

Riverside at Tea Gardens *Aboriginal Heritage Assessment*

Crighton Property Pty Ltd

February 2011

0043707 Heritage Final

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Environmental Resources Management Australia Pty Ltd Quality System



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Crighton Properties

Riverside at Tea Gardens
Aboriginal Heritage
Assessment

February 2011

**Environmental Resources Management
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EXECUTIVE SUMMARY

Environmental Resources Management Pty Ltd Australia (ERM) was commissioned by Crighton Properties Pty Ltd (Crighton), to prepare an Aboriginal Heritage Assessment (HA) for land at Tea Gardens, NSW. This land is subject to an Environmental Assessment (EA) under Part 3A of the NSW Environmental Planning and Assessment Act (EP&A Act) 1979. This HA considers the Aboriginal and archaeology of the study area, the potential impacts of the mix development on the identified heritage values and presents impact mitigation strategies.

The overall aim of the heritage assessment was to ascertain whether there are any heritage values associated with the study area that could potentially be affected by the proposed development and provide relevant mitigation measures for impacts to these heritage values during any future works.

Two Aboriginal archaeological sites were located during survey of the study area. One previously recorded midden 38-4-0148 was relocated and another midden (Riverside 01) identified during the 2008 fieldwork was revisited. Both middens are located in the raised sand dune landform near Myall River. Although no other sites were identified in any of the other landforms within the study area, the Aboriginal community has expressed an interest in monitoring initial excavation works within the study area.

The middens will not be directly impacted by the development and will be within the buffer zones for the wetland areas (designated a tourist precinct). The middens will be indirectly impacted by increased activity in the area. A management plan should be developed in consultation with the local Aboriginal community to ensure the long-term protection of the middens. This management plan should consider the use of fencing, designated walkways and interpretive signage at Riverside_01 as an educational resource. The management plan should consider whether management measures are necessary to protect the Dredge Island midden (38-4-0148) from the effects of increased activity such as water sports on Myall River. No development or excavation works should be undertaken within the tourist precinct until this management plan has been finalised and approved by the Karuah LALC and DECC.

There is no further archaeological potential for unidentified sites to be present in the study area. Following consultation with the local Aboriginal community, monitoring of clearing and initial excavation works, and the raised sand dune land form around Riverside_01 midden, has been recommended by the Karuah LALC.

ABBREVIATIONS

AHIMS:	Aboriginal Heritage Information Management System
AZP:	Archaeological Zoning Plan
Burra Charter:	Australian best heritage practice reference that provides guidance for the conservation and management of places of cultural significance (cultural heritage places).
DECC:	Department of Environment and Climate Change
ERM:	Environmental Resources Management Australia Pty Ltd
HA:	Heritage Assessment
KLALC:	Karuah Local Aboriginal Land Council
LEP:	Local Environmental Plan
LGA:	Local Government Area
PAD:	Potential Archaeological Deposit
SHI:	State Heritage Inventory
SHR:	State Heritage Register
SOHI:	Statement of Heritage Impact
RNE:	Register of the National Estate

INTRODUCTION

Environmental Resources Management Australia Pty Ltd (ERM) were commissioned by Crighton Properties Pty Ltd to undertake an Aboriginal Heritage Assessment (HA) for lands proposed for residential and tourist development at the Riverside site in Tea Gardens (the study area is detailed in *Figure 1.1*).

This HA considers the Aboriginal heritage and archaeology of the Tea Gardens study area, the potential impacts of the proposed residential and tourist development on the identified heritage values and presents impact mitigation strategies for the archaeology of the study area.

This report presents the findings of all the fieldwork undertaken for this project. This current report provides the results of two detailed site surveys, comprehensive heritage values assessments, heritage impact analysis and Aboriginal consultation undertaken between May 2007 and March 2009, for the Tea Gardens study area.

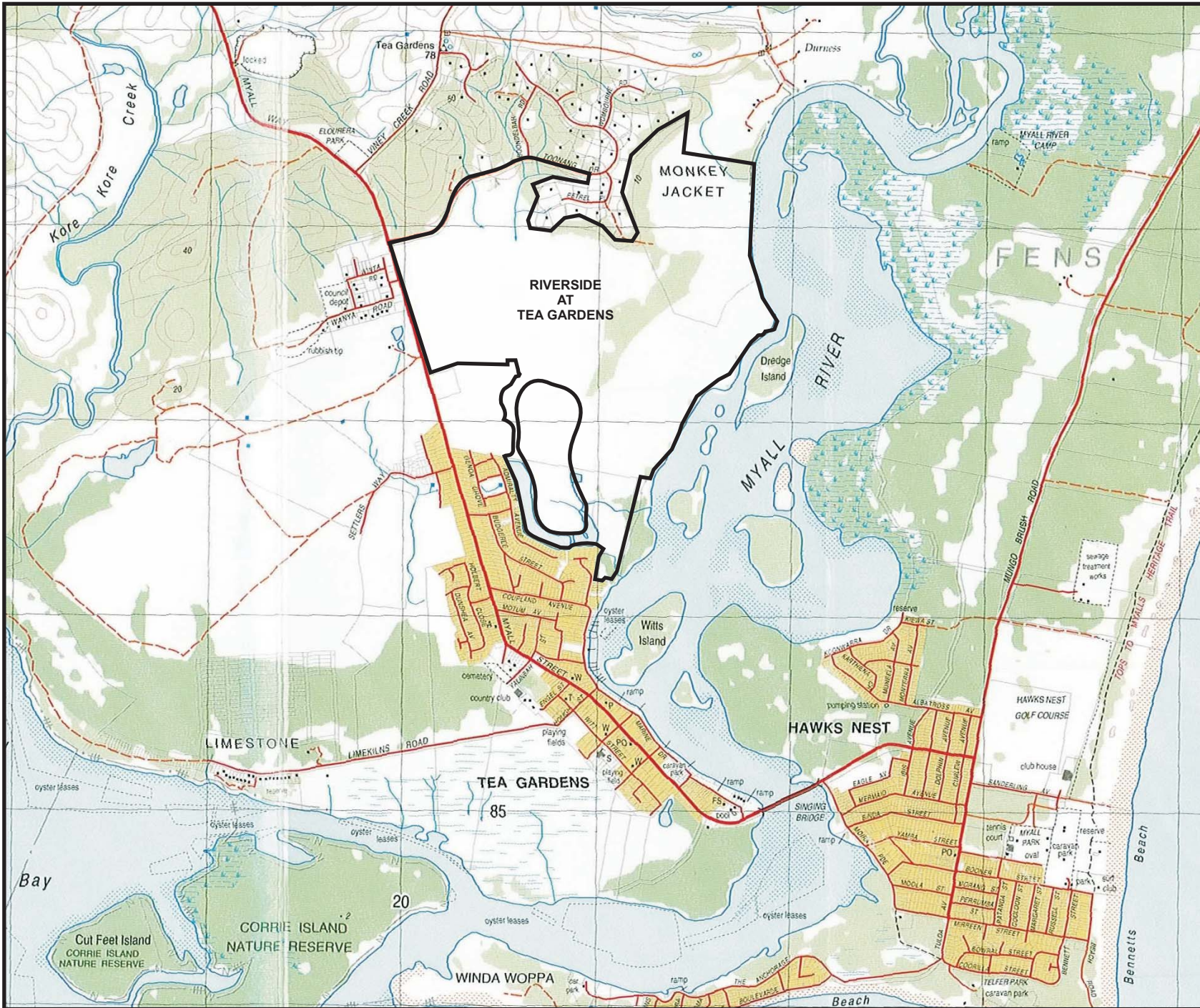
ERM has prepared this HA based on the following current best practice guidelines:


- NPWS Aboriginal Cultural Heritage. Standards and Guidelines Kit;
- Department of the Environment and Climate Change (DECC) *Draft Guideline for Aboriginal Cultural Heritage Impact Assessment and Community Consultation*; and
- the *Australia ICOMOS Burra Charter 1999* (Burra Charter).

1.1

STUDY AREA

The Riverside at Tea Gardens site (see *Figure 1.1*) comprises Lots 10 and Lot 34 and Part Lot 1 in DP 270100 and is approximately 222.5 ha in area. The site is bounded by the Myall River to the east and Myall Road to the west. The Shearwater Residential Estate lies to the north of the site and residential development of Tea Gardens is to the south. *State Environmental Planning Policy No. 14 – Coastal Wetlands* (SEPP 14) applies to wetlands within a portion of the eastern section of the site adjacent to the Myall River. When the site was rezoned in 2000 the wetlands were clearly identified along with a buffer to the wetlands and zoned for environment protection. The remainder of the site is available for urban purposes and zoned for mixed use urban development. The study area is slightly larger than the site and is shown in *Figure 3.1*.



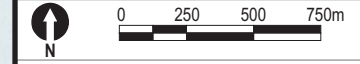
Legend
 Riverside at Tea Gardens Site Boundary

Source:
 1:25,000 Topo Series Port Stephens Sheet

Suffix	Revisions	Date	Init
R0	Preliminary Issue	08-11-10	JD

Figure 1.1
Locality Plan

Client: Crighton Properties Pty Ltd
 Project: Concept Plan 2010
 Environmental Assessment
 Riverside at Tea Gardens - Heritage Report
 Drawing No: 0043707h_CP_EA_H_C001_R0.cdr
 Date: 08/11/2010 Drawing size: A4
 Drawn by: JD Reviewed by: AA
 Scale: Refer to Scale Bar



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The proposed development of the study area consists of:

- residential development of the site which will include the potential to create approximately 974 dwellings, comprised as follows:

Development	Number of Dwellings
Residential (variety of lots)	909
Tourist Precinct - lodges	50
Tourist Precinct - houses	15
Total	974

- water sensitive urban design (WSUD) measures including the retention of the existing saltwater basin and single drain outlet to the Myall River, the creation of new freshwater detention ponds as well as new dry water management devices;
- a residentially zoned open space network comprising 62.7 Ha in total which provides for public recreation, stormwater management, a wildlife corridor, and clubhouses and community facilities;
- an 8.2 hectare tourist/recreational precinct (including a conference centre and accommodation) in the north east portion of the site and a foreshore park of 5.6 hectares;
- substantial areas (approximately 39.6 hectares) of the Residential 2(f) zoned land are proposed to be protected and enhanced as open space / wildlife movement corridors, over and above those already protected within the Environmental Protection 7(a) and 7(b) zones (which comprise 28.4 and 20.6 hectares respectively);
- approximately 23.1 hectares of drainage reserves and large parks also proposed;
- upgrading of intersections and associated road works and other construction works (such as cycleways) external to the site;
- access from Toonang Drive and Myall Street;
- an internal road network; and
- associated landscaping and infrastructure works.

Substantial areas of the Residential 2(f) zoned land are proposed to be protected and enhanced as open space / wildlife movement corridors, over and above those already protected within the Environmental Protection 7(a) and 7(b) zones.

A 161 hectare biodiversity offset area is proposed adjoining the Myall National Park approximately two kilometres north east of the site.



Legend

Riverside at Tea Gardens Site Boundary

Item	Description
1	Extent of concept plan area 'Riverside' at Tea Gardens.
2	Existing 7(a) wetland zone.
3	Existing 7(b) buffer zone.
4	Wildlife movement corridor.
5	Water management & open space corridors.
6	Community parks incorporating walking/cycle ways, BBQs, children's play area equipment.
7	Community pocket parks.
8	Myall foreshore park including structured and unstructured open space.
9	New fresh water, water quality management & detention ponds.
10	Existing detention and water quality lake.
11	New fresh water, water quality management & detention ponds.
12	Existing residential development.
13	Precinct community facilities.
14	Future precinct community facilities.
15	Site area currently owned by Great Lakes Council.
16	Separate medium density/commercial precinct (not part of this application-current waver issued by DoP)
17	Tourist lodgings precinct.
18	Additional land proposed for conservation
19	Proposed residential lot development to be developed under community title.
20	Future development site.
21	Existing house.
22	DCP buffer.
23	Location of known midden & buffer.
24	Existing drain outlet to Myall River.
25	Existing drainage swale
26	Existing shopping centre/medium density approvals
27	Future connecting road

Land Use Legend		
Total Site	Ha	%
Open Space		
- Wetlands (zoned 7a)	28.4	12.8
- Buffer Zones (zoned 7b)	20.6	9.2
- Additional Conservation Buffer	12.3	5.5
- Wildlife Corridors	32.8	14.8
- Myall Foreshore Park	5.6	2.5
- Drainage Corridors, Ponds & Large Parks	23.1	10.4
- Pocket Parks	2.6	1.2
- Existing detention & water quality lake	6.7	3.0
Total	132.1 Ha	59.4%
Built Upon Area		
- Residential (including roads & community facilities)	77.2	34.7
- Tourist/Residential (Lodgings)	8.2	3.7
- Future Development Site	5.0	2.2
Total	90.4 Ha	40.6%
Total	222.5 Ha	100%

Source:

Crighton Properties - Context Plan R.C.-03 October 2010

Suffix	Revisions	Date	Init
R0	Preliminary Issue	08-11-10	JD

Figure 1.2
Concept Plan for Riverside at Tea Gardens

Client: Crighton Properties Pty Ltd
 Project: Concept Plan 2010
 Environmental Assessment
 Riverside at Tea Gardens - Heritage Report
 Drawing No: 0043707h_CP_EA_H_C002_R0.cdr
 Date: 08/11/2010 Drawing size: A4
 Drawn by: JD Reviewed by: AA
 Scale: Refer to Scale Bar



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1.3

AUTHORSHIP

ERM Heritage Consultant Dr Diana Neuweger conducted the Aboriginal heritage field survey and authored this report. ERM Senior Heritage Consultant undertook a technical review of this report. ERM Principal undertook a quality assurance (QA) review of the report.

1.4

REPORT STRUCTURE

This report is structured in the following way:

Chapter 2 Aboriginal community consultation undertaken for the heritage assessment;

Chapter 3 environmental background relating to the study area;

Chapter 4 archaeological context of the study area, including known and potential heritage sites within the study area;

Chapter 5 survey methodology, results of the field survey of the study area;

Chapter 6 assesses the significance of the Aboriginal heritage sites located in the study area;

Chapter 7 the impact assessment;

Chapter 8 NSW legislative framework and statutory requirements;

Chapter 9 heritage management and impact mitigation recommendations;

Annex A log of the Stakeholder consultation undertaken for the project;

Annex B detailed survey data recorded during the fieldwork; and

2.1 BACKGROUND – ABORIGINAL CONSULTATION

This chapter contains specific details of Aboriginal community consultation with regard to ERM's heritage assessment of the Tea Gardens study area.

Aboriginal consultation is required for any assessment of Aboriginal heritage. The DECC has released the 'Interim Community Consultation Requirements Guideline' (2005) for Aboriginal consultation in relation to any study that might eventually be used to support an application under Part 6 of the *National Parks and Wildlife Act 1974*. Aboriginal Consultation is still required under Part 3A projects even though Part 6 applications under the *National Parks and Wildlife Act 1974* are not required.

The interim guideline sets out a process for inviting Aboriginal groups to register interest as a party to consultation (including local press advertisement), seeking responses on proposed assessment methodology, and seeking comment on proposed assessments and recommendations. The interim guidelines requires proponents to allow 10 working days for Aboriginal groups to respond to invitations to register, and then 21 days for registered Aboriginal parties to respond to a proposed assessment methodology. Additional time should be allowed for groups to review a draft report and comment on the results and management recommendations.

The Aboriginal community consultation for the project has been carried out in accordance with the DECC guideline.

2.2 ABORIGINAL GROUPS CONSULTED

2.2.1 Initial Consultation

Letters requesting advice on Aboriginal organisations to consult, and any known heritage issues to be taken into consideration in the area, were emailed on 4 May 2007 to:

- the NSW Northern Branches DECC;
- Registrar of Aboriginal Owners (RAO), *Aboriginal Land Rights Act 1983* (NSW); and
- Karuah Local Area Land Council (KLALC).

An internet search of the National Native Title Tribunal was also conducted on 4 May 2007. Nine claimants were found for the Great Lakes Local Government Area (LGA). One of these was for the Forster Local Aboriginal Land Council (FLALC). Only one of the nine claims was active.

2.3

CONSULTATION FOR FIELD SURVEY

A local press advertisement requesting local Aboriginal stakeholders interested in being consulted, was run in the *Myall Coast Nota* on 10 May 2007. One response to the advertisement was received from Jan Webb.

DECC identified one Aboriginal party to be contacted:

- Guiwain Elder Group.

The Registrar identified one Aboriginal party to be contacted:

- Interim Board of Management for Worimi Conservation Lands.

The Interim Board of Management for Worimi Conservation Lands identified one additional Aboriginal party to be contacted:

- Maaiangal Cultural & Heritage.

These parties were contacted about whether they wished to be consulted on this project. In addition, each party was asked to identify any further individuals or groups who would be interested in being consulted regarding this project. Three responses to these letters have been received, from KLALC, a private person and Interim Board of Management for Worimi Conservation Lands. Maaiangal Cultural & Heritage identified the study area as being outside their area of interest.

The three parties that registered an interest were provided with a proposed assessment methodology. Responses to this methodology were received from KLALC and a private person, each indicating their agreement with this methodology.

Further details of the Aboriginal consultation undertaken for the study area are provided in *Annex A*.

2.4

INITIAL FIELD ASSESSMENT 2008

Fieldwork for the assessment was undertaken on 21 April 2008 and included representatives from KLALC.

The field survey aimed to inspect the whole study area where ground surface visibility existed. The survey methodology and project was discussed with the Aboriginal stakeholders prior to and on the day of the survey.

During the survey (21 April 2008), ERM archaeologists discussed local Aboriginal heritage values and patterning with the community representatives. This provided an understanding of the local perspective for Aboriginal habitation and subsistence patterns; as well as understanding some local intangible values. When Aboriginal sites were identified, all participants

were involved in recording the site, determining its extent and archaeological potential. At the completion of the survey an open discussion was held, where the sites recorded, the archaeological potential and required investigation was discussed and agreed upon by all present. The outcomes of this consultation underwrite this heritage assessment.

2.5 *DECC COMMENTS 2008*

In correspondence dated 19 December 2008 the Head Regional Operations Unit- Coastal North East Branch presented the DECC's comments to the Project Application. Directed at the heritage component of the Environmental Assessment were the following comments (these points are direct quotes from the letter of 19-12-08).

- *Further field assessment, which appropriately samples all landscape unit not assessed to date to determine the significance of the ACH values of the site and to justify proposed mitigation measures;*
- *A comprehensive survey of the identified Potential Archaeological Deposit (PAD) area and similar landform units in the south of the development area;*
- *Demonstration of how the community have been consulted in relation to field assessment methodology and general correspondence;*
- *Adherence to statutory requirements under the National Parks and Wildlife Act 1974; and*
- *Additional justification for the buffer size around Midden site 38-5-148 and provision within the EA of details of the on-going conservation for this midden.*

These points have been taken into consideration for the 2009 fieldwork.

2.6 *ADDITIONAL FIELD ASSESSMENT 2009*

Following the comments and advice of the DECC additional fieldwork was undertaken to cover all landform units. On advice from the DECC the same registered groups were sent an updated methodology on 23 February 2009. A fax was received from KLALC on 2 March 2009 stating agreement with the methodology and interest in participating in the fieldwork. An email response was received on 12 March 2009 indicating that the group Interim Board of Management for Worimi Conservation Lands no longer existed. The private person was contacted by phone on 13 March 2009 and agreed with the methodology but was unable to attend fieldwork due to full time employment.

The additional fieldwork was undertaken on 18 March 2009 and included representatives from KLALC.

The field survey aimed to inspect the previously identified sites and all the landforms within the study area. The survey methodology and project was discussed with the Aboriginal stakeholders prior to and on the day of the survey.

Again during the survey (18 March 2009), ERM archaeologists discussed local Aboriginal heritage values and patterning with the community representatives. This provided further understanding of the local perspective for Aboriginal habitation and subsistence patterns. When Aboriginal sites were identified, all participants were involved in recording the site, determining its extent and archaeological potential. At the completion of the survey an open discussion was held, where the sites recorded, the archaeological potential and required investigation was discussed and agreed upon by all present. The outcomes of this consultation underwrite this heritage assessment.

2.7 PAC COMMENTS 2009

The following was recommended by the PAC in relation to the previous Aboriginal Heritage Assessment (ERM, 2008) presented in the Environmental Assessment report:

- *the Proponent be requested to provide further details to confirm the adequacy of the survey sampling in relation to available areas of potential visibility and to further define the extent of Riverside_01;*
- *the additional definition of the extent of Riverside_01 and the adequacy of the buffer area to protect this site must be considered prior to approval of the concept plan;*
- *the proposed management plan in relation to Riverside_01 must consider the potential for impacts to this site as a result of signage and interpretation for use as an educational resource, in consultation with DECC and the KLALC; and*
- *the Proponent clarify the commitment or otherwise for KLALC to monitor construction activities and the mechanism to achieve long term protection of any keeping place established as part of this process.*

These matters have been addressed throughout this report. The recommendations and commitments made in this report (*Chapter 9*) have been incorporated in the Statement of Commitments within the EA.

The purpose of this section is to provide environmental contextual information for use in developing a predictive model of Aboriginal site locations associated with the study area. Interactions between people and their surroundings are of integral importance in both the initial formation and the subsequent preservation of the archaeological record. The nature and availability of resources including water, flora and fauna and suitable raw materials for the manufacture of stone tools and other items had (and continues to have) a significant influence over the way in which people utilise the landscape. Alterations to the natural environment also impact upon the preservation and integrity of any cultural materials that may have been deposited whilst current vegetation and erosional regimes affect the visibility and detectability of sites and relics. For these reasons, it is essential to consider the environmental context as a component of any heritage assessment.

3.1

ENVIRONMENTAL CONTEXT

Speight (1990) describes categories of landform divisions, including ten morphological types of landform element units. For archaeological investigations the landscape may be divided into standardised elements that can be used for comparative purposes and predictive modelling. A number of landform units were identified within the study area, being flats, dunes and open depressions (drainage line). An additional landform, wetland was noted, this is essentially by Speight's definition flat, but is a low lying area prone to periodic inundation. Topographic maps indicate that there is some elevated area in the northern sections of the study area, equivalent to simple slopes. These were not discernable during the field assessment and the areas in the north have been recorded as flat. It is unclear if this is due to modern modification of the landscape or whether the current vegetation obscures the subtle landform changes in this area.

Aboriginal site types most likely to occur on these landforms are shell middens and stone artefact sites (scatters and isolated finds; see *Table 4.2*). The study area is predominantly flat and low-lying at its southern end, with a number of beach ridges, and rises slightly at its northern end, with creek lines present in the north. The landscape drains down to the south and to the Myall River estuary at its east.

3.1.1

Geology & Soils

The study area predominantly overlies Quaternary sands comprising gravel, sand, silt and clay, with a small section in the north west overlying Carboniferous bedrock of the Wooton Beds, including sandstone, siltstone, claystone, shale, limestone and lavas (Newcastle 1:250,000 geological series). No stone outcrops appear to occur in the study area. Axe grinding grooves are often located on sandstone where it occurs in association with water, but the lack of such outcrops indicates that this type of site will not occur in the study area. Stone art/engraving sites and shelter sites will also not occur, given the lack of outcrops.

Stone from the Nerong Volcanics group outcrops in the area surrounding Port Stephens. The Nerong Volcanics include a range of stone types that are not typically used to manufacture artefacts but have been reported as being utilised and have been found in archaeological sites some distance from their source (Dean-Jones 1990:116; Umwelt 2000:7.8; Dyll 2004:144). To the northwest of Port Stephens, outcrops of various igneous and sedimentary rocks suitable for stone tool manufacture (including tuff) are present (Dean-Jones 1990:18). No cobbles of suitable raw material for stone artefact manufacture appear to occur naturally within the study area. As such, stone quarry sites are not expected to occur.

The soils identified within the study area were alluvium, siliceous sand, leached sand, structured plastic clay, salt marsh/heath sands, sand podzols, brown and yellow podzolics and organic sands/muds (Gardner Browne *et. al.* 1991:30). In the wetland area, salt marsh soils were present, with a number of areas of sand podzols/siliceous sands throughout the study area, including one in the wetlands. Lacustrine structured plastic clays occurred in the north west of the site, with bedrock soils in the central north. The remainder of the study area comprised inner barrier/organic sands/muds. Of particular interest are the salt marsh soils, which were noted to be strongly acid and consist of a dark grey black humate rich quartz sand surface up to 30 cm deep, underlain by a lighter grey sand, with a minor amount of shell material in the sand (Gardner Browne *et. al.* 1991:31). This type of soil (with black organic sand and shell material noted) appears likely to contain shell midden material.

The NSW Soil and Land Information System was accessed to determine whether any soil technical reports existed for the study area. Two reports were available, a summary of the data contained within these reports is shown in *Table 3.1* and the location of sample sites is shown in *Figure 3.1* as 'geo-pit locations 1-2'.

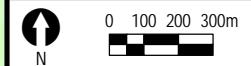


Legend

- Study Area
- Geopit Location

Figure 3.1
Geopit Locations

Client:	Crighton Properties		
Project:	Riverside at Tea Gardens		
Drawing No:	0043707s_GIS07_R0		
Date:	07/04/2009	Drawing size:	A4
Drawn by:	JF	Reviewed by:	DN
Source:	Dept. Lands		
Scale:	Refer to Scale Bar		



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Table 3.1 Soil Technical Reports Relevant to the Study area

Sample Location #	1	2
Survey/Profile	Profile 211 Port Stephens Sheet 1:100,000	Profile 43 Port Stephens Sheet 1:100,000
Co-ords (MGA)	E: 420755 N: 6386189	E: 420105 N:6387889
Site morphology	Flat	Flat
Elevation	2 m	5m
Lithology	Aeolian, sand	Silt, Clay
Vegetation	Woodland shrub understorey	Banksias, Melaleucas, Eucalyptus
A1 (m)	0.0-0.4 coarse sand, dark grey (blackish brown)	0.0- 0.1 silty clay loam, black
A2 (m)	0.4-0.5 coarse sand greyish brown	0.1- 0.3 silty clay loam grey
B1 (m)	0.5-0.7 coarse sand dark greysh brown	0.30- 0.80 medium heavy clay dark brown

Field observation of soil horizons indicated that the study area was covered by aeolian sand in the eastern part and the silty clay deposit was evident in the western portion of the study area.

Soil profiles associated with the study area suggest that archaeological deposits most commonly found within A horizon soils could be, in general, not deeper than 0.5 m, unless associated with raised areas not prone to periodic inundation. Erosion resulting from natural and historical processes on the landscape could have removed remnant soil horizons, thereby resulting in movement and impact to Aboriginal sites. Therefore areas with substantial erosion or impacts which have removed the A horizon (such as water erosion or grading for a track) are likely to have significantly impacted any archaeological deposit which was present.

