

APPENDIX H
Aboriginal Cultural Heritage Assessment – Addendum



Location of proposed rail spur.

ABORIGINAL CULTURAL HERITAGE ASSESSMENT – ADDENDUM

WALLARAH 2 COAL PROJECT

JUNE 2016

Report prepared by

OzArk Environmental & Heritage Management Pty Ltd
for Hansen Bailey Environmental Consultants and Sparke Helmore
on behalf of Wyong Areas Coal Joint Venture



**Environmental and
Heritage Management P/L**

OzArk EHM

145 Wingewarra St
(PO Box 2069)
Dubbo NSW 2830

Phone: (02) 6882 0118

Fax: (02) 6882 0630

jodie@ozarkehm.com.au

phil@ozarkehm.com.au

www.ozarkehm.com.au

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Prepared For	Prepared By		
Andrew Wu Environmental Engineer Hansen Bailey Tel: (02) 6575 2017	Ben Churcher Principal Archaeologist OzArk Environmental & Heritage Management Pty. Limited 145 Wingewarra Street (PO Box 2069) Dubbo NSW 2830 P: 02 6882 0118 F: 02 6882 6030 ben @ozarkehm.com.au		
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Enquiries should be addressed to OzArk Environmental & Heritage Management Pty Ltd.			

Acknowledgement

OzArk acknowledge Traditional Owners of the area on which this assessment took place and pay respect to their beliefs, cultural heritage and continuing connection with the land. We also acknowledge and pay respect to the post-contact experiences of Aboriginal people with attachment to the area and to the elders, past and present, as the next generation of role models and vessels for memories, traditions, culture and hopes of local Aboriginal people.

EXECUTIVE SUMMARY

OzArk Environmental & Heritage Management (OzArk) has been engaged by Hansen Bailey Environmental Consultants (Hansen Bailey) and Sparke Helmore on behalf of the Wyong Areas Coal Joint Venture (WACJV; the Proponent) to complete an Aboriginal Cultural Heritage Assessment Addendum for the Wallarah 2 Coal Project (the Project) in an area that has the potential to be impacted by a proposed amendment to the Project (the Amendment).

The Amendment involves changes to infrastructure at the Tooheys Road Site. The previously proposed rail loop is no longer required and is being replaced by a conveyor system to deliver coal to the Main Northern Rail Line. The proposed train loading facility and rail spur will be re-located to the eastern side of the Main Northern Rail Line. All other aspects of the Project remain unchanged.

To progress the development application for the Project to a determination, the Proponent has commissioned Hansen Bailey to prepare an Environmental Impact Statement Addendum Document which assesses the impacts of the Amendment.

The Aboriginal heritage aspects of the Amendment have been undertaken according to *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (2010) (ACHCRs) and the current assessment follows the *Code of Practice for the Investigation of Aboriginal Objects in New South Wales* (DECCW 2010).

The fieldwork component of this assessment was undertaken by OzArk and representatives from the Registered Aboriginal Parties (RAPs) on Wednesday, 2 March 2016. Mr Kevin Duncan was unable to attend this fieldwork but was subsequently shown the Amendment Study Area accompanied by a WACJV representative.

No Aboriginal sites were recorded as a result of the assessment and no landforms within the Addendum Study Area are assessed as having potential to contain further, undetected sites.

As a result, the Amendment will not impact items or sites of Aboriginal archaeological significance and it is unlikely that it will impact on the Aboriginal cultural landscape.

The removal from the development application of the previously proposed rail loop and spur from the locations shown in the EIS will reduce potential impacts on Aboriginal archaeology and cultural heritage.

Recommendations concerning the Aboriginal cultural heritage of the Addendum Study Area are as follows:

1. No further assessment for Aboriginal cultural heritage is required in Survey Units 1, 2 and 4.

2. Prior to works commencing, Survey Unit 3 should be inspected by a suitably qualified archaeologist and RAP representatives.
3. As the Project will be assessed under Part 4, Division 4.1 of the *Environmental Planning and Assessment Act 1979*, an Aboriginal Cultural Heritage Management Plan (ACHMP) should be developed following approval of the Project. This ACHMP should be developed in consultation with RAPs and include provisions for the management of unanticipated finds suspected to be of Aboriginal origin that may be unearthed during the works associated with the Amendment. Recommendations provided by RAPs during their review of this report for the management and protection of Aboriginal cultural heritage within the Addendum Study Area (**Section 2.3.1**) should be taken into consideration as the ACHMP is developed.

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1 INTRODUCTION

1.1 BRIEF DESCRIPTION OF THE AMENDMENT

OzArk Environmental & Heritage Management (OzArk) has been engaged by Hansen Bailey Environmental Consultants (Hansen Bailey) and Sparke Helmore on behalf of the Wyong Areas Coal Joint Venture (WACJV; the Proponent) to complete an Aboriginal Cultural Heritage Assessment Addendum for the Wallarah 2 Coal Project (the Project) in an area that has the potential to be impacted by a proposed amendment to the Project (the Amendment). The Project is located within the Wyong Local Government Area (LGA) (**Figure 1-1**).

Figure 1-1: Location map of the Revised Infrastructure Boundary at the Tooheys Rd Site.



1.2 BACKGROUND

The Wyong Areas Coal Joint Venture (WACJV) is seeking development consent under Division 4.1 of Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) for the Wallarah 2 Coal Project (the Project). The key features of the Project include:

- A deep underground longwall mine extracting up to 5 million tonnes per annum (Mtpa) of export quality thermal coal;
- The Tooheys Road Site between the M1 Motorway and the Motorway Link Road, which includes a portal, coal handling facilities and stockpiles, water and gas management facilities, small office buildings, workshop, rail spur, train load out bin and connections to the municipal water and sewerage systems;
- The Buttonderry Site near the intersection of Hue Hue Road and Sparks Road, which includes administration offices, bathhouse, personnel access to the mine, ventilation shafts and water management structures;
- The Western Shaft Site in the Wyong State Forest, which includes a downcast ventilation shaft and water management structures;
- An inclined tunnel (or “drift”) from the surface at the Tooheys Road Site to the coal seam beneath the Buttonderry Site;
- Transportation of product coal to the Port of Newcastle by rail; and
- An operational workforce of approximately 300 full time employees.

The Project has been subject to the assessment process under Division 4.1 of Part 4 of the EP&A Act, including a review by the Planning Assessment Commission (PAC). In June 2014, the PAC concluded that *‘if the recommendations concerning improved strategies to avoid, mitigate or manage the predicted impacts of the project are adopted, then there is merit in allowing the project to proceed’*.

Following the review by the PAC, the Tooheys Road Site was re-designed to avoid land use conflicts with third parties. The changes to the Project include:

- Removal of the previously proposed rail loop;
- Re-location of the previously proposed rail spur to the eastern side of the Main Northern Rail Line;
- Re-location of the train load out facility to the eastern side of the Main Northern Rail Line;
- A conveyor system to deliver product coal from the stockpile to the new train load out facility; and
- Realignment of the sewer connection.

These proposed changes are referred to as the ‘Amendment’. All other aspects of the Project remain identical to the original proposal.

To give effect to the proposed changes to the Project, WACJV is seeking an amendment to the Development Application (DA) under clause 55 of the *Environmental Planning and Assessment Regulation 2000*. This report forms part of the “*Amendment to Development Application SSD-4974*” (Amendment Document) being prepared by Hansen Bailey to support the application to amend the DA.

This report assesses the environmental impacts of the Amendment and where necessary, recommends additional management and mitigation measures to ameliorate these impacts. Aspects of the Project that are unchanged have not been reconsidered. The impacts associated with these aspects of the Project will remain as assessed in the *Wallarrah 2 Coal Project Environmental Impact Statement* (Hansen Bailey, 2013).

1.3 PROPOSED WORKS

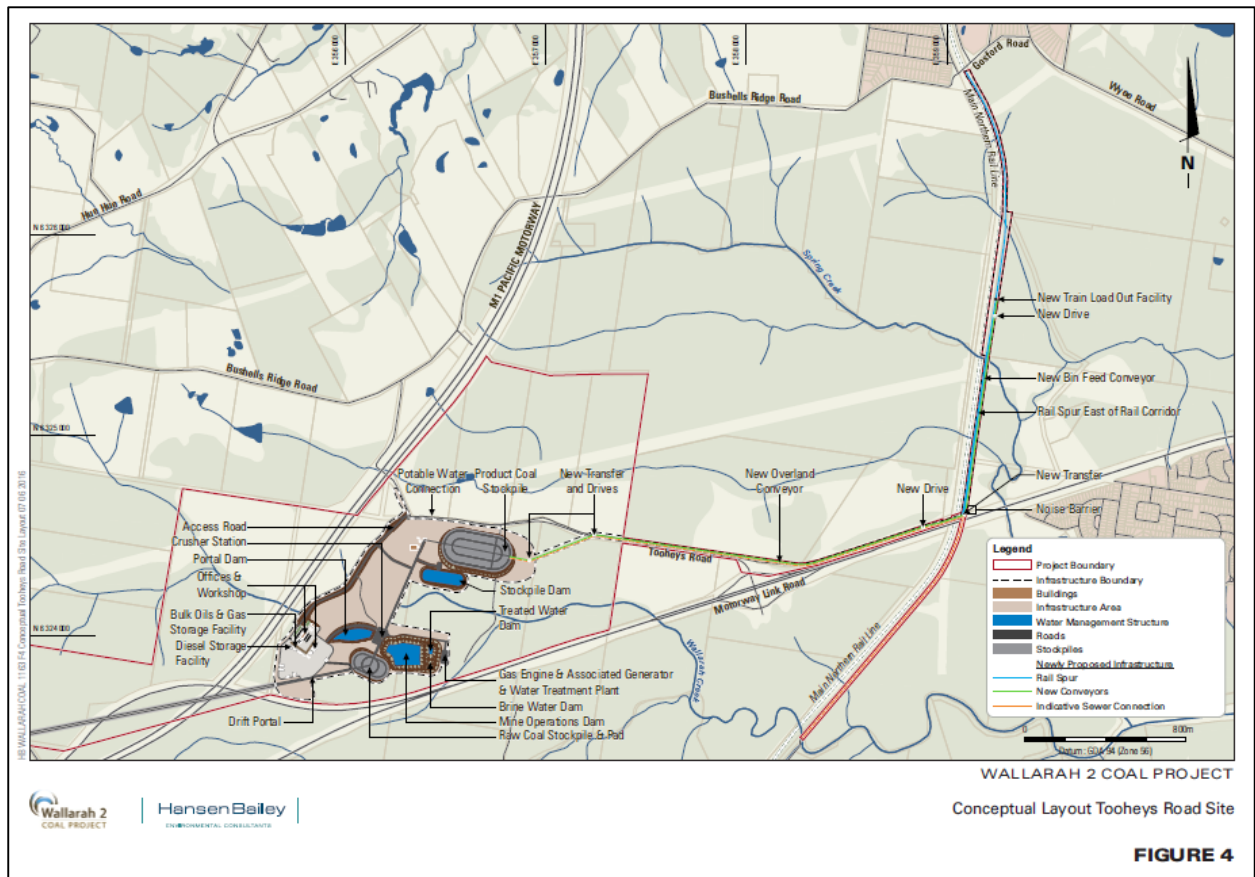
Following the review by the PAC, the Tooheys Road Site was re-designed to avoid land use conflicts with third parties. The changes to the design of the Tooheys Road Site include:

- Removal of the previously proposed rail loop;
- Re-location of the rail spur and train load out facility to the eastern side of the Main Northern Rail Line; and
- A conveyor system to deliver product coal from the stockpile to the new train load out facility.

These locations are shown on **Figure 1–2**.

All other aspects of the Project are unchanged from the original proposal.

No infrastructure is proposed south of the Motorway Link Road bridge (although this area was included in the Study Area as a contingency for potential installation of services such as buried water or sewage pipelines).

Figure 1-2: Amended conceptual layout of the Tooheys Road Site (source: Hansen Bailey).

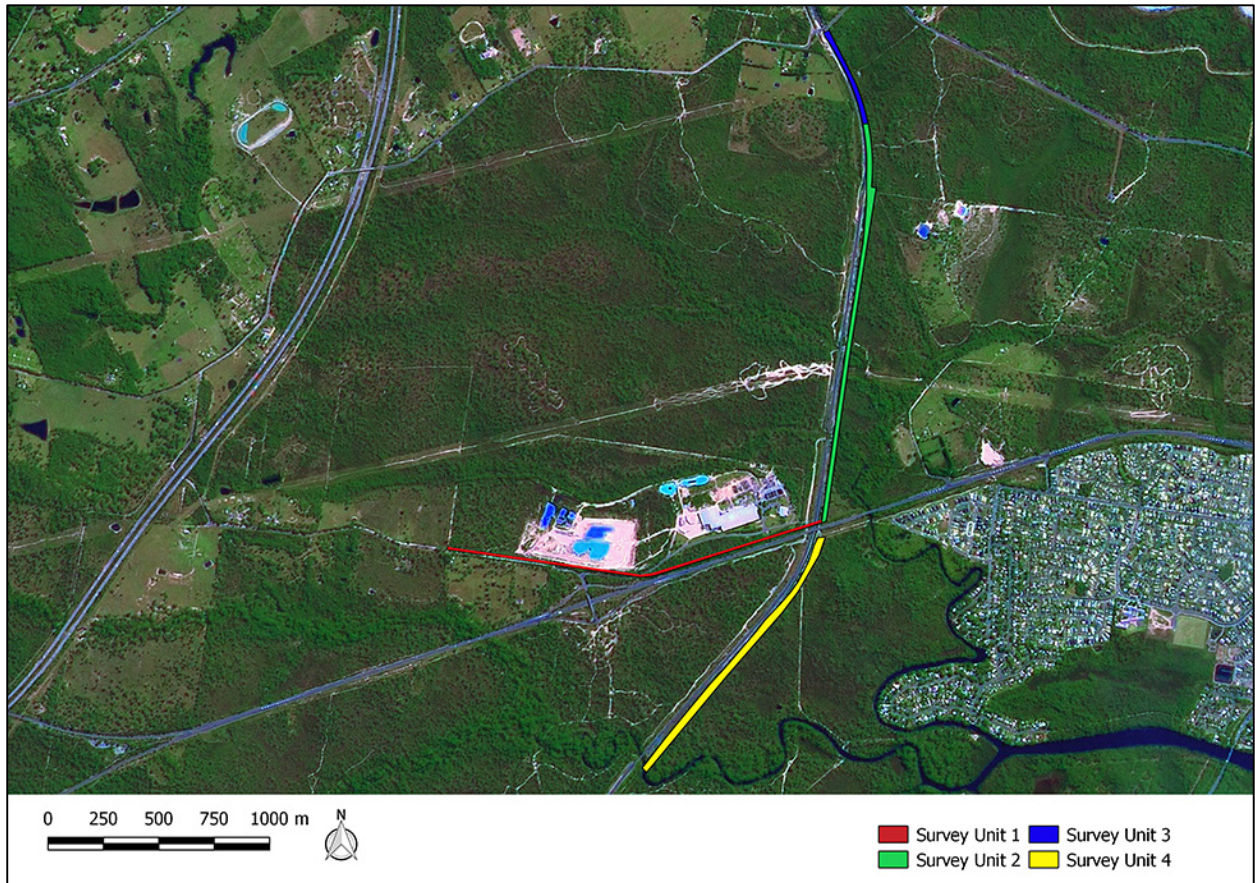
1.4 ADDENDUM STUDY AREA

The Addendum Study Area comprises four Survey Units:

- **Survey Unit 1.** The conveyor route runs from the boundary of the previously-assessed Tooheys Road Site to the Motorway Link Road bridge. The proposed impact corridor in Survey Unit 1 is approximately eight metres wide. Survey Unit 1 is within Lot 194 DP1032847 and Lot 168 DP705480, and crosses Lot 4 DP 1191556 (rail corridor). The majority of Survey Unit 1 is on land leased by the Boral quarry and tile works. An area of Crown Land to the immediate south of Tooheys Road was also included with Survey Unit 1 as an alternative route for the conveyor in the eventuality that the conveyor cannot pass through the Boral leased areas;
- **Survey Unit 2.** The location of the proposed rail spur is to the east of the Main Northern Rail Line and north of the Motorway Link Road bridge. The proposed impact corridor in Survey Unit 2 is approximately 20 m. Survey Unit 2 is within a Crown Road corridor (Nikko Road);
- **Survey Unit 3.** The northern portion of the rail spur is located within Transport NSW property (rail corridor). This component of the Addendum Study Area is highly disturbed and largely covered by railway line supporting infrastructure. It is unlikely to contain archaeological sites and as such was not surveyed due to this and safety concerns. Survey Unit 3 is within Lot 4 DP 1191556 (rail corridor); and

- Survey Unit 4. Areas to the east of the Main Northern Rail Line and south of the Motorway Link Road bridge that were assessed as a contingency in case works are proposed in this area. Survey Unit 4 is within a Crown Road corridor.

Figure 1-3: Aerial of the Addendum Study Area showing the four Survey Units.



1.5 RELEVANT LEGISLATION

Cultural heritage is regulated under both state and national legislation. Baseline principles for the conservation of heritage places and relics can be found in the *Burra Charter* (Australia ICOMOS 2013). The *Burra Charter* has become the standard of best practice in the conservation of heritage places in Australia, and heritage organisations and local government authorities have incorporated the inherent principles and logic into guidelines and other conservation planning documents. The *Burra Charter* generally advocates a cautious approach to changing places of heritage significance. This conservative notion embodies the basic premise behind legislation designed to protect our heritage, which operates primarily at a state level.

A number of acts of parliament provide for the protection of heritage at various levels of government.

1.5.1 State Legislation

Environmental Planning and Assessment Act 1979 (EP&A Act)

This Act established requirements relating to land use and planning. The framework governing environmental and heritage assessment in NSW is contained within the following parts of the EP&A Act:

- **Part 4:** Development assessments, including heritage. May include schedules of heritage items;
 - **Division 4.1:** Approvals process for state significant development;
- **Part 5:** Environmental impact assessment on any heritage items which may be impacted by activities undertaken by a state government authority or a local government acting as a self-determining authority; and
- **Part 5.1:** Approvals process for state significant infrastructure.

National Parks and Wildlife Act 1974 (NPW Act)

Amended during 2010, the NPW Act provides for the protection of Aboriginal objects (sites, objects and cultural material) and Aboriginal places. Under the Act (Part 6), an Aboriginal object is defined as: any deposit, object or material evidence (not being a handicraft for sale) relating to indigenous and non-European habitation of the area that comprises NSW, being habitation both prior to and concurrent with the occupation of that area by persons of European extraction, and includes Aboriginal remains.

An Aboriginal place is defined under the NPW Act as an area which has been declared by the Minister administering the Act as a place of special significance for Aboriginal culture. It may or may not contain physical Aboriginal objects.

As of 1 October 2010, it is an offence under Section 86 of the NPW Act to 'harm or desecrate an object the person knows is an Aboriginal object'. It is also a strict liability offence to 'harm an Aboriginal object' or to 'harm or desecrate an Aboriginal place', whether knowingly or unknowingly. Section 87 of the Act provides a series of defences against the offences listed in Section 86, such as:

- The harm was authorised by and conducted in accordance with the requirements of an *Aboriginal Heritage Impact Permit* (AHIP) issued under Section 90 of the Act;
- The defendant exercised 'due diligence' to determine whether the action would harm an Aboriginal object; or
- The harm to the Aboriginal object occurred during the undertaking of a 'low impact activity' (as defined in the regulations).

Under Section 89A of the Act, it is a requirement to notify the Director-General of the Office of Environment and Heritage (OEH) of the location of an Aboriginal object. Identified Aboriginal items and sites are registered on Aboriginal Heritage Information Management System (AHIMS).

Section 89K of the EP&A Act provides that an AHIP is not required for State Significant Developments, such as the Project.

1.5.2 Commonwealth Legislation

Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

Amendments in 2003 established the National Heritage List and the Commonwealth Heritage List, both administered by the Commonwealth Department of the Environment. Ministerial approval is required under the EPBC Act for proposals involving significant impacts to National/Commonwealth heritage places.

1.5.3 Applicability to the Project

The Project will be assessed under Part 4, Division 4.1 (state significant development) of the EP&A Act.

Any Aboriginal sites within the Addendum Study Area are afforded legislative protection under the NPW Act.

It is noted there are no Commonwealth or National heritage listed places within the Addendum Study Area, and as such, the heritage provisions of the EPBC Act do not apply.

1.6 ASSESSMENT APPROACH

The current assessment follows the *Code of Practice for the Investigation of Aboriginal Objects in New South Wales* (Code of Practice; DECCW 2010).

2 THE ARCHAEOLOGICAL ASSESSMENT

2.1 PURPOSE AND OBJECTIVES

The purpose of the current study is to identify and assess heritage constraints relevant to the Amendment.

2.1.1 Aboriginal Archaeological Assessment Objectives

The current assessment will apply the Code of Practice, in the completion of an Aboriginal archaeological assessment, in order to meet the following objectives:

Objective One: Identify and record Aboriginal objects, sites and sensitive landforms within the Addendum Study Area; and

Objective Two: Assess the likely impacts of the proposed works to any recorded sites and provide management recommendations.

2.2 DATE OF ARCHAEOLOGICAL ASSESSMENT

The fieldwork component of this assessment was undertaken by OzArk and Registered Aboriginal Parties (RAPs) on Wednesday 2 March 2016.

2.3 ABORIGINAL COMMUNITY INVOLVEMENT

As will be documented below, all assessments undertaken for the Project have followed the current guidelines for consultation. At the time of the Project's inception, these were the *Interim Community Consultation Guidelines* (2005) and more-recently, and currently, the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (2010) (ACHCRs).

Although this assessment is an Addendum to the assessments presented in *Aboriginal Cultural Heritage Assessment Wallarah 2 Coal Project. Wyong, NSW* (OzArk 2012), ACHCRs were re-initiated from Stage 1 as it was possible, given the lapse of time, that other parties may now wish to be consulted about the Amendment.

Key dates of the consultation process for the Amendment are:

- | | |
|---|----------------------|
| 1. Advertisement placed in the Central Coast Express Advocate | 20.1.16 |
| 2. Letters sent to the relevant agencies | 19.1.16 |
| 3. Closing date for registration as a Registered Aboriginal Party (RAP) | 12.2.16 |
| 4. Survey methodology sent to all RAPs | 16.2.16 |
| 5. Closing date for feedback on survey methodology | 17.3.16 ¹ |

¹ The cover letter sent with the survey methodology stated "...Accordingly, we have scheduled Wednesday 2nd March 2016, as a target date for conducting the survey subject to confirmation by all RAPs." As all RAPs responded that they were satisfied with the survey methodology and the survey date, the survey was able to take place before the closing date for comments on the survey methodology.

6. Field inspection	2.3.16
7. Draft Archaeological Assessment Addendum sent to RAPs	31.3.16
8. Closing date for comments on draft report	28.4.16

In response to steps 1 and 2, three groups/individuals registered to be listed as a RAP for the Amendment. These being:

- Darkinjung Local Aboriginal Land Council (DLALC);
- Guringai Tribal Link Aboriginal Corporation (GTLAC); and
- Kevin Duncan.

For the field inspection, both the DLALC (Lee Davison) and the GTLAC (Tracey-Lee Howie) were able to attend, while Kevin Duncan sent his apologies. On 5 April 2016, subsequent to the field inspection, Mr Duncan was shown the Amendment Study Area accompanied by a WACJV representative.

A log and copies of correspondence with Aboriginal community stakeholders is presented in **Appendix 1**.

2.3.1 RAP comments on survey and draft report

All RAPs responded in writing concerning their involvement in the survey and/or comments on the draft report. These shall be dealt with individually below and are presented in **Appendix 3**.

DLALC

In its comment document, the DLALC made the following statement regarding the Darkinjung connection to Country:

The first inhabitants of the Central Coast region were peoples of the Darkinjung (Darginung, Darginyung) language group.

Stone artefacts in the Upper Mangrove Creek area of the Central Coast have been dated between 10,000 to 12,000 years old (Attenbrow, V. 2002, Sydney's Aboriginal past investigating the archaeological and historical record, UNSW Press, Sydney: 153). Upper Mangrove Creek is situated approximately 31km to the west of the assessment area.

Sites of Aboriginal significance, such as those described in this assessment, hold cultural and spiritual values to Aboriginal people. The scientific evidence of Aboriginal occupation found within shell middens for example, give indications of Aboriginal existence, diet, resource and land use, though the spiritual beliefs and connectedness to country is far more important to the descendants of those who left behind the evidence, or those who created the sites of significance.

Art sites depicting people, animals, landscapes and spiritual beings reflect a spiritual and intimate connection to the land and the beliefs behind their creation, where those such as axe grinding grooves and pigment art (ochre) indicate resourcefulness or the use of the surrounding environment.

Baiaame, the Creator God and his son Daramulan, mainly associated with the NSW area, are often depicted in different forms of artwork (pigment in shelters or engraved on sandstone platforms) within Darkinjung country and surrounding regions. Sites where Baiaame or Daramulan images are seen are usually associated with the initiation of young men and the teaching of Aboriginal law. These places are considered to have very high culture significance.

