Coastwide Materials Pty Ltd

Hillview Hard Rock Quarry, Booral

LGA: MidCoast

Aboriginal Cultural Heritage Assessment (ACHA)
Archaeological Test Excavation

21 November 2024

McCARDLE CULTURAL HERITAGE PTY LTD

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Report No: J202351 ACHA/Test Excavation	
Approved by:	Penny McCardle
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Date:	21 November 2024

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EXECUTIVE SUMMARY

McCardle Cultural Heritage Pty Ltd (MCH) has been engaged by Coastwide Materials Pty Ltd to prepare an Aboriginal Cultural Heritage Assessment (ACHA), and an Aboriginal Heritage Impact Permit (AHIP), if requires, for the proposed Hillview Hard Rock Quarry located at Booral.

The underlying geology of the project area is the Carboniferous Crawford Formation consisting of sandstone, conglomerate, mudstone, chert and tuff (Newcastle Geological 1:250,000 Map Series, 1966). The presence of mudstone, chert and tuff within the geology of the geology of the project area indicates that stone materials suitable for manufacturing stone artefacts may occur in various locations throughout the project area. Whilst the overall project area includes a range of landforms including crests, slopes, drainage depression and creeks, the investigation area consists of a crest, slope, drainage lines and a creek. The investigation area is the Ten Mile Road soil landscape which is characterised by an upper soil Horizon A and underlying B. Unit A and Unit B are interpreted as being Holocene and Pleistocene in age respectively. Within the region, sites tend to occur on or within soil Horizon A or are often present at the interface of the A and B horizons.

In terms of past Aboriginal land uses and survival (water is necessary for survival), the project area may be considered under-resourced in terms of water availability. During times of heavy rain, the 3rd order creek would likely have supplied fresh water for a limited time that may have enabled for transitory activities such as hunting and gathering opportunities and travel to the Karuah River that would have maintained an abundance of resources and reliable fresh water. The project area has been cleared with at least one ploughing event for grass and primarily used for pastoral purposes (grazing), involving the wholesale clearance of native vegetation, the introduction of pasture grass, the construction of five dams, fencing and numerous tracks. Impacts these landuses have on the landscape and cultural materials ranges from moderate to high.

A search of the AHIMS register has shown that there are no known sites within two kilometres of the project area. Based on regional assessments, the following broad predictions can be made for the region:

- a wide variety of site types are represented in the project area with open campsites and isolated artefacts by far the most common;
- lithic artefacts are primarily manufactured from mudstone and silcrete with a variety of other raw materials also utilised but in smaller proportions;
- artefacts types are predominantly broken flakes, flake pieces, flakes and cores with few tools;
- sites in proximity to ephemeral water sources or located in the vicinity of headwaters of upper tributaries (1st order streams) have a sparse distribution and density and contain little more than a background scatter;
- sites located in the vicinity of the upper reaches of minor tributaries (2nd order streams) also have a relatively sparse distribution and density and may represent evidence of localised one-off behaviour;
- sites located in the vicinity of the lower reaches of tributaries (3rd order creeks) have an increased distribution and density and contain evidence that may represent repeated occupation or concentration of activity;

- sites located in the vicinity of major tributaries (4th and 5th order streams/rivers) have the highest distribution and densities. These sites tend to be extensive and complex in landscapes with permanent and reliable water and contain evidence representative of concentrated activity; and
- sites located within close vicinity at the confluence of any order stream may be a focus of activity and may contain a relatively higher artefact distribution and density.

Within the investigation area, considering the AHIMS results, local and regional archaeological investigations as well as the environmental context, given that fresh water was necessary for survival the presence of a 3rd order creek in the east of the investigation indicated that the creek may have been utilised following heavy rain for more than transitory activities such as opportunistic hunting and gathering on the way to fresh water sources, rather than camping. Evidence of such past Aboriginal land uses manifest in the archaeological record as low-density artefact scatters and isolated finds. Evidence of past Aboriginal land use are expected to be focused along the 3rd order creek.

The remainder of the project area, consisting of a crest and slopes, whilst are also expected to have been suitable for transitory activities rather than camping such as opportunistic hunting and gathering opportunities, the expected evidence of a background scatter of discarded artefacts, would have been disturbed by the discussed land uses (clearing and ploughing disturbs 12-40cm+ of soils), resulting in disturbed deposits and the re-distribution of artefacts across the landscape with no indications of possible site location.

The survey was divided into three survey units (SU) that were based on landform elements including the crest, slopes with drainage depressions and the 4th order creek. The crest, located in the western end of the project area had been previously completely cleared and logged, likely to have been subject to at least one plough event due to the presence of pasture grass. Currently, the project area is used for grazing and significant erosion throughout the crest has resulted in approximately 70% of soils eroded and exposing the rocks throughout. Vegetation consisted predominantly grass.

Survey Unit 2 made up the majority of the project area and consisted of slopes ranging from gentle in the east to moderate and steep throughout the remainder of the project area. Including all drainage depressions, the entire area had been previously completely cleared and logged, likely to have been subject to at least one plough event due to the presence of pasture grass. Currently, the project area is used for grazing and there is significant erosion throughout. The significant erosion has resulted in approximately 85% of soils eroded exposing the rocks throughout. Vegetation consisted predominantly grass with some new growth open woodland.

Survey unit 3 included a small part of the 4th order creek located along the access road in the south eastern part of the project area and up to 10 metres both sides of the creek. The area of impact includes both sides of the creek. The southern side has been significantly altered due to the excavation and construction of the logging road with none of the original land form remaining within the proposed impact area. The northern side, however, appears to remain relatively undisturbed and includes an elevated landform along the creek.

No sites were identified in the project areas during the survey and this is due to the unsuitable landforms and lack of fresh water supply as well as impacts from previous land uses across the project area (clearing/logging, ploughing, grazing). The absence of reliable fresh water indicates the project area may have been utilised for more transitory activities rather than camping. Evidence of such past Aboriginal land uses manifests in the archaeological record as a background scatter of discarded artefacts, which would have been disturbed/destroyed through past land uses.

Given the known extent and content of sites typically situated along 3rd and higher order creeks and given that a 4th order creek is located in the project area, it is likely that subsurface materials would have existed in close proximity to the 4th order creek. This PAD includes the northern side of the 4th order creek (up to 30 metres in width from the creek edge) as this area is an elevated landform overlooking the creek and appears to remain relatively undisturbed. The southern side has been excluded as that side had been significantly altered due to the excavation and construction of the logging road with none of the original land form remaining within the proposed impact area. It must be noted that the PAD extends beyond the proposed impact area along the creek.

As no sites were identified during the survey and the identified highly disturbed landscape due to previous large-scale clearing/logging, ploughing, grazing, dam and access road construction as well as significant erosion across the project area, there are no impacts on the archaeological record.

The exception to this is the identified PAD located along the eastern side of the 4th order creek. This is the location of the proposed access road. Being a PAD, MCH recommended that if the identified PAD will be impacted upon by any future development an archaeological subsurface investigation will be required in accordance with the Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW prior to any works being undertaken at the PAD location. This assessment includes the archaeological test excavation of the PAD.

The test excavation of two test pits located in the PAD revealed a highly disturbed deposit. All A horizon soils were mixed with the B horizon clays throughout. Very few small rocks were present and no artefacts were identified. This is not a PAD. As no sites were identified there are no impacts to the archaeological record and the following recommendations are provided:

1) The persons responsible for the management of onsite works will ensure that all staff, contractors and others involved in construction and maintenance related activities are made aware of the statutory legislation protecting sites and places of significance. Of particular importance is the National Parks and Wildlife Regulation 2019, under the National Parks and Wildlife Act 1974;

2) An Unexpected Finds Procedure for cultural materials and human remains (Appendix C) will be implemented during all works, and

3) Should any Aboriginal objects be uncovered during works, all work will cease in that location immediately, the Unexpected Finds Procedure followed and the Environmental Line contacted.

GLOSSARY

Aboriginal Cultural Heritage Values: traditional values of Aboriginal people, handed down in spiritual beliefs, stories and community practices and may include local plant and animal species, places that are important and ways of showing respect for other people.

Aboriginal Place: are locations that have been recognised by the Minister (and gazetted under the *National Parks and Wildlife Act 1974*) as having special cultural significance to the Aboriginal community. An Aboriginal Place may or may not include archaeological materials.

Aboriginal Site: an Aboriginal site is the location of one or more Aboriginal archaeological objects, including flaked stone artefacts, midden shell, grinding grooves, archaeological deposits, scarred trees etc.

Artefact: any object that is physically modified by humans.

Assemblage: a collection of artefacts associated by a particular place or time, assumed generated by a single group of people, and can comprise different artefact types.

Axe: a stone-headed axe usually having two ground surfaces that meet at a bevel.

Backed artefact: a stone tool where the margin of a flake is retouched at a steep angle and that margin is opposite a sharp edge.

Background scatter: a term used to describe low density scatter of isolated finds that are distributed across the landscape without any obvious focal point.

Blade: a flake that is at least twice as long as it is wide.

Bondi point: a small asymmetrical backed artefact with a point at one end and backing retouch.

Core: a chunk of stone from which flakes are removed and will have one or more negative flake scars but no positive flake scars. The core itself can be shaped into a tool or used as a source of flakes to be formed into tools.

Debitage: small pieces of stone debris that break off during the manufacturing of stone tools. These are usually considered waste and are the by-product of production (also referred to as flake piece).

Flake: any piece of stone struck off a core and has a number of characteristics including ring cracks showing where the hammer hit the core and a bulb of percussion. May be used as a tool with no further working, may be retouched or serve as a platform for further reduction.

Flaked piece/waste flake: an unmodified and unused flake, usually the by-product of tool manufacture or core preparation (also referred to as debitage).

Formation processes: human caused (land uses etc) or natural processes (geological, animal, plant growth etc) by which an archaeological site is modified during or after occupation and abandonment. These processes have a large effect on the provenience of artefacts or features.

Grinding stone: an abrasive stone used to abrade another artefact or to process food.

Hammer stone: a stone that has been used to strike a core to remove a flake, often causing pitting or other wear on the stone's surface.

Harm: is defined as an act that may destroy, deface or damage an Aboriginal object or place. In relation to an object, this means the movement or removal of an object from the land in which it has been situated

Holocene: the post-glacial period, beginning about 10,000 B.P.

In situ: archaeological items are said to be "in situ" when they are found in the location where they were last deposited.

Pleistocene: the latest major geological epoch, colloquially known as the "Ice Age" due to the multiple expansion and retreat of glaciers. Ca. 3.000, 000-10,000 years B.P.

Retouched flake: a flake that has been flaked again in a manner that modified the edge for the purpose of resharpening that edge.

Stratified Archaeological Deposits: Aboriginal archaeological objects may be observed in soil deposits and within rock shelters or caves. Where layers can be detected within the soil or sediments, which are attributable to separate depositional events in the past, the deposit is said to be stratified. The integrity of sediments and soils are usually affected by 200 years of European settlement and activities such as land clearing, cultivation and construction of industrial, commercial and residential developments.

Taphonomy: the study of processes which have affected organic materials such as bone after death; it also involves the microscopic analysis of tooth-marks or cut marks to assess the effects of butchery or scavenging activities.

Traditional Aboriginal Owners: Aboriginal people who are listed in the Register of Aboriginal owners pursuant to Division 3 of the *Aboriginal Land Register Act (1983)*. The Registrar must give priority to registering Aboriginal people for lands listed in Schedule 14 of the *National Parks and Wildlife Act 1974* or land subject to a claim under 36A of the *Aboriginal Land Rights Act 1983*.

Traditional Knowledge: Information about the roles, responsibilities and practices set out in the cultural beliefs of the Aboriginal community. Only certain individuals have traditional knowledge and different aspects of traditional knowledge may be known by different people, e.g., information about men's initiation sites and practices, women's sites, special pathways, proper responsibilities of people fishing or gathering food for the community, ways of sharing and looking after others, etc.

Typology: the systematic organization of artefacts into types on the basis of shared attributes.

Use wear: the wear displayed on an artefact as a result of use.

ACRONYMS

ACHA	Aboriginal Cultural Heritage Assessment
ACHMP	Aboriginal Cultural Heritage Management Plan
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit

AHIMS SITE ACRONYMS

ACD	Aboriginal ceremonial and dreaming
AFT	Artefact (stone, bone, shell, glass, ceramic and metal)
ARG	Aboriginal resource and gathering
ART	Art (pigment or engraving)
BOM	Non-human bone and organic material
BUR	Burial
CFT	Conflict site
CMR	Ceremonial ring (stone or earth)
ETM	Earth mound
FSH	Fish trap
GDG	Grinding groove
HAB	Habitation structure
HTH	Hearth
OCQ	Ochre quarry
PAD	Potential archaeological Deposit
SHL	Shell
STA	Stone arrangement
STQ	Stone quarry
TRE	Modified tree (carved or scarred)
WTR	Water hole

1 INTRODUCTION

1.1 INTRODUCTION

McCardle Cultural Heritage Pty Ltd (MCH) has been engaged by Coastwide Materials Pty Ltd to prepare an Aboriginal Cultural Heritage Assessment (ACHA) archaeological test excavation for the proposed Hillview Hard Rock Quarry located at Booral.

The assessment has been undertaken to meet the Heritage NSWs' Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW 2010), the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH 2011), the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW 2010b), the Secretary's Environmental Assessment Requirements (SEARs – SSD-8239), Councils' requirements and the brief.

1.2 PROPONENT DETAILS

Coastwide Materials Pty Ltd.

1.3 THE PROJECT AREA

The overall project area is defined by the proponent and includes part of Lot 62 and Lot 63 DP95029, part of Lot 3 and Lot 4 DP1166923, part of Lot 1 DP159902 and part of Lot 60 DP1094397. The investigation area will include the quarry, access road and associated infrastructure and amenities. The location and extent of the project area is illustrated in Figures 1.1 and 1.2.

Figure 1.1 Regional location of the project area

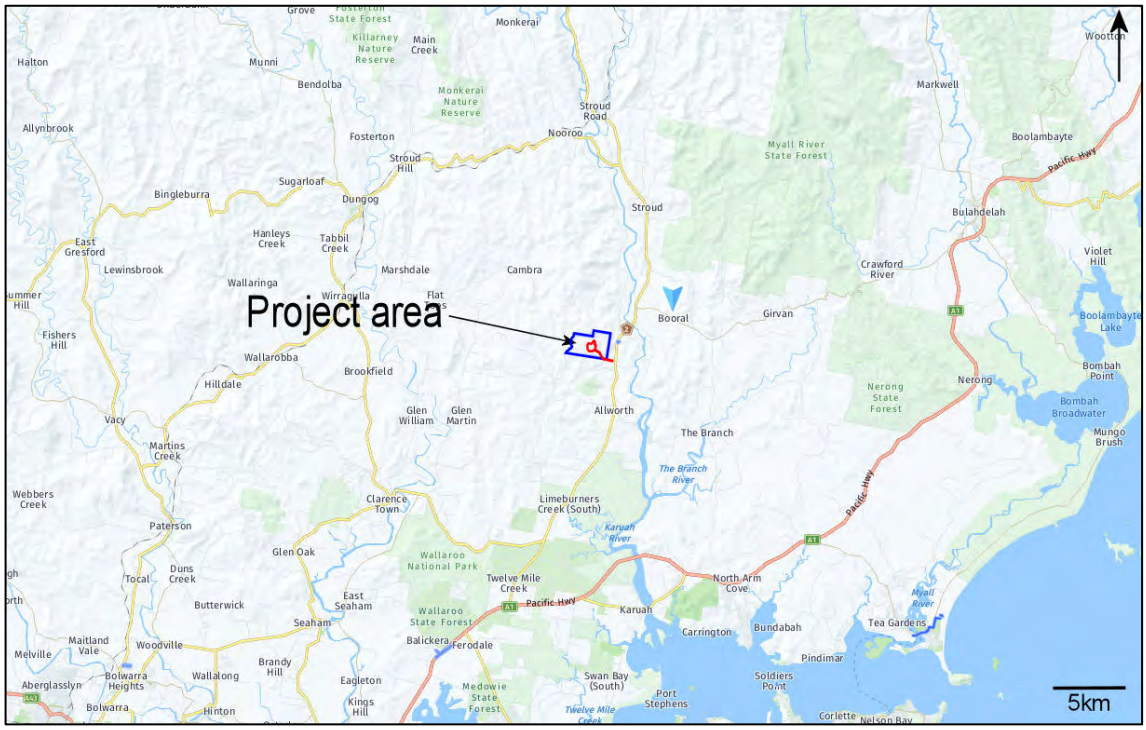
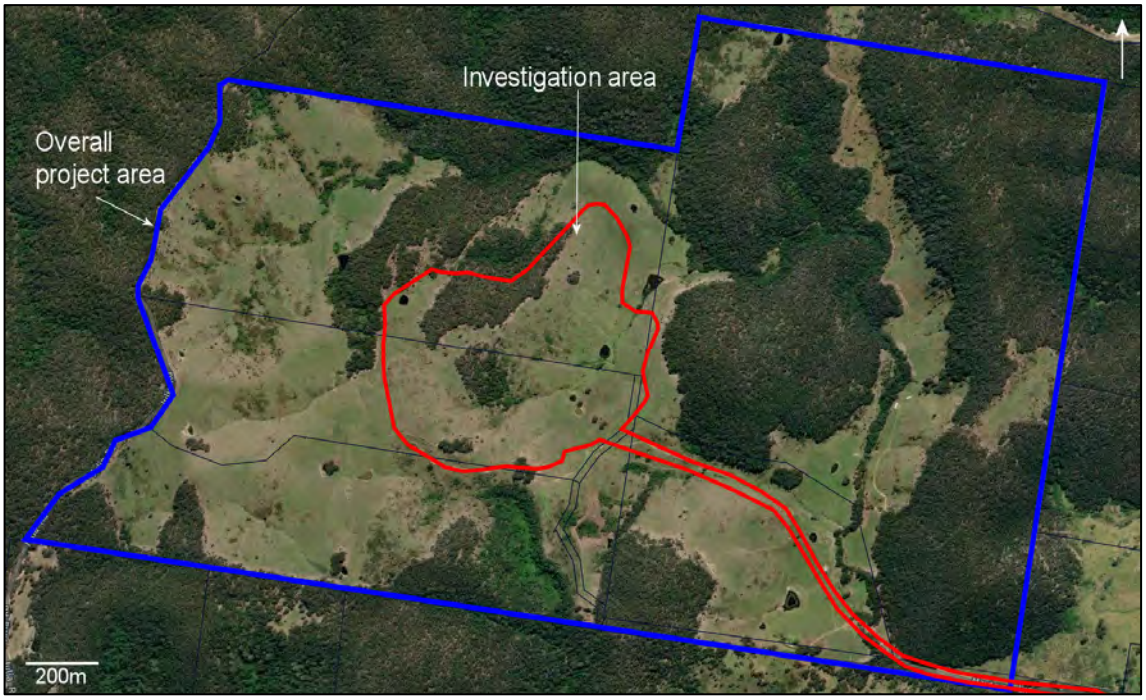


Figure 1.2 Aerial photograph of the project area (Nearmap 2022)



1.4 DESCRIPTION OF THE PROPOSED DEVELOPMENT

The project is for a hard rock quarry. Approximately 45Mt of available resource material has been identified within the proposed extraction area. The extraction area will be approximately 44 hectares and range from reduced level (RL) 206m AHD down to 95m AHD. This will provide access to enough resource to sufficiently cover the planned 30-year life span of the quarry at the proposed extraction rates of up to 1.5 Mtpa, and provide long term security for the resource.

The quarry process will involve traditional drill and blasting techniques to produce rock fragments suitable for haulage to the crushing and screening plant. The quarry will have one working face that will advance generally in a north-west to south-east direction in 15m bench heights. Extraction will be carried out by mobile plant and equipment, including excavators and dump trucks, with the extracted material hauled from the pit to raw product stockpiles at the processing area.

The processing area will include raw material stockpiles and a crushing and screening plant for rock size reduction. The raw material extracted will not be washed and therefore the proposed development does not include a wash plant. The processed rock will be hauled in dump trucks to end product stockpiles in the product storage area.

Varies items of ancillary infrastructure will be installed and operated to support the quarry. These include:

- Two (2) weighbridges to weight heavy vehicles as they enter and exit the development site;
- Crushing and screening plant for processing the extracted hard rock material;
- Pugmill and pre-coat plant for road base products (asphalts);
- Workshop;
- Site office and amenities;
- Parking areas; and Product storage areas.

1.5 PURPOSE OF THE ARCHAEOLOGICAL ASSESSMENT

The purpose of the assessment is to assess any archaeological constraints for the proposal and to provide opportunities and options to ensure any cultural materials present are protected through appropriate mitigation and management.

1.6 OBJECTIVE OF THE ASSESSMENT

The objective of the assessment is to identify areas of Aboriginal cultural heritage value, to determine possible impacts on any Aboriginal cultural heritage identified (including potential subsurface evidence) and to develop management recommendations where appropriate. The assessment employs a regional approach, taking into consideration the landscape of the project area (landforms, water resources, soils, geology etc), the regional archaeological patterning identified by past studies, natural processes (e.g., erosion) as well as land uses and associated impacts across the landscape and any associated cultural that may be present.

1.7 PROJECT BRIEF/SCOPE OF WORK

The following tasks were carried out:

- a review of relevant statutory registers and inventories for indigenous cultural heritage including the Aboriginal Heritage Information Management System (AHIMS) for known archaeological sites, the State Heritage Register, the National Heritage List, the Commonwealth Heritage List, the National Trust Heritage Register and the relevant Local Environmental Plan;
- a review of local environmental information (e.g., topographic, geological, soil, geomorphological, vegetation, hydrology) to determine the likelihood of archaeological sites and specific site types that may be present, prior and existing land uses and associated impacts and site disturbance that may affect site integrity;
- a review of previous investigations to determine the extent of archaeological investigations in the area and identify any archaeological patterns;
- the development of a predictive archaeological model based on the data searches and literature review;
- identification of human and natural impacts in relation to the known and any new archaeological sites and archaeological potential within the project area;
- consultation with the Registered Aboriginal Parties (RAPs) as per the Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010);
- undertake a site inspection and test excavation with the participation of the RAPs, and
- the development of mitigation and conservation measures in consultation with the RAPs.

1.8 LEGISLATIVE CONTEXT

The following overview of the legislative framework, is provided solely for information purposes for the client, and should not be interpreted as legal advice. MCH will not be liable for any actions taken by any person, body or group as a result of this general overview and MCH recommends that specific legal advice be obtained from a qualified legal practitioner prior to any action being taken as a result of the general summary below.

Land managers are required to consider the effects of their activities or proposed development on the environment under several pieces of legislation. Although there are a number of Acts and regulations protecting Aboriginal heritage, including places, sites and objects, within NSW, the three main ones include:

- National Parks and Wildlife Act (1974, as amended)
- National Parks and Wildlife Regulation (2019)
- Environmental Planning and Assessment Act (1979)

1.8.1 NATIONAL PARKS AND WILDLIFE ACT (1974)

The National Parks and Wildlife Act (1974) is the primary legislation for the protection of Aboriginal cultural heritage in New South Wales. The NPW Act protects Aboriginal heritage (places, sites and objects) within NSW and the protection of Aboriginal heritage is outlined in s86 of the Act, as follows:

- "A person must not harm or desecrate an object that the person knows is an Aboriginal object" s86(1)
- "A person must not harm an Aboriginal object" s86(2)
- "A person must not harm or desecrate an Aboriginal place" s86(4)

Penalties apply for harming an Aboriginal object, site or place. The penalty for knowingly harming an Aboriginal object (s86[1]) and/or an Aboriginal place (s86[4]) is up to $550,000 for an individual and/or imprisonment for 2 years; and in the case of a corporation the penalty is up to $1.1 million. The penalty for a strict liability offence (s86[2]) is up to $110,000 for an individual and $220,000 for a corporation.

Harm under the National Parks and Wildlife Act (1974, as amended) is defined as any act that; destroys defaces or damages the object, moves the object from the land on which it has been situated, causes or permits the object to be harmed. However, it is a defence from prosecution if the proponent can demonstrate that;

1) harm was authorised under an Aboriginal Heritage Impact Permit (AHIP) (and the permit was properly followed), or
2) the proponent exercised due diligence in respect to Aboriginal heritage.

The 'due diligence' defence (s87[2]), states that if a person or company has applied due diligence to determine that no Aboriginal object, site or place was likely to be harmed as a result of the activities proposed for the Project Area, then liability from prosecution under the NPW Act 1974 will be removed or mitigated if it later transpires that an Aboriginal object, site or place was harmed. If any Aboriginal objects are identified during the activity, then works should cease in that area and Heritage NSW, Department of Premier & Cabinet notified (DECCW 2010:13). The due diligence defence does not allow for continuing harm or as defence to s.86(1) or (4).

1.8.2 NATIONAL PARKS AND WILDLIFE REGULATION (2019)

The National Parks and Wildlife Regulation 2019 provides a framework for undertaking activities and exercising due diligence in respect to Aboriginal heritage. The Regulation (201909) recognises various due diligence codes of practice, including the Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW, but it also outlines procedures for Aboriginal Heritage

Impact Permit (AHIP) applications and Aboriginal Cultural Heritage Consultation Requirements (ACHCRs); amongst other regulatory processes.