3.1.2 Hydrology

The availability of water has significant implications for the range of resources available and the suitability of an area for human occupation. The study area is located in the Port Stephens catchment, and is bounded to the east by the Myall River estuary. Although the estuary is unsuitable for drinking it would have attracted a wide variety of animals and supported a range of plant species and shellfish/marine species, which are likely to have been used by Aboriginal people in the past.

A small intermittent creek is present in the north eastern corner of the study area, draining into the Myall River. Several ephemeral intermittent drainage lines are present in the north, draining down the slope to the low-lying part of the study area. It has also been noted that the study area drains to a basin excavated at its southern end, with a drain providing an outlet to the Myall River (Gardner Browne *et. al.* 1991:2).

The location of the estuary indicates that shell middens are likely to be present in the study area. The presence of small creeks indicates that stone artefact sites may occur, however the lack of large creeks in the study area suggests that large stone artefact sites are unlikely to occur. Stone artefacts are most likely to occur in the context of middens, being scattered in very low numbers throughout the remainder of the study area.

3.1.3 *Flora and Fauna*

Vegetation in the study area comprises immature pines and coastal scrub regrowth including Eucalypts, Angophora, Allocasuarina, Blackbutt, Banksia, Acacia, Bottlebrush, Paperbark and ferns (Brayshaw 1988:2; Gardner Browne *et. al.* 1991:42-3). The wetlands are covered with reeds, swamp grasses and other littoral species, with some stands of swamp oak (*Casuarina glauca*). Mangroves fringe the river bank.

The majority of the study area was cleared in 1932 for a pine plantation, however the north eastern corner was not planted with pine and contains some large trees in an area of open forest and wet/swamp schlerophyll. Mature trees can exhibit Aboriginal scarring and carving from the pre-contact period.

The study area is located adjacent to the Myall River estuary, which supports an extensive environment and seagrass and mangroves which would provide shellfish such as cockles and oysters. It is likely that shell middens may be present within the study area.

3.2 *HISTORICAL BACKGROUND*

3.2.1 *Early Regional Settlement*

The Great Lakes district was first exploited for Cedar when permission was granted in 1816, and Cedar acquisition was undertaken by assigned convicts who moved the cargo along the waterways in the area. The first European land grant included the whole of the Great Lakes area, one million acres, to the Australian Agricultural Company of London and it was from this grant that the first settlements in the area began.

Hawks Nest was granted in 1865 and Tea Gardens in the same year once the Australian Agricultural Company departed the area. The population of Tea Gardens is believed to have dropped in the 1880's when the timber industry declined and it was at this time that the main urban area transferred from Hawks Nest to Tea Gardens. The urban area of Tea Gardens was Gazetted in 1921, and punt service between Tea Gardens and Hawks Nest began in 1928.

The study area was cleared in 1932 for a pine plantation. In the 1960's Tea Gardens once again enjoyed a population boom with the introduction of sand mining.

3.3

SYNOPSIS OF ENVIRONMENTAL BACKGROUND

The environmental context outlined above has a number of implications for archaeology in the study area. Previous disturbance caused by clearing and planting for a pine plantation indicates that no stone arrangements or ceremonial grounds will be found. Further, scarred or carved trees will not be located over the majority of the study area, although mature trees are present in the north eastern corner of the study area. A lack of stone outcrops indicates that shelter sites, quarrying sites, stone engraving/art sites and axe grinding grooves will not occur.

The location of the estuary and the presence of salt marsh soils in the wetlands indicate that shell middens are likely to be present. The presence of small creeks indicates that stone artefacts may occur in very low numbers, near these water courses, however such artefacts are most likely to occur in connection with middens.

4.1 *ARCHAEOLOGICAL CONTEXT*

The purpose of this section is to provide archaeological background information for use in developing a predictive model of Aboriginal site location for the study area.

4.1.1 *Regional Archaeological Background*

By far the bulk of the archaeological investigations in the Port Stephens catchment have been carried out in relation to development projects. Consequently, the locations of previous studies are generally linked to the primary areas of development, rather than reflecting a cohesive research design. Shell middens are the most common site type along the coast, and tend to occur most frequently in association with beach dunes or estuaries, and to a lesser extent with rock platforms/headlands, particularly in close proximity to fresh water (Sullivan 1982). While shell middens are the most common type of site on the coast, other sites recorded include stone artefact scatters, scarred trees and axe grinding grooves, and burials may be located in soft dune sand either alone or in association with middens.

Sites on the NSW North Coast have been dated predominantly to the last 6,000 years, which corresponds to the time when sea levels rose to their present level (Lampert and Hughes 1974). During the period of lower sea level, the NSW coast would have been located a great distance to the east. Archaeological sites on that ancient coastline would have been submerged below the rising sea levels following the last glacial maximum when sea levels were at their lowest (approximately 18,000 BP).

Most middens on the NSW North Coast date to the last 1,000 years, with many dating to from 300-500 years Before Present (BP) and later (Sullivan 1982:124). However, much earlier evidence of late Pleistocene occupation in the nearby Hunter region has been identified at a number of sites, namely Warkworth West, Fal Brook and Lemington (AMBS 2002; ERM 2004:15; Koettig 1987; Kuskie 2000). Whilst the representation of Pleistocene sites in the region is limited, it should not be assumed that this apparent paucity of dated sites reflects a lack of human activity. Based on the current models for the peopling of Australia and the evidence from surrounding regions, it seems likely that the Hunter region was initially occupied at some time between 20,000 and 40,000 years ago (ERM 2004:68).

Previous archaeological work undertaken in the region and ethnohistorical information are used as the basis of a series of predictions about the location and content of archaeological sites in the area. The most relevant and useful of these predictions (albeit very general) are as follows (from Sullivan 1982):

- beaches, rivers and estuaries were important sources of food, particularly fish and shellfish (especially pipi);
- the exploitation of estuaries was also commonly associated with exploitation of terrestrial resources;
- the use of rocky shorelines was of minor importance;
- short-stay camps commonly occur along beaches and consist of a thin layer of shell (often pipi) and hearthstones, although flaked stone artefacts are rare; and
- longer-stay camps are usually located on the margins of several environmental zones, eg. near the edges of lagoons or estuaries with access to beaches or floodplains, and apart from shell and hearthstones they may also contain bone and flaked stone artefacts.

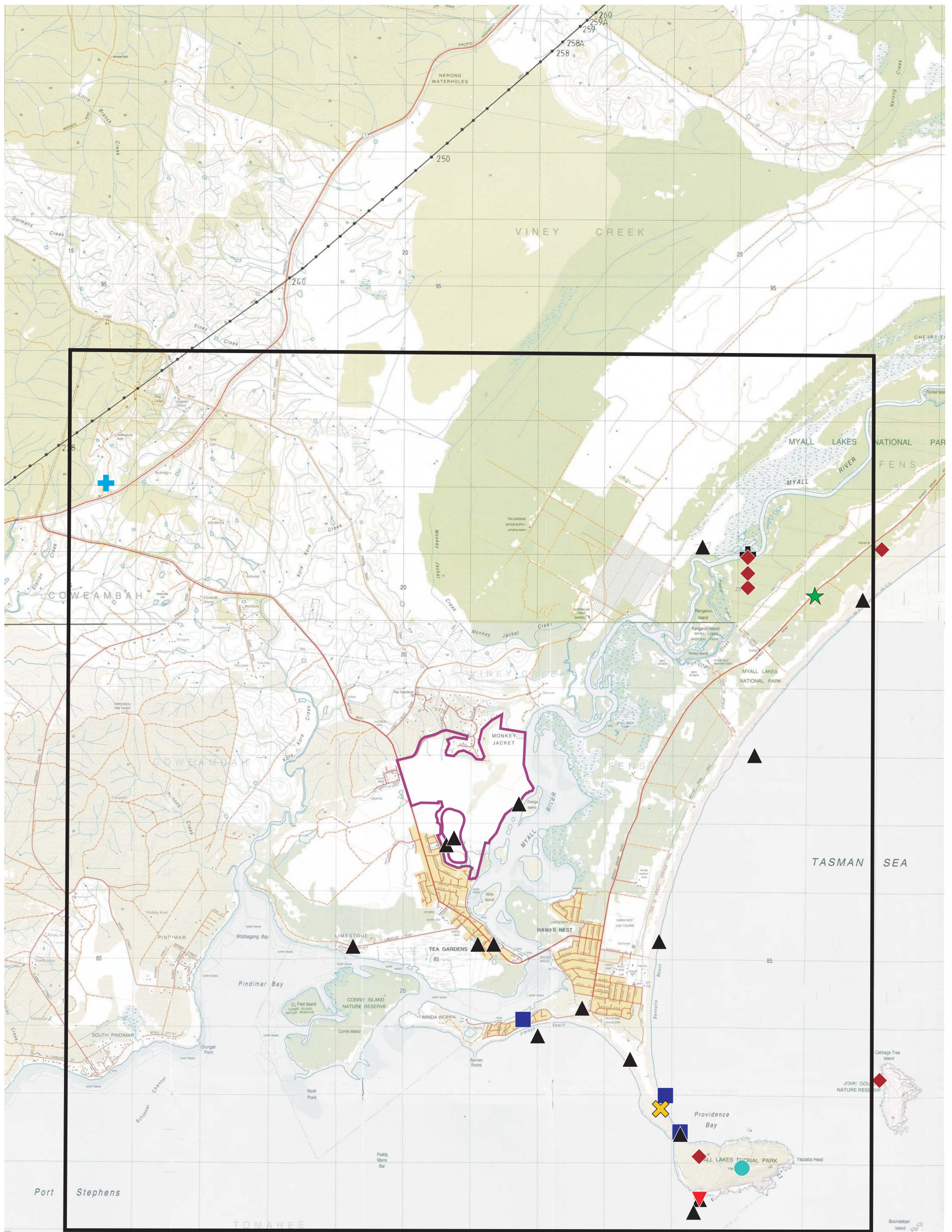
4.1.2 *Local Heritage Literature*

A brief literature review of the NSW DECC library was undertaken to understand the local region's archaeological patterning. This review was targeted to those reports relevant to the study area. Key word searches were used to find reports for the locality in AHIMS.

A number of archaeological investigations have been undertaken within and adjacent to the study area. These are outlined below, to establish a basis on which the predictive model for the study area may be formulated.

Previous Archaeological Work in the Study Area

The study area has been previously surveyed by Brayshaw (1988), who traversed the entire area on foot, focussing on areas of ground surface exposure, mature trees, and environmental features which may have formed a focus for Aboriginal occupation. During this survey, Brayshaw located one site, a shell midden comprising four exposures within a 220 m x 40 m strip along the bank of the Myall River opposite the southern part of Dredge Island (AHIMS site 38-5-0148; see *Figure 4.1*).



- Legend**
- Riverside at Tea Gardens
 - Site Boundary
 - ▼ Axe Grinding Groove, Midden
 - ★ Axe Grinding Grooves
 - Burials
 - ▲ Midden
 - ✕ Midden, Burials
 - ★ Natural Mythological (Ritual)
 - ◆ Stone Artefact Scatter
 - ✕ Stone Artefact Scatter, Non-Human Bone
 - ✕ Stone Artefact Scatter, Potential Archaeological Deposit
 - Search Extent

Source:
1:25,000 Topo Port Stephens & The Branch
Sheets

R0 Preliminary Issue 16-11-10 JD
Suffix Revisions Date Init

Figure 4.1
AHIMS Search Results

Client: Crighton Properties Pty Ltd
Project: Concept Plan 2010
Environmental Assessment
Riverside at Tea Gardens - Public Heritage Report

Drawing No: 0043707h_CP_EA_H_PR_C001_R0.cdr
Date: 16/11/2010 Drawing size: A3
Drawn by: JD Reviewed by: AA

Scale: Refer to Scale Bar



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A number of factors including increasing population pressure on the North Coast has impacted many sites including shell middens, meaning that all remaining shell middens have become more significant, especially those that by their nature or location mean they are likely to continue to survive. Given the lack of disturbance to this midden, the potential depth of deposit and the range of shell species represented (cockle, oyster, whelk and pipi), Brayshaw assessed the site as having high archaeological significance, and recommended that it be preserved.

Previous Archaeological Work to the South of the Study Area

The area immediately south of the study area was surveyed by Dallas (1982), who located a disturbed shell midden (AHIMS site 38-5-0076; see *Figure 4.1*) on a sandy elevation above a swamp adjoining the Myall River. The shell species represented were whelk, cockle and oyster, and flaked stone artefacts were also present. Given the shallow deposit and high level of disturbance, the site was assessed as having low archaeological significance. A Consent to Destroy (S.90) permit for this site was issued in 1982, however this permit lapsed without impact to the midden, the site was destroyed in 1994.

The site was reinvestigated by Kinhill Engineers (1994), at which time a new midden exposure was recorded approximately 100 m to the south west (AHIMS site 38-5-0147; see *Figure 4.1*). Kinhill Engineers conducted a program of test excavation (under a S.87 permit) on this new site, and assessed the site as being of moderate to low archaeological significance, with further excavation work unlikely to add to an understanding of the site. Whelk, oyster and some cockle were recovered at this site, as were stone artefacts.

A small area proposed for a caravan park on the southern edge of Tea Gardens was surveyed by Dean-Jones (1989), and no archaeological evidence was found.

Land at the mouth of the Myall River, on the southern edge of Hawks Nest, was surveyed by Byrne (1985). Four occurrences of oyster were located over several hundred metres along a vehicle track on the edge of a mangrove swamp, and one stone artefact was located. The site was identified as a short-stay camp with limited extent, depth and shell species, and had been heavily disturbed by the vehicle track. It was assessed as being of low archaeological significance.

Previous Archaeological Work to the West of the Study Area

The area immediately to the west of the study area was surveyed by Silcox (1998). One stone artefact scatter (comprising two artefacts) and one isolated find were located during the survey, and these were both assessed as having low archaeological significance.

Previous Archaeological Work to the North of the Study Area

An area proposed for residential development at Monkey Jacket was surveyed by Rich and Brayshaw (1983), and no archaeological evidence was found.

Summary

The local heritage studies demonstrate that the study area and its immediate surroundings have been previously surveyed for archaeology. The methodologies for these surveys appear to have been adequate, and no sites have been located within the current proposed development area (the midden site 38-5-0148 being located in protected SEPP 14 wetlands and surrounded by a buffer zone).

4.1.3 Study Area AHIMS Data

A search of the Aboriginal Heritage Information Management System (AHIMS) Aboriginal Sites Database at DECC was undertaken on 21 May 2007, for a 12 km x 13 km area centred on the study area. A total of 31 recorded sites were identified within this search area (see *Figure 4.1*), which comprised 18 middens (one of which is associated with axe grinding grooves and one of which is associated with burials at North Head), eight stone artefact scatters (one of which is associated with a Potential Archaeological Deposit [PAD]), three burials (on the beach at North Head and Providence Bay, and at Winda Woppa), one set of axe grinding grooves and one natural mythological (ritual) site (at North Head).

This search of the local area shows that middens are the main Aboriginal site type recorded in the area, and these are predominantly located on the beach and bays of Port Stephens, and along the estuaries and rivers of the area (including the Myall River).

One midden site (38-5-0148) has been recorded in the study area, but is not located in the proposed development area. Two other middens are located within 300m to the south of the study area (see *Figure 4.1*). No other sites are located within 1.5 km of the study area.

Predictive Aboriginal Heritage Statement

Based upon the environmental background (*Chapter 3*), historical impacts (*Section 3.2*), regional and local archaeological patterns (*Section 4.1*) it is possible to provide a predictive statement for the likely occurrence of Aboriginal sites within the study area. Definitions of potential local Aboriginal sites are provided in *Table 4.2*.

Based on the archaeological and environmental context outlined above, it is predicted that shell middens are the type of site most likely to be found in the study area, particularly on the eastern boundary adjacent to the Myall River,

with its rich ecological resources. Stone artefacts are more likely to be found in association with middens, rather than being represented by individual sites. Scarred or carved trees may be present in the north eastern corner of the study area in the area of remnant vegetation. The disturbance that has occurred over the majority of the study area from the pine plantation indicates that no stone arrangements or ceremonial grounds will be found, and a lack of stone outcrops and cobbles within the study area indicates that stone quarry sites, shelter sites, rock art/engravings and axe grinding grooves will not occur.

It is unlikely but possible that burials may occur within the study area, most likely in association with midden material; however recorded burials in the vicinity indicate that burials are more likely to occur in middens in the soft sand of the beach and the bays of Port Stephens, rather than in the estuaries. There is no indication that burials are more likely to occur in the study area than in any of the surrounding localities. The KLALC believe that burials will not be found in the current study area as burials do not regularly occur in areas of intense food gathering.

Table 4.1 *Aboriginal sites known and potentially found in the local area*

Site types	Definitions
Shell middens	Middens predominantly consist of accumulations of shell that represent the exploitation and consumption of shellfish by Aboriginal people. Shell species may be marine, estuarine or freshwater depending on the environmental context. Middens frequently also include faunal remains, stone artefacts, hearths and charcoal.
Stone artefact scatters	Stone artefact scatter sites, also known as open campsites, are usually indicated by surface scatters of stone artefacts and sometimes fire blackened stones and charcoal. Where such sites are buried by sediment they may not be noticeable unless exposed by erosion or disturbed by modern activities. The term 'campsite' is used as a label which, in the case of open sites, does not necessarily imply that Aboriginal people actually camped at the site; rather it indicates only that some type of activity was carried out there.
Isolated Finds	Sites consisting of only one identified stone artefact, isolated from any other artefacts or archaeological evidence (and defined by an arbitrary separation distance of 50 m). They are generally indicative of sporadic past Aboriginal use of a location.
Grinding grooves	Grooves resulting from the grinding of stone axes or other implements are found on flat areas of suitable sandstone. They are often located near waterholes or creek beds as water is necessary in the sharpening process. In areas where suitable outcrops of rock were not available, transportable pieces of sandstone were used.
Scarred trees	Scarred trees bear the marks of bark and wood removal for utilisation as canoes, shields, boomerangs or containers. It is commonly very difficult to confidently distinguish between Aboriginal scars and natural scars or those made by Europeans. Scars may also originate as 'foot-marks', small pockets cut into the bark of a tree enabling the tree to be climbed.
Burial sites	Burials may be of isolated individuals, or they may form complex burial grounds. Often associated with other site types such as middens, or mounds.

4.2 *HISTORIC HERITAGE SEARCHES*

The background investigation included a search of the NSW Heritage Branch (Department of Planning), State Heritage Register (SHR) and Inventory (SHI), the Great lakes Local Environmental Plan (LEP) 1996 and the Register of the National Estate (RNE).

Four heritage listings exist for the suburb of Tea Gardens. These include the Court House, the Universal Store, the General Cemetery and an area of Wetland south of the current study area. None of the heritage listed items are within the current study area and no further assessment of historic heritage has been undertaken.

This section provides an overview of the survey of the study area undertaken to determine the presence of Aboriginal heritage sites.

5.1 2008 SURVEY DETAILS

5.1.1 Field Survey Methodology 2008

The study area was surveyed by the ERM Heritage Consultant Dr Diana Neuweger, archaeologist Guadalupe Cincuinnegi and Aboriginal representatives (see *Section 2*) on 21 April 2008. The survey attempted to look at areas of exposure within the study area.

When heritage sites were identified they were recorded by the survey team for content, GPS location and digitally photographed. Notes were made of soil conditions, evidence of disturbance and possible extent of sites. Areas with archaeological potential were identified upon the definitions in *Table 5.1*. Specific methodologies are described below.

Table 5.1 *Definitions of Archaeological Potential*

Rank	Definition	Example
No potential	Artefacts cannot occur in situ.	Eroded landforms, reconstructed landscapes, hazardous landscape, developed areas.
Low potential	Artefacts are not normally found in comparable contexts but could occur in low densities making detection unlikely.	Landforms with no specific focus for use, i.e. with water sources or undifferentiated slopes.
Moderate potential	Artefacts are known to occur in comparable landforms in detectable densities (~1artefact/m ²) and there is an unknown possibility for detection.	Landforms with an environmental focus which may have seen seasonal visitation.
High potential	Artefacts are consistently found in comparable landforms or similar environmental contexts and thus will certainly be found in any ground breaking works.	Landforms with known environmental focus encouraging repeat visitation to specific locale, i.e. margins of swamp or near high order creeks.

The survey was conducted according to the methodology discussed with all Aboriginal stakeholders.

The survey focused on the identification of Aboriginal heritage values relating to archaeological sites, although discussion also included Aboriginal intangible values and the importance of Aboriginal sites to the local community. Field survey methods were adopted to pursue the discovery of new archaeological sites, ensure their accurate recording and provide sufficient background information to provide an assessment of cultural significance to the extent that surface survey allowed.

5.1.2 *Fieldwork Constraints 2008*

There were several constraints to fieldwork that limited the visibility and the potential to discover archaeological sites.

The low lying parts in the eastern side of the study area were inundated with ankle deep water obscuring visibility. The south eastern part of the study area is natural wetland with wetland vegetation up to a metre in height and no visibility.

Photograph 5.1 Ground visibility in the wetland area



The western part of the study area is used as agricultural grazing land and again has low ground surface visibility.

The greatest visibility in any area of the site was 5%. With just less than 35% exposure over the site, the effective coverage of the study area was 1%.

The Effective Coverage Table is presented in *Annex B*.

5.1.3 *Survey Transects 2008*

The 2008 survey transects focused on areas of exposure that could be located within the various landforms. The 2008 transects and landform units within the study area are identified in *Table 5.2* and are shown in *Figure 5.1*. Further details are provided in *Annex B*.

Table 5.2 *Description of Transects Surveyed*

Transect	Landform	Description
T1	Wetland	Low lying areas, less than 2 metres above.
T2	Sand dune	Areas of sand dune raised above the 2 to 3 metre mark and therefore not inundated with water.
T3	Flat	Area of flat not above 10m ASL.

5.1.4 *Fieldwork Results 2008*

One new Aboriginal site was located during the survey. This midden site (Riverside 01) was located on sand dune, with shell material eroding out of the exposed sand. The midden site is further discussed in *Section 5.3.7*.

A summary of the results (site name, content and context) is provided in *Table 5.3*, the location of the site is shown in *Figure 5.3*. The AHIMS card for the site is included in *Annex B*.

Table 5.3 *Aboriginal sites recorded within the study area*

Site	Previously Recorded	Content	Transect/Landform/Aspect	Archaeological potential ¹
Riverside 01	No	Midden	T 2/ Sand Dune	Moderate Potential

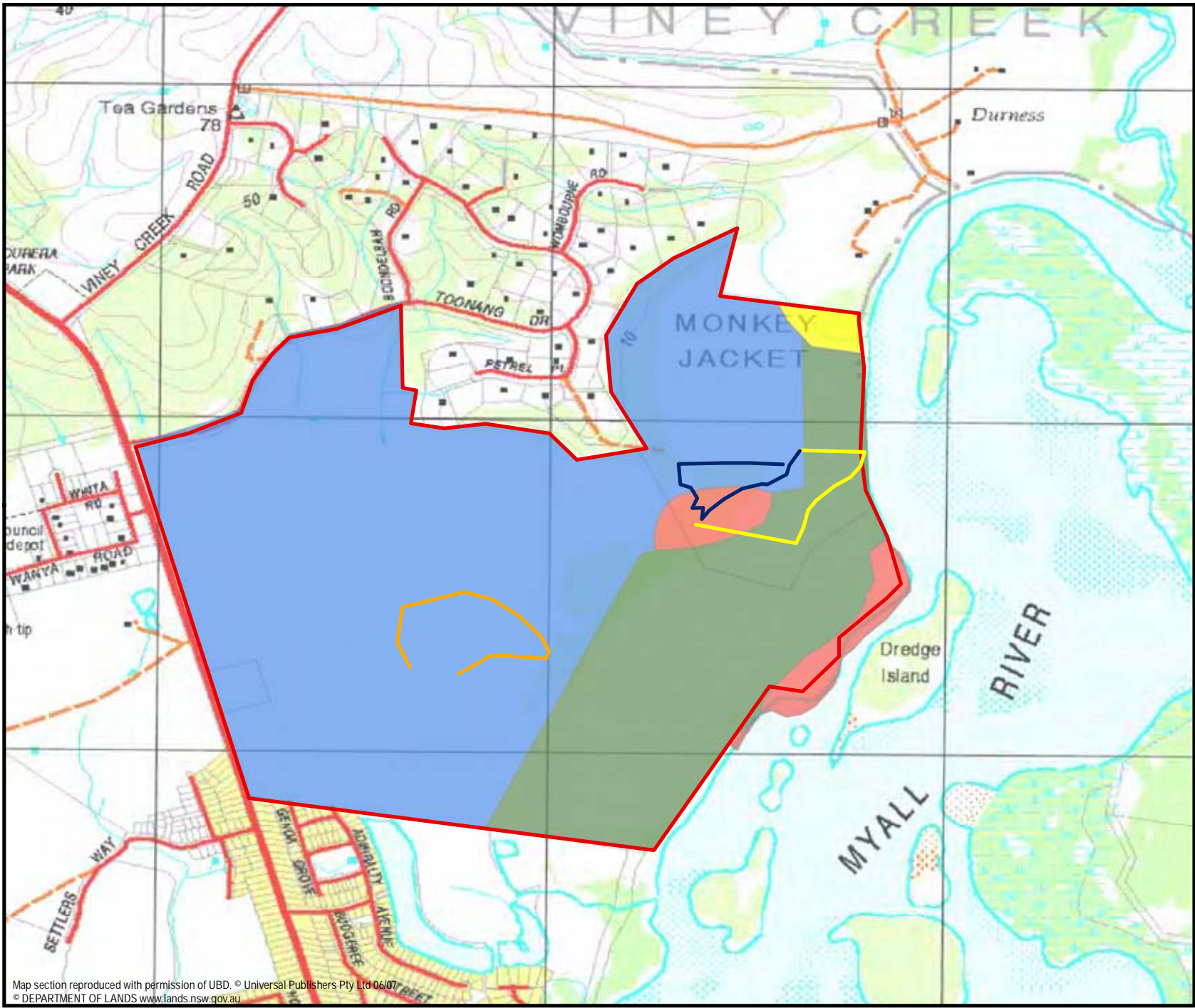
1 - Criteria for the assessment of archaeological potential is provided in *Table 5.1*

5.2 *2009 SURVEY DETAILS*

5.2.1 *Field Survey Methodology 2009*

With consideration given to the DECC comments and site conditions in 2008, the study area was re-surveyed by the ERM Heritage consultant and Aboriginal representatives (see *Chapter 2*) on 18 March 2009. The survey aimed to re-survey all landforms, within the study area, relocate the site identified by Brayshaw in the 1980's and Riverside 01 identified in 2008. Again areas of exposure were targeted during the survey.