The term cultural landscape/s refers to the association of certain sites to others that surround them. Aboriginal sites are often linked or associated with others in terms of activities that took place there (e.g. initiation of young men, birthing places), or stories that tell the history of the area and the people that occupy it. This connectedness of cultural places gives importance of sites as a group rather than as isolated sites, although this is not the case with every site.

The Darkinjung had uses for all aspects of their surrounding environment as hunters, gatherers and fishers and also as artists and environmentalists. The use of all resources has resulted in the widespread existence of archaeological sites that are still present today. Considering the long Aboriginal occupation of Australia and the Central Coast it could be predicted that most areas, particularly those with minimal disturbance have the potential to contain Aboriginal cultural heritage material or places.

These sites that remain are a link to the Aboriginal cultural past and a connection to ancestors for Aboriginal people and it is important that they are protected and conserved for future generations.

The DLALC comment document contained within its recommendations, the following regarding future management of Aboriginal cultural heritage within the Addendum Study Area:

1. Monitoring during or after vegetation removal.
2. The site developers must give notice to Darkinjung LALC 30 days prior to any commencement of construction work.
3. All site personnel involved in construction activities should receive basic training in awareness and the recognition of Aboriginal cultural heritage material and sites.
4. When any soil excavation, earth works, vegetation clearing and leaf litter removal activities are conducted workers should be observant and keep a look out for surface shell, bone, rocks or any other Aboriginal cultural heritage material.

OzArk response

As the Project will be assessed under Part 4, Division 4.1 (state significant development) of the EP&A Act, Aboriginal cultural heritage shall be managed under an *Aboriginal Cultural Heritage Management Plan* (ACHMP) should Project approval be consented. The ACHMP will be developed in full consultation with all RAPs. Recommendations, as set out by the DLALC, could well form part of the ACHMP and will be taken into account when the ACHMP is developed.

GTLAC

In its comment document, the GTLAC made the following statement regarding the GTLAC members' connection to Country:

The study area for the proposed works, has been and still is, home to the Guringai Mob (Wanangine, Walkaloo, Garigal), for thousands of generations, with seasonal and ceremonial occupation of the Awabakal, Darug and Darginyung people. Pre and post European settlement.

Well known and documented members of the Guringai mob were; Boongaree/Bungaree, Matora, Mosquito, Jewfish, Cora (aka, Gooseberry), Flathead, Long Dick, Sophy, Kitty and Charlotte Ashby(nee.Webb), only to name a few.

Their presence in this area was initially recorded by Europeans pre 1790. References to these Guringai people are located on Government Blanket lists and Court Bench records taken in the Wyong and Gosford areas and Colonial Secretary minutes, which are held at Gosford Library. Early recordings from surveyors, John Fraser, Chappell, Felton & Sarah Matthews, journals written by Rev. L.E. Threlkeld, Rev. Glennie, Matthew Flinders, Augustus Earl, R.H Mathews, and several other publications.

The traditional areas occupied by the Guringai comprises of; All of Port Jackson catchment, including the tributaries of Middle Harbour and Lane Cove River, the Broken Bay catchment, including tributaries of Brisbane Water, Cowan Creek and Pitt Water, the ridgeline along Peats Ridge, following along the range through to Kulnura, as well as the Lakes of the Central Coast to lower Lake Macquarie.

Charlotte Webb was the very first recorded Guringai birth on the Central Coast. She was born in 1823 in Gosford. Charlotte was the daughter of Sophy (Booranger), daughter of Bungaree and Matora. Sophy had relations with Ship-building merchant, James Webb. Charlotte was the result of this union.

With an abundance of edible vegetation, seafood and fresh water soaks, this area was a popular location for our ancestors. Evidence of this is reflected in the Aboriginal sites (as defined in the National Parks & Wildlife Act 1974. as amended.) within the

area and middens that still remain along the foreshores of the Central Coast and Sydney's Northern beaches.

Guringai people have a strong connection to Central Coast and its surrounds.

The remnants remaining from our ancestors are a physical link to our heritage and a reminder of our cultural and spiritual connection to the area.

These areas are extremely important to us and the ongoing management of them is a duty we take great pride and care in. It is essential for us to protect our Country for future generations and for our ancestors, whom cared for this Country for centuries.

The GTLAC comment document contained the following recommendations regarding future management of Aboriginal cultural heritage within the Addendum Study Area:

1. No further investigations are required prior to the commencement of this project, however an Aboriginal Cultural Heritage Management Plan will need to be developed in consultation with GTLAC for the proposed amended works area to address mitigation measures and management of any previously unidentified/recorded Aboriginal sites/objects that have the potential to be disturbed during proposed earth works as required under Part 4 of the Planning and Assessment Act 1979, for which this project applies to.
2. All staff and contractors associated with the proposed works for this project, should participate in an Aboriginal Cultural Heritage Awareness Induction and be fully informed of their statutory obligations in relation to Aboriginal Cultural Heritage sites and objects.
3. Should any Aboriginal sites/objects be located during the processes of any proposed works, work must cease in that area and the Office of Environment and Heritage (OEH, formally, Department of Environment Climate Change and Water, DECCW) & GTLAC are to be notified immediately.
4. Should any skeletal remains be unearth during any works or associated activities, all work must cease immediately within that vicinity and the NSW Police, OEH, NSW Coroner's Office and GTLAC are to be contacted.

OzArk response

As noted in the GTLAC comment document, as the Project will be assessed under Part 4, Division 4.1 (state significant development) of the EP&A Act, Aboriginal cultural heritage shall be managed under an ACHMP should Project approval be consented. The ACHMP will be developed in full consultation with all RAPs. Recommendations, as set out by the GTLAC, could well form part of the ACHMP and will be taken into account when the ACHMP is developed.

Kevin Duncan

In his comment document, Kevin Duncan made the following statement regarding his connection to Country:

As a Traditional Awaba Custodian of our Lands of the Awaba peoples from the Dirrabun (Hawkesbury River) to the Miyon (Hunter River) and from Mt Yango to the Waraba (Sea) we regard all our country as being spiritually, physically and culturally important.

Mr Duncan's comment document contained the following recommendations regarding future management of Aboriginal cultural heritage within the Addendum Study Area (organised here into dot points):

- I was satisfied during the walk over with Mr Smith that there was no evidence in regards to locating any Aboriginal Heritage sites in the proposed development area.
- Although the study area has been extensively disturbed in the past on the surface of the ground it should be noted that any form of digging be monitored during development or excavation. Reasons being as Aboriginal heritage is important culturally to our people and any artefacts that may be unearthed during works should immediately cease and Aboriginal Cultural authorities be contacted and legal Aboriginal Heritage laws abided by.

OzArk response

As the Project will be assessed under Part 4, Division 4.1 (state significant development) of the EP&A Act, Aboriginal cultural heritage shall be managed under an ACHMP should Project approval be consented. The ACHMP will be developed in full consultation with all RAPs. Recommendations, as set out by Mr Duncan, could well form part of the ACHMP and will be taken into account when the ACHMP is developed.

2.4 OZARK INVOLVEMENT

2.4.1 Field Assessment

The fieldwork component of this Addendum assessment was undertaken by:

- Fieldwork Director: Ben Churcher (OzArk Principal Archaeologist; BA[Hons], Dip Ed).

2.4.2 Reporting

The reporting component of this Addendum assessment was undertaken by:

- Report Author: Ben Churcher;
- Reviewer: Stephanie Rusden (OzArk Archaeologist; BSc University of Wollongong; BA University of New England).

3 LANDSCAPE CONTEXT

An understanding of the environmental contexts of a study area is requisite in any Aboriginal archaeological investigation (DECCW 2010b). It is a particularly important consideration in the development and implementation of survey strategies for the detection of archaeological sites. In addition, natural geomorphic processes of erosion and/or deposition, as well as humanly activated landscape processes, influence the degree to which these material culture remains are retained in the landscape as archaeological sites; and the degree to which they are preserved, revealed and/or conserved in present environmental settings.

3.1 TOPOGRAPHY

The topography of the Addendum Study Area can be characterised as follows:

- **Survey Unit 1:** Level landform dropping in elevation towards the east. Survey Unit 1 is mostly contained in Mitchell Landscape 'Gosford - Cooranbong Coastal Slopes' (**Figure 3–1**).
 - Mitchell 2002: 79 describes this landform unit as rolling hills and sandstone plateau of Triassic Narrabeen sandstones. There are extensive rock outcrops and low cliffs along ridge margins with a general elevation 0 to 75m. Soils are texture-contrast soils on lithic sandstones and shales with loamy sand alluvium along the creeks and organic sand and mud in lagoons and swamps. The landform supports open forest and woodland with smooth-barked apple, red bloodwood, brown stringybark, Sydney peppermint, spotted gum, bastard mahogany, northern grey ironbark and grey gum on hills and slopes. Small areas of closed forest with turpentine, lilly pilly, mountain cedar wattle, coachwood, sassafras and water gum in gullies under high escarpments Prickly-leaved tea-tree and other shrubs with swamp mahogany, swamp oak, sedges and common reed on swampy creek flats. Coastal heath subject to salt spray on headlands.
- **Survey Unit 2:** Level to gently undulating landform, rising in elevation towards the north. Survey Unit 2 is mostly contained in Mitchell Landscape 'Sydney - Newcastle Coastal Alluvial Plains' (**Figure 3–1**).
 - Mitchell 2002: 79 describes this landform unit as undulating plains and low rises on Quaternary sand or Permian/Triassic sandstone or shale with swampy valley floors. The landform has a general elevation 0 to 80m with a local relief of 20m. Soils include siliceous uniform sands and patches of deep podzol and yellow or brown texture-contrast soils on bedrock. Vegetation varies with soil and drainage. On the sands and podzols, coast banksia, Banksia aemula, red bloodwood and smooth-barked apple are common. On bedrock, forest oak, grey gum, forest red gum, and scribbly gum with a shrubby understorey are common. The swamps are typically surrounded by broad-leaved paperbark, coast banksia, swamp oak and swamp mahogany with spike rushes and tall swamp sedge. Open water supports a variety of aquatic plants including; common reed, floating pondweed, water primrose duckweed, water buttons and red azolla.

- Survey Unit 3: The landform is level and within disturbed land associated with the Main Northern Rail Line. Survey Unit 3 is fully contained in Mitchell Landscape 'Gosford - Cooranbong Coastal Slopes' (see above; **Figure 3–1**); and
- Survey Unit 4: Gentle slopes falling in elevation towards the south. Survey Unit 4 is fully contained in Mitchell Landscape 'Sydney - Newcastle Coastal Alluvial Plains' (see above; **Figure 3–1**).

Figure 3–2 shows the generally flat to gently-sloping landforms of the Addendum Study Area.

Figure 3-1: Addendum Study Area showing Mitchell Landscapes.

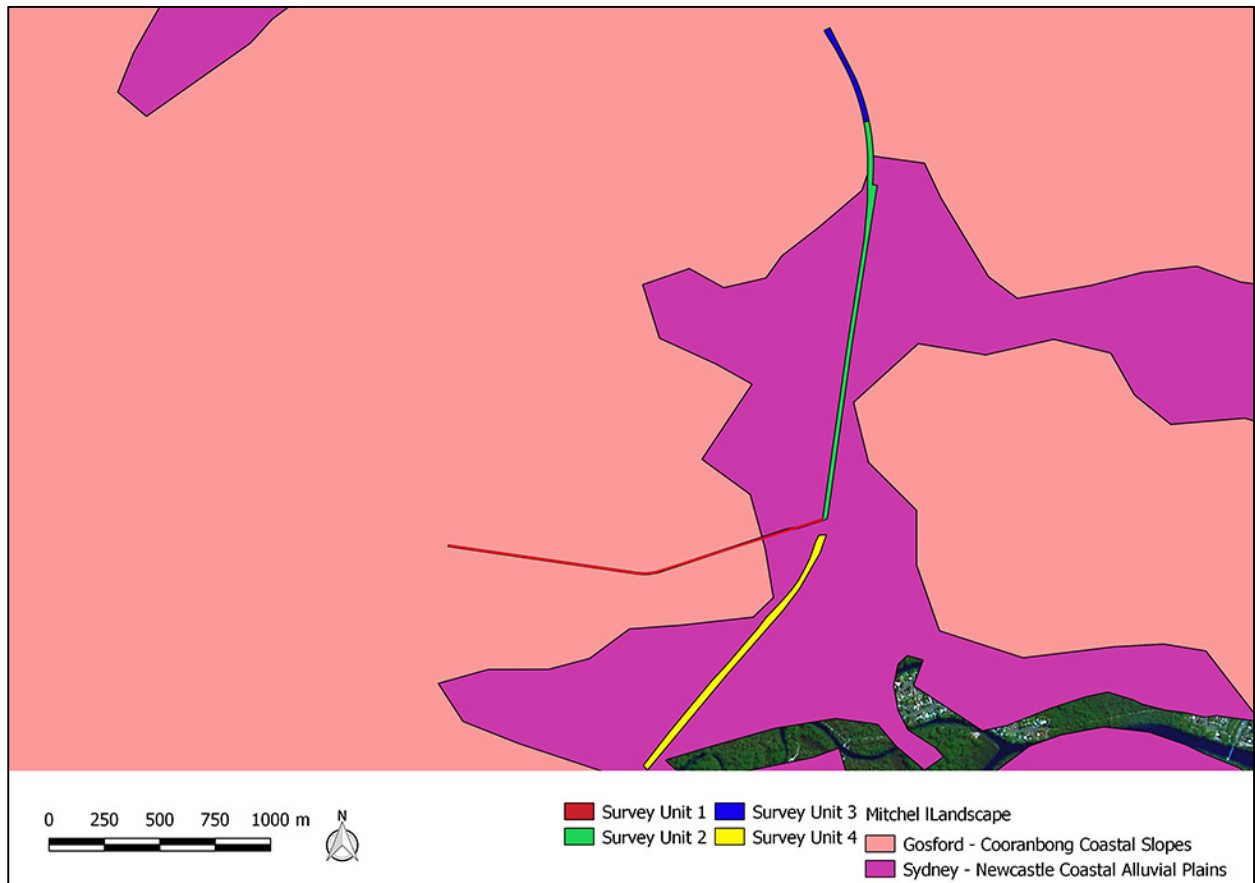


Figure 3-2: Topography of the Addendum Study Area.

3.2 GEOLOGY AND SOILS

Figure 3–3 displays a soil map of the region of the Addendum Study Area. Generally, the Addendum Study Area is within the Gorokan Soil Group with a small portion of Survey Unit 2 being within the Wyong Soil Group.

The Gorokan Soil Group is categorised as undulating low hills and rises of the Tuggerah Formation with slope gradients of less than 15%. Soils within this group are said to be between 0.5m and 1.5m deep. The limitations associated with these soils include extreme erosion hazard, rock outcrop, shallow highly permeable soils, seasonal waterlogging, and very low soil fertility. Gorokan Soil Group tends to be loamy sands overlying clays derived from the Tuggerah Formation bedrock.

The Wyong Soil Group is categorised as broad, poorly drained deltaic floodplains and alluvial flats of Quaternary deposits. Gradients are generally less than 3%. Soils within this group are said to be generally greater than 2m deep. The limitations associated with these soils include flooding, waterlogging, foundation hazard, stream bank erosion. The soils can be strongly acidic

and poorly drained with very low fertility. Wyong soils are found on broad, poorly drained floodplains. These soils tend to be flooded seasonally, or to be permanently waterlogged, are prone to streambank erosion, have a potential for creating acid sulfate conditions, being strongly acidic and poorly drained, and are impermeable with low fertility.

3.3 HYDROLOGY

The Addendum Study Area crosses one named waterway, Spring Creek, and two tributaries of Spring Creek (shown as dotted lines in **Figure 3–4**). Spring Creek has a limited catchment at approximately 10km². Spring Creek and both of its tributaries are second order systems where they cross the Addendum Study Area (**Figure 3–5**). To the east of the Addendum Study Area, Spring Creek becomes a third order system prior to becoming tidal. This would imply that the waterways, within the Addendum Study Area, are ephemeral in nature. Spring Creek is not a part of the Central Coast Water Supply Scheme.

Figure 3-3: Addendum Study Area showing major soil groups.

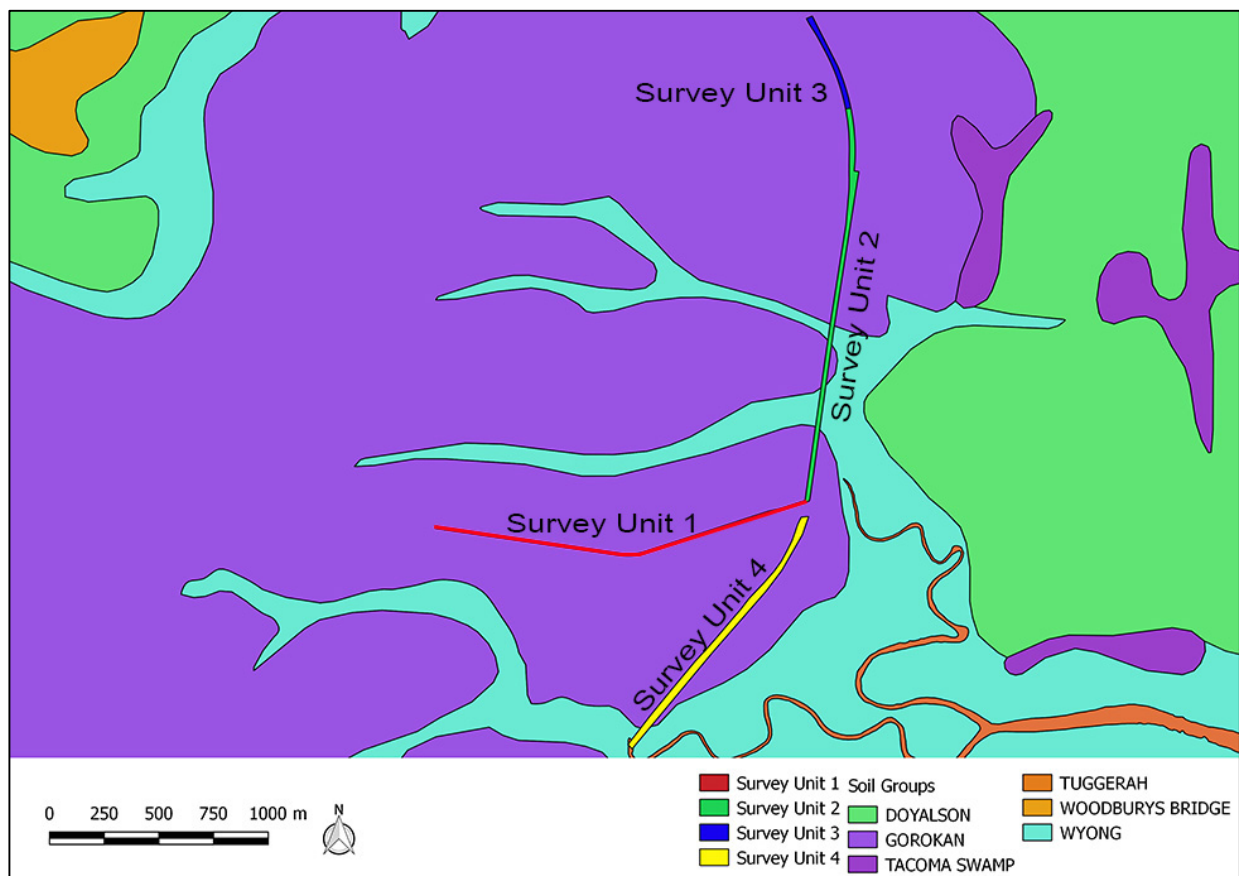
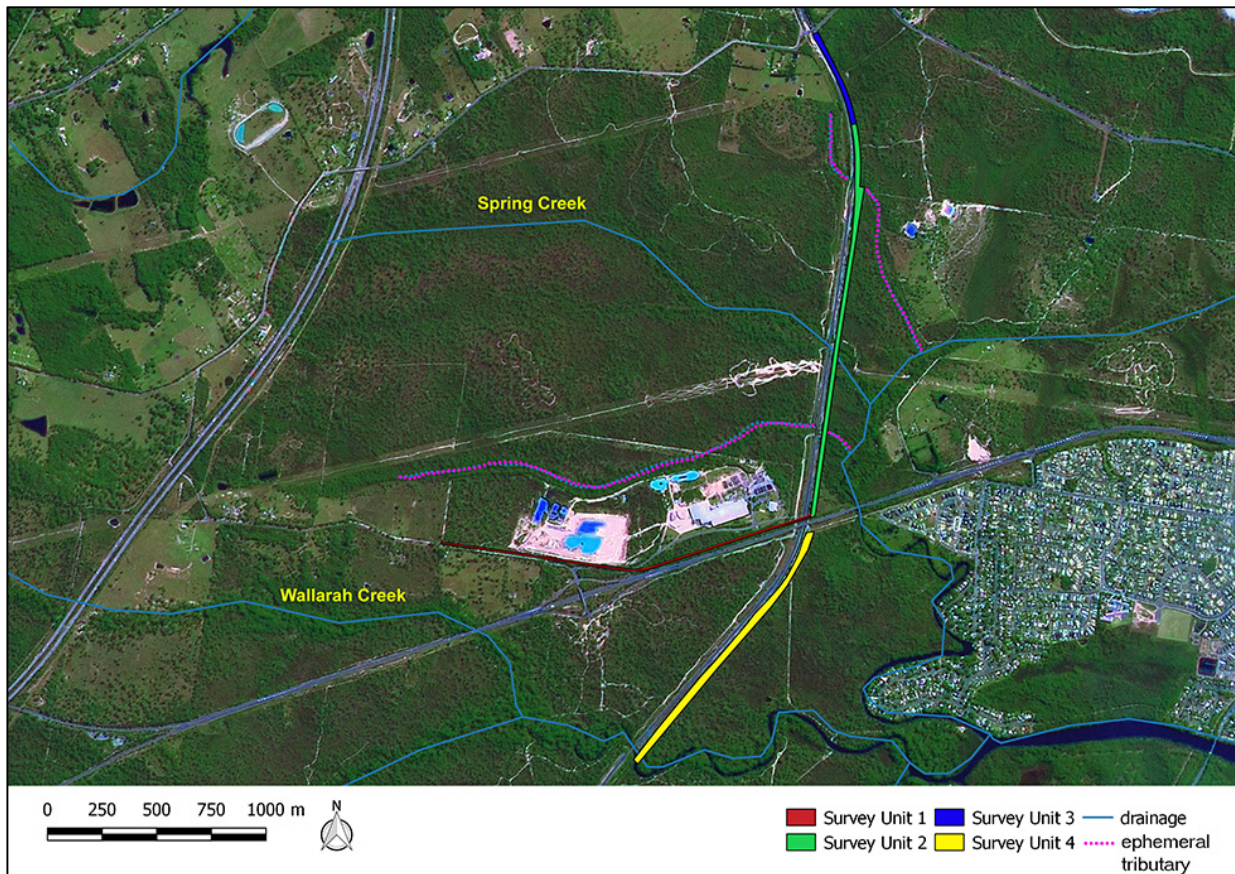
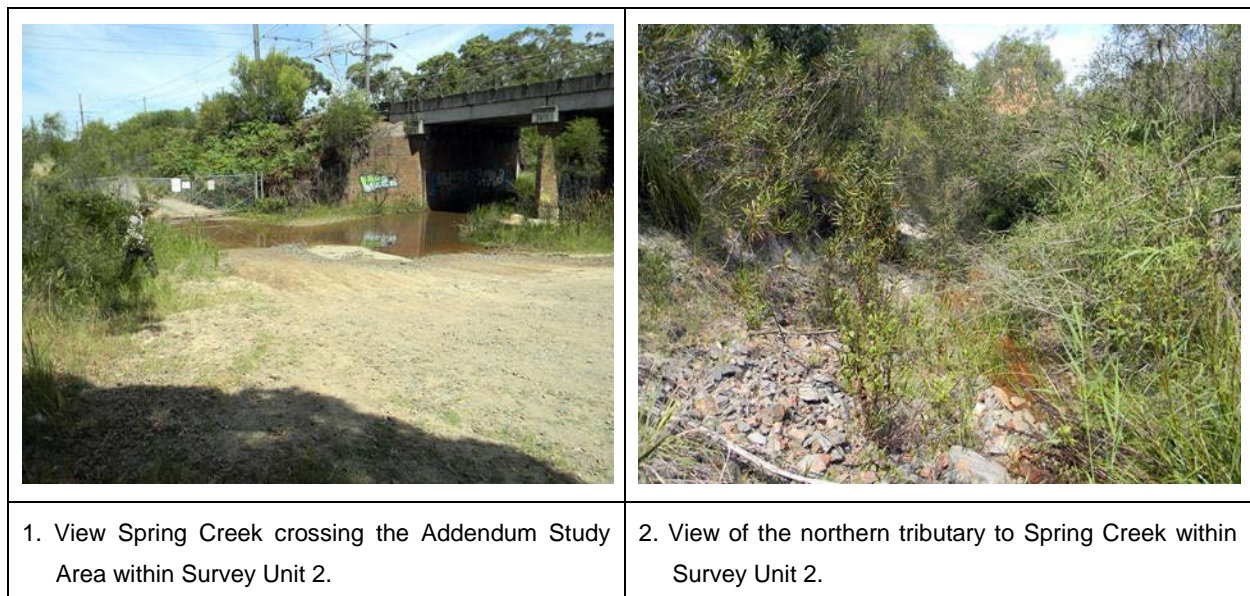


Figure 3-4: Addendum Study Area showing hydrological features.**Figure 3-5: Hydrology of the Addendum Study Area.**

3.4 VEGETATION

Current vegetation is almost entirely regrowth coastal woodland. The vegetation has a vigorous mid-story population of shrubs, primarily banksia species, and an open canopy of widely-spaced trees (Eucalyptus and Melaleuca). Due to the lack of recent fire activity, the vegetation is very dense, particularly in Survey Unit 2 where it made walking difficult.

