung - People of the Ranges

Darug - People of the Plains. (as described by J.Fraser 1892)

Charlotte Webb was the very first recorded Aboriginal birth on the Central Coast. She was born in 1823 in Gosford. Charlotte was the daughter of Sophy (Booratora), daughter of Boongaree (Bungaree) and Matora. Sophy mothered a child to Ship-building merchant, James Webb. Charlotte was the result of this union.

Well known and documented Aboriginal man of Brisbane Waters, was Billy Faulkner. His presence was initially recorded on the Central Coast in the 1860's. Billy Faulkner was found drowned in Tuggerah Lake in 1875.

Well known and documented Darginyung (Wollomi) woman, was Sophie Newman. Her presence was first recorded on the Central Coast in the 1860's. Descendants of Sophie settled here and some descendants are still living within the Wyong Shire today.

Well known and documented Aboriginal couple were, Ned and Margaret. They were known as King Ned and Queen Margaret of the Awaba. Prior to this union, Margaret lived on Tuggerah Lakes with her Guringai families. A traditional union of the Awaba and Walkaloo clans of the Wanangini. Descendants of Ned and Margaret are still living in parts of the Central Coast and Lake Macquarie today.

FINDINGS:

No Aboriginal artefacts or objects of significance were noted along the route at the time of this survey. Previously recorded Aboriginal sites (#45-6-2582 & #45-3-0581) and potential midden material at Winney Bay were identified at the time of this survey.

PROPOSED PROJECT:

Gosford City Council (GCC) are utilising the results of this survey to construct a Master Plan. GCC's 5 Lands Walk Master Plan will include infrastructure (viewing platforms and stairs) proposals and improvements to the existing track, to encourage tourism to the annual event.

Proposed infrastructure includes, wooden steps on poles leading to a viewing platform on the North Avoca headland to allow for wheelchair access. A crushed sand stone pathway to a width of approx. 1.5mts, with a wooden border, improvements to the existing carpark and viewing platform at the Captain Cook Lookout, Copacabana.

See attachments following.

RECOMMENDATIONS:

GTLAC recommend, in conjunction with continued consultation with GTLAC that;

Those persons responsible for the management of any works on site for the proposed upgrades and associated activities, will ensure that all staff, contractors and others involved in the development and maintenance related activities are informed of and fully understand the Statutory Legislations protecting Aboriginal sites, Aboriginal objects and Places of Significance to the Aboriginal Community.

Should any Aboriginal sites/objects be located during the processes of any proposed works, work must cease in that area and the Department of Environment and Climate Change & GTLAC are to be notified immediately.

Should any skeletal remains be unearth during any works or associated activities, all work must cease immediately within that vicinity and the NSW Police, DECCW, NSW Coroner's Office and GTLAC are to be contacted.

Section 90(1) of the National Parks and Wildlife Act, 1974 states that it is an offence to destroy, deface or damage, or cause or permit destruction or defacement of or damage to, an Aboriginal object or Aboriginal place without first obtaining the consent of the Director General of the Department of Environment, Climate Change and Water.

Attachment 1.



Pic #1

*Route transect through heavily disturbed area,
MacMaster's Beach.*



Pic #2

*Proposed area for stairs and viewing platform.
Northern end of Avoca beach*



Pic #3

*Potential midden material.
Winney Bay.*





Pic #5

*Portion of transect surveyed between Ascot Cres
and Fairscene Ave Nth Avoca.*



Pic #6

*North to south view of Captain Cook Lookout from
Winney Bay.*



Pic #8

West to east view of Cockrane Lagoon.

This report was written by Tracey Howie, Senior Female Cultural Heritage Officer, Guringai Tribal Link Aboriginal Corporation. PO Box 4061, Wyongah, NSW, 2259.

Should you have any queries about this report and the information contained in it, please don't hesitate to contact me on 0404 182 049 or 4396 8743. email: tracey@guringai.com.au.

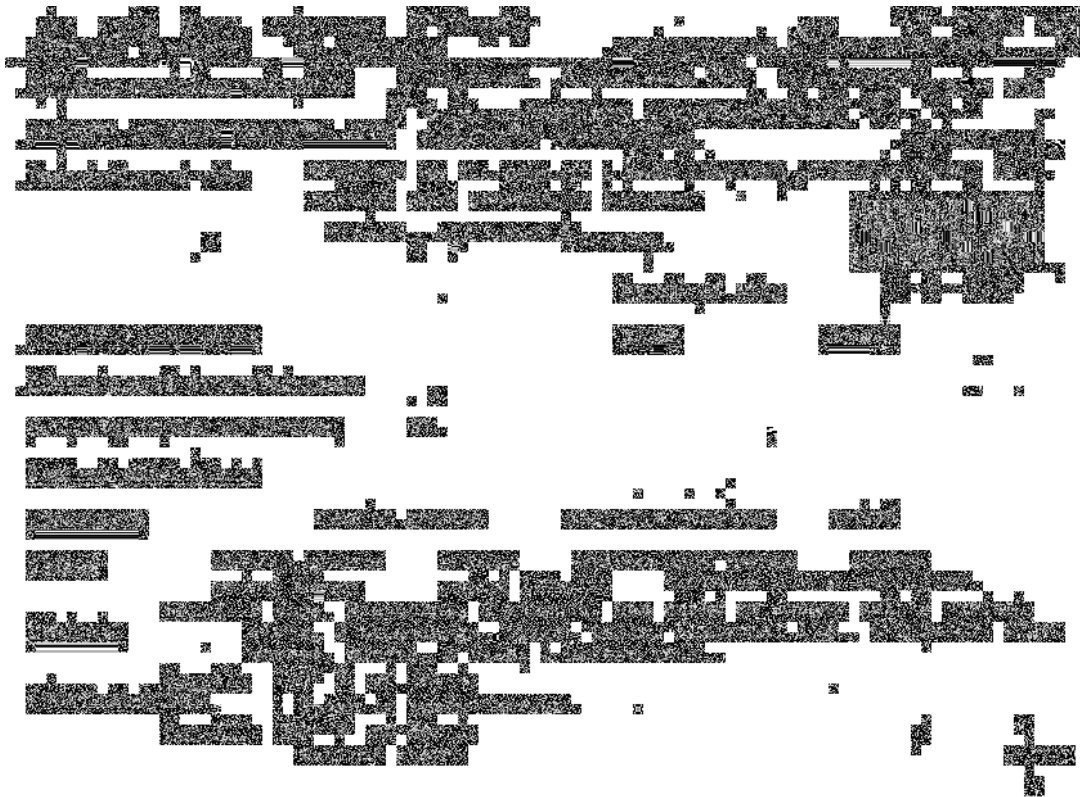
Kevin Duncan & Potory Minbee Aboriginal Elders Group

Hi Fenella, sorry for the late reply in relation to the Draft Report on the Aboriginal Cultural Heritage Assessment of the 5 Lands Walk, Macmasters Beach to Terrigal. After reading over the draft recommendations of the report Potory Minbee Aboriginal Elders Group and I are satisfied with the final outcome and proposals in regards to the identification preservation and protection of existing Aboriginal Heritage sites located along the proposed walking trail. However when construction does take place along the track we would like to be present in areas of high concern for example ,Midden sites, dune areas etc. We would also like to be notified if the possibility of any artefacts are uncovered or found during excavations as work should immediately cease until we are satisfied that all has been recovered. We don't have any concerns in relation to the Draft report being on public display as long as our Heritage sites are not listed to the general public [REDACTED] as this could raise concerns to vandalism as it has occurred before in our Darkinjung region. We would like to thank Archaeological and Heritage Management Solutions PTY, LTD for their work effort and consultation process in preparing this draft report,

Sincerely, In Unity, Kevin Duncan & Potory Minbee Elders Group.