1.8.3 ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979 (EP&A ACT)

The EP&A Act establishes the statutory framework for urban and regional planning in NSW, detailing how development is assessed in accordance with those laws and providing the approval pathways for development. The Minister for Planning and Public Spaces is the minister responsible for the EP&A Act, and is supported by State government authorities and local councils in its implementation. The EP&A Act comprises three key Parts to guide development and planning processes. These parts are summarised below:

- Part 3 of the EP&A Act serves a strategic planning function, dealing with the preparation of local and regional strategic plans, the making of environmental planning instruments (EPI) (that is, State Environmental Planning Policies (SEPP) and Local Environmental Plans (LEP), and the preparation of Development Control Plans (DCP).
- Part 4 of the EP&A Act establishes the assessment framework for development that requires consent, containing provisions for local development, regionally significant development (RSD), designated development and State significant development (SSD). The consent authority for determining development applications made under Part 4 is typically the local council; however, for more larger scale, contentious or environmentally sensitive projects the consent authority may be the Minister for Planning or a planning panel.
- Part 5 of the EP&A Act deals with the environmental assessment of infrastructure projects (or 'activities') that do not require development consent. Whilst development consent is not required, activities under Part 5 are still required to undergo environmental assessment by a determining authority (usually a public authority) to determine whether a proposed activity will have a significant impact. Part 5 activities are typically supported by a Review of Environmental Factors (REF); however, in circumstances where a significant impact is determined or a proposed activity is classified as State Significant Infrastructure (SSI) and critical SSI, an Environmental Impact Statement (EIS) is required. For SSI and critical SSI, the Minister has the authority for issuing approval.

The applicable approval pathway for development under Part 4 and Part 5 is determined by reference to the relevant EPIs, that are established under Part 3. It is noted that there are several other Parts of the EP&A Act pertaining to certification, infrastructure contributions, reviews and appeal rights, and implementation and enforcement of the Act; however, these are less critical in terms of the assessment and management of Aboriginal heritage, and as such, not covered above.

1.9 QUALIFICATIONS OF THE INVESTIGATOR

Dr. Penny McCardle: Principal Archaeologist & Forensic Anthropologist has 23 years experience in Indigenous archaeological assessments, excavation, research, reporting, analysis and consultation and 20 years in skeletal identification, biological profiling and skeletal trauma identification for NPWS, NSW Police and the NSW Department of Forensic Medicine.

- BA (Archaeology and Palaeoanthropology): Indigenous archaeology, University of New England 1999
- Hons (Archaeology and Palaeoanthropology): Physical Anthropology, University of New England 2001

- Forensic Anthropology Course, University of New England 2003
- Armed Forces Institute of Pathology Forensic Anthropology Course, Ashburn, VA 2008
- Analysis of Bone trauma and Pseudo-Trauma in Suspected Violent Death Course, Erie College, Pennsylvania, 2009
- Documenting Scenes of War and Human Rights Violations. Institute for International Criminal Investigations, 2018
- PhD, University of Newcastle, 2019

1.10 REPORT STRUCTURE

The report includes Section 1 which outlines the project, Section 2 provides the consultation, Section 3 presents the environmental context, Section 4 presents the cultural context, Section 5 provides the archaeological background, Section 6 provides the results of the survey, analysis and discussion; Section 7 presents the test excavation methodology, Section 8 the test excavation results and discussion, Section 9 provides the assessment of impacts, Section 10 the mitigation and management strategies and Section 11 the recommendations.

2 CONSULTATION

As per the Heritage NSW, Aboriginal Cultural Heritage Consultation Requirements for Proponents (April 2010), MCH followed the four stages of consultation as set out below. All correspondences for each stage are provided in Appendix A.

In relation to cultural significance, MCH recognises and supports the indigenous system of knowledge. That is, that knowledge is not 'open' in the sense that everyone has access and an equal right to it. Knowledge is not always definitive (in the sense that there is only one right answer) and knowledge is often restricted. As access to this knowledge is power, it must be controlled by people with the appropriate qualifications (usually based on age seniority, but may be based on other factors). Thus, it is important to obtain information from the correct people: those that hold the appropriate knowledge of those sites and/or areas relevant to the project. It is noted that only the Aboriginal community can identify and determine the accepted knowledge holder(s) may be not archaeologists or proponents. If knowledge is shared, that information must be used correctly and per the wishes of the knowledge holder.

Whilst an archaeologist may view this information as data, a custodian may view this information as highly sensitive, secret/sacred information and may place restrictions on its use. Thus, it is important for MCH to engage in affective and long-term consultation to ensure knowledge is shared and managed in a suitable manner that will allow for the appropriate management of that site/area. MCH also know that archaeologists do not have the capability nor the right to adjudicate on the spirituality of a particular location or site as this is the exclusive right of the traditional owners who have the cultural and hereditary association with the land of their own ancestors. For these reasons, consultation forms an integral component of all projects and this information is sought from the registered stakeholders to be included in the report in the appropriate manner that is stipulated by those with the information.

2.1 STAGE 1: NOTIFICATION & REGISTRATION OF INTEREST

The aim of this stage is to identify, notify and register Aboriginal people and/or groups who hold cultural knowledge that is relevant to the project area, and who can determine the cultural significance of any Aboriginal objects and/or places within the proposed project area. In order to do this, the sources identified by Heritage NSW, Department of Premier & Cabinet (OEH 2010:10) and listed in Table 2.1, to provide the names of people who may hold cultural knowledge that is relevant to determining the significance of Aboriginal objects and/or places were contacted by letter on 29th July 2024 and it was stipulated that if no response was received, the project and consultation will proceed. Information included in the correspondence to the sources listed in Table 2.1 included the name and contact details of the proponent, an overview of the proposed project including the location and a map showing the location.

Table 2.1 Sources contacted

Organisations contacted	Response
Heritage NSW	34 groups
Karuah LALC	no response
MidCoast Council	no response
Registrar Aboriginal Land Rights Act 1983	2 groups
National Native Title Tribunal	freehold
Native Title Services Corporation Limited	no response
Hunter Local Land Services	no response

Following this, MCH compiled a list of people/groups to contact (Refer to Appendix A). As per the Aboriginal cultural heritage consultation requirements for proponents (April 2010), archaeologists and proponents must write to all those groups provided asking if they would like to register their interest in the project. Unfortunately, some Government departments written to requesting a list of groups to consult with do not differentiate groups from different traditional boundaries and provide an exhaustive list of groups from across the region including those outside their traditional boundaries.

MCH wrote to all parties identified by the various departments on 13th August 2024, and an advertisement was placed in in Dungog Chronicle and Gloucester Advocate on 13th August 2024. The correspondence and advertisement included the required information as per the Aboriginal Cultural Heritage Consultation Requirements for Proponents (April 2010) and requested to nominate the preferred option for the presentation of information about the proposed project: an information packet or a meeting and information packet (Refer to Stage 2). The Registered Aboriginal Parties (RAPs) are listed in Table 2.2.

Table 2.2 Registered Aboriginal Parties

RAP	Contact
Karuah Indigenous Corporation	David Feeney
Mur-Roo-Ma Inc.	Anthony Anderson & Bec Young
Nur-Run-Gee Pty Ltd	Leonard Anderson OAM
Girragirra Murun Aboriginal Corporation	Diana Astin
Mura Gadi Aboriginal corporation	Tiarna Bird
	Thomas Dahlstrom

2.2 STAGE 2: PRESENTATION OF INFORMATION

The aim of this stage is to provide the RAPs with information regarding the scope of the proposed project and the Indigenous cultural heritage assessment process.

As the RAPs did not provide their preferred method of receiving information, an information packet was sent to all RAPs and included the required information as per the Aboriginal Cultural

Heritage Consultation Requirements for Proponents (April 2010) and a written response to the proposed methods was due no later 25th September 2024.

The information pack also stipulated that consultation was not employment, and requested that in order to assist the proponent in the engagement of field workers, that the groups provide information that will assist in the selection of field staff who may be paid on a contractual basis. This included, but was not limited to, experience in field work and in providing cultural heritage advice and their relevant experience; and to provide a CV and insurance details.

The information pack also noted that failure to provide the required information by the date required (28 days) will result in a missed opportunity for the RAPs to contribute to their cultural heritage and the project will proceed.

2.3 STAGE 3:GATHERING INFORMATION ABOUT CULTURAL SIGNIFICANCE

The aim of this stage is to facilitate a process whereby the RAPs may contribute to culturally appropriate information gathering and the research methodology, provide information that will enable the identification of the cultural significance of any Aboriginal objects and or/places within the proposed project area, and have input into the development of any cultural heritage management and mitigation measures. In order to do his, included in the information pack sent for Stage 2, was information pertaining to the gathering of cultural knowledge. This included the following information;

- MCH noted that information provided by RAPs may be sensitive and MCH and the proponent will not share that information with all RAPs or others without the express permission of the individual. MCH and the proponent extended an invitation to develop and implement appropriate protocols for sourcing and holding cultural information including any restrictions to place on information, as well as the preferred method of providing information;
- request for traditional/cultural knowledge or information associated with ceremonial, spiritual, mythological beliefs, traditions and known sites from the pre-contact period;
- request for traditional/cultural knowledge or information regarding sites or places with historical associations and/or cultural significance which date from the post-contact period and that are remembered by people today (e.g., plant and animal resource use areas, known camp sites); and
- request for traditional/cultural knowledge or information in relation to any sites or places of contemporary cultural significance (apart from the above) which has acquired significance recently.

During this process, Mur-roo-ma Inc. stated that the project area lies just north west of where one of their great grandmothers was born in a traditional women's birthing area "gayay". They also note that through oral history from our ancestors, education and completed other works close to the proposed project area, they hold relevant cultural information

2.4 TEST EXCAVATION

All RAPs were invited to participate in the survey on 22nd October 2024 and Luke Knight (Mur-Roo-Ma Inc), Joel Henderson (WLALC) and Thomas Smith (Nur-Run-Gee) attended the test excavation.

2.5 REVIEW OF THE DRAFT ACHA – TEST EXCAVATION REPORT

Copies of the draft report were forwarded to all RAPs for their review and were asked to provide a written or verbal response no later than 21st November 2024. MCVH received no responses form the RAPs. All RAPs were provided a copy of the final ACHA report. All documentation regarding the consultation process is provided in Appendix A.

3 LANDSCAPE AND ENVIRONMENTAL CONTEXT

3.1 INTRODUCTION

Documenting and understanding the context of archaeological sites in relation to surrounding terrain features is essential to landscape archaeological studies worldwide (De Reu et al., 2011; De Smedt et al., 2013; Turrero et al., 2013) and the nature and distribution of Aboriginal cultural materials in a landscape are strongly influenced by environmental factors such as topography, geology, landforms, climate, geomorphology, hydrology and the associated soils and vegetation (Hughes and Sullivan 1984). These factors influence the availability of plants, animals, water, raw materials, the location of suitable camping places, ceremonial grounds, burials, and suitable surfaces for the application of rock art. As site locations may differ between landforms due to differing environmental constraints that result in the physical manifestation of different spatial distributions and forms of archaeological evidence, these environmental factors are used in constructing predictive models of Aboriginal site locations, based on the assumption that the environment provided constraints and opportunities that influenced such behaviour in relation to site selection and use.

Environmental factors also effect the degree to which cultural materials have survived in the face of both natural and human influences and affect the likelihood of sites being detected during ground surface survey. Site detection is dependent on a number of environmental factors including surface visibility (which is determined by the nature and extent of ground cover including grass and leaf litter etc) and the survival of the original land surface and associated cultural materials (by flood alluvium, erosion etc). It is also dependant on the exposure of the original landscape and associated cultural materials by human impacts (e.g., Aboriginal fire stick farming, clearing, logging, agricultural activities, construction works, mining etc), (Hughes and Sullivan 1984). Combined, these processes and activities are used in determining the likelihood of both surface and subsurface cultural materials surviving and being detected.

It is therefore necessary to understand the environmental factors, processes and activities, all of which affect site location, preservation and detection during surface survey and the likelihood of in situ subsurface cultural materials being present. The environmental factors, processes and disturbances of the surrounding environment and specific project area are discussed below.

3.2 GEOLOGY

The underlying regional geology plays a major role in the structure of the surrounding environment (e.g., landforms, topography, geomorphology, vegetation, climate, hydrology etc), and also influences patterns of past occupation and their manifestation in the archaeological record. This is primarily relevant to past Aboriginal land use in regard to the location of stone resources or raw materials and their procurement for the manufacturing and modification of stone tools.

The processes of sedimentation, uplift, ongoing physical and chemical weathering, re-deposition and volcanic activity have resulted in the formation of a complex landscape in the regional area that incorporates diversity in topography, vegetation and wildlife. For its Aboriginal inhabitants, these processes have resulted in the presence of caves and ledges suitable for shelter/occupation and the application of rock art, deposits of raw materials essential to the manufacture of stone tools as well as locations that provide the rocky creek bed outcrops utilised in the production of ground-edge implements.

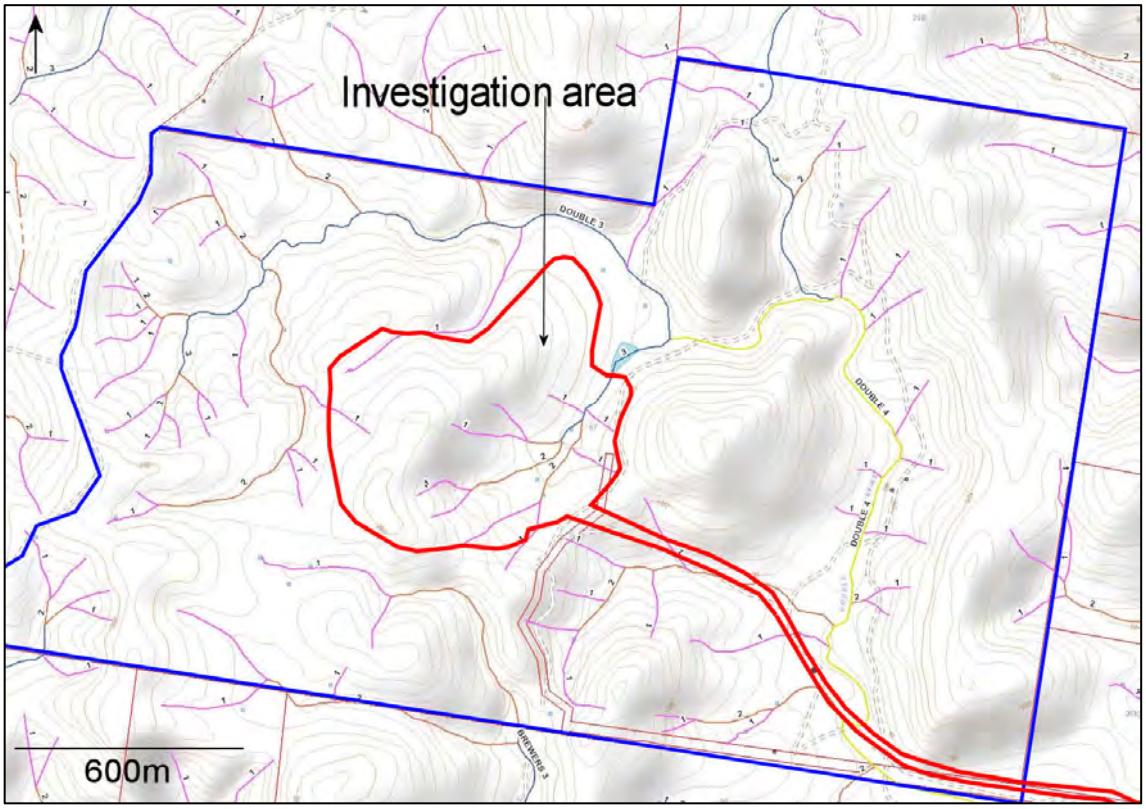
The underlying geology of the project area is the Carboniferous Crawford Formation consisting of sandstone, conglomerate, mudstone, chert and tuff (Newcastle Geological 1:250,000 Map Series, 1966). The presence of mudstone, chert and tuff within the geology of the geology of the project area indicates that stone materials suitable for manufacturing stone artefacts may occur in various locations throughout the project area.

3.3 TOPOGRAPHY

The topographical context is largely determined by the geology and is important to identify potential factors relating to past Aboriginal land use patterns as not all landforms are suitable camping locations, suitable for the application of rock art etc. Land systems, along with a range of environmental factors (e.g., geology, soils, hydrology, impacts) are used in developing predictive models of past Aboriginal land use and site selection.

Whilst the overall project area includes a range of landforms including crests, slopes, drainage depression and creeks, the investigation area consists of a crest, slope, drainage lines and a creek (Refer to Figure 3.1). With the exception of 4th order creek located along the access road, the remaining water sources were examined during the survey and all were identified as drainage depressions, not creeks.

Figure 3.1 Topography and stream orders of the project area



3.4 GEOMORPHOLOGY

Geomorphology is the study of landscapes, their evolution and the processes operating within earth systems. Cultural remains are part of these systems, having being deposited on, and in part, resulting from interactions within landscapes of the past. An understanding of

geomorphological patterning and alterations is therefore essential in assess and interpreting the archaeological record.

The geomorphology of the region is complex and is summarised below based upon studies undertaken by Galloway (1963) and Hughes (1984). The regioan contains a variety of landforms ranging from rugged mountains to plains and varying in elevation from sea level to over 1500 metres (AHD). The soils throughout the region reflect the influence of a range of factors including the parent geological material, topography, climate, organisms and length of formation time. Differences between these elements are reflected in variation in soil types across the region. Texture contrast soils mantle the undulating to hilly landscapes on Permian and Carboniferous rocks and the older alluvial terraces and valley fills. The two major groups of texture contrast soils include solonetzic and podzolic soils. These soils consist of an upper soil Horizon A and underlying B (referred to as duplex soils). The upper A unit consists of grey to buff silts and sand with gravels, is usually no greater than one metre in depth (usually shallower), has a weakly developed soil profile and is typically discontinuous, especially along hill slopes. The underlying B unit consists of brown-red gravel rich clays with evidence of deep weathering and strongly contrasting horizons.

Unit A and Unit B are interpreted as being Holocene and Pleistocene in age respectively. Within the region, sites tend to occur on or within soil Horizon A or are often present at the interface of the A and B horizons. Within the A horizon the lowermost (in terms of vertical positioning) artefact assemblages tend to contain artefacts that are typically attributed to the mid-Holocene, as characterised by an increase in the number of backed artefacts. Given the lack of detailed information regarding artefact sequences and chronologies in the region, this assumption should not be accepted without question. However, on geomorphological grounds, A horizon soils in this context are generally considered as dating to the mid-late Holocene (Dean-Jones and Mitchell 1993:76).

In contrast, the underlying weathered nature of the clayey B-horizon indicates that its parent material is much older. Evidence of earlier occupation of the region was identified at Warkworth West (AMBS 2002) where a limited artefact assemblage is present within deposit older than 14,000 years. It is also suggested that materials from Fal Brook and Carrington date to the Pleistocene period (Koettig 1987). The B-horizon parent material in hill slope formations is typically composed of weathered, in-situ bedrock whereas soils along the valley floors are generally alluvial or colluvial in origin.

The archaeological importance of foot slopes and valley floors with soils of this type is enhanced by the fact that the interaction between alluvial and colluvial deposition can result in the formation of sealed deposits. However, landforms of this type are also prone to erosion which may broadly reveal previously buried archaeological evidence. Extensive sheet and gully erosion occurs throughout the area, potentially resulting in artefacts that were originally deposited on or within the A-horizon being exposed as highly visible lag. Thus, although erosion greatly increases the visibility of artefacts, it also disturbs and damages them.

Similarly, the impacts of bioturbation upon the archaeological record must also be addressed. Focussed studies regarding bioturbation have primarily been conducted outside Australia (e.g., Armour-Chelu and Andrews 1994; Fowler et al 2004; Peacock and Fant 2002). Therefore, whilst the subsequent findings are broadly applicable within the Australian context, further research is certainly warranted. In general, it appears that, within duplex soils, the burrowing activities of fauna including earthworms can often cause the lateral and horizontal movement of artefacts through the soil profile, eventually resulting in the formation of a stone layer at the interface of the A and B horizons. The other important element to address is the differential movement of artefacts according to size/weight. In this respect, bioturbation has the potential to artificially

conflate and separate artefacts according to size grouping as opposed to depositional context (Fowler et al 2004; Armour-Chelu and Andrews 1994).

As duplex soils are the dominant soil type within the region, the inherent properties of these soils must be taken into consideration in regard to the likelihood of site detection (through exposure by erosion), the stratigraphic context and age of sites, potential site location in relation to past use of the landscape and landscape instability. Certain land systems and types of deposit are however, considered to have greater potential to contain stratified and/or older archaeological sites. This does not imply that older sites are intrinsically more significant than more recent sites, rather, the more important issue in scientific terms is the level of integrity within the site. In broad terms, windblown sand sheets/dunes (such as those at Warkworth), alluvial fan deposits and foot slopes with the potential to have colluvial deposits should be considered as archaeologically sensitive landforms (refer to Dean-Jones and Mitchell 1993; Hughes 1984).

3.5 SOILS

The nature of the surrounding soil landscape also has implications for Aboriginal land use and site preservation, mainly relating to supporting vegetation and the preservation of organic materials, the location and age of cultural materials.

Past human actions impact the soil record, as seen through changes in soil characteristics, changes to sedimentation, and the presence of archaeological features and artefacts preserved within modern soils. Soil and sediment conditions control what survives in the burial environment, what decomposes, and consequently influence all archaeological sites, artefacts, and biological remains. Soils have formed under the continuous influence of people, up to the present day, when most land is actively managed for agriculture, pastoral, forestry, extraction or construction.

Soils may also be impacted on by natural agencies. The deposit of alluvial and aeolian sediments and colluvium movement of fine sediments (including artefacts) results in the movement and burying of archaeological materials. The increased movement in soils by this erosion is likely to impact upon cultural materials through the post-depositional movement of materials, specifically small portable materials such as stone tools, contained within the soil profiles.

The impacts of the various land uses and natural agencies on the environment and soils are discussed in detail in Sections 3.9 and 3.10 respectively, and the soil landscape of the investigation area is summarised below.

The investigation area is the Ten Mile Road soil landscape which is characterised by undulating low hills with elevations ranging from 70-150 metres. Local relief is 40-80 metres and drainage lines are common throughout the area (Mattehi 1995:151). The main soils include an A^1 horizon of brown sandy loam (pH of 6.0) up to 15 centimetres in depth which overlays the A^2 horizon of bleached sandy loam (pH 5.6-6.0) up to 25 centimetres deep. The B horizon consists of brown dense medium clay (pH 5.0 – 6.0), (Mattehi 1995:151-153). Moderate gully erosion occurs in drainage lines and moderate sheet and gully erosion occurs on poorly maintained unsealed roads (Mattehi 1995:151).

3.6 CLIMATE

Climatic conditions would also have played a part in past occupation of an area as well as impacted upon the soils and vegetation and associated cultural materials. The climatic zone as defined by Kovac and Lawrie (1991) and is characterised by temperatures ranging from an average minimum of below 5°C to an average maximum of 28°C. Winter rainfall levels are somewhat variable and generally average 30 millimetres per month. Summer rainfalls are more

stable at approximately 55-60 millimetres per month, giving a mean annual rainfall of 740 millimetres. During summer, the increased rainfall rate and reduced ground cover is reflected in a proportionately higher risk of erosion.

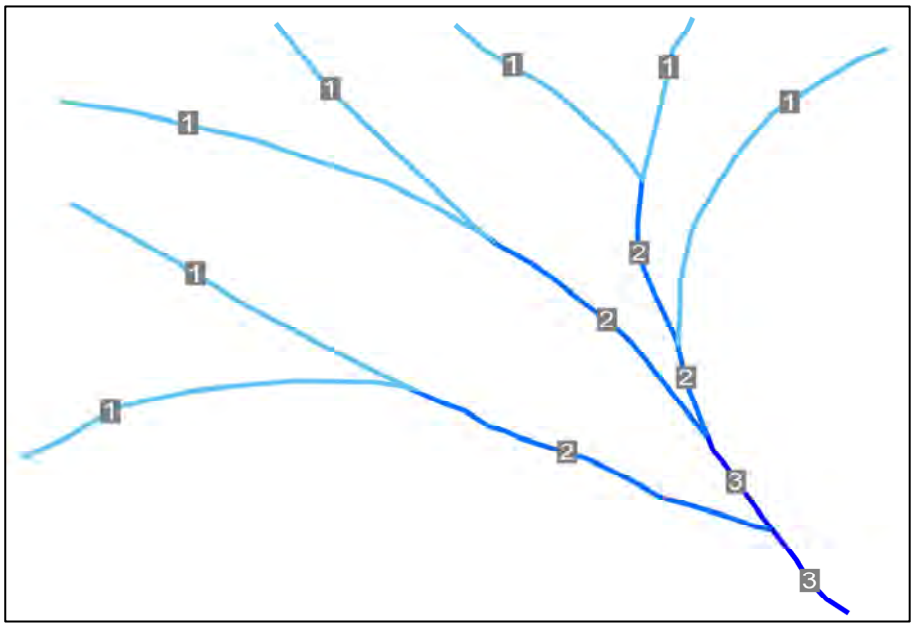
3.7 WATERWAYS

One of the major environmental factors influencing human behaviour is water as it is essential for survival and as such people will not travel far from reliable water sources. In those situations where people did travel far from reliable water, this indicates a different behaviour such as travelling to obtain rare or prized resources and/or trade. Proximity to water not only influences the number of sites likely to be found but also artefact densities. The highest number of sites and the highest density are usually found in close proximity to water and usually on an elevated landform. This assertion is undisputedly supported by both the regional and local archaeological, where by such patterns have been identified and sites are typically within 50 metres of a reliable water source in the valley landforms and up to 100 metres in the sandstone country.