When heritage sites were identified they were recorded by the survey team for content, GPS location and digitally photographed. Notes were made of soil conditions, evidence of disturbance and possible extent of sites. Areas with archaeological potential were identified upon the definitions in *Table 5.1*.



Legend

- Transect 1
- Transect 2
- Transect 3
- Study Area
- Creek Bank (Open Depression)
- Flat
- Wetland
- Raised Sand Dune

Suffix	Revisions	Date	Init
R0	Preliminary Issue	20-03-09	JS
R1	2008 Transects Added	01-05-09	JF

Figure 5.1
Landform Units in the Study Area and 2008 Transects

Client:	Crighton Properties		
Project:	Riverside at Tea Gardens		
Drawing No:	0043707s_GIS04	Suffix No:	R1
Date:	01/05/2009	Drawing size:	A4
Drawn by:	JS	Reviewed by:	DN
Source:	Dept. Lands		
Scale:	Refer to Scale Bar		

0 100 200 300m

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The survey was conducted according to the methodology discussed with all Aboriginal stakeholders.

The survey focused on the identification of Aboriginal heritage values relating to archaeological sites, although discussion also included Aboriginal intangible values and the importance of Aboriginal sites to the local community. Field survey methods were adopted to pursue the discovery of new archaeological sites, ensure their accurate recording and provide sufficient background information to provide an assessment of cultural significance to the extent that surface survey allowed.

As such, each of the different landforms identified in the study area were surveyed, namely wetland, sand dune, flat and open depressions.

5.2.2 *Fieldwork Constraints 2009*

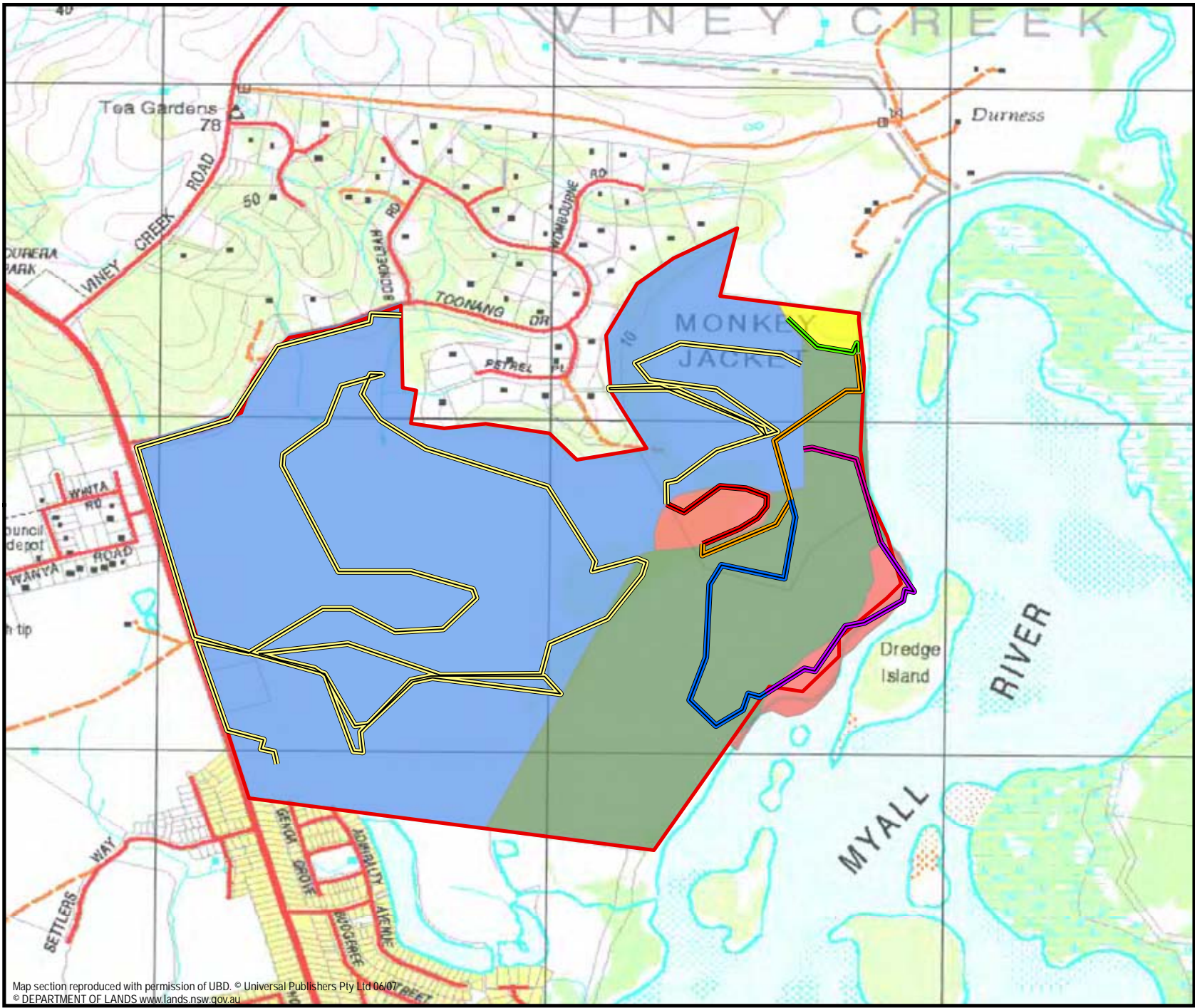
Again the ground visibility was limited across all the landform units. The wetlands areas were able to be traversed but again offered very limited ground visibility.

The effective coverage of the site was 3% (refer to the Effective Coverage Table presented in *Annex B*).

5.2.3 *Survey Transects 2009*

The survey transects covered every landform and attempted to locate areas of visibility within the study area. The transects on dune, wetland and open depression were walked and the areas of flat were inspected using both walking and vehicular transects.

Transects and landforms are identified in *Table 5.4* and *Figure 5.2*. Further details are provided in *Annex B*.



- Legend
- T01
 - T02
 - T03
 - T04
 - T05
 - T06
 - T07
 - Study Area
 - Creek Bank (Open Depression)
 - Flat
 - Wetland
 - Raised Sand Dune

Figure 5.2
Landform units in the study area and 2009 transects

Client:	Crighton Properties
Project:	Riverside at Tea Gardens
Drawing No:	0043707s_GIS05
Suffix No:	R0
Date:	20/03/2009
Drawing size:	A4
Drawn by:	JS
Reviewed by:	DN
Source:	Dept. Lands
Scale:	Refer to Scale Bar



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Table 5.4 *Description of Transects Surveyed*

Transect	Landform	Description
T1	Flat	Area of flat not above 10m ASL.
T2	Sand Dune	Areas of sand dune raised above the 2 to 3 metre mark and therefore not inundated with water.
T3	Wetland	Low lying areas, less than 2 metres above sea level.
T4	Open Depression	Area of drainage line, small ephemeral drainage line.
T5	Wetland	Low lying areas, less than 2 metres above sea level.
T6	Sand Dune	Areas of sand dune raised above the 2 to 3 metre mark and therefore not inundated with water.
T7	Wetland	Low lying areas, less than 2 metres above

5.2.4 *Fieldwork Results 2009*

Both previously recorded sites were re-located during the 2009 fieldwork.

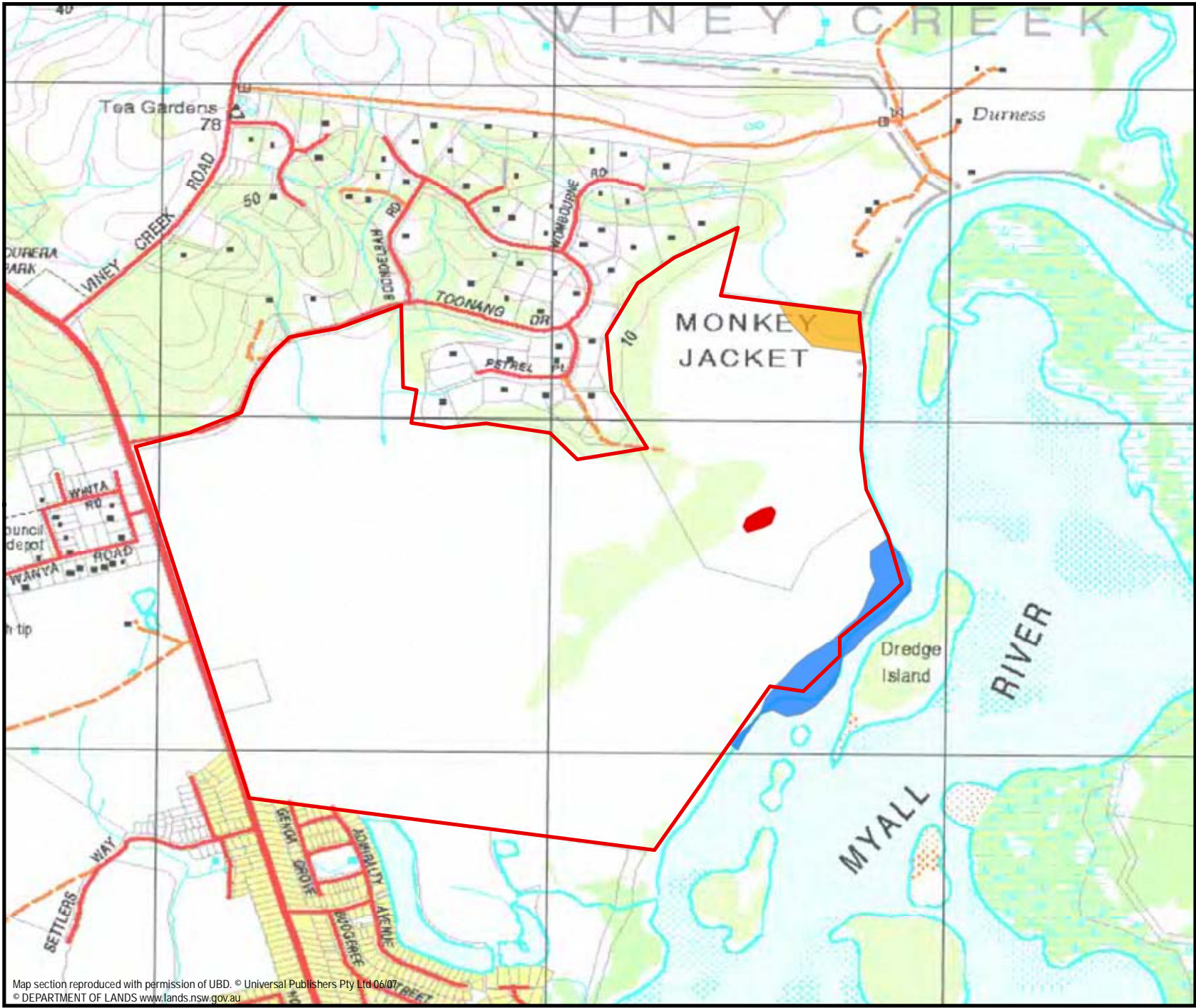
A summary of the results (site name, content and context) is provided in *Table 5.5*, the location of the sites is shown in *Figure 5.3*.

Table 5.5 *Aboriginal sites recorded within the study area*

Site	Previously Registered	Content	Transect/Landform/Aspect	Archaeological potential ¹
Riverside 01	No	Midden	T 2/ Sand Dune	Moderate potential
38-5-0148	Yes	Midden	T6/ sand Dune	Moderate potential

1 - Criteria for the assessment of archaeological potential is provided in *Table 5.1*

Figure 5.4 indicates an arc shaped area previously referred to by DECC as containing a potential archaeological deposit (PAD) in the south of the study area. During the 2009 survey, it was confirmed that this area is dominated by mangroves, rushes and reeds. This indicates that the area highlighted by DECC as a possible PAD is constantly waterlogged wetland and therefore not likely to contain any Aboriginal archaeological deposits or sites. No other areas of PAD are considered likely to occur within this landform unit, or within the south of the site as referred to by DECC.



- Legend
- Midden 38-5-0148
 - Area of Aboriginal Heritage Sensitivity
 - Riverside 01 midden
 - Study Area

Figure 5.3
Aboriginal Sites Recorded within the Study Area

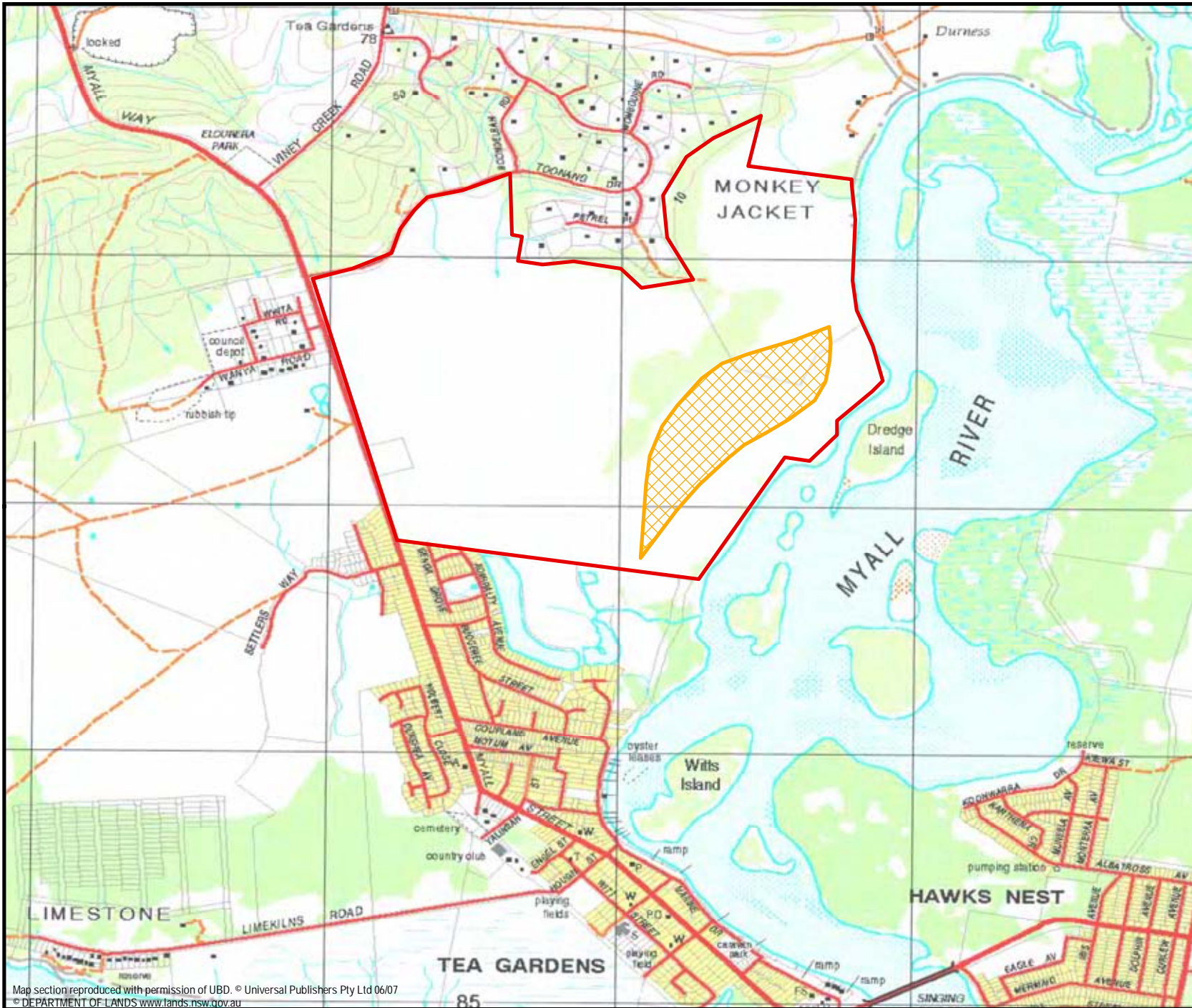
Client:	Crighton Properties
Project:	Riverside at Tea Gardens
Drawing No:	0043707s_GIS06
Suffix No:	R0
Date:	20/03/2009
Drawing size:	A4
Drawn by:	JS
Reviewed by:	DN
Source:	Dept. Lands
Scale:	Refer to Scale Bar



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Legend



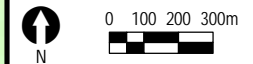
-  Study Area
-  Indicative Location Of PAD

Figure 5.4
Area Indicated by DECC as PAD

Client:	Crighton Properties		
Project:	Riverside at Tea Gardens		
Drawing No:	0043707s_GIS08_R0		
Date:	07/04/2009	Drawing size:	A4
Drawn by:	JF	Reviewed by:	DN
Source:	Dept. Lands		
Scale:	Refer to Scale Bar		



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5.3 *FIELDWORK RESULTS*

5.3.1 *Aboriginal Sites and Landform Photographs*

Photographs 5.2 to 5.15 provide an overview of survey conditions and detail site AS 1 (content and location).



Photograph 5.2
2009 Transect 07.
Facing South.
Low grass in a portion of the
wetland



Photograph 5.3
2009 Transect 07.
Showing ground visibility in
areas of wetland.



Photograph 5.4

2009 Transect 07.
Facing South.
Wetland- looking at area
considered to be possible PAD,
sowing dense aquatic flora.



Photograph 5.5

2009 Transect 07.
Facing South.
Showing southern extent of
study area, houses indicate the
edge of the study area.
Northern part of photo showing
the area considered to be
possible PAD and the dense
aquatic flora.



Photograph 5.6

2009 Transect 01.
Facing South.
Central portion of study area on
a flat.



Photograph 5.7

2009 Transect 01.
Facing South.
Eastern portion of study area on
a flat.



Photograph 5.8
2009 Transect 01.
Showing mixed ground cover.



Photograph 5.9
2009 Transect 01.
Facing North.
North eastern portion of study area in flat (no discernable slope seen here).



Photograph 5.10
2009 Transect 04.
Facing North.
Open depression of drainage line.



Photograph 5.11
2009 Transect 04.
Facing North.
Open depression of drainage line showing ground cover and deeply incised banks.



Photograph 5.12
2009 Transect 06.
Facing South.
Showing sandy bank of Myall
River.



Photograph 5.13
2009 Transect 06.
Dredge Midden 38-4-0148 .



Photograph 5.14
2008 Transect 02.
Riverside 01 Midden



Photograph 5.15
2008 Transect 02.
Facing east.
Riverside 01 Midden.

5.4 *DISCUSSION OF SURVEY RESULTS*

5.4.1 *Observed Landforms*

Over the study area there were four distinct landforms: wetland, sand dune, flat and open depression.

The wetland area on the eastern side of Myall Lake is prone to periodic inundation and the vegetation in this landform characterised by swamp and wetland species. This landform is unlikely to contain in situ archaeological deposit as it is disturbed by flooding activity and is not an area that would have provided a comfortable place for Aboriginal use (i.e. stone tool making or eating of shell fish).

The sand dune was where the two midden sites have been recorded. These areas are raised above the flood level and are located close to the source of the shell fish and thus would have been a suitable area to prepare and consume food, resulting in the material now seen deflating out of the sand dunes. This is the most archaeological sensitive landform in the study area and is known to contain Aboriginal archaeological sites.

The flat landform that encompasses all of the western and central portion of the study area had low visibility. This landform is not considered to contain the potential for Aboriginal occupational evidence as sites are not locally found in this type of landform. There was no evidence during fieldwork that this landform contained any Aboriginal archaeological artefacts. Most of this landform has been cleared in the recent past for agricultural purposes and the trees are predominantly young, and therefore could not be scarred or carved. The areas of remnant vegetation were also checked for scarred or carved trees but none were observed.

The final landform in the study area was an area of open depression in the north eastern part of the study area. The small unnamed drainage line that flows into Myall River on the western edge has been disturbed by the construction of a dam; most likely for the watering of cattle. The drainage line was steep sided and contained moderate ground visibility. While no artefacts or sites were located on this landform, the area does contain the some Aboriginal significance, and the landform has moderate archaeological potential as Aboriginal sites are found in comparable local contexts. Therefore this landform has some sensitivity.

5.4.2

38-5-0148 Dredge Midden

This site was relocated in the 2009 fieldwork. All the areas of raised sand dune along the south eastern edge of Myall River adjacent to Dredge Island showed midden material, as indicated in the original site card. The midden deposit was not dense and most of what can be seen showed a sparse scattering of shell on the surface. No Aboriginal stone artefacts were noted in the midden material. *Figure 5.3* shows the extent of the midden.

The shell species present included cockle, whelk, mud oyster and pipi. The midden is located within the SEPP 14 wetland and therefore is considered to have been minimally disturbed.

5.4.3

Riverside 01

This midden site was originally recorded during the 2008 fieldwork and revisited during the 2009 survey. The midden is located on a raised sand dune area close to the wetland. The midden is currently overgrown with grass and the full extent and nature of the deposit could not be fully determined. The midden contained several species of edible shellfish, including cockle, whelk, mud oyster and pipi. The midden deposit was not dense and most of what could be seen showed a sparse scattering of small shell fragments on the surface. The size of shell fragments may relate to the current land use, where grazing cattle may have trampled the midden surface.

The midden is spread along the south east edge of the sand dune ridge with commanding views of the Myall River. The dune system is currently stabilised by non-native grasses. While this is preventing erosion of the dune system and midden, it also obscured an accurate assessment of the midden extent. The maximum extent recorded during the survey was 80 metres in length (south westerly to north westerly direction) by 17 metres wide (north westerly to south easterly direction).

6.1.1 *Preamble*

Aboriginal heritage sites, objects and places hold value for communities in many different ways. The nature of those heritage values is an important consideration when deciding how to manage a heritage site, object or place and balance competing land-use options. The NPWS Aboriginal Cultural Heritage Standards and Guidelines Kit (1997) states:

While Aboriginal sites and places may have educational, tourism, and other values to groups in society their two principal values are likely to be in terms of their cultural/social significance to Aboriginal people and their scientific significance to archaeologists. It is thus possible to identify two main streams in the overall significance assessment process: the assessment of cultural/social significance to Aboriginal people and the assessment of scientific significance to archaeologists... (1997: PDF page 92)

Therefore this assessment focuses upon the scientific significance assessment of the sites observed and recorded during the survey. The Aboriginal community has provided input into the survey and assessment and has been afforded the opportunity to comment on this report for a cultural and social significance assessment of the sites recorded.

6.1.2 *Scientific Significance Assessment*

The primary guide to management of heritage places is the Australia ICOMOS Burra Charter 1999. The Burra Charter defines cultural significance as:

Cultural significance means aesthetic, historic, scientific, social or spiritual value for past, present or future generations.

Cultural significance is embodied in the [place](#) itself, its [fabric](#), [setting](#), [use](#), [associations](#), [meanings](#), records, [related places](#) and [related objects](#).

Places may have a range of values for different individuals or groups.

This assessment has sought to identify Aboriginal heritage objects and sites within the study area and obtain sufficient information to allow the values of those objects and sites to be determined. NPWS (1997:93) have stated that 'while various criteria for archaeological significance assessment have been advanced over the years, most of them fall under the heading of archaeological research potential'. As such, six key criteria may be used to examine the scientific value/significance of a site. These are:

Rarity: whether any or all aspects of a site (type, location, integrity, content and archaeological potential) can be considered common or rare within a local, regional or national context;

Representativeness: the comparative rarity of the site when considered and contrasted against other similar sites conserved at the local and/or regional level;

Connectedness: whether the site can be connected to other sites at the local or regional level through aspects such as type, chronology, content (i.e. materials present, manufacturing processes), spatial patterning or ethno-historical information;

Integrity: the level of modification a site has been subject to (the cultural and natural formation process) and whether the site could yield intact archaeological deposits, which could be spatially meaningful;

Complexity: the demonstrated or potential ability of a site to yield a complex assemblage (stone, bone and/or shell) and/or features (hearths, fire pits, activity areas); and

Archaeological potential: the potential to yield information (from sub-surface materials which retain integrity, stratigraphical or not) that will contribute to an understanding of contemporary archaeological interest, or which could be saved for future research potential.

6.2 *SCIENTIFIC SIGNIFICANCE ASSESSMENT*

6.2.1 *38-5-0148 Dredge Midden*

This midden was originally recorded by Brayshaw and considered to be of high archaeological significance.

Middens are the most common site type in the study area. Dredge Midden is undisturbed and therefore is rare as the deposit is intact. Middens have a connectedness with other sites in the area as they show the subsistence strategies in the local area. There is potential that sub-surface expression of the midden contains more scientific information about the subsistence strategies exploited in the area.

There was no evidence of change or additional disturbance since the recording of the site by Brayshaw and therefore ERM concur with Brayshaws findings.

6.2.2 *Riverside 01*

This midden showed disturbance from the grazing of cattle over the midden area. Middens are the most common site type in the study area. Middens have a connectedness with other sites in the area as they show the subsistence strategies in the local area. Even with the moderate disturbance of the surface of the midden there is potential that sub-surface expression of the midden contains more scientific information about the subsistence strategies exploited in the area.

As the full extent and nature of the midden could not be determined it is considered that the midden has moderate scientific significance.

6.2.3 *Summary of Significance Assessment*

Table 6.1 provides an overview of the significance assessment.

Table 6.1 *Summary of Significance Assessment*

Site	Archaeological potential	Scientific significance	Aboriginal social significance ¹
38-5-0148 Dredge Midden	Moderate	High	High
Riverside 01	Moderate	Moderate	High

1 – derived from discussion with local Aboriginal community representatives

This chapter provides an impact assessment for each of the Aboriginal sites identified in *Table 5.4*.

The proposed development of the study area consists of a residential/mixed use precinct over the majority of the site and a tourist and larger lot component in the north eastern corner of the site (see *Figure 1.2*).

7.1

POTENTIAL IMPACTS TO ABORIGINAL HERITAGE SITES

Both sites are located within buffer zones. 38-5-0148 Dredge Midden is located in the 7(a) wetland zone which will be protected (see as Item 2 on the Concept Plan). This site will not be directly impacted by the proposed development.

Indirect impacts from the increased use of the foreshore area and the use of Myall River for water sports activities can have the potential to impact negatively on the Dredge Midden. Increased water wash can increase the erosion processes occurring at the site thus damaging the midden. Therefore investigations should be undertaken to ascertain effective methods to protect the midden from these erosive processes.