APPENDIX B - AHIMS SITE CARDS

45-3-0313



Associated with

rock paintings
axe grooves
campsite

carved trees
quarry
other relics

stone arrangements
burials

Natural defacement

Animal defacement

Human defacement

Photo record by

Where deposited

Scale chart by F.D.McCarthy & F.L.S.Bell, 1946. Where deposited A.I.A.S.

History

Aboriginal meaning and name

McCarthy 1942, 43, Cat. 7146. Relics of NSW. Part 1. Rock Engraving.
Mankind, III, 3, no. 273.

Published reference McCarthy, Mankind, V, 3, 1954, 31-2, fig. 11.

Remarks C-2073
Informed by: W.J. Walton, Aug. 1940. C.W. Borres, 1944.

Sim's AIRS Report, site 1/4

45-3-0580

SYDNEY
AVOCA BEACH TO BATEAU BAY. TERRIAL Locality 45-3-580
OPEN (midden)

Military map/other reference Sydney 1:250.000.SI/56-5 Gosford-Norahville 1:63.360.437668

Pastoral or other property, park Crown Land. SYDNEY 1:250,000 REF 44398689

Suburb, street, number

Description of site The coast consists of a series of heads (sandstone reefs jutting out to sea, topped by high peaks chiefly formed by hard sand/clay) connected by beaches (backed by high scrub-covered dunes or lagoons locked behind sand barriers). Middens were few, possibly hidden by dune flora. Remnants of middens in old soil/sand, containing fragmentary shells at this map reference.

Length Width

Soil and vegetation on and adjacent to site The sand dunes are high, and away from the waters edge support a poor but abundant coastal plant community.

Nearest water supply

Erosion, cultivation or other works Building of homes along this coral line has probably destroyed some of campsites.

Assemblages

Implement types

Site collection deposited

<u>Associated with</u>	rock engravings	rock paintings	carved trees
	stone arrangements	axe grooves	quarry
	fireplaces	burials	other relics

Photo record by Where deposited

Scale chart by Where deposited

History Recorded by E.Stockton

Aboriginal meaning and name

Published reference E.Stockton "A Ceantral Coast Survey" submitted to AIAS newsletter

Remarks The cultural material, both artifacts and campsites are scarce on this stretch of coastline, possibly because they have been built on or because they were located on shores of lagoons or behind sand dunes (now heavily scrub-covered). Great antiquity can be assumed for middens at 453664 and 470703 and the "sumatraliths" at 469702 and 494730 because of this situation sealed in old soil deposits.

157

45-3-0582

(S) (JL) 7151 31/56-5 SYDNEY. 45-3-0582
AVOCA BEACH TO BATEAU BAY. WAMBERAL POINT. Locality OPEN (FLAKE SCATTER)

Military map/other reference Sydney 1:250,000.SI/56-5 Gosford-Norahville 1:63,360.455689

Pastoral or other property, park Crown Land. This should be 455689 from report. Dot at 455689

Suburb, street, number SYDNEY 1:250,000 REF.44568689

Description of site The coast consists of a series of heads (sandstone reefs jutting out to sea, topped by high peaks chiefly formed by hard sand/clay) connected by beaches (backed by high scrub-covered dunes or lagoons locked behind sand barriers). Middens were few, possibly hidden by dune flora. Remnants of middens in old soil, sand, containing fragmentary shells. Isolated flaked implements occurred as indicated.
Flaked implements at 455689

Length Width

Soil and vegetation on and adjacent to site The sand dunes are high, and away from the water's edge, support a poor but abundant coastal plant community.

Nearest water supply

Erosion, cultivation or other works Building of homes along this coral line has probably destroyed some of campsites.

Assemblages

Implement types 2 serrated flakes found on the surface at 457668, 455659. 45668 + 455689 - in report

Site collection deposited

<u>Associated with</u>	rock engravings	rock paintings	carved trees
	stone arrangements	axe grooves	quarry
	fireplaces	burials	other relics

Photo record by Where deposited

Scale chart by Where deposited

History Recorded by E. Stockton.

Aboriginal meaning and name

Published reference E. Stockton "A Central Coast Survey" submitted to AIAS newsletter.

Remarks The cultural material, both artifacts and campsites, are scarce on this stretch of coastline, possible because they have been built on or because they were located on shores of lagoons or behind sand dunes (now heavily scrub-covered). Great antiquity can be assumed for middens at 453664 and 470703 and the "sumatraliths" at 469702 and 494730 because of this situation sealed in old soil deposits.

45-3-0583

(S) (IL) 7181 31/56-5 SYDNEY. 45-3-583
(AVOCA BEACH TO BATEAU BAY) TERRIGAL Locality OPEN (ISOLATED FINDS)

Military map/other reference Sydney 1:250.000.SI/56-5 Gosford-Norahville 1:63.360.457668

Pastoral or other property, park Crown Land. 25K. 5443-63960

Suburb, street, number SYDNEY 1:250,000 REF. 4459-8663

Description of site The coast consists of a series of heads (sandstone reefs jutting out to sea, topped by high peaks chiefly formed by hard sand/clay) connected by beaches (backed by high scrub-covered dunes or lagoons locked behind sand barriers). Middens were few, possibly hidden by dune flora.

Isolated flaked implements occurred at 457668

Length

Width

Soil and vegetation on and adjacent to site The sand dunes are high, and away from the waters edge support a poor but abundant coastal plant community.

Nearest water supply



45-3-0583

Erosion, cultivation or other works Building of homes along this coral line has probably destroyed some of campsites.

Assemblages 2 serrated flakes found on the surface at 457668.455659-455689

Implement types

(455689 - in A.I.A.S. Report),
458668 & 455689

Site collection deposited

<u>Associated with</u>	rock engravings	rock paintings	carved trees
	stone arrangements	axe grooves	quarry
	fireplaces	burials	other relics

Photo record by

Where deposited

Scale chart by

Where deposited

History Recorded by E.Stockton

Aboriginal meaning and name

Published reference E.Stockton "A Central Coast Survey" submitted to AIAS newsletter.

Remarks The cultural material, both artifacts and campsites, are scarce on this stretch of coastline, possibly because they have been built on or because they were located on shores of lagoons or behind sand dunes (now heavily scrub-covered). Great antiquity can be assumed for middens at 453664 and 470703 and the "sumatraliths" at 469702 and 494730 because of this situation sealed in old soil deposits.

Aboriginal Sites Register IDENTIFIED DATABASE ERROR



For use when errors are identified in existing database fields. Please include errors in information and any spelling errors.

Site number: 45-3-583 (Minark database Z-)

Field/variable	Current database value	Confirmed/ revised value	Reasons/supporting notes
eg. AMG Easting	236000	323600	Leading digit (3) left off original grid reference. Location checked against map reference.
Amyn	63	62	Amyn was wrong should of been 6296000

Additional comments:

Submitted by: [Signature] Date: _____

***Office use only	
Update number: _____	Type: _____
Approved by: _____	Date: _____
Entered by: _____	Date: _____

Return to: Cultural Heritage Services Division, NPWS, PO Box 1967, Hurstville, 2220

45-3-0584

(S) (II) 4131 SI/56-5 SYDNEY.