The main types of water sources include permanent (rivers and soaks), semi-permanent (large streams, swamps and billabongs), ephemeral (small stream and creeks) and underground (artesian). Stream order assessment is one way of determining the reliability of streams as a water source. Stream order is determined by applying the Strahler method to 1:25 000 topographic maps. Based on the climatic analysis, the project area will typically experience comparatively reliable rainfalls under normal conditions and thus it is assumed that any streams above a third order classification will constitute a relatively permanent water source.

The Strahler method dictates that upper tributaries do not exhibit flow permanence and are defined as first order streams. When two first order streams meet, they form a second order stream. Where two-second order streams converge, a third order stream is formed and so on. When a stream of lower order joins a stream of higher order, the downstream section of the stream will retain the order of the higher order upstream section, (Figure 3.2), (Anon 2003; Wheeling Jesuit University 2002).

Figure 3.2 The Strahler method stream orders



Examination of the Dungog 1:25,000 topographic map and nearmap indicates that the investigation area is located approximately 1.3 kilometres form the Karuah River (6th order), the most reliable fresh water source in the locality. As indicated in Figure 3.1, there are 8 1st order drainage depressions in the investigation area, two 2nd order drainage lines, one 3rd order creek and one 4th order creek. However, as determined during the survey, with the exception of the small 4th order creek, all the remaining water sources are drainage lines dissecting slopes, none are creeks.

In terms of past Aboriginal land uses and survival (water is necessary for survival), the project area may be considered under-resourced in terms of water availability. During times of heavy rain, the 4th order creek would likely have supplied fresh water for a limited time that may have enabled for transitory activities such as hunting and gathering opportunities and travel to the Karuah River that would have maintained an abundance of resources and reliable fresh water.

3.8 FLORA AND FAUNA

The availability of flora and associated water sources affect fauna resources, all of which are primary factors influencing patterns of past Aboriginal land use and occupation. The assessment of flora has two factors that assist in an assessment including a guide to the range of plant resources used for food and medicine and to manufacture objects including nets, string bags, shields and canoes which would have been available to Indigenous people in the past. The second is what it may imply about current and past land uses and to affect survey conditions such as visibility, access and disturbances.

European settlers extensively cleared the investigation area of the original native vegetation and is now dominated by introduced grasses with portions of the investigation area including open woodland. The drainage throughout the project area would have supported a limited range of faunal populations including kangaroo, wallaby, goanna, reptiles and a variety of birds. A wider variety of resources would have been available in areas to the north and south east where more reliable water would have been available.

3.9 LANDUSES AND DISTURBANCES

Heritage NSW (DECCW 2010) defines disturbed lands as land that has been the subject of human activity that has changed the lands' surface and, or the subsurface, these changes being changes that remain clear and observable. Examples may include ploughing, construction works (roads, tracks, fire trails, dams, fences, clearing, utilities and infrastructure). This definition is based on the types of disturbances classified in The Australian Soil and Land Survey Field Handbook (CSIRO 2010) and Table 3.1 provides a scale formulated by the CSIRO of the levels of disturbances and their classification, which will assist in determining the level of disturbance across the project area and its impact on potential cultural material that may be present. These disturbances on the landscape have been thoroughly examined and recorded through numerous experiments (see below) in a variety of landforms throughout the world, along with the impacts on objects within the deposits.

Table 3.1 Land use scale (CSIRO 2010)

Minor disturbance		Moderate disturbance		Major disturbance	
Cleared and/or grazed at some time, but apparently never ploughed		Cleared and/or grazed at some time, with ploughing also attested		Severe disturbance to natural soil profiles; complete-to-near complete topsoil loss/disturbance	
0	No effective disturbance; natural	3	Extensive clearing (e.g., poisoning and ringbarking	6	Cultivation: grain fed
1	No effective disturbance other than grazed by hoofed animals	4	Complete clearing: pasture native or improved, but never cultivated	7	Cultivation: irrigated, past and present
2	Limited clearing (e.g., selected logging)	5	Complete clearing: pasture native or improved, cultivated at some stage	8	Highly disturbed: e.g., quarry, road works, mining, landfill, urban

Based upon archaeological evidence, the occupation of Australia extends back some 40,000 years (Mulvaney and Kamminga 1999). Although the impact of past Aboriginal occupation on the natural landscape is thought to have been relatively minimal, it cannot simply be assumed that 20,000 years of land use have passed without affecting various environmental variables. The practice of 'firestick farming' whereby the cautious setting of fires served to drive game from cover, provide protection and alter vegetation communities significantly influenced seed germination, thus increasing diversity within the floral community.

Following European settlement of the area in the 1820s, the regional landscape has been subjected to a range of different modifactory activities including extensive logging and clearing, agricultural cultivation (ploughing), pastoral grazing, residential developments and mining (Turner 1985). The associated high degree of landscape disturbance has resulted in the alteration of large tracts of land and the cultural materials contained within these areas. Based on aerial photography, the project area has been subject to a range of both moderate and high landuses disturbances and impacts. The project area has been cleared due to previous complete logging, at least one ploughing event for grass and primarily used for pastoral purposes (grazing), involving the wholesale clearance of native vegetation, the introduction of pasture grass, the construction of five dams, fencing and numerous tracks and access roads. These landuses and how they impact on the landscape and deposits are discussed below.

In terms of these land uses and impacts on the landscape and cultural materials that may be present, early vegetation clearing included the uprooting of trees by chaining which will disturbed or destroy that may be present near, or underneath trees and vegetation (Wood 1982). Farming and agricultural activities also disturbed the landscape. Although pastoralism is a comparatively low impact activity, it does result in disturbances due to vegetation clearance and the trampling and compaction of grazed areas. These factors accelerate the natural processes of sheet and gully erosion, which in turn can cause the horizontal and lateral displacement of artefacts. Furthermore, grazing by hoofed animals can affect the archaeological record due to the displacement and breakage of artefacts resulting from trampling (Yorston et al 1990). Pastoral land uses are also closely linked to alterations in the landscape due to the construction of dams, fence lines and associated structures.

As a sub-set of agricultural land use, ploughing typically disturbs the top 10-12 centimetres of topsoil (Koettig 1986a) depending on the method and machinery used during the process. Ploughing increases the occurrence of erosion and can also result in the direct horizontal and vertical movement of artefacts, thus causing artificial changes in artefact densities and distributions. In fact, studies undertaken on artefact movement due to ploughing (e.g., Roper 1976; Odell and Cowan 1987) has shown that artefacts move between one centimetre up to 18 metres laterally depending on the equipment used and horizontal movement. Ploughing may also interfere with other features and disrupt soil stratigraphy (Lewarch and O'Brien 1981), all of which result in a disturbed deposit, which, depending on the depth of soils, may result in no site integrity remaining. Ploughing activities are typically evidenced through 'ridges and furrows' however a lengthy cessation in ploughing activities dictates that these features may no longer be apparent on the surface.

Excavation works required for developments, including but not limited to dams, infrastructure, business, residential, industrial, aviation, works depos, mining, and associated infrastructure and utilities, require excavation, cut and fill methods. Remediation works also result in additional impacts and typically involve the removal of soils. These direct impacts to the land and associated cultural materials that may be present are easy to see and understand. Any form of construction or resource exploitation that involves the removal of, relocation of or compaction or soils sediments or minerals, requires the modification of the topography, thus displacing and/or destroying any cultural materials that may have been present (Wood 1982).

In terms of everyday land uses, vehicular movements on sites have been well documented and based on several experiments (DeBloois, Green and Wylie 1974, Gallagher 1978), have shown that vehicle movements over an archaeological site are extremely destructive to the site through compaction and movement, thus altering the spatial relationship and location of the artefacts. Based on general observations it is expected that the creation of dirt tracks for vehicle access would also result in the loss of vegetation and therefore will enhance erosion and the associated relocation of cultural materials. As fence construction require the removal of soils for the post holes, this would also have resulted in the disturbance and possible destruction of any cultural materials. All of which result in loss of vegetation and erosion to some extent.

3.10 NATURAL DISTURBANCES

The disturbance of cultural materials can also be a result of natural processes. The patterns of deposition and erosion within a locality can influence the formation and/or destruction of archaeological sites. Within an environment where the rate of sediment accumulation is generally very high, artefacts deposited in such an environment will be buried shortly after being abandoned. Frequent and lengthy depositional events will also increase the likelihood of the presence of well-stratified cultural deposits (Waters 2000:538,540).

In a stable landscape with few episodes of deposition and minimal to moderate erosion, soils will form and cultural materials will remain on the surface until they are buried. Repeated and extended periods of stability will result in the compression of the archaeological record with multiple occupational episodes being located on one surface prior to burial (Waters 2000:538-539). Within duplex soils, artefacts typically stay within the A horizon on the interface between the A and B horizons.

If erosion occurs after cultural material is deposited, it will disturb or destroy sections, or all of, archaeological sites even if they were initially in a good state of preservation. The more frequent and severe the episodes of erosional events the more likely it is that the archaeological record in that area will be disturbed or destroyed (Waters 2000:539; Waters and Kuehn 1996:484). Regional

erosional events may entirely remove older sediments, soils and cultural deposits so that archaeological material or deposits of a certain time interval no longer exist within a region (Waters and Kuehn 1996:484-485).

The role of bioturbation is another significant factor in the formation of the archaeological record. Post-depositional processes can disturb and destroy artefacts and sites as well as preserve cultural materials. Redistribution and mixing of cultural deposits occur as a result of burrowing and mounding by earthworms, ants and other species of burrowing animals. Artefacts can move downwards through root holes as well as through sorting and settling due to gravity. Translocation can also occur as a result of tree falls (Balek 2002:41-42; Peacock and Fant 2002:92). Depth of artefact burial and movement as a result of bioturbation corresponds to the limit of major biologic activity (Balek 2002:43).

Burrowing and mounding by various animals and insects can result in the burial and translocation of artefacts. Size-sorting also tends to occur thus destroying stratigraphic integrity. Artefacts with a diameter smaller than that of burrows within an area may be moved upwards and be deposited in mounds by the fauna. Conversely, larger artefacts gradually move downward due to gravity and to animals burrowing beneath the larger artefacts and eventually collapsing into the burrow. They may then form concentrations which mimic cultural layers and are therefore open to misinterpretation (Balek 2002:46). Artefact burial rate through the effects of burrowing and mounding animals varies but can be as great as 2.7 metres in 5000 years (Balek 2002:45).

Experiments to assess the degree that bioturbation can affect material have been undertaken. In abandoned cultivated fields in South Carolina, Michie (summarised in Balek 2002:42-43) found that over a 100-year period 35% of shell fragments that had been previously used to fertilise the fields were found between 15 and 60 centimetres below the surface, inferred to be as a result of bioturbation and gravity.

Earthworms have been known to completely destroy stratification within 450 years (Balek 2002:48). Earthworm activity can significantly affect cultural materials though the degree and nature of disturbance will relate to the species of earthworm/s represented (Armour-Chelu and Andrews 1994; Canti 2003; Fowler et al. 2004; Stein 1983). Different species of earthworm's act in varying ways; some species live in deep soils and move vertically to and from the surface, whilst others live within the top ten centimetres of soil and tend to move horizontally through the soil matrix (Fowler et al. 2004:453). Earthworms, under favourable conditions, can excavate to depths of six metres (Stein 1983:278). Whilst, the size and behaviour of earthworms varies between species, they are similar in some ways; earthworms burrow through the soil by pushing soil aside or consuming it as well as organic materials, which they then regurgitate or excrete either behind them or on the surface. As earthworms move through the soil, they churn the soil within an area over time which results in blurring of soil horizons (Fowler et al. 2004:457, 461; Stein 2003:139).

The ways in which earthworms can affect cultural deposits includes: creating false artefact concentrations and stratigraphy (for example biomantles) by moving artefacts downwards through the soil; indirectly displacing larger artefacts as they burrow through the soil; burying artefacts through the deposition of fecal material on the surface; and blurring natural and cultural boundaries. They can also destroy remains of seeds and organic materials as they eat them (Fowler et al. 2004:462; Stein 1983:280-281). In Australia, most earthworm species cannot tolerate pH values lower than 4.5 and prefer neutral conditions with a pH of around 7 (Stein 1983:280).

Artefacts may also be moved as a result of an oscillating water table causing alternate drying and wetting of sediments, and by percolating rainwater (Villa 1982:279).

3.11 DISCUSSION

The regional environment provided resources, including raw materials, fauna, flora and water, that would have allowed for sustainable occupation of the area. Within the project area, the landforms of a flat area overlooking a 4th order creek may have been suitable for occupation during the wet season and/or during times of heavy rain as this would have provided water along the 4th order creek.

In relation to modern alterations to the landscape, the previous large scale clearing and logging, long-term grazing with at least one ploughing event for grass can be expected to have had moderate to high impacts upon the archaeological record though the redistribution of artefacts across the landscape. European land uses such as excavation works for dam, fence and track works can be expected to have had high impacts on the archaeological record through displacement and, or, destruction.

4 CULTURAL CONTEXT

Unfortunately, due to European settlement and associated destruction of past Aboriginal communities, their culture, social structure, activities and beliefs, little information with regards to the early traditional way of life of past Aboriginal societies remains.

Anthropologists and ethnographers have attempted to piece together a picture of past Aboriginal societies throughout Australia. Although providing a glimpse into the past, one must be aware that information obtained on cultural and social practices were commonly biased and generally obtained from informants including white settlers, bureaucrats, officials and explorers. Problems encountered with such sources are well documented (e.g., Barwick 1984; L'Oste-Brown et al 1998). There is little information about who collected information or their skills. There were language barriers and interpretation issues, and the degree of interest and attitudes towards Aboriginal people varied in light of the violent settlement history. Access to view certain ceremonies was limited and cultural practices (such as initiation ceremonies and burial practices) were commonly only viewed once by an informant who would then interpret what he saw based on his own understanding and then generalise about those practices.

4.1 WONNARUAH COUNTRY

Brayshaw (1987) examined early ethnographic literature relating to the Aboriginal occupation and European settlement of the Hunter Valley in order to determine the manner in which past Aboriginal communities adapted to their environment, the extent to which they utilised the available resources, and to assess the comparability of the described material culture with the archaeological evidence.

In relation to the limitations inherent within the ethno-historic documentation, Brayshaw (1987) notes that the early records of settlers, explorers and surveyors provide the only picture of past Aboriginal life in the Hunter Valley, as it was prior to the impact of contact and white settlement and therefore worthy of consideration. Dawson (1830; in Brayshaw 1987) and Fawcett (1898; in Brayshaw 1987) suggest that fire was used to deter Europeans, to attract game for hunting and to signal to other tribes for both hunting and ceremonial purposes. It is also commonly known that firestick farming was used to modify the environment throughout Australia (Mulvaney and Kamminga 1999). Floral resources were also utilised in many ways with bark been widely used as huts or 'gunyahs', canoes, string, baskets, drinking containers and in burial practices. Vegetable and bark fibres were also used for fishing lines, nets and sewing. Wood was used for clubs, yam sticks, boomerangs, spears, spear throwers and hatchets, and both wood and bark were used to make shields (Paterson 1801; Barrallier 1802). Shells were used as scrapers to sharpen spears (later replaced by glass) and ground into shape for fishhooks (Caswell 1841 and Gunson 1974, both in Brayshaw 1987:67). Although there are no apparent ethnographic reference to stone being used as tools, physical evidence indicates stone was utilised at as tools. Kangaroo bones were made into awls and used to repair canoes and in sewing possum and kangaroo skins for clothing (Boswell 1890; Fawcett 1898 in Brayshaw 1987). Dawson (1830:115-116) notes that kangaroo bone also functioned as a comb. Dietary staples included a variety of plant foods, shellfish and other animal foods (Grant 1803:161; Wood 1972:44). Animal foods may have included kangaroos, wallabies, echidna, emus, possums, birds, goannas, snakes and honey from native trees. The occurrence of these resources would have depended largely on seasonality and geographic location. Little is known of past ritual life, as access to these rites was restricted.

5 ARCHAEOLOGICAL CONTEXT

A review of the archaeological literature of the region, and more specifically the local area and the results of an AHIMS search provide essential contextual information for the current assessment. Thus, it is possible to obtain a broader picture of the wider cultural landscape highlighting the range of site types throughout the region, frequency and distribution patterns and the presence of any sites within the project area. It is then possible to use the archaeological context in combination with the review of environmental conditions to establish an archaeological predictive model for the project area.

5.1 HERITAGE REGISTER LISTINGS

The State Heritage Register, the National Heritage List, the Commonwealth Heritage List, the National Trust Heritage Register and the relevant Local Environmental Plan have no Aboriginal objects, sites or places listed.

5.2 ABORIGINAL HERITAGE INFORMATION MANAGEMENT SYSTEM

MCH note that there are many limitations with an AHIMS search. Firstly, site coordinates are not always correct due to errors and changing of computer systems over the years that failed to correctly translate old coordinate systems to new systems. Secondly, AHIMS will only provide up to 110 sites per search, thus limiting the search area surrounding the project area and enabling a more comprehensive analysis and finally, few sites have been updated on the AHIMS register to notify if they have been subject to a s87 or s90 and as such what sites remain in the local area and what sites have been destroyed, to assist in determining the cumulative impacts, is unknown. Additionally, terminology for site names including (amongst many) an 'artefact' site encompasses stone, bone, shell, glass, ceramic and/or metal and combines both open camps and isolated finds into the one site name. Unfortunately, this greatly hinders in the predictive modelling as different sites types grouped under one name provided inaccurate data.

A search of the AHIMS register has shown that there are no known sites within two kilometres of the project area.

5.3 ARCHAEOLOGICAL CONTEXT

The definition of site curtilages in NSW are guided by the requirements for site registration in the AHIMS database, leading to geographically discrete sites as individual entities, existing in isolation. Such an approach is understandable, as it grows from the need to define sites as per legislatively guided parameters. This is further reinforced by the geographically focussed work of consultant archaeologists, limiting their analysis to a specific geographically constrained area based on individual project specifications. While this is the common practice for recording individual sites, it is important to contextualise them within a broader archaeological and cultural landscape that links them together. In this way assemblages may be understood as a continuous scatter of cultural material across the landscape and the nature of activities and occupation can be identified through the analysis of artefact distributions across a landscape.

The majority of archaeological assessments throughout the region (no local assessments listed on AHIMS) have been undertaken in relation to environmental assessments and a review of the most relevant investigations (hardman 1978, Appleton 1993, Byrne 1991, Kayandel 2016, Niche 2016, MCH 2008, 2014, RPS 2022) illustrates consistency in site type and location across the region as well as a possible bias in the results due to a focus on specific landforms. Based on the available

information it is possible to identify a number of trends in site location and patterning within the region. Open campsites are by far the most common site type with isolated finds also comparatively well represented. A variety of other site types have been identified in far lower concentrations and include grinding grooves, scarred trees, rock shelters, shelters with art and burials. The high representation of sites containing stone artefacts is to be expected due to the durability of stone in comparison to other raw materials. In relation to stone artefact raw materials, it is important to note that there is a potential for discrepancies in the way in which archaeologists classify lithic materials. This will consequently affect the proportional representation of raw materials within the recorded assemblages. However, as a whole mudstone is the most common lithic artefactual material found in the region, followed by silcrete. Chert, tuff, quartz, quartzite, petrified wood, porcellanite, hornfels, porphyry, basalt, limestone, sandstone, rhyolite, basalt, European glass and other non-specific lithic types also occur in smaller quantities. Variation in the classificatory definitions employed by archaeologists will again significantly influence the range of artefact types identified within a project area. Due to differences in recording techniques it is difficult to determine how many of each artefact type is represented across the region though types include flakes, broken flakes, retouched flakes, multi-platform cores, single platform cores, bipolar cores, flaked pieces, 'waste' pieces, 'chips', debitage, 'geometric microliths', 'backed blades', 'bondi points', 'scrapers', 'eloueras', 'burrins', 'blades', 'hatchets', 'unifacial choppers', 'bifacial choppers', 'pebble tools', a 'slice', edge-ground axes, anvils, hammer stones and heat. Due to variations in both the amount of data that is included in reports, and the terms different archaeologists used to describe artefact types, it is not practicable to provide a count of the different artefact types.

For example, the distinction between a waste flake, a debitage flake and a flaked piece may be heavily subject to the perspective of the recorder. Thus, it is not productive to attempt to quantify the proportionate representation of artefact types identified in previous studies. That said, based on the information collated from previous regional studies (refer to MCH 2004b) it is apparent that the most common artefact types are flakes, flake fragments and flaked pieces. Cores, edge ground axes, millstones, grindstones, hammer stones and backed artefacts including backed blades, bondi points, geometric microliths and eloueras also occur though in lower frequencies. In general, the stone artefact assemblage in the area has been relatively dated to what was previously known as the Small Tool Tradition (10,000 years BP). On the basis of stone tool technology, the overwhelming majority of Aboriginal open sites within the region are attributed to the Holocene period. However, at Glennies Creek, north of Singleton, based on radiocarbon dated charcoal and geomorphological evidence it is suggested that artefacts found in the B-horizon may have been deposited between 10,000 and 13,000 BP (Koettig 1986a, 1986b).

An analysis of sites according to the number of artefacts present, the distance from water and the landform type may allow for the identification of a number of trends. However, that there are various factors influencing these results, including, but not limited to:

- the fact that the landform on which a site area is observed may not necessarily be its origin, for example, artefacts from a crest may be relocated by erosion such that they are recorded further down a slope;
- effects of biased sampling of landforms due to decisions made by archaeologists as a result of development area boundaries, levels of exposure on different landforms and variable recording by archaeologists. For example, the large percentage of sites found along creek lines may be (at least partially), a result of the biased focus of many cultural heritage surveys towards this landform; and

- artefact counts can be skewed due to factors such as the differing fragmentation levels of discrete stone types and levels of ground surface visibility. Typically, a very large number of sites/artefacts are located on exposures and yet no, or very few artefacts are visible away from these exposures.

When assessing sites in terms of distance to water, in the Hunter Valley there is a clear pattern of past land uses whereby the majority of high-density sites are situated within 50 metres of reliable fresh water (high order) and reduce in both numbers and densities with a decrease in stream order. Thus, it is apparent that open campsites/isolated finds are most concentrated in number and size within 50 metres of reliable fresh water.

As is to be expected, the majority of sites within 50 metres of water are present on elevated landforms in association with creek lines whilst slopes and crest/ridge formations are also common site locations. The frequent presence of sites on crest/ridges and slopes is also noticeable for sites located over 50 metres from water. Due to the importance of water in the grinding process, it is not surprising that sites of this type are situated close to water.

5.3.1 SUMMARY OF ARCHAEOLOGICAL PATTERNING

In summary, despite the recognised limitations of utilising previous studies as the basis for generalisations regarding archaeological patterning, the following broad predictions can be made for the region:

- a wide variety of site types are represented in the project area with open campsites and isolated artefacts by far the most common;
- lithic artefacts are primarily manufactured from mudstone and silcrete with a variety of other raw materials also utilised but in smaller proportions;
- sites in proximity to ephemeral water sources or located in the vicinity of headwaters of upper tributaries (1st order streams) have a sparse distribution and density and contain little more than a background scatter;
- sites located in the vicinity of the upper reaches of minor tributaries (2nd order streams) also have a relatively sparse distribution and density and may represent evidence of localised one-off behaviour;
- sites located in the vicinity of the lower reaches of tributaries (3rd order creeks) have an increased distribution and density and contain evidence that may represent repeated occupation or concentration of activity;
- sites located in the vicinity of major tributaries (4th and 5th order streams/rivers) have the highest distribution and densities. These sites tend to be extensive and complex in landscapes with permanent and reliable water and contain evidence representative of concentrated activity; and
- sites located within close vicinity at the confluence of any order stream may be a focus of activity and may contain a relatively higher artefact distribution and density.

Within the region, a broad range of site types are represented including isolated artefacts, open campsites, shelters, grinding grooves, engravings and shelters with art and/or deposit. Within the areas covered by the regional studies, the range of available landforms has been sampled. In regional terms, site distribution is extremely closely linked to topography and access to reliable fresh water exhibiting the highest concentrations of sites.