Riverside 01 is located within the 2(f) Mixed Use Residential zone but has been placed next to a minimum 10m wide buffer zone (Item 3 on the Concept Plan). The 10m wide buffer area is considered to be of sufficient width to protect the midden from the direct impact of the surrounding development. Riverside 01 midden is present on all the areas of raised sand dune. A ten metre buffer around the raised sand dune area will ensure that the erosive process from animal and human activities are not able to directly impact on the midden. Middens are by nature soft sandy deposits that are easily disturbed and destroyed by simple activities such as walking and driving on them. Thus a buffer will ensure that the delicate deposit of the midden is protected from unintentional damage that can occur through increased use of this landscape. This recommended buffer zone was again confirmed in the field during the 2009 survey and agreed with the local Aboriginal community representatives.

Table 7.1 provides an overview of the potential impacts to each of the Aboriginal sites identified and whether these impacts will require archaeological mitigation (refer to *Chapter 9*). It should be noted that all Aboriginal sites are protected under NSW legislations (see *Chapter 8*) and require an impact permit prior to any excavation.

Table 7.1 *Aboriginal sites potentially impacted by the proposal*

Site	Scientific significance	Aboriginal social significance	Direct Impact by Development	Archaeological mitigation required
38-5-0148 Dredge Midden	High	High	No	Yes for indirect impacts.
Riverside 01	Moderate	High	No	Yes for indirect impacts.

Aboriginal cultural heritage in NSW is protected by the *National Parks and Wildlife (NPW) Act 1974*. Land managers are required to consider the affects of their activities or proposed development on the environment under several pieces of legislation, principally the *Environmental Planning & Assessment Act 1979*. Cultural heritage, which includes indigenous heritage, is subsumed within the definition of “environment”. Commonwealth legislation protecting indigenous heritage may also apply to indigenous heritage places in NSW in certain circumstances. Key legislation is summarised below.

8.1 **NATIONAL PARKS AND WILDLIFE ACT 1974 (NSW)**

Aboriginal objects within the state of New South Wales are protected under Part 6, and particularly Section 90, of the *National Parks and Wildlife Act 1974*.

Under Section 5 of the Act, “Aboriginal Object” means any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains.

Sites of traditional significance that do not necessarily contain archaeological materials may be gazetted as “Aboriginal places” and are protected under Section 84 of the Act. This protection applies to all sites, regardless of their significance or land tenure. Under Section 90, a person who, without first obtaining the consent of the [Director-General](#), knowingly or unknowingly destroys, defaces or damages, or knowingly causes or permits the destruction or defacement of or damage to, an [Aboriginal object](#) or [Aboriginal place](#) is guilty of an offence.

As this project is being undertaken under Part 3A of the EP&A Act, as the assessment and approvals process for projects that are considered (by the Minister for Planning) to be of state significance. The Director-General has deemed an Aboriginal cultural heritage assessment necessary for the project. However, approved projects under Part 3A of the Act do not require Section 90 consents under the NPW Act.

8.2 **HERITAGE ACT 1977 (NSW)**

The *Heritage Act 1977* protects the natural and cultural history of NSW with emphasis on non-indigenous cultural heritage through protection provisions and the establishment of a Heritage Council.

The *Heritage Act 1977* provides blanket protection for subsurface relics and for heritage items of state significance listed on the State Heritage Register. The Act defers to local planning instruments under the *Environmental Planning &*

Assessment Act 1979 for the protection of items of local significance (“items of the environmental heritage”).

While Aboriginal heritage sites and objects (“relics”) are protected principally by the *NPW Act 1974*, if an Aboriginal site, object or place is of great significance it can be protected by a heritage order issued by the Minister on the advice of the Heritage Council.

The Heritage Act does not apply to Aboriginal heritage items found within the study area.

8.3

ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 (NSW)

The *Environmental Planning and Assessment Act 1979* (EP&A Act) requires that environmental impacts are considered in land-use planning, including impacts on indigenous and non-indigenous heritage. Various planning instruments prepared under the Act identify permissible land use and development constraints.

The NSW NPWS provide guidelines for Aboriginal heritage assessment, including those conducted under the *EP&A Act 1979*. Where Aboriginal heritage assessment is conducted under the Integrated Development Approval process, a more detailed set of NPWS guidelines applies.

Part 5 of the *EP&A 1979* Act regulates the process of activities not covered under Part 4 of the Act. Part 5 requires that all public authorities undertaking activities that do not require development consent, internalise environment considerations, regardless of the terms of their statutory mandate. The duty is to prepare and consider an EIS for the activity to be undertaken. Part 5 of the Act necessitates consents under other NSW legislation as relevant.

8.4

ABORIGINAL AND TORRES STRAIT ISLANDER HERITAGE PROTECTION ACT 1984 (COMMONWEALTH)

The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* protects areas and/or objects which are of significance to Aboriginal people and which are under threat of destruction. The Act can, in certain circumstances override state and territory provisions, or it can be implemented in circumstances where state or territory provisions are lacking or are not enforced. A significant area or object is defined as one that is of particular importance to Aboriginal people according to Aboriginal tradition. The Act must be invoked by or on behalf of an Aboriginal or Torres Strait Islander or organisation.

The following management and mitigation statements are made in light of the sites recorded during the various field surveys, background research, predictive modelling, heritage significance assessment, relevant NSW legislation protecting Aboriginal heritage.

Two Aboriginal heritage sites, both middens, are located with the study area. The proposed development will not directly impact these Aboriginal heritage sites, however there is the potential for indirect impacts which should be mitigated. The area suggested to be a PAD in the southern part of the study area has been determined to contain no archaeological potential and therefore requires no further management or mitigation.

Therefore the following is recommended:

- the current threat (cattle trampling) to midden Riverside 01 can be prevented by fencing the area of raised sand dune to ensure that cattle are prevented from accessing this area;
- for the indirect impacts of the proposed development a management plan should be developed in consultation with the local Aboriginal community to ensure the long-term protection of the middens. This management plan should consider the use of fencing, designated walkways and interpretive signage at Riverside_01 as an educational resource. Monitoring during any ground disturbing works by the Local Aboriginal Land Council should occur of the landform (raised sand dune) around Riverside_01 midden. No development or excavation works should be undertaken within the tourist precinct until this management plan has been finalised and approved by the Karuah LALC and DECC;
- based on the location of Dredge Midden (site 38-05-0148) within the SEPP 14 wetland, associated buffer zones and the proposed constructed walkway within the development footprint adjacent to the wetland buffer providing controlled public access, no further protection measures are required. Should plans change resulting in development occurring closer to the midden, or indirect impacts increase, means of protecting the midden should be investigated and implemented;
- the remainder of the study area has limited potential for additional sites to be present and no specific management measures or monitoring is recommended from an archaeological perspective. Following consultation with the local Aboriginal community, monitoring of clearing and initial excavation works has been requested by the Karuah LALC. This would not be undertaken as an archaeological activity;
- if during clearing or construction works Aboriginal artefacts are recovered a qualified archaeologist should at this time be contacted and the site recorded and assessed in consultation with the Aboriginal community. Once recording has occurred and a Care and Control Permit approved

under Section 85a of the NP&W Act (if required), any salvage can be undertaken and works (with minimal disruption) can continue;

- a suitable area should be set aside for the possible containment of any cultural heritage material that is uncovered during the construction works. This dedicated 'keeping place' would only be required in the event that material is uncovered and would be under the care and control of the local Aboriginal community in accordance with a management plan; and
- in the event of discovery of skeletal material all works should cease, and the police, relevant local Aboriginal community groups and a suitably experienced archaeologist or physical anthropologist should be contacted to assess the material before determining the correct management action. Works should not resume until the Police and/or DECC have given authority in writing and approved a management plan.

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Annex A

Aboriginal Stakeholder Consultation

Table A.1 Consultation Stage 1: Advisory Requests

Date	Organisation/group/individual	Contact Name	Details
04-May-07	Myall Coast Nota	N/A	Ad to appear on Thursday 10th May 2007, given response date of 24 May 2007. Response from private person.
04-May-07	Native Title Services	N/A	Search of NNTT website of Great Lakes LGA shows 9 non-claimant application (one of which was for the Forster LALC and was full-approved), and one claimant application, which is active. This was for a private person and Ors, but it is for the area of Forster-Tuncurry.
04-May-07	DECC		Email requesting groups to consult. Letter received 15/05/07 identifying 1 Aboriginal party who may be interested in being consulted.
04-May-07	Registrar of Aboriginal Owners		Email requesting groups to consult. Email received 10/5/07 with list of two Local Aboriginal Land Councils (Worimi and Karuah) and a private person. As the area is only within the Karuah LALC area, no further consultation was undertaken with Worimi LALC.
04-May-07	Great Lakes Council		Email requesting groups to consult. Email received 7/5/07 with list of four Local Aboriginal Land Councils (Worimi, Purfleet-Taree, Karuah and Forster). As the area is only within the Karuah LALC area, no further consultation was undertaken with the other three LALCs. Email also suggested checking for cultural values in the Local Environmental Study for the Myall River Downs opposite, however this did not identify any relevant cultural values.
04-May-07	Karuah LALC	N/A	Email requesting groups to consult.
10-May-07	Interim Board of Management for Worimi Conservation Lands		Email requesting groups to consult.
16-May-07	Guiwain Elder Group	N/A	Letter requesting groups to consult. (NB. In a previous job, ERM tried to post this group a letter to the address given by DECC but it came back marked Return To Sender. Looked on whitepages, yellowpages, blackpages, ORAC and google but could not find any mention of them so posted to the address given by DECC.)
24-May-07	Guiwain Elder Group	N/A	Letter requesting groups to consult returned to sender as "wrong box number".
07-Jun-07	Maaiangal Cultural & Heritage	N/A	Phone call to see whether they are interested in being consulted.
15-Jun-07	Maaiangal Cultural & Heritage	N/A	Phone call to see whether they are interested in being consulted. They said that the study area is not within their area of interest.

Table A.2 Consultation Stage 1: Aboriginal Group Registrations Received

Date	Organisation/group/individual	Contact Name	Details
15-May-07	Karuah LALC		Email expressing interesting in being consulted on the project.
18-May-07	N/A		Fax in response to newspaper article, expressing interesting in being consulted on the project.
07-Jun-07	Interim Board of Management for Worimi Conservation Lands		Email with list of two Local Aboriginal Land Councils (Worimi and Karuah) and Maaiangal Cultural & Heritage. As the area is only within the Karuah LALC area, no further consultation was undertaken with Worimi LALC.

Table A.3 Consultation Stage 2: Briefing and Desktop Methodology Advice Sent

Date	Organisation/group/individual	Contact Name	Details
14-Jun-07	Karuah LALC		Email of proposed methodology with response date of 5 July 2007. Rang and left message, and emailed, on 23/07/2007 to see if they had any further comments.
14-Jun-07	N/A		Fax of proposed methodology with response date of 5 July 2007. Rang 23/07/2007 to see if it had been received and if a response would be forthcoming. Advised that it hadn't been received, so I resent it and confirmed that it had arrived.
14-Jun-07	Interim Board of Management for Worimi Conservation Lands		Email of proposed methodology with response date of 5 July 2007.

Table A.4 Consultation Stage 2: Aboriginal Comments Received

Date	Organisation/group/individual	Contact Name	Details
15-Jun-07	Hunter Region Aboriginal heritage officer		Phone call saying contact had been in touch with him about my recent correspondence. He said I should contact Karuah LALC and DECC in Coffs Harbour, which we had already done.
25-Jul-07	N/A		Contact advised that they were happy with the methodology and that the midden wouldn't be disturbed. Also advised that they were a member of the Land Council and knew that the Land Council were also aware of the midden and that it wouldn't be disturbed.
25-Jul-07	Karuah LALC		Contact said they were happy with that methodology, as the midden material wasn't to be disturbed.

Table A.5 Consultation Stage 2: Briefing and Survey Methodology Advice Sent (2008 Survey)

Date	Organisation/group/individual	Contact Name	Details
18-Mar-08	KLALC		Spoke to Contact and gave a very brief background on the history of the project and the requirement for an updated field survey and assessment. KLAC only opened Tuesday and Wednesday so I will ensure that the methodology is emailed before Tuesday. Confirmed email address.
18-Mar-08	Private Person		Spoke to Contact and advised that the project was ongoing and that DECC had requested further survey worked as the original survey was 20 years old. Contact indicated that they may be able to attend the survey. If not they would still like to review the draft report. Contact will liaise with the LALC in the event that they are unable to attend the survey due to work commitments. Noted new postal address.
18-Mar-08	Interim Board of Management for Worimi Conservation Lands		Left message and contact details for Contact.
20/03/2008	Interim Board of Management for Worimi Conservation Lands		Called Contact. They had passed on the ERM contacts details to the liaison officer but as yet have not heard from them. Will send the proposed methodology to Contact and they will pass it on. Noted new postal address.
20/03/2008	Karuah LALC		Email of proposed methodology with response date of 5 July 2007. Rang and left message, and emailed, on 23/07/2007 to see if they had any further comments.
20/03/2008	Private Person		Fax of proposed methodology with response date of 5 July 2007. Rang 23/07/2007 to see if they had a response, but they hadn't received it, so I resent it and confirmed that it had arrived.
20/03/2008	Interim Board of Management for Worimi Conservation Lands		Email of proposed methodology with response date of 5 July 2007.

Table A.6 Consultation Stage 2: Aboriginal Comments Received (2008 Survey)

Date	Organisation/group/individual	Contact Name	Details
8/04/2008	KLAC		Phoned Contact to see if they had any comments on the proposed methodology. They will not be able to respond until next Tuesday 15 April 2008 as they have not been able to get anyone in to the office until then.
15/04/2008	KLALC		Phoned Contact to see if they had any comments and to confirm survey details. Contact 2 will give me a call to organise the fieldwork for next week.
16/04/2008	KLALC		Phoned Contact. Two people from the LALC will attend the survey next week. I will send all of the meeting details and they will be passed on. Any day next week is fine. Advised that it is expected to take one day, however if it requires more we will continue until it is complete.
17/04/2008	Private Person		Sent email confirming survey for Monday 21/04/08 at 9.30am.
18/04/2008	KLALC		Phoned Contact to confirm that they received the survey details.
18/04/2008	Private Person		Phoned Contact to see if they had any comments on the proposed methodology and to confirm the surveys date/time. Contact did not receive the methodology but would like to attend the survey. Confirmed details.
18/04/2008	Interim Board of Management for Worimi Conservation Lands		Left message and contact details for Contact. Confirmed that LALC and Contact would be undertaking the survey on Monday and that they could call me to confirm the details if they wanted to attend. If not, I will send draft copies of the report for their review and comment.

Table A.7 Consultation Stage 3: Draft Report Sent (2008 Survey)

Date	Organisation/group/individual	Contact Name	Details
31/07/2008	Karuah LALC		Posted hardcopy of draft report requesting feedback within two weeks.
31/07/2008	Private Person		Posted hardcopy of draft report requesting feedback within two weeks.
31/07/2008	Interim Board of Management for Worimi Conservation Lands		Posted hardcopy of draft report requesting feedback within two weeks.

Table A.8 Consultation Stage 3: Aboriginal Comments Received (2008 Survey)

Date	Organisation/group/individual	Contact Name	Details
5/08/2008	KLALC		Response received via fax (as attached). KLALC agrees with the recommendations although they would like to see more thorough investigation of known sites if the concept plan is amended. They also recommended that a keeping place is set aside.
5/08/2008	DECC Cultural and Heritage Division Northern		Response received via email (draft report forwarded to DECC for comment by contact).

Table A.9 Consultation Stage 3: Follow up on Aboriginal Comments Received (2008 Survey)

Date	Organisation/group/individual	Contact Name	Details
20/08/2008	KLALC		Spoke to Contact to clarify their recommendations. KLALC agree with the recommendations contained in the report including the provision of a minimum 10m buffer around the midden site, the preparation of a management plan prior to development commencing in the tourist precinct. KLALC also request the monitoring of all excavations works within the development area. In addition to the original recommendations, as requested by KLALC, the developer will set aside an area for the containment of any cultural material if it is uncovered during the monitoring works. It is also recognised that further surface/sub surface investigations may be required if the concept plan is amended to further assess the significance of the recorded sites. No further surveys are recommended by the KLALC in regards to the current proposal.
22/08/2008	DECC Cultural and Heritage Division Northern		Spoke to Contact to clarify the recommendations provided by DECC. Confirmed that KLALC agree with the recommendations contained in the report and the developer will set aside an area for the containment of any cultural material if it is uncovered during the monitoring works, as recommended. DECC indicated that the recommended 10m buffer and management plan as agreed with the KLALC would be sufficient to protect the recorded site. As the concept plan provides a large buffer to the SEPP14 wetland and does not include any marinas or other shoreline activities, the need for a management plan to minimise impact on inter-tidal aquatic habitat and coastal processes is not a requirement. This was followed up by email to confirm that follow up consultation had been undertaken and that the KLALC was happy with the recommendations contained in the report.
22/01/09	KLALC		Faxed received from KLALC confirming that they are satisfied with the recommendations contained in the report.

Table A.10 Consultation Stage 2: Briefing and Methodology Sent (2009 Survey)

Date	Organisation/group/individual	Contact Name	Details
23-Feb-09	Karuah LALC		Letter Sent
23-Feb-09	Private Person		Letter Sent/ Returned to sender
23-Feb-09	Interim Board of Management for Worimi Conservation Lands		Letter sent

Table A.11 Consultation Stage 2: Aboriginal Comments Received (2009 Survey)

Date	Organisation/group/individual	Contact Name	Details
02-Mar-09	Karuah LALC		Fax stating agreement with methodology and interested in participating in fieldwork.
12-Mar-09	Worimi Conservation Lands		Email stating this organisation no longer exists.
13-Mar-09	Private Person		Phone call to contact, unavailable for fieldwork as they have full time job but would like to receive report for comment.

Table A.12 Consultation Stage 3: Fieldwork Participation (2009 Survey)

Date	Organisation/group/individual	Contact Name	Details
18-Mar-09	Karuah LALC		Three reps participated in fieldwork

Table A.13 Consultation Stage 3: Draft Report Sent (2009 Survey)

Date	Organisation/group/individual	Contact Name	Details
13/01/2011	Karuah LALC		Emailed electronic copy of report requesting feedback within two weeks.
13/01/2011	Private Person		Posted hardcopy of report requesting feedback within two weeks.

Table A.14 Consultation Stage 3: Aboriginal Comments Received (2009 Survey)

Date	Organisation/group/individual	Contact Name	Details
21/01/11	KLALC		Response received via fax (as attached). KLALC agrees with the recommendations of the report. They also recommended that a keeping place is set aside which would be under the care and control of the KLALC.
24/1/11	Private Person		Called to discuss the report and see if they had any feedback on the report and its recommendations. There was no answer. Left message to return my call.

Notice of Aboriginal Consultation

Riverside site, Tea Gardens

An Aboriginal heritage assessment is proposed for the Riverside site at Tea Gardens. Aboriginal organisations or individuals wishing to be consulted for this assessment are invited to register a written expression of their interest by Thursday 24 May 2007.

Please respond in writing to:

Cultural Heritage Services
Attn: Jenna Lamb
Environmental Resources Management Australia
Locked Bag 24
Broadway NSW 2007

Or by fax on 02 8584 8800.



Jenna Lamb/ERMAU/ERM
04/05/2007 12:33 PM

To [Redacted]

cc

bcc

Subject Aboriginal heritage assessment, Tea Gardens

To whom it may concern,

In accordance with the Department of Environment and Conservation Interim Community Consultation Requirements, Environmental Resources Management Australia (ERM) wishes to inform you that we are undertaking an Aboriginal heritage assessment of an area proposed for residential, tourist and commercial development at the Riverside site in Tea Gardens (please find attached a map of the study area). The study is being undertaken on behalf of Crighton Properties Pty Ltd as part of an Environmental Assessment of the area.

We would be grateful if you could supply us with a list of all known Aboriginal groups or individuals who would be interested in being consulted on this project within ten working days. If you have any specific information concerning the cultural values of the study area, we would be grateful if you could let us know. Our contact details are listed in this email signature.

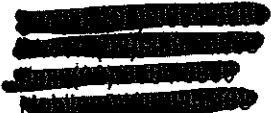
If you have any queries concerning the project, please feel free to contact me by email or on the numbers listed below.

Many thanks,
Jenna.



0043707 consultation map.jpg

Jenna Lamb
Graduate Archaeologist
Environmental Resources Management Australia Pty Ltd
[Redacted]
Locked Bag 24, Broadway NSW 2007



ERM - Environmental Adviser of the year 2005 & 2006: Acquisitions Monthly

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Jenna Lamb /ERMAU/ERM
04/05/2007 10:59 AM

To [REDACTED]
cc
bcc

Subject Aboriginal heritage assessment, Tea Gardens

Dear [REDACTED]

In accordance with the Department of Environment and Conservation Interim Community Consultation Requirements, Environmental Resources Management Australia (ERM) wishes to inform you that we are undertaking an Aboriginal heritage assessment of an area proposed for residential, tourist and commercial development at the Riverside site in Tea Gardens (please find attached a map of the study area). The study is being undertaken on behalf of Crighton Properties Pty Ltd as part of an Environmental Assessment of the area.

We would be grateful if you could supply us with a list of all known Aboriginal groups or individuals who would be interested in being consulted on this project within ten working days. If you have any specific information concerning the cultural values of the study area, we would be grateful if you could let us know. Our contact details are listed in this email signature.

If you have any queries concerning the project, please feel free to contact me by email or on the numbers listed below.

Many thanks,
Jenna.



0043707 consultation map.jpg

Jenna Lamb
Graduate Archaeologist
Environmental Resources Management Australia Pty Ltd
Building C, 33 Saunders Street, Pyrmont NSW 2007
Locked Bag 24, Broadway NSW 2007

Switch: (02) 8584 8888
Direct: (02) 8584 8833
Fax: (02) 8584 8800
Mobile: 0428 885 488

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16 May, 2007

Gulwain Elder Group
[REDACTED]
[REDACTED]

Our Reference: 0043707L01 GUIWAIN.DOC



Dear Sir/Madam,

RE: ABORIGINAL HERITAGE ASSESSMENT, TEA GARDENS

In accordance with the Department of Environment and Conservation Interim Community Consultation Requirements, Environmental Resources Management Australia (ERM) wishes to inform you that that we are undertaking the Aboriginal consultation process for an area proposed for residential, tourist and commercial development at the Riverside site in Tea Gardens (please find enclosed a map of the study area). The study is being undertaken on behalf of Crighton Properties Pty Ltd as part of an Environmental Assessment of the area.

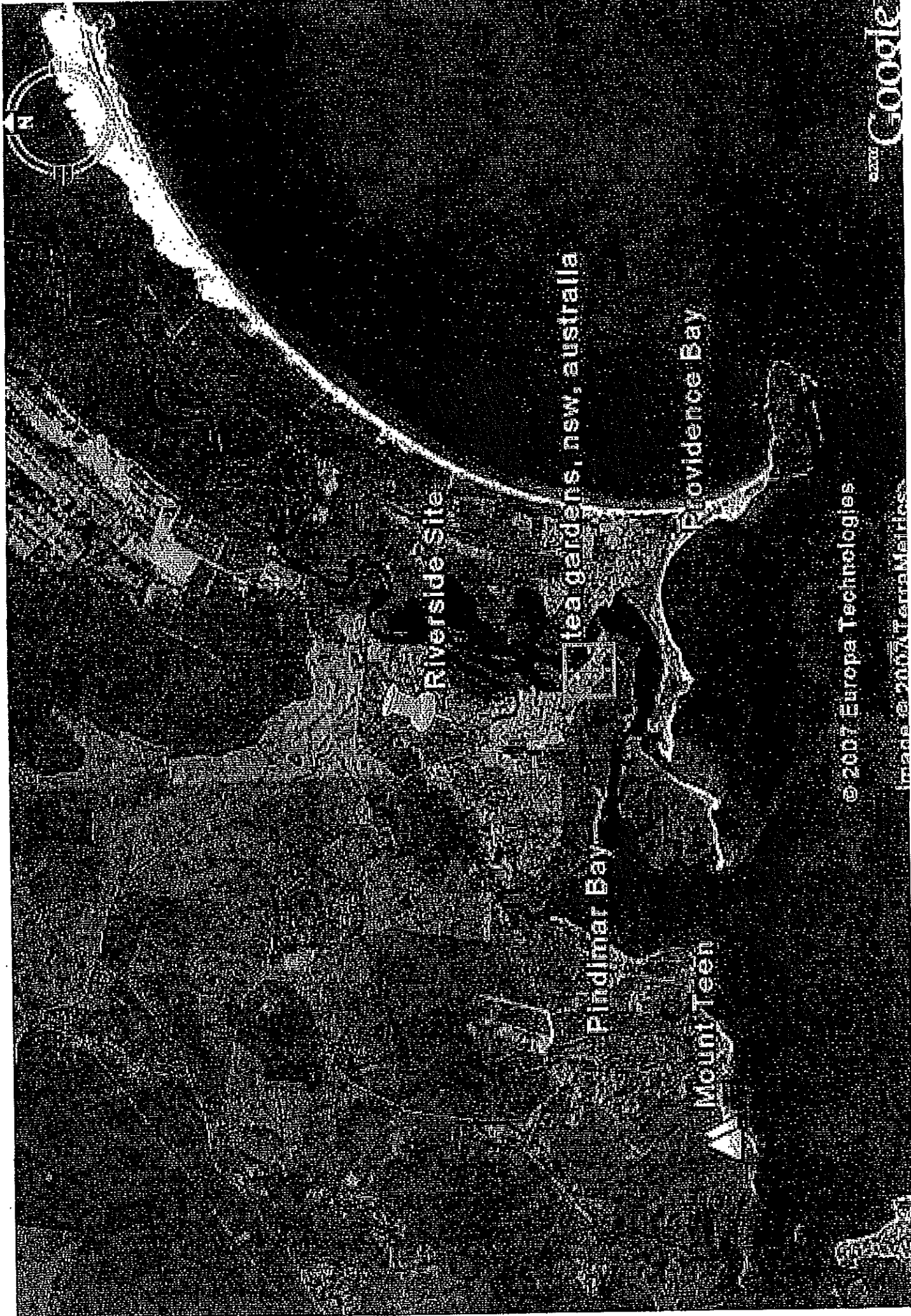
We would be grateful if you could indicate whether your organisation is interested in being consulted regarding this project, and if you could supply us with a list of all known Aboriginal groups or individuals who would be interested in being consulted on this project, within ten working days. If you have any specific information concerning the cultural values of the study area, we would be grateful if you could let us know. Our contact details are listed at the top right hand side of this letter.

If you have any queries concerning the project, please feel free to contact me by email (jenna.lamb@erm.com) or on the numbers listed above.