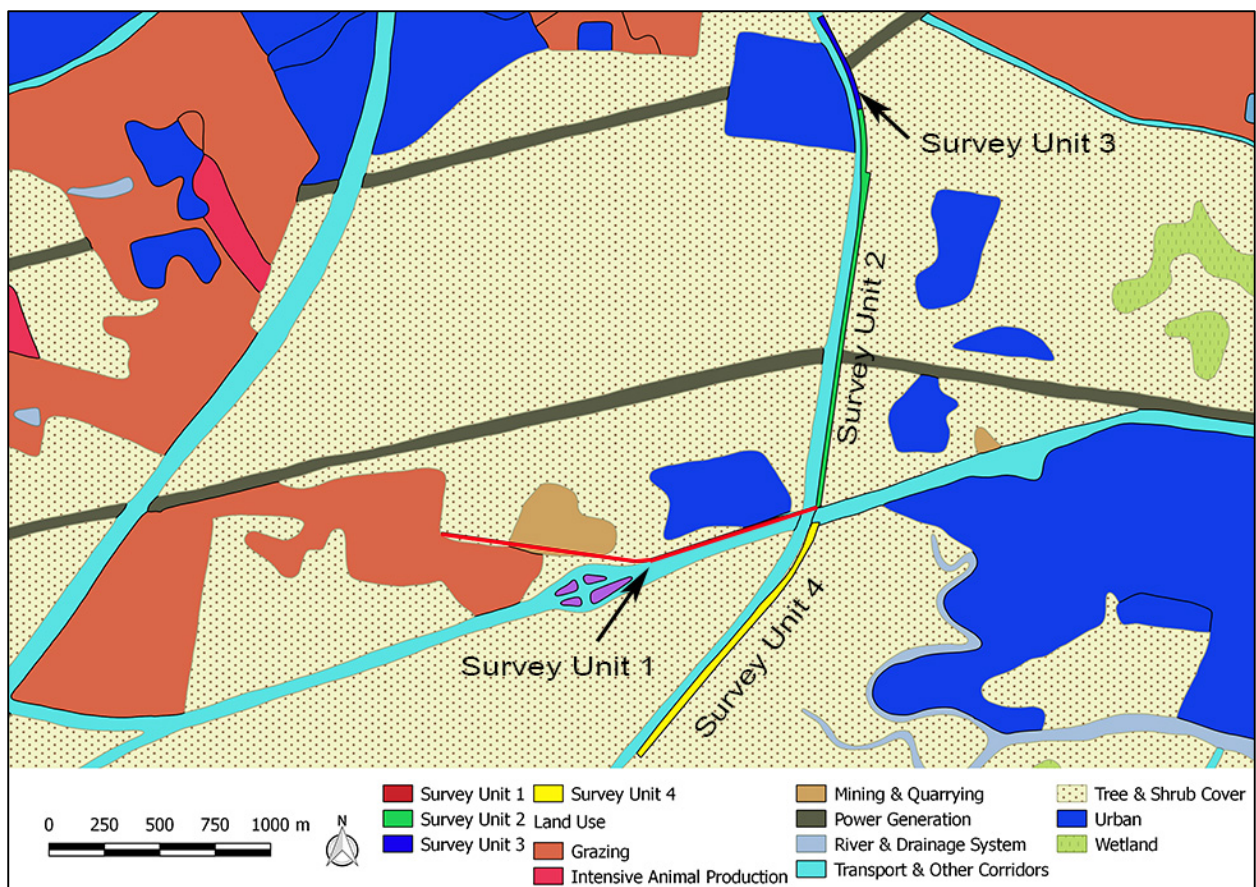
3.5 CLIMATE

The climate of the Addendum Study Area provides amenable temperatures and sufficient rainfall to allow year-round occupation by Aboriginal people in the past.

3.6 LAND-USE HISTORY AND EXISTING LEVELS OF DISTURBANCE

When current land use is mapped (**Figure 3-6**), the Addendum Study Area falls almost entirely into 'tree & shrub cover' with small portions being within 'mining & quarrying' (the Boral quarry) and 'urban' (the Boral tile factory, auxiliary buildings and the rail corridor). However, as noted in **Section 3.4**, the 'tree & shrub cover' is almost entirely regrowth and it is concluded that the entire area has been cleared in the past for agricultural purposes or infrastructure.

Figure 3-6: Addendum Study Area showing land use.



3.7 CONCLUSION

The review of the environmental context of the Addendum Study Area allows the following conclusions to be made concerning both the likelihood of past Aboriginal occupation, as well as the factors affecting site preservation in the area:

Topography: The generally flat landforms comprising the Addendum Study Area would not have been an impediment to movement or occupation (camping) in the past. Rock outcropping in the

area is rare and therefore the Addendum Study Area would not have been a source of stone procurement for tool manufacture.

Soils: The sandy loams that characterize the Addendum Study Area are both erodible and of low fertility. The low soil fertility implies that resources, particularly vegetative resources, would have been limited and perhaps only sustained short-term or sporadic visits. The erodible nature of the soils indicates that there is a high probability that sites such as artefact scatters have been impacted either through deflation on the elevated landforms, or aggradation on the lower-lying landforms.

Hydrology: The Addendum Study Area has limited hydrological resources that would have only sustained short-term or sporadic visits to the region of the Addendum Study Area. The more abundant resources of Lake Budgewoi is approximately 3km from the Addendum Study Area. This region is far more likely to have been a focus of past occupation than the landforms within the Addendum Study Area.

Vegetation: While providing food resources the coastal heath vegetation of the Addendum Study Area is limited in its ability to provide for large populations of people. Therefore, the vegetation community probably only attracted seasonal, short-term visits to the area. Given the evidence of large scale clearing in the past, it is likely that some site types such as culturally modified trees have been removed from the Addendum Study Area (had they existed).

Climate: The climate was not an impediment to year-round occupation.

Land use: Disturbances arising from past land use have resulted in localised, significant changes to the landscape. In areas associated with the Boral quarry, tile factory and rail corridor, for example, visual bunds, roads and buildings have highly modified the landscape and may have displaced or obscured sites had they existed in these areas. In other portions of the Addendum Study Area, the impacts have resulted in less modification to the landscape although vegetation clearing on highly erodible soils would have exacerbated soil movement again leading to the dispersal or covering of stone artefact sites. As noted above, the initial vegetation clearing would also have removed culturally modified trees had they existed in the area.

4 ABORIGINAL ARCHAEOLOGY BACKGROUND

4.1 ETHNO-HISTORIC SOURCES OF REGIONAL ABORIGINAL CULTURE

Although the exact position of traditional (pre-European) tribal boundaries is not clear, David Horton's 1996 map, with its obvious limitations, places the Addendum Study Area within an area where the Awabakal and Kuring-gai peoples occupy the coastal region while the Darkinjung and Dharag peoples occupy the immediate interior. The Addendum Study Area is within the area administered by the DLALC.

Further information of the ethno-historical background of the Addendum Study Area is presented in Section 4.1 of OzArk (2012).

4.2 REGIONAL ARCHAEOLOGICAL CONTEXT

The regional archaeological context is presented in Section 4.2 of OzArk (2012).

4.3 LOCAL ARCHAEOLOGICAL CONTEXT

4.3.1 Desktop Database Searches Conducted

A desktop search was conducted on the following databases to identify any potential previously-recorded heritage within the Addendum Study Area. The results of this search are summarised here in **Table 4–1** and presented in detail in **Appendix 2**.

Table 4-1: Aboriginal heritage: desktop-database search results.

Name of Database Searched	Date of Search	Scope of Search	Comment
Commonwealth Heritage Listings	15 March 2016	Wyong LGA	No places listed on either the National or Commonwealth heritage lists are located within the Addendum Study Area
National Native Title Claims Search	15 March 2016	NSW	Native Title Claim NC2013/002 (Awabakal and Guringai People) covers the region of the Addendum Study Area.
OEH AHIMS	24 February 2016	GDA Zone 56, Eastings: 355408–359411, Northings: 6323584–6326945 with a Buffer of 0 meters.	Five sites within the search area. No sites within the Addendum Study Area.
Local Environment Plan (LEP)	15 March 2016	Wyong LEP (2013)	None of the Aboriginal places noted occur near the Addendum Study Area.

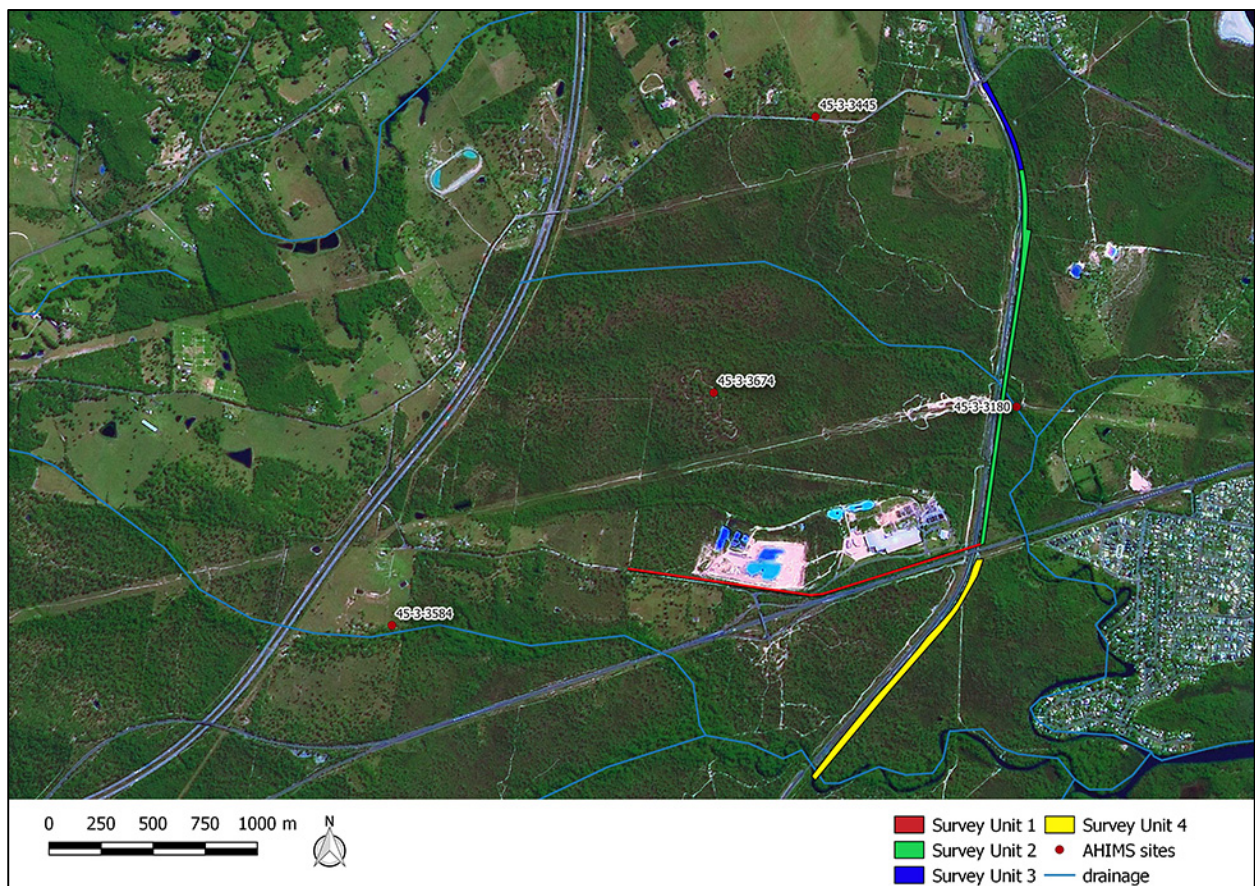
As noted in **Table 4–1**, the Addendum Study Area includes land currently subject to Native Title Claim (NC2013/002; Awabakal and Guringai People). The Proponent will need to obtain legal advice as to whether land tenure will require Native Title consultation.

A search of the OEH administered AHIMS database returned five records for Aboriginal heritage sites within the designated search area. All sites are listed as valid although one site (45-3-3335) is determined not to be a site: therefore there are four sites within the vicinity of the Addendum Study Area (**Figure 4-1**). The closest site to the Addendum Study Area is B14, an artefact scatter located on Spring Creek within an electricity easement. The site is located 63m east of Survey Unit 2. Site 45-3-3584 was previously identified during the Aboriginal Cultural Heritage Assessment for the Project.

Table 4-2: AHIMS site types.

AHIMS number	Site name	Site type
45-3-3584	Wallarah Creek Open Site 2	Artefact scatter
45-3-3674	CASAR Park IF 1	Isolated Find
45-3-3445	Wyee 3	Stone arrangement
45-3-3180	B14	Artefact scatter

Figure 4-1: AHIMS registered sites in the vicinity of the Addendum Study Area.



4.3.2 Previous studies for the Wallarah 2 Coal Project

The Project has been a long-running proposal with over 15 years of assessments and approval procedures. A number of studies by both Environmental Resources Management Pty Ltd (ERM) and OzArk have been conducted since 2001. These studies are summarised below.

4.3.2.1 ERM Assessments

Preliminary assessment for the Project was carried out by ERM during 2001. Four assessments were produced by ERM examining both the Aboriginal and the historic heritage values of the project area. These reports, pertaining to Aboriginal heritage, are summarised in **Table 4-3** and included both desktop assessment of the Project Area as it then existed and visual inspections of the Tooheys Road study area.

Table 4-3: 2001 studies by ERM.

Company / Author / Year Finalised	Title	Specialist components	Location
ERM 2001a	Indigenous Cultural Heritage Study – Western Area Study Methodology	Indigenous Heritage Desk top review only.	Extraction Area and the Western Ventilation Shaft area
ERM 2001b	Wyong Project – Indigenous Cultural Heritage Assessment – Preliminary Survey of the Bushells Ridge Site	Indigenous heritage preliminary field survey to identify visible archaeological evidence, areas of archaeological sensitivity and areas for further investigation.	Tooheys Road study area

OzArk

4.3.2.2 Wallarah No. 2 Coal Project. Gap Analysis & Methodologies for further Environmental Assessment: Terrestrial Ecology and Heritage. May 2006.

This study concluded that only the Tooheys Road study area had undergone physical assessment in terms of Aboriginal heritage and that survey by ERM was preliminary in nature.

The report recommended that additional field survey at the Tooheys Road study area to ensure the appropriate coverage of impact areas and additional assessment of Wallarah Creek and the ridge line should take place. This survey would focus on areas of greatest impacts from the coal handling facility and rail loop as well as targeting specific landforms to flesh out the predictive model as presented in ERM (2001a).

The report also recommended field survey of the Buttonderry study area and any other direct impact locations that had not been specifically targeted before.

The report recommended sample survey of various topographical units and sensitive archaeological landforms within the ecological offset areas to establish the general nature of the archaeological resource in each conservation area targeting specific landforms to test the adequacy of the predictive model.

4.3.2.3 Heritage Assessment – Zero Subsidence Line, Wallarah 2 Coal Project, Wyong NSW. (August 2007).

This report summarised previous heritage data relating to the entire Project and made specific recommendations regarding heritage assessment requirements for the Extraction Area and consequently the area enclosed by the zero subsidence line. The remainder of the report

comprised the basis for the heritage assessment component of the Subsidence Management Plan (SMP), which will be generated once Project approval has been achieved.

Regarding Aboriginal heritage, as no systematic survey of the Extraction Area had been undertaken to that time, the report recommended that further Aboriginal archaeological investigation was considered necessary in this area.

4.3.2.4 Indigenous & Non-Indigenous Heritage Assessment Surface Facilities - Wallarah 2 Coal Project Wyong, NSW. October 2009.

This archaeological assessment included surveys (with RAPs) of all areas likely to be impacted by the Project (direct impact areas) as well as some potential offset areas. Specifically this study investigated:

Direct Impact Areas: These study areas will be directly impacted by the proposed works:

- Western Ventilation Shaft study area;
- Buttonderry study area; and
- Tooheys Road study area.

Offset Areas: These study areas are outside any proposed impact and were assessed to determine their conservation values as potential offset conservation areas:

- Buttonderry offset study area; and
- Hue Hue Road ecological offset investigation area.

Consultation for this Project was undertaken according to the DECCW (now OEH) *Interim Community Consultation Requirements* (ICCR) which became effective on 1 January 2005. An advertisement was placed seeking expressions of interest from Aboriginal groups and organisations in the Wyong area to participate in the heritage assessment. Letters were sent to local government and government agencies seeking knowledge of any Aboriginal stakeholder groups to contact for inclusion in the consultation process. Letters seeking an expression of interest to participate in the heritage assessment for the proposed Wallarah 2 Coal Project were sent to DLALC, GTLAC and Mur-Roo-Ma Inc. Responses were received from the DLALC and GTLAC. These two groups were then sent details of the planned field assessment and methodology.

The first field assessment for this project was undertaken on DLALC land and David Pross represented the DLALC for this survey. This survey was undertaken on 12 October 2006 and Ben Churcher, Principal Archaeologist for OzArk, directed the fieldwork.

The second field assessment took place on 14-16 November 2006. DLALC was represented by Sharon Hodgetts and Jason Taylor. GTLAC was represented by Tracey-Lee Howie and Kevin

Robinson. The OzArk archaeologists on this second survey were Dr Jodie Benton and Ben Churcher.

The survey did not record any Aboriginal sites or heritage items within the Tooheys Road study area, the Buttonderry study area or the Western Shaft study area.

Although no sites were recorded, it was assessed that two areas within the Tooheys Road study area had archaeologically sensitive landforms. The largest area is 75m north and south from the centre line of Wallarah Creek. This archaeologically sensitive area stretches along the whole length of Wallarah Creek within the Tooheys Road study area. This area of archaeological sensitivity is approximately 1.4km long (east–west) which gives it a total area of around 210,000m². The second area of archaeological sensitivity is for 50m on both banks of Spring Creek (west of the Main Northern Rail Line). This area of archaeological sensitivity is approximately 200m long (northwest–southeast) which gives it a total area of around 20,000m². These areas were termed areas of archaeological sensitivity rather than Potential Archaeological Deposits (PADs) as there is nothing distinctive in the landscape that would aid the determination of a particular PAD to a discrete area. The areas were rather seen as worthy of further investigation that will assess the nature and extent of any subsurface deposits that may be present.

No Aboriginal sites were located within the Buttonderry ecological offset study area.

Three Aboriginal sites, an open artefact scatter (WC-OS1; 45-3-3317), a scarred tree (WC-ST1; 45-3-3315) and an isolated find (WC-IF1; 45-3-3316) were recorded along Wallarah Creek or its tributaries in the Hue Hue Road ecological investigation area.

With regards to Aboriginal heritage, the report recommended that the preferred management recommendation for the Tooheys Road study area would be to conduct test excavations at a number of locations along Wallarah Creek. These locations should be either in areas that will be directly impacted by the proposed works or nearby. The aim of the test excavation programme was to determine the presence, nature, extent and integrity of subsurface deposits such that appropriate management recommendations may be formulated.

4.3.2.5 *Indigenous and Historic Heritage Assessment. Subsidence Zone for the Wallarah 2 Coal Project Wyong NSW. February 2010.*

OzArk was commissioned to undertake heritage assessment within the area of potential subsidence associated with the Wallarah 2 Coal Project. This assessment covered two areas, namely:

- The Wyong Forest Study Area that occupies the Extraction Area and is representative of the steeply rising hills and valleys that characterise this area; and

- The Honeysuckle Park Survey Study Area, by contrast, occupies the river flats on Jilliby Jilliby Creek: a representative landform from the eastern portion of the Extraction Area.

The OzArk survey team was accompanied in the field during the survey of the Extraction Area by representatives from both DLALC and GTLAC. The following site officers participated over the five day period 25–29 January 2010:

- DLALC:
 - Ms Sharon Hodgetts
 - Mr Darren Carney
- GTLAC:
 - Ms Tracey-Lee Howie
 - Mr Kyle Howie
 - Mr Warren Howie
 - Mr David Pross

As a result of the heritage assessment that took place in January 2010, four Aboriginal axe-grinding groove sites were recorded within the Wyong Forest Study Area. Three are clustered together on the one watercourse in the very north, and just outside of, the Extraction Area (WSF-AG1–3; 45-3-3613, 45-3-3614 and 45-3-3615), while WSF-AG4 (45-3-3616) is located in the southwest of the Extraction Area.

In addition, the location and condition of a group of previously recorded axe-grinding groove sites in the Wyong Forest Study Area was undertaken (45-3-3040, 45-3-3041 and 45-3-3042: Myrtle Creek/Maculata Rd #1, #2 and #3).

The report concluded that the results of survey within Honeysuckle Park Study Area conformed to the predictive model that these intensively farmed river flats are unsuitable for the preservation of archaeological deposits or sites. There is, therefore, a negligible risk that the proposed works would adversely impact cultural heritage in the eastern portion of the Extraction Area.

The report concluded that in the Wyong Forest Study Area there remains the opportunity for gathering detailed information about further potential sites within the valleys of the Wyong Forest Study Area. Accordingly, the report recommended that further field assessment may be considered appropriate to inform the SMP in the post-approval phase, or for site specific management resulting from panel by panel pre-mining surveys. According to the report's recommendations, sites located within the Extraction Area within Wyong State Forest would be monitored pre-mining and post-mining.

4.3.2.6 Test Excavation Program. Wallarah Creek Sensitive Archaeological Landform. Wallarah 2 Coal Project, Central Coast, NSW. April 2010.

The archaeological test excavation program follows on from the previous assessment of the banks of Wallarah Creek in this location as holding archaeological sensitivity (ERM 2001, OzArk 2009). No Aboriginal heritage items were recorded in this vicinity by the previous heritage surveys and the test programme was instigated to clarify the archaeological nature of area.

The area investigated by the test excavation program on 15–19 March 2010 is located on the north and south banks of Wallarah Creek. Excavation was limited within the landscape to the area where the proposed impacts will be severe in the form of the construction of a rail loop (Eastern and Western Arm), a conveyor belt loop, a road and pit top facilities for the Wallarah 2 Coal Project.

The ICCR process had been followed from project inception in 2006 and was continued for the test excavation program. RAPs for the program comprised the DLALC and the GTLAC.

A total of sixty 1m x 1m excavation pits (machine excavated, sampled sieved) were excavated across four landforms within the Tooheys Road site.

Across the 60 test pits, a very low frequency of artefacts was recorded and no pit displayed evidence of the existence of a site: even of low complexity. In total, only one tool was recorded, along with five un-retouched flakes and three broken, un-retouched flakes. There was, however, evidence of lithic manufacture in the area with one core-trimming element and four flakes identified as debitage recorded.

From this study it was concluded that there is very low archaeological potential within the area investigated. While items of Aboriginal heritage (i.e. artefacts) are present, the distribution and nature of these items suggest a random 'background' scatter, rather than the nearby presence of a site that would display intactness and complexity.

To reflect the low density distribution of artefacts in this area, the landform on both sides of Wallarah Creek was termed as a site: WC-OS2 (45-3-3584).

4.3.2.7 Response to Submissions (20 September 2010)

To fully address certain issues raised in submissions, additional studies have been undertaken. These studies include:

- Test Excavation at the Tooheys Road Site – This report involved additional archaeological investigations along Wallarah Creek as well as selected landforms within the Tooheys Road Site. The work was undertaken by OzArk with representatives from DLALC and the GTLAC participating. The test excavation confirmed that there is very low archaeological potential within the area investigated.

With direct reference to the proposed works and the assessed archaeologically sensitive zone along Spring Creek in the Tooheys Road study area:

- It was determined that a test excavation programme was not recommended for the other area of archaeological sensitivity at Spring Creek. This was due to the high degree of disturbance that has impacted the north-eastern bank of the creek where the landform was most conducive to retaining intact subsurface deposits. This disturbance is either from the previous construction of the rail line and bridge, or from the numerous vehicle tracks in the area. In particular, the track along the side of the north-eastern bank is heavily rutted from bogged vehicles. The south-western bank of Spring Creek is heavily eroded, in places quite steep and also criss-crossed with vehicle tracks, mostly from motocross bikes. As such it was assessed that there would be few places on the south-western bank that would have soil depth to preserve intact subsurface deposits.
- As any 'A' deposits of this zone within the impact footprint are unlikely to possess intact deposits, it is considered most appropriate for the Aboriginal community to monitor ground surface disturbing impacts of the construction in this area and collect / salvage artefacts, if indeed any are present.