There are a number of factors which affect site location and that are beyond human control. Shelter sites, grinding grooves and engravings are site types typical of the "sandstone country" however, their presence is limited to areas containing suitable sandstone outcrops and therefore such sites are not expected within an alluvial context.

5.4 LOCAL & REGIONAL CHARACTER OF ABORIGINAL LAND USE & ITS MATERIAL TRACES

The following is a summary of the previous investigations detailed in Section 5.3 and 5.4. It must be remembered, however, that there are various factors which will have skewed the results discussed in Section 5.3. Therefore, the summary provides an indication of what may be expected in terms of site location and distribution.

- the majority of high-density sites are located on elevated landforms within 50 metres of a reliable fresh water source with a drop of site number and densities with a decrease in stream order;
- the likelihood of finding sites of any size increases with proximity to fresh water sources and the likelihood of finding large artefact scatters also increases markedly with proximity to reliable high order water sources;
- the main site types are artefact scatters and isolated finds;
- mudstone, silcrete and tuff are by far the most common raw material types represented at sites in the region. Quartz and chert are the next most frequently in artefact assemblages followed by volcanic materials, porphyry and petrified wood. Siltstone, rhyolite and porcellanite are relatively rare;
- flakes, broken flakes and flaked pieces are the most common artefact types recorded;
- the stone artefacts are usually relatively dated to within the last 5,000 years;
- grinding grooves may be located along or near water sources;
- the likelihood of finding scarred trees is dependent on the level of clearing in an area;
- the vast majority of artefactual material in the region was observed on exposures with good to excellent ground surface visibility; and
- the majority of sites will be subject to disturbances including human and natural.

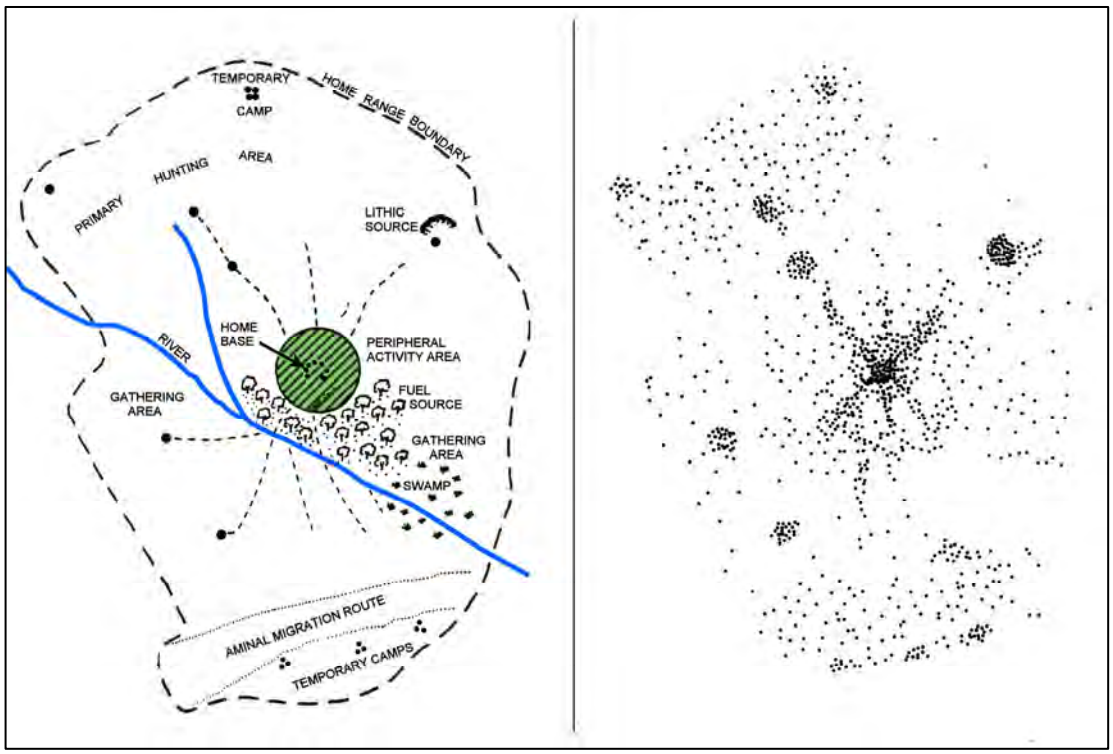
These findings are consistent with models developed for the local area.

5.5 MODEL OF PAST ABORIGINAL LAND USE

The aim of this assessment is to attempt to define both the nature and extent of occupation across the area. As a result, the nature of the analysis will focus on both landform units and sites. The purpose of this strategy is to highlight any variations between sites and associated assemblages, landforms and resources across the area treating assemblages as a continuous scatter of cultural material across the landscape. In doing this, it is possible to identify land use variations across the landscape, landforms and assemblages that correspond with variation in the general patterns of landscape use and occupation. Thus, the nature of activities and occupation can be identified through the analysis of stone artefact distributions across a landscape. A general model of forager settlement patterning in the archaeological record has been established by Foley (1981). This model distinguishes the residential "home base" site with peripheral "activity locations". Basically, the home base is the focus of attention and many activities and the activity locations

are situated away from the home base and are the focus of specific activities (such as tool manufacturing). This pattern is illustrated in Figure 5.1. Home base sites generally occur in areas with good access to a wide range of resources (reliable water, raw materials etc), and the degree of environmental reliability, such as reliable water and subsistence resources, may influence the rate of return to sites and hence the complexity of evidence. Home base sites generally show a greater diversity of artefacts and raw material types (which represent a greater array of activities performed at the site and immediate area). Activity locations occur within the foraging radius of a home base camp (approximately 10 km); (Renfrew and Bahn 1991). Based on the premise that these sites served as a focus of a specific activity, they will show a low diversity in artefacts and are not likely to contain features reflecting a base camp (such as hearths). However, it is also possible that the location of certain activities cannot be predicted or identified, adding to the increased dispersal of cultural material across the landscape. If people were opting to carry stone tools during hunting and gathering journeys throughout the area rather than manufacturing tools at task locations, an increased number of used tools should be recovered from low density and dispersed assemblages across the landscape.

Figure 5.1 Foley's model (L) and its manifestation in the archaeological record (R), (Foley 1981)



5.5.1 MODEL OF OCCUPATION FOR THE REGION

Work throughout NSW has aimed to understand the nature of Aboriginal occupation and determine the nature of land use. This theme often aims to identify and explain archaeological patterning in site type, content and distribution. General theories have been developed outlining the relationship between land use patterns and the resulting archaeological evidence. A number of models developed for the region have been reviewed (McBryde 1976; Koettig 1994; Dean-Jones and Mitchell 1993; Rich 1995; Kuskie and Kamminga 2000; McDonald and White 2010). All models state that the primary requirements for repeated, concentrated or permanent occupation

is access to reliable fresh water. Brief and possible repeated occupation may be represented in areas that have unreliable access to ephemeral water sources, however, these areas will not contain high archaeological evidence or potential (Goodwin 1999).

Kuskie and Kamminga (2000) established a general model of occupation strategies based primarily upon ethnographic research. Used as a starting point, it makes a general set of predictions for the region that is consistent with other studies (e.g., Nelson 1991). The model distinguishes between short-term or extended long-term occupation and makes some predictions about the likely location of different foraging and settlement activities. Combining this information with a general review of assemblage contents from a sample of excavated sites within the region, a baseline of settlement activities may be determined (Barton 2001).

The model provides a number of archaeological expectations that may be tested. For example, the presence of features requiring a considerable labour investment such as stone-lined ovens or heat-treatment pits are likely to occur at places where occupation occurred for extended periods of time. The presence of grindstones is also a reliable indicator of low mobility and extended occupation. Seed grinding requires a large investment of time and effort (Cane 1989). In most ethnographic examples, seed grinding is an activity that takes place over an entire day to provide adequate energetic returns (Cane 1989; Edwards and O'Connell 1995).

Where group mobility was high and campsites frequently shifted throughout the landscape, artefact assemblages are not expected to contain elements such as grindstones, heat-treatment pits, ovens and the diversity of implements frequently discarded at places of extended residential occupation. It may also have been the case that the location of particular activities could not be predicted by tool users, adding to the increased low-density scattering of artefacts over the landscape. Also, if individuals were opting to carry a number of stone tools during hunting and gathering activities and maintaining these tools rather than manufacturing new tools at each task location, the ratio of used tools to unworn flakes in these assemblages should be high. Table 5.1 has been adapted from Kuskie and Kamminga (2000). The identification of specific activity areas through analysis of the composition of the patterning of lithic assemblages was utilised. However, this is applied to excavated materials as they provide more realistic data due to the lesser degree of disturbances, removal and breakages.

Table 5.1 Site descriptions (Kuskie & Kamminga 2000).

Occupation pattern	Activity location	Proximity to water	Proximity to food	Archaeological expectations
Transitory movement	all landscape zones	not important	not important	• assemblages of low density & diversity • evidence of tool maintenance & repair • evidence for stone knapping
Hunting &/or gathering without camping	all landscape zones	not important	near food resources	• assemblages of low density & diversity • evidence of tool maintenance & repair • evidence for stone knapping • high frequency of used tools
Camping by small groups	associated with permanent & temporary water	near (within 100m)	near food resources	• assemblages of moderate density & diversity • evidence of tool maintenance & repair • evidence for stone knapping & hearths
Nuclear family base camp	level or gently undulating ground	near reliable source (within 50m)	near food resources	• assemblages of high density &diversity • evidence of tool maintenance & repair & casual knapping • evidence for stone knapping • heat treatment pits, stone lined ovens • grindstones

Community base camp	level or gently undulating ground	near reliable source (within 50m)	near food resources	• assemblages of high density & diversity • evidence of tool maintenance & repair & casual knapping • evidence for stone knapping • heat treatment pits, stone lined ovens • grindstones & ochre • large area >100sqm with isolated camp sites

5.6 PREDICTIVE MODEL FOR THE PROJECT AREA

Due to issues surrounding ground surface visibility and the fact that the distribution of surface archaeological material does not necessarily reflect that of sub-surface deposits, it is essential to establish a predictive model.

Previous archaeological studies undertaken throughout the region, the AHIMS register and the environmental context provide a good indication of site types and site patterning in the area. This research has shown that occupation sites (artefact scatters and isolated finds) are the most frequently recorded site type and are commonly located along or adjacent to watercourses, and on relatively flat to gently sloping topography in close proximity to reliable fresh water. Sites with higher artefact densities are similarly concentrated within fifty metres of higher order watercourses with site numbers and site densities decreasing with a reduction of stream order and distance form a water source. Within the local area, previous assessments within a similar environmental context indicate that, within a well-watered context, there is high potential for archaeological material to be present on level, typically well-elevated landforms that provide ready access to low-lying waterlogged areas and the associated resources.

Within the investigation area, considering the AHIMS results, local and regional archaeological investigations as well as the environmental context, given that fresh water was necessary for survival the presence of a 4th order creek in the east of the investigation indicated that the creek may have been utilised following heavy rain for transitory activities such as opportunistic hunting and gathering on the way to fresh water sources, rather than camping. Evidence of such past Aboriginal land uses manifest in the archaeological record as low-density artefact scatters and isolated finds. Evidence of past Aboriginal land use are expected to be focused along the 4th order creek.

The remainder of the project area, consisting of a crest, slopes and drainage depressions, whilst are also expected to have been suitable for transitory activities such as opportunistic hunting and gathering opportunities, the expected evidence of a background scatter of discarded artefacts, would have been disturbed by the discussed land uses (clearing and ploughing disturbs 12-40cm+ of soils), resulting in disturbed deposits and the re-distribution of artefacts across the landscape with no indications of possible site location.

The refinement of this predictive model will be dependent upon an investigation of the range of landforms and the occurrence of modern disturbances within the project area.

5.7 ARCHAEOLOGICAL POTENTIAL IN THE PROJECT AREA

Based on archaeological sites registered in the region and the results of past archaeological studies, two site types are likely to occur throughout the project area:

- **Artefact scatters**

Also described as open campsites, artefact scatters have been defined at two or more stone artefacts within 50 metres of each other and will include archaeological remains such as stone

artefacts and may be found in association with hunting and gathering activities (manifests in the archaeological record as lo-density discarded artefacts across the landscape) or camping where other evidence may be present such as shell, hearths, stone lined fire places and/or heat treatment pits. These sites are usually identified as surface scatters of artefacts in areas where ground surface visibility is increased due to lack of vegetation and land uses. Erosion, agricultural activities (such as ploughing, grazing), construction and mining activities and access ways can also expose surface campsites. Artefact scatters may represent evidence of;

- Large camp sites, where everyday activities such as habitation, maintenance of stone or wooden tools, manufacturing of such tools, management of raw materials, preparation and consumption of food and storage of tools has occurred;
- Medium/small camp sites, where activities such as minimal tool manufacturing occurred;
- Hunting and/or gathering events;
- Other events spatially separated from a camp site, or
- Transitory movement through the landscape.

Artefact scatters are a common site type in the region. There is potential for low-density artefact scatters to be located in close proximity to the 4th order creek. There is also the potential for such sites to be impacted on through past impacts including previous clearing/logging, at least one ploughing event and grazing, along with dam, fence and track construction works.

- **Isolated finds**

Isolated artefacts are usually identified in areas where ground surface visibility is increased due to lack of vegetation and land uses. Erosion, agricultural activities (such as ploughing), construction and mining activities and access ways can also expose surface artefacts. Isolated finds may represent evidence of;

- Hunting and/or gathering events; or
- Transitory movement through the landscape.

Isolated finds are a common site type in the locality and the broader region. There is potential for isolated artefacts to occur across the project area and across all landforms. There is also the potential for such sites to be impacted on through past impacts including previous clearing/logging, at least one ploughing event and grazing, along with dam, fence and track construction works.

6 RESULTS

6.1 METHODOLOGY

The survey area was surveyed on foot by the archaeologist and registered Aboriginal stakeholder representatives in accordance with the proposed methodology provided to the stakeholders for review. The survey focused on areas of high ground surface visibility and exposures (erosional features, creek banks, tracks, cleared areas).

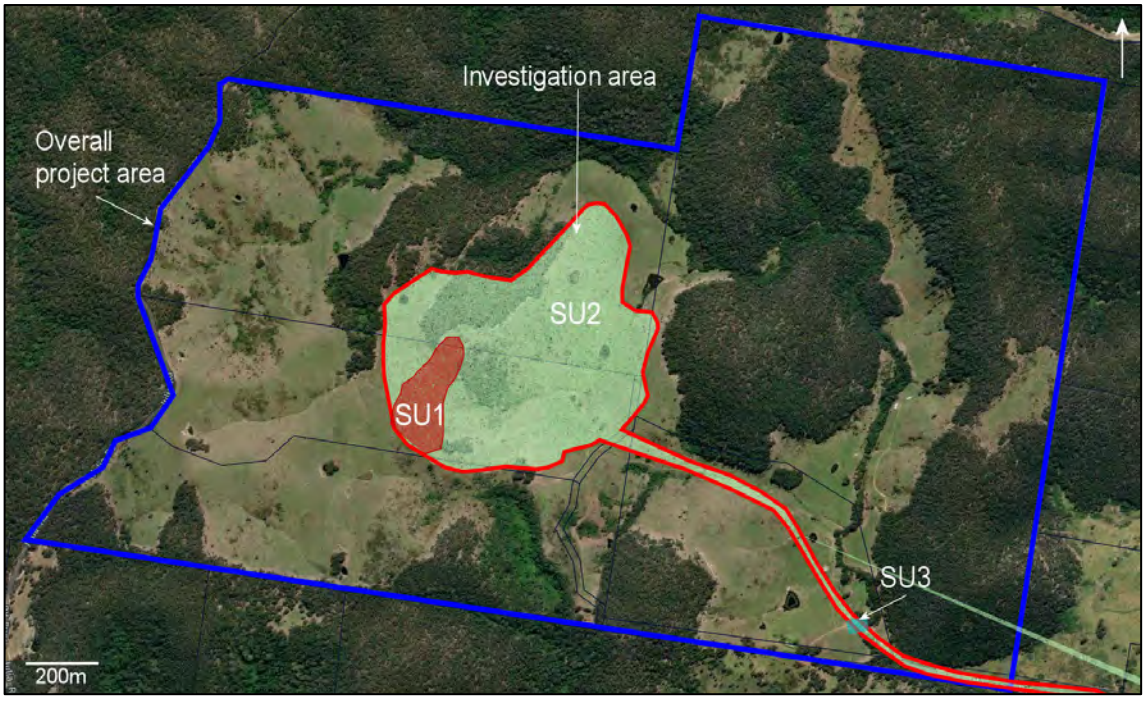
6.2 LANDFORMS

McDonald et al (1998) describes the categories of landform divisions that consists of a two layered division involving treating the landscape as a series of "mosaics". The mosaics are described as two distinct sizes: the larger categories are referred to as landform patterns and the smaller being landform elements within these patterns. Landform patterns are large-scale landscape units, and landform elements are the individual features contained within these broader landscape patterns. There are forty landform pattern units and over seventy landform elements. However, of all the landform element units, ten are morphological types. For archaeological investigations they divide the landscape into standardised elements that can be used for comparative purposes and predictive modelling. As outlined in Section 3, the project area includes three landforms: crest, slopes with drainage depressions and a 4th order creek.

6.3 SURVEY UNITS

The project area, consisting of three landforms, was divided into three survey units (SU) that were based on landform elements (following McDonald et al 1984) including the crest, slopes with drainage depressions and the 4th order creek. The locations of the SUs are marked on Figure 6.1 and are summarised below.

Figure 6.1 Survey units of the project area



Survey Unit 1: crest

This survey unit included the crest located in the western end of the project area. The entire area had been previously completely cleared and logged, likely to have been subject to at least one plough event due to the presence of pasture grass. Currently, the project area is used for grazing. Significant erosion throughout the crest has resulted in approximately 70% of soils eroded and exposing the rocks throughout. Vegetation consisted predominantly grass and an example of this survey unit is provided in Figure 6.2.

Figure 6.2 Southern end of the crest (facing north)

Survey Unit 2: slopes and draiange depressions

This survey unit included the majority of the project area and consisted of slopes ranging from gentle in the east to moderate and steep throughout the remainder of the project area. Including all drainage depressions, the entire area had been previously completely cleared and logged, likely to have been subject to at least one plough event due to the presence of pasture grass. Currently, the project area is used for grazing and there is significant erosion throughout. The significant erosion has resulted in approximately 85% of soils eroded exposing the rocks throughout. Vegetation consisted predominantly grass with some new growth open woodland located in the centre of the project area (Figures 6.3 to 6.9).

Figure 6.3 Start of the access road (facing west)

Figure 6.4 Mid-section of the access road (facing east)

Figure 6.5 Mid-section of the access road (facing west)

Figure 6.6 Eastern side of the resource (facing west)

Figure 6.7 Regrowth open woodland area in the centre of the resource (facing east)

Figure 6.8 Western side of the open woodland (facing north east)

Figure 6.9 Example of the erosion and exposures on the slopes

Survey Unit 3: 4th order creek

This survey unit includes a small part of the 4th order creek located along the access road in the south eastern part of the project area and up to 10 metres both sides of the creek. The area of impact includes both sides of the creek. The southern side has been significantly altered due to the excavation and construction of the logging road with none of the original land form remaining within the proposed impact area. The northern side, however, appears to remain relatively undisturbed and includes an elevated landform along the creek (Figure 6.10).

Figure 6.10 Southern side of the 4th order creek (facing north)

6.4 EFFECTIVE COVERAGE & DISTURBANCES

To determine the effectiveness of an archaeological survey, the visibility and exposure conditions for each survey unit is calculated to provide an effective coverage amount. Effective coverage is an estimate of the amount of ground observed considering local constraints on site discovery such as vegetation and leaf litter and erosion. There are two components to determining the effective coverage: visibility and exposure.

Visibility is the amount of bare ground on the exposures which may reveal artefacts or other cultural materials, or visibility refers to 'what conceals'. Visibility is hampered by vegetation, plant or leaf litter, loose sand, stony ground or introduced materials (such as rubbish). On its own, visibility is not a reliable factor in determining the detectability of subsurface cultural materials (DECCW 2010/783:39).

The second component in establishing effective coverage is exposure. Exposure refers to "what reveals". It estimates the area with a likelihood of revealing subsurface cultural materials rather than just an observation of the amount of bare ground. Exposure is the percentage of land for which erosion and exposure is sufficient to reveal cultural materials on the surface (DECCW 2010/783:37). The effective coverage for the project area was determined for both visibility and exposure ratings and Table 6.1 details the visibility rating system used.

Table 6.1 Ground surface visibility rating

Description	GSV rating %
Very Poor – heavy vegetation, scrub foliage or debris cover, dense trees of scrub cover. Soil surface of the ground very difficult to see.	0-9%
Poor – moderate level of vegetation, scrub, and / or tree cover. Some small patches of soil surface visible in the form of animal tracks, erosion, scalds, blowouts etc, in isolated patches. Soil surface visible in random patches.	10-29%
Fair – moderate levels of vegetation, scrub and / or tree cover. Moderate sized patches of soil surface visible, possibly associated with animal, stock tracks, unsealed walking tracks, erosion, blow outs etc, soil surface visible as moderate to small patches, across a larger section of the project area.	30-49%
Good – moderate to low level of vegetation, tree or scrub cover. Greater areas of soil surface visible in the form of erosion, scalds, blowouts, recent ploughing, grading or clearing.	50-59%
Very Good – low levels of vegetation / scrub cover. Higher incidence of soil surface visible due to recent or past land-use practices such as ploughing, mining etc.	60-79%
Excellent – very low to non-existent levels of vegetation/scrub cover. High incidence of soil surface visible due to past or recent land use practices, such as ploughing, grading, mining etc.	80-100%
Note: this process is purely subjective and can vary between field specialists, however, consistency is achieved by the same field specialist providing the assessment for the one project area/subject site.	

As indicated in Table 6.2, the overall effective coverage for project area is 33.6 with grass being the limiting factor and erosion across the project area being high revealing the bedrock throughout. The disturbances included clearing/logging, at least one ploughing event, fences, grazing and dam construction, all of which have impacted upon the landscape and associated cultural materials through removal and displacement.

Table 6.2 Effective coverage for the investigation area

SU	Landform	Area (m2)	Vis. %	Exp. %	Exposure type	Previous disturbances	Present disturbances	Limiting visibility factors	Effective coverage (m2)
1	crest	55,000	45%	70%	erosion, bedrock exposed, tracks/ access road	clearing/ logging, ploughing, grazing	erosion, grazing	vegetation	17,325
2	slopes & drainage	488,400	40%	85%	erosion, bedrock exposed, tracks/ access road, dams	clearing/ logging, ploughing, grazing, dams, access roads	erosion, grazing	vegetation	166,056
3	4th order creek	1,600	15%	20%	erosion, tracks/ access road	clearing/ logging, grazing	erosion, grazing	vegetation	48
Totals		**545,000**							**183,429**
								Effective coverage %	**33.66%**

The level and nature of the effective survey coverage is considered satisfactory to provide an effective assessment of the project area. The coverage was comprehensive for obtrusive site types (e.g., grinding grooves and scarred trees) but somewhat limited for the less obtrusive surface stone artefact sites by surface visibility constraints that included vegetation cover and minimal exposures.

In relation to land uses and the associated impacts on the landscape and any cultural materials that may have been present, the project area has been subject to clearing/logging, at least one ploughing event, fences, grazing and dam construction, and as indicated in Table 6.3, these disturbances range from moderate to high.

Table 6.3 Land use scale (CSIRO 2010) and land uses in the project area

Minor disturbance		Project area	Moderate disturbance		Project area	Major disturbance		Project area
0	No effective disturbance; natural		3	Extensive clearing (e.g., poisoning and ringbarking		6	Cultivation: grain fed	
1	No effective disturbance other than grazed by hoofed animals		4	Complete clearing: pasture native or improved, but never cultivated		7	Cultivation: irrigated, past and present	
2	Limited clearing (e.g., selected logging)		5	Complete clearing: pasture native or improved, cultivated at some stage	yes	8	Highly disturbed: e.g., quarry, road works, mining, landfill, urban	part

In view of the predictive modelling and the results obtained from the effective coverage and disturbance rating, it is concluded that the survey provides a valid basis for determining the probable impacts of the proposal and formulating recommendations for the management of the project area.

6.5 ARCHAEOLOGICAL SITES

No sites were identified in the project areas during the survey and this is due to the unsuitable landforms and lack of fresh water supply as well as impacts from previous land uses across the project area (clearing/logging, ploughing, grazing). The absence of reliable fresh water indicates the project area may have been utilised for more transitory activities rather than camping. Evidence of such past Aboriginal land uses manifests in the archaeological record as a background scatter of discarded artefacts, which would have been disturbed/destroyed through past land uses.

6.6 POTENTIAL ARCHAEOLOGICAL DEPOSIT/ SENSITIVITY

The terms "potential archaeological deposit (PAD)" and "area(s) of archaeological sensitivity" are used to describe areas that are likely to contain sub-surface cultural deposits. These sensitive landforms or areas are identified based upon the results of fieldwork, the knowledge gained from

previous studies in or around the subject area and the resultant predictive models. Any or all of these attributes may be used in combination to define an area of potential archaeological sensitivity.