Many thanks,

Jenna Lamb
Archaeologist





Riverside Site

tea gardens, nsw, australia

Pindimar Bay

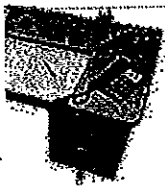
Providence Bay

Mount Teen

© 2007 Europa Technologies

Image © 2007 TerraMetrics

© 2007 Google



Jenna Lamb/ERMAU/ERM

14/06/2007 06:29 PM

To [REDACTED]

cc

bcc

Subject Proposed methodology for Aboriginal heritage assessment,
Tea Gardens

Dear [REDACTED]

Thank you for your response to my email of 4 May 2007. As I indicated in that email, Environmental Resources Management Australia (ERM) is undertaking an Aboriginal heritage assessment for an area proposed for residential, tourist and commercial development at the Riverside site in Tea Gardens (please see attached Figure 1.1 for a map of the study area). The study is being undertaken on behalf of Crighton Properties Pty Ltd as part of an Environmental Assessment of the area.

Aim of this letter

This letter provides Karuah LALC with a proposed methodology for this heritage assessment. We would appreciate it if you could provide us with any written feedback on this methodology, by **Thursday 5 July 2007** (our fax number is 8584 8800, or you can email Jenna.Lamb@erm.com). Please provide all correspondence on letter-headed paper addressed to Jenna Lamb.

We welcome your feedback on the method of assessing the Aboriginal heritage significance of the study area, and we understand that there are a number of methods that could be used in such an assessment. We would also welcome any information that you could provide us with concerning the cultural heritage values of the study area.

Proposed methodology & background

We propose to assess Aboriginal heritage of the study area through a desktop assessment.

Previous archaeological work in the study area

The study area has been previously surveyed by Helen Brayshaw (1988), who traversed the entire area on foot. During this survey, Brayshaw located one site, a shell midden comprising four exposures within a 220 m x 40 m strip along the bank of the Myall River opposite the southern part of Dredge Island (AHIMS site 38-5-0148; see Figure 2.1). Given the depth of deposit, range of shell species represented and the lack of disturbance to this midden, Brayshaw assessed the site as having high archaeological significance, and recommended that it be preserved.

This site is within a protected wetland zone, which is surrounded by the wetland buffer zone (see Concept Plan). As such, under the current concept plan, the site is not subject to development and should not be directly impacted. However,

Brayshaw did note that ancillary impacts to the midden may be possible, particularly in the form of increased use of motorised watercraft (eg. speedboats) and alterations to drainage patterns, which would accelerate erosion of the midden deposits, and greater visitation to the site, which may, through traversing the area on foot or by vehicle, cause erosion or damage.

Previous disturbance to the study area

Apart from the wetlands, the study area was cleared in 1932 for a pine plantation, which has heavily disturbed the area. Large areas of the plantation were burned out in 1979 and it was not maintained after this time. The disturbance caused to the ground surface by these activities indicates that any archaeological material (particularly shell middens) present throughout the study area is likely to have been exposed for detection during Brayshaw's survey.

Previous archaeological work to the south of the study area

The area immediately south of the study area was surveyed by Mary Dallas (1982), who located a disturbed shell midden (AHIMS site 38-5-0076; see Figure 2.1) on a sandy elevation above a swamp adjoining the Myall River. Given the shallow deposit and high level of disturbance, the site was assessed as having low archaeological significance. A Consent to Destroy (S.90) permit for this site was issued in 1982, however the permit lapsed and was not finalised until 1994.

The site was reinvestigated by Kinhill Engineers (1994), at which time a new midden exposure was recorded approximately 100 m to the south west (AHIMS site 38-5-0147; see Figure 2.1). Kinhill Engineers conducted a program of test excavation (under a S.87 permit) on this new site, and assessed the site as being of moderate to low archaeological significance, with further excavation work unlikely to add to an understanding of the site. These two recorded sites are not located within the study area (see Figure 2.1) and should not be directly or indirectly impacted by the development, under current concept plan (see attached Concept Plan).

Previous archaeological work to the west of the study area

The area immediately to the west of the study area was surveyed by Rex Silcox (1998). One stone artefact scatter sites (comprising two artefacts) and one isolated find were located during the survey, and these were both assessed as having low archaeological significance.

Previous archaeological work to the north of the study area

An area proposed for residential development at Monkey Jacket was surveyed by Elizabeth Rich and Helen Brayshaw (1983), and no archaeological evidence was found.

Summary of previous archaeological work

The above-mentioned studies demonstrate that the study area and its immediate surroundings have been previously surveyed. The methodologies for these surveys appear to have been adequate, and no sites have been located within the proposed development area (the midden site 38-5-0148 being located in protected SEPP 14 wetlands and surrounded by a buffer zone). As such, ERM does not recommend further survey for the study area.

Summary of proposed methodology

Desktop Assessment

Instead, ERM proposes to produce a desktop assessment report summarising the results of previous archaeological studies (as outlined above), providing the environmental and archaeological context of the study area (including Figure 2.1 showing the locations of recorded AHMS sites in relation to the study area), assessing the impact of the proposed development and providing Aboriginal heritage recommendations.

As mentioned above, under the current concept plan there should be no impact on any known sites. However, should there be any changes proposed to the concept plan, further Aboriginal heritage assessment may be required. Should any Aboriginal heritage material be exposed during development works, excavation or disturbance of the area should stop immediately and the Department of Environment & Climate Change (Cultural Heritage Unit) should be informed; works must not continue without the written consent of the NSW DECC.

Aboriginal Consultation

When the desktop assessment has been drafted, ERM will provide a copy to Karuah LALC for comment. If you are able to provide comments within a period of two weeks, this will enable us to incorporate your comments into the assessment.

ERM's requests

In summary, we request from Karuah LALC, by Thursday 5 July 2007:

Any feedback with regard to the proposed methodology

Any further knowledge with regard to Aboriginal heritage within the study area

If you have any queries concerning the project, please feel free to contact me by return email or on the numbers listed below.

Many thanks,

Jenna Lamb

Archaeologist

References

Brayshaw H (1988) **Archaeological Survey at Tea Gardens, NSW** Consultancy report to Planning Workshop on behalf of Condux Development.

Dallas M (1982) **Waterview Estate Canal Subdivision, Tea Gardens: Survey for Archaeological Sites** Consultancy report to Frost & Associates.

Kinhill Engineers (1994) **An Archaeological Assessment of the Shell Midden Site No. 38-5-0147, Myall Quays, Tea Gardens, NSW** Consultancy report to Crighton Properties.

Rich E and Brayshaw H (1983) **Archaeological Investigation of Proposed Rural Residential Development Site at Tea Gardens NSW** Consultancy report to Resource Planning.

Silcox R (1998) **Archaeological Assessment for Proposed Rezoning of Part Lot 1 DP834986 and Part Lot 2 DP233635, Myall River Downs, Tea Gardens** Consultancy report to Crighton Properties.



Figure 1.1.pdf Figure 2.1.pdf concept plan.pdf

Jenna Lamb
Graduate Archaeologist
Environmental Resources Management Australia Pty Ltd
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Facsimile
message

Building C, 33 Saunders Street
Pymont NSW 2009
AUSTRALIA

To

[REDACTED]

Locked Bag 24,
Broadway NSW 2007
AUSTRALIA

Fax Number

[REDACTED]

www.erm.com

From

Jenna Lamb

Jenna.Lamb@erm.com

Ref/Job Number

0043707 Riverside

Telephone: 61 2 8584 8888

Subject

Proposed methodology for
Aboriginal heritage assessment of
Tea Gardens

Facsimile: 61 2 8584 8800

Direct: 61 2 8584 8833

Date

14 June 2007



ERM

Page 1 of 7

Dear [REDACTED]

Thank you for your response to the advertisement in the Myall Coast Nota. As the advertisement indicated, Environmental Resources Management Australia (ERM) is undertaking an Aboriginal heritage assessment for an area proposed for residential, tourist and commercial development at the Riverside site in Tea Gardens (please see attached Figure 1.1 for a map of the study area). The study is being undertaken on behalf of Crighton Properties Pty Ltd as part of an Environmental Assessment of the area.

I. Aim of this letter

This letter provides you with a proposed methodology for this heritage assessment. We would appreciate it if you could provide us with any written feedback on this methodology, by Thursday 5 July 2007 (our fax number is 8584 8800, or you can email Jenna.Lamb@erm.com). Please provide all correspondence on letter-headed paper addressed to Jenna Lamb.

We welcome your feedback on the method of assessing the Aboriginal heritage significance of the study area, and we understand that there are a number of methods that could be used in such an assessment. We would also welcome any information that you could provide us with concerning the cultural heritage values of the study area.

II. Proposed methodology & background

We propose to assess Aboriginal heritage of the study area through a desktop assessment.

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A. Previous archaeological work in the study area

The study area has been previously surveyed by Helen Brayshaw (1988), who traversed the entire area on foot. During this survey, Brayshaw located one site, a shell midden comprising four exposures within a 220 m x 40 m strip along the bank of the Myall River opposite the southern part of Dredge Island (AHIMS site 38-5-0148; see Figure 2.1). Given the depth of deposit, range of shell species represented and the lack of disturbance to this midden, Brayshaw assessed the site as having high archaeological significance, and recommended that it be preserved.

This site is within a protected wetland zone, which is surrounded by the wetland buffer zone (see Concept Plan). As such, under the current concept plan, the site is not subject to development and should not be directly impacted. However, Brayshaw did note that ancillary impacts to the midden may be possible, particularly in the form of increased use of motorised watercraft (eg. speedboats) and alterations to drainage patterns, which would accelerate erosion of the midden deposits, and greater visitation to the site, which may, through traversing the area on foot or by vehicle, cause erosion or damage.

B. Previous disturbance to the study area

Apart from the wetlands, the study area was cleared in 1932 for a pine plantation, which has heavily disturbed the area. Large areas of the plantation were burned out in 1979 and it was not maintained after this time. The disturbance caused to the ground surface by these activities indicates that any archaeological material (particularly shell middens) present throughout the study area is likely to have been exposed for detection during Brayshaw's survey.

C. Previous archaeological work to the south of the study area

The area immediately south of the study area was surveyed by Mary Dallas (1982), who located a disturbed shell midden (AHIMS site 38-5-0076; see Figure 2.1) on a sandy elevation above a swamp adjoining the Myall River. Given the shallow deposit and high level of disturbance, the site was assessed as having low archaeological significance. A Consent to Destroy (S.90) permit for this site was issued in 1982, however the permit lapsed and was not finalised until 1994.

The site was reinvestigated by Kinhill Engineers (1994), at which time a new midden exposure was recorded approximately 100 m to the south west (AHIMS site 38-5-0147; see Figure 2.1). Kinhill Engineers conducted a program of test excavation (under a S.87 permit) on this new site, and assessed the site as being of moderate to low archaeological significance, with further excavation work unlikely to add to an understanding of the site. These two recorded sites are not located within the study area (see Figure 2.1) and should not be directly or indirectly impacted by the development, under the current concept plan (see attached Concept Plan).

D. Previous archaeological work to the west of the study area

The area immediately to the west of the study area was surveyed by Rex Silcox (1998). One stone artefact scatter (comprising two artefacts) and one isolated find were located during the survey, and these were both assessed as having low archaeological significance.

E. Previous archaeological work to the north of the study area

An area proposed for residential development at Monkey Jacket was surveyed by Elizabeth Rich and Helen Brayshaw (1983), and no archaeological evidence was found.

F. Summary of previous archaeological work

The above-mentioned studies demonstrate that the study area and its immediate surroundings have been previously surveyed. The methodologies for these surveys appear to have been adequate, and no sites have been located within the proposed development area (the midden site 38-5-0148 being located in protected SEPP 14 wetlands and surrounded by a buffer zone). As such, ERM does not recommend further survey for the study area.

G. Summary of proposed methodology

1. Desktop Assessment

Instead, ERM proposes to produce a desktop assessment report summarising the results of previous archaeological studies (as outlined above), providing the environmental and archaeological context of the study area (including Figure 2.1 showing the locations of recorded AHIMS sites in relation to the study area), assessing the impact of the proposed development and providing Aboriginal heritage recommendations.

As mentioned above, under the current concept plan there should be no impact on any known sites. However, should there be any changes proposed to the concept plan, further Aboriginal heritage assessment may be required. Should any Aboriginal heritage material be exposed during development works, excavation or disturbance of the area should stop immediately and the Department of Environment & Climate Change (Cultural Heritage Unit) should be informed; works must not continue without the written consent of the NSW DECC.

2. Aboriginal Consultation

When the desktop assessment has been drafted, ERM will provide a copy to you for comment. If you are able to provide comments within a period of two weeks, this will enable us to incorporate your comments into the assessment.

III. ERM's requests

In summary, we request from you, by Thursday 5 July 2007:

1. Any feedback with regard to the proposed methodology
2. Any further knowledge with regard to Aboriginal heritage within the study area

If you have any queries concerning the project, please feel free to contact me by email (Jenna.Lamb@erm.com) or on the numbers listed above.

Many thanks,

Jenna Lamb
Archaeologist

References

Brayshaw H (1988) Archaeological Survey at Tea Gardens, NSW Consultancy report to Planning Workshop on behalf of Condux Development.

Dallas M (1982) Waterview Estate Canal Subdivision, Tea Gardens: Survey for Archaeological Sites Consultancy report to Frost & Associates.

Kinhill Engineers (1994) An Archaeological Assessment of the Shell Midden Site No. 38-5-0147, Myall Quays, Tea Gardens, NSW Consultancy report to Crighton Properties.

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Silcox R (1998) Archaeological Assessment for Proposed Rezoning of Part Lot 1 DP834986 and Part Lot 2 DP233635, Myall River Downs, Tea Gardens Consultancy report to Crighton Properties.

Jenna Lamb/ERMAU/ERM

14/06/2007 06:29 PM

To [REDACTED]

cc

bcc

Subject Proposed methodology for Aboriginal heritage assessment,
Tea Gardens

Dear [REDACTED]

Thank you for your response to my email of 10 May 2007. As I indicated in that email, Environmental Resources Management Australia (ERM) is undertaking an Aboriginal heritage assessment for an area proposed for residential, tourist and commercial development at the Riverside site in Tea Gardens (please see attached Figure 1.1 for a map of the study area). The study is being undertaken on behalf of Crighton Properties Pty Ltd as part of an Environmental Assessment of the area.

Aim of this letter

This letter provides the Interim Board of Management for Worimi Conservation Lands with a proposed methodology for this heritage assessment. We would appreciate it if you could provide us with any written feedback on this methodology, by Thursday 5 July 2007 (our fax number is 8584 8800, or you can email me). Please provide all correspondence on letter-headed paper addressed to Jenna Lamb.

We welcome your feedback on the method of assessing the Aboriginal heritage significance of the study area, and we understand that there are a number of methods that could be used in such an assessment. We would also welcome any information that you could provide us with concerning the cultural heritage values of the study area.

Proposed methodology & background

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This site is within a protected wetland zone, which is surrounded by the wetland

buffer zone (see Concept Plan). As such, under the current concept plan, the site is not subject to development and should not be directly impacted. However, Brayshaw did note that ancillary impacts to the midden may be possible, particularly in the form of increased use of motorised watercraft (eg. speedboats) and alterations to drainage patterns, which would accelerate erosion of the midden deposits, and greater visitation to the site, which may, through traversing the area on foot or by vehicle, cause erosion or damage.

Previous disturbance to the study area

Apart from the wetlands, the study area was cleared in 1932 for a pine plantation, which has heavily disturbed the area. Large areas of the plantation were burned out in 1979 and it was not maintained after this time. The disturbance caused to the ground surface by these activities indicates that any archaeological material (particularly shell middens) present throughout the study area is likely to have been exposed for detection during Brayshaw's survey.

Previous archaeological work to the south of the study area

The area immediately south of the study area was surveyed by Mary Dallas (1982), who located a disturbed shell midden (AHIMS site 38-5-0076; see Figure 2.1) on a sandy elevation above a swamp adjoining the Myall River. Given the shallow deposit and high level of disturbance, the site was assessed as having low archaeological significance. A Consent to Destroy (S.90) permit for this site was issued in 1982, however the permit lapsed and was not finalised until 1994.

The site was reinvestigated by Kinhill Engineers (1994), at which time a new midden exposure was recorded approximately 100 m to the south west (AHIMS site 38-5-0147; see Figure 2.1). Kinhill Engineers conducted a program of test excavation (under a S.87 permit) on this new site, and assessed the site as being of moderate to low archaeological significance, with further excavation work unlikely to add to an understanding of the site. These two recorded sites are not located within the study area (see Figure 2.1) and should not be directly or indirectly impacted by the development, under current concept plan (see attached Concept Plan).

Previous archaeological work to the west of the study area

The area immediately to the west of the study area was surveyed by Rex Silcox (1998). One stone artefact scatter sites (comprising two artefacts) and one isolated find were located during the survey, and these were both assessed as having low archaeological significance.

Previous archaeological work to the north of the study area

An area proposed for residential development at Monkey Jacket was surveyed by Elizabeth Rich and Helen Brayshaw (1983), and no archaeological evidence was found.

Summary of previous archaeological work

The above-mentioned studies demonstrate that the study area and its immediate surroundings have been previously surveyed. The methodologies for these surveys appear to have been adequate, and no sites have been located within the proposed development area (the midden site 38-5-0148 being located in protected SEPP 14 wetlands and surrounded by a buffer zone). As such, ERM does not recommend further survey for the study area.

Summary of proposed methodology

Desktop Assessment

Instead, ERM proposes to produce a desktop assessment report summarising the results of previous archaeological studies (as outlined above), providing the environmental and archaeological context of the study area (including Figure 2.1 showing the locations of recorded AHIMS sites in relation to the study area), assessing the impact of the proposed development and providing Aboriginal heritage recommendations.

As mentioned above, under the current concept plan there should be no impact on any known sites. However, should there be any changes proposed to the concept plan, further Aboriginal heritage assessment may be required. Should any Aboriginal heritage material be exposed during development works, excavation or disturbance of the area should stop immediately and the Department of Environment & Climate Change (Cultural Heritage Unit) should be informed; works must not continue without the written consent of the NSW DECC.

Aboriginal Consultation

When the desktop assessment has been drafted, ERM will provide a copy to the Interim Board of Management for Worimi Conservation Lands for comment. If you are able to provide comments within a period of two weeks, this will enable us to incorporate your comments into the assessment.

ERM's requests

In summary, we request from the Interim Board of Management for Worimi Conservation Lands, by Thursday 5 July 2007:

Any feedback with regard to the proposed methodology

Any further knowledge with regard to Aboriginal heritage within the study area

If you have any queries concerning the project, please feel free to contact me by return email or on the numbers listed below.

Many thanks,

Jenna Lamb
Archaeologist

References

Brayshaw H (1988) **Archaeological Survey at Tea Gardens, NSW** Consultancy report to Planning Workshop on behalf of Condux Development.

Dallas M (1982) **Waterview Estate Canal Subdivision, Tea Gardens: Survey for Archaeological Sites** Consultancy report to Frost & Associates.

Kinhill Engineers (1994) **An Archaeological Assessment of the Shell Midden Site No. 38-5-0147, Myall Quays, Tea Gardens, NSW** Consultancy report to Crighton Properties.

Rich E and Brayshaw H (1983) **Archaeological Investigation of Proposed Rural Residential Development Site at Tea Gardens NSW** Consultancy report to Resource Planning.

Silcox R (1998) **Archaeological Assessment for Proposed Rezoning of Part Lot 1 DP834986 and Part Lot 2 DP233635, Myall River Downs, Tea Gardens** Consultancy report to Crighton Properties.



Figure 1.1.pdf Figure 2.1.pdf concept plan.pdf

Jenna Lamb
Graduate Archaeologist
Environmental Resources Management Australia Pty Ltd
Building C, 33 Saunders Street, Pyrmont NSW 2007
Locked Bag 24, Broadway NSW 2007

Switch: (02) 8584 8888
Direct: (02) 8584 8833
Fax: (02) 8584 8800
Mobile: 0428 885 488

ERM - Environmental Adviser of the year 2005 & 2006: Acquisitions Monthly

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Jenna Lamb/ERMAU/ERM

10/05/2007 02:46 PM

To [REDACTED]

cc

bcc

Subject Aboriginal heritage assessment, Tea Gardens

Dear [REDACTED]

In accordance with the Department of Environment and Conservation Interim Community Consultation Requirements, Environmental Resources Management Australia (ERM) wishes to inform you that we are undertaking the Aboriginal consultation process for an area proposed for residential, tourist and commercial development at the Riverside site in Tea Gardens (please find attached a map of the study area). The study is being undertaken on behalf of Crighton Properties Pty Ltd as part of an Environmental Assessment of the area.

We would be grateful if you could supply us with a list of all known Aboriginal groups or individuals who would be interested in being consulted on this project within ten working days. If you have any specific information concerning the cultural values of the study area, we would be grateful if you could let us know. Our contact details are listed in this email signature.

If you have any queries concerning the project, please feel free to contact me by email or on the numbers listed below.

Many thanks,
Jenna.



0043707 consultation map.jpg

Jenna Lamb
Graduate Archaeologist
Environmental Resources Management Australia Pty Ltd
Building C, 33 Saunders Street, Pyrmont NSW 2007
Locked Bag 24, Broadway NSW 2007

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Please visit ERM's web site: <http://www.erm.com>

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Broadway NSW 2007
www.erm.com

23 November, 2007

[REDACTED]
[REDACTED]
[REDACTED]

Our Reference: 0043707 L01 [REDACTED] DOC



Dear [REDACTED]

**RE: DRAFT REPORT FOR COMMENT: RIVERSIDE AT TEA
GARDENS, ABORIGINAL HERITAGE ASSESSMENT.**

Please find enclosed a copy of the draft report on the Aboriginal heritage assessment of Riverside at Tea Gardens commissioned by Crighton Properties Pty Ltd (Crighton).

We would greatly appreciate if you could provide a written response on the results and recommendations in this report within the next two weeks (by email to Steve.OConnor@erm.com, by fax on 8584 8800 or by letter to the address listed on the top right hand side of this letter).

Please find following a form that you may choose to fill out after having read the draft report of the *Riverside at Tea Gardens Aboriginal Heritage Assessment*. This form is designed to make providing feedback on the report easier and is not obligatory. Should you wish to provide feedback in another form such as by personal letter, fax or email, please feel free to do so, or if you wish to use this form, please complete, sign and return to ERM by email to Steve.OConnor@erm.com, or by fax on 8584 8800.

If you have any questions regarding the report or the feedback form, please do not hesitate to contact me on (02) 8584 8826 or 0407450724.

Yours sincerely,
for Environmental Resources Management Australia Pty Ltd

Steve O'Connor
Partner

Environmental
Resources Management
Australia

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Pymont NSW 2009
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Facsimile (02) 8584 8800
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Broadway NSW 2007
www.erm.com

23 November, 2007

Karuah Local Aboriginal Land Council

[REDACTED]
[REDACTED]

KARUAH NSW 2324

Our Reference: 0043707 L01 FEEDBACK.DOC



Dear Sir or Madam,

RE: DRAFT REPORT FOR COMMENT: RIVERSIDE AT TEA
GARDENS, ABORIGINAL HERITAGE ASSESSMENT.

Please find enclosed a copy of the draft report on the Aboriginal heritage assessment of Riverside at Tea Gardens commissioned by Crighton Properties Pty Ltd (Crighton).

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If you have any questions regarding the report or the feedback form, please do not hesitate to contact me on (02) 8584 8826 or 0407450724.

Yours sincerely,
for Environmental Resources Management Australia Pty Ltd

Steve O'Connor
Partner

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Broadway NSW 2007
www.erm.com

23 November, 2007

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Our Reference: 0043707 L01 _IBMWCL .DOC



Dear [REDACTED],

RE: DRAFT REPORT FOR COMMENT: RIVERSIDE AT TEA
GARDENS, ABORIGINAL HERITAGE ASSESSMENT.

Please find enclosed a copy of the draft report on the Aboriginal heritage
assessment of Riverside at Tea Gardens commissioned by Crighton Properties
Pty Ltd (Crighton).

We would greatly appreciate if you could provide a written response on the
results and recommendations in this report within the next two weeks (by email
to Steve.OConnor@erm.com, by fax on 8584 8800 or by letter to the address listed
on the top right hand side of this letter).

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Steve.OConnor@erm.com, or by fax on 8584 8800.

If you have any questions regarding the report or the feedback form, please do
not hesitate to contact me on (02) 8584 8826 or 0407450724.

Yours sincerely,

for Environmental Resources Management Australia Pty Ltd

Steve O'Connor
Partner





**Karuah Local Aboriginal
Land Council**

ABN 17 304 066 465

Ph: [REDACTED]

Fax: [REDACTED]

Email: [REDACTED]

Environmental Resources Management Australia	
Referred to:	Ref. No.
Date Received	07 AUG 2008
Checked By:	Date:

[REDACTED]
[REDACTED]
KARUAH NSW 2324

Environmental Resources Management Australia
53 Bonville Avenue (PO Box 71)
Thornton NSW 2322

August 5, 2008

Dear Joanne

Re: Riverside Aboriginal Cultural Heritage Assessment at Tea Gardens

We agree with the recommendations in the survey report however we also feel that there should be a more thorough investigation of the known areas. This should include mapping and monitoring and would require extensive surveying. We recommend that Karuah Local Aboriginal Land Council be involved in further surface surveys.

Further to our recommendation and area should be set aside as a keeping place for community assessment of any artefacts.

Yours faithfully

[REDACTED]

[REDACTED]

For Karuah Local Aboriginal Land Council

FAXED

Joanne Woodhouse

From: [REDACTED]
Sent: Tuesday, 5 August 2008 1:06 PM
To: Joanne Woodhouse
Cc: [REDACTED]
Subject: Draft Report Aboriginal Heritage Assessment at Tea Gardens NSW REF: 0043707 ARCH_LO2 WCL.DOC

Dear Joanne

After reviewing the documentation (as offered) and in the realisation of the recommendations put forward I would like to offer these subject matters from Culture and Heritage Division (Northern).

They are:

- The recommendation to conduct a Management Plan which will minimise impact on inter-tidal aquatic habitat and existing Coastal processes.
- The Karuah Land Council has identified a number of areas within the development (as well as adjacent areas) which are of particular Cultural significance. Protective "buffer zones" were consequently identified and must be constructed under the direction of the Karuah LALC
- A suitable area is set aside for the containment of any Cultural Material that is uncovered/discovered, so as to maintain spiritual contact. This could be a dedicated "Keeping Place" that would be under care and control of the Aboriginal Community.
- Culture and Heritage Division (Northern) can assist the community in the CCHMP and provide "Incident Response" formats.
- In recognition of the physical aspects as noted in this study, CHD would also consider it applicable to view an "Intellectual and Spiritual" Property Rights Report or Cultural Heritage Report that has been undertaken by the Aboriginal Community (Karuah LALC) before any further processes are undertaken.