4.3.2.8 ACHCRs

The second phase of consultation commenced in November 2011, undertaken according to the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs; DECCW 2010). Both DLALC and GTLAC were contacted and their previous input in the Project was acknowledged. Each organisation was advised they would continue to be consulted as a RAP.

An expression of interest advertisement was placed in the Central Coast Express, to appear in the publication on 30 November 2011. To establish a broad base of Aboriginal people or organisations who may hold cultural knowledge relevant to the Project, contact details were sought from OEH, Wyong Shire Council (WSC), NTSCORP, Hunter Central Rivers Catchment Management Authority, National Native Title Tribunal, DLALC, GTLAC, and the Register of Aboriginal Owners.

Letters were sent to additional groups identified as a consequence of the agency contact. At the conclusion of the Stage 1 notification phase of this process, two additional Aboriginal groups registered to be consulted.

- Awabakal Traditional Owners Aboriginal Corporation (ATOAC); and
- Awabakal Descendants Traditional Owners Aboriginal Corporation (ADTOAC).

The Stage 2 & 3 letters presenting information about the sites recorded as part of the previous surveys were sent to all RAPs. This correspondence included an invitation to a potential meeting should RAPs wish to discuss the Project and share their views and cultural knowledge regarding the sites within and surrounding the Project Boundary. Both DLALC and GTLAC indicated they did not feel the need to attend the proposed session as they were aware of all aspects of the Project and had shared their substantial knowledge to this point.

Due to their close association, both ADTOAC and ATOAC were satisfied to attend a joint meeting which was scheduled for Wednesday, 16 May 2012. Due to unexpected emergencies, neither organisation was able to attend on this day. Further meeting dates were attempted to be made, and as responses from the ADTOAC and ATOAC were not forthcoming, it was assumed that a meeting was not required.

4.3.2.9 *Aboriginal Cultural Heritage Assessment. Wallarah 2 Coal Project. Wyong, NSW (December 2012).*

This report comprises results from survey by OzArk during three field assessments conducted in November 2006, January 2010 and September 2011, as well as the test excavation program within the Tooheys Road Site conducted in March 2010.

The report provides details of an additional Aboriginal and historic heritage assessment that took place in the Wyong State Forest and Honeysuckle Park Study Areas in September 2011.

Community consultation was continued under the existing arrangements and the methodology for the additional 2011 survey, and an invitation to participate, was extended to DLALC and GTLAC. Each stakeholder group was represented in the field. Sharon Hodgetts and Andrew Sweaton participated on behalf of DLALC whilst Tracey-Lee Howie represented GTLAC.

The 2011 survey of the Wyong State Forest Study Area concentrated on ridgelines and escarpments as opposed to the 2010 survey that concentrated on valley floors and waterways.

No additional sites were recorded associated with the ridge and escarpment landforms within the Wyong State Forest Study Area.

The 2012 report brought together all investigations to date and made recommendations concerning Aboriginal heritage based on findings stretching back over 10 years.

4.4 PREDICTIVE MODEL FOR SITE LOCATION

Across Australia, numerous archaeological studies in widely varying environmental zones and contexts have demonstrated a high correlation between the permanence of a water source and the permanence and/or complexity of Aboriginal occupation. Site location is also affected by the availability of and/or accessibility to a range of other natural resources including: plant and animal foods; stone and ochre resources and rock shelters; as well as by their general proximity to other sites/places of cultural/mythological significance. Consequently sites tend to be found along permanent and ephemeral water sources, along access or trade routes or in areas that have good flora/fauna resources and appropriate shelter.

In formulating a predictive model for Aboriginal archaeological site location within any landscape it is also necessary to consider post-depositional influences on Aboriginal material culture. In all but the best preservation conditions, very little organic material of ancestral Aboriginal

communities survives to the present. Generally it is the more durable materials such as stone artefacts, stone hearths, shell, and some bones that remain preserved in the current landscape. Even these however may not be found in their original depositional context since these may be subject to either (a) the effects of wind and water erosion/transport - both over short and long time scales or (b) the historical impacts associated with the introduction of European farming practices including: grazing and cropping; land degradation associated with exotic pests such as goats and rabbits, and the installation of farm related infrastructure including water-storage, utilities, roads, fences, stockyards and residential quarters. Scarred trees may survive for up to several hundred years but rarely beyond.

With specific reference to the Addendum Study Area, the review of the known local archaeological record and the environmental setting allow the following observations to be made:

- Landforms such as those associated with Wallarah Creek where sites have been previously recorded (principally WC OS-1 and WC OS-2) are not represented in the Addendum Study Area;
- Landforms previously defined as 'archaeologically sensitive' in relation to Spring Creek to the west of the Main Northern Rail Line are represented in the Addendum Study Area to the east of the Main Northern Rail Line;
- Landforms that recorded grinding groove sites in the Extraction Area are not represented in the Addendum Study Area;
- The generally flat landforms comprising the Addendum Study Area would not have been an impediment to movement or occupation (camping) in the past. Rock outcropping in the area is rare and therefore the Addendum Study Area would not have been a source of stone procurement for tool manufacture;
- The sandy loams that characterize the Addendum Study Area are both erodible and of low fertility. The low soil fertility implies that resources, particularly vegetative resources, would have been limited and perhaps only sustained short-term or sporadic visits. The erodible nature of the soils indicates that there is a high probability that sites such as artefact scatters have been impacted either through deflation on the elevated landforms, or aggradation on the lower-lying landforms;
- The Addendum Study Area has limited hydrological resources that would have only sustained short-term or sporadic visits. The more abundant resources of Lake Budgewoi that are approximately 3km from the Addendum Study Area and are far more likely to have been a focus of past occupation than the landforms within the Addendum Study Area; and
- Disturbances arising from past land use have had localised, severe impacts. In areas associated with the Boral quarry, tile factory and railway line corridor, for example, visual bunds, roads and buildings have highly modified the landscape and may have displaced or obscured sites had they existed in these areas. In other portions of the Addendum Study Area, the impacts have resulted in less modification to the landscape although vegetation clearing on highly erodible soils would have exacerbated soil movement again

leading to the dispersal or covering of stone artefact sites. Vegetation clearing would also have removed culturally modified trees had they existed in the area.

Bearing these observations in mind, the following predictions are made concerning the probability of certain site types being recorded within the Addendum Study Area:

- Isolated finds may be indicative of: random loss or deliberate discard of a single artefact, the remnant of a now dispersed and disturbed artefact scatter, or an otherwise obscured or sub-surface artefact scatter. They may occur anywhere within the landscape but are more likely to occur in topographies where open artefact scatters typically occur.
 - As isolated finds can occur anywhere, particularly within disturbed contexts, it is predicted that this site type could be recorded within the Addendum Study Area.
- Open artefact scatters are defined as two or more artefacts, not located within a rock shelter, and located no more than 50 metres away from any other constituent artefact. This site type may occur almost anywhere that Aborigines have travelled and may be associated with hunting and gathering activities, short or long term camps, and the manufacture and maintenance of stone tools. Artefact scatters typically consist of surface scatters or sub-surface distributions of flaked stone discarded during the manufacture of tools, but may also include other artefactual rock types such as hearth and anvil stones. Less commonly, artefact scatters may include archaeological stratigraphic features such as hearths and artefact concentrations which relate to activity areas. Artefact density can vary considerably between and across individual sites. Small ground exposures revealing low density scatters may be indicative of background scatter rather than a spatially or temporally distinct artefact assemblage. These sites are classed as 'open', that is, occurring on the land surface unprotected by rock overhangs, and are sometimes referred to as 'open camp sites'.

Artefact scatters are most likely to occur on level or low gradient contexts, along the crests of ridgelines and spurs, and elevated areas fringing watercourses or wetlands. Larger sites may be expected in association with permanent water sources.

Topographies which afford effective through-access across, and relative to, the surrounding landscape, such as the open basal valley slopes and the valleys of creeks, will tend to contain more and larger sites, mostly camp sites evidenced by open artefact scatters.

- As a majority of the Addendum Study Area is within relatively flat landforms distant to permanent water, this site type is not predicted to be common. The moderate degree of disturbance in the Addendum Study Area, however, will probably mean that the scatter has become displaced. It is likely that any sites associated with such landforms are likely to have a low artefact density and a low complexity of tool types as the sites are either one-off events or only infrequently used. It is noted that more favourable landforms for site location, such as along Wallarah Creek, only recorded a low artefact density in the test excavation program.
- Aboriginal scarred trees contain evidence of the removal of bark (and sometimes wood) in the past by Aborigines, in the form of a scar. Bark was removed from trees for a wide range of reasons. It was a raw material used in the manufacture of various tools, vessels

and commodities such as string, water containers, roofing for shelters, shields and canoes. Bark was also removed as a consequence of gathering food, such as collecting wood-boring grubs or creating footholds to climb a tree for possum hunting or bark removal. Due to the multiplicity of uses and the continuous process of occlusion (or healing) following removal, it is difficult to accurately determine the intended purpose for any particular example of bark removal. Scarred trees may occur anywhere old growth trees survive. The identification of scars as Aboriginal in origin can be problematical because some forms of natural trauma and European bark extraction create similar scars. Many remaining scarred trees probably date to the historic period when bark was removed by Aboriginals for both their own purposes and for roofing on early European houses. Consequently the distinction between European and Aboriginal scarred trees may not be clear.

- Due to the near-total clearance of trees from within the Addendum Study Area, the likelihood of this site type being present is predicted to be very low. Previous assessment in the area (in the Hue Hue Road ecological offset area) has recorded an example of a scarred tree but this site type is generally rare in the region.
- Quarry sites and stone procurement sites typically consist of exposures of stone material where evidence for human collection, extraction and/or preliminary processing has survived. Typically these involve the extraction of siliceous or fine grained igneous and meta-sedimentary rock types for the manufacture of artefacts. The presence of quarry/extraction sites is dependent on the availability of suitable rock formations.
 - It is unlikely that this site type could be recorded within the Addendum Study Area as suitable rock outcroppings are not available.
- Stone arrangements typically consist of stones, each of which may be about 30cm in size, laid out in a pattern extending over several metres or tens of metres. Notable examples have been made by many different Australian Aboriginal cultures, and in many cases are thought to be associated with spiritual ceremonies. Stone arrangements tend to be very ephemeral and rarely survive in areas with a high degree of post-1788 land use.
 - Given the relatively high degree of land use and associated disturbances within the Addendum Study Area, it is unlikely that stone arrangements will be recorded.
- Engraving sites are a form of Aboriginal rock art consisting of carefully drawn images of people, animals, or symbols, in the sandstone around Sydney and the Central Coast. Many thousands of such engravings are known to exist in the Sydney region, although the locations of most are not publicised to prevent damage by vandalism, and to retain their sanctity, as they are still regarded as sacred sites by Aboriginal people. Engraving sites are long-lasting and it requires considerable disturbance to remove them from the landscape.
 - As sandstone rock shelves and/or outcropping do not exist in the Addendum Study Area, it is assessed that this site type of rock art is not present.
- Burials are generally found in soft sediments such as aeolian sand, alluvial silts and rock shelter deposits. In valley floor and plains contexts, burials may occur in locally elevated topographies rather than poorly drained sedimentary contexts. Burials are also

known to have occurred on rocky hilltops in some limited areas. Burials are generally only visible where there has been some disturbance of sub-surface sediments or where some erosional process has exposed them.

- Although it is possible that this site type could be recorded within the Addendum Study Area, it is considered a rare site type especially given the disturbance that has occurred within the Addendum Study Area, as well as the fact that Aeolian sand deposits are not found within the Addendum Study Area.

5 RESULTS OF ABORIGINAL ARCHAEOLOGICAL ASSESSMENT

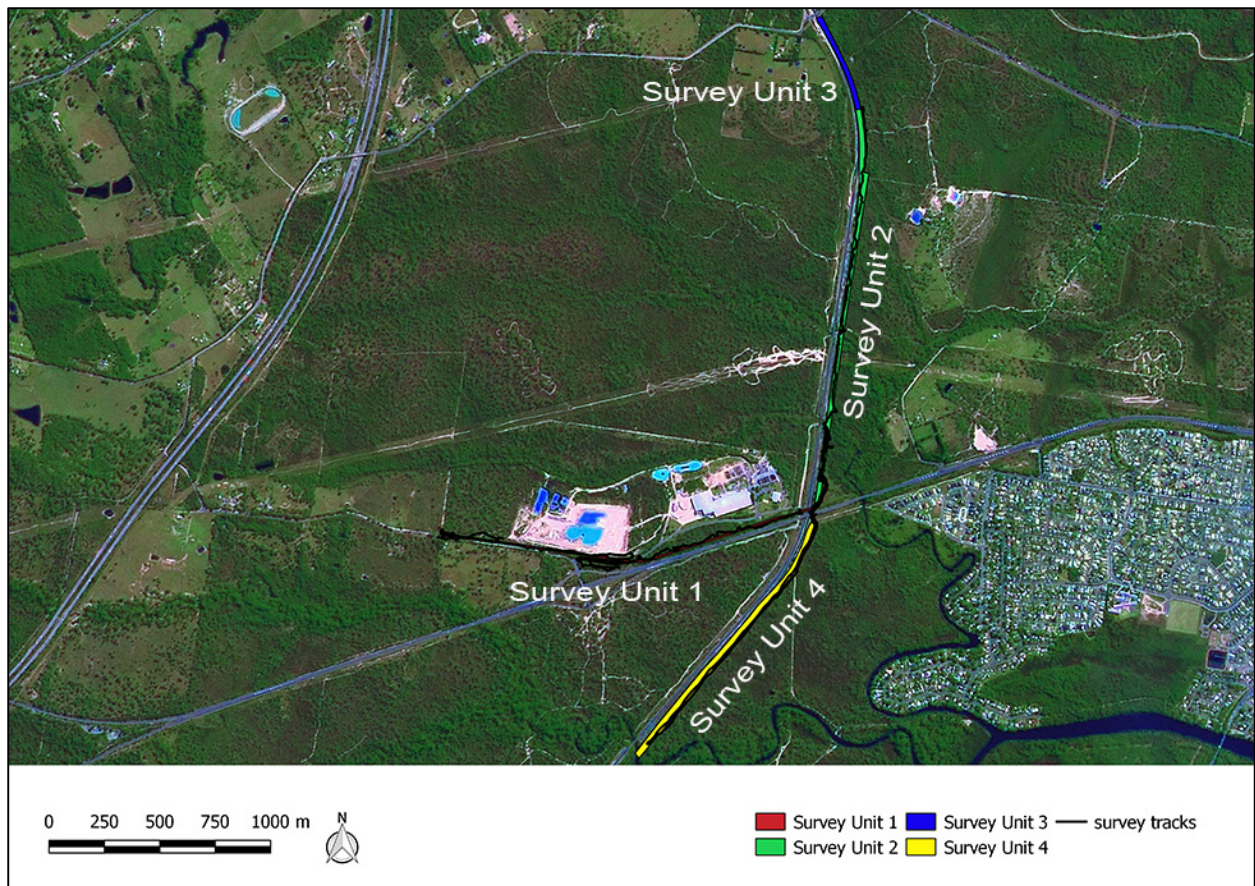
5.1 SAMPLING STRATEGY AND FIELD METHODS

Standard archaeological field survey and recording methods were employed in the Addendum study (Burke & Smith 2004).

As the Addendum Study Area is linear in form varying in width from 8m to 21m, the survey methodology sent to all RAPs stipulated that Survey Units 1, 2 and 4 would be fully assessed by pedestrian survey. Survey Unit 3 was not included in the assessment as it was within the rail corridor for the Main Northern Rail Line where the landforms have been substantially modified and where safety issues did not make survey possible.

As per the survey methodology, the entirety of the Survey Units 1, 2 and 4 was able to be assessed on foot. **Figure 5–1** shows the survey transect of the OzArk archaeologist.

Figure 5-1: Addendum Study Area showing survey tracks.



5.2 PROJECT CONSTRAINTS

As noted above, Survey Unit 3 was not assessed as this portion of the Addendum Study Area is within the rail corridor for the Main Northern Rail Line where railway construction has heavily modified the original landforms. In addition, the use of rail ballast has obscured the ground surface.

In Survey Units 1, 2 and 4 there were no constraints to the assessment apart from very low ground surface visibility (GSV), particularly in Survey Unit 2. This aspect is discussed further below.

5.3 EFFECTIVE SURVEY COVERAGE

Two of the key factors influencing the effectiveness of archaeological survey are GSV and exposure. These factors are quantified in order to ensure that the survey data provides adequate evidence for the evaluation of the archaeological materials across the landscape. For the purposes of the current assessment, these terms are used in accordance with the definitions provided in the *Code of Practice* (DECCW 2010).

Ground surface visibility (GSV) is defined as:

... the amount of bare ground (or visibility) on the exposures which might reveal artefacts or other archaeological materials. It is important to note that visibility, on its own, is not a reliable indicator of the detectability of buried archaeological material. Things like vegetation, plant or leaf litter, loose sand, stone ground or introduced materials will affect the visibility. Put another way, visibility refers to 'what conceals' (DECCW 2010b: 39).

Exposure is defined as:

... different to visibility because it estimates the area with a likelihood of revealing buried artefacts or deposits rather than just being an observation of the amount of bare ground. It is the percentage of land for which erosion and exposure was sufficient to reveal archaeological evidence on the surface of the ground. Put another way, exposure refers to 'what reveals' (DECCW 2010: 37).

Table 5–1 and **5–2** examine the effective survey coverage within the Addendum Study Area in more detail.

It should be noted that the calculations presented in **Table 5–1** always appear to show a very low effective survey coverage but the figures should be taken as relative values. It can be seen that the best GSV was in Survey Unit 4 where a dirt track ran the length of the Survey Area affording an unimpeded view of the ground surface. Survey Unit 1, at least in its western portions, was not highly vegetated and GSV was low but more frequent. In Survey Unit 2, thick middle and lower storey vegetation impeded GSV greatly and it was only in rare instances that the ground surface could actually be seen.

Table 5–2 explores the relationship between landform type and site recordings. As no sites were recorded during the assessment this table is superfluous and is included here to indicate that correlation between landform type and site recordings is not applicable in this instance.

Table 5-1: Survey coverage data.

Survey Unit	Landform	Survey Unit Area (sq m)	Visibility %	Exposure %	Effective Coverage Area (sq m) (= Survey Unit Area x Visibility % x Exposure %)	Effective Coverage % (= Effective Coverage Area / Survey Unit Area x 100)
1	broad ridge	13,856	80	5	554.24	4
2	undulating low gradient slopes	31,920	50	1	159.6	0.5
3	level, disturbed land*	not assessed				
4	low gradient slope	25,452	75	15	2,863.35	11.25

*Main Northern Rail Line corridor

Table 5-2: Landform summary—sampled areas.

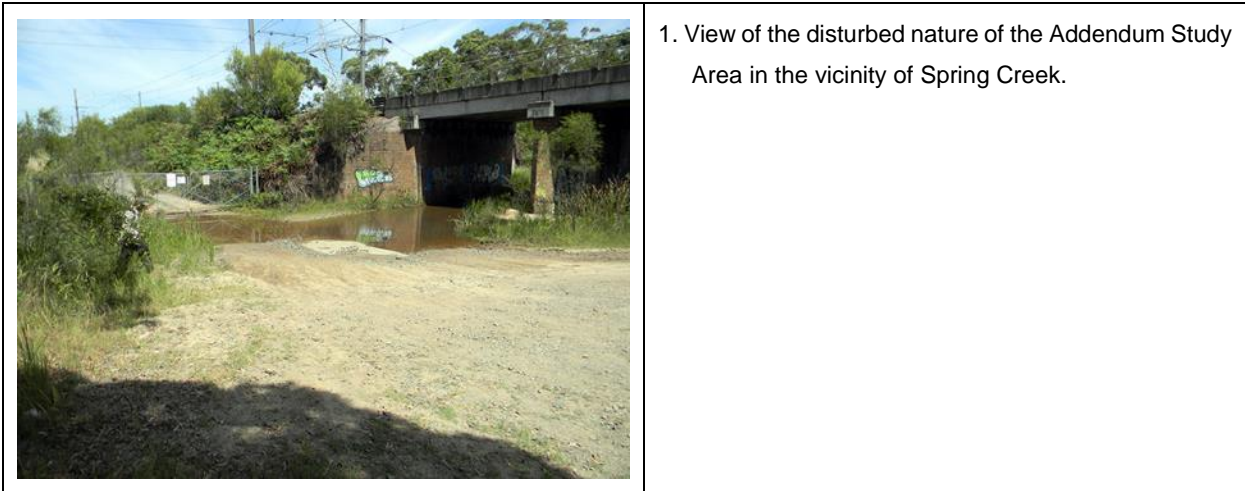
Landform	Landform area (sq m)	Area Effectively Surveyed (sq m) (= Effective Coverage Area)	% of Landform Effectively Surveyed (= Area Effectively Surveyed / Landform x 100)	Number of Sites	Number of Artefacts or Features
broad ridge	13,856	554.24	4	0	n/a
undulating low gradient slopes	31,920	159.6	0.5	0	n/a
low gradient slope	25,452	2,863.35	11.25	0	n/a

5.4 ABORIGINAL SITES RECORDED

No Aboriginal sites were recorded during the assessment.

Further, no areas were assessed as being likely to contain subsurface archaeological deposits.

Only one portion of the Addendum Study Area was within landforms that could be assessed as being archaeologically sensitive: the banks of Spring Creek. It was noted in **Section 4.3.2.7** that the banks of this creek to the west of the Main Northern Rail Line were assessed in previous assessments as being archaeologically sensitive; although this was never verified during the test excavation program. However, the landform to the west of the Main Northern Rail Line is elevated and overlooks the creek, whereas to the east of the Main Northern Rail Line, within the Addendum Study Area, the landform has shallow banks and is less likely to have been a favourable camping location. In addition, the entirety of the Addendum Study Area on both banks of Spring Creek has been heavily modified by track construction and use and was probably also heavily impacted during the building of the Main Northern Rail Line; although these impacts can no longer be discerned in the field (**Figure 5-2**). Due to the level of landform modification it was therefore assessed that the banks of Spring Creek within the Addendum Study Area do not represent a sensitive archaeological landform.

Figure 5-2: View of the Addendum Study Area in the vicinity of Spring Creek.

5.5 ABORIGINAL COMMUNITY INPUT

The RAPs present during the survey agreed with the assessment that the Addendum Study Area holds little potential for there to be further, undetected sites within it.

5.6 DISCUSSION

The predictive model set out in **Section 4.4** indicated that due to the types of landforms within the Addendum Study Area, the infertile soils, the lack of major hydrological features, and the lack of previously recorded sites in similar landforms that the likelihood of recording sites within it would be rare.

The results of the survey confirm this model which is discussed in more detail below.

Survey Unit 1: 877m of the western portion of this 1,740m-long Survey Unit (i.e. 50 per cent of its length) is occupied by a visual bund consisting of a mound of soil; sometimes several metres high. The construction of this bund would have impacted any sites in this area had they been present. The eastern half of this Survey Unit is within regenerating woodland where there was low GSV. However, the undifferentiated landform (i.e. no topographic features to attract occupation), its distance to water, and the fact that the area has been previously cleared indicates that this area has a low potential to contain sites (**Figure 5–3**).

Survey Unit 2: Although the dense vegetation reduced GSV, the Survey Unit did not contain landform features that would have necessarily attracted occupation. The only exception to this is the banks of Spring Creek where the previously recorded site 45-3-3180 has been recorded in a similar landform approximately 60m east of the Addendum Study Area. However, as noted in **Section 5.4**, this landform is highly modified within the Addendum Study Area and if similar sites once existed, they would have been removed by this activity (**Figure 5–4**; see **Figure 5–2** for the environment of Spring Creek).

Survey Unit 4: As noted in **Section 5.3**, a dirt track runs the length of this Survey Unit allowing an unimpeded view of the ground surface. While this is a cross-section of the total impact area, it does, nevertheless, afford a representative sample that gives confidence to the assessment that this area has a low probability of containing further, undetected sites. The landform is also undifferentiated (a low gradient slope) and distant from water sources that further reinforces the assessment of low archaeological potential (**Figure 5-5**).

Figure 5-3: Survey Unit 1.