The likelihood of a landscape having been used by past Aboriginal societies and hence containing archaeologically sensitive areas is primarily based on the availability of local natural resources for subsistence, artefact manufacture and ceremonial purposes. The likelihood of surface and subsurface cultural materials surviving in the landscape is primarily based on past land uses and preservation factors.

Given the known extent and content of sites typically situated along 3rd and higher order creeks and given that a 4th order creek is located in the project area, it is likely that subsurface materials would have existed within the project area, in particular in close proximity to the 4th order creek and on the northern side of the area of impact (proposed access road).

6.6.1 PAD1

This PAD includes the northern side of the 4th order creek (up to 30 metres in width from the creek edge) as this area is an elevated landform overlooking the creek and appears to remain relatively undisturbed. The southern side has been excluded as that side had been significantly altered due to the excavation and construction of the logging road with none of the original land form remaining within the proposed impact area. It must be noted that the PAD extends beyond the proposed impact area along the creek. The location of the PAD is illustrated in Figures 6.11 and 6.12.

Figure 6.11 Location of the PAD

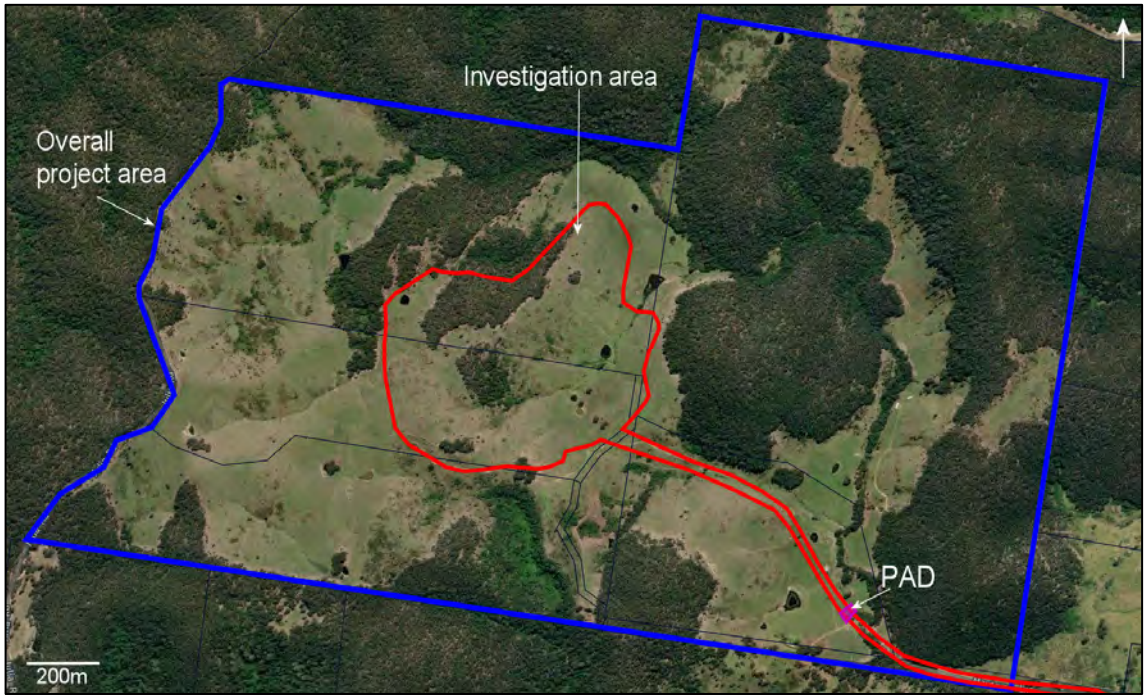
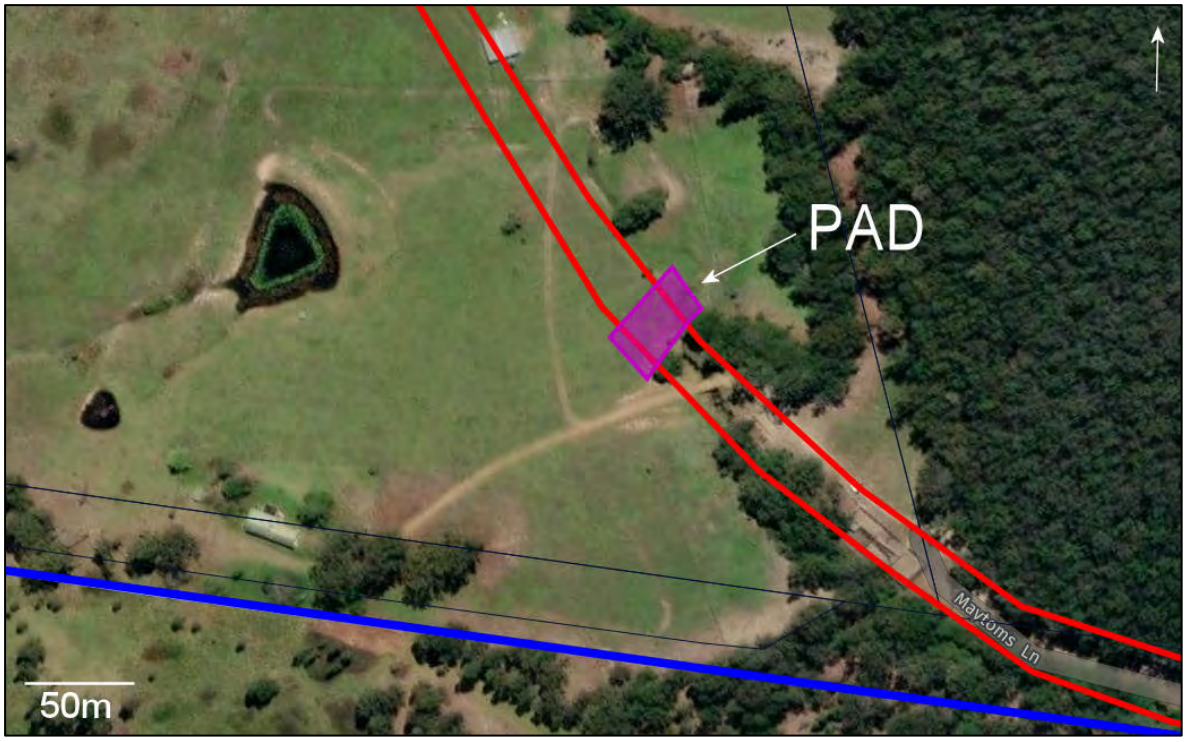


Figure 6.12 Aerial closeup of the location of the PAD



6.7 DISCUSSION

Considering the environmental, cultural and archaeological contexts of the regional and local area, the distribution of archaeological sites may be identified and thus effectively protected, manage lands, and conserve areas where required and appropriate.

As no sites have been identified, the results of the investigation are discussed below in terms of overall site integrity, local and regional contexts, and predictive modeling.

6.7.1 INTEGRITY

The integrity of an area can be assessed only for surface integrity through the consideration of past and present land uses and their impacts. Subsurface integrity can only be assessed through controlled excavation that allows for the examination of both the horizontal and vertical distribution of cultural materials (caused by natural and/or human impacts) and by conjoining artefacts. Land uses and their impacts (large scale clearing/logging, at least one ploughing event, grazing, dam and access road construction), as well as natural impacts (bioturbation, significant erosion), within the project area have been discussed in Section 3 and 6 and are considered to be significantly high throughout and due to such disturbances, the integrity of the project area is highly disturbed and any sites that may have been present are likely to have been disturbed or destroyed. The exception to this is the 4th order creek located on a gentle slope and appears to have minimal impacts and significantly reduced erosion, indicating subsurface integrity may remain along the creek.

6.8 CONCLUSION

Sites provide valuable information about past occupation, use of the environment and its specific resources including diet, raw material transportation, stone tool manufacture, and movement of groups throughout the landscape. Previous broad-based regional research has shown that proximity to water was an important factor in past occupation, with sites reducing in number, site types and densities, significantly away from water sources. This research has also shown that occupation sites (artefact scatters and isolated finds) are the most frequently recorded site type and are commonly located along or adjacent to watercourses, and on relatively flat elevated landforms in close proximity to reliable fresh water. Sites with higher artefact densities are similarly concentrated within fifty metres of watercourses and throughout the wider landscape, a background scatter of artefacts is present and represent hunting and gathering or travel.

The 4th order creek located in the south eastern part of the project area indicates that the south eastern portion of the project area may be considered reasonably resourced in terms of water availability during wet seasons or after continuous heavy rain when water was available and associated subsistence and medicinal resources. However, the southern side of the creek where the access road will cross is highly disturbed through the construction of the logging road. The northern side of the creek appears to remain relatively undisturbed and as such has been identified as a PAD.

The remainder of the project area consisting of steep to moderate slopes dissected by drainage depressions would have been unsuitable for camping due to the landform and distance from a fresh water supply. Additionally, the crest area is also a greater distance from water. These landforms would likely have been utilised for hunting and gathering activities that manifest in the archaeological record as a background of discarded artefacts and predicating where such artefact would be is impossible. In addition to this, such sites are expected to have been disturbed due to past land uses and significant erosion.

The results of the assessment and survey are consistent with the predictive model and there is little to no potential for in situ cultural materials to be present in the crest and slopes within project area, whereas, there is potential for cultural materials to be present along the 4th order creek (identified PAD).

7 ARCHAEOLOGICAL TEST EXCAVATION METHODS

7.1 OBJECTIVES

The purpose of archaeological test excavation was to collect information regarding the nature and extent of sub-surface Aboriginal objects, based on the sample obtained from these sub-surface investigations. The test excavation will contribute to the understanding of site characteristics and local and regional prehistory and was used to inform conservation goals and harm mitigation measures for the proposed activity.

7.2 DATE OF COMMENCEMENT AND COMPLETION

Start: 22nd October 2024
End: 22nd October 2024

7.3 LOCATION OF TEMPORARY STORAGE OF CULTURAL MATERIALS

McCardle Cultural Heritage Pty Ltd
PO Box 166
Adamstown NSW 2289

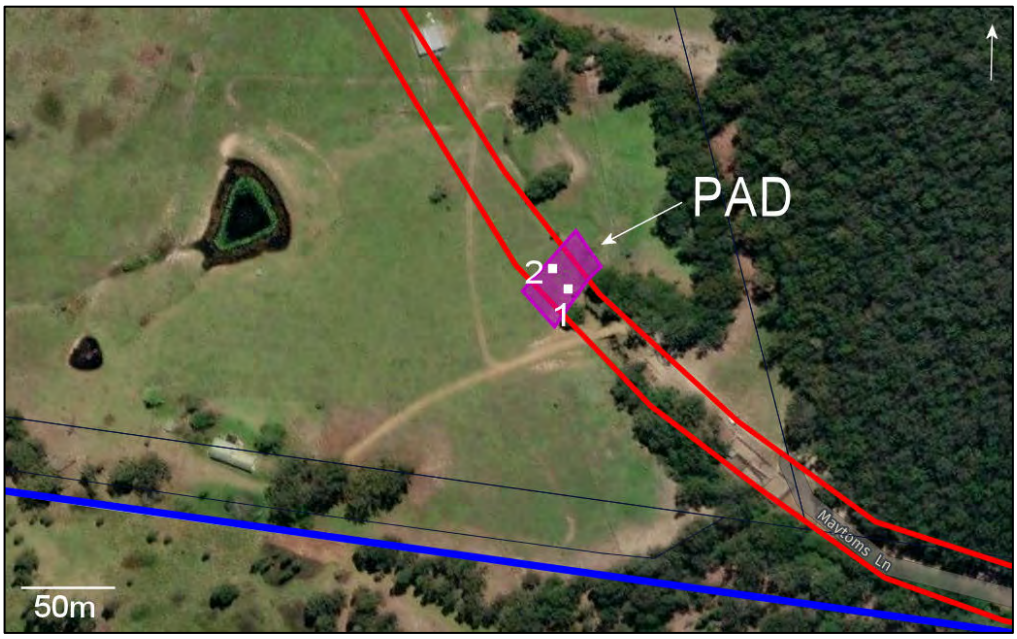
7.4 EXCAVATION METHODS

The test excavation methodology will be in accordance with the Heritage NSW - Code of Practice for Archaeological Investigations of Aboriginal Objects in New South Wales 2010, Section 2.2. This proposed methodology is subject to variation due to unforeseen field conditions/constraints. The area to be subject to a test excavation program will include the area clarified as having archaeological potential and will include:

- the test excavation units will be placed on a 15m x 15m systematic grid system across the part of the PAD that will be impacted on by the development (ensuring that the maximum surface area of all test excavation pits is no greater than .5% the PAD areas;
- test excavations will cease when enough information has been recovered to adequately characterise the objects/site(s) present with regard to their nature and significance;
- the test excavation will be pegged by a surveyor who will also provide a plan and coordinated of each test pit;
- test excavations units will be excavated using hand tools only;
- test excavations will be excavated in 50 cm x 50 cm units. If the pits are deeper than 1m, due to safety, the pits will be battered to allow safe access and batters excavated and sieved as the test excavation;
- the first excavation unit will be excavated and documented in 5 cm spits. Based on the evidence of the first excavation unit, 10 cm spits or sediment profile/stratigraphic excavation (whichever is smaller) will then be implemented;
- all material excavated from the test excavation units will be sieved using a 5-mm wire-mesh sieve;

- test excavation units will be excavated to the base of the identified Aboriginal object-bearing units, or until the B horizon is reached;
- if more than 5 artefacts are uncovered in one pit, then additional test pits will be located north, south, east and west of that pit and placed at 5m from the original pit so long as the total area excavated did not exceed 0.5% of the PAD;
- photographic and scale-drawn records of the stratigraphy/soil profile, features and informative Aboriginal objects will be made for each excavation point;
- test excavations units will be backfilled as completed; and
- all artefacts will be removed at the end of each day for security and held with MCH until the artefact analysis is complete and will be handed to the RAPs (care and control to be determined).

Figure 7.1 Test excavation pit plan



7.5 RESEARCH QUESTIONS

The test excavation and analysis were designed to address a number of research hypothesis. The research questions listed below derive from Kuskies (2005) detailed work in the region and are used here for consistency in analysis and discussions as well as local and regional comparative research.

- What past Aboriginal activities occurred within the project area?
- What types of past Aboriginal occupation occurred within the project area (e.g., transitory movement, hunting, gathering, camping etc)?
- Were the types of activity and nature of occupation related to environmental factors (e.g., landforms, proximity to reliable water)?

- Does spatial patterning of activity areas occur within the project area?
- Did single or multiple episodes of occupation occur within the project area?
- Did episodes of occupation occur at different times over the whole time-span of occupation in the region within the project area?
- Is there potential for older evidence of occupation (i.e., early Holocene)?
- How intensive was occupation of the sites, in both a local and regional context?
- Did microblade and microlith production occur on the sites?
- Were other tools manufactured on the sites?
- Was maintenance of tools conducted on site?
- Was knapping of flakes largely casual and opportunistic, meeting requirements on 'as needed' basis?
- What raw materials were favoured for use on site within the project area and why?
- Did thermal alteration of raw materials occur within the project area?
- How does the evidence and inferred human behaviour represented within the project area compare with evidence from other locations in the region?
- How does the evidence relate to the regional and local models of occupation?

8 TEST EXCAVATION RESULTS AND DISCUSSION

8.1 PAD1

The results of the test excavation, the analysis and discussion of these results are presented in this Section. A total of 2 test pits were completed in and the results and analysis are presented below.

8.1.1 DISTURBANCES

Disturbances across PAD1 were consistent across the site. Disturbances included wholesale clearing, evidence of previous agricultural activity (mixture of A topsoils with B horizon clays throughout the deposit) and grazing. Natural surface drainage and topsoil erosion from sheet wash had occurred across the site. The B horizon was mixed throughout the entirety of the A horizon, with no sharp change to the B horizon. A moderate amount of insect bioturbation was noted throughout the deposit and was consistent across the site and included curl grubs, worms, spiders and beetles.

8.1.2 SOIL PROFILE & STRATIGRAPHY

The soil profile of all excavated test pits at PAD1 was constant and consisted of a loamy/clayey A horizon that was mixed with the B horizon clays throughout. Soil horizon A was found from the surface to the maximum depth of test pits excavated and within one stratigraphic layer. The soil profile of all excavated test pits consisted of the A and B horizons mixed until a clear B horizon was visible.

The A horizon was consistent across the entire PAD and consisted of a mixed loamy/clay (7.5YR 2.5/1) that was moderately acid to neutral (pH 6 – 6.5). Test pit 1 was excavated to a depth of 17cm (7.5YR/2.5/1; pH6) and test pit to a depth of 12 cm (7.5YR/2.5/1; pH 6). There was no clear transition between soil horizons A and B as the B horizon clays were mixed with the A horizon loamy/clays and excavation ceased at the B horizon which was represented by a compact pan of plastic pedal clay below the mixture of horizons. Figure 8.1 shows test pit 1 and Figure 8.2 shows test pit 2 stratigraphy.

Figure 8.1 Test Pit 1

Figure 8.2 Test Pit 2

8.2 ARCHAEOLOGICAL SITE

No archaeological sites were identified.

8.2.1 SITE INTEGRITY

Site integrity can be examined through three main factors including land use history and natural processes, the horizontal and vertical distribution of artefacts and conjoins of artefacts and inferred associations between individual artefacts. The initial assessment identified that previous and present land uses and their impacts as well as natural impacts (such as bioturbation, erosion etc) within the investigation area were assessed as generally low to moderate. The potential effects of land use and their impacts on cultural heritage can be considered.

Soil horizon A and top of horizon B contained significant evidence of past land uses with the complete mixing of the A horizon with the clays of the B horizon. Very few rocks were present and there is no evidence of stratigraphy and the evidence indicates the PAD area has been subject to high intensity impacts and as such the PAD is identified as a highly disturbed deposit with little to no likelihood of in situ deposits.

8.3 REGIONAL CONTEXT

Due to the highly disturbed nature of the area, the area subject to test excavation cannot be reassessed or compared to other assessments.

8.4 RESEARCH QUESTIONS

The test excavation program sought to address a number of specific research questions. These questions are answered below to the extent possible given the nature of the evidence. These issues have been addresses in the preceding sections of this report and are summarised below.

- *What past Aboriginal activities occurred within the project area?*

  No sites were identified.

- *What types of past Aboriginal occupation occurred within the project area (e.g. transitory movement, hunting, gathering, camping etc)?*

No sites were identified.

- *Were the types of activity and nature of occupation related to environmental factors (e.g., landforms, proximity to reliable water)?*

  No sites were identified.

- *Does spatial patterning of activity areas occur within the project area?*

  No sites were identified.

- *Did episodes of occupation occur at different times over the whole time-span of occupation in the region within the project area?*

  No sites were identified.

- *Is there potential for older evidence of occupation (i.e. early Holocene)?*

  No sites were identified.

- *How intensive was occupation of the sites, in both a local and regional context?*

  No sites were identified.

- *Did microblade and microlith production occur on the sites?*

  No sites were identified.

- *Were other tools manufactured on the sites?*

  No sites were identified.

- *Was maintenance of tools conducted on site?*

  No sites were identified.

- *What raw materials were favoured for use on site within the project area and why?*

  No sites were identified.

- *Where were the raw material procured from?*

  No sites were identified.

- *How does the evidence and inferred human behaviour represented within the project area compare with evidence from other locations in the region?*

  No sites were identified.

- *How does the evidence relate to the regional and local models of occupation?*

  No sites were identified.

9 ASSESSMENT OF IMPACTS

The archaeological record is a non-renewable resource that is affected by many processes and activities. As outlined in Section 3 and 6, the various natural processes and human activities would have impacted on archaeological deposits through both site formation and taphonomic processes. Section 6 describes the impacts within the project area, showing how these processes and activities have disturbed the landscape and associated cultural materials in varying degrees.

9.1 IMPACTS

Detailed descriptions of the impacts are provided in Section 1.5 and the results of the survey in Section 6. The Heritage NSW, Department of Premier & Cabinet Code of practice for the archaeological investigation of Aboriginal objects in New South Wales (2010:21) describes impacts to be rated as follows:

1) Type of harm: is either direct, indirect or none

2) Degree of harm is defined as either total, partial or none

3) Consequence of harm is defined as either total loss, partial loss, or no loss of value

No archaeological sites were identified and as such there are no impacts on the archaeological record.

10 MITIGATION AND MANAGEMENT STRATEGIES

Specific strategies, as outlined through the Heritage NSW, Department of Premier & Cabinet: Code of practice for archaeological investigation of Aboriginal objects in New South Wales (DECCW 2010b) and the Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (OEH 2011) are considered below for the management of the identified site within the project area.

One of the most important considerations in selecting the most suitable and appropriate strategy is the recognition that Aboriginal cultural heritage is very important to the local Aboriginal community. Decisions about the management of sites and potential archaeological deposits should be made in consultation with the appropriate local Aboriginal community.

10.1 CONSERVATION/PROTECTION

Heritage NSW, Department of Premier & Cabinet is responsible for the conservation/protection of Indigenous sites and they therefore require good reason for any impact on an indigenous site. Conservation is the first avenue and is suitable for all sites, especially those considered high archaeological significance and/or cultural significance. Conservation includes the processes of looking after an indigenous site or place so as to retain its cultural and scientific significance and are managed in a way that is consistent with the nature of peoples' attachment to them.

As no sites have been identified and the project area conservation is not required.

10.2 FURTHER INVESTIGATION

With the exception of shell middens and burials, an Aboriginal Heritage Impact Permit (AHIP) is not required to undertake test excavations (providing the excavations are in accordance with the Code of Practice for Archaeological Investigations in NSW and consultation with the RAPs). Subsurface testing is appropriate when a PAD has been identified, and it can be demonstrated that sub-surface Aboriginal objects with potential conservation value have a high probability of being present, and that the area cannot be substantially avoided by the proposed activity.

As no sites have been identified and the PAD is not a PAD, no further investigations are required.

10.3 AHIP

If harm will occur to an Aboriginal object or Place, then an AHIP is sought from Heritage NSW, Department of Premier & Cabinet as a defence to that harm. If a systematic excavation of the known site could provide benefits and information for the Aboriginal community and/or archaeological study of past Aboriginal occupation, a salvage program, and, or community collection, may be an appropriate strategy to enable the salvage of cultural objects.

As no sites have been identified an AHIP is not required.

11 RECOMMENDATIONS

11.1 GENERAL

1) The persons responsible for the management of onsite works will ensure that all staff, contractors and others involved in construction and maintenance related activities are made aware of the statutory legislation protecting sites and places of significance. Of particular importance is the National Parks and Wildlife Regulation 2019, under the National Parks and Wildlife Act 1974;

2) An Unexpected Finds Procedure for cultural materials and human remains (Appendix C) will be implemented during all works, and

3) Should any Aboriginal objects be uncovered during works, all work will cease in that location immediately, the Unexpected Finds Procedure followed and the Environmental Line contacted.