(AVOCA BEACH TO BATEAU BAY) THE SKILLION

Locality

45-3-584
OPEN (MIDDEN)

Military map/other reference Sydney 1:250,000.SI/56-5 Gosford-Norahville.1:63.360.458664

Pastoral or other property, park Crown land

Suburb, street, number

SYDNEY 1:250,000 REF. 44598659

Description of site The coast consists of a series of heads (sandstone reefs jutting out to sea, topped by high peaks chiefly formed by hard sand/clay) connected by beaches (backed by high scrub-covered dunes or lagoons locked behind sand barriers) Middens were few, possibly hidden by dune flora.

This site had remnants of middens in old soil/sand, containing fragmentary shells. (skillion)?

Length

Width

Soil and vegetation on and adjacent to site The sand dunes are high, and away from the waters edge support a poor but abundant coastal plant community.



45-3-0584

Nearest water supply

Erosion, cultivation or other works Building of homes along this coral line has probably destroyed some of campsites.

Assemblages

Implement types



Site collection deposited

Associated with

rock engravings
stone arrangements
fireplaces

rock paintings
axe grooves
burials

carved trees
quarry
other relics

Photo record by

Where deposited

Scale chart by

Where deposited

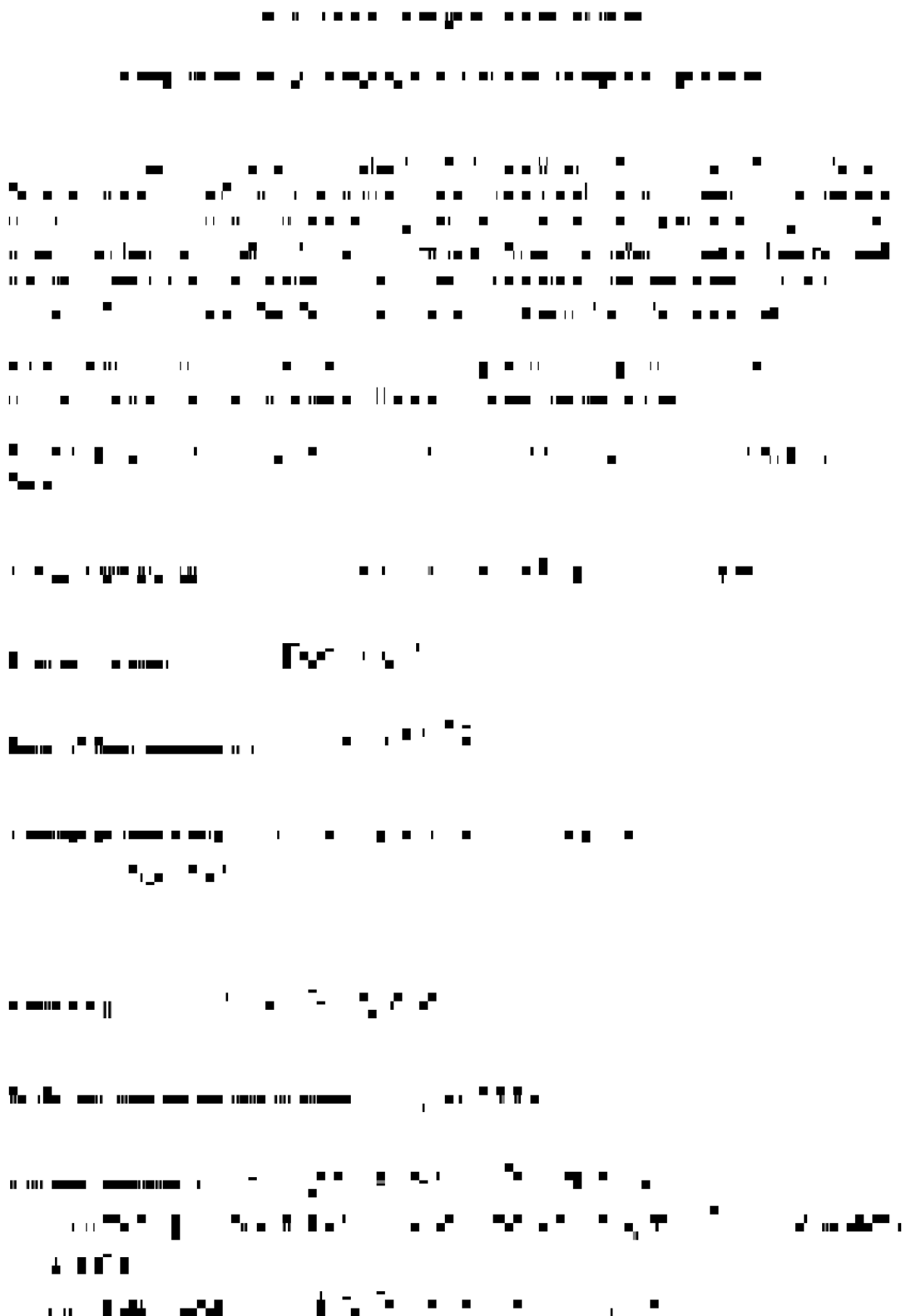
History Recorded by E. Stockton.

Aboriginal meaning and name


Published reference

E. Stockton "A Central Coast Survey" submitted to AIAS newsletter
AIAS Newsletter Vol. 3, No. 5, November 1972

Remarks The cultural material, both artifacts and campsites, are scarce on this stretch of coastline, possibly because they have been built on or because they were located on shores of lagoons or behind sand dunes (now heavily scrub-covered). Great antiquity can be assumed for middens at 453664 and 470703 and the "sumatraliths" at 469702 and 494730 because of this situation sealed in old soil deposits.




45-3-0585

<u>SYDNEY</u> 4131 51/56-5 SYDNEY		45-3-0585	
<u>(BROKEN HEAD, TERRIGAL)</u> <u>THE SKILLION</u>		Locality	ROCK ENGRAVINGS
<u>Military map/other reference</u> Sydney 1:250.000.SI/56-5.Gosford-Norahville 1:63.360			
<u>Pastoral or other property, park</u>			(c.460667)
<u>Description of site</u>		SYDNEY 1:250,000 REF. C.4460-8661	
		<u>Length of site</u>	
		<u>Width</u>	45-3-0585
<u>Direction site faces</u>		<u>Height</u>	
<u>Dimensions of decorated areas</u>			
<u>Estimated number of figures</u>			
<u>Nearest water supply</u>			
<u>Techniques</u>	abraded grooves	conjoined puncture	pecked
<u>Styles</u>	abraded grooves pecked linear	outline pecked intaglio	outline with design combined pecked and linear
<u>Subjects</u>	koala with young on back, club, three-pronged spear, boomerangs, wallaby etc		
<u>Superimpositions</u>			

45-3-0724

REGISTER COPY

1. Map Name	Sydney	Goford	5. Site No.	45-3-724
2. Scale	1:250,000	1:63,360	6. Site type	Guiding grooves
3. Grid ref	c.44538617	c.451618	7. Classification	0
4. Site name(s)	First Point / Bulbarung Trig.			
8. Air photo ref				
9. Cadastral				
10. Land Status				
11.				
			 45-3-0724	
12. Directions for site relocation				
Near the trig, north of McMaster's Beach.				