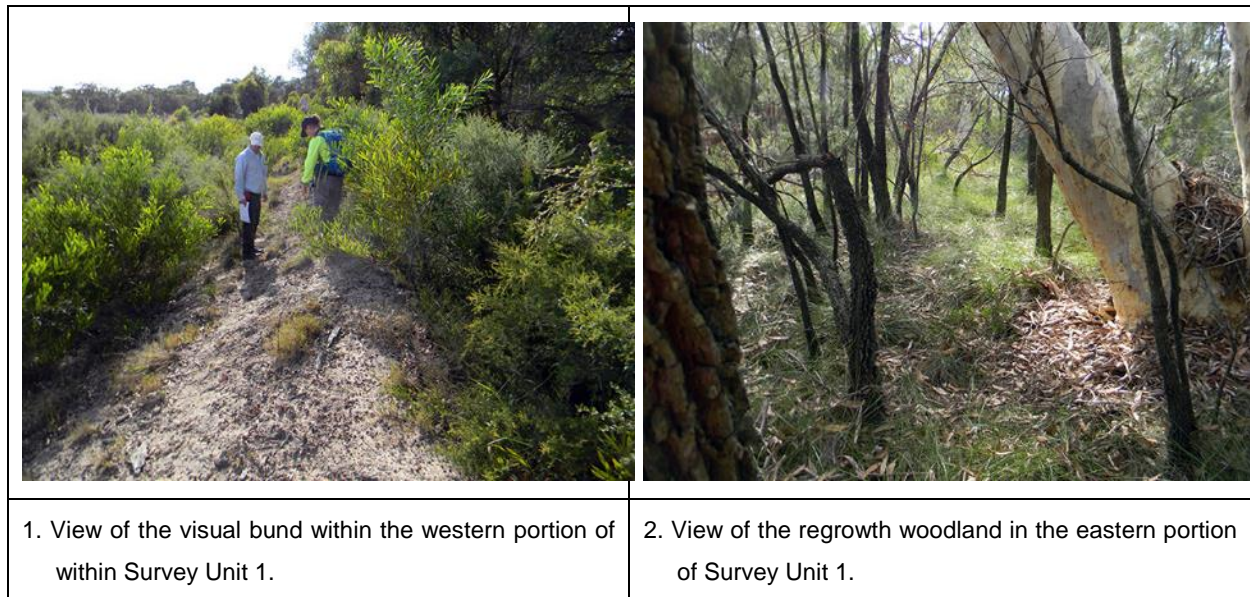


Figure 5-4: Survey Unit 2.

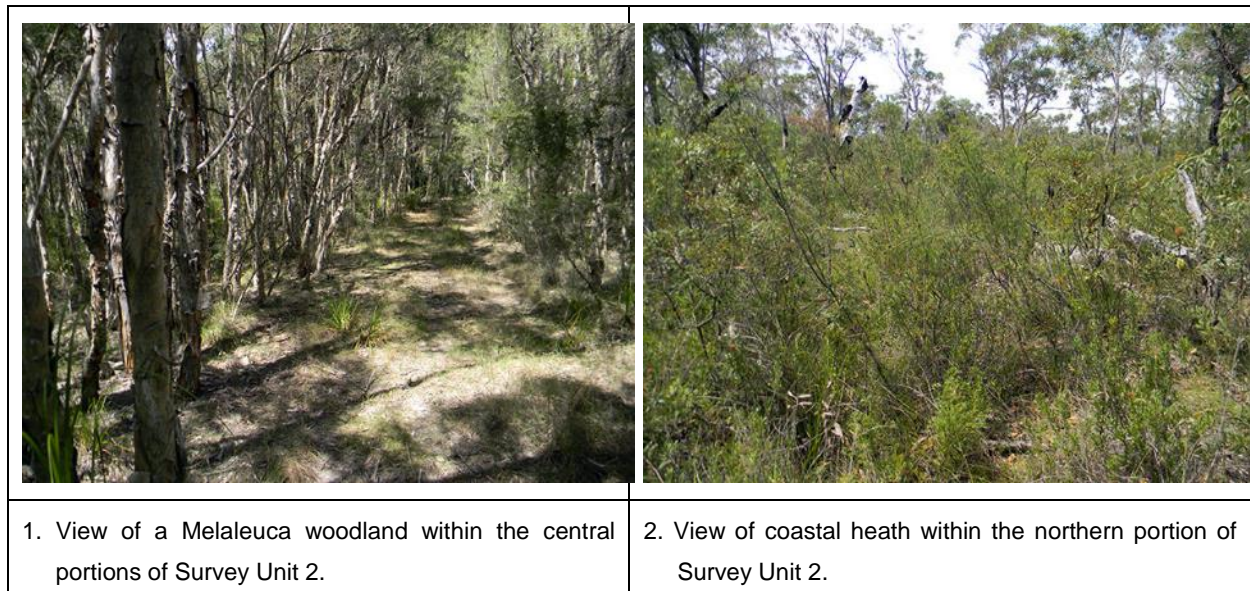
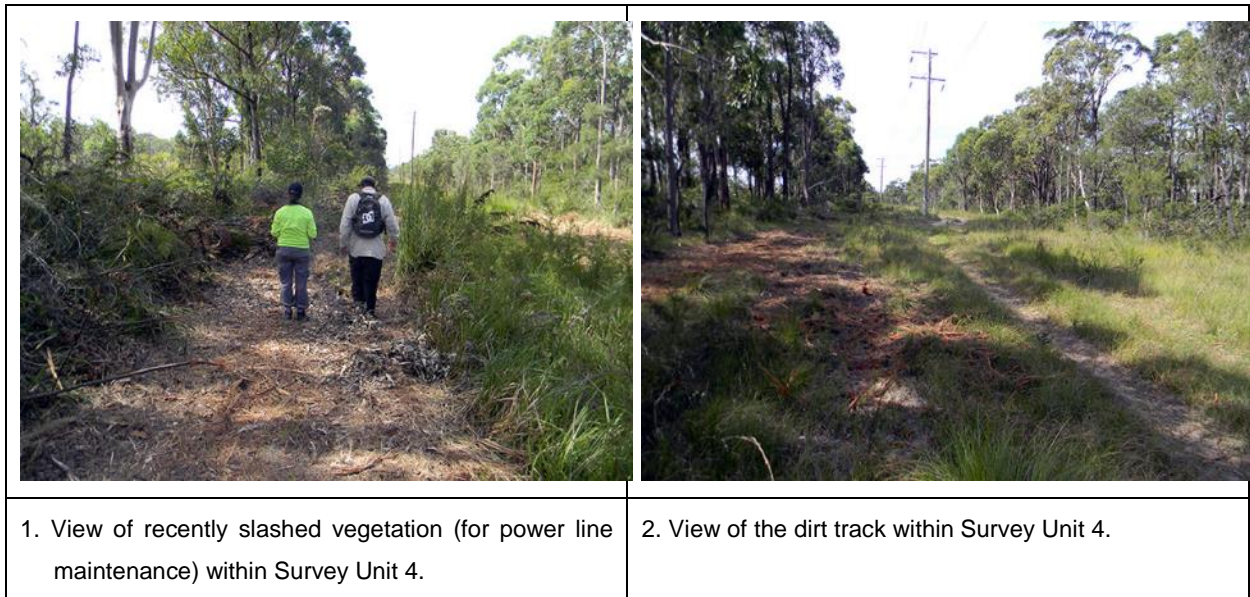


Figure 5-5: Survey Unit 4.

5.7 IMPLICATIONS OF DESIGN CHANGE TO ABORIGINAL CULTURAL HERITAGE

Should the design change of the Project's surface infrastructure be approved, the potential impact to Aboriginal cultural heritage shall be reduced. In particular, the removal of the Rail Loop from the Project design will mean that impacts to portions of one Aboriginal site (WC OS-2) and an archaeologically sensitive landform will no longer occur.

While portions of WC OS-2 will still be impacted by the surface facilities at the Tooheys Road site, those portions to the east of the surface facilities that were formerly to be impacted by the Rail Loop will no longer be impacted. The removal of the Rail Loop also means that there will be less impact to the banks of Wallarah Creek which previous investigations have indicated to be the most archaeologically sensitive landform within the Tooheys Road site.

Previous investigations also identified an archaeologically sensitive landform on the banks of Spring Creek to the west of the Main Northern Rail Line. As is shown above, this archaeologically sensitive landform does not extend to the east of the Main Northern Rail Line (within the current Study Area) as this area has been subject to past disturbances that would have removed or dispersed any archaeological deposits, as well as the fact that the landform within the Study Area is low-lying as opposed to the more-elevated landforms to the west that afford better occupation/camping areas. With the removal of the Rail Loop from the Project design, the archaeologically sensitive landforms to the west of the Main Northern Rail Line will no longer be impacted. Instead the impacts to the banks of Spring Creek will be confined to the east of the Main Northern Rail Line where the landforms have been modified to the extent that intact archaeological deposits are extremely unlikely.

5.8 MANAGEMENT AND MITIGATION: ABORIGINAL HERITAGE

It is noted that no Aboriginal sites were recorded as a result of the assessment and that no landforms within the Addendum Study Area are assessed as having potential to contain further, undetected sites.

As a result, the Amendment will not impact items or sites of Aboriginal heritage significance.

Management recommendations in **Section 6** are therefore limited to generic recommendations relating to the unlikely event that works associated with the Amendment unearth an item suspected to be of Aboriginal origin.

The only exception is the recommendation that Survey Unit 3 be inspected following Project approval but prior to works commencing. While it is assessed that this Survey Unit has a low potential to contain Aboriginal sites (as it is within a highly modified landform being within the rail corridor for the Main Northern Rail Line), the area should, nevertheless, be inspected prior to the proposed works commencing in the unlikely event that it contains items of Aboriginal cultural heritage significance.

In their responses to the field survey and review of the draft of this report (**Appendix 3**), all RAPs provided written comments. Within these comment documents are a number of recommendations regarding the future management of Aboriginal cultural heritage within the Addendum Study Area. These recommendations are set out in **Section 2.3.1**. It is noted in this section that Aboriginal cultural heritage shall be managed under an ACHMP should Project approval be consented and that the ACHMP will be developed in full consultation with all RAPs. Recommendations, as set out by the RAPs in their comment documents, could well form part of the ACHMP and will be taken into account when the ACHMP is developed.

6 RECOMMENDATIONS

Under Section 89A of the NPW Act, it is mandatory that all Aboriginal sites recorded under any auspices be registered with OEH AHIMS. As professionals in the field of cultural heritage management, it is the responsibility of OzArk to ensure this process is undertaken.

To this end it is noted that **no Aboriginal sites** were recorded during the assessment.

The following recommendations are made on the basis of these impacts and with regard to:

- Legal requirements under the terms of the NPW Act whereby it is illegal to damage, deface or destroy an Aboriginal place or object without the prior written consent of OEH;
- The findings of the current investigations undertaken within the Addendum Study Area; and
- The interests of the Aboriginal community.

Recommendations concerning the Addendum Study Area are as follows:

1. No further assessment for Aboriginal cultural heritage is required in Survey Units 1, 2 and 4.
2. Prior to works commencing, Survey Unit 3 should be inspected by a suitably qualified archaeologist and RAP representatives.
3. As the Project is being assessed under Part 4, Division 4.1 of the EP&A Act, an ACHMP should be developed following Project approval. This ACHMP should be developed in consultation with RAPs and include provisions for the management of unanticipated finds suspected to be of Aboriginal origin that may be unearthed during the works associated with the Project. Recommendations provided by RAPs during their review of this report for the management and protection of Aboriginal cultural heritage within the Addendum Study Area (**Section 2.3.1**) should be taken into consideration as the ACHMP is developed.

REFERENCES

- Australia ICOMOS 2013 International Council on Monuments and Sites 2013. *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance*, 2013.
- DECCW 2010 DECCW. 2010. *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*. Department of Environment, Climate Change and Water, Sydney.
- Burke & Smith 2004 Burke, H. and Smith, C. 2004. *The Archaeologist's Field Handbook*, Blackwell, Oxford.
- OzArk 2012 OzArk Environmental & Heritage Management. *Aboriginal Cultural Heritage Assessment. Wallarah 2 Coal Project. Wyong, NSW*. Report for Hansen Bailey Environmental Consultants on behalf of Wyong Areas Coal Joint Venture.

APPENDIX 1: ABORINAL COMMUNITY CONSULTATION LOG AND DOCUMENTS

CONSULTATION LOG

Aboriginal Consultation Log – Wallarah 2 Coal Project				
Date	Organisation	Contact Name	Comment	Method
18.1.16	Central Coast Express Advocate	92882104 - Lara ads@newslocal.com.au	Peter Smith informed proof deadline is Monday 4pm. Sheridan Burke (SB) rang and spoke to Lara. SB to send through proof	phone
18.1.16	Central Coast Express Advocate	92882104 - Lara ads@newslocal.com.au	SB sent advertisement to Lara	email
18.1.16	Central Coast Express Advocate	92882104 - Lara ads@newslocal.com.au	Proof received by SB	email
18.1.16	Central Coast Express Advocate	92882104 - Lara ads@newslocal.com.au	Proof authorised by SB	email
19.1.16	Office of The Registrar, ALRA	Attn: Ms Megan Mebberson Office of the Registrar, ALRA (PO Box 112) 11 - 13 Mansfield Street Glebe NSW 2037 megan.mebberson@oralra.nsw.gov.au	SB sent letter requesting information on interested parties - closing date 27.1.16	email
19.1.16	NTSCORP	Mr George Tonna NTSCORP Level 1, 44-70 Rosehill Street Redfern NSW 2016 gtonna@ntscorp.com.au	SB sent letter requesting information on interested parties - closing date 27.1.16	email
19.1.16	Office of Environment & Heritage	Office of Environment & Heritage Locked Bag 1002 Dangar NSW 2309 rog.hcc@environment.nsw.gov.au Attn: Mr Peter Saad 4927 3167 0476 848 318 peter.saad@environment.nsw.gov.au	SB sent letter requesting information on interested parties - closing date 27.1.16	email
19.1.16	National Native Title Tribunal	National Native Title Tribunal GPO Box 9973 Sydney NSW 2001	SB sent letter requesting information on interested parties - closing date 27.1.16	mail
19.1.16	Wyong Local Land Services	Wyong Local Land Services - Hunter PO Box 600 Wyong NSW 2259 4355 8200 natalie.fallowfield@lls.nsw.gov.au	SB sent letter requesting information on interested parties - closing date 27.1.16	email
19.1.16	Wyong Shire Council	Wyong Shire Council PO Box 20 Wyong NSW 2259 WSC@wyong.nsw.gov.au	SB sent letter requesting information on interested parties - closing date 27.1.16	email
20.1.16	Darkinjung LALC	Sean Goode	SB sent letter requesting confirmation of registration for the new ACHCR process and also if they knew of any other interested parties we should contact. Closing date 3.2.16. cc'd in Lynne Hamilton and Sharon Hodgetts (Agency and community letter)	email
20.1.16	Guringai Tribal Link Aboriginal Corporation	Tracey-Lee Howie	SB sent letter requesting confirmation of registration for the new ACHCR process and also if they knew of any other interested parties we should contact. Closing date 3.2.16.	mail
21.1.16	Wyong Shire Council	Wyong Shire Council PO Box 20 Wyong NSW 2259 WSC@wyong.nsw.gov.au	SB received response from Nerryl Little- I advise that Council is not aware of any other Aboriginal groups with a cultural interest in the area. The National Parks &	email

Aboriginal Consultation Log – Wallarah 2 Coal Project				
Date	Organisation	Contact Name	Comment	Method
			Wildlife Service may be able to assist you further.	
20.1.16	Guringai Tribal Link Aboriginal Corporation	Tracey-Lee Howie	SB received confirmation of registration of interest	email
22.1.16	Office of Environment & Heritage	Office of Environment & Heritage Locked Bag 1002 Dangar NSW 2309 rog.hcc@environment.nsw.gov.au Attn: Mr Peter Saad 4927 3167 0476 848 318 peter.saad@environment.nsw.gov.au	SB received response from OEH, potential RAPs are: Daniella Chedzey and Jessica Wegener, Darkinjung LALC, Guringai Tribal Link Aboriginal Corporation, Kevin Duncan	email
28.1.16	Kevin Duncan	Kevin Duncan	SB sent invitation for expression of interest closing date 12.2.16	email
28.1.16	Daniella Chedzey and Jessica Wegener	Cultural Heritage Officer	SB sent invitation for expression of interest closing date 12.2.16	email
28.1.16	National Native Title Tribunal	National Native Title Tribunal GPO Box 9973 Sydney NSW 2001	SB received email response from NNTT Register of Native Title Claims : NC2013/002 - Kerrie Brauer & Ors on behalf of the Awabakal & Guringai People Schedule of Applications:NC2015/002-Wonnarua Traditional Custodians #3 NC2015/002 does not cover the project area	email
29.1.16	NC2013/002 - Kerrie Brauer & Ors on behalf of the Awabakal and Guringai People	C/- Michael Owens Michael Owens Lawyer and Consultant 15 Cahill Street Aitkenvale QLD 4814 0418 181 004	SB sent letter of invite for EOI to be a RAP	email
31.1.16	Kevin Duncan	Kevin Duncan	SB received an email confirming Kevin Duncan wishes to be a RAP for this project	email
2.2.16	Darkinjung Local Aboriginal Land Council	Sharon Hodgetts	SB received a formal response from Sharon Hodgetts registering and confirming continued involvement the DLALC as a RAP	
3.3.16	Kevin Duncan	Kevin Duncan	SB sent registration confirmation email	email
3.3.16	Darkinjung Local Aboriginal Land Council	Sharon Hodgetts	SB sent confirmation email	email
16.2.16	Guringai Tribal Link Aboriginal Corporation	Tracey-Lee Howie	SB sent stage 2 package- closing date 17.3.16	email
16.2.16	Kevin Duncan	Kevin Duncan	SB sent stage 2 package- closing date 17.3.16	email
16.2.16	Darkinjung Local Aboriginal Land Council	Sharon Hodgetts	SB sent stage 2 package- closing date 17.3.16	email
17.2.16	Kevin Duncan	Kevin Duncan	SB received thankyou email from Kevin	email
22.2.16	Kevin Duncan	Kevin Duncan	<i>Yama Sheridan, thank you for the proposed Methodology for the Aboriginal Heritage impact survey for the Wallarah 2 Coal Project. I agree with the Methodology proposal in relation to the survey and the reports from previous surveys and findings of Aboriginal heritage sites through AIMS and other parties previously. All land is culturally and spiritually significant to Aboriginal people and as a Traditional custodian of our lands our people regularly</i>	email

Aboriginal Consultation Log – Wallarah 2 Coal Project				
Date	Organisation	Contact Name	Comment	Method
			<i>moved across the land in seasonal movements to the sea for many generations so there is always a possibility of a discovery of an Aboriginal object even in the case of previous disturbance. The Aboriginal Heritage sites located and recorded in the surrounded area support the possibility during surveys. I will be nominating a worker to conduct the survey on the day with all relevant dress regulations including public liability, Thank you Sincerely Kevin Duncan</i>	
25.2.16	Darkinjung Local Aboriginal Land Council	Sharon Hodgetts	SB received formal response confirming that the Darkinjung LALC are satisfied with the methodology issued	email
26.2.16	Guringai Tribal Link Aboriginal Corporation	Tracey-Lee Howie	SB sent through letter of offer for site work	email
26.2.16	Kevin Duncan	Kevin Duncan	SB sent through letter of offer for site work	email
26.2.16	Darkinjung Local Aboriginal Land Council	Sharon Hodgetts	SB sent through letter of offer for site work	email
29.2.16	Guringai Tribal Link Aboriginal Corporation	Tracey-Lee Howie	SB received email from Tracey-Lee: Thank you for the Draft Methodology and Formal Invitation for the Wallarah 2 Coal Project, Wyong NSW, Aboriginal Cultural Heritage Assessment, Tooheys Road, Bushels Ridge. Guringai Tribal Link Aboriginal Corporation agree with the proposed methodology, as set out by Oz Ark and accept the nominated Fee. I will be attending the field survey on 2/3/16. Mobile: 0404 182049. I'll send through our Cert. of Currency. Kind regards Tracey-Lee Howie Guringai TLAC	email
29.2.16	Kevin Duncan	Kevin Duncan	SB rang and spoke to Kevin. Kevin nominated Barry Duncan as Site Officer. Barry's numbers are 0427117125 and 0467818292. Kevin said Barry will supply the workers compensation certificate. Kevin has not had an opportunity to speak with Barry and let him know about the site work. Kevin gave SB the go ahead to ring Barry.	phone
29.2.16	Kevin Duncan	Barry Duncan	SB rang 0467 818 292- number is disconnected SB rang 0427 117 125 - left a 10 second message to call back	phone
29.2.16	Kevin Duncan	Kevin Duncan	SB sent email to Kevin explaining that only able to leave a voice message on Barry's phone re site work. SB reiterated that without a valid workers compensation certificate of currency - Barry would not be able to attend the fieldwork	email
29.2.16	Darkinjung Local Aboriginal Land Council	Sharon Hodgetts	SB rang and left a message on the land line and on the mobile requesting a copy of the Workers compensation Cert of Currency and also for a call back by Sharon. Message bank stated that all staff were on a training day.	phone
29.2.16	Guringai Tribal Link Aboriginal Corporation	Tracey-Lee Howie	SB rang the landline and the mobile and left a message to call regarding the	phone

Aboriginal Consultation Log – Wallarah 2 Coal Project				
Date	Organisation	Contact Name	Comment	Method
			workers compensation certificate of currency.	
29.2.16	Guringai Tribal Link Aboriginal Corporation	Tracey-Lee Howie	SB sent email requesting the Workers compensation certificate of currency	email
29.2.16	Kevin Duncan	Kevin Duncan	SB received a call from Kevin Duncan. Neither he nor Barry will be able to attend site work due to Sorry Business for the family. Kevin has asked if there is another opportunity he might be able to attend. SB advised that there is not normally another opportunity for a site inspection however Ben would call him regarding any input he would like to give.	phone
29.2.16	Darkinjung Local Aboriginal Land Council	Sharon Hodgetts	SB received email from Cara Lake with their workers compensation policy and schedule of Rates- Cara is requesting that their fees be accepted and signed and returned. Lee Davison is the nominated site officer	email
1.3.16	Darkinjung Local Aboriginal Land Council	Sharon Hodgetts	SB tried to email fee acceptance form (scanner not working). SB faxed form successfully.	fax
1.3.16	Darkinjung Local Aboriginal Land Council	Sharon Hodgetts	SB rang and spoke to Amanda at Darkinjung LALC- both Cara and Sharon are away today. SB explained the importance that this gets through to them today as the site work is tomorrow. Amanda to follow up. Amanda supplied a contact mobile number for Sharon. 0467 803 107	phone
1.3.16	Darkinjung Local Aboriginal Land Council	Sharon Hodgetts	SB rang Sharon on the number supplied by Amanda - message received said that this mobile was not accepting incoming calls at this time	phone
1.3.16	Darkinjung Local Aboriginal Land Council	Sharon Hodgetts	SB rang Sharon on her mobile. Sharon said Cara doesn't work Tuesdays or Thursdays. Lee has gone home today with personal issues so Sharon will be the one attending the site work tomorrow.	phone
1.3.16	Guringai Tribal Link Aboriginal Corporation	Tracey-Lee Howie	SB rang the landline and left a message on the voicemail regarding sending through the Workers compensation certificate of currency. SB stated that if not received will not be able to go on site tomorrow	phone
1.3.16	Guringai Tribal Link Aboriginal Corporation	Tracey-Lee Howie	SB rang mobile and got Tracey-Lee. Tracey-Lee said she has not been in to the office to send the workers compensation certificate of currency. If she cannot get it through prior then she will take a hard copy to site and give to Ben Churcher tomorrow.	phone
1.3.16	Darkinjung Local Aboriginal Land Council	Sharon Hodgetts	SB sent email notifying of the RAPs for the project with a sample letter	email
1.3.16	Office of Environment & Heritage	Office of Environment & Heritage Locked Bag 1002 Dangar NSW 2309 rog.hcc@environment.nsw.gov.au	SB sent email notifying of the RAPs for the project with a sample letter	email
1.3.16	Darkinjung Local Aboriginal Land Council	Sharon Hodgetts	SB received email from Lee saying he will be attending on behalf of the LALC. Lees mobile number is 0456 552 793	email

Aboriginal Consultation Log – Wallarah 2 Coal Project				
Date	Organisation	Contact Name	Comment	Method
1.3.16	Darkinjung Local Aboriginal Land Council	Sharon Hodgetts	SB emailed back confirmation and Ben Churcher's mobile number in case of issues.	email
1.3.16	Darkinjung Local Aboriginal Land Council	Sharon Hodgetts	Lee confirmed receipt of Bens mobile number	email
1.3.16	Guringai Tribal Link Aboriginal Corporation	Tracey-Lee Howie	SB received valid workers compensation certificate of currency	email
2.3.16	Guringai Tribal Link Aboriginal Corporation	Tracey-Lee Howie	SB sent confirmation that Workers compensation certificate of currency was received	email

ADVERTISEMENT PLACED IN THE CENTRAL COAST EXPRESS ADVOCATE (20.1.16)

Expression of Interest Cultural Heritage Management

OzArk Environmental & Heritage Management P/L seeks registration of Aboriginal groups or individuals who are interested in being consulted about the cultural heritage assessment for proposed additional surface infrastructure for the Wallarah 2 Coal Project, Wyong, NSW.

This cultural heritage assessment will assist the proponent (Wyong Areas Coal Joint Venture) to identify and manage any cultural heritage present which has the potential to be impacted by the development.

The Wallarah 2 Coal Project is located 4.7 km north-west of central Wyong, NSW, in the Wyong Local Government Area (LGA).

If you hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects or places in the proposed project area, please register your interest by fax: 02 6882 0630, post: OzArk EHM, PO Box 2069 Dubbo NSW 2830, email: sheridan@ozarkehm.com.au, or by phoning OzArk between 9.00am and 5.00pm week days on 02 6882 0118.