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APPENDIX A

Aboriginal Stakeholder Consultation

Date	Consultation type	Heritage NSW requirement	Consult stage	RAP/Agency	Contact person	Description
29/7/24	Letter/email	4.1.2	1	MCH contacted Heritage NSW		Letter to identify Aboriginal parties. Requested response no later C.O.B. 12/8/2024
29/7/24	Letter/email	4.1.2	1	MCH contacted Karuah Local Aboriginal Land Council (KLALC)		Letter to identify Aboriginal parties. Requested response no later C.O.B. 12/8/2024
29/7/24	Letter/email	4.1.2	1	MCH contacted Registrar of Aboriginal Owners (RAO)		Letter to identify Aboriginal parties. Requested response no later C.O.B. 12/8/2024
29/7/24	Letter/email	4.1.2	1	MCH contacted MidCoast Council (MCC)		Letter to identify Aboriginal parties. Requested response no later C.O.B. 12/8/2024
29/7/24	Letter/email	4.1.2	1	MCH contacted Native Title Tribunal (NNTT)		Letter to identify Aboriginal parties. Requested response no later C.O.B. 12/8/2024
29/7/24	Letter/email	4.1.2	1	MCH contacted NTSCORP Ltd		Letter to identify Aboriginal parties. Requested response no later C.O.B. 12/8/2024
29/7/24	Letter/email	4.1.2	1	MCH contacted Hunter Local Land Services (HLLS)		Letter to identify Aboriginal parties. Requested response no later C.O.B. 12/8/2024
29/7/24	Letter/email	4.1.2	1	NNTT		Freehold
31/7/24	Letter/email	4.1.2	1	RAO		Identified Aboriginal parties: 2
8/8/24	Letter/email	4.1.2	1	Heritage NSW		Identified Aboriginal parties: 34
NA		4.1.2	1	LALC		No response
NA		4.1.2	1	Council		No response
NA		4.1.2	1	NTSCORP	Do not provide lists of possible stakeholders	
NA		4.1.2	1	HLLS	Do not provide lists of possible stakeholders	
12th August 2024 C.O.B. Request for groups to consult with closed						
14/8/24	Public notice	4.1.3	1	All registered Aboriginal parties (RAPs)		Public notice in the Gloucester Advocate & Dungog Chronical, registration no later than 28/8/2024.
13/8/24	Letter & email	4.1.3, 4.1.4, 4.1.5, 4.2.1	1	All RAPs	those provided from sources above	Formal letter to identified RAPs requesting registration of interest in the project, project outline, maps and asking for the preferred method to receive information (meeting/mail/email). Required registration by C.O.B. 26/8/24
31/7/24	Email	4.1.7, 4.1.8	1	Karuah Indigenous Corporation	Dave Feeney	Registered for the project
13/8/24	Email	4.1.7, 4.1.8	1	Nur-Run-Gee Pty Ltd	Lennie Anderson	Registered for the project
13/8/24	Email	4.1.7, 4.1.8	1	Mura Gadi Aboriginal corporation	Tiarna Bird	Registered for the project

Date	Consultation type	Heritage NSW requirement	Consult stage	RAP/Agency	Contact person	Description
14/8/24	Email	4.1.7, 4.1.8	1	Girragirra Murun Aboriginal Corporation	Diana Astin	Registered for the project
23/8/24	Email	4.1.7, 4.1.8	1		Thomas Dahlstrom	Registered for the project
26/8/24	Emal & letter	4.1.7, 4.1.8	1	Mur-Roo-Ma Inc.	Bec Young	Registered for the project
27/8/24	phone	4.1.7, 4.1.8	1	WLALC	Jamie Merick	Registered for the project
28th August 2024 C.O.B. Registration for project closed						
28/8/24	Email & letter	1; s 4.1.6		Heritage NSW		Letter notifying Heritage NSW of RAPs
28/8/24	Email & letter	1; s 4.1.6		KLALC		Letter notifying KLALC of RAPs
28/8/24	Letter	4.2.1, 4.2.2, 4.2.3, 4.3.1, 4.3.2, 4.3.3, 4.3.4, 4.3.5, 4.3.6, 4.3.7	2 & 3	All RAPs		Formal letter and information packet sent to identified RAPs. Information packet included project outline, project area, critical timelines, impacts, brief cultural, environmental and archaeological context, proposed methods of investigation, proposed methods of gathering cultural knowledge, and maps. A response the proposed methodology was required registration by C.O.B. 25/9/2024
10/9/24	E-mail & letter	4.2.1, 4.2.2, 4.2.3, 4.3.1, 4.3.2, 4.3.3, 4.3.4, 4.3.5, 4.3.6, 4.3.7	2 & 3	Karuah Indigenous Corporation	Dave Feeney	Responded to the information packet and supported the methods
20/9/24	E-mail & letter	4.2.1, 4.2.2, 4.2.3, 4.3.1, 4.3.2, 4.3.3, 4.3.4, 4.3.5, 4.3.6, 4.3.7	2 & 3	Mur-Roo-Ma Inc.	Bec Young	Responded to the information packet and supported the methods
25th September 2024 C.O.B. Response to information packet closed						
3/10/24	Letter & email		3	All RAPs		All RAPs sent a letter of invitation to attend and participate in the test excavation on 22/10/2024
4/10/24	Email	4.2.1, 4.2.2, 4.2.3, 4.3.1, 4.3.2, 4.3.3, 4.3.4, 4.3.5, 4.3.6, 4.3.7	2 & 3	WLALC	Jamie Merick	Provided signed fieldwork paperwork
4/10/24	Email	4.2.1, 4.2.2, 4.2.3, 4.3.1, 4.3.2, 4.3.3, 4.3.4, 4.3.5, 4.3.6, 4.3.7	2 & 3	Karuah Indigenous Corporation	Dave Feeney	Provided signed fieldwork paperwork

Date	Consultation type	Heritage NSW requirement	Consult stage	RAP/Agency	Contact person	Description
8/10/24	Email	4.2.1, 4.2.2, 4.2.3, 4.3.1, 4.3.2, 4.3.3, 4.3.4, 4.3.5, 4.3.6, 4.3.7	2 & 3	Mur-Roo-Ma Inc.	Bec Young	Provided signed fieldwork paperwork
22nd October 2024 Test excavation						
24/10/24	Email	4.3.5; 4.3.6; 4.3.7 4.4.1; 4.4.2; 4.4.3	3 & 4	All RAPs		Draft report sent to all RAPs for review
21st November 2024 C.O.B. Response to Draft Report Closed						
21/11/24		4..4.4; 4.4.5	4	All RAPs		Final report, final ACHMP and final AHIP sent to all RAPs
21st November C.O.B. 2024 C.O.B. Assessment Complete						

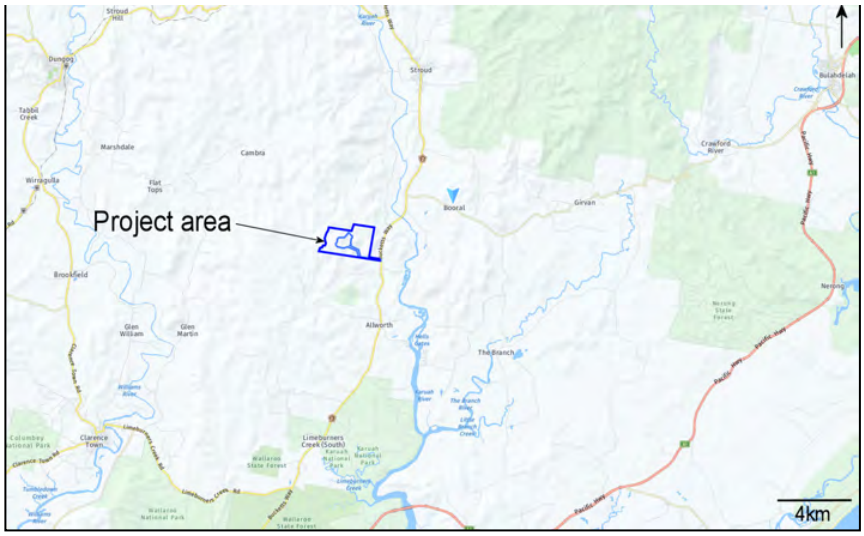
penny@mcheritage.com.au

From: penny@mcheritage.com.au
Sent: Monday, 29 July 2024 9:01 AM
To: 'information@ntscorp.com.au'; 'heritagemailbox@environment.nsw.gov.au'; 'admin.hunter@lls.nsw.gov.au'; 'admin@karuahaboriginal.com.au'; 'haveyoursay@midcoast.nsw.gov.au'; 'Rachel Rewiri'
Subject: Proposed Hillview Hard Rock Quarry located at Booral

RE: Written notification of project proposal and registration of interest as required under Heritage NSW Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 1)– Proposed Hillview Hard Rock Quarry located at Booral

McCardle Cultural Heritage (MCH) have been engaged by Coastwide Materials Pty Ltd), 11 Lucca Rd Wyong NSW 2259) to undertake an Aboriginal Cultural Heritage Assessment (ACHA) and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed Hillview Hard Rock Quarry located at 67 Maytoms Lane, Booral NSW (part of Lot 62 and Lot 63 DP95029, part of Lot 3 and Lot 4 DP1166923, part of Lot 1 DP159902 and part of Lot 60 DP1094397)within the MidCoast Local Government Area (LGA).
As per the Heritage NSW - Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010, (Stage 1, s4.1.1 to 4.1.2), MCH and the proponent are seeking community consultation with indigenous knowledge holders relevant to the project area who can determine the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Location of the project area



To comply with the Heritage NSW - Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010, specifically Stage 1 (s4.1.2), we are notifying you of our proposal and requesting information on any Aboriginal groups or individuals known to your organization who may have an interest in the investigation area and hold knowledge relevant to determining the cultural significance of Aboriginal objects and/or places in the area of the proposed project. Please provide the names and contact details of any Aboriginal people/organisations within 14 working days by emailing penny@mcheritagecom.au. Please note that in order to adhere to time constraints, and the minimal time requirements as stated in the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010, the absence of a response by the prescribed timeline, will be taken by the proponent as your indication that your organisation is not aware of any such interested parties. Should you wish to discuss this matter, please do not hesitate to contact me on 0412 702 396.

Kind regards,

Dr. Penny McCardle
Principal & Forensic Archaeologist
Forensic Anthropologist

M
McCARDLE
CULTURAL HERITAGE

PO Box 166,
Adamstown 2289 NSW
P: 0412 702 396
mcheritage.com.au

penny@mcheritage.com.au

From: penny@mcheritage.com.au
Sent: Monday, 29 July 2024 9:01 AM
To: GeospatialSearch@NNTT.gov.au
Subject: Search
Attachments: GeospatialSearch2023.pdf

RE: Written notification of project proposal and registration of interest as required under Heritage NSW Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 1)– Proposed Hillview Hard Rock Quarry located at Booral

McCardle Cultural Heritage (MCH) have been engaged by Coastwide Materials Pty Ltd), 11 Lucca Rd Wyong NSW 2259) to undertake an Aboriginal Cultural Heritage Assessment (ACHA) and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed Hillview Hard Rock Quarry located at 67 Maytoms Lane, Booral NSW (part of Lot 62 and Lot 63 DP95029, part of Lot 3 and Lot 4 DP1166923, part of Lot 1 DP159902 and part of Lot 60 DP1094397)within the MidCoast Local Government Area (LGA).
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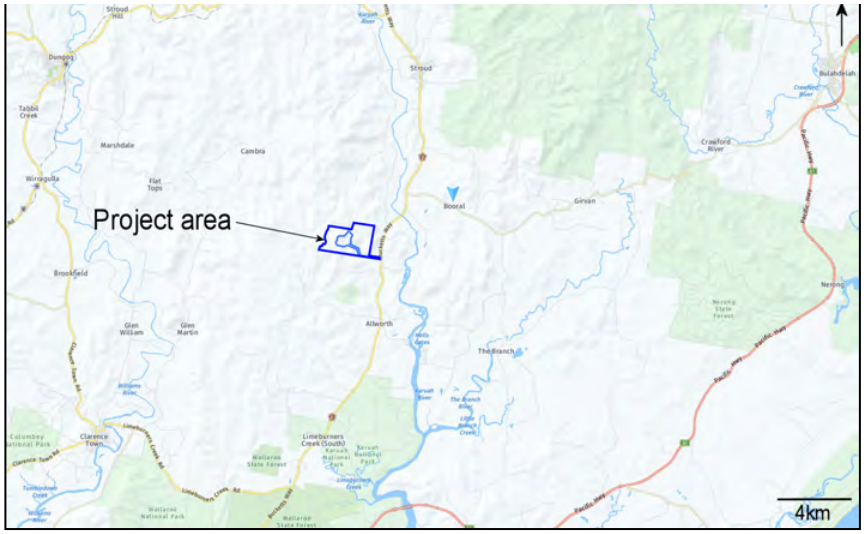
Location of the project area



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Kind regards,

Dr. Penny McCardle
Principal & Forensic Archaeologist
Forensic Anthropologist

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McCARDLE
CULTURAL HERITAGE

PO Box 166,
Adamstown 2289 NSW
P: 0412 702 396
mcheritage.com.au

Request for Spatial Search of Tribunal Registers

National Native Title Tribunal

1: Your details

Your name:	Penny McCadle		
Your company:	McCadle Cultural Heritage Pty Ltd		
E-mail address:	penny@mcheritage.com.au	Phone:	0412 702 396
Your reference:	Hillview Quarry	Your state:	NSW
☑	*I have read and acknowledge the terms and conditions on the previous page.*		

2: Areas to be searched

Jurisdiction to be searched:	NSW	Tenure to be searched:	Land parcel

Parcel or tenement identifiers (add up to 20 separate identifiers). **Please see previous page for parcel identifiers.**

Parcel 1:	Lot 62 & 63 DP95029	Parcel 2:	
Parcel 3:	Lot 3 & 4 DP1166923	Parcel 4:	
Parcel 5:	Lot 1 DP159902	Parcel 6:	
Parcel 7:	Lot 60 DP1094397	Parcel 8:	
Parcel 9:		Parcel 10:	
Parcel 11:		Parcel 12:	
Parcel 13:		Parcel 14:	
Parcel 15:		Parcel 16:	
Parcel 17:		Parcel 18:	
Parcel 19:		Parcel 20:	

If your search area is not a parcel or mining or petroleum tenement, you can enter other tenure or administrative regions here (e.g. local government area, townsite or county). Please provide as much detail as you can.

E-mail the completed form to GeospatialSearch@NNTT.gov.au

penny@mcheritage.com.au

To: Geospatial Search Requests
Subject: RE: SR24/1251 - Search [SEC=OFFICIAL]

From: Geospatial Search Requests <GeospatialSearch@NNTT.gov.au>
Sent: Monday, 29 July 2024 12:07 PM
To: penny@mcheritage.com.au
Subject: RE: SR24/1251 - Search [SEC=OFFICIAL]

OFFICIAL

Your ref: *Hillview Quarry* **Our ref:** *SR24/1251*

Dear Penny McCadle

Thank you for your search request, please find your results below.

Search Results
The results provided are based on the information you supplied and are derived from a search of the following Tribunal databases:

- Schedule of Native Title Determination Applications
- Register of Native Title Claims
- Native Title Determinations
- Indigenous Land Use Agreements (Registered and notified)

Results for overlapping native title matters in NSW:

Feature ID	Tenure	Cadastre Data As At	Feature Area SqKm	Overlapping Native Title Feature				
1//DP159902	FREEHOLD	8/03/2024	0.3708	NNTT File Number	Name	Category	Overlap Area SqKm	% Selected Feature
				No overlap			-	0.00%
3//DP1166923	FREEHOLD	8/03/2024	0.0096	NNTT File Number	Name	Category	Overlap Area SqKm	% Selected Feature
				No overlap			-	0.00%
4//DP1166923	FREEHOLD	8/03/2024	0.0074	NNTT File Number	Name	Category	Overlap Area SqKm	% Selected Feature
				No overlap			-	0.00%
60//DP1094397	FREEHOLD	8/03/2024	1.6511	NNTT File Number	Name	Category	Overlap Area SqKm	% Selected Feature
				No overlap			-	0.00%
62//DP95029	FREEHOLD	8/03/2024	0.8948	NNTT File Number	Name	Category	Overlap Area SqKm	% Selected Feature
				No overlap			-	0.00%

63//DP95029	FREEHOLD	8/03/2024	0.4565	NNTT File Number	Name	Category	Overlap Area SqKm	% Selected Feature
				No overlap			-	0.00%

For more information about the Tribunal's registers or to search the registers yourself and obtain copies of relevant register extracts, please visit our website.

Information on native title claims and freehold land can also be found on the Tribunal's website here: Native title claims and freehold land .

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

The search results are based on analysis against external boundaries of applications only. Native title applications commonly contain exclusions clauses which remove areas from within the external boundary. To determine whether the areas described are in fact subject to claim, you need to refer to the "Area covered by claim" section of the relevant Register Extract or Schedule Extract and any maps attached.

Search results and the existence of native title
Please note that the enclosed information from the Register of Native Title Claims and/or the Schedule of Applications is **not** confirmation of the existence of native title in this area. This cannot be confirmed until the Federal Court makes a determination that native title does or does not exist in relation to the area. Such determinations are registered on the National Native Title Register.

The Tribunal accepts no liability for reliance placed on enclosed information
The enclosed information has been provided in good faith. Use of this information is at your sole risk. The National Native Title Tribunal makes no representation, either express or implied, as to the accuracy or suitability of the information enclosed for any particular purpose and accepts no liability for use of the information or reliance placed on it.

If you have any further queries, please do not hesitate to contact us via GeospatialSearch@NNTT.gov.au

Regards,

Geospatial Searches
National Native Title Tribunal | Perth
Email: GeospatialSearch@nntt.gov.au | **www.nntt.gov.au**

From: penny@mcheritage.com.au <penny@mcheritage.com.au>
Sent: Monday, July 29, 2024 7:01 AM
To: Geospatial Search Requests <GeospatialSearch@NNTT.gov.au>
Subject: SR24/1251 - Search

RE: Written notification of project proposal and registration of interest as required under Heritage NSW Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 1)– Proposed Hillview Hard Rock Quarry located at Booral

McCardle Cultural Heritage (MCH) have been engaged by Coastwide Materials Pty Ltd), 11 Lucca Rd Wyong NSW 2259) to undertake an Aboriginal Cultural Heritage Assessment (ACHA) and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed Hillview Hard Rock Quarry located at 67 Maytoms Lane, Booral NSW (part of Lot 62 and Lot 63 DP95029, part of Lot 3 and Lot 4 DP1166923, part of Lot 1 DP159902 and part of Lot 60 DP1094397)within the MidCoast Local Government Area (LGA).

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

31 July 2024

By email: penny@mcheritage.com.au

Dr. Penny McCardle
McCardle Cultural Heritage
PO Box 166
ADAMSTOWN NSW 2289

Dear Penny,

Request - Search for Registered Aboriginal Owners – (Stage 1) Proposed Hillview Hard Rock Quarry located at Booral

We refer to your email dated 29 July 2024 seeking the identification of Aboriginal organisations and people who may have an interest in the proposed Hillview Hard Rock Quarry located at 67 Maytoms Lane, Booral NSW.

Under Section 170 of the Aboriginal Land Rights Act 1983 (NSW), the Office of the Registrar is required to maintain the Register of Aboriginal Owners (RAO) for New South Wales. The works you are proposing, and location are in proximity to an area for which there are registered Aboriginal Owners: Worimi Conservation Lands.

We suggest you contact the Joint Management Coordinator for the Worimi Conservation Lands, Nadine Russell to ascertain whether the Boards of Management are interested in the project.

- Email: nadine.russell@environment.nsw.gov.au
- Ph: 02 4984 8221
- M: 0484 643 337

We also suggest you contact the Karuah Local Aboriginal Land Council on (02) 4997 5733 or via email ceo@karuahaboriginal.com.au as they may wish to participate.

Yours sincerely

Rachel Rewiri
Project Officer
Office of the Registrar, Aboriginal Land Rights Act 1983

Address: Level 1, 6PSQ, PARRAMATTA NSW 2150
Post: P.O Box 787, PARRAMATTA NSW 2124
Phone: 02 8575 1160

penny@mcheritage.com.au

To: admin@karuahaboriginal.com.au
Subject: RE: Proposed Hillview Hard Rock Quarry located at Booral

From: admin@karuahaboriginal.com.au <admin@karuahaboriginal.com.au>
Sent: Thursday, 1 August 2024 8:44 AM
To: penny@mcheritage.com.au
Subject: RE: Proposed Hillview Hard Rock Quarry located at Booral

Hi Dr Penny;

Karuah LALC would like to register our interest in the Hillview Hard Rock Quarry at Booral.

Thanks

Dave Feeney
Chief Executive Officer
Karuah Local Aboriginal Land Council
16 Mustons Road, Karuah NSW 2324 | PO Box 30 Karuah NSW LPO 2324
Phone: 02 4997 5733 | **Mobile:** 0421 114 853
Email: CEO@Karuahaboriginal.com.au | **Website:**https://www.karuahaboriginal.com.au

Karuah
Local Aboriginal
Land Council

LIST OF ABORIGINAL STAKEHOLDERS FOR THE DEPARTMENT OF PLANNING AND ENVIRONMENT (DPE) HELD BY DPE FOR THE PURPOSES OF THE OEH ABORIGINAL CULTURAL HERITAGE CONSULTATION REQUIREMENTS FOR PROPONENTS 2010

The purpose of this letter is to assist you as the proposed applicant in undertaking Aboriginal community consultation in accordance with the relevant legislation and guidelines.

The consultation process involves getting the views of, and information from, Aboriginal people and reporting on these. It is not to be confused with other field assessment processes involved in preparing a proposal and an application. Consultation does not include the employment of Aboriginal people to assist in field assessment and/or site monitoring. Aboriginal people may provide services to proponents through a contractual arrangement however, this is separate from consultation. The proponent is not obliged to employ those Aboriginal people registered for consultation. Consultation as per these requirements will continue irrespective of potential or actual employment opportunities for Aboriginal people.

In accordance with Clause 60 (10) of the National Parks and Wildlife Regulation 2019, where an agreement of the kind listed below specifies or identifies a modified or alternative consultation process for the purposes of Part 6 of the National Parks and Wildlife Act 1974, the applicant is to undertake consultation in accordance with the modified or alternative process. The applicable agreements are:

a) a registered Indigenous Land Use Agreement under the Native Title Act 1993 of the Commonwealth entered into between an Aboriginal community and the State,

b) a lease entered into under Part 4A of the Act,

c) an agreement entered into by the Secretary and a board of management reserved under Part4A of the Act that has the consent of Aboriginal owner board members for the land concerned,

d) an agreement entered into between an Aboriginal community and the Department of Planning, Industry and the Environment.

Where you believe your application is wholly or partially located within an area subject to any of the above agreements, please provide further correspondence (including mapping, if required) detailing the applicable agreement and its relationship to the application area to heritagemailbox@environment.nsw.gov.au. Heritage NSW will respond with further advice.

Where the above does not apply, please proceed with consultation in accordance with the Clause 60 (1-9) of the National Parks and Wildlife Regulation 2019 and Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (the “Consultation Requirements”). A copy of the Consultation Requirements can be found on the OEH website at: http://www.environment.nsw.gov.au/resources/cultureheritage/commconsultation/09781ACHconsultreq.pdf.

Under the Consultation Requirements, a proponent is required to provide Aboriginal people who may hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or places as relevant to the proposed project area, with an opportunity to be involved in consultation. Section 3.3.1 of the Consultation Requirements states that Aboriginal people who can provide this information are, based on Aboriginal lore and custom, the traditional owners or custodians of the land that is the subject o the proposed project.

The Consultation Requirements also state that:

Traditional owners or custodians with appropriate cultural heritage knowledge to inform decision making who seek to register their interest as an Aboriginal party are those people who:

- continue to maintain a deep respect for their ancestral belief system, traditional lore and custom

- recognise their responsibilities and obligations to protect and conserve their culture and heritage and care for their traditional lands or Country
- have the trust of their community, knowledge and understanding of their culture, and permission to speak about it.

This list is provided to proponents in accordance with Clause 60(2)(a)(i) of the National Parks and Wildlife Regulation 2019 and section 4.1.2 of the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010.

The stakeholders identified on this list may have an interest in the proposed project area and may hold knowledge relevant to determining the cultural significance of Aboriginal objects and/or places.

How to use this list

- Contact the organisations/individuals who have indicated an interest in the relevant LGA/s and invite them to register an interest in your project.
- Do not reproduce the attached list in publicly available reports and other documents. Your report should only contain the names of the organisations and individuals who you have invited to register an interest in your project and those who have registered as stakeholders for your project.
- Note that the provision of this Aboriginal stakeholder list does not override a proponent's requirement to also advertise in the local newspaper and to seek from other sources the names of any other Aboriginal people who may hold cultural knowledge as required under clause 60 (2) of the National Parks and Wildlife Regulation 2019.
- Please refer to Clause 60 of the National Parks and Wildlife Regulation 2019 and the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 for further information on the requirements of the consultation process.
- If contact details of stakeholders are found to be incorrect or outdated, please contact heritagemailbox@environment.nsw.gov.au.

Last updated August 2024

Our reference: Doc24/619249

Proposed Hillview Hard Rock Quarry - 67 Maytoms Lane, Booral

Aboriginal Stakeholders – Mid Coast Local Government Area.