Hoping this information has been of help to this proposal, and please call the nominated Office or my mobile 0429-605-309 if I can be of any further assistance

Regards

[REDACTED]
Aboriginal Liaison Officer
Cultural and Heritage Division Northern



[REDACTED]

22/08/2008

Joanne Woodhouse

(02) 4964 2152

ABORIGINAL COMMUNITY COMMENTS

This form is designed to make providing feedback easier and is not obligatory. Should you wish to provide feedback in another form, you are encouraged to do so or if you wish to use this form, please complete, sign and return to ERM on the fax number listed above or at PO Box 71, Thornton NSW 2322.

I, _____ (please insert your name)

of _____ (please insert the name of your group)

agree with the recommendations in the survey report provided by ERM for the Riverside Aboriginal Cultural Heritage Assessment at Tea Gardens NSW.

AND/OR

would like to make the following comments about the Aboriginal significance assessment and/or recommendations provided by ERM for the Riverside Aboriginal Cultural Heritage Assessment at Tea Gardens NSW:

REFER TO ATTACHED NOTES:

Signed: _____

Date: 5-8-08

Position within organization: OFFICE ADMINISTRATOR

35

Joanne Woodhouse

From: Joanne Woodhouse
Sent: Thursday, 20 March 2008 5:04 PM
To: [REDACTED]
Subject: Riverside Development and Archaeological Survey
Attachments: 0043707 Arch_L01 KLALC.pdf

Hi [REDACTED]

Following up on our phone conversation earlier this week, attached is the proposed methodology for Archaeological survey at Riverside, Tea Gardens. Looking forward to hearing from you soon.

Regards,
Joanne Woodhouse
Senior Ecologist/Archaeologist
[REDACTED]

31 July, 2008

Karuah Local Aboriginal Land Council
[REDACTED]
[REDACTED]

Our Reference: 0043707 ARCH_L02 KLALC.DOC

Dear Margaret,

**RE: DRAFT REPORT FOR COMMENT: ABORIGINAL HERITAGE
ASSESSMENT AT TEA GARDENS NSW**

Please find enclosed a copy of the draft report on the Riverside development, which was surveyed on 21 April 2008, with the assistance of Karuah Local Aboriginal Land Council.

We would greatly appreciate if Karuah Local Aboriginal Land Council could provide a written response on the results and recommendations in this report within the next two weeks.

Also enclosed is a form that you may choose to fill out after reviewing the draft Riverside Aboriginal Heritage Assessment. This form is designed to make providing feedback on the report easier and is not obligatory. Should you wish to provide feedback in another form such as by personal letter, fax or email, please feel free to do so, or if you wish to use this form, please complete, sign and return to ERM on 4964 2152.

If you have any questions regarding the report or the feedback form, please do not hesitate to contact me on (02) 4964 2150 or 0418 234 068.

Many thanks,
for Environmental Resources Management Australia Pty Ltd

Joanne Woodhouse

Joanne Woodhouse
Senior Ecologist/Archaeologist

Steve O'Connor

Steve O'Connor
Project Director

Environmental
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20 March, 2008

Karuah Local Aboriginal Land Council
[REDACTED]
[REDACTED]



Our Reference: 0043707 ARCH_L01 KLALC

Dear [REDACTED]

RE: RIVERSIDE ARCHAEOLOGICAL ASSESSMENT, TEA GARDENS
NSW

Following up from our phone conversation on Tuesday 18 March 2008, Environmental Resources Management Australia (ERM) is undertaking an updated Aboriginal heritage assessment for the proposed Riverside residential, tourist and commercial development at Tea Gardens NSW (see attached figures). The study is being undertaken on behalf of Crighton Properties Pty Ltd as part of an Environmental Assessment under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

As discussed, consultation for this project commenced in May 2007, with a desktop based assessment being completed in November 2007. This report formed part of an Environmental Assessment report submitted to the Department of Planning for adequacy review under Part 3A of the EP&A Act. As part of this review process Department of Environment and Climate Change (DECC) indicated that they would require additional survey of the area due to the close proximity of significant midden sites and likely changes to the landscape since the previous survey in 1988.

This letter provides you with background information and a proposed methodology for this updated heritage assessment. We welcome your feedback on the method of assessing the Aboriginal heritage significance of the study area, and we understand that there are a number of methods that could be used in such an assessment.

We would appreciate it if you could provide us with any written feedback on this methodology, by Thursday 10 April 2008 (our fax number is 4964 2152, or you can email Joanne.Woodhouse@erm.com). Please provide all correspondence addressed to Joanne Woodhouse.



1. BACKGROUND INFORMATION

1.1 PREVIOUS ARCHAEOLOGICAL WORK IN THE STUDY AREA

The study area has been previously surveyed by Brayshaw (1988), who traversed the entire survey area on foot, focussing on areas of ground surface exposure, mature trees, and environmental features which may have formed a focus for Aboriginal occupation. During this survey, Brayshaw located one site, a shell midden comprising four exposures within a 220 m x 40 m strip along the bank of the Myall River opposite the southern part of Dredge Island (AHIMS site 38-5-0148). Given the lack of disturbance to this midden, the potential depth of deposit and the range of shell species represented (cockle, oyster, whelk and pipi), Brayshaw assessed the site as having high archaeological significance, and recommended that it be preserved.

This site is located within a State Environmental Planning Policy No 14 - Wetlands (SEPP 14) and is surrounded by a wetland buffer zone. As such the site is not subject to development and will not be directly impacted by the proposal. Ancillary impacts must be taken into consideration and include increased use of motorised watercraft (ie speed boats) and alteration to the drainage patterns which may accelerate erosion of the midden deposits. Greater visitation to the site may also cause damage through traversing the area on foot or by vehicle.

1.2 DESKTOP ASSESSMENT (ERM, 2007)

As indicated above, a desktop-based assessment was completed in November 2007. The following recommendations were made in light of the background research and predictive modelling, the input of the Aboriginal stakeholders and the relevant legislation protecting Aboriginal heritage in NSW:

1. Previous archaeological studies demonstrate that the study area and its immediate surroundings have been previously surveyed. The methodologies for these surveys appear to have been adequate. No sites have been located within the current proposed development/impact area. Therefore ERM does not recommend further survey for the study area;
2. Site 38-5-0148 is located within protected SEPP 14 Wetlands, which are surrounded by a wetland buffer zone. The concept plan also provides for conservation lands adjacent to the SEPP 14 Wetland which effectively creates a buffer of around 400m from the recorded site to the nearest

- proposed development. Therefore the site will not be subject to development and will not be directly impacted;
3. Given the high significance attributed by Brayshaw (1988), it is recommended that the midden be preserved;
 4. As no Aboriginal sites are located within the proposed development/impact area no further heritage investigation is recommended;
 5. Should there be any changes proposed to the concept plan further Aboriginal heritage assessment may be required;
 6. Should any Aboriginal objects be identified in the course of development all works should cease and an assessment and recovery of the material should be conducted by an archaeologist working with relevant local Aboriginal community groups; and
 7. In the unlikely event of discovery of skeletal material all works should cease, and the police, relevant local Aboriginal community groups and a suitably experienced archaeologist or physical anthropologist should be contacted to assess the material before determining the correct management action.

2. PROPOSED SURVEY METHODOLOGY

Based on consultation with DECC, we propose to assess Aboriginal heritage of the study area through an updated field survey in the week beginning 14 April 2008.

This survey will be undertaken on foot and will cover all archaeologically sensitive landforms in the study area, focusing particularly on any soil exposures and the areas adjacent to the Myall River and SEPP 14 Wetland.

During the heritage assessment, we propose to:

- Relocate site 38-5-0148 and record any additional information as a result of landscape changes since the original survey in 1988;
- identify and record any additional Aboriginal heritage sites located during the survey;

- take GPS readings and mark site locations on a map;
- estimate the effective survey coverage of the study area;
- assess the impact of the proposed development on known Aboriginal heritage values;
- assess the scientific and Aboriginal significance of sites; and
- provide recommendations on how to manage and mitigate proposed development impacts on known Aboriginal heritage values.

When these tasks have been completed, ERM will provide a copy of the draft Aboriginal heritage assessment report to all of the registered groups for comment.

Following current NSW DEC Aboriginal heritage consultation guidelines, if a Karuah Local Aboriginal Land Council representative would like to participate in the survey, we invite you to provide (by Thursday 10 April 2008) an offer of your services which describes the skills or experience of your representative in one or more of the following:

- field identification or survey techniques (including confirmation of physical ability to undertake fieldwork);
- cultural knowledge of the study area and surrounds; and
- ability to assist in communicating the results of the survey back to the stakeholder community for the assessment of cultural values and significance, and returning advice on their response to ERM (DEC Interim Community Consultation Requirements, January 2005, page 8).

A decision to employ any Aboriginal field survey representatives will be based upon the information supplied in these offers. Any employment will be offered by the client and are independent of ERM and may not reflect our opinions and/or advice.

In order to participate in the survey, Aboriginal representatives must be adequately insured, so please also provide your insurance status and copies of your certificate of currency for details concerning your public liability and workers compensation insurance. We would greatly appreciate it if you could respond to us in writing by Thursday 10 April 2008 (to Joanne.Woodhouse@erm.com or by fax on 4964 2152) with this information in addition to any offer of services. Our contact details are listed at the top right hand side of this letter.

If you have any queries concerning the project, please feel free to contact me on [REDACTED]

Yours,
for Environmental Resources Management Australia Pty Ltd

J. Woodhouse

S. O'Connor

Joanne Woodhouse
Senior Ecologist/ Archaeologist

Steve O'Connor
Project Director

Legend

- Riverside at Tea Gardens
- Site Boundary

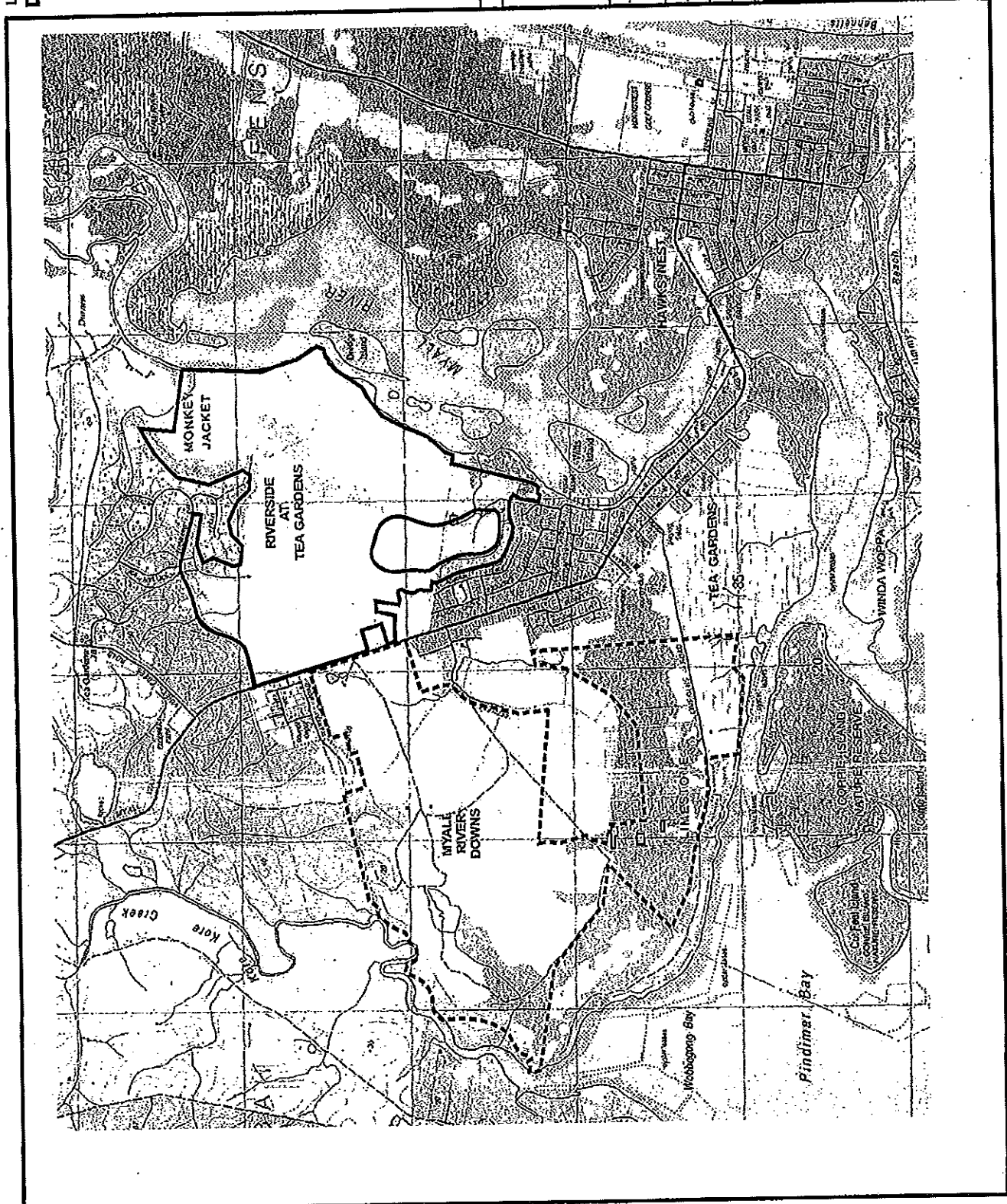


Figure 1.1

Locality Plan

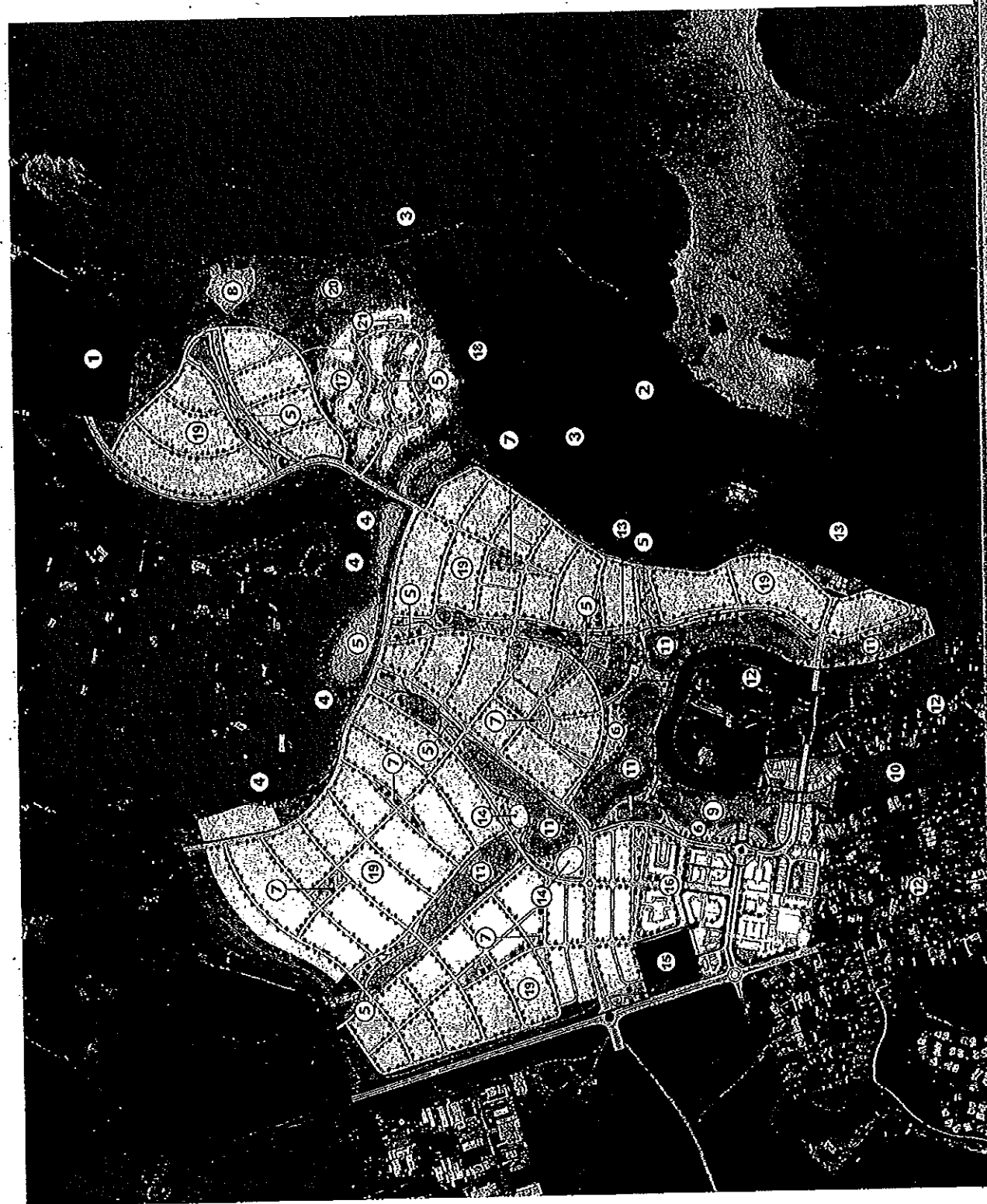
Client:	Crighita Properties Pty Ltd
Project:	Environmental Assessment Riverside at Tea Gardens
Drawing No:	0043707rv_EA_river_AR_01
Date:	14/03/08 Drawing size: A4
Drawn by:	JD Reviewed by: SOC
Source:	1:25,000 Topo Series Port Stephens Sheet
Scale:	Refer to Scale Bar
	0 250 500 750m

Environmental Resources Management Australia Pty Ltd
 53 Bonville Avenue, Thornton, NSW 2322
 Telephone +61 2 4964 2150



Item	Description
1	Extent of concept plan area 'Riverside' at 1:10a
2	Caensons
3	Existing 7(a) wetland zone.
4	Existing 7(b) buffer zone.
5	Wildlife movement corridor.
6	Water management & open space corridors.
7	Community parks incorporating walking/cycle ways, BBQs, children's play area equipment.
8	Community pocket parks.
9	Myall foreshore park.
10	Extended levee area for water detention & water quality management (2.0 Ha).
11	Existing detention and water quality lake.
12	New fresh water water quality management & detention ponds.
13	Existing residential development.
14	Precinct community facilities.
15	Site area currently owned by Great Lakes Council.
16	Extension of existing commercial precinct.
17	Waiver received (Dept. of Planning).
18	Low density tourist residential lodgings.
19	Conference & community facilities, associated low rise town house accommodation.
20	Proposed residential lot development to be developed under community title.
21	Future Development Site
	Existing House

Land Use Legend		
Total Site	Ha	%
Open Space		
- Wetlands (zoned 7a)	29.3	12.8
- Buffer Zones (zoned 7b)	21.1	9.2
- Wildlife Corridors	27.3	11.9
- Myall Foreshore Park (including parking)	7.6	3.3
- Drainage Corridors, Ponds & Large Parks	35.1	15.4
- Pocket Parks	2.6	1.1
- Existing detention & water quality lake	6.7	2.9
Total	123.7 Ha	56.5%
Built Upon Area		
- Residential (including roads & community facilities)	83.6	36.6
- Tourist/Residential (Lodgings)	8.4	3.7
- Marina Basin and facilities	3.0	1.3
- Commercial/Retail	4.3	1.9
Total	99.3 Ha	43.6%
Total	223.0 Ha	100%



31 July, 2008

[REDACTED]
[REDACTED]
[REDACTED]

Our Reference: 0043707 ARCH_L02 JW.DOC

Dear [REDACTED]

RE: DRAFT REPORT FOR COMMENT: ABORIGINAL HERITAGE
ASSESSMENT AT TEA GARDENS NSW

Please find enclosed a copy of the draft report on the Riverside development, which was surveyed on 21 April 2008, with the assistance of Karuah Local Aboriginal Land Council.

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If you have any questions regarding the report or the feedback form, please do not hesitate to contact me on (02) 4964 2150 or [REDACTED]

Many thanks,
for Environmental Resources Management Australia Pty Ltd

J Woodhouse

Joanne Woodhouse
Senior Ecologist/ Archaeologist

S. O'Connor

Steve O'Connor
Project Director

Environmental
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Facsimile (02) 4964 2152
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20 March, 2008

[REDACTED]
[REDACTED]
[REDACTED]



Our Reference: 0043707 ARCH_L01 JW

Dear [REDACTED]

RE: RIVERSIDE ARCHAEOLOGICAL ASSESSMENT, TEA GARDENS
NSW

Following up from our phone conversation on Tuesday 18 March 2008, Environmental Resources Management Australia (ERM) is undertaking an updated Aboriginal heritage assessment for the proposed Riverside residential, tourist and commercial development at Tea Gardens NSW (see attached figures). The study is being undertaken on behalf of Crighton Properties Pty Ltd as part of an Environmental Assessment under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

As discussed, consultation for this project commenced in May 2007, with a desktop based assessment being completed in November 2007. This report formed part of an Environmental Assessment report submitted to the Department of Planning for adequacy review under Part 3A of the EP&A Act. As part of this review process Department of Environment and Climate Change (DECC) indicated that they would require additional survey of the area due to the close proximity of significant midden sites and likely changes to the landscape since the previous survey in 1988.

This letter provides you with background information and a proposed methodology for this updated heritage assessment. We welcome your feedback on the method of assessing the Aboriginal heritage significance of the study area, and we understand that there are a number of methods that could be used in such an assessment.

We would appreciate it if you could provide us with any written feedback on this methodology, by Thursday 10 April 2008 (our fax number is 4964 2152, or you can email Joanne.Woodhouse@erm.com). Please provide all correspondence addressed to Joanne Woodhouse.



1. BACKGROUND INFORMATION

1.1 PREVIOUS ARCHAEOLOGICAL WORK IN THE STUDY AREA

The study area has been previously surveyed by Brayshaw (1988), who traversed the entire survey area on foot, focussing on areas of ground surface exposure, mature trees, and environmental features which may have formed a focus for Aboriginal occupation. During this survey, Brayshaw located one site, a shell midden comprising four exposures within a 220 m x 40 m strip along the bank of the Myall River opposite the southern part of Dredge Island (AHIMS site 38-5-0148). Given the lack of disturbance to this midden, the potential depth of deposit and the range of shell species represented (cockle, oyster, whelk and pipi), Brayshaw assessed the site as having high archaeological significance, and recommended that it be preserved.

This site is located within a State Environmental Planning Policy No 14 - Wetlands (SEPP 14) and is surrounded by a wetland buffer zone. As such the site is not subject to development and will not be directly impacted by the proposal. Ancillary impacts must be taken into consideration and include increased use of motorised watercraft (ie speed boats) and alteration to the drainage patterns which may accelerate erosion of the midden deposits. Greater visitation to the site may also cause damage through traversing the area on foot or by vehicle.

1.2 DESKTOP ASSESSMENT (ERM, 2007)

As indicated above, a desktop-based assessment was completed in November 2007. The following recommendations were made in light of the background research and predictive modelling, the input of the Aboriginal stakeholders and the relevant legislation protecting Aboriginal heritage in NSW:

1. Previous archaeological studies demonstrate that the study area and its immediate surroundings have been previously surveyed. The methodologies for these surveys appear to have been adequate. No sites have been located within the current proposed development/impact area. Therefore ERM does not recommend further survey for the study area;
2. Site 38-5-0148 is located within protected SEPP 14 Wetlands, which are surrounded by a wetland buffer zone. The concept plan also provides for conservation lands adjacent to the SEPP 14 Wetland which effectively creates a buffer of around 400m from the recorded site to the nearest

proposed development. Therefore the site will not be subject to development and will not be directly impacted;

3. Given the high significance attributed by Brayshaw (1988), it is recommended that the midden be preserved;
4. As no Aboriginal sites are located within the proposed development/impact area no further heritage investigation is recommended;
5. Should there be any changes proposed to the concept plan further Aboriginal heritage assessment may be required;
6. Should any Aboriginal objects be identified in the course of development all works should cease and an assessment and recovery of the material should be conducted by an archaeologist working with relevant local Aboriginal community groups; and
7. In the unlikely event of discovery of skeletal material all works should cease, and the police, relevant local Aboriginal community groups and a suitably experienced archaeologist or physical anthropologist should be contacted to assess the material before determining the correct management action.

2. PROPOSED SURVEY METHODOLOGY

Based on consultation with DECC, we propose to assess Aboriginal heritage of the study area through an updated field survey in the week beginning 14 April 2008.

This survey will be undertaken on foot and will cover all archaeologically sensitive landforms in the study area, focusing particularly on any soil exposures and the areas adjacent to the Myall River and SEPP 14 Wetland.

During the heritage assessment, we propose to:

- Relocate site 38-5-0148 and record any additional information as a result of landscape changes since the original survey in 1988;
- identify and record any additional Aboriginal heritage sites located during the survey;

- take GPS readings and mark site locations on a map;
- estimate the effective survey coverage of the study area;
- assess the impact of the proposed development on known Aboriginal heritage values;
- assess the scientific and Aboriginal significance of sites; and
- provide recommendations on how to manage and mitigate proposed development impacts on known Aboriginal heritage values.

When these tasks have been completed, ERM will provide a copy of the draft Aboriginal heritage assessment report to all of the registered groups for comment.

Following current NSW DEC Aboriginal heritage consultation guidelines, if you would like to participate in the survey, we invite you to provide (by Thursday 10 April 2008) an offer of your services which describes your skills or experience in one or more of the following:

- field identification or survey techniques (including confirmation of physical ability to undertake fieldwork);
- cultural knowledge of the study area and surrounds; and
- ability to assist in communicating the results of the survey back to the stakeholder community for the assessment of cultural values and significance, and returning advice on their response to ERM (DEC Interim Community Consultation Requirements, January 2005, page 8).

A decision to employ any Aboriginal field survey representatives will be based upon the information supplied in these offers. Any employment will be offered by the client and are independent of ERM and may not reflect our opinions and/or advice.

In order to participate in the survey, Aboriginal representatives must be adequately insured, so please also provide your insurance status and copies of your certificate of currency for details concerning your public liability and workers compensation insurance. We would greatly appreciate it if you could respond to us in writing by Thursday 10 April 2008 (to Joanne.Woodhouse@erm.com or by fax on 4964 2152) with this information in addition to any offer of services. Our contact details are listed at the top right hand side of this letter.

If you have any queries concerning the project, please feel free to contact me on 0418 234 068.

Yours,
for Environmental Resources Management Australia Pty Ltd .