13. Owner	14. Tenant/Manager
Address	Address
Attitude	Attitude

15. Site Description
Sun could not find the reported grooves nor any local information on them

16. Reasons for investigation
17. Condition
18. Interpretation
19. Visitation
20. Recommendations

45-3-3306



Aboriginal Sites Register of NSW

NPWS, PO Box 1967, Hurstville NSW 2220

Standard Site Recording Form

New Recording ☐ Additional ☐

information ☒

SITE IDENTIFICATION					
Site name	Copacabana SLC			NPWS Site Number	45-3-3306 45-3-3306
Owner/manager	Gosford City Council				
Owner Address	P.O. Box 21, Gosford NSW 2250				
LOCATION					
Location	Immediately west of the Copacabana Surf Life Saving Club				
How to get to the site	The site is located off Del Monte Place on the western edge of the site of the Copacabana Surf Life Saving Club				
1:250,000 map name	Sydney			NPWS map code	
AMG Zone	56	AMG Easting	354205	AMG Northing	6293015
Method for grid reference	Topographic map	Map scale (if method = map)	1:25,000	Map name	Gosford
NPWS District Name (see map)	Central Coast			NPWS Zone (see map)	Northern Zone
Portion no.				Parish	
SITE DESCRIPTION					
Site type(s)	Sub-surface open artefact scatter			Site type code (NPWS use only)	
Description of site and contents CHECKLIST: eg. length, width, depth, height of site, shelter, deposit, structure, element eg. tree scar, grooves in rock. DEPOSIT: colour, texture, estimated depth, stratigraphy, contents-shell, bone, stone, charcoal, density & distribution of these, stone types, artefact types. ART: area of decorated surface, motifs, colours, wet/dry pigment, engraving technique, no. of figures, sizes, patination. BURIALS: number & condition of bone, position, age, sex, associated artefacts. TREES: number, alive, dead, likely age, scar shape, position, size, patterns, axe marks, regrowth. QUARRIES: rock type, debris, recognisable artefacts, percentage quarried	<p>The presence of site Copacabana SLC was identified during the PRP investigation of an area of PAD (Copacabana SLC PAD) identified during the Aboriginal heritage assessment for the upgrade of the Copacabana Surf Life Saving Club. The PRP investigation involved the drilling of 21 auger holes over the remnant dune to the west of the existing surf life saving club. The auger holes were placed at 5 metre intervals along four transects. Auger holes were drilled to a maximum depth of 3.8 metres.</p> <p>Three Aboriginal stone artefacts were recovered from the auger holes, one each in auger holes B5, B3 and C3. All three of the artefacts were identified in or at the transition of white sand which is located below yellow sand that comprises the top 1.5 to 2 metres of the site. A piece of plastic was recovered from the transition between the white sand and yellow sand indicating that the deposition of the yellow sand occurred within the last 100 years. The presence of three Aboriginal artefacts in the auger holes indicates an artefact density of up to 121 artefacts/m² may be present beneath the dune surface.</p> <p>Attach photographs and sketches, eg. plan & section of shelter. Do NOT dig, disturb or damage site or contents.</p>				
Version: June 1998		Data entered by:		Date entered:	

Aboriginal Sites Register of NSW

SITE ENVIRONMENT

Site Name			
Location			
Map Reference			
Geological	Vegetation		
Soil	Water		
Climate	Other		

SITE MANAGEMENT

Site Number			
Site Type			
Site Status			
Site Description			
Site Management			
Site Access			
Site Use			
Site Protection			
Site Research			
Site Conservation			
Site Monitoring			
Site Reporting			
Site Review			



DARKINJUNG LOCAL ABORIGINAL LAND COUNCIL

SHOP 3, 61 HOWARTH STREET, WYONG
POSTAL ADDRESS:
P.O. BOX 401, WYONG NSW 2259
A.B.N. 99 583 297 167

TELEPHONE: (02) 4351 2930
FAX: (02) 4351 2946
EMAIL: darkinjung@dlalc.org.au

Mr Michael Therin
3 The Circle
Jannali NSW 2226

Dear Michael,

Re: SEC 90 with salvage at Copacabana

The land council would like to request that an application for a Sec 90 with salvage be made for the site at Copacabana.

The land council basis this request on the investigations carried out at the site in July 2006, with yourself and representatives of the Guringai Tribal Owners.
It is at this time three stone flakes were discovered in three separate test holes.

This indicates to us that this site is significant and we would request that we be able to place in a suitable keeping place any further artefact materials that will be uncovered in the excavation of the site.