All submissions should be received no later than 5pm Wednesday 3rd February 2016.

EXAMPLE OF THE LETTERS SENT TO THE RELEVANT AGENCIES AND RAPs FOR PREVIOUS ASSESSMENTS FOR THE PROJECT: STAGE 1 (19.1.16)

19 January 2016

Wyong Shire Council
PO Box 20
Wyong NSW 2259
WSC@wyong.nsw.gov.au

Dear Sir/Madam,

Re: Proposed additional surface infrastructure for the Wallarah 2 Coal Project, Wyong, NSW.

OzArk Environmental & Heritage Management P/L (OzArk) has been engaged on behalf of the proponent (Wyong Areas Coal Joint Venture) to undertake Aboriginal community consultation as per the OEH *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*.

OzArk will undertake the cultural heritage assessment for proposed additional surface infrastructure for the Wallarah 2 Coal Project, Wyong, NSW. This cultural heritage assessment will assist the proponent to identify and manage any cultural heritage present which has the potential to be impacted by the development.

The Wallarah 2 Coal Project is located 4.7 km north-west of central Wyong, NSW. We are therefore seeking Expressions of Interest from relevant Aboriginal groups and individuals in the Wyong area, to form a consultation group.

If your organisation can recommend and provide contact details for any known Aboriginal groups with a cultural interest in this area, we can then include them in the consultation process with regard to potential Aboriginal heritage issues.

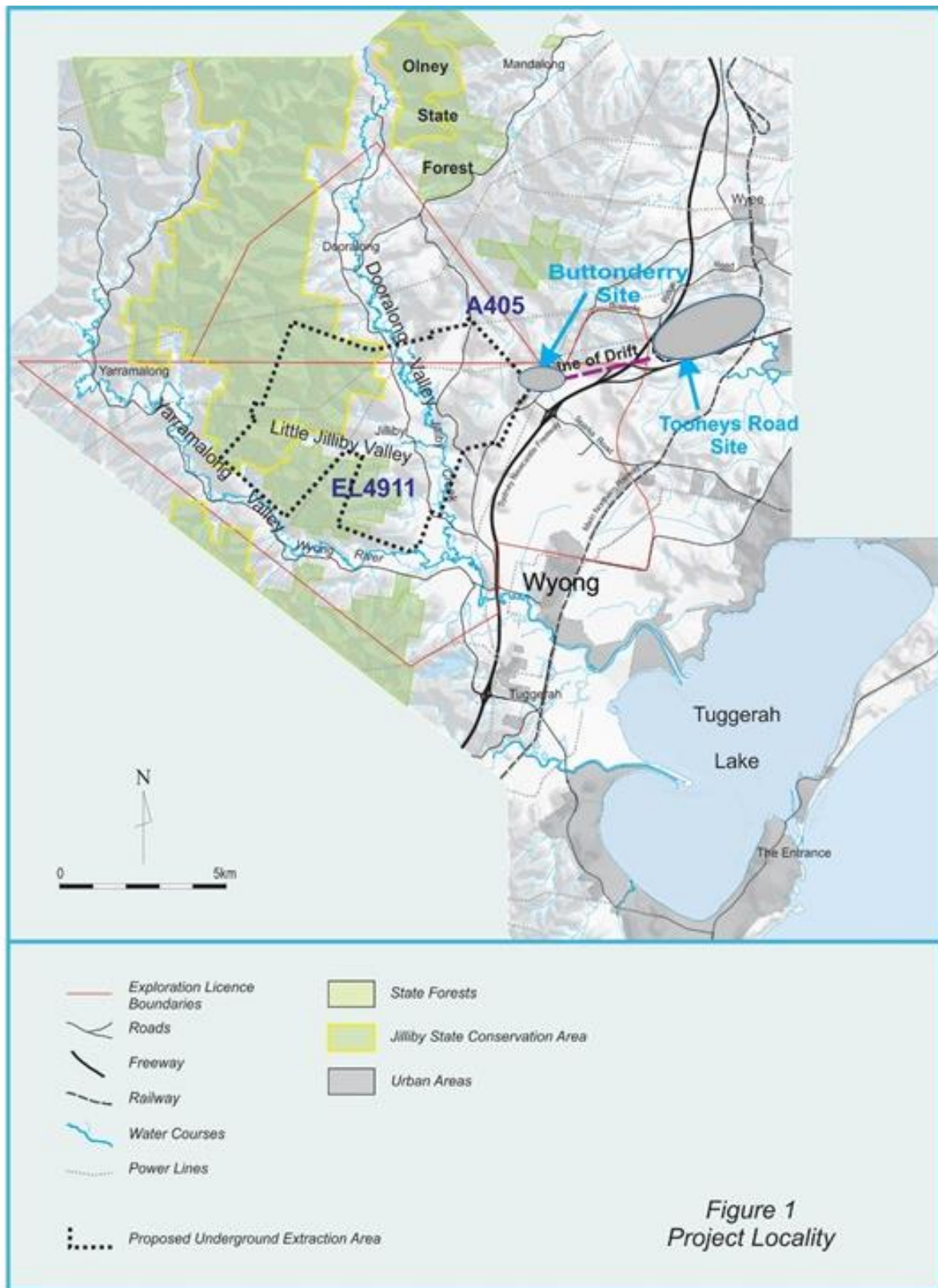
The Wallarah 2 Coal Project has worked with Guringai Tribal Link Aboriginal Corporation and Darkinjung Local Aboriginal Land Council on heritage assessments on several occasions over a number of years and these groups will be contacted directly for continued consultation and participation.

We would appreciate it if you could provide any feedback, to the contact details provided below, regarding these Aboriginal stakeholder groups by **27th January 2016**. Should you not be able to respond by this date please let me know as soon as possible. Your email reply to the address shown below would be appreciated

Kind regards,



Sheridan Baker
Community Liaison
sheridan@ozarkehm.com.au



Locality map of the proposed Wallarah 2 Coal Project.

EXAMPLE OF THE LETTERS SENT TO RAPs FOR THE PROJECT: STAGE 2 (16.2.16)

16.2.16



Dear [REDACTED],

Re: Proposed additional surface infrastructure for the Wallarah 2 Coal Project, Wyong, NSW.

Thank-you for your registration of interest to become a Registered Aboriginal Party (RAP) to be consulted over the proposed additional surface infrastructure for the Wallarah 2 Coal Project, Wyong, NSW. The purpose of this letter is to invite you to comment on the enclosed survey methodology which will be followed for the upcoming survey of the additional disturbance area.

Please find enclosed in this package:

- Wallarah 2 Coal Project information summary page; and
- Draft Aboriginal Archaeological Survey Methodology.

In addition to comments on the draft survey methodology, if you can share any Aboriginal cultural heritage knowledge relevant to the proposed impact area we welcome this input so as to ensure Aboriginal cultural values are considered.

While the statutory period for commenting on the survey methodology is 28 days (closes **17 March 2016**), we would appreciate it if you could try to return comments to us as soon as is possible. Our reason for asking is that the Project is very keen to undertake the survey as soon as is possible with the aim of identifying any Aboriginal heritage constraints at the earliest possible time. This is so that the Project can take any constraints into account during the finalisation of the concept design for the surface infrastructure as it is the Proponent's intention to avoid, wherever possible, impact to Aboriginal cultural heritage.

If you have any queries, please feel free to contact our office.

Kind regards,

A handwritten signature in black ink, appearing to read 'S. Baker'.

Sheridan Baker
Community Liaison Officer

SURVEY METHODOLOGY SENT TO RAPs FOR THE PROJECT: STAGE 2 (16.2.16)



View of the Study Area.

ABORIGINAL ARCHAEOLOGICAL ASSESSMENT

SURVEY METHODOLOGY

WALLARAH 2 COAL PROJECT: INFRASTRUCTURE CORRIDOR

WYONG, NSW

FEBRUARY 2016

Prepared by

OzArk Environmental & Heritage Management Pty Ltd

For Wyong Areas Coal Joint Venture



**Environmental and
Heritage Management P/L**

OzArk EHM

145 Wingewarra St
(PO Box 2069)
Dubbo NSW 2830

Phone: (02) 6882 0118

Fax: (02) 6882 0630

jodie@ozarkehm.com.au

phil@ozarkehm.com.au

www.ozarkehm.com.au

Background

The Wyong Areas Coal Joint Venture (WACJV) seeks a Development Consent under Division 4.1 in Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) for the Wallarah 2 Coal Project (the Project). The Project has been the subject of an environmental impact statement by Hansen Bailey in 2013 to support the development application and will involve the extraction of up to five million tonnes per annum (Mtpa) of product coal via longwall mining methods for a period of up to 28 years. The current additional Aboriginal archaeological survey relates to a proposed corridor for surface infrastructure and is being undertaken as part of the 'The Wallarah 2 Coal Project Environmental Impact Statement Addendum Document' (Walarah 2 EIS Addendum Document) prepared by Hansen Bailey Environmental Consultants to support the development application.

The Project Area was previously surveyed by OzArk at different periods over the course of five years from 2006 to 2011. In 2006, the Infrastructure Boundary and WACJV owned land was surveyed with a limited survey also undertaken of the Subsidence Impact Limit area which covered land within the Wyong State Forest/Jilliby State Conservation Area within the Subsidence Impact Limit area of the mining extraction area. In 2010, a targeted survey methodology was devised to sample the most prominent 2nd order waterways and ridgelines to the east of Little Jilliby Creek and where suitable rock outcropping could exist. Lastly in 2011, the second survey of the Subsidence Impact Limit followed a targeted survey methodology similar to the 2010 survey methodology but designed to examine the ridges and spurs to the west of Little Jilliby Creek as well as perform a more systematic survey of Myrtle Creek where axe grinding groves were known to exist. A total of eight Aboriginal sites were recorded as part of the survey and attempts were made to re-locate all previously recorded sites. The sites recorded by OzArk during these assessments are:

- four axe grinding groove sites in the Wyong State Forest (WSF-AG1 to WSF-AG4; AHIMS #45-3-3613 to 45-3-3616);
- an artefact scatter (WC-OS1; AHIMS #45-3-3317), a scarred tree (WC-ST1; AHIMS #45-3-3315) and an isolated find (WC-IF1; AHIMS #45-3-3316) in an area assessed as a potential off-set area (the Hue Hue Road Ecological Investigation Area); and
- a low density artefact scatter within the Toohey Road Site (WC-OS2; AHIMS #45-3-3584). WC-OS2 was designated on the results of a test excavation program in March 2010 on both banks of Wallarah Creek that identified a very low density distribution of subsurface artefacts.

The Aboriginal Cultural Heritage Assessment completed by OzArk following the survey supported the *Walarah 2 Coal Project Environmental Impact Statement* (Walarah 2 EIS). The EIS was lodged in April 2013 and the project has been recommended for approval by the Planning

Assessment Commission pending receipt of all necessary consents for the lodgement of the development application.

WACJV now seeks to evaluate an additional corridor of land for infrastructure and services purposes and is proposing to submit an EIS Addendum Document which includes an assessment of the impacts associated with proposed surface infrastructure to be located outside of the previous study area boundary (the Study Area; see yellow corridor in **Figure 1**). This area was not previously surveyed as part of the original Project Area.

Figure 1. Location of the Proposed Infrastructure Corridor Study Area.



Description of Proposed Works

The Project has identified some areas where additional surface infrastructure may be required that is outside the boundary of the area previously surveyed for the Project. The Study Area is a linear corridor varying in width from 8 metres with the Boral property to approximately 21 metres in the Crown Road in the east (**Figure 1**). These additional areas will be subject to full pedestrian assessment to identify any cultural heritage constraints. A small portion of the additional area lies within the Main Northern Rail Line corridor. Due to the impacts arising from the construction and

use of the existing railway it is considered that this portion has a very low archaeological sensitivity. The highly disturbed rail corridor portion within the Study Area will not be surveyed due to restricted access and safety issues, however, should the development application be approved, the potential for surveying within the existing rail corridor portion may be considered prior to or during Project construction.

Proposed Survey Methodology

Background

The Study Area is within landforms that have been disturbed by quarry activities as well as road and railway construction. The region containing the Study Area is characterised by gentle rises while the landform within the Study Area itself comprises a gentle rise in slope from the south at approximately 10 metres Australian Height Datum (AHD) to the north to approximately 20 metres AHD. Hydrological features within the Study Area are limited to Spring Creek and a tributary which cross the eastern part of the Study Area near existing bridges in the rail corridor. Wallarah Creek is located outside and to the south of the current Study Area. Overall, the Study Area is within landforms of low archaeological sensitivity.

Vegetation within the Study Area consists largely of regrowth woodland.

Figure 2 shows some views of the Study Area.

Figure 2. Photos showing the environment of the Study Area.





View of the Study Area within Boral-leased land. The proposed impact area will be just inside the fence where an earth bund has been constructed as part of defining the site perimeter for the Boral quarry.



View looking north (from under the motorway link road bridge) of the eastern portion of the Study Area. The Study Area runs parallel to the rail corridor and proposed Project impacts are planned in this corridor immediately east (right) of the fenced railway land.

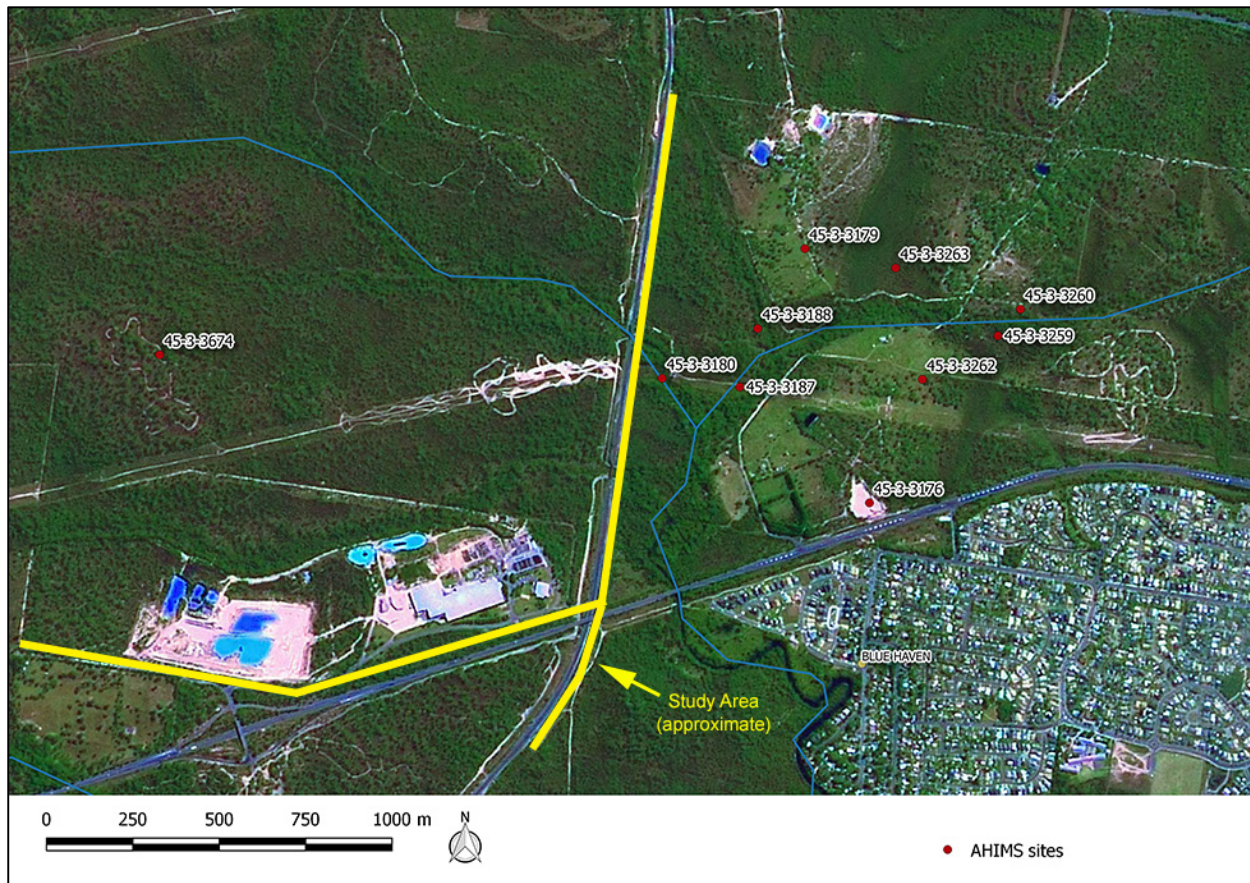


View of the south-eastern portion of the Study Area, south of the Motorway Link Rd. The railway line is out of picture to the left. This location is included in the survey area as it potentially could be affected by future services installation (such as water/sewer pipeline) between the dirt track seen here and the railway line.

AHIMS Search

On 10 February 2016 an AHIMS search was carried out to identify any previously recorded sites within or adjacent to the Study Area. The search parameters were: GDA Zone 56, Eastings: 357358—359352; Northings: 6324210—6325328 with a buffer of 1000 meters. This gave at least a one kilometre buffer around the Study Area. The search returned 11 records although one of the records, (AHIMS #45-3-3335; PAD 4 – Munmorah), is listed as ‘not a site’ and therefore there are 10 valid sites around the Study Area; although no sites are recorded within the Study Area or within 50 metres of the Study Area.

Figure 3 shows the location of the previously recorded AHIMS sites to the Study Area. As can be seen, the majority of sites have been recorded to the east of Spring Creek probably as a result of urban development in this area.

Figure 3. Location of AHIMS sites in relation to the Study Area.

Predictive Model for Site Location

The Study Area can be characterised as landforms bordering Wallarah and Spring Creeks with higher land away from the creeks, particularly in the west and centre. Rock outcropping is not present and the majority of the Study Area is flat to sloping land over 200m from permanent water. The entire Study Area has been cleared at some point in the past and there are few trees of sufficient age to have been growing when the area was occupied or used by Aboriginal people.

Regarding the landforms of the Study Area, it can be summarised that:

- There are few to no areas of substantial rock outcropping;
- That there are two drainage lines providing potentially permanent water in the locality: Wallarah Creek (to the south and outside of the Study Area) and the upper reaches of the locally ephemeral Spring Creek and a tributary drainage line that traverse the eastern corridor of the Study Area. Further downstream of the Study Area, Spring Creek is a permanent watercourse and tidal;
- The majority of the land is over 200m away from permanent water; and
- The majority of the land is flat to gently sloping.

An Aboriginal Resources Planning Study for the Wyong Shire Council by Dallas *et al* (1987) attempted to develop predictive models of Aboriginal settlement but was limited by a lack of data.

Most of the sites recorded were rock shelters and art sites, which were located in the sandstone outcrops west of the Study Area and shell middens along the coast. These would be the most obvious and easily detected sites. Sites were rare in undifferentiated landscape contexts similar to the current Study Area. This was thought to reflect the level of development and disturbance of these areas, lack of visibility and lack of archaeological survey work. Their predictive model is heavily influenced by Vinnecombe's earlier work in the region and is based on dividing the region into ecological zones (coastal, riverine, escarpment etc.) and modelling Aboriginal settlement for each of these zones. Vinnecombe noted that sites are more numerous near the coast and near permanent waterways and swamps.

On the basis of the geology, topography and soils, the Study Area has low archaeological potential.

In terms of rock shelters, there appears to be low potential of finding such sites in the area covered by the current study as substantial sandstone outcropping is rare.

Open sandstone art sites and grinding grooves may also be evident in any landscape where rock outcropping is present. As the current study area contains little sandstone outcropping, the potential for recording such site types would also be low.

Open artefact scatters and/or isolated finds are likely to exist on ridge tops and associated high slopes (approximately 10m down slope from the ridge top/ slope break), as well as on low gentle slopes and terraces surrounding creek lines. On the basis of topography, the potential of recording artefact scatters would be moderate across the Study Area. However, as much of the Study Area has undergone impacts from various land uses, there is also the possibility that scatters have been locally redistributed or buried and may be therefore not as evident in the landscape.

There also remains a low possibility of subsurface archaeological deposits (including burials) in the Study Area. While soils in the district are described as moderately deep to deep, particularly along the valley floors of Quaternary alluvium, the ridge landforms of the current Study Area lower the potential sub-surface archaeological deposits.

The possibility of recording scarred trees within the Study Area is low as most mature timber has been logged at some time in the past. It should also be noticed that there are very few scarred trees recorded in the general vicinity of the Study Area, probably for the same reason.

Proposed Survey

The Study Area primarily includes land under lease by Boral (for an open cut clay quarry and tile manufacturing plant at 288 Tooheys Rd, Wyee 2259) and a Crown Road parallel to the Main Northern Rail Line. As a result of this, all surveyors will be required to undergo an induction by Boral prior to accessing the portion of the Study Area that crosses Boral leasehold property.

It is proposed that the survey be conducted over one day with an OzArk archaeologist, and potentially, a representative from each of the three Registered Aboriginal Parties (RAPs; Guringai Tribal Link Aboriginal Corporation, Kevin Duncan and Darkinjung Local Aboriginal Land Council). The survey will involve full pedestrian survey of the areas where proposed additional surface infrastructure is required and an assessment of landforms likely to contain Aboriginal sites.

The survey will be confined to the Study Area as shown in **Figure 1**.

For those attending the survey, the following requirements are mandatory:

- Workers compensation insurance (OzArk will require to see proof of current insurances before you can partake on the survey);
- Sturdy walking boots;
- High visibility shirt/vest/jacket;
- Long trousers for sun and fauna (snake) protection;
- Sun protection (hat/sunscreen); and
- Food and water for the day.

Survey will take the form of walking the entire Study Area apart from those areas within the rail corridor. Due to the narrow width of the Study Area (8–21m), a single transect with four surveyors will adequately assess the entire width of the area.

All sites and potential archaeological landforms, should they be present, will be recorded *in situ* and the results presented in an addendum for all RAPs to review.

References

- | | |
|---------------------------|--|
| Dallas <i>et al.</i> 1987 | Dallas, M. Menses, P., Rola-Wojciechowski, C, 1987 <i>Aboriginal Resources Planning Study for the Wyong Shire Council, NSW</i> . Report to Wyong Shire Council. |
| Vinnicombe 1980 | Vinnicombe, P. 1980 <i>Predilection and Prediction: A Study of Aboriginal Sites in the Gosford–Wyong Region</i> . Unpublished report to NSW National Parks & Wildlife Service. |

RAP RESPONSES TO THE SURVEY METHODOLOGY

DLALC



Local Aboriginal Land Council
DARKINJUNG

168 Pacific Highway Watanobbi NSW 2259

PO Box 401 Wyong NSW 2259

Phone (02) 4351 2930

Fax (02) 4351 2946

ABN 99 583 297 167

Email darkinjung@dlalc.org.au

Sheridan Baker
OzArk Environmental and Heritage Management Pty Ltd
PO Box 2069
Dubbo NSW 2830

25 February 2016

Dear Sheridan,

***RE: Aboriginal Archaeological Assessment Survey Methodology Wallarah 2 Coal Project:
Infrastructure Corridor Wyong NSW.***

Thank you for the opportunity to formally respond to the Methodology as noted above.

Darkinjung LALC has now reviewed the report and is satisfied with the Methodology for the Archaeological Assessment Survey, Wallarah 2 Coal Project, and Infrastructure Corridor.

Please do not hesitate to contact me on the number listed above should you require any further information in regards to the project.

Thanking you

A handwritten signature in black ink, appearing to read 'S. Hodgetts'.

Sharon Hodgetts
Senior Project Officer - Culture and Heritage

GTLAC

29.2.16

Thank you for the Draft Methodology and Formal Invitation for the Wallarah 2 Coal Project, Wyong NSW, Aboriginal Cultural Heritage Assessment, Tooheys Road, Bushells Ridge. Guringai Tribal Link Aboriginal Corporation agree with the proposed methodology, as set out by Oz Ark and accept the nominated Fee. I will be attending the field survey on 2/3/16. Mobile: 0404 182049. I'll send through our Cert. of Currency.

Kind regards

Tracey-Lee Howie

Guringai TLAC

Kevin Duncan

From: Kevin [mailto:kevin.duncan@bigpond.com]

Sent: Monday, 22 February 2016 7:10 PM

To: sheridan <sheridan@ozarkehm.com.au>

Subject: Re: Proposed additional surface infrastructure for the Wallarah 2 Coal Project, Wyong, NSW.