Woodhouse

S. O'Connor

Joanne Woodhouse
Senior Ecologist/ Archaeologist

Steve O'Connor
Project Director

Legend

-  Riverside at Tea Gardens
-  Site Boundary

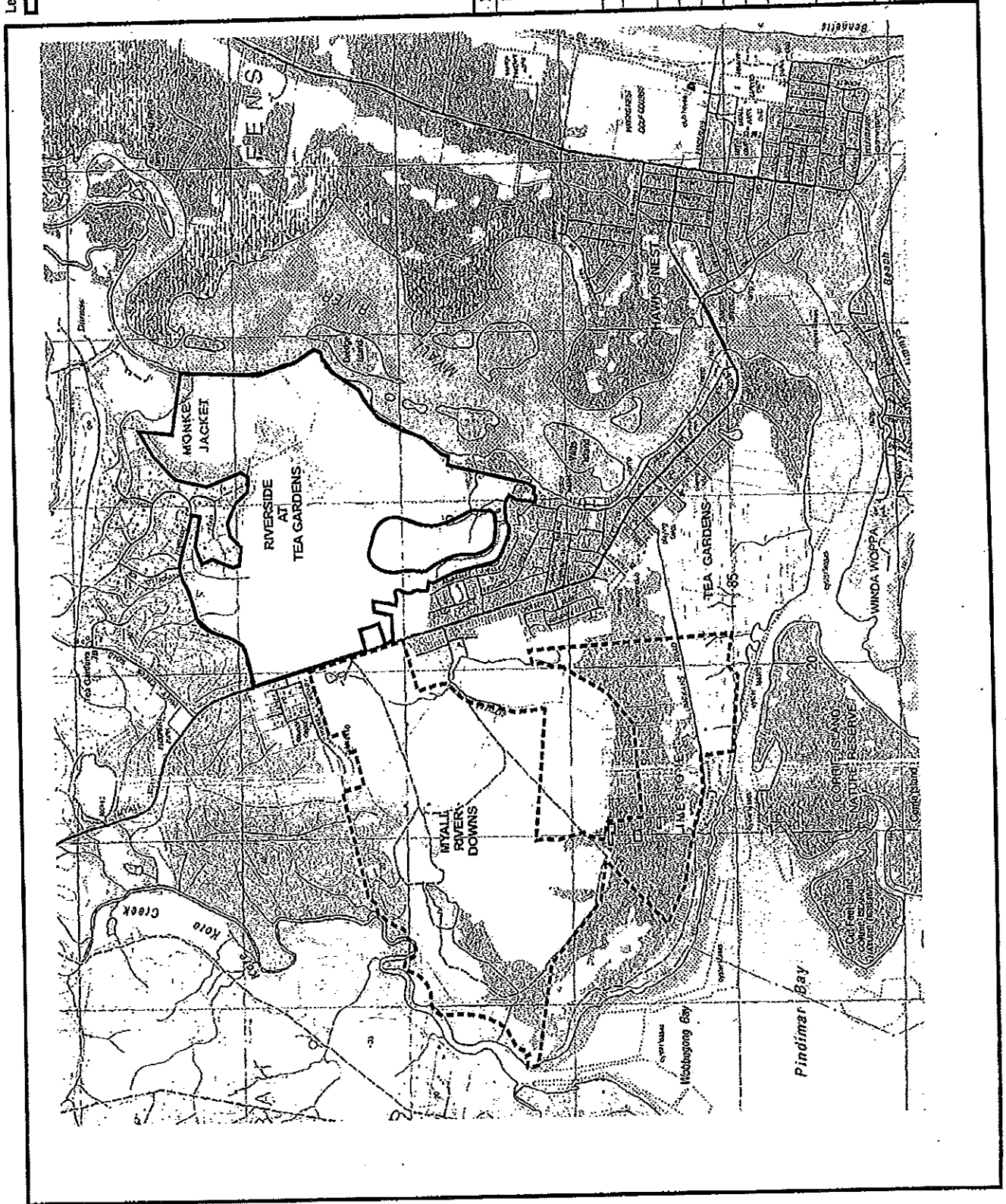



Figure 1.1

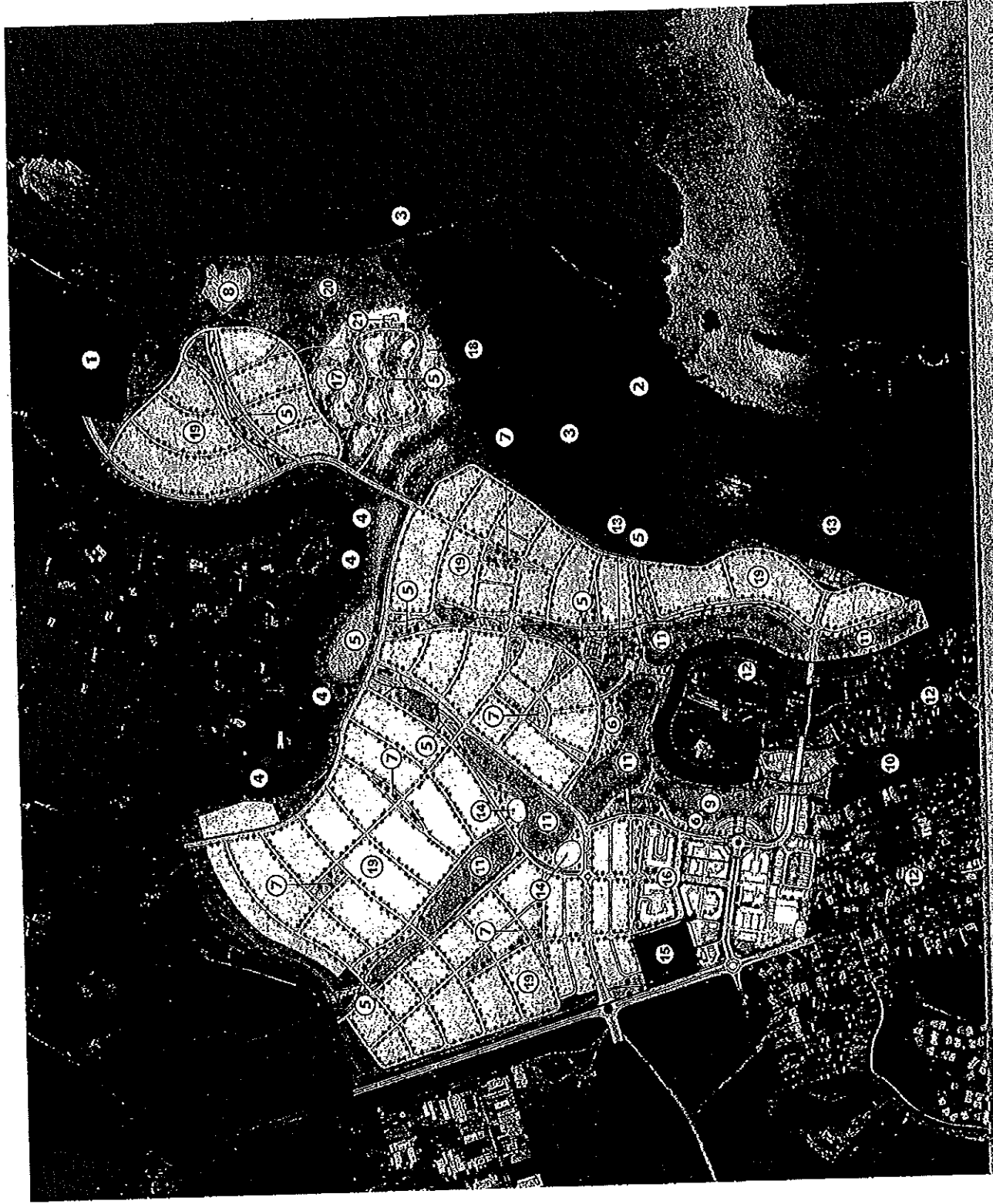
Locality Plan

Client:	Clighton Properties Pty Ltd
Project:	Environmental Assessment Riverside at Tea Gardens
Drawing No:	0043707rv_EA_jvr_AR_01
Date:	14/03/08
Drawn by:	JD
Source:	1:25,000 Topo Series Post Stephens Street
Scale:	Refer to Scale Bar
	0 250 500 750m
	
	N
	Environmental Resources Management Australia Pty Ltd 50 Bonville Avenue, Thornton, NSW 2322 Telephone +61 2 4684 2150



Item	Description
1	Extent of concept plan area Riverside at Hat Gardens.
2	Existing 7(a) wetland zone.
3	Existing 7(b) buffer zone.
4	Wildlife movement corridor.
5	Water management & open space corridors.
6	Community parks incorporating walking/cycle ways, BBQs, children's play area equipment, community pocket parks.
7	Myall foreshore park.
8	Extended lake area for water detention & water quality management (2.0 Ha).
9	Existing detention and water quality lake.
10	New leach water water quality management & detention ponds.
11	Existing residential development.
12	Proposed residential development.
13	Proximal community facilities.
14	Future proximal community facilities.
15	Site area currently owned by Great Lakes Council.
16	Extension of existing commercial precinct, Walver received (Dept. of Planning).
17	Low density tourist residential lodgings.
18	Conference & community facilities, associated low rise town house accommodation.
19	Proposed residential lot development to be developed under community title.
20	Future Development Site
21	Existing House

Land Use Legend		
Total Site	Ha	%
Open Space		
- Wetlands (zoned 7a)	29.3	12.8
- Buffer Zones (zoned 7b)	21.1	9.2
- Wildlife Corridors	27.3	11.9
- Myall Foreshore Park (including parking)	7.6	3.3
- Drainage Corridors, Ponds & Large Parks	35.1	15.4
- Pocket Parks	2.6	1.1
- Escaping detention & water quality lake	6.7	2.9
Total	123.7 Ha	56.6%
Built Up on Area		
- Residential (including roads & community facilities)	83.6	36.5
- Tourist/Residential (Lodgings)	8.4	3.7
- Marine Basin site facilities	3.0	1.3
- Commercial/Retail	4.3	1.9
Total	99.3 Ha	45.6%
Total	223.0 Ha	100%



Riverside



1000m
500m
0 500m
Plan: Richardson, N. D.
MAY 2005

Environmental
Resources Management
Australia

53 Bonville Avenue
Thornton NSW 2322
PO Box 71
Thornton NSW 2322
Telephone (02) 4964 2150
Facsimile (02) 4964 2152
www.erm.com

20 March, 2008

[REDACTED]
Interim Board of Management for the Worimi Conservation Lands
[REDACTED]
[REDACTED]



Our Reference: 0043707 ARCH_L01 WCL

Dear [REDACTED]

RE: RIVERSIDE ARCHAEOLOGICAL ASSESSMENT, TEA GARDENS
NSW

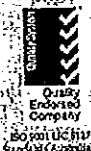
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Environmental Resources
Management Australia Pty Ltd
A.C.N. 002 773 248
A.B.N. 12 002 773 248

Offices worldwide



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If you have any queries concerning the project, please feel free to contact me on 0418 234 068.

Yours,
for Environmental Resources Management Australia Pty Ltd



Joanne Woodhouse
Senior Ecologist/ Archaeologist



Steve O'Connor
Project Director

Legend
 Riverside at Tea Gardens
 Site Boundary

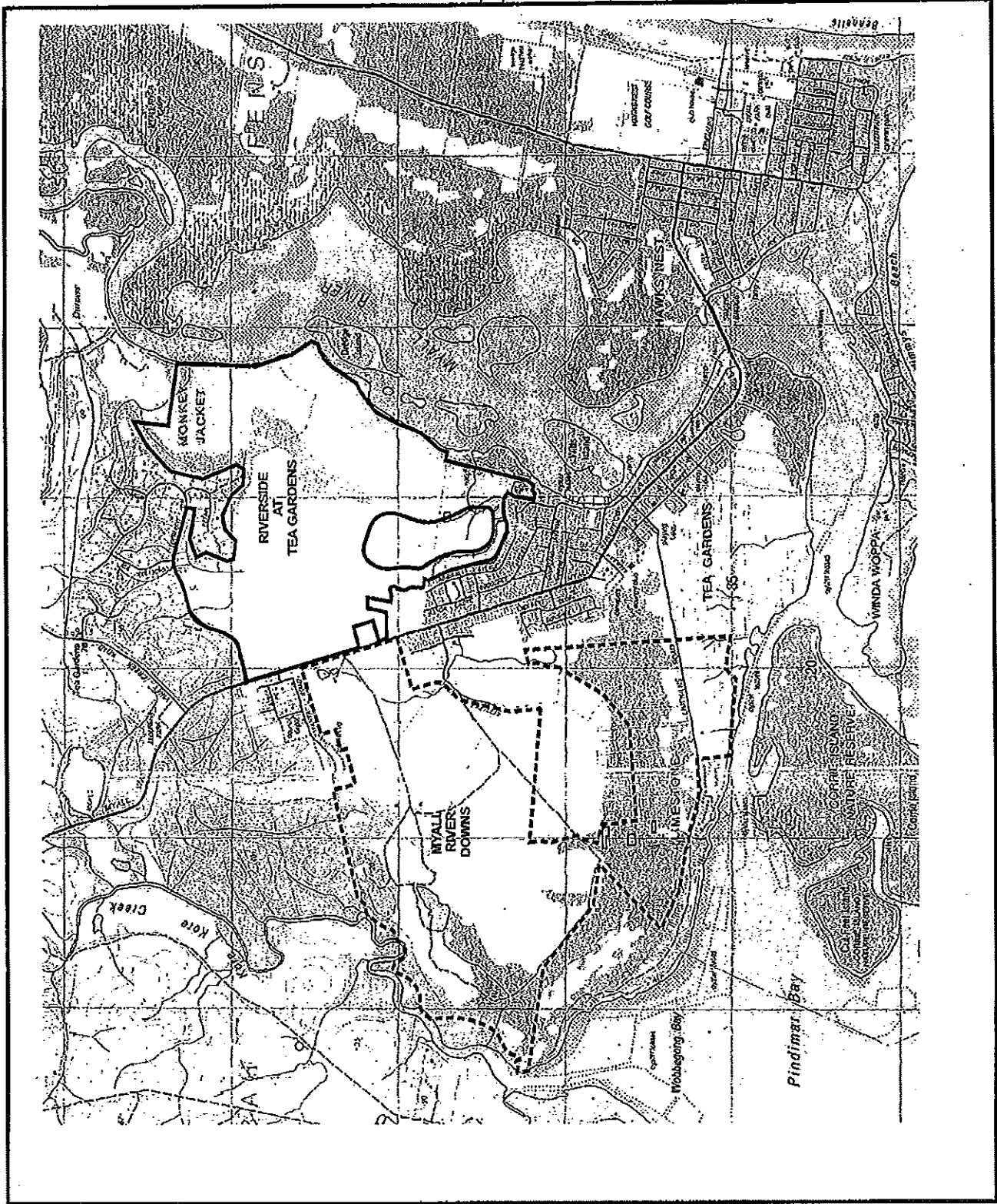


Figure 1.1
 Locality Plan

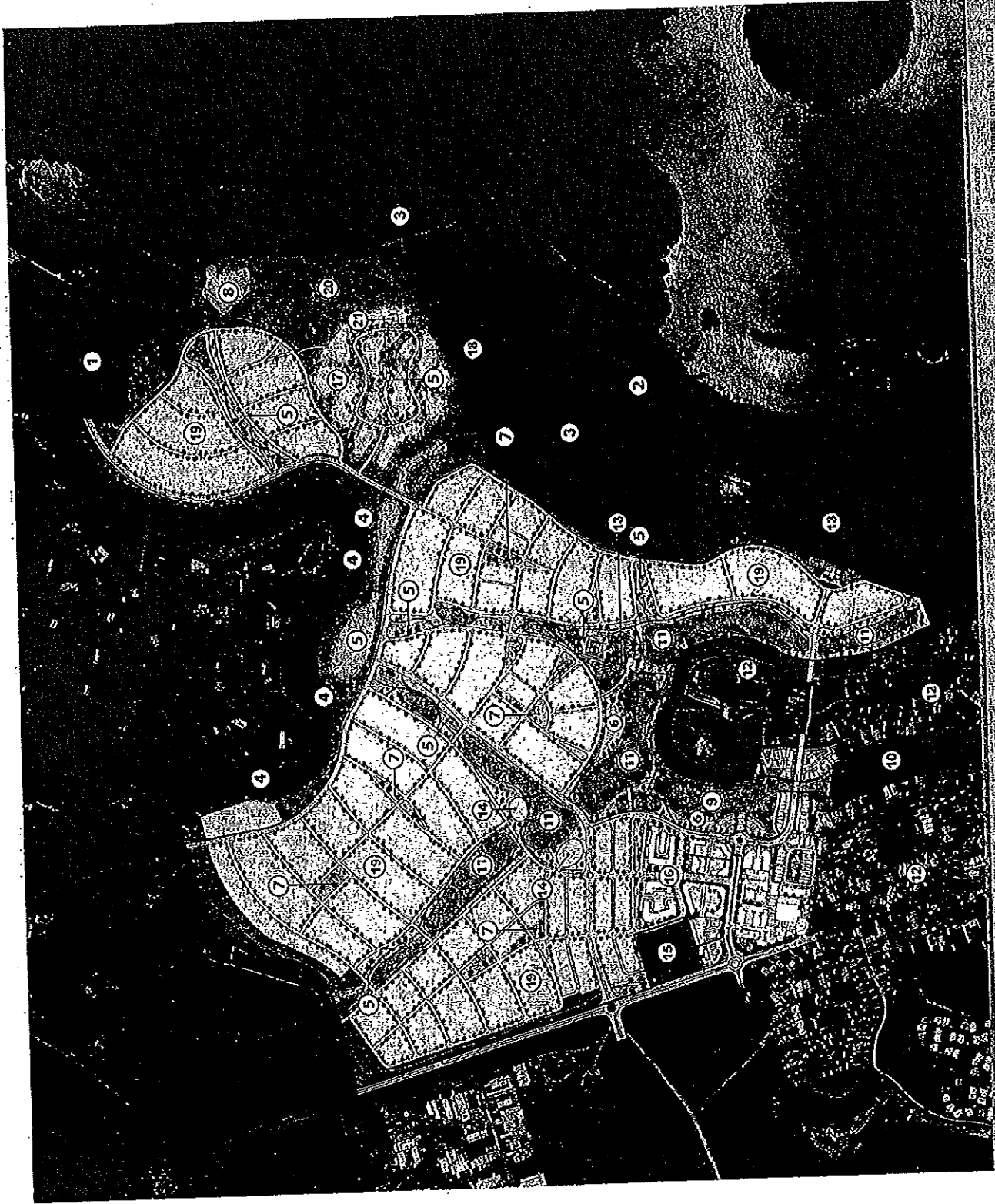
Client:	Crighton Properties Pty Ltd
Project:	Environmental Assessment Riverside at Tea Gardens
Drawing No:	0043707rv_EA_rvr_AR_01
Date:	14/03/08
Drawn by:	JD
Reviewed by:	SOE
Source:	1:25 000 Topo Series Port Stephens Sheet
Scale:	Refer to Scale Bar
	0 250 500 750m
	N

Environmental Resources Management Australia Pty Ltd
 53 Bonville Avenue, Thornton, NSW 2322
 Telephone +61 2 4964 2150



Item	Description
1	Extent of concept plan area Riverside at Two Corridors.
2	Existing 7(a) wetland zone.
3	Existing 7(b) buffer zone.
4	Wildlife movement corridor.
5	Water management & open space corridors.
6	Community parks incorporating walking/cycle ways, BBQs, children's play area equipment.
7	Community pocket parks.
8	Myrall foreshore park.
9	Extended lake area for water detention & water quality management (2.0 Ha).
10	Existing detention and water quality lake.
11	New fresh water water quality management & detention ponds.
12	Existing residential development.
13	Proposed community facilities.
14	Future precinct community facilities.
15	Site area currently owned by Great Lakes Council.
16	Extension of existing commercial precinct.
17	Water tower (Dept. of Planning).
18	Low density tourist residential buildings.
19	Proposed residential lot development to be developed under community title.
20	Future Development Site
21	Existing House

Category	Ha	%
Total Site		
Open Space		
- Wetlands (zoned 7a)	29.3	12.8
- Buffer Zones (zoned 7b)	21.1	9.2
- Wildlife Corridors	27.3	11.9
- Myrall Foreshore Park (including parking)	7.6	3.3
- Drainage Corridors, Ponds & Lago Parks	35.1	15.4
- Pocket Parks	2.8	1.1
- Existing detention & water quality lake	6.7	2.9
Total	129.7 Ha	56.6%
Built Upon Area		
- Residential (including roads & community facilities)	63.6	36.5
- Tourist/Residential (Lodgings)	8.4	3.7
- Marina Basins and facilities	3.0	1.3
- Commercial/Retail	4.3	1.9
Total	99.3 Ha	43.4%
Total	229.0 Ha	100%



Riverside at Two Corridors



31 July, 2008

[REDACTED]
Interim Board of Management for the Worimi Conservation Lands
[REDACTED]
[REDACTED]

Our Reference: 0043707 ARCH_L02 WCL.DOC

Dear [REDACTED]

RE: DRAFT REPORT FOR COMMENT: ABORIGINAL HERITAGE
ASSESSMENT AT TEA GARDENS NSW

Please find enclosed a copy of the draft report on the Riverside development, which was surveyed on 21 April 2008, with the assistance of Karuah Local Aboriginal Land Council.

We would greatly appreciate if you could provide a written response on the results and recommendations in this report within the next two weeks.

Also enclosed is a form that you may choose to fill out after reviewing the draft Riverside Aboriginal Heritage Assessment. This form is designed to make providing feedback on the report easier and is not obligatory. Should you wish to provide feedback in another form such as by personal letter, fax or email, please feel free to do so, or if you wish to use this form, please complete, sign and return to ERM on 4964 2152.

If you have any questions regarding the report or the feedback form, please do not hesitate to contact me on (02) 4964 2150 or 0418 234 068.

Many thanks,
for Environmental Resources Management Australia Pty Ltd

J. Woodhouse

Joanne Woodhouse
Senior Ecologist/Archaeologist

S. O'Connor

Steve O'Connor
Project Director



Jenna Lamb/ERMAU/ERM
04/05/2007 02:24 PM

To: [REDACTED]
cc:
bcc:
Subject: Aboriginal heritage assessment, Tea Gardens

Dear Sir/Madam,

In accordance with the Department of Environment and Conservation Interim Community Consultation Requirements, Environmental Resources Management Australia (ERM) wishes to inform you that we are undertaking the Aboriginal consultation process for an area proposed for residential, tourist and commercial development at the Riverside site in Tea Gardens (please find attached a map of the study area). The study is being undertaken on behalf of Crighton Properties Pty Ltd as part of an Environmental Assessment of the area.

We would be grateful if you could supply us with a list of all known Aboriginal groups or individuals who would be interested in being consulted on this project within ten working days. If you have any specific information concerning the cultural values of the study area, we would be grateful if you could let us know. Our contact details are listed in this email signature.

If you have any queries concerning the project, please feel free to contact me by email or on the numbers listed below.

Many thanks,
Jenna.



0043707 consultation map.jpg

Jenna Lamb
Graduate Archaeologist
Environmental Resources Management Australia Pty Ltd
Building C, 33 Saunders Street, Pyrmont NSW 2007
Locked Bag 24, Broadway NSW 2007

Switch: (02) 8584 8888
Direct: (02) 8584 8833
Fax: (02) 8584 8800
Mobile: 0428 885 488

ERM - Environmental Adviser of the year 2005 & 2006: Acquisitions Monthly

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Klalc [redacted]
15/05/2007 09:11 AM

To Jenna.Lamb@erm.com
cc
bcc
Subject Re: Aboriginal heritage assessment, Tea Gardens

History This message has been forwarded.

Hi [redacted],
I'm not sure if I have spoken to you or not but Karuah Local Aboriginal Land Council is interested in the consultation process for the development at the Riverside Site.

Looking forward to hearing from you.

[redacted]
Karuah Local Aboriginal Land Council
[redacted]

> Jenna.Lamb@erm.com wrote:

>

>

> Dear Sir/Madam,

>

> In accordance with the Department of Environment and Conservation
> Interim
> Community Consultation Requirements, Environmental Resources Management
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> contact
> me by email or on the numbers listed below.

>
> Many thanks,
> Jenna.

>
> (See attached file: 0043707 consultation map.jpg)

>
> Jenna Lamb
> Graduate Archaeologist
> Environmental Resources Management Australia Pty Ltd
> Building C, 33 Saunders Street, Pyrmont NSW 2007
> Locked Bag 24, Broadway NSW 2007
>

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> Monthly

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> client.
> Please visit ERM's web site: <http://www.erm.com>



[Redacted]

To <Jenna.Lamb@erm.com>

cc

bcc

10/05/2007 02:43 PM

Subject: Re: Aboriginal heritage assessment, Tea Gardens

Dear Jenna

I have searched the Register of Aboriginal Owners and the subject land does have Registered Aboriginal Owners pursuant to Division 3 of the *Aboriginal Land Rights Act 1983* (NSW). I suggest that you contact [Redacted] on [Redacted]

Mailing Address

Email: [Redacted]@bigpond.com.au

[Redacted]
IMCC
[Redacted]
[Redacted]

[Redacted] will be able to provide your information to the interim Board of Management for the Worimi Conservation Lands.

Further to this, I suggest that you contact the [Redacted] at the Worimi Local Aboriginal Land Council on [Redacted]. It would also be a good idea to contact the Karuah Local Aboriginal Land Council on [Redacted]

I trust that this is of some help.

Regards, [Redacted]

[Redacted]
[Redacted]
Office of the Registrar
Aboriginal Land Rights Act
[Redacted]

>>> <Jenna.Lamb@erm.com> 4/05/2007 12:44 pm >>>

Dear [Redacted]

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**Karuah Local Aboriginal
Land Council**

Ph: [REDACTED]
Fax: [REDACTED]
Email: [REDACTED]

[REDACTED]
[REDACTED]
KARUAH NSW 2324

7th May 2007

RE: Riverside Development at Tea Gardens, NSW

Dear Joanne,

Following our consultation meeting on Wednesday 18 April 2007, I am writing to confirm that the Karuah Local Aboriginal Land Council had the proposed Riverside development area surveyed in 1994 by competent Cultural & Heritage staff. It was determined at the time to be of low archaeological significance. The previous surveys covered the entire development area based on the concept plan provided by ERM during the consultation meeting.

Based on the results of this survey and the high level of disturbance across the site (pine plantation) we agree that no further detailed survey work is required by the Karuah Local Aboriginal Land Council provided that no development is proposed within the SEPP14 wetland as a midden has been recorded in this area.

It is understood that further consultation is being undertaken by the consultants (ERM) and whilst Karuah Local Aboriginal Land Council agree that no further detailed surveys are required, they would like to be involved in any fieldwork that is undertaken as a result of the consultation process.