We look forward to your response

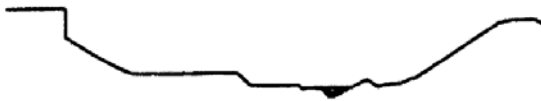
Regards

Jodi Cameron

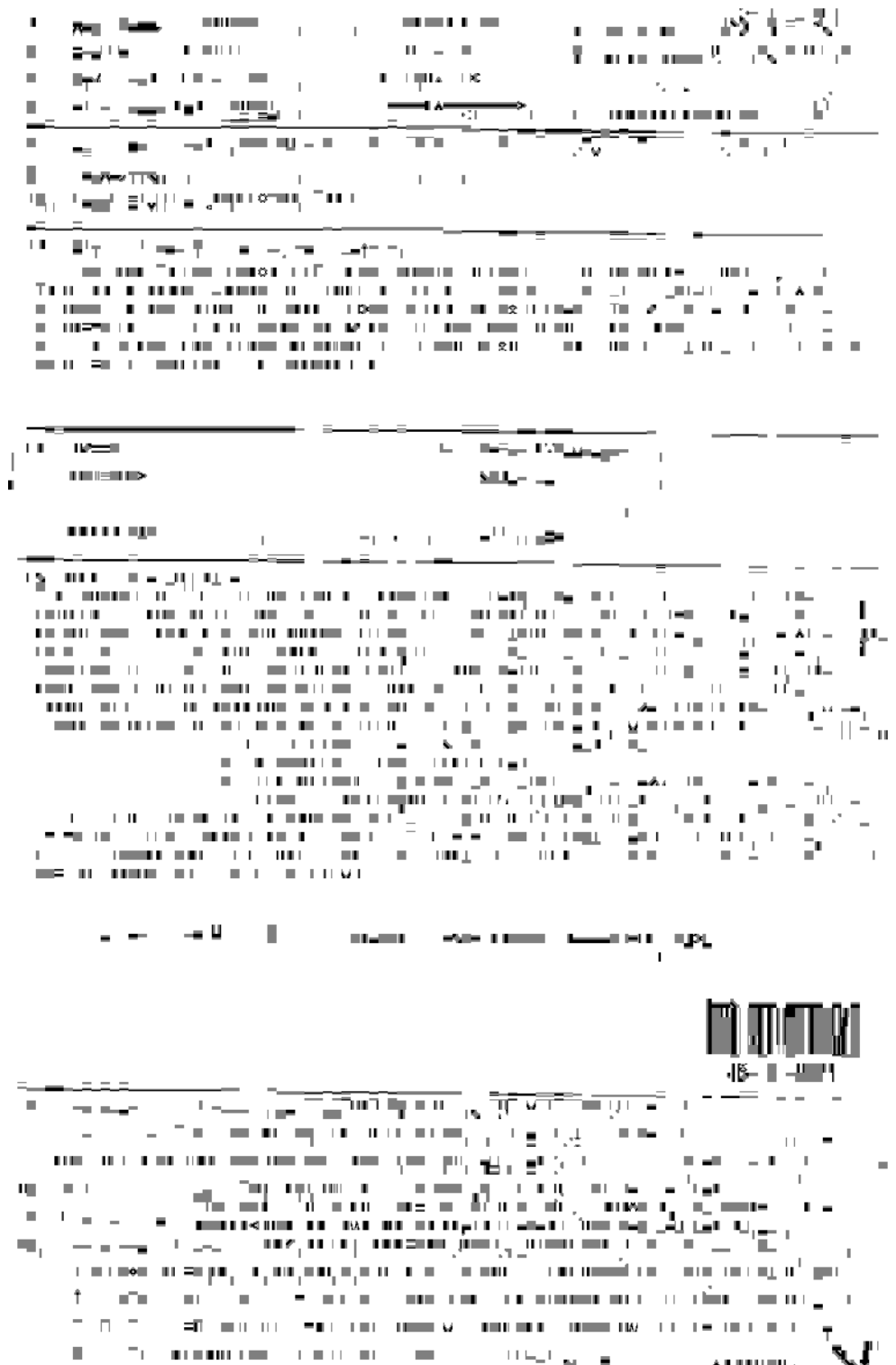
45-3-3357

[✓] New recording [] Additional Info

 National Parks and Wildlife Service Box 1967, Hurstville NSW 2220. Tel: (02) 9585 6444 Standard Site Recording Form Revised 5/88												
1:250,000 map sheet: _____ NPWS Code: _____ AMG Grid reference: <table border="1"><tr><td>3</td><td>5</td><td>4</td><td>4</td><td>6</td></tr></table> mE <table border="1"><tr><td>6</td><td>3</td><td>0</td><td>0</td><td>2</td><td>0</td></tr></table> mN Full reference - please include leading digits Scale of map used for grid reference: [✓] 25K, 50K (preferred) [] 100K [] 250K Please use largest scale available 1:25K, 50K, 100K map name: GOSFORD 9131-2S		3	5	4	4	6	6	3	0	0	2	0
3	5	4	4	6								
6	3	0	0	2	0							
HEAD OFFICE USE ONLY: NPWS Site no: 45-3-3357 Site types: OW3-A Accessed by: E. Day Date: 4.6.08 Date entered by: _____ Date: _____ Owner/Manager: Terrigal Memorial Golf Club Address: _____												
Site name: OW3-A Locality/property name: Terrigal Memorial Golf Club NPWS District: _____ Region: Central Coast												
Reason for investigation: Energy Australia is proposing to upgrade their 132 Kilovolt (kV) feeder between Ourimbah and a new substation at Wamberal, near Gosford on the Central Coast of NSW.												
Portion no: _____ Parish: Tuggerah Photos taken? Yes How many attached? Nil												
How to get to the site (refer to permanent features, give best approach to site eg. from above, below, along cliff. (Draw diagram on separate sheet.) The site measures approximately 50 m north-south by 20 m east-west, and lies immediately east of a green, within the Terrigal Memorial Country Golf Club grounds, north of Terrigal Lagoon, Wamberal. The site can be accessed by a public walkway directly west of the junction between Plymouth Dr. and Hilltop Road, Wamberal.												
Other sites in locality? Yes Site Types include: Artefact scatters, grinding grooves, middens, burials Are sites in NPWS Register? Yes Have artefacts been removed from site? No When? Deposited where? By whom?												
Is site important to local Aborigines? Yes Kevin Duncan Tracey-Lee Howie, Give contact(s) name(s) + address(es) Darkinjung Local Aboriginal Land Council, Guringai Tribal Link Corporation Shop 3, 61 Howarth Street 19 Coolabah Rd Wyong NSW 2259 Wronah NSW 2259 Contacted for this recording? Yes (Attach additional information separately) If not, why not?												
Verbal/written reference sources (including full title of accompanying report) NPWS Report Catalogue # Kuskie, P.J. and C. Ingram, 2007 An Aboriginal Heritage Impact Assessment of Energy Australia's Ourimbah to Wamberal Electricity Transmission Project, Central Coast, NSW.												
Checklist: surface visibility damage/disturbance/ threat to site	Condition of site: There has been substantial disturbance through clearing of native vegetation, infrastructure and the Terrigal Memorial Country Golf Club, vehicle tracks and erosion.											
Recommendations for management & protection (attach separate sheet if necessary). If impacts cannot be avoided, the proponent should seek and obtain from DECC a Section 90 Consent in consultation with the local Aboriginal community.												
Site recorded by: Caroline Ingram Date: 29 October 2007 Address/institution: South East Archaeology Pty Ltd 24 Bamford Street Hughes ACT 2605												

SITE POSITION & ENVIRONMENT		OFFICE USE ONLY: NPWS site no:
1. Land form a. beach/hill slope/ridge top, etc: drainage b. site aspect: west c. slope: gentle d. mark on diagram provided or on your own sketch the position of the site: 		e. Describe briefly: shell midden within drainage measuring 50m by 15m, east of a golfing green
f. Local rock type: sandstone g. Land use/effect: golf course		
2. Distance from drinking water: >50 metres Source: Terrigal Lagoon		
3. Resource Zone associated with site (estuarine, riverine, forest etc): estuarine		
4. Vegetation: Mixture of regrowth Eucalyptus and Acacia species, leaf litter, low understorey of grasses and introduced species from nearby residential dwellings and golf course		
5. Edible plants noted: None		
6. Faunal resources (include shellfish): Estuarine species including cockle, mud whelk, mud oyster from nearby lagoon		
7. Other exploitable resources (river pebbles, ochre, etc):		
Site type: Shell Midden	DESCRIPTION OF SITE & CONTENTS. Note state of preservation of site & contents. Do NOT dig, disturb, damage site or contents. Site OW3/A is a low-density shell midden located within the grounds of the Terrigal Memorial Country Club Golf Course. It extends approximately between MGA grid references 354545:6300268 and 354549:6300188 on the Gosford 9131-2S 1:25,000 topographic map. The site extends from immediately south of the proposed underground cable route for approximately 50 metres in a drainage culvert adjacent to the eastern margin of a golf course green, with additional shell exposed in nearby spoil mounds. The evidence comprises a low-density scatter of shell, consisting primarily (70 - 80% of total assemblage) of cockle, with mud whelk and mud oyster and minor frequencies of other shells. The site has been moderately to highly impacted by construction of the golf course, including a drainage culvert and spoil mound. Intact soil deposits remain within at least a portion of the site. There remains a potential for sub-surface deposits of midden evidence, although it is uncertain if these deposits would be in situ. The power line will be installed beneath the present surface in this locality.	
CHECKLIST TO HELP: length, width, depth, height of site, shelter, deposit, structure, element eg. tree scar, grooves in rock. DEPOSIT: colour, texture, estimated depth, stratigraphy, contents-shell, bone, stone, charcoal, density & distribution of these, stone types, artefact types. ART area of surface decorated, motifs, colours, wet, dry pigment, technique of engraving, no. of figures, sizes, patination. BURIALS: number & condition of bone, position, age, sex, associated artefacts. TREES: number, alive, dead, likely age, scar shape, position, size, patterns, axe marks, regrowth. QUARRIES: rock type, debris, recognisable artefacts, percentage quarried. OTHER SITES EG. structures (fish traps, stone arrangements, bone rings, mia mias), mythological sites, rock holes, engraved groove channels, contact sites (missions, massacres, cemeteries) as appropriate	Attach sketches etc. eg. plan & section of shelter, show relation between site contents, indicate north, show scale. Attach annotated photos (stereo where useful) showing scale, particularly for art sites.	