Yama Sheridan, thank you for the proposed Methodology for the Aboriginal Heritage impact survey for the Wallarah 2 Coal Project. I agree with the Methodology proposal in relation to the survey and the reports from previous surveys and findings of Aboriginal heritage sites through AIMS and other parties previously. All land is culturally and spiritually significant to Aboriginal people and as a Traditional custodian of our lands our people regularly moved across the land in seasonal movements to the sea for many generations so there is always a possibility of a discovery of an Aboriginal object even in the case of previous disturbance. The Aboriginal Heritage sites located and recorded in the surrounded area support the possibility during surveys. I will be nominating a worker to conduct the survey on the day with all relevant dress regulations including public liability,

Thank you

Sincerely

Kevin Duncan

APPENDIX 2: AHIMS SEARCH RESULTS

NSW

GOVERNMENT

Office of Environment & Heritage

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 1327 Wallarah Coal

Client Service ID : 213168

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-3-3042	Myrtle Creek/Maculata Rd #2 Wyong State Forest	AGD	56	346750	6322930	Open site	Valid	Grinding Groove : -	Axe Grinding Groove	101093
Contact										
45-3-3041	Myrtle Creek/Maculata Rd #1 Wyong State Forest	AGD	Mr.Terry Donovan,Brad Welsh	56 346600	6323180	Open site	Valid	Grinding Groove : -	Axe Grinding Groove	101093
Recorders										
45-3-3040	Myrtle Creek/Maculata Rd #3 Wyong State Forest	AGD	Mr.Terry Donovan,Brad Welsh	56 346850	6322700	Open site	Valid	Grinding Groove : -	Axe Grinding Groove	101093
Contact										
45-3-3615	WYONG STATE FOREST AXE GROOVE 3	GDA	Mr.Terry Donovan,Brad Welsh	56 345744	6324833	Open site	Valid	Grinding Groove : 1		
Recorders										
45-3-3616	WYONG STATE FOREST AXE GROOVE 4	GDA	OzArk Environmental and Heritage Management	56 345784	6318982	Open site	Valid	Grinding Groove : 1		
Contact										
45-3-0815	Hue Hue Road Surface Scatter:Wyong	AGD	OzArk Environmental and Heritage Management	56 351420	6320460	Open site	Valid	Artefact : -	Open Camp Site	910,101093,10 2647
Recorders										
Contact										
Mary Dallas Consulting Archaeologists										
Permits										
789,1084										

Report generated by AHIMS Web Service on 24/02/2016 for Stephanie Rusden for the following area at Datum :GDA, Zone : 56, Eastings : 342746 - 352138, Northings : 6317754 - 6325043 with a Buffer of 0 meters. Additional Info : Survey. Number of Aboriginal sites and Aboriginal objects found is 6

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

Page 1 of 1

Report generated by AHIMS Web Service on 24/02/2016 for Stephanie Rusden for the following area at Datum: GDA, Zone : 56, Eastings : 342746 - 352138, Northings : 6317754 - 6325043 with a Buffer of 0 meters. Additional Info : Survey, Number of Aboriginal sites and Aboriginal objects found is 6

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

APPENDIX 3: RAP RESPONSES TO THE SURVEY AND DRAFT REPORT

COVER LETTER SENT TO ALL RAPs WITH THE DRAFT REPORT

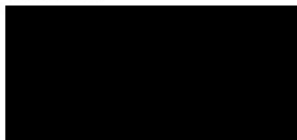


OzArk Environmental & Heritage Management Pty Ltd

ABN: 59 104 582 354

31.3.16

Members



Dear [Redacted] and Members,

Re: Draft Aboriginal Cultural Heritage Assessment – Addendum Report for the Wallarah 2 Coal Project.

As you are aware Wyong Areas Coal Joint Venture has engaged OzArk to perform a cultural heritage assessment for proposed additional surface infrastructure for the Wallarah 2 Coal Project, Wyong, NSW.

Assessment of the Amendment Study Area occurred on Wednesday 2 March 2016 with the participation and assistance of the Darkinjung LALC.

As a consequence of the assessment, no Aboriginal sites or objects were recorded within the Amendment Study Area and no landform within the Amendment Study Area was assessed as having potential to contain further, undetected, Aboriginal sites or objects.

The Draft Aboriginal Cultural Heritage Assessment – Addendum Report for the Wallarah 2 Coal Project that sets out the results of the assessment is attached.

We welcome any comment or response you or your members may have concerning this report and assure you that any comments will be considered when the report is finalised. In particular, we invite any information or comment on the cultural values of the Amended Study Area so that this can be included in the final report.

As set out in the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (2010), the Darkinjung LALC has 28 days in which to respond to the report making the closing date for comment **Wednesday 28th of April 2016**. However, due to project time frames we would appreciate it if you were able to provide comment by **Friday 15th April** if this is at all possible.

Please get in touch with Ben Churcher (OzArk Principal Archaeologist; ben@ozarkehm.com.au; 0416 009 910) should you have any questions or concerns regarding the report. Any formal comments on the report can be sent to Sheridan Baker (OzArk Consultation Officer; PO Box 2069 Dubbo, NSW 2830; sheridan@ozarkehm.com.au).

We thank you for your concern regarding the area's cultural heritage and for your participation in this Project.




Ben Churcher

OzArk Principal Archaeologist

Dubbo | Queanbeyan | Sydney | Armidale

HEAD OFFICE: 145 Wingewarra St/PO Box 2069 DUBBO NSW 2830
ph 02 6882 0118 | enquiry@ozarkehm.com.au | www.ozarkehm.com.au

RESPONSE FROM THE DLALC

<p style="text-align: center;">Aboriginal Cultural Heritage Assessment Report</p> <p style="text-align: center;">  Local Aboriginal Land Council DARKINJUNG </p> <p style="text-align: center;">Proposed Additional Surface Infrastructure Warrarah 2 Coal Project Wyong</p> <p style="text-align: center;">Report for OzArk</p> <p style="text-align: center;">March 2016</p> <p style="text-align: center;">Darkinjung Local Aboriginal Land Council PO Box 401 Wyong NSW 2259 Tel 02 - 43512930 Email: darkinjung@dlalc.org.au</p> <p style="text-align: center;">Author: Lee Davison</p>	<p style="text-align: right;"><i>Proposed Additional Surface Infrastructure, Warrarah 2 Coal Project, Wyong, Aboriginal Cultural Heritage Assessment Report.</i></p> <p>Aboriginal Cultural Heritage Assessment Report</p> <p>Table of Contents</p> <table> <tr><td>List of Figures</td><td>3</td></tr> <tr><td>Maps of Study Area</td><td>4</td></tr> <tr><td>1. 0 Introduction</td><td>5</td></tr> <tr><td>2. 0 Description of Assessment Area and Development Proposal</td><td>6</td></tr> <tr><td>3. 0 Description of Impact</td><td>7</td></tr> <tr><td>4. 0 Statutory Requirements- Legislation</td><td>8-10</td></tr> <tr><td>5. 0 Aboriginal Cultural Heritage, Values and Significance</td><td>11</td></tr> <tr><td>6. 0 The Site</td><td>12</td></tr> <tr><td>7. 0 Aboriginal Sites</td><td>13-14</td></tr> <tr><td>8. 0 Site Topography and Vegetation</td><td>15</td></tr> <tr><td>9. 0 Assessment Methodology</td><td>16</td></tr> <tr><td>10. 0 Assessment Fieldworks</td><td>17-19</td></tr> <tr><td>11. 0 Photographs</td><td>20-22</td></tr> <tr><td>12. 0 Fieldwork Results</td><td>23</td></tr> <tr><td>13. 0 Discussion and Recommendations</td><td>24-26</td></tr> <tr><td>14. 0 References</td><td>27</td></tr> <tr><td>15. 0 Acknowledgments</td><td>28</td></tr> </table> <p style="text-align: right;"><i>Darkinjung Local Aboriginal Land Council, February 2016.</i></p> <p style="text-align: right;">2</p>	List of Figures	3	Maps of Study Area	4	1. 0 Introduction	5	2. 0 Description of Assessment Area and Development Proposal	6	3. 0 Description of Impact	7	4. 0 Statutory Requirements- Legislation	8-10	5. 0 Aboriginal Cultural Heritage, Values and Significance	11	6. 0 The Site	12	7. 0 Aboriginal Sites	13-14	8. 0 Site Topography and Vegetation	15	9. 0 Assessment Methodology	16	10. 0 Assessment Fieldworks	17-19	11. 0 Photographs	20-22	12. 0 Fieldwork Results	23	13. 0 Discussion and Recommendations	24-26	14. 0 References	27	15. 0 Acknowledgments	28
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<p><i>Proposed Additional Surface Infrastructure, Wallarah 2 Coal Project, Wyong, Aboriginal Cultural Heritage Assessment Report.</i></p> <p>1. Introduction</p> <p>This report has been prepared as part of an Aboriginal Cultural Heritage Assessment by Darkinjung Local Aboriginal Land Council (DLALC) for OzArk Environmental and Heritage Management Pty Ltd.</p> <p>The assessment was undertaken on Wednesday 2nd March 2016.</p> <p>The aim of the assessment was to inspect parcels of land in the vicinity of Tooheys Road, Wyee, and leading to the eastern side of the North Rail corridor for the proposed construction of surface infrastructure (refer Figures 2 and 4).</p> <p>The inspection of the proposed additional surface infrastructure site was required so that any Aboriginal cultural heritage material or sites located within the area could be assessed, protected and properly managed.</p> <p>The inspection was also to identify any Aboriginal cultural heritage, places or objects of significance to the Aboriginal community, for the purpose of the sites' developer to meet the statutory obligations and requirements under the <i>National Parks and Wildlife Act (1974)</i> and the <i>Environmental Protection Act (1979)</i>.</p> <p><i>Darkinjung Local Aboriginal Land Council, February 2016.</i></p> <p>5</p>	<p><i>Proposed Additional Surface Infrastructure, Wallarah 2 Coal Project, Wyong, Aboriginal Cultural Heritage Assessment Report.</i></p> <p>2. Description of the Assessment Area and Development Proposal</p> <p>WACJV propose to construct surface infrastructure between its Tooheys Road surface facility and the Main North Rail Line (Figure 2).</p> <p>The assessment area is situated within the boundaries of the Darkinjung Local Aboriginal Land Council (DLALC). DLALC is located on the Central Coast of New South Wales, its boundaries stretch from Catherine Hill Bay to the Watagan Mountains to the North, Hawkesbury River to the South and Pacific Ocean to the east while the western boundary stretches along Judge Dowling Range from Bucketty to Spencer (Darkinjung Local Aboriginal Land Council).</p> <p>The assessment site is situated within the suburb of Wyee on the Central Coast NSW and is located within approximately nine and a half (9.5) km north-east of Wyong.</p> <p>The assessment area is surrounded by the suburbs of Blue Haven, Wallarah, Kiar, Wyee and Doyalson within the Wyong Shire.</p> <p><i>Darkinjung Local Aboriginal Land Council, February 2016.</i></p> <p>6</p>
<p><i>Proposed Additional Surface Infrastructure, Wallarah 2 Coal Project, Wyong, Aboriginal Cultural Heritage Assessment Report.</i></p> <p>3. Description of Impact</p> <p>Any future development could negatively impact the site, as development impacts to the assessment site, such as the construction of the proposed surface infrastructure will result in the clearing of vegetation and soil excavation and possibly any Aboriginal sites and/or objects that may be present and covered by vegetation.</p> <p>If the registered Aboriginal sites in the surrounding area are an indication of the potential for further sites to be present within the assessment area, the Aboriginal cultural heritage features most at risk from the proposed project is predominantly, but not limited to open sites with artefacts. Other sites that may be present are Aboriginal artefact knapping sites, camp sites (hearths) shell middens, axe grinding grooves, scarred trees, isolated artefacts, and Aboriginal ceremonial places.</p> <p><i>Darkinjung Local Aboriginal Land Council, February 2016.</i></p> <p>7</p>	<p><i>Proposed Additional Surface Infrastructure, Wallarah 2 Coal Project, Wyong, Aboriginal Cultural Heritage Assessment Report.</i></p> <p>4. Statutory Requirements and Legislation</p> <p>Aboriginal heritage and places are protected by law under Legislation. Two basic pieces of legislation concerned with Aboriginal Heritage Management are the <i>National Parks and Wildlife Act 1974 (NPW Act)</i> and <i>The Environmental Planning and Assessment Act 1979 (EP&A Act)</i> cited in Hodgetts 2014:11).</p> <p>Section 84 of the <i>National Parks and Wildlife Act 1974</i> provides protection for 'Aboriginal Places'. The act defines Aboriginal places as 'areas of cultural significance to the Aboriginal Community'. Section 90 of this Act gives protection for all 'Aboriginal Relics'. The act defines Aboriginal relics as 'any material evidence of the Aboriginal occupation of New South Wales'. The Minister will gazette areas as Aboriginal places if satisfied that adequate evidence exist to show that the area was or is of special importance to the Aboriginal community.</p> <p>The <i>National Parks and Wildlife Act 1974</i> does not structure any formal mechanisms to make sure that areas with potential to contain Aboriginal sites or places of special significance are evaluated before impact on those areas. It is the <i>Environmental Planning and Assessment Act 1979 (EP&A Act)</i> which carries out this function.</p> <p>The <i>EP & A Act's</i> principal function is to consider 'environmental impacts' in land use and decision making. Environmental impacts include impacts on Aboriginal heritage. There are three main sections in the EP&A Act which are applicable to Aboriginal heritage. Part 3, administers the preparation of planning instruments; Part 4 relates to the development evaluation process for local government (consent) authorities; and Part 5 which communicates activity approvals by Government (determining) authorities.</p> <p>Part 3 of the Act governs the preparation of the following three planning instruments: 1. State Environmental Planning Policies (SEPPs); 2. Regional Environmental Plans (REPs); 3. Local Environmental Plans (LEPs). These planning instruments dictate allowable uses and potential constraints on land use. When preparing planning instruments the Department of Urban Affairs and Planning have guidelines which should be followed. These guidelines list Aboriginal sites and places of significance to the Aboriginal community as values which should be assessed.</p> <p>Part 4 of the legislation governs the decision making process by local government authorities during a development application. Section 90 of the Act lists impacts which must be considered before development approval is granted. Under section 90 (1) 5b consideration must be given for the impact of that development on the environment (whether or not the subject of an environmental impact statement). Section 90 (1) 5b includes Aboriginal sites and heritage.</p> <p>Part 5 of the legislation governs the decision making process by State Government authorities for activities conducted by that agency or under authority from the agency controlled by Part 5 of the <i>EP&A Act</i>. It is mandatory for these agencies to consider environmental impacts of proposed activities, and then determine whether the level of impact is adequate to necessitate the planning of an Environmental Impact Statement (EIS). Environmental impacts include Aboriginal sites and places. The Department of Planning New South Wales has created a set of guidelines for explaining Section 112 which requires that Aboriginal heritage is assessed as part of the process (Byrne 1997: 2-3, cited in Hodgetts 2014:11).</p> <p><i>Darkinjung Local Aboriginal Land Council, February 2016.</i></p> <p>8</p>

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There are number of amendments to the *NPW Act 1974*. The amendments include a number of guidelines. These guidelines can be viewed on the NSW Office of Environment and Heritage (OEH) website.

The process of due diligence under the OEH guidelines require that a proponent of a development assess impacts of the proposed activity.

Below is a brief explanation of the process from the OEH web site:

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

There are two categories of activity used for assessing impacts:

- (1) Activities involving no additional surface disturbance.
- (2) Activities causing additional surface disturbance.

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

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

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

Due diligence involves taking reasonable and practicable measures to determine whether your actions will harm an Aboriginal object and if so avoiding that harm (Office of Environment and Heritage formally NSW Department of Conservation Climate Change and Water, cited in Hodggets 2014:12).

An application for an Aboriginal Heritage Impact Permit (AHIP) from OEH is required if any Aboriginal sites or objects may be disturbed, harmed or destroyed during any works. Prosecution may result due to harm of Aboriginal sites or objects without the relevant permit.

Darlingung Local Aboriginal Land Council, February 2016.

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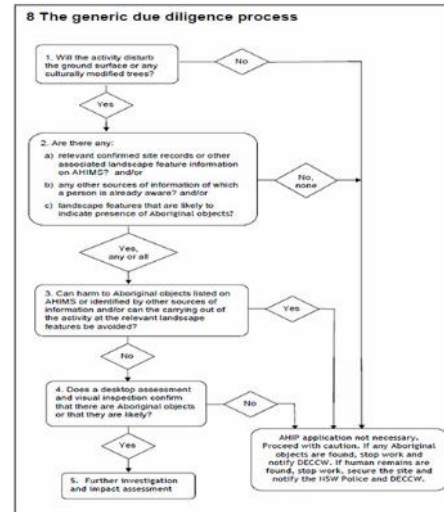


Figure 3 Diagram of the generic due diligence process from the Office of Environment and Heritage's *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales*.

(Office of Environment and Heritage, cited in Hodggets 2014:13)

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5. Aboriginal Cultural Heritage, Values and Significance

Aboriginal people have inhabited Australia between 50,000 and 60,000 years, evidence for this can be found from material dated from Malakunanja and Nauwalabila rock shelter in the Northern Territory (Mulvaney & Kamminga 1999:141, cited in Hodggets 2015:14).

The first inhabitants of the Central Coast region were peoples of the Darlingung (Darginyung, Darginyung) language group.

Stone artefacts in the Upper Mangrove Creek area of the Central Coast have been dated between 10,000 to 12,000 years old (Attenbrow 2002: 153, cited Hodggets 2015:14). Upper Mangrove Creek is situated approximately 31km to the west of the assessment area.

Sites of Aboriginal significance, such as those described in this assessment, hold cultural and spiritual values to Aboriginal people.

The scientific evidence of Aboriginal occupation found within shell middens for example, give indications of Aboriginal existence, diet, resource and land use, though the spiritual beliefs and connectedness to country is far more important to the descendants of those who left behind the evidence, or those who created the sites of significance.

Art sites depicting people, animals, landscapes and spiritual beings reflect a spiritual and intimate connection to the land and the beliefs behind their creation, where those such as axe grinding grooves and pigment art (ochre) indicate resourcefulness or the use of the surrounding environment.

Baiaime, the Creator God and his son Daramulan, mainly associated with the NSW area, are often depicted in different forms of artwork (pigment in shelters or engraved on sandstone platforms) within Darlingung country and surrounding regions. Sites where Baiaime or Daramulan images are seen are usually associated with the initiation of young men and the teaching of Aboriginal law. These places are considered to have very high culture significance.

The term cultural landscape/s refers to the association of certain sites to others that surround them. Aboriginal sites are often linked or associated with others in terms of activities that took place there (e.g. initiation of young men, birthing places), or stories that tell the history of the area and the people that occupy it. This connectedness of cultural places gives importance of sites as a group rather than as isolated sites, although this is not the case with every site.

The Darlingung had uses for all aspects of their surrounding environment as hunters, gatherers and fishers and also as artists and environmentalists. The use of all resources has resulted in the widespread existence of archaeological sites that are still present today.

Considering the long Aboriginal occupation of Australia and the Central Coast it could be predicted that most areas, particularly those with minimal disturbance have the potential to contain Aboriginal cultural heritage material or places.

These sites that remain are a link to the Aboriginal cultural past and a connection to ancestors for Aboriginal people and it is important that they are protected and conserved for future generations.

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6. The Site

The assessment site consists of three (3) sections. The first section (Section 1) is a narrow corridor that runs along the quarry's boundary fence on the northern side of Tooheys Road and crosses over to the south side of Boral's entry driveway, continues through vegetated land situated between the Motorway Link and Boral's entry driveway. This corridor is approximately 1.6km long.

The second section (Section 2) is a small area bounded by Tooheys Road to the west, Boral's entry driveway to the north and the Motorway Link on-ramp from Tooheys Road to the south.

The third section (Section 3) is a 20m corridor that runs south to north along the eastern side of the rail line. This section begins approximately 1.2km south-west of the Motorway Link overpass and continues a further 1.5km north of the overpass.

WACJV propose to construct surface infrastructure within these areas.

The assessment site is situated approximately 3.2 km north-west of Tuggerah Lake and approximately 8.6 km north from Wyong River within the coastal hinterland, surrounded by various hills, ranges, valleys, creeks, wet lands, lakes and coast line. These types of environments and the resources they provided to local Aboriginal people were very important.

7. Aboriginal Sites

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The area surrounding the proposed works is the location of a number of recorded Aboriginal sites. The Darkinjung LALC Asset Governor Management System incorporating the Office of Environment and Heritage (OEH) Aboriginal Heritage Information Management System (AHIMS) database have identified seven (7) of these registered Aboriginal sites within a 2 km radius of the assessment site.

Most areas of the assessment site have undergone previous disturbance due to past land clearing for fencing, roads, and the railway corridor including access tracks. Despite disturbances, all parts of the assessment site are considered to have potential for Aboriginal sites or artefacts which may be concealed by thick vegetation or be covered by leaf litter, sand and silt.

The areas of the assessment site with a higher potential for Aboriginal cultural heritage include places where there has been minimal disturbance, areas with intact soil and vegetation and within close proximity to creek lines.

Parts of the assessment site with a lower potential for Aboriginal cultural heritage sites include disturbed areas such as where there has been previous vegetation clearance and ground disturbance for roads and the rail corridor. In the past these activities in and around the assessment site could have negatively impacted on, or destroyed a number of Aboriginal cultural heritage sites.

Site Name	AHIMS Number	Site Type/Contents
B:1	45-3-3176	Open site - artefacts
B11	45-3-3179	Open site - artefacts
B14	45-3-3180	Open site - artefacts
BR13	45-3-3187	Open site - artefacts
BR12	45-3-3188	Open site - artefacts
B4 Bushells Ridge	45-3-3262	Open site - artefacts
B8 Bushells Ridge	45-3-3263	Open site - artefacts

Table 1 Details of seven (7) registered Aboriginal sites within a 2 km radius of the study area.

(DLALC Assets Governor and OEH AHIMS Database)

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Figure 4 The approximate area of the assessment site shown in sections 1, 2 and 3.

(Google Earth)

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8. Site Topography and Vegetation

The landscape and vegetation in the area of the assessment site is largely influenced by the coastal hinterland which includes urban and rural development. The area is largely influenced by the Tuggerah Lakes, their creeks and associated ecosystems. The vegetation within the assessment site is mainly regrowth of native species of trees and shrubs.

The assessment site contains the following vegetation communities and their associated plants:

Coastal Plains Scribbly Gum Woodland includes the Broad-leaved Scribbly Gum (*Eucalyptus haemostoma*), Red Bloodwood (*Corymbia gummifera*) and Chammhaven Apple (*Angophora inopina*).

Coastal Plains Smooth-barked Apple Woodland includes the Smooth-barked Apple (*Angophora costata*), Red Bloodwood (*Corymbia gummifera*), Brown Stringybark (*Eucalyptus capillata*) and Broad-leaved White Mahogany (*Eucalyptus umbra*).

Alluvial Tall Moist Forest includes Sydney Blue Gum (*Eucalyptus saligna*), Turpentine (*Syncarpia glomulifera*) and Cheese Tree (*Glochidion ferdinandi*).

Riparian Melaleuca Swamp Woodland includes Flax-leaved paperbark (*Melaleuca sieberi*) and Swamp Mahogany (*Eucalyptus robusta*).

Wyong Paperbark Swamp Forest includes Prickly-leaved Paperbark (*Melaleuca nodosa*) and Spotted Gum (*Corymbia maculata*).

(Eco Logical Australia 2003)

Many of the native plant, faunal and aquatic species found within the area are considered a valuable food and material resource for the local Aboriginal people. Flowering plants provide Aboriginal people with seasonal indicators, when to move to a new area to obtain a particular food source or when certain marine or faunal species may be available, for example when Sydney Golden Wattle (*Acacia longifolia*) comes into flower it indicates when to fish for Mullet (Stewart & Percival 1997:8, cited Hodgetts 2014:20).

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9. Assessment Methodology

Prior to any Aboriginal site survey, assessment or monitoring carried out in the field, a desk top analysis of the area is carried out. This involves consulting the relevant survey maps, Google Earth (aerial photos) and the DLALC Asset Governor incorporating OEH Aboriginal Heritage Information Management System (AHIMS) data.

The main strategy used to assess the area was to first consult the relevant maps and DLALC Asset Governor incorporating AHIMS database and information as mentioned above, then secondly to visually inspect the area and soil surface. The visual inspection of the assessment area was done on foot over one day.

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10. Assessment Fieldwork

The inspection of the assessment site was conducted on Wednesday 2nd March 2016.

Involved in the site assessment was Lee Davison (Project Officer, Culture and Heritage, DLALC) (Ben Churcher, Senior Heritage Consultant, OzArk Environmental and Heritage Management Pty Ltd), Tracey Howie (Guringai Tribal Link Aboriginal Corporation (GTLAC)) and Peter Smith (Environment and Community Manager, Wallarah 2 Coal Project).

The assessment site has been divided into three (3) sections:

Section 1: East to west corridor (8m wide) that runs along the quarry's boundary fence on the northern side of Tooheys Road and crosses over to the south side of Boral's entry driveway, then continues through vegetated land situated between the Motorway Link and Boral's entry driveway;

Section 2: A small area bounded by Tooheys Road to the west, Boral's entry driveway to the north and the Motorway Link on-ramp from Tooheys Road to the south. This area was added on the day of the assessment; and

Section 3: North to south corridor running parallel on the eastern side of the rail corridor of the Main North Rail Line (approximately 1.2km south of the Motorway Link to approximately 1.5km north of the Motorway Link).

As there were three sections that made up the assessment area, the site survey included four transects to cover those sections. The survey was recorded as follows:

Site Survey: Wednesday 2nd March

Weather conditions: Good.