If you require further information, please contact me on the above number.

Yours truly,

[REDACTED]

[REDACTED]

On behalf of

[REDACTED]

17/5/07

TO: Cultural Heritage Services
Attn: Jemma Lamb

From: [REDACTED]

Re: Expression of interest re:
Riverside site, Tea Gardens NSW.

pg 1/2

[REDACTED]

Cultural Heritage Services
Attn: Jenna Lamb
Environmental Resources Management Australia
Locked Bag 24
Broadway NSW 2007

Re: Aboriginal heritage assessment for Riverside site, Tea Gardens NSW.

I am writing in reply to the notice published in the local NOLA newspaper on 10th May, 2007 re an Aboriginal heritage assessment proposed for the Riverside site at Tea Gardens. As an Aboriginal and Worimi descendant of this area I would like to advise that I wish to be consulted for this assessment.

Please forward information to myself at the above address.

Regards,

[REDACTED]

[REDACTED]

17 May, 2007.

Facsimile
message

53 Bonville Avenue,
Thornton NSW 2322
AUSTRALIA

To

[REDACTED]

PO Box 71,
Thornton NSW 2322
AUSTRALIA

Fax Number

[REDACTED]

www.erm.com

From

Steve O'Connor

Ref/Job Number

0043707F02JW

Telephone: 61 2 49642150

Facsimile: 61 2 49642152

Subject

Riverside at Tea Gardens
Archaeological Study

Date

15 January 2009

Page 1 of 1



[REDACTED]

Thanks for your correspondence dated 5th December 2007 requesting an additional 14 days to carry out consultation with appropriate community members in relation to the draft Archaeological Study ERM has prepared in relation to the Riverside at Tea Gardens site.

We look forward to receiving your feedback by Thursday 20th December 2007.

If you have any questions or would like to discuss any aspects of our draft report please feel free to contact me on 49642150 or 0407450724.

Regards

Steve

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Environmental Resources Management Australia Pty Ltd A.C.N. 002 773 248

B8

Joanne Woodhouse

From: Joanne Woodhouse
Sent: Friday, 22 August 2008 3:57 PM
To: [REDACTED]
Subject: Re: Draft Report Aboriginal Heritage Assessment at Tea Gardens NSW

Hi [REDACTED]

Following on from our phone conversation earlier today, I have spoken to Margaret from Karuah LALC to clarify the recommendations contained in the draft report. The KLALC have indicated that they agree with the recommendations contained in the report including the provision of a minimum 10m buffer around the midden site, the preparation of a management plan prior to development commencing in the tourist precinct, and the monitoring of all excavations works within the development area. In addition to the original recommendations, as requested by KLALC and DECC, the developer will set aside an area for the containment of any cultural material if it is uncovered during the monitoring works.

I thank you for your recommendations and trust that they have now been addressed.

Regards

Joanne Woodhouse
 Environmental Consultant

Environmental Resources Management Australia
 53 Bonville Avenue
 Thornton NSW 2322
 PO Box 71
 Thornton NSW 2322

T: +61 2 49642150
 F: +61 2 49642152

From: [REDACTED]
Sent: Tuesday, 5 August 2008 1:06 PM
To: Joanne Woodhouse
Cc: [REDACTED]
Subject: Draft Report Aboriginal Heritage Assessment at Tea Gardens NSW REF: 0043707 ARCH_LO2
 WCL.DOC

Dear Joanne

After reviewing the documentation (as offered) and in the realisation of the recommendations put forward I would like to offer these subject matters from Culture and Heritage Division (Northern).

They are:

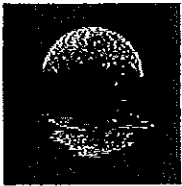
- The recommendation to conduct a Management Plan which will minimise impact on inter-tidal aquatic habitat and existing Coastal processes.

- The Karuah Land Council has identified a number of areas within the development (as well as adjacent areas) which are of particular Cultural significance. Protective "buffer zones" were consequently identified and must be constructed under the direction of the Karuah LALC
- A suitable area is set aside for the containment of any Cultural Material that is uncovered/discovered, so as to maintain spiritual contact. This could be a dedicated "Keeping Place" that would be under care and control of the Aboriginal Community.
- Culture and Heritage Division (Northern) can assist the community in the CCHMP and provide "Incident Response" formats.
- In recognition of the physical aspects as noted in this study, CHD would also consider it applicable to view an "Intellectual and Spiritual" Property Rights Report or Cultural Heritage Report that has been undertaken by the Aboriginal Community (Karuah LALC) before any further processes are undertaken.

Hoping this information has been of help to this proposal, and please call the nominated Office or my mobile [REDACTED] if I can be of any further assistance

Regards

[REDACTED]
Aboriginal Liaison Officer
Cultural and Heritage Division Northern





Karuah Local Aboriginal Land Council

ABN 17 304 066 465

Ph: [REDACTED]
Fax: [REDACTED]
Email: [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]

Date: 22/01/2009

ERM
Joanne Woodhouse

Subject: Riverside aboriginal cultural heritage assessment at Tea Gardens and the recommendations from Karuah LALC, letter 5/8/08.

We agree with the recommendations in the survey report, but;

Joanne, at this stage the Karuah Local Aboriginal Land Council is suggesting that when works are carried out and soil is turned and the grass is moved away by equipment, then the Karuah Local Aboriginal Land Council site officers would need to be there.

1. Sometimes it's best to have people there because you cannot tell sometimes what's under the ground, not until it's turned over.
2. This would come in line with recommendation No 6. Within the Report (Riverside at Tea Gardens)
3. How many workers will understand the aboriginal objects and identified them as aboriginal object when working the equipment.

Thank You

[REDACTED]

Karuah LALC

Environmental Resources Management Australia	
Referred to: <i>AKA</i>	Ref. No. <i>0043207</i>
Date Received	22 JAN 2009
Checked By: <i>CLC</i>	Date: <i>22/1/09</i>

Notice of Aboriginal Consultation

Riverside site, Tea Gardens

An Aboriginal heritage assessment is proposed for the Riverside site at Tea Gardens. Aboriginal organisations or individuals wishing to be consulted for this assessment are invited to register a written expression of their interest by Thursday 24 May 2007.

Please respond in writing to:

Cultural Heritage Services
Attn: Jenna Lamb
Environmental Resources Management Australia
Locked Bag 24
Broadway NSW 2007

Or by fax on 02 8584 8800.

ERM Environmental
Resources
Management
Australia

Building C, 33 Saunders St
Pymont NSW 2009
Locked Bag 24
Broadway NSW 2007
Australia
Tel: +61 (0)2 8584 8888
Fax: +61 (0)2 8584 8800
www.erm.com

23 February, 2009

[REDACTED]
[REDACTED]
[REDACTED]

Our Reference: 0043707 METHODOLOGY V05.DOC



Dear [REDACTED]

RE: UPDATED RIVERSIDE ARCHAEOLOGICAL ASSESSMENT, TEA
GARDENS NSW

Following previous survey work for the proposed Riverside residential, tourist and commercial development at Tea Gardens NSW in April 2008, Environmental Resources Management Australia (ERM) is undertaking an updated Aboriginal heritage assessment. The study is being undertaken on behalf of Crighton Properties Pty Ltd as requested by the Department of Environment and Climate Change.

As you are aware consultation for this project commenced in May 2007, with field survey and an impact assessment prepared in April 2008. This report formed part of an Environmental Assessment report submitted to the Department of Planning for adequacy review under Part 3A of the EP&A Act. As part of this review process Department of Environment and Climate Change (DECC) indicated that they require additional survey of the area covering all landscape units and the PAD noted within the southern portion of the site.

This letter provides you with background information and a proposed methodology for this updated heritage assessment. We welcome your feedback on the method of assessing the Aboriginal heritage significance of the study area.

We would appreciate it if you could provide us with any written feedback on this methodology, by Wednesday 11 March 2009 (our fax number is 4964 2152, or you can email Joanne.Woodhouse@erm.com). Please provide all correspondence addressed to Joanne Woodhouse.



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1. BACKGROUND INFORMATION

1.1 BRAYSHAW (1998)

The study area has been previously surveyed by Brayshaw (1988), who traversed the entire survey area on foot, focussing on areas of ground surface exposure, mature trees, and environmental features which may have formed a focus for Aboriginal occupation. During this survey, Brayshaw located one site, a shell midden comprising four exposures within a 220 m x 40 m strip along the bank of the Myall River opposite the southern part of Dredge Island (AHIMS site 38-5-0148). Given the lack of disturbance to this midden, the potential depth of deposit and the range of shell species represented (cockle, oyster, whelk and pipi), Brayshaw assessed the site as having high archaeological significance, and recommended that it be preserved.

This site is located within a State Environmental Planning Policy No 14 -- Wetlands (SEPP 14) and is surrounded by a large wetland buffer zone. The site is not proposed to be developed and will not be directly impacted by the proposal.

1.2 ERM (2008)

The consultation for the proposed development of the Riverside site has been carried in accordance with the DECC Interim Community Consultation Requirements (2005). Three parties have registered an interest (Karuah Local Aboriginal Land Council, Jan Webb and Interim Board of Management for Worimi Conservation Lands) and were provided with a proposed desktop assessment methodology in June 2007 and a survey methodology in March 2008. Verbal responses to these methodologies were received from KLALC and Jan Webb, each indicating their agreement. Field survey was undertaken in accordance with the agreed methodology on Monday 21 April 2008 with two representatives of the KLALC. A copy of the draft report was sent to each of the groups on 31 July 2008.

One new midden site was recorded on a sand dune close to the SEPP 14 wetland and associated buffer within the proposed tourist precinct. The midden was located within a paddock and shows signs of disturbance (broken shells on the surface). Given the level of disturbance, this midden is considered to have moderate significance only. Further investigations would be required to confirm the extent, depth and contents of this site should development be proposed within 10 metres of its current extent.

There were several limiting factors that did not allow for complete survey of the development area. A long period of rain had made the wetland area difficult to traverse, with much of the area being ankle deep (and knee deep in some places) with water. This not only made traversing the area difficult but also diminished the possibility of locating Aboriginal archaeology on the ground. Whilst the remaining areas of the study area were better drained, the vegetation in the north western portion was extremely dense and the southern and central parts were not readily accessible due to the presence of electric fences. A visual inspection was made where possible which confirmed that ground visibility in these areas was close to 0%. While the access and water issues limited the survey coverage of the study area, the low visibility would not have allowed for identification of Aboriginal archaeology, and further survey of the study area was not recommended.

Neither the newly identified midden nor that previously recorded by Brayshaw McDonald (1988) will be directly impacted by the proposed development, however ancillary or indirect impacts may occur. Alterations to drainage patterns could accelerate erosion of the deposits and greater visitation (on foot and vehicular) may cause damage or erosion. To ensure that indirect impacts do not damage the middens (in particular the recently identified midden located within the proposed tourist precinct, ('Riverside_01'), the following recommendations were made:

- o Riverside_01 should be protected on all sides by a minimum 10 metre buffer. No construction/excavation works, including the storage of machinery should impinge on this buffer zone;
- o a management plan should be developed in consultation with the local Aboriginal community to ensure the long-term protection of the middens. This management plan should consider the use of fencing, designated walkways and interpretive signage at Riverside_01 as an educational resource. No development or excavation works should be undertaken within the tourist precinct until this management plan has been finalised and approved by the Karuah LALC and DECC;
- o based on the location of site 38-05-0148 within the protected SEPP 14 Wetland and associated buffer zones, no further protection measures are required;
- o while there was limited visibility over the whole site, no further survey work is recommended. However, if the Concept Plan is amended,

subsurface investigation may be required to further assess the significance of the recorded sites;

- o based on the predictive modelling and confirmed by field survey it is likely that a consistent low-density scatter of midden material is likely to occur within the eastern portion of the study area. This area will be protected within the SEPP 14 Wetland and associated buffer zones and no specific management measures or monitoring is recommended;
- o the remainder of the study area has limited potential for additional sites to be recorded and no specific management measures or monitoring is recommended from an archaeological perspective. Following consultation with the local Aboriginal community, monitoring of clearing and initial excavation works has been recommended by the Karuah LALC;
- o if during clearing or construction works Aboriginal artefacts are recovered a qualified archaeologist should at this time be contacted and the site recorded in consultation with the Aboriginal community. Once recording has occurred and a Care and Control Permit approved under Section 85a of the NP&W Act (if required), any salvage can be undertaken and works (with minimal disruption) can continue;
- o a suitable area should be set aside for the possible containment of any cultural heritage material that is uncovered during the construction works. This dedicated 'keeping place' would only be required in the event that material is uncovered and would be under the care and control of the local Aboriginal community; and
- o in the event of discovery of skeletal material all works should cease, and the police, relevant local Aboriginal community groups and a suitably experienced archaeologist or physical anthropologist should be contacted to assess the material before determining the correct management action. Works should not resume until the Police and/or DECC have given authority in writing and approved a management plan.

2. RESULTS OF ADEQUACY REVIEW AND COMMENTS FROM DECC

Below is a summary of the feedback from DECC after undertaking an adequacy review:

- Over reliance on Brayshaw 1988 survey of the study area:
 - disturbance and taphonomic process occurred during intervening periods changing the landscape;
 - methodology of the 1988 report not provided; and
 - survey of the PAD *"evident on aerial photography that stretches almost the entire length of the development proposal (stretching North Easterly from site 38-5-0076 in an arc that bends Easterly) as it is considered changed since the previous 1988 survey"* is required;
- DECC requires more survey work to be undertaken to ensure that bora grounds (evidenced by compacted ground) are surveyed for;
- All community representatives to be involved in the assessment process;
- Due to the possibility of burials additional survey should be carried out to look for these;
- Adjoining property has had recent archaeological finds of a midden thus it is suspected that the study area may have additional sites.

Overall the DECC requires further survey incorporating the whole of the study area and all the landforms present within the study area.

3. PROPOSED SURVEY METHODOLOGY

Based on consultation with DECC and the results of the adequacy review under Part 3A of the EP&A Act, we propose to undertake additional field survey in the week beginning 16 March 2009.

This survey will be undertaken on foot and will cover all archaeologically sensitive landforms in the study area including the areas of wetland, sand dunes slopes and flats. The survey will also aim to cover a potential PAD previously highlighted by DECC in the southern portion of the site (within the wetland landscape unit).

During the heritage assessment, we propose to:

- Relocate site 38-5-0148 and record any additional information as a result of landscape changes since the original survey in 1988;
- Relocate 'Riverside_01' in an attempt to further clarify it's extent and justify the recommended 10m buffer;
- Ensure all landforms within the study area are surveyed and record all survey transects;
- identify and record any additional Aboriginal heritage sites located during the survey;
- take GPS readings and mark site locations on a map;
- estimate the effective survey coverage of the study area;
- reassess the impact of the proposed development on known Aboriginal heritage values;
- reassess the scientific and Aboriginal significance of sites; and
- provide recommendations on how to manage and mitigate proposed development impacts on known Aboriginal heritage values.

When these tasks have been completed, ERM will provide a draft copy of the updated Aboriginal heritage assessment report to all of the registered groups for comment.

Following current NSW DEC Aboriginal heritage consultation guidelines, if you would like to participate in the survey, we invite you to provide a response by Wednesday 11 March 2009. Your response and offer of services should describe the skills or experience of your representative in one or more of the following:

- field identification or survey techniques (including confirmation of physical ability to undertake fieldwork);
- cultural knowledge of the study area and surrounds; and
- ability to assist in communicating the results of the survey back to the stakeholder community for the assessment of cultural values and significance, and returning advice on their response to ERM (DEC Interim Community Consultation Requirements, January 2005, page 8).

A decision to employ any Aboriginal field survey representatives will be based upon the information supplied in these offers. Any employment will be offered by the client and are independent of ERM and may not reflect our opinions and/or advice.

In order to participate in the survey, Aboriginal representatives must be adequately insured, so please also provide your insurance status and copies of your certificate of currency for details concerning your public liability and workers compensation insurance. We would greatly appreciate it if you could respond to us in writing by Wednesday 11 March 2009 (to Joanne.Woodhouse@erm.com or by fax on 4964 2152) with this information in addition to any offer of services. Our contact details are listed at the top right hand side of this letter.

If you have any queries concerning the project, please feel free to contact me on 0418 234 068.

Yours,

for Environmental Resources Management Australia Pty Ltd



Joanne Woodhouse
Senior Ecologist/Archaeologist



Steve O'Connor
Project Director



Karuah Local Aboriginal Land Council

ABN 17 304 066 465

Ph: [REDACTED]
Fax: [REDACTED]
Email: [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]

Date: 02/03/2009

Environmental Protection Authority - Australia	
Referred to:	File No:
Date Received	- 2 MAR 2009
Checked By:	Date:

ERM
Joanne Woodhouse
Building C, 33 Saunders Street,
Pyrmont NSW 2009.

Reference: 0043707 Methodology V05.Doc

Dear Joanne;
Regarding the letter dated 23/02/2009, based on that letter DECC would like to undertake additional field survey work in the week beginning 16 March 2009.

The survey will be undertaken on foot and will cover all archaeologically sensitive landforms in the study area including the areas of wetlands, sand dunes slopes and flats. And DECC would like to cover the PAD previously highlighted by DECC.

Should we move the site 38-5-0148 and Riverside 01, because it is located within the protected wetland zone, which is surrounded by the wetland buffer zone? And if we need to relocate any site do we need to put a section 90 permit to NPWS.

The Karuah Local Aboriginal Land Council site officers will help with the relocation of any sites and to help with the buffer zones, plus identify and record any additional aboriginal heritage sites located during the survey.

The Karuah LALC site officers will also provide to this office Karuah LALC a site report, GPS readings and they have the cultural knowledge of our area.

Insurance is covered by the Karuah LALC and also public liability and workers compensation.

We look forward to the site works on the week of the 16/03/2009, please ring me if you need any more information, and please find attached the cost for our site officers.

The following amounts for service provided by the site officers, the Karuah LALC will be sending Two (2) site officers the cost below are for one (1) site officer.

- \$ 75 per hour – first six (6) hours per day
- \$ 90 per hour – every hour after first six (6) hours per day
- \$ 75 per hour - travel



Thank You



Karuah LALC

Diana Neuweger

From: Joanne Woodhouse
Sent: Thursday, March 12, 2009 12:19 PM
To: Diana Neuweger
Subject: FW: REFERENCE: 0043707 METHODOLOGY V05.DOC

Hi Diana,

Neither of these groups exists any more so please ensure no further correspondence. That leaves just KLALC and Jan Webb for field survey.

From: [REDACTED]
Sent: Thursday, 12 March 2009 12:16 PM
To: Joanne Woodhouse
Subject: REFERENCE: 0043707 METHODOLOGY V05.DOC

Good Afternoon Joanne,

Please be advised any further correspondence for Stockton Bight Aboriginal Negotiation Panel and or the Interim Board of Management for Worimi Conservation Lands for comment, I ask respectfully they cease. The Worimi Conservation Lands Board of Management is managed by the DECC which is consulted and sent relevant assessments for comment.

Kind regards

[REDACTED]
[REDACTED]
[REDACTED]
Ph: [REDACTED]
Fax: [REDACTED]
Email: [REDACTED]

This email is intended for the addressee (s) named and may contain confidential and/or privileged information. If you are not the intended recipient, please notify the sender and then delete it immediately. Any views expressed in this email are those of the individual sender except where the sender express and with authority states them to be the views of the Department of Environment and Climate Chang

13 January, 2011

[REDACTED]
[REDACTED]
[REDACTED]

Our Reference: 0043707 JW L01.DOC



Dear [REDACTED],

**RE: REPORT FOR COMMENT - ABORIGINAL HERITAGE
ASSESSMENT AT TEA GARDENS**

Please find enclosed a copy of the report on the Riverside residential and tourist development at Tea Gardens, which was surveyed on the 21st April 2008 and 18th March 2009 with the assistance of the Karuah Local Aboriginal Land Council.

We would greatly appreciate you would provide a written response on the results and recommendations in this report within the next two weeks.

Please note that since the 18th March 2009 survey, the proposed development footprint has been reduced as a result of ongoing consultation with the Department of Planning and Department of Environment, Climate Change and Water. The modified concept plan is detailed in Figure 1.2 of the attached report. Please note that the modified development occurs fully within the study area previously surveyed and assessed.

Enclosed is a form you may choose to fill out after reviewing the Riverside Aboriginal Heritage Assessment Report. This form is designed to make providing feedback on the report easier and is not obligatory. Should you wish to provide feedback in another form such as by fax, email or letter, please feel free to do so, or if you wish to use this form, please complete, sign and return by fax to ERM on [REDACTED]



If you have any questions regarding the report or the feedback form, please do not hesitate to contact myself on [REDACTED]

Yours sincerely,
for Environmental Resources Management Australia Pty Ltd

[REDACTED]

[REDACTED]

Environmental Planner

[REDACTED]

[REDACTED]

Principal

[Redacted]
[Redacted]

ABORIGINAL COMMUNITY COMMENTS

This form is designed to make providing feedback easier and is not obligatory. Should you wish to provide feedback in another form, you are encouraged to do so, or if you wish to use this form, please complete, sign and return to ERM on the fax number listed above or at [Redacted]

I, _____ (please insert name),

of _____ (please insert the name of your group),

agree with the recommendations in the survey report provided by ERM for the Riverside Aboriginal Heritage Assessment at Tea Gardens, NSW,

AND/OR

would like to make the following comments about the Aboriginal significance assessment and / or recommendations provided by ERM for the Riverside Aboriginal Heritage Assessment at Tea Gardens, NSW

Signed: _____ Date: _____

Position within Organisation: _____

Environmental
Resources Management
Australia

53 Bonville Avenue,
Thornton NSW 2322

PO Box 71,
Thornton NSW 2322
AUSTRALIA

Telephone +61 2 4964 2150
Facsimile +61 2 4964 2152

www.erm.com

13 January, 2011

Karuah Local Aboriginal Land Council
[REDACTED]
[REDACTED]

Our Reference: 0043707 KLALC L01.DOC

Attention: [REDACTED]

Dear [REDACTED]

RE: REPORT FOR COMMENT - ABORIGINAL HERITAGE
ASSESSMENT AT TEA GARDENS

Please find enclosed a copy of the report on the Riverside residential and tourist development at Tea Gardens, which was surveyed on the 21st April 2008 and 18th March 2009 with the assistance of the Karuah Local Aboriginal Land Council.

We would greatly appreciate if the Karuah Local Aboriginal Land Council would provide a written response on the results and recommendations in this report within the next two weeks.

Please note that since the 18th March 2009 survey, the proposed development footprint has been reduced as a result of ongoing consultation with the Department of Planning and Department of Environment, Climate Change and Water. The modified concept plan is detailed in Figure 1.2 of the attached report. Please note that the modified development occurs fully within the study area previously surveyed and assessed.

Enclosed is a form you may choose to fill out after reviewing the Riverside Aboriginal Heritage Assessment Report. This form is designed to make providing feedback on the report easier and is not obligatory. Should you wish to provide feedback in another form such as by fax, email or letter, please feel free to do so, or if you wish to use this form, please complete, sign and return by fax to ERM on [REDACTED]



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If you have any questions regarding the report or the feedback form, please do not hesitate to contact myself on [REDACTED]

Yours sincerely,
for Environmental Resources Management Australia Pty Ltd

[REDACTED]

[REDACTED]
Environmental Planner

[REDACTED]

[REDACTED]
Principal

[Redacted]
[Redacted]

ABORIGINAL COMMUNITY COMMENTS

This form is designed to make providing feedback easier and is not obligatory. Should you wish to provide feedback in another form, you are encouraged to do so, or if you wish to use this form, please complete, sign and return to ERM on the fax number listed above or at [Redacted]

I, _____ (please insert name),

of _____ (please insert the name of your group),

agree with the recommendations in the survey report provided by ERM for the Riverside Aboriginal Heritage Assessment at Tea Gardens, NSW,

AND / OR

would like to make the following comments about the Aboriginal significance assessment and / or recommendations provided by ERM for the Riverside Aboriginal Heritage Assessment at Tea Gardens, NSW

Signed: _____ Date: _____

Position within Organisation: _____



**Karuah Local Aboriginal
Land Council**

ABN 17 304 066 465

[Redacted]
[Redacted]
[Redacted]

Date; 19/01/2011

ERM

[Redacted]
Environmental Planner

[Redacted]
Thornton NSW 2322

[Redacted]

Environmental Resources Management Australia	
Referred to: PA	Ref. No. 0043707
Date Received	21 JAN 2011
Checked By: PA	Date: 24/1/11

Regarding report for Riverside Aboriginal Heritage Assessment at Tea Gardens NSW.

1. A suitable area should be set aside for the possible containment of any Cultural Heritage material that is uncovered during the construction works.

This dedicated 'keeping place' would only be required in the event that Material is uncovered and would be under the care and control of the Karuah Local Aboriginal Land Council.

2. To have a Keeping Place would require an area fenced off from the public, but not to keep the public away or we could remove the items and return them to the Karuah LALC office. (Need DECCW approval).
3. The Karuah LALC is happy with the report, as long as the recommendations in the report stand.

Thank you

[Redacted Signature]

Karuah LALC

Annex B

Survey Data

Table B.1 *Survey Data from 2008 Survey*

Transect	Landform	Area (m ²)	Visibility	Exposure	Visible area (m ²)	Area available for detection (m ²)	% Effective coverage
1	Wetland	4405	1%	5%	44.0	2.2	0%
2	Sand Dune	98850	5%	35%	4942.5	1729.9	2%
3	Flat	150000	3%	25%	4500.0	1125.0	1%
Total							1%

Table B.2 *Survey Data from 2009 Fieldwork*

Transect	Landform	Length (m)	Width (m)	Area (m ²)	Visibility	Exposure	Visible area (m ²)	Area available for detection (m ²)	% Effective coverage
1	Flat	2480	5	12400	5%	30%	620	186.0	2%
2	Sand Dune	479	5	2395	10%	35%	239.5	83.8	4%
3	Wetland	867	5	4335	0%	0%	0	0.0	0%
4	Open Depression	315	5	1575	35%	35%	551.25	192.9	12%
5	Wetland	1073	5	5365	0%	0%	0	0.0	0%
6	Sand Dune	582	5	2910	10%	40%	291	116.4	4%
7	Wetland	354	5	1770	0%	0%	0	0.0	0%
Total									3%

ERM has over 100 offices
across the following
countries worldwide

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Brazil	Poland
China	Portugal
France	Puerto Rico
Germany	Singapore
Hong Kong	Spain
Hungary	Sri Lanka
India	Sweden
Indonesia	Taiwan
Ireland	Thailand
Italy	UK
Japan	USA
Korea	Venezuela
Malaysia	Vietnam
Mexico	

Environmental Resources Management

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