A1 Indigenous Services	Carolyn Hickey	cazadirect@live.com	-	0411 650 057	-	10 Marie Pitt Place, Glenmore Park, NSW, 2745	-
Birpai Local Aboriginal Land Council	CEO	birpailalc@midcoast.com.au	(02) 6584 9066	-	-	14 Aston Street PORT MACQUARIE NSW 2444	-
Corroboree Aboriginal Corporation	Marilyn Carroll-Johnson	corroboreecorp@outlook.com	(02) 8824 324	0415 911 159	-	PO BOX 344 LITHGOW NSW 2790	-
D F T V Enterprises	Derrick Vale	deckavale@hotmail.com	-	0401 162 998 0422 876 047 0438 812 197	-	5 Mountbatten Close RUTHERFORD NSW 2320	-
Didge Ngunawal Clan	Lillie Carroll ; Paul Boyd	didgengunawalclan@yahoo.com.au	-	0426 823 944 ; 0450 616 404	-	33 Carlyle Crescent Cambridge Gardens NSW 2747	-
Forster Local Aboriginal Land Council	CEO Cal Davis	ceo@forsterlalc.org.au	(02) 6555 5411	-	-	PO Box 384 FORSTER NSW 2428	-
Gomery Cultural Consultants	David Horton	daveyhorton69@gmail.com	-	0458 532 707	-	22 Cabernet Street Muswellbrook 2333 NSW	-
Hunters & Collectors	Tania Matthews	Tamatthews10@hotmail.com	-	0407 348 384	-	Unit 1/19 South Street Gunnedah NSW 2320	-
Kamilaroi Yankuntjatjara Working Group	Phil Khan	philipkhan.acn@live.com.au	-	0434 545 982	-	78 Forbes Street, Emu Plains, NSW 2750	-

Karuah Indigenous Corporation	David Feeney	indigenouskaruah@outlook.com	(02) 4997 5952	0421 114 853	-	1/7 Mustons Rd KARUAH NSW 2324	-
Karuah Local Aboriginal Land Council	CEO	office@karuahaboriginal.com.au	(02) 4997 5733	-	-	16 Muston Road KARUAH NSW 2324	-
Kawul Pty Ltd trading as Wonn1 Sites	Arthur Fletcher	Wonn1sites@gmail.com	(02) 4954 7751	0402 146 193	-	619 Main Road GLENDALE NSW 2285	-
Kevin Duncan	Kevin Duncan	kevin.duncan@bigpond.com	(02) 4392 9346	0431 224 099	-	95 Moala Parade HARMHAVEN NSW 2263	-
Lakkari NTCG	Mick Leon	doowakee@gmail.com doowakee@virginbroadband.com.au	-	0402 751 584	-	C/- 4/39 Short Street FORSTER NSW 2428 C/- Doo-wa-kee CHS 82 Victoria Street TAREE NSW 2430	-
Lee Davison	Lee Davison	leedavison114@yahoo.com.au	-	0450 180 680	-	4 Old Bar Road OLD BAR NSW 2430	-
Lower Hunter Aboriginal Incorporated	David Ahoy	lowerhunterai@gmail.com	-	0421 329 520	-	5 Killara Drive CARDIFF SOUTH NSW 2285	-
Murra Bidgee Mullangari Aboriginal Corporation	Darleen Johnson ; Ryan Johnson	murrabidgeemullangari@yahoo.com.au	-	0490 051 102 0475 565 517 0497 983 332	-	PO Box 3035 Rouse Hill NSW 2155	-
Mur-Roo-Ma Inc.	Anthony Anderson	murroomainc1@gmail.com	(02) 4928 1910	0402 827 482	-	7 Vardon Road FERN BAY NSW 2295	-
Myland Cultural & Heritage Group	Warren Schillings	warren@yarnteen.com.au	-	0431 392 554	-	30 Taurus Street ELERMORE VALE NSW 2287	-

A&K Cultural Heritage	Ali Maher	aandkculturalheritage@gmail.com	-	0423027074	-	67 Semaphore Road, Berkeley NSW 2506	-
Nunawanna Aboriginal Corporation	Colin Ahoy	cahoy7@myune.edu.au colinahoy57@gmail.com	-	0421 655 192 0423 943 756	-	10 Dale Crescent ARMIDALE NSW 2350 4 Archibald Street, Armidale NSW 2350	Send to both email address
Nur-Run-Gee Pty Ltd	Leonard Anderson OAM	lennie.anderson011@bigpond.com	-	0431 334 365	-	22 Popplewell Road NSW FERN BAY NSW 2295	-
Purfleet/Taree Local Aboriginal Land Council	CEO	admin@ptlalc.com.au	(02) 6552 4106	-	-	Lots 1-3 Old Pacific Highway PURFLEET NSW 2430	-
Robert Syron	Robert Syron	bobsam1@bigpond.net.au	-	0407 209 553	-	6a Cockshell Drive GAWLER EAST SA 5118	-

Thomas Dahlstrom Offers ACH value by using 3D Laser and Drone technology	Thomas Dahlstrom	gamila_roi@yahoo.com.au	-	0403 529 119 Offers ACH value by using 3D Laser and Drone technology	-	1-122 Glebe Point Road Glebe NSW 2037	-
WATTAKA Pty Ltd	Des Hickey	deshickey@bigpond.com	(02) 6573 3786	0432 977 178	-	4 Kennedy Street SINGLETON NSW 2330	-
Widescope Indigenous Group	Steven Hickey; Donna Hickey	Widescope.group@live.com	-	SH: 0425 230 693 DH: 0425 232 056	-	73 Russell Street, Emu Plains, NSW 2750	-
Yinarr Cultural Services	Kathleen Steward Kinchela	yinarculturalservices@bigpond.com dontminemeay@gmail.com	-	0475 436 589	-	Lot 5 Westwood Estate MERRIWA NSW 2329	-
Girragirra Murun Aboriginal Corporation	Diana Astin	girragirramurun@yahoo.com		0433837512		PO Box 148 Wellington NSW 2820 PO box 981 Ulladulla NSW 2539	

Wingarra Wilay Aboriginal Corporation	**Raymond Moon**	**wingarrawilay@yahoo.com**		**0450087707**		**PO Box Wellington NSW 2820**	
Ninnum	**Kevin Campbell , Marnya Donovan**	**ninnum_group@outlook.com**		**Marnya Donovan 0434574466 Kevin Campbell 0403421264**		**19 Corkwood St Albion Park Rail 2527**	
Guthers Aboriginal Corporation	**Trystan Treloar**	**guthersic@gmail.com**		**0450 514 076**		**7 Grazier Crescent Werrington Downs/847**	
Mura Gadi Aboriginal Corporation	**Tiarna Bird**	**pathwaysforsearching@gmail.com**		**0439678518**			

penny@mcheritage.com.au

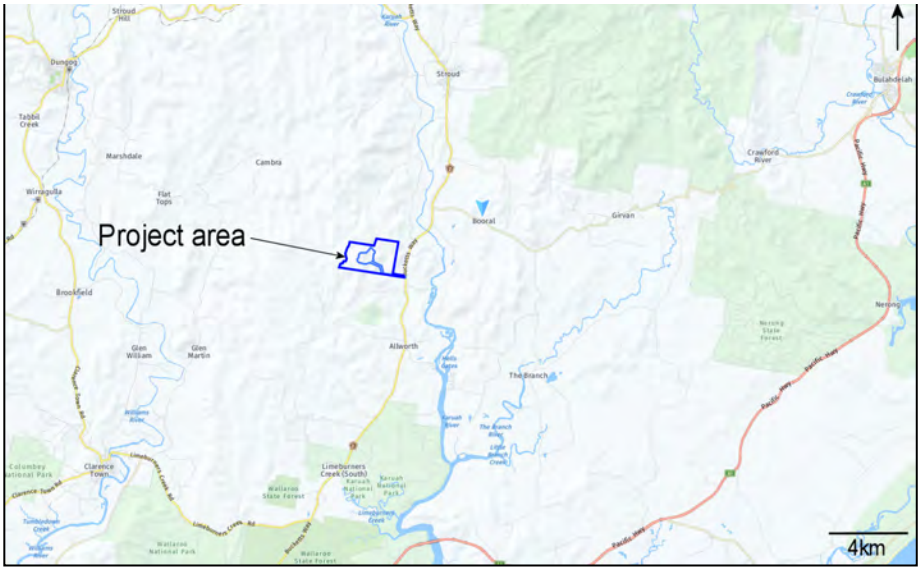
From: penny@mcheritage.com.au
Sent: Tuesday, 13 August 2024 9:36 AM
Subject: Proposed Hillview Hard Rock Quarry located at Booral

RE: Written notification of project proposal and registration of interest as required under Heritage NSW Aboriginal Cultural heritage Consultation Requirements for Proponents 2010 (Stage 1)– Proposed Hillview Hard Rock Quarry located at Booral

McCardle Cultural Heritage (MCH) have been engaged by Coastwide Materials Pty Ltd), 11 Lucca Rd Wyong NSW 2259) to undertake an Aboriginal Cultural Heritage Assessment (ACHA) and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed Hillview Hard Rock Quarry located at 67 Maytoms Lane, Booral NSW (part of Lot 62 and Lot 63 DP95029, part of Lot 3 and Lot 4 DP1166923, part of Lot 1 DP159902 and part of Lot 60 DP1094397)within the MidCoast Local Government Area (LGA).

As per the Heritage NSW policy - Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010, Stage 1 (s1.3 to 4.1.8), MCH and the proponent are seeking community consultation with indigenous knowledge holders relevant to the project area who can determine the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Location of the project area



The purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP (if required) and to assist Heritage NSW in their consideration and determination of the application should an AHIP be required.

This is an invitation for **Aboriginal people who hold cultural knowledge relevant to the proposed project area (registration is not to be based on where an individual or company works across NSW)** and who can determine the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation. As per the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s 4.1.5, 4.1.7 and 4.1.8), you are advised of the following:

- unless otherwise specified, if you register your interest, your details will be provided to Heritage NSW and the LALC;
- the LALC's who hold cultural knowledge relevant to the proposed project area that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must do so as an Aboriginal organisation not an individual;
- where an Aboriginal organisation representing Aboriginal people, who hold cultural knowledge relevant to the proposed project area and that is relevant to determining the significance of Aboriginal objects and/or places within the proposed project area who wish to register, must nominate a contact person and provide written confirmation and contact details of this person or persons.

MCH understands it is the Indigenous custom to elect knowledge holders and it is traditionally the Indigenous people who are nominated who speak for country. Unfortunately, some RAPs and Government Departments have placed the onus of identifying traditional knowledge holders onto proponents and archaeologists. In order to do this, MCH are guided by the Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010) which provides guidelines to identify traditional knowledge holders. Should you wish to register your interest in this project, please register in writing no later than C.O.B. 26th August 2024 to:

Dr. Penny McCardle
McCardle Cultural Heritage
PO Box 166
Adamstown, NSW, 2289

If you register your interest in this project, please also nominate your preferred option to receive the project information. You may wish to have a non-paid meeting and receive an information pack, or receive information packet through the mail or e-mail. If a preferred method is not nominated, all information will be forward by mail or e-mail.
Please note that in order to adhere to time constraints, the absence of a response by the prescribed timeline, will be taken by the proponent as your indication that your organisation does not wish to register for this project. As all communications, including phone calls, faxes, letters, and e-mails must be included in the consultation component of the report as per the Heritage NSW requirements, please ensure that any items that you or your group deem confidential are either stated at the beginning of a conversation or stamped/written on each piece of paper communicate.

Kind regards,

Dr. Penny McCardle
Principal & Forensic Archaeologist
Forensic Anthropologist

McCARDLE
CULTURAL HERITAGE

PO Box 166,
Adamstown 2289 NSW
P: 0412 702 396
mcheritage.com.au

penny@mcheritage.com.au

To: lennie.anderson011@bigpond.com
Subject: RE: Proposed Hillview Hard Rock Quarry located at Booral

From: lennie.anderson011@bigpond.com <lennie.anderson011@bigpond.com>
Sent: Tuesday, 13 August 2024 11:03 AM
To: penny@mcheritage.com.au
Subject: RE: Proposed Hillview Hard Rock Quarry located at Booral

Hi PPP,
Nur-Run-Gee Pty Ltd, would indeed be interested in this Project.

Kind Regards,
Lennie Anderson OAM
Nur-Run-Gee PTY LTD
-Worimi Traditional Custodian (WNTACG CHAIR)
-Senior Fellow In Ceremony
-Keeper Of The Stories
-Indigenous Archaelogist

Mobile: 0431334365
Email: Lennie.anderson011@bigpond.com
22 Popplewell Road, Fern Bay 2295.

penny@mcheritage.com.au

From: Tiarna Bird <pathwaysforsearching@gmail.com>
Sent: Tuesday, 13 August 2024 3:12 PM
To: penny@mcheritage.com.au
Subject: Re: Proposed Hillview Hard Rock Quarry located at Booral

Good afternoon. I would like to register interest, please contact me through email.

Tiarna Bird
Director
Mura Gadi Aboriginal corporation

On Tue, 13 Aug 2024 at 09:36, <penny@mcheritage.com.au> wrote:

> RE: **Written notification of project proposal and registration of interest as required under Heritage NSW Aboriginal Cultural heritage Consultation Requirements for Proponents 2010 (Stage 1)– Proposed Hillview Hard Rock Quarry located at Booral**
>
> McCardle Cultural Heritage (MCH) have been engaged by Coastwide Materials Pty Ltd), 11 Lucca Rd Wyong NSW 2259) to undertake an Aboriginal Cultural Heritage Assessment (ACHA) and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed Hillview Hard Rock Quarry located at 67 Maytoms Lane, Booral NSW (part of Lot 62 and Lot 63 DP95029, part of Lot 3 and Lot 4 DP1166923, part of Lot 1 DP159902 and part of Lot 60 DP1094397)within the MidCoast Local Government Area (LGA).
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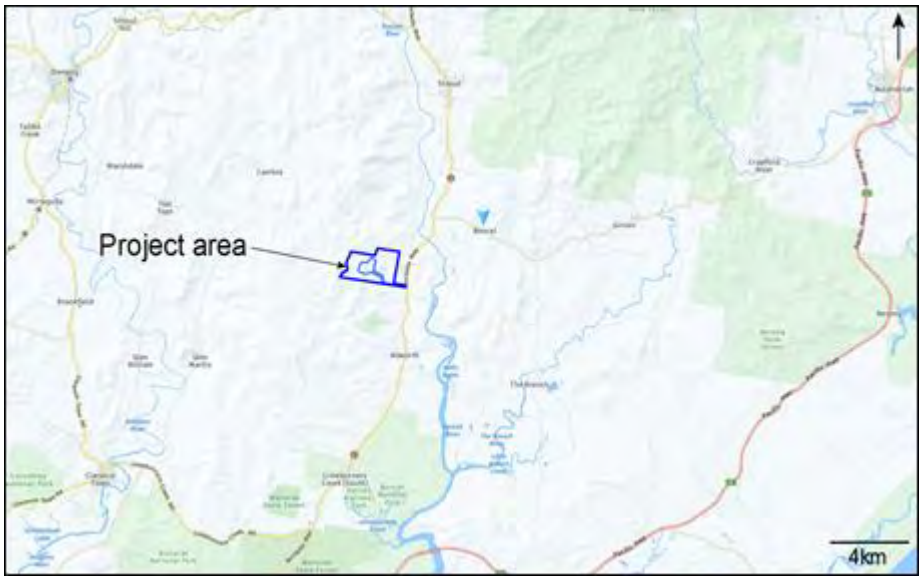
>
> Location of the project area
>
> 
>

penny@mcheritage.com.au

From: Girra Murun <girragirramurun@yahoo.com>
Sent: Wednesday, 14 August 2024 9:45 PM
To: penny@mcheritage.com.au
Subject: Re: Proposed Hillview Hard Rock Quarry located at Booral

Good afternoon, Penny,

Would you please register Girragirra Murun as a RAP for the project.

Our RAP has been participating in field work for over 5 years and has been taught the ways from his Elders with them passing knowledge down through the family line.
If you would like any further information, please don't hesitate to contact me.

Regards

Diana Astin
Girragirra Murun
0484120690

On Tuesday, 13 August 2024 at 09:36:19 am AEST, penny@mcheritage.com.au <penny@mcheritage.com.au> wrote:

> RE: **Written notification of project proposal and registration of interest as required under Heritage NSW Aboriginal Cultural heritage Consultation Requirements for Proponents 2010 (Stage 1)– Proposed Hillview Hard Rock Quarry located at Booral**

McCardle Cultural Heritage (MCH) have been engaged by Coastwide Materials Pty Ltd), 11 Lucca Rd Wyong NSW 2259) to undertake an Aboriginal Cultural Heritage Assessment (ACHA) and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed Hillview Hard Rock Quarry located at 67 Maytoms Lane, Booral NSW (part of Lot 62 and Lot 63 DP95029, part of Lot 3 and Lot 4 DP1166923, part of Lot 1 DP159902 and part of Lot 60 DP1094397)within the MidCoast Local Government Area (LGA).

As per the Heritage NSW policy - Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010, Stage 1 (s1.3 to 4.1.8), MCH and the proponent are seeking community consultation with indigenous knowledge holders relevant to the project area who can determine the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

penny@mcheritage.com.au

From: Thomas Dahlstrom <gamila_roi@yahoo.com.au>
Sent: Friday, 23 August 2024 7:12 PM
To: penny@mcheritage.com.au
Subject: Re: Proposed Hillview Hard Rock Quarry located at Booral

Hi

Thank you for your invitation. Can you please register me as an Individual RAP for this project? Look forward to hearing back from you.

Kind regards

Thomas Dahlstrom

Sent from my iPhone

On 13 Aug 2024, at 9:36 am, penny@mcheritage.com.au wrote:

RE: Written notification of project proposal and registration of interest as required under Heritage NSW Aboriginal Cultural heritage Consultation Requirements for Proponents 2010 (Stage 1)– Proposed Hillview Hard Rock Quarry located at Booral

McCardle Cultural Heritage (MCH) have been engaged by Coastwide Materials Pty Ltd), 11 Lucca Rd Wyong NSW 2259) to undertake an Aboriginal Cultural Heritage Assessment (ACHA) and prepare an Aboriginal Heritage Impact Permit (AHIP) application if required for the proposed Hillview Hard Rock Quarry located at 67 Maytoms Lane, Booral NSW (part of Lot 62 and Lot 63 DP95029, part of Lot 3 and Lot 4 DP1166923, part of Lot 1 DP159902 and part of Lot 60 DP1094397)within the MidCoast Local Government Area (LGA).

As per the Heritage NSW policy - Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010, Stage 1 (s1.3 to 4.1.8), MCH and the proponent are seeking community consultation with indigenous knowledge holders relevant to the project area who can determine the cultural significance of Aboriginal objects and/or places in the area of the proposed project.
<image006.png>
<image007.jpg>

MURROOMA INCORPORATED

9 Vardon Road Fern Bay 2295 NSW
0421078695
0402827482
Murroomainc1@gmail.com

ABN: 97 807 719 484

Monday 26th of August

MCH

Att: Penny Mc Cardle

RE: Registration of Interest for Proposed Hillview Hard Rock Quarry located at Booral

To Penny,

Please find enclosed application for Murrooma Incorporated to register our interest to be a part of the community consultation process for this proposed project and ACHA.

Anthony Anderson and Bec Young are representatives of Murrooma who both hold specific cultural knowledge and education relevant to determining the significance of Aboriginal objects and places in the Booral/Allworth/Karuah/Worimi region. We are both registered Traditional Owners and Native Title Custodians of the Worimi area and are in a position to speak for country.

We have extensive knowledge of this area- The project area lies just north west of where my great grandmother was born in a traditional women's birthing area "gayay" - through oral history from our ancestors, education and have completed other works close to the proposed project area where we hold relevant cultural information which can be discussed onsite. We believe that in order to gain the specific information that will be required for this area, it must be sorted through Local Knowledge Holders and this is what we can offer in the consultation process.

Thank You

Bec Young- Operations Manager

Anthony Anderson - CEO

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
penny@mcheritage.com.au
P: 0412 702 396

mcheritage.com.au

28 August 2024

Heritage NSW
heritagemailbox@environment.nsw.gov.au

Dear Sir/madam,

RE: Written notification of project proposal and registration of interest as required under Heritage NSW Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s4.1.6): provision of Registered Aboriginal Parties (RAPs): Proposed Hillview Hard Rock Quarry located at Booral

In compliance with the Heritage NSW policy - Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 1; s 4.1.6), please find attached records of Registered Aboriginal Parties (RAPs) for the above-named project.

Also, in compliance with the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 1: s 4.1.3 and 4.1.6), please also find attached a copy of the public notification placed in the Gloucester Advocate and Dungog Chrionical.

If you have any questions or would like any additional information please don't hesitate to contact me on 0412 702 396 or via e-mail at penny@mcheritage.com.au.

Yours sincerely,
for McCardle Cultural Heritage Pty Ltd

Dr. Penny McCardle
Principal Archaeologist
Forensic Anthropologist

Registered Aboriginal Parties

Company	Contact
Karuah Indigenous Corporation	David Feeney
Mur-Roo-Ma Inc.	Anthony Anderson & Bec Young
Nur-Run-Gee Pty Ltd	Leonard Anderson OAM
Girragirra Murun Aboriginal Corporation	Diana Astin
Mura Gadi Aboriginal corporation	Tiarna Bird
	Thomas Dahlstrom

McCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
penny@mcheritage.com.au
P: 0412 702 396

mcheritage.com.au

28 August 2024

Karuah Local Aboriginal Land Council
admin@karuahaboriginal.com.au

Dear Sir/madam,

RE: Written notification of project proposal and registration of interest as required under Heritage NSW Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (s4.1.6): provision of Registered Aboriginal Parties (RAPs): Proposed Hillview Hard Rock Quarry located at Booral

In compliance with the Heritage NSW, Department of Premier & Cabinet policy - Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 1; s 4.1.6), please find attached records of Registered Aboriginal Parties (RAPs) for the above-named project.

Also, in compliance with the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 1: s 4.1.3 and 4.1.6), please also find attached a copy of the public notification placed in the Dungog Chronicle and Gloucester Advocate Newspapers.

If you have any questions or would like any additional information please don't hesitate to contact me on 0412 702 396 or via e-mail at penny@mcheritage.com.au.

Yours sincerely,
for McCardle Cultural Heritage Pty Ltd

Dr. Penny McCardle
Principal Archaeologist
Forensic Anthropologist

Registered Aboriginal Parties

Company	Contact
Karuah Indigenous Corporation	David Feeney
Mur-Roo-Ma Inc.	Anthony Anderson & Bec Young
Nur-Run-Gee Pty Ltd	Leonard Anderson OAM
Girragirra Murun Aboriginal Corporation	Diana Astin
Mura Gadi Aboriginal corporation	Tiarna Bird
	Thomas Dahlstrom

penny@mcheritage.com.au

From: penny@mcheritage.com.au
Sent: Wednesday, 28 August 2024 11:04 AM
To: 'indigenouskaruah@outlook.com'; 'murroomainc1@gmail.com'; 'lennie.anderson011@bigpond.com'; 'sites@worimi.org.au'; 'girragirramurun@yahoo.com'; 'pathwaysforsearching@gmail.com'; 'gamila_roi@yahoo.com.au'
Subject: Proposed Hillview Hard Rock Quarry located at Booral - info pack
Attachments: ACHAR Info Pack.pdf

RE: Heritage NSW Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 2 & 3) – Presentation of information about the proposed project and request for comment on the proposed methods of investigation – Proposed Hillview Hard Rock Quarry located at Booral

McCardle Cultural Heritage (MCH) would like to thank you for registering your interest in this project. We previously offered the option for a meeting or an information pack, but did not receive your preference. As a result, we are providing the information packet via email/post.

To comply with the cultural heritage consultation requirements outlined in the Heritage NSW policy, an Aboriginal Cultural Heritage Assessment Information Packet has been enclosed. This packet contains detailed information about the proposed project, including maps, impact assessment process, cultural, environmental, and archaeological contexts, site-specific predictive model, proposed methodology, roles and responsibilities, and an opportunity for feedback on cultural concerns and assessment requirements.

MCH requests your input on the proposed methodology for the heritage assessment, any information on any Aboriginal objects or culturally significant places in the investigation area, along with any known issues of cultural significance you are aware of. Please specify any protocols or restrictions you wish to apply to the information shared and please consider any other relevant factors for the assessment.

Please make your written submission to MCH by close of business 25th September 2024. The absence of a response by the requested timeline will be taken as your indication that your organisation has no comments regarding the above.

The proponent intends to engage a number of RAPs (relative to the scale and nature of the investigations) to participate in the field work. If you wish to be considered for paid participation in the field investigations please review and complete the Aboriginal stakeholder site officer application form attached to the information packet provided. Aboriginal representatives will be selected by the proponent based upon merits of the applications received with respect to the selection criteria. Late application will not be accepted by the proponent.

The number of individuals engaged and the duration of their involvement will be at the sole discretion of the proponent and communicated to MCH. Successful applicants will be notified by MCH and all RAPs are invited to join field investigations, irrespective of remuneration, and contingent upon meeting Occupational Health and Safety and operational requirements.

Please note that regardless of participation in the field investigations, RAPs will be consulted in accordance with the Heritage NSW policy - Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 for the remainder of the assessment.

As all communications, including phone calls, faxes, letters, and e-mails must be included in the consultation component of the report as per the Heritage NSW requirements, please ensure confidential information is clearly indicated at the start of a conversation or noted on each written communication.

MCH looks forward to your response and working with you on this project. Please do not hesitate to contact myself on 0412 702 396 should you have any questions.

Kind regards,

Dr. Penny McCardle
Principal & Forensic Archaeologist
Forensic Anthropologist

M
McCARDLE
CULTURAL HERITAGE

PO Box 166,
Adamstown 2289 NSW
P: 0412 702 396
mcheritage.com.au

penny@mcheritage.com.au

From: penny@mcheritage.com.au
Sent: Thursday, 29 August 2024 12:36 PM
To: 'Jamie Merrick'
Subject: FW: Proposed Hillview Hard Rock Quarry located at Booral - info pack
Attachments: ACHAR Info Pack.pdf

RE: Heritage NSW Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 2 & 3) – Presentation of information about the proposed project and request for comment on the proposed methods of investigation – Proposed Hillview Hard Rock Quarry located at Booral

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MCH looks forward to your response and working with you on this project. Please do not hesitate to contact myself on 0412 702 396 should you have any questions.