45-6-0021

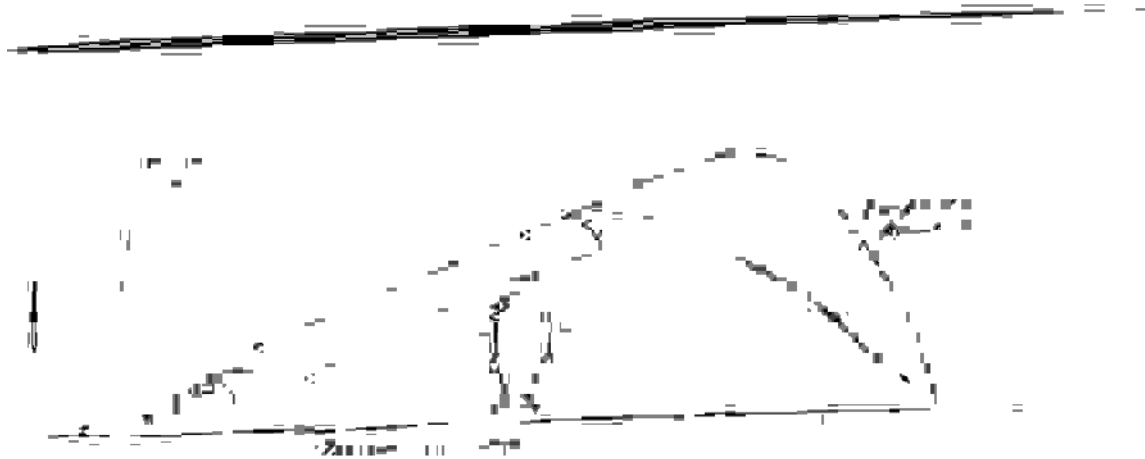


23- ~~Interpretation of the site plan~~

~~The site plan shows the location of the site in relation to the surrounding area. The site is located on the eastern side of the site, adjacent to the coastal walkway. The site is bounded by the coastal walkway to the east and the site boundary to the west.~~

24- ~~Interpretation of the site plan~~

~~The site plan shows the location of the site in relation to the surrounding area. The site is located on the eastern side of the site, adjacent to the coastal walkway. The site is bounded by the coastal walkway to the east and the site boundary to the west.~~



25- ~~Interpretation of the site plan~~

26- ~~Interpretation of the site plan~~

27- ~~Interpretation of the site plan~~

~~The site plan shows the location of the site in relation to the surrounding area. The site is located on the eastern side of the site, adjacent to the coastal walkway. The site is bounded by the coastal walkway to the east and the site boundary to the west.~~

28- ~~Interpretation of the site plan~~

~~The site plan shows the location of the site in relation to the surrounding area. The site is located on the eastern side of the site, adjacent to the coastal walkway. The site is bounded by the coastal walkway to the east and the site boundary to the west.~~

29- ~~Interpretation of the site plan~~

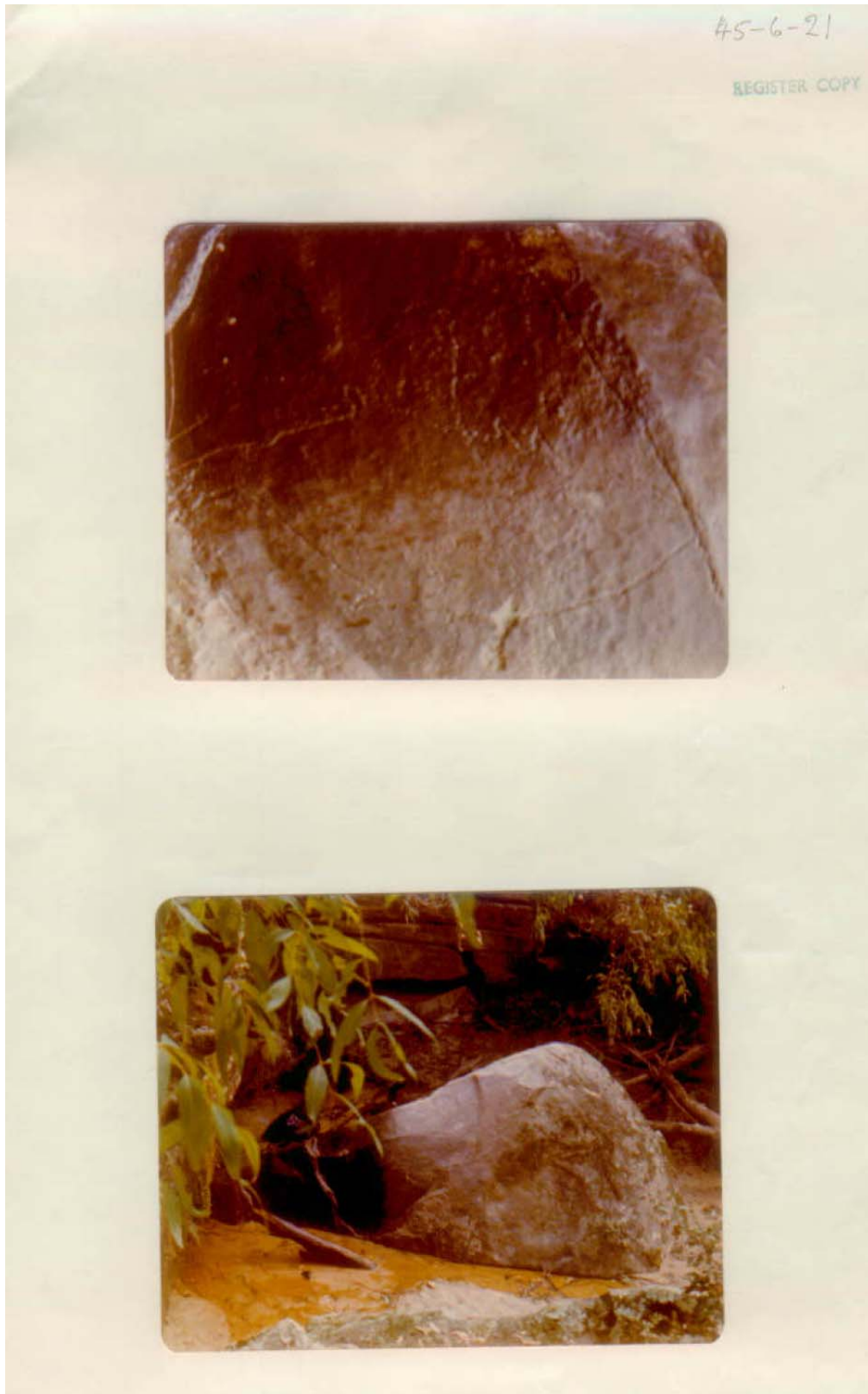
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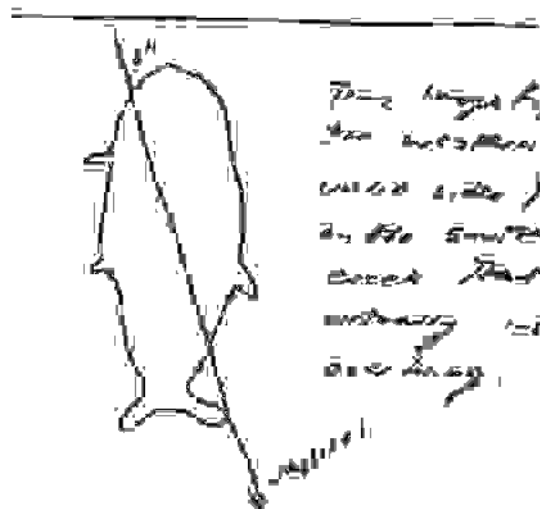