Transect 1

Transect 1 covered section 1 and started at the western end of the Boral Quarry and Tile Plant facility's front boundary fence. A spoil mound was observed along the inside of the boundary fence through this portion of transect 1. The survey team walked, in an easterly direction, on the inside of the fence line (northern) until an access gate was reached at approximately 480m. Ground surface visibility was average to good through this stage of the transect. The survey continued through the gate and on the outside of the fence line (southern) on the northern side of Tooheys Road, along the northern side of Boral's driveway road, across the driveway and along the northern edge of the Motorway Link, discontinuing approximately 80m west of the rail corridor. Ground surface visibility was poor to average throughout this portion of the transect.

Transect 2

Transect 2 began under the Motorway Link on the eastern side of the rail corridor, followed the rail corridor and discontinued at approximately 1.5km north of the rail corridor (eastern edge of rail corridor) covering approximately half of section 2 (north of Motorway Link). Ground surface visibility was very poor throughout the whole of transect 2 due to dense vegetation.

Transect 3

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Transect 3 began approximately 1.2km south of the Motorway link on the western edge of the rail corridor and discontinued when the Motorway Link was reached. Although there had been grass slashing carried out recently prior to the survey, ground surface visibility was poor to average throughout transect 3 due to grass coverage.

Transect 4

Transect 4 covered the small area of section 3. It began at the corner of Tooheys Road and the driveway of the Boral Quarry and Tile Plant entrance and discontinued approximately 200m east. Ground surface visibility throughout transect 4 was poor due to grass and leaf litter coverage.

Ground surface visibility was low through most areas within the study area due to grass cover, leaf litter and dense vegetation such as trees, shrubs and long grass.

No Aboriginal objects or sites were observed during the site assessment.



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Figure 5 Transects traversed during the site assessment indicated by red lines. (Google Earth)

11. Photographs



Figure 6 Boral property boundary fence line at the western end of Section 1 of the assessment area. Note the low ground surface visibility and the quarry spoil mound on the right of photo. View west.

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Figure 7 Spring Creek Road that runs east from the rail corridor and through Section 3 of the assessment area. The vegetation visible on both sides of the track is typical of the vegetation throughout Section 3 north of the Motorway Link. View east.

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Figure 8 Spring Creek runs through Section 3 (east-west) of the assessment area and under the rail corridor. View east.



Figure 9 Access track for the rail corridor and power line easement through Section 3 of the assessment area (approx. 800m north of the Motorway Link). One of the few areas with ground exposure. Rail corridor to the left of photo. View north.

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Figure 10 Southern end of Section 3 of the assessment area. Rail corridor is approximately 20m to the left and power line easement can be seen running through assessment area. View north-east.



Figure 11 No ground surface visibility through Section 2 of the assessment area. View east.

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12. Fieldwork Results

Ground visibility was very poor and it was very obvious that the assessment site and its surrounds has undergone previous and extensive disturbance through quarry spoil dumping, clearance for perimeter fencing, railway corridor, access tracks and sealed roads.

No Aboriginal sites or objects were identified during the site assessment.

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13. Discussion and Recommendations

The assessment site shown in Figure 2 comprised linear transects along existing transport infrastructure at Bushells Ridge, Wyong Shire. The assessment area has been divided into three (3) sections for the purpose of this assessment, sections 1, 2 and 3.

The Motorway Link runs east to west just south of Section 1 and Section 2 of the assessment area and passes over Section 3.

The assessment site consists of various vegetation communities including forests, woodlands and swamp land in a slightly undulating landscape.

There has been ground disturbance in the past due to the construction of fences, roads and the rail corridor. Disturbed and modified areas of the assessment site have a low possibility to contain objects or sites of Aboriginal cultural heritage, while areas of higher Aboriginal cultural heritage potential are those areas with minimal disturbance and in open areas and in close proximity to creek lines.

According to the AHIMS Register there are approximately seven (7) recorded Aboriginal sites located within a 2 km radius of the assessment site.

Although the site has undergone previous disturbance, considering the information above there is a possibility for further objects or sites of Aboriginal cultural heritage within the assessment area. It is possible that Aboriginal cultural heritage such as stone artefacts could lie beneath the top soil surface and ground cover vegetation of the assessment site.

Therefore the following is recommended for the proposed New Fleet Maintenance Facility.

Further archaeological inspection should be undertaken during or after vegetation removal, should the project go ahead as Aboriginal artefacts may be concealed beneath vegetation. An Aboriginal Plan of Management should be developed in the case of any such items identified during ground surface disturbance activities.

TNSW must give notice to Darkinjung LALC 30 days prior to any commencement of construction work. When recommended they must engage a Darkinjung LALC Culture and Heritage Officer to monitor any earthworks or excavations on the assessment site until such time it is satisfied that there is very little or no possibility of any further Aboriginal cultural heritage material identified. This is due to the possibility of uncovering Aboriginal objects/items of significance while vegetation removal and excavation takes place. Allowing Darkinjung LALC 30 days prior notice to commencement of construction work also ensures that Darkinjung LALC is aware of when works are underway. This is of relevance in case there is a discovery of any Aboriginal cultural heritage that may arise during works.

All site personnel should receive basic training in the recognition of Aboriginal cultural heritage sites and material and have an awareness of the importance of such material and places to both the Aboriginal and non-Aboriginal community. When any soil excavation, vegetation clearing and leaf litter removal activities are carried out workers involved with the project should be observant and keep a look out for surface shell, bone, artefacts and stone tools or any other Aboriginal cultural heritage material.

Darkinjung Local Aboriginal Land Council, February 2016.

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<p><i>Proposed Additional Surface Infrastructure, Wallarah 2 Coal Project, Wyong, Aboriginal Cultural Heritage Assessment Report.</i></p> <p>If any Aboriginal cultural heritage sites or material are found including bone, work should cease immediately in that area and the Office of Environment and Heritage (OEH) and Darkinjung LALC be notified immediately. Work should only recommence when an appropriate and approved management strategy has been agreed to by OEH and Darkinjung LALC.</p> <p>Any negative impacts to an area containing Aboriginal cultural heritage will require the application of an Aboriginal Heritage Impact Permit (AHIP) from the Office of Environment and Heritage (OEH).</p> <p>Finally the Registered Aboriginal site information contained in this report is considered confidential.</p> <p>Overview of recommendations:</p> <ol style="list-style-type: none"> 1. Monitoring during or after vegetation removal. 2. The site developers must give notice to Darkinjung LALC 30 days prior to any commencement of construction work. 3. All site personnel involved in construction activities should receive basic training in awareness and the recognition of Aboriginal cultural heritage material and sites. 4. When any soil excavation, earth works, vegetation clearing and leaf litter removal activities are conducted workers should be observant and keep a look out for surface shell, bone, rocks or any other Aboriginal cultural heritage material. 5. In the case of Aboriginal cultural heritage sites or material being discovered, work should cease. The area should then be avoided and the Office of Environment and Heritage (OEH) and Darkinjung LALC should be contacted immediately. If human remains are discovered the Police are to be contacted immediately. An Aboriginal Plan of Management should be developed in the case of any such items identified during ground surface disturbance activities. 6. Any impacts, including excavations to an area, containing an Aboriginal cultural heritage site will require the application for an Aboriginal Heritage Impact Permit (AHIP) from the Office of Environment and Heritage (OEH). 7. <u>Please Note</u>. Under the <i>National Parks and Wildlife Act (1974)</i> it is an offence to harm (destroy, deface, or damage) or desecrate an Aboriginal object or Aboriginal place, or in relation to an object, move the object from the land on which it has been situated. Penalties range from \$275,000 and 1 year imprisonment to \$555,000 and 2 years imprisonment for an individual up to \$1,100,000 for a Corporation. <p><i>Darkinjung Local Aboriginal Land Council, February 2016.</i></p> <p>25</p>	<p><i>Proposed Additional Surface Infrastructure, Wallarah 2 Coal Project, Wyong, Aboriginal Cultural Heritage Assessment Report.</i></p> <ol style="list-style-type: none"> 8. Penalties for failure to notify OEH of the location of an Aboriginal object range from \$11,000 to \$22,000 including from \$1,100 to \$2,000 for each day the offence continues. 9. Registered Aboriginal Site information in this report is <u>confidential</u> and not to be made public. <p><i>Darkinjung Local Aboriginal Land Council, February 2016.</i></p> <p>26</p>
<p><i>Proposed Additional Surface Infrastructure, Wallarah 2 Coal Project, Wyong, Aboriginal Cultural Heritage Assessment Report.</i></p> <p>14. References:</p> <p>'About us', Darkinjung Local Aboriginal Land Council. Retrieved 17 June 2010 from (http://www.darkinjung.com.au/default.aspx?id=2).</p> <p>Attenbrow, V. 2002. <i>Sydney's Aboriginal past investigating the archaeological and historical record</i>, UNSW Press, Sydney.</p> <p>Due diligence guidelines for protection of Aboriginal objects in NSW. Consultation draft, Environment Climate Change and Water, NSW Government. Retrieved 15 July 2010 from http://www.environment.nsw.gov.au/legislation/DueDiligence.htm</p> <p>Google Maps.</p> <p>Lower Hunter & Central Coast Regional Biodiversity Conservation Strategy. 2003. Technical Report. Digital Aerial Photo Interpretation & Updated Extant Vegetation Community Map.</p> <p>Mulvaney, J & Kamminga, J. 1999, <i>Prehistory of Australia</i>, Allen & Unwin, St Leonards.</p> <p>Office of Environment and Heritage (OEH), Aboriginal Heritage Information Management System (AHIMS).</p> <p>Royal Botanic Gardens, Sydney Australia, National Herbarium of New South Wales. PlantNet. http://plantnet.rbgsyd.nsw.gov.au/search/simple.htm</p> <p>Stewart, K & Percival, B. 1997, <i>Bush Foods of NSW: A Botanical Record and Aboriginal Oral History</i>, Royal Botanical Gardens, Sydney.</p> <p><i>Darkinjung Local Aboriginal Land Council, February 2016.</i></p> <p>27</p>	<p><i>Proposed Additional Surface Infrastructure, Wallarah 2 Coal Project, Wyong, Aboriginal Cultural Heritage Assessment Report.</i></p> <p>15. Acknowledgments:</p> <p>Ben Churcher, Principal Archaeologist, OzArk Environmental and Heritage Management Pty Ltd</p> <p>Tracey Howie, Guringai Tribal Link Aboriginal Corporation.</p> <p>Peter Smith, Environment and Community Manager, Wallarah 2 Coal Project.</p> <p>Photographs: Lee Davison</p> <p><i>Darkinjung Local Aboriginal Land Council, February 2016.</i></p> <p>28</p>

RESPONSE FROM THE GTLAC



Guringai Tribal Link

Aboriginal Corporation

ABN 18 351 198 069. ICN 4270

*(Traditional Owners of Sydney's Northern
Beaches & NSW Central Coast)*

PO Box 4061,
Wyongah NSW 2259

Phone: (02) 4396 8743

Fax: (02) 4396 9525

Mobile: 0404 182 049

Email: tracey@guringai.com.au

12th April, 2016

Ben Churcher
Senior Archaeologist
OzArk Environmental & Heritage Management Pty. Ltd.
PO Box 2069
DUBBO NSW 2069
145 Wingewarra St
DOBBO NSW 2069

Emailed to: ben@ozarkehm.com.au
Andrew.White@sparke.com.au
psmith@wallarah.com.au

Dear Ben,

Please find following;

* GTLAC Addendum Report for Proposed Additional Surface Infrastructure, Tooheys Road, Bushells Ridge, NSW for Wallarah 2, Wyong Joint Coal Venture.

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

Tracey Howie
Director
Senior Female
Cultural Heritage Officer
(contacts above)

***ABORIGINAL CULTURAL HERITAGE
IMPACT ASSESSMENT
ADDENDUM REPORT
Tooheys Road, Bushells Ridge, NSW
for
Wallarrah 2 - Wyong Coal Joint Venture
PROPOSED ADDITIONAL SURFACE
INFRASTRUCTURES***

*Prepared by Tracey Howie-Guringai Tribal Link Aboriginal Corporation
12th April, 2016*



Cover image: thick vegetation in area of Crown Land south of Tooheys Rd -
additional alternate route if required for future use.

ABORIGINAL CULTURAL HERITAGE
IMPACT ASSESSMENT REPORT
PROPOSED ADDITIONAL SURFACE
INFRASTRUCTURES.
Wallarah 2 - Wyong Coal Joint Venture
Tooheys Road, Bushells Ridge NSW.

INTRODUCTION:

Guringai Tribal Link Aboriginal Corporation (GTLAC) were contacted by OzArk Environmental & Heritage Management Pty. Ltd. (OzArk) in regards to an Aboriginal Cultural Heritage Impact Assessment, as per the Aboriginal Heritage Requirements for Proponents (2010) and under the guidelines of the Code of Practice for Investigation of Aboriginal objects in NSW, for the proposed Additional Surface Infrastructures at Tooheys Road, Bushells Ridge NSW for Wallarah 2 - Wyong Coal Joint Venture (Walarah 2). The proposed works are an amendment to the previous rail loop proposal and include a conveyor system, relocation of rail spur and load out facility to deliver coal to the Main Northern Railway Line.

This survey was focused on the identification of areas of potential artefact deposits (PAD), previously unrecorded (on the Aboriginal Heritage Management System (AHIMS) Database, held with the Office of Environment and Heritage (OEH)) Aboriginal sites, Places and objects/materials (as defined in NPW Act 1974) cultural resources and areas culturally sensitive to the Guringai community, that have the potential to be impacted from the proposed works.

Representatives on site for the assesment were; Tracey Howie - GTLAC, Lee Davison - Darkinjung LALC, Ben Churcher - OzArk and Peter Smith - Wallarah 2.

STUDY AREA:

The Study Area is located within the Wyong Local Government Area and includes portions of Lot 194 DP1032847, Lot 168 DP705480 under management of Boral Quarry & Tile Plant, Lot 4 DP1191556 railway corridor, Crown Lease Land, Tooheys Road cutlidge, Nikko Rd and an area crossing Spring Creek.

Degrees of previous disturbance varies throughout the study area, from highly disturbed areas within the railway corridors, cutlidge of Tooheys Road and within the Boral properties to dense vegetated areas containing banksia, eucalypt, bracken fern, shea oak, tea tree, grevillea, melalucca, vines and grasses.

PROPOSED ACTIVITIES:

Following a review by the Planning and Assessment Commission (PAC), Wallarah 2 have redesigned aspects of their proposed project to avoid land use issues with surrounding property owners/caretakers. Wallarah 2 propose to replace their previously proposed rail loop with a conveyor system for delivering coal to the Main Northern Railway Line (MNRL), relocation of rail spur and train load out facility to the eastern side of the MNRL.

All other Wallarah 2 project proposals remain unchanged.

METHODOLOGY:

Ground surface visibility was >5% over majority of the study area due to dense leaf litter coverage, quarried materials and disgarded tile biproducts, road verge or thick vegetation. Transects were walked with spacings of approx. 2mts between Rep's where possible.

HISTORICAL INFORMATION:

The study area for the proposed works, has been and still is, home to the Guringai Mob (Wanangine, Walkaloo, Garigal), for thousands of generations, with seasonal and ceremonial occupation of the Awabakal, Darug and Darginyung people. Pre and post European settlement.

Well known and documented members of the Guringai mob were; Boongaree/Bungaree, Matora, Mosquito, Jewfish, Cora (aka, Gooseberry), Flathead, Long Dick, Sophy, Kitty and Charlotte Ashby(nee.Webb), only to name a few.

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

The traditional areas occupied by the Guringai comprises of; All of Port Jackson catchment, including the tributaries of Middle Harbour and Lane Cove River, the Broken Bay catchment, including tributaries of Brisbane Water, Cowan Creek and Pitt Water, the ridgeline along Peats Ridge, following along the range through to Kulnura, as well as the Lakes of the Central Coast to lower Lake Macquarie.

Charlotte Webb was the very first *recorded* Guringai birth on the Central Coast. She was born in 1823 in Gosford. Charlotte was the daughter of Sophy (Booranger), daughter of Bungaree and Matora. Sophy had relations with Ship-building merchant, James Webb. Charlotte was the result of this union.

RECOMMENDATIONS:

No Aboriginal sites and/or materials were identified at the time of this assessment.

No further investigations are required prior to the commencement of this project, however an Aboriginal Cultural Heritage Management Plan will need to be developed in consultation with GTLAC for the proposed amended works area to address mitigation measures and management of any previously unidentified/recorded Aboriginal sites/objects that have the potential to be disturbed during proposed earth works as required under Part 4 of the Planning and Assessment Act 1979, for which this project applies to.

All staff and contractors associated with the proposed works for this project, should participate in an Aboriginal Cultural Heritage Awareness Induction and be fully informed of their statutory obligations in relation to Aboriginal Cultural Heritage sites and objects.

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

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

With an abundance of edible vegetation, seafood and fresh water soaks, this area was a popular location for our ancestors. Evidence of this is reflected in the Aboriginal sites (as defined in Nation Parks & Wildlife Act 1974, as amended.) within the area and middens that still remain along the foreshores of the Central Coast and Sydney's Northern beaches.

Guringai people have a strong connection to Central Coast and it's surrounds.

The remnants remaining from our ancestors are a physical link to our heritage and a reminder of our cultural and spiritual connection to the area.

These areas are extremely important to us and the on going management of them is a duty we take great pride and care in. It is essential for us to protect our Country for future generations and for our ancestors, whom cared for this Country for centuries.

Statutory Considerations.

Aboriginal and Torres Strait Islander Heritage Protection Act 1984. (Commonwealth)

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

This can include the prevention of development.

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

National Parks and Wildlife Act. 1974. (NSW)

The National Parks and Wildlife Act 1974 (NPW Act) provides blanket protection for Aboriginal objects (material evidence of Indigenous occupation) and Aboriginal Places (areas of Cultural significance to the Aboriginal community) across NSW.

An Aboriginal object is defined as;

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

An Aboriginal place is defined as;

any place declared to be an Aboriginal place by the Minister for the Office of Environment and Heritage (OEH), under Section 84 of the Act.

It is an offence to disturb Aboriginal objects or places without a permit authorised by the Director-General of the OEH. In addition, anyone who discovers an Aboriginal object is obliged to report the discovery to OEH. Section 90(1) of the National Parks and Wildlife Act, 1974 states that it is an offence to destroy, deface or damage, or cause or permit destruction or defacement of or damage to, an Aboriginal object or Aboriginal place without first obtaining the consent of the Director General of the Office of Environment and Heritage.

Attachment 1. pg 1

BRIEF DESCRIPTION OF ABORIGINAL SITES and OBJECTS:

(Please note that not all Aboriginal site types and materials are listed here).

Artefacts; (as defined in NPW Act. 1974)

Stone artefacts are culturally modified stone materials that occur when a stone material is struck by another stone to manufacture stone tools and implements. Other types of artefacts are quartz, modified shells and glass or ceramic, post European settlement.

Shell midden;

Shell middens are large deposits of shell materials that have accumulated over centuries of celebrations, ceremonies and/or feasts performed on the foreshore areas. Middens usually also contain artefacts and small animal and/or bird bones.

Scarred or culturally modified trees;

Scarred and culturally modified trees are usually large trees in which the thick outer layer of the tree has been removed with a traditional tool. Large removals were used for making canoes. Other removals were used for coolamons (trays with concave edges used as buckets or large plates), shields and shelter.

Stone Hatchet/Axe;

Stone hatchets and axes are made from binding a hard rock that has been sharpened on a sandstone platform/outcrop, to the end of a piece of wood and secured with tree resin and/or string made from rubbing strands of long, tough grasses together until they are tightly fused.

Grinding Grooves;

Grinding grooves are indented scars on sandstone platforms/outcrops, as a result of sharpening spears and axes in the same indentation over centuries. They are usually located near a constant water source.

Engraving sites;

Engraving sites are located on sandstone platforms/outcrops and boulders and are depictions of animals, human figures both natural and mythological, site indication markers, travel route markers and traditional tools. All engraving sites have a special meaning and form sections of much larger site complexes/story lines.

Ochre/Pigment Art;

Ochre art is usually located within a sandstone shelter/overhang and consists of drawings or hand stencils. Hand stencils are made by chewing a small amount of ochre mixed with egg white or water and sprayed by mouth over the hand when placed against the wall of the shelter/overhang. Another type of pigment art is charcoal drawings.

Spear;

Spear were usually made from the long narrow stem of a matured Xanthoria grass tree and were either sharpened on a sandstone at one end or had a stone spear head fixed to one end by binding it with tree resins.

Womera;

Womeras were used to propel a spear by placing the blunt end of the spear onto a sharpened stick or animal tooth that has been fixed to one end of a narrow piece of wood, about 30cm in length. Womeras made the spears travel much faster were and more accurate than just throwing them with a bare hand.

Attachment 1. pg 2

DESCRIPTION OF ABORIGINAL SITES and OBJECTS Continued:

Aboriginal Place;

An area of land or waters identified as being of Cultural significance and importance to the Aboriginal Community and,
any place declared to be an Aboriginal place by the Minister for the Office of Environment and Heritage (OEH), under Section 84 of the Act.

Water Holes;

Water holes are deep bowl like indentations in sandstone platforms/outcrops associated with fresh flowing water or permant water sources such as natural springs.

Burial sites;

Burial sites contain human remains of Aboriginal persons pre European settlement and not within the confines of a graveyard/cemetery.

Sandstone Shelters;

Stone shelters were used as protection from extreme weather conditions and for shelter whilst travelling through the ridge top areas. They usually contain a sandy floor and can contain artefact materials.

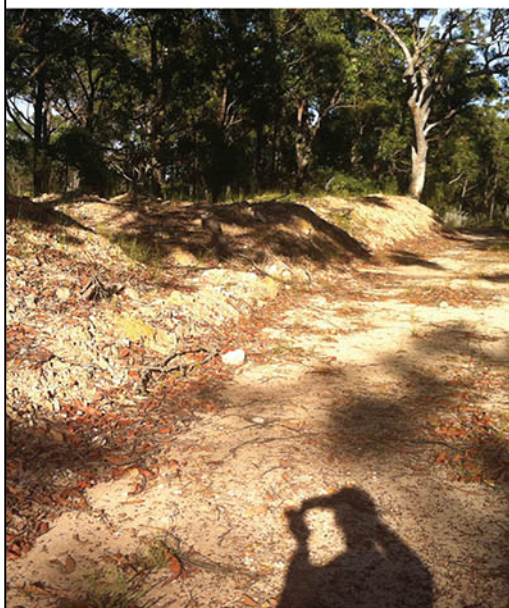
Fish Traps;

Fish traps were made from boulders that are small enough to be carried and placed in a semi-circular formation within the low lide area of the foreshore. Upon a low tide the fish trapped within the rock formation were collected for consumption.

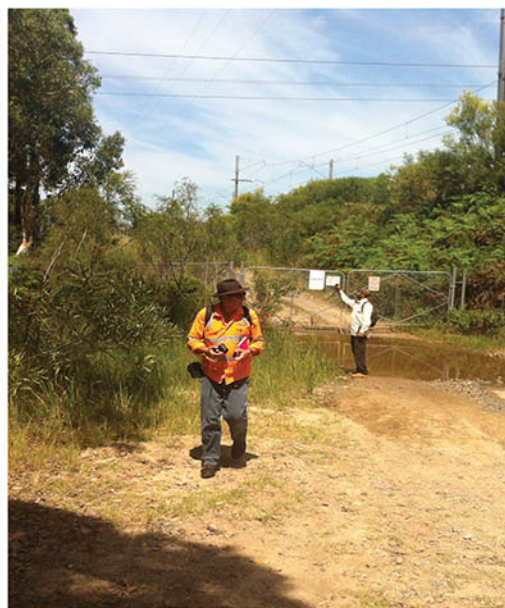
Knapping Site;

An area continually occupied over centuries/generations for the purposes of stone tool making and containing several, usually hundreds of offcuts and discarded fragments from the tools.

Attachment 2



Waste pile of quarried materials and tile biproducts within Boral property.



Spring Creek and transect adjacent to railway corridor and rail underpass



Zero ground surface visibility in heavy vegetated areas.



Rail underpass on Crown Land (Nikko Rd)

RESPONSE FROM KEVIN DUNCAN



Kevin Duncan
95 Moala Parade
Charmhaven NSW 2263

Report for the Wallarah 2 Coal Project Draft Cultural Heritage Assessment

A site walk over was recently conducted on April the 8th 2016 with Peter Smith Environment & Community Manager from Wallarah 2 Coal Project. An assessment of the study area was conducted by other Aboriginal party's on the 2nd of March 2016 where no Aboriginal objects were found during there survey. I was satisfied during the walk over with Mr Smith that their was no evidence in regards to locating any Aboriginal Heritage sites in the proposed development area. Although the study area has been extensively disturbed in the past on the surface of the ground it should be noted that any form of digging be monitored during development or excavation. Reasons being as Aboriginal heritage is important culturally to our people and any artefacts that may be unearthed during works should immediately cease and Aboriginal Cultural authorities be contacted and legal Aboriginal Heritage laws abided by. As a Traditional Awaba Custodian of our Lands of the Awaba peoples from the Dirrabun (Hawkesbury River) to the Miyon (Hunter River) & from Mt Yango to the Waraba(Sea) we regard all our country as being spiritually, physically and culturally important.

In Unity & Respect,
Traditional Awaba Custodian,
Kevin Duncan