Site 1/16 Engravings
Little Bay
Revised Dec 1990
Full Scale Engraving Refs 9, 10, 11

The main - that is, the largest - was perhaps
5m x 1.5m.
Large fish - perhaps - was a -
perhaps - perhaps - perhaps -

Plots of engraving are of 1/16th
plotted, especially in the interior of the
rock.

The engraving is of the same size as
the rock is of 1/16th - perhaps -
perhaps - perhaps -
The rock is of 1/16th - perhaps -
perhaps - perhaps -
The rock is of 1/16th - perhaps -
perhaps - perhaps -



The largest figure is DH
The engraving is of the same
size as the rock is of 1/16th -
perhaps - perhaps - perhaps -
The rock is of 1/16th - perhaps -
perhaps - perhaps -

45-6-0025

1. The purpose of this report is to provide a detailed assessment of the archaeological and cultural heritage values of the proposed development. The assessment is based on a review of the relevant literature, fieldwork, and consultation with the local community.

2. The assessment identifies the following areas of significance:

- Archaeological: The site contains a number of archaeological features, including a stone wall, a stone foundation, and a stone structure. These features are of significance as they provide evidence of the site's history and the activities that took place there.
- Cultural: The site is of cultural significance as it is associated with the traditional land use and management practices of the local community. The site is also of significance as it is a place of historical importance.

3. The assessment also identifies the following areas of concern:

- Archaeological: The site is at risk of damage to the archaeological features identified in the assessment. This risk is due to the proposed development and the associated construction activities.
- Cultural: The site is at risk of damage to the cultural values identified in the assessment. This risk is due to the proposed development and the associated construction activities.

4. The assessment recommends the following measures to avoid, minimise, and compensate for the impacts of the proposed development:

- Archaeological: The assessment recommends that the archaeological features identified in the assessment be protected and preserved. This can be achieved by implementing a range of measures, including the establishment of a buffer zone around the features and the implementation of a monitoring and management plan.
- Cultural: The assessment recommends that the cultural values identified in the assessment be protected and preserved. This can be achieved by implementing a range of measures, including the establishment of a buffer zone around the values and the implementation of a monitoring and management plan.

5. The assessment also identifies the following areas of opportunity:

- Archaeological: The assessment identifies the opportunity to conduct further archaeological research on the site. This research could provide valuable information about the site's history and the activities that took place there.
- Cultural: The assessment identifies the opportunity to conduct further cultural research on the site. This research could provide valuable information about the traditional land use and management practices of the local community.



6. The assessment concludes that the proposed development is likely to have significant impacts on the archaeological and cultural heritage values of the site. These impacts can be avoided, minimised, and compensated for by implementing the measures recommended in the assessment.

7. The assessment also identifies the following areas of opportunity:

- Archaeological: The assessment identifies the opportunity to conduct further archaeological research on the site. This research could provide valuable information about the site's history and the activities that took place there.
- Cultural: The assessment identifies the opportunity to conduct further cultural research on the site. This research could provide valuable information about the traditional land use and management practices of the local community.

21. **Archaeological Investigations of the Site**

The site is located on the eastern shore of the Port Phillip Bay, within the Port Phillip National Park. The site is situated on a low-lying area, approximately 100m from the shoreline. The site is surrounded by dense vegetation, including eucalyptus trees and shrubs. The site is located within the Port Phillip National Park, which is a protected area. The site is located within the Port Phillip National Park, which is a protected area. The site is located within the Port Phillip National Park, which is a protected area.

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23. **Archaeological Investigations of the Site**

24. **Archaeological Investigations of the Site**

- 24.1. Archaeological Investigations of the Site
- 24.2. Archaeological Investigations of the Site
- 24.3. Archaeological Investigations of the Site

25. **Archaeological Investigations of the Site**

26. **Archaeological Investigations of the Site**

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45-6-2582

[x] New recording [] Additional Info



National Parks and Wildlife Service

Box 1967, Hurstville NSW 2220. Tel: (02) 585 6444
Standard Site Recording Form Revised 3-88



45-6-2582

1:250,000 map sheet: SYDNEY NPWS Code 145

AMG Grid reference 353600 mE 6291800 mN

Full reference - please include leading digits

Scale of map used for grid reference [] 25K, 50K [] 100K [] 250K
Please use largest scale available

1:25K, 50K, 100K map name: BROKEN BAY

Site name McMASTERS BEACH BURIAL Locality/property name COUNCIL RESERVE

NPWS District CENTRAL COAST Region:

Reason for investigation Mr Gary Staines of Gosford CC found a tibia protruding from midden near McMasters beach surf club. Police and NPWS contacted. Recorded at on-site meeting

Portion no
Parish

How to get to the site (refer to permanent features give best approach to site eg from above below, along cliff
(Draw diagram on separate sheet) See map. Located adjacent to Mc Masters Beach Surf lifesaving club

Other sites in locality? No Site Types include Historical reference in "Broken Water Bay Pt IV" published by Bush Hist. Society to burial ground at McMasters beach

Are sites in NPWS Register?

Have artefacts been removed from site? Possibly when? No records of digging with
By whom? Police - 30-40 yrs ago Deposited where? At M of skeletal remains

Is site important to local Aborigines? Yes
Give contact(s) name(s) + address(es) Douglas LALC Ms Jenny McKen

Contacted for this recording? Yes + present at recording meeting
Attach additional information separately? If not, why not?

Verbal/written reference sources (including full title of accompanying report) Engeloh, AV (1996)
Assessment of an Aboriginal Burial site at Mc Masters Beach, Gosford NSW C-4122

Checklist
surface visibility
damage/disturbance/
threat to site

Condition of site Highly degraded but contains in-situ elements of midden deposit which have potential for human remains

Recommendations for management & protection (attach separate sheet if necessary)
See report - obliterated, removal of tibia + monitoring

Site recorded by Tony Engeloh Date 28 OCT 96
Address/institution NPWS Head office 5 NOV 1996
CHSD

HEAD OFFICE USE ONLY: 2582

NPWS Site no: 45-6-2582

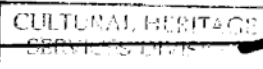
Site types Midden, Burial

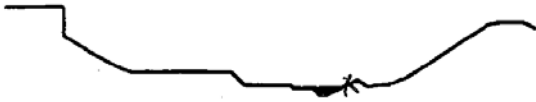
Accessioned by: _____ Date: _____

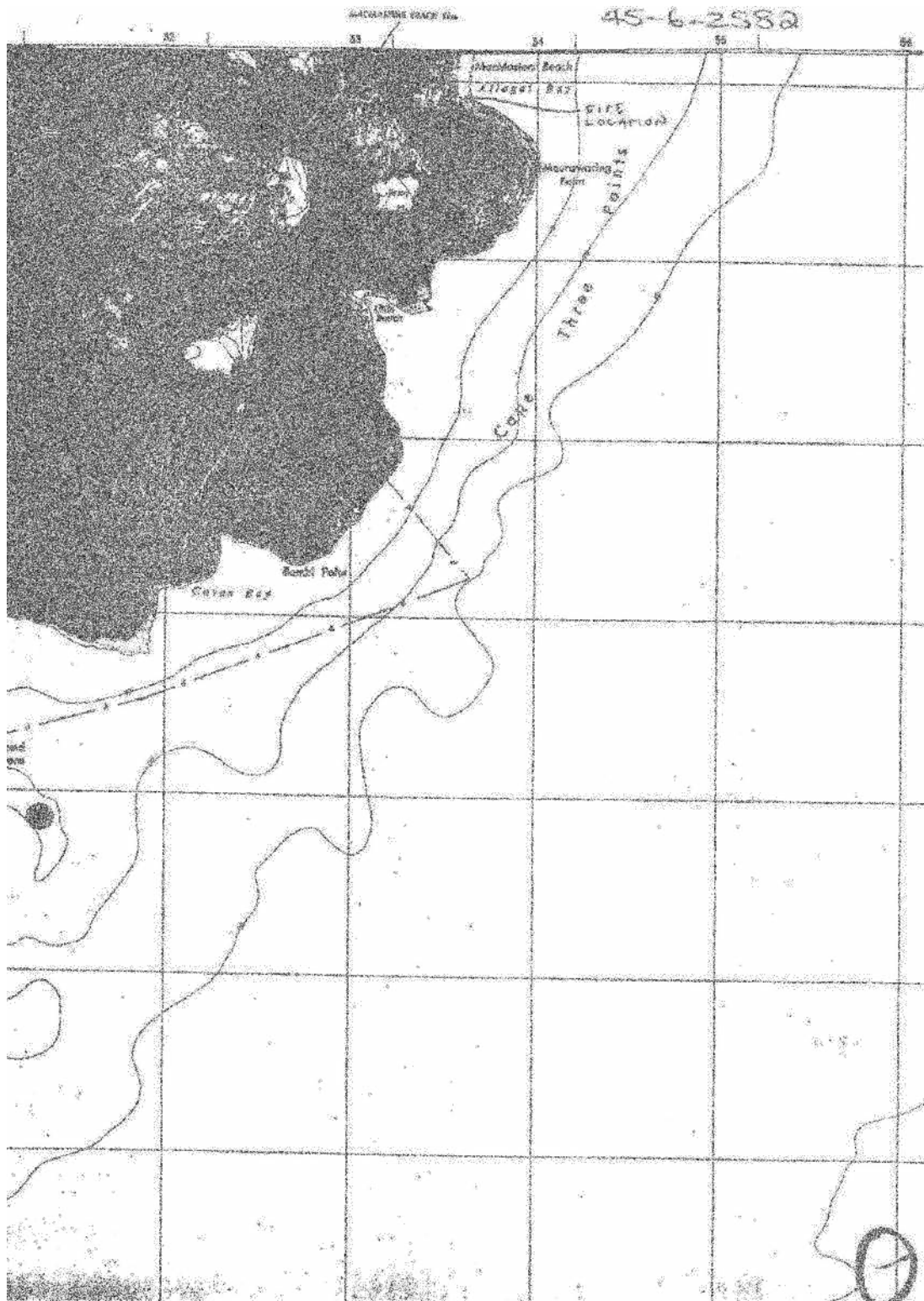
Data entered by: ILS Date: 4/7/98

Owner/Manager GOSFORD CITY COUNCIL

Address



SITE POSITION & ENVIRONMENT		OFFICE USE ONLY: NPWS site no:
<p>1. Land form a beach/hill slope/ridge top, etc: <i>Dune</i></p> <p>b. site aspect: <i>East</i> c. slope: <i>steep</i></p> <p>d. mark on diagram provided or on your own sketch the position of the site:</p>  <p>e. Describe briefly: <i>dense in steep eroded sand hill / chine marking w. boundary of Fortyster beach</i></p>		
<p>f. Local rock type: <i>Sandstone</i></p> <p>g. Land use/effect: <i>Common roemer / n / fish</i></p>		
<p>2. Distance from drinking water: _____ Source: _____</p>		
<p>3. Resource Zone associated with site (estuarine, riverine, forest etc): <i>Creeks + woodland back for beach + beach resources</i></p>		
<p>4. Vegetation <i>Buffalo Grass</i></p>		
<p>5. Edible plants noted: _____</p>		
<p>6. Faunal resources (include shellfish): <i>Dark shell sp. of shellfish</i></p>		
<p>7. Other exploitable resources (river pebbles, ochre, etc): <i>Creek based resources</i></p>		
<p>Site type: <i>BURIAL</i> <i>+ MIDDEN</i></p>	<p>DESCRIPTION OF SITE & CONTENTS. Note state of preservation of site & contents. Do NOT dig, disturb, damage site or contents.</p> <p><i>See attached.</i></p> <p><i>Also see report lodged with Site Register.</i></p> <p><i>Site heavily impacted by erosion and wall construction. Upper body probably removed in 1970's when wall was built.</i></p>	
<p>CHECKLIST TO HELP</p> <p>length, width, depth, height of site, shelter, deposit, structure, element eg. tree scar, grooves in rock.</p> <p>DEPOSIT: colour, texture, estimated depth, stratigraphy, contents-shell, bone, stone, charcoal, density & distribution of these, stone types, artefact types.</p> <p>ART: area of surface decorated, motifs, colours, wet, dry pigment, technique of engraving, no. of figures, sizes, patination.</p> <p>BURIALS: number & condition of bone, position, age, sex, associated artefacts.</p> <p>TREES: number alive, dead, likely age, scar shape, position, size, patterns, axe marks, regrowth.</p> <p>QUARRIES: rock type, debris, recognisable artefacts, percentage quarried.</p> <p>OTHER SITES EG. structures (fish traps, stone arrangements, bora rings, mia mias), mythological sites, rock holes, engraved groove channels, contact sites (missions, massacres, cemeteries) as appropriate.</p>	<p>Attach sketches etc, eg. plan & section of shelter, show relation between site contents, indicate north, show scale.</p> <p>Attach annotated photos (stereo where useful) showing scale, particularly for art sites.</p>	



Abstract—The purpose of this study was to determine if there were differences in the prevalence of musculoskeletal disorders among different types of workers. The subjects included 600 men and women who worked in three different occupations: construction, manufacturing, and service. Data were collected from a questionnaire that asked about symptoms of musculoskeletal disorders, frequency of work activities, and demographic information. Results showed that the prevalence of musculoskeletal disorders was higher among construction workers than among manufacturing or service workers. This finding suggests that the physical demands of construction work are more likely to lead to musculoskeletal problems than those of manufacturing or service work.