Kind regards,

Dr. Penny McCardle
Principal & Forensic Archaeologist
Forensic Anthropologist

M
McCARDLE
CULTURAL HERITAGE

PO Box 166,
Adamstown 2289 NSW
P: 0412 702 396
mcheritage.com.au

Hillview Hard Rock Quarry, Booral

LGA: MidCoast

Aboriginal Cultural Heritage Assessment Information Packet

28 August 2024

McCARDLE CULTURAL HERITAGE PTY LTD

ACN 104 590 141 • ABN 89 104 590 141

PO Box 166, Adamstown, NSW 2289
Mobile: 0412 702 396 • Email: penny@mcheritage.com.au

McCARDLE
CULTURAL HERITAGE

Report No: J202351 Info Pack	
Approved by:	Penny McCardle
Position:	Director
Signed:	
Date:	28 August 2024

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GLOSSARY

Aboriginal Cultural Heritage Values: traditional values of Aboriginal people, handed down in spiritual beliefs, stories and community practices and may include local plant and animal species, places that are important and ways of showing respect for other people.

Aboriginal Place: are locations that have been recognised by the Minister for Climate Change and the Environment (and gazetted under the *National Parks and Wildlife Act 1974*) as having special cultural significance to the Aboriginal community. An Aboriginal Place may or may not include archaeological materials.

Aboriginal Site: an Aboriginal site is the location of one or more Aboriginal archaeological objects, including flaked stone artefacts, midden shell, grinding grooves, archaeological deposits, scarred trees etc.

Harm: is defined as an act that may destroy, deface or damage an Aboriginal object or place. In relation to an object, this means the movement or removal of an object from the land in which it has been situated

Traditional Aboriginal Owners: Aboriginal people who are listed in the Register of Aboriginal owners pursuant to Division 3 of the *Aboriginal Land Register Act (1983)*. The Registrar must give priority to registering Aboriginal people for lands listed in Schedule 14 of the *National Parks and Wildlife Act 1974* or land subject to a claim under 36A of the *Aboriginal Land Rights Act 1983*.

Traditional Knowledge: Information about the roles, responsibilities and practices set out in the cultural beliefs of the Aboriginal community. Only certain individuals have traditional knowledge and different aspects of traditional knowledge may be known by different people, e.g., information about men's initiation sites and practices, women's sites, special pathways, proper responsibilities of people fishing or gathering food for the community, ways of sharing and looking after others, etc.

1 INTRODUCTION

McCardle Cultural Heritage Pty Ltd (MCH) has been engaged by Coastwide Materials Pty Ltd to prepare an Aboriginal Cultural Heritage Assessment (ACHA), and an Aboriginal Heritage Impact Permit (AHIP), if requires, for the proposed Hillview Hard Rock Quarry located at Booral.

The assessment will determine the potential impacts upon the indigenous cultural heritage within the development area. It is intended that any areas of indigenous cultural heritage and archaeological values will be identified and appropriate management recommendations will be established through consultation with the Registered Aboriginal Parties (RAPs).

In compliance with the Heritage NSW - Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 2, s4.21 to 4.2.4 and Stage 3 s4.3.1 to 4.3.7), this Aboriginal Cultural Heritage Information Packet provides information about the proposed project including, but not limited to, details of the proposed the project including maps, an outline of the assessment process, summary of the environmental, cultural and archaeological contexts, a predictive model, the proposed methodology, the roles and responsibilities of all parties, and provides an opportunity for you to identify and raise any cultural concerns, perspectives and assessment requirements you may have.

The assessment has been undertaken to meet the Heritage NSW Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010a, the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW 2011, the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales 2010b, and the brief.

1.1 CONSULTATION

Consultation will be undertaken as per the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 and will be detailed in the ACHA.

1.2 PROJECT AREA

The project area is defined by the proponent and includes part of Lot 62 and Lot 63 DP95029, part of Lot 3 and Lot 4 DP1166923, part of Lot 1 DP159902 and part of Lot 60 DP1094397. The investigation area will include the quarry, access road and associated infrastructure and amenities.

Figure 1.1 Location of the project area

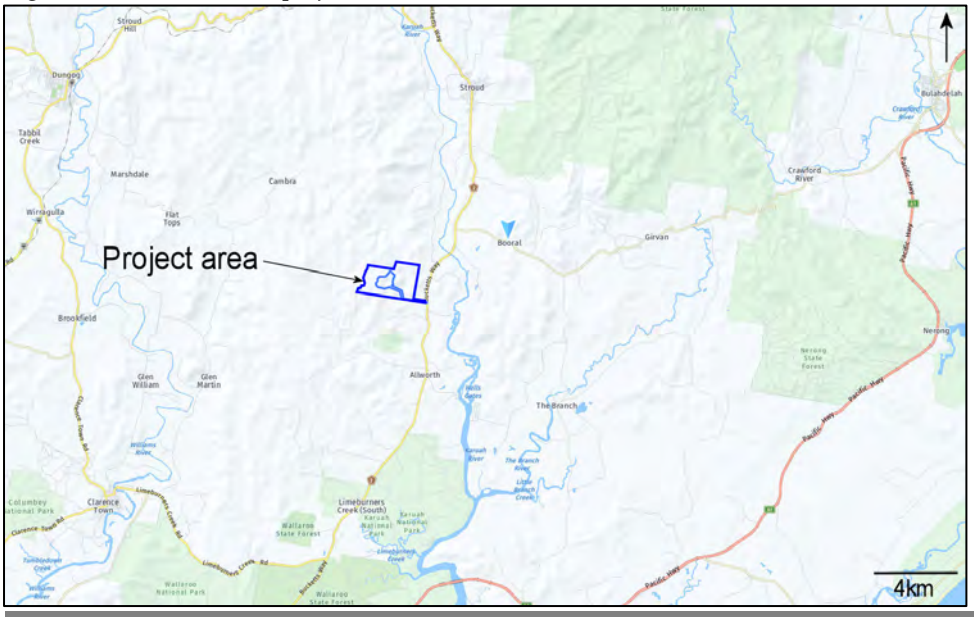
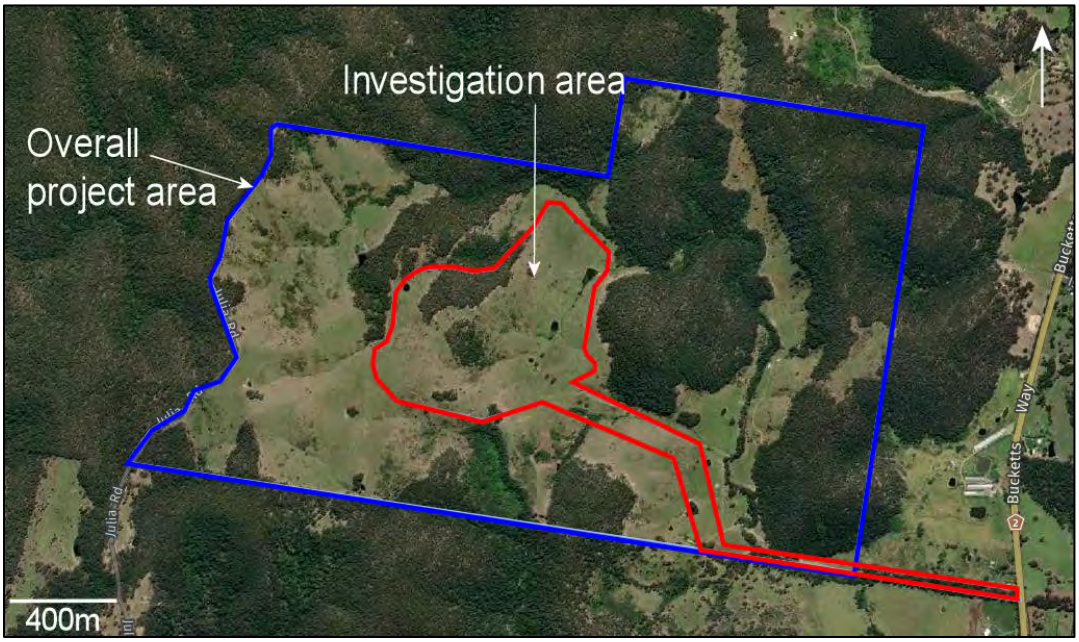


Figure 1.2 Aerial photograph of the project area



1.3 PROJECT OUTLINE AND IMPACTS

The project is for a hard rock quarry. Approximately 35Mt of available resource material has been identified within the proposed extraction area. The extraction area will be approximately 44 hectares and range from reduced level (RL) 206m AHD down to 90m AHD. This will provide access to enough resource to sufficiently cover the planned 30-year life span of the quarry at the proposed extraction rates of 600,000 tpa over the first 5 years and up to 1.5 Mtpa over the remaining 25 years, and provide long term security for the resource.

The quarry process will involve traditional drill and blasting techniques to produce rock fragments suitable for haulage to the crushing and screening plant. The quarry will have one working face that will advance generally in a north-east to south-west direction in 15m bench heights. Extraction will be carried out by mobile plant and equipment, including excavators and dump trucks, with the extracted material hauled from the pit to raw product stockpiles at the processing area.

The processing area will include raw material stockpiles and a crushing and screening plant for rock size reduction. The raw material extracted will not be washed and therefore the proposed development does not include a wash plant. The processed rock will be hauled in dump trucks to end product stockpiles in the product storage arwa.

Varies items of ancillary infrastructure will be installed and operated to support the quarry. These include:

- Two (2) weighbridges to weight heavy vehicles as they enter and exit the development site;
- Crushing and screening plant for processing the extracted hard rock material;
- Pugmill and pre-coat plant for road base products (asphalts);
- Workshop;
- Site office and amenities;
- Parking areas;
- Product storage areas.

The proposed development will undertake extraction and processing activities between 6:00am and 10:00pm Monday to Saturday, with product transfer to stockpiles between 6:00am and 12 midnight Monday to Saturday. Haulage of material to and from the site is proposed between 7:00am and 6:00pm Monday to Saturday. Blasting activities will be limited to between 9:00am and 4:00pm Monday to Friday and maintenance activities are proposed 24 hours a day, seven (7) days a week.

1.4 CRITICAL DEVELOPMENT TIME LINES

The proponent wishes to commence works as soon as possible but also acknowledges the need to undertake cultural heritage and archaeological investigations on the site. Ideally these would be undertaken prior to any works commencing on the site, however, it would be possible to stage the development to exclude areas identified for investigation until the investigations are complete.

1.5 CRITICAL ARCHAEOLOGICAL TIMELINE

The following Table indicates the timelines critical for the archaeological assessment. However, please note that consultation may be increased or decreased depending on response times and knowledge sharing.

1.1 Archaeological timeline

	Week														
Stages	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
Stage 1: consultation	Gov. letters		RAP letters		Information pack				2 weeks' notice for excavation and excavation			Draft report review			
Stage 2: gathering of knowledge															
Stage 2: contextual research															
Stage 3: test excavation															
Stage 4: reporting															
Stage 5: finalisation															

2 ENVIRONMENTAL CONTEXT

The environmental context provides an understanding of the landscape and environmental factors as well as potential resources that may have been available in the past. The land uses also assists in an understanding of potential impacts they would have had on the landscape and associated cultural materials. This information is utilised with the archaeological context in order to ascertain a reliable predictive model of not only sit location and site type, but also the likelihood of survivability within that landscape.

The underlying geology of the project area is the Carboniferous Crawford Formation consisting of sandstone, conglomerate, mudstone, chert and tuff (Newcastle Geological 1:250,000 Map Series, 1966). The presence of mudstone, chert and tuff within the geology of the geology of the project area indicates that stone materials suitable for manufacturing stone artefacts may occur in various locations throughout the project area. Whilst the overall project area includes a range of landforms including crests, slopes, drainage depression and creeks, the investigation area consists of a crest, slope, drainage lines and a creek. The investigation area is the Ten Mile Road soil landscape which is characterised by an upper soil Horizon A and underlying B. Unit A and Unit B are interpreted as being Holocene and Pleistocene in age respectively. Within the region, sites tend to occur on or within soil Horizon A or are often present at the interface of the A and B horizons.

In terms of past Aboriginal land uses and survival (water is necessary for survival), the project area may be considered under-resourced in terms of water availability. During times of heavy rain, the 3rd order creek would likely have supplied fresh water for a limited time that may have enabled for transitory activities such as hunting and gathering opportunities and travel to the Karuah River that would have maintained an abundance of resources and reliable fresh water. The project area has been cleared with at least one ploughing event for grass and primarily used for pastoral purposes (grazing), involving the wholesale clearance of native vegetation, the introduction of pasture grass, the construction of five dams, fencing and numerous tracks. Impacts these landuses have on the landscape and cultural materials ranges from moderate to high.

3 ARCHAEOLOGICAL CONTEXT

A search of the AHIMS register has shown that there are no known sites within two kilometres of the project area. Based on regional assessments, the following broad predictions can be made for the region:

- the majority of sites are located on elevated landforms (very gently inclined slopes, terraces, flats) within 50 metres of a reliable water source with a drop in site number and densities from 50 metres of water;
- sites in proximity to ephemeral water sources or located in the vicinity of headwaters of upper tributaries (1st order streams) have a sparse distribution and density and contain little more than a background scatter of discarded artefacts;
- sites located in the vicinity of the upper reaches of minor tributaries (2nd order streams) also have a relatively sparse distribution and density and may represent evidence of localised one-off behaviour;
- sites located in the vicinity of the lower reaches of tributaries (3rd order creeks) have an increased distribution and density and contain evidence that may represent repeated occupation or concentration of activity;
- sites located in the vicinity of major tributaries (4th and 5th order streams/rivers) have the highest distribution and densities. These sites tend to be extensive and complex in landscapes with permanent and reliable water and contain evidence representative of concentrated activity; and
- sites located within close vicinity at the confluence of any order stream may be a focus of activity and may contain a relatively higher artefact distribution and density.
- the data suggests that elevated landforms in close proximity to water sources were the preferred location for camping which manifests in the archaeological record as low to high density open camp sites (depends on the reliability of the water source) that may include a variety of artefact types, raw materials, heat treatment, grind stones, oven pits, hearths etc;
- the data also indicates that all landforms and unreliable water sources were utilised for transitory activities such as traveling and, or, hunting and gathering which manifests in the archaeological record as a background scatter of very low density discarded artefacts;
- a wide variety of site types are represented in the project area with open campsites and isolated artefacts by far the most common;
- lithic artefacts are primarily manufactured from mudstone and silcrete with a variety of other raw materials also utilised but in smaller proportions;
- flakes, broken flakes and flaked pieces are the most common artefact types recorded;
- the stone artefacts are usually relatively dated to within the last 5,000 years;
- the vast majority of artefactual material in the region was observed on exposures with good to excellent ground surface visibility, and
- the majority of sites have been subject to disturbances including human and natural

3.1.1 PREDICTIVE MODEL

Within the investigation area, considering the AHIMS results, local and regional archaeological investigations as well as the environmental context, given that fresh water was necessary for survival the presence of a 3rd order creek in the east of the investigation indicated that the creek may have been utilised following heavy rain for more than transitory activities such as opportunistic hunting and gathering on the

way to fresh water sources, rather than camping. Evidence of such past Aboriginal land uses manifest in the archaeological record as low-density artefact scatters and isolated finds. Evidence of past Aboriginal land use are expected to be focused along the 3rd order creek.

The remainder of the project area, consisting of a crest and slopes, whilst are also expected to have been suitable for transitory activities rather than camping such as opportunistic hunting and gathering opportunities, the expected evidence of a background scatter of discarded artefacts, would have been disturbed by the discussed land uses (clearing and ploughing disturbs 12-40cm+ of soils), resulting in disturbed deposits and the re-distribution of artefacts across the landscape with no indications of possible site location.

3.2 PERVIOUS ASSESSMENT OF THE PROJECT AREA

No sites were identified in the project areas during the previous assessment (MCH 2023) and this was due to the unsuitable landforms and lack of fresh water supply as well as impacts from previous land uses across the project area (clearing/logging, ploughing, grazing). The absence of reliable fresh water indicated the project area may have been utilised for more transitory activities rather than camping. Evidence of such past Aboriginal land uses manifests in the archaeological record as a background scatter of discarded artefacts, which would have been disturbed/destroyed through past land uses.

Given the known extent and content of sites typically situated along 3rd and higher order creeks and given that a 4th order creek was located in the project area, it was found that it was likely that subsurface materials would have existed in close proximity to the 4th order creek. This PAD includes the northern side of the 4th order creek (up to 30 metres in width from the creek edge) as this area is an elevated landform overlooking the creek and appears to remain relatively undisturbed. The southern side has been excluded as that side had been significantly altered due to the excavation and construction of the logging road with none of the original land form remaining within the proposed impact area. It must be noted that the PAD extends beyond the proposed impact area along the creek.

The current assessment, relates to the test excavation of the previously identified PAD.Just as the environmental context and the results of the regional and local archaeological contexts have assisted in formulating a predictive model, the predictive modeling has assisted in formulating the field investigation methodology (Sections 4 and 5).

4 METHODS OF INVESTIGATION

There are two methods of investigation including the gathering of cultural significance knowledge and archaeological assessment. These are outlined below.

4.1 GATHERING OF INFORMATION OF CULTURAL SIGNIFICANCE

MCH and the proponent understand that unlike the written word, Aboriginal cultural knowledge is not static, but responds to change through absorbing new information and adapting to its implications. Aboriginal cultural knowledge is handed down through oral tradition (song, story, art, language and dance) from generation to generation, and preserves the relationship to the land (DECCW 2010).

Specific details and parts of cultural knowledge are usually held and maintained by individuals or within particular family groups. Although the broader community may be aware of the general features of that knowledge, it is not a common practice within Aboriginal society for detailed cultural knowledge to be known in the broader community or within Aboriginal community organisations. However, at times these organisations may defer to particular individuals or family groups as being the knowledge-holders of particular sets of cultural knowledge about places or the environment (DECCW 2010).

All responses to the information packet will be considered in the final methods which will adapt accordingly. Any other changes to the methods may occur on site in order adapt to unforeseen field conditions.

4.1.1 PROPOSED METHODS: GATHERING INFORMATION ABOUT CULTURAL SIGNIFICANCE

The aim of gathering of cultural knowledge and understanding any cultural significance in relation to the project rea and its surrounds is to facilitate a process whereby RAPs can;

a) Contribute culturally appropriate information
b) Contribute to the proposed methodology
c) Provide information that will enable the cultural significance of Aboriginal objects and/or places within the project area to be determined.

4.1.2 IDENTIFYING KNOWLEDGE HOLDERS

The aim is to identify Traditional Owners/traditional knowledge holders who have knowledge that is relevant to the project area so that any potential effects of the project or activity on the Indigenous cultural heritage values of objects and/or places can be identified.

It also aims to identify Indigenous people who may not necessarily be Traditional Owners/traditional knowledge holders but who do have interests in the area so that any effects of the project or activity on the Indigenous heritage values of objects and/or places, such as mission stations and historic buildings, will be identified.

MCH understands it is the Indigenous custom to elect knowledge holders and it is traditionally the Indigenous people who nominate who speak for country. Unfortunately, some RAPs and Government Departments have placed the onus of identifying traditional knowledge holders onto proponents and archaeologists. In order to do this, MCH are guided by the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010) which provides guidelines to identify traditional knowledge holders. Knowledge holders are defined as follows:

a) Traditional knowledge holder of specific, detailed knowledge passed directly by a traditional knowledge holder in a traditional manner
b) Traditional knowledge holder of general knowledge passed directly by a traditional knowledge holder in a traditional manner

c) Knowledge holder of recent information obtained through other means (such as, but not limited to, ethnographic sources, internet searches, assessment reports, personal experience etc).

Knowledge holders have been initially identified through the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010), Stage 1 (S. 4.1.1 to 4.1.2) that seeks to identify, notify and register Aboriginal people who hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Additionally, knowledge holders were sought to be identified through the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010), Stage 1 (S. 4.1.3 to 4.1.8) that sought to identify, notify and register Aboriginal people who identify as knowledge holders (using the above defined knowledge holder criteria) who hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or places in the area of the proposed project.

Native Title Claimant Groups/individuals are acknowledged as knowledge holders due to the requirements through the Native Title Registration process. Native Title Claimant groups/individuals are also asked to further define the knowledge holder using the above defined knowledge holder criteria.

This process ensures consistent consultation for all RAPs and adheres to the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010).

4.1.3 IDENTIFYING CULTURAL SIGNIFICANCE

Cultural significance is embodied in the place—in its fabric, setting, use, associations and meanings. It may exist in: objects at the place or associated with it; in other places that have some relationship to the place; and in the activities and traditional and customary practices that may occur at the place or that are dependent on the place. A place may be of cultural significance if it satisfies one or more of these criteria. Satisfying more criteria does not mean a place is necessarily more significant.

Only Aboriginal people who are descendants of the people from the traditional lands in which the project is situated can identify the cultural significance of their own cultural heritage.

The cultural significance of a place is assessed by analysing evidence gathered through the physical investigation of the place, research and consultation for this project in line with the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010), Code of Practice for Archaeological Investigations of Aboriginal Objects in New South Wales (DECCW 2010) and the ICOMS Burra Charter (2013). Part of the process is to evaluate its qualities against a set of criteria that are established for this purpose. The criteria used include those set out by the Burra Charter (see below).

4.1.4 VALUES AND QUESTIONS TO CONSIDER

The following values and questions are derived from the Burra Charter (2913) to facilitate your consideration when providing information on the cultural significance of any Aboriginal objects(s) and/or place(s). The criteria discussed below are a means to assess cultural significance in order to meet the Government Departmental requirements. MCH understands that the method of assessing cultural significance presented may not be culturally appropriate and considered offensive to some; it is not intended to be so.

There are five terms or values, which are listed alphabetically in the Burra Charter, and are often included in Australian heritage legislation. Criteria are also used to help define cultural and natural significance, and there is now a nationally agreed set of heritage assessment criteria and each of these criteria may have tangible and intangible aspects and it is essential that both are acknowledged.

The five criteria include Aesthetic value, Historic value, Scientific value, Social value and Spiritual value. These are discussed below along with some questions for consideration when you consider reporting on the cultural significance.

AESTHETIC SIGNIFICANCE

Aesthetic value includes aspects of sensory perception for which criteria can and should be stated. It is how we respond to visual and non-visual aspects such as sounds, smells and other factors that can have a strong impact on your thoughts, feelings and attitudes. It may also include consideration of the form, scale, colour, texture and material and its beauty (Australia ICOMOS 2013). When considering the aesthetic value and significance of a site and/or PAD, some questions to consider may include:

- Does the object or place have special compositional or uncommonly attractive qualities involving combinations of colour, textures, spaces, massing, detail, movement, unity, sounds, scents?
- Is the object or place distinctive within the setting or a prominent visual landmark?
- Does the object or place have qualities which are inspirational or which evoke strong feelings or special meanings?
- Is the object or place symbolic for its aesthetic qualities: for example, does it inspire artistic or cultural response, is it represented in art, photography, literature, folk art, folk lore, mythology or other imagery or cultural arts?
- Does the object or place display particular aesthetic characteristics of an identified style or fashion?
- Does the object or place show a high degree of creative or technical achievement?

HISTORIC SIGNIFICANCE

The historic value encompasses all aspects of history. For example, it may include the history of aesthetics, art, science, society and spirituality. A place may have historic value because it has influenced, or has been influenced by, an historic figure, event, phase or activity. It may also have historic value as the site of an important event. For any given place the significance will be greater where evidence of the association or event survives in situ, or where the settings are substantially intact, than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains significance regardless of subsequent treatment (Australia ICOMOS 2013). When considering the historic value and significance of a site and/or PAD, some questions to consider may include:

- Is the object or place associated with an important event or theme in your history?
- Is the object or place important in showing patterns in the development of your history locally, in a region, or on a state-wide, or national or global basis?
- Does the object or place show a high degree of creative or technical achievement for a particular period?
- Is the object or place associated with a particular person or cultural group important in the history of the local area, state, nationally or globally?

SCIENTIFIC SIGNIFICANCE

The scientific value refers to the information content of a place and its ability to reveal more about an aspect of the past through examination or investigation of the place, including the use of archaeological techniques. The relative scientific value of a place is likely to depend on the importance of the information or data involved, on its rarity, quality or representativeness, and its potential to contribute further important information about the place itself or a type or class of place or to address important research questions (Australia ICOMOS 2013). Whilst the scientific value and significance will be discussed in detail in the Archaeological Heritage Impact Assessment report, it is important to consider this value when

assessing the cultural values and significance of an object and/or place. When considering the scientific value and significance of a site and/or PAD, you may consider:

- Would further investigation of the place have the potential to reveal substantial new information and new understandings about people, places, processes or practices which are not available from other sources?

SOCIAL VALUE

Social value refers to the associations a place has for a particular community or cultural group and the cultural or social meaning it has for that community or cultural group (Australia ICOMOS 2013). When considering the social value and significance of a site and/or PAD, some questions to consider may include:

- Is the object or place important as a local marker or symbol?
- Is the object or place important as part of your community identity or the identity of another particular cultural group?
- Is the object or place important to you, your community or other cultural group because of associations and meanings developed from long use and association?

SPIRITUAL VALUE

Spiritual value embraces the intangible values and meanings embodied in or evoked by a place which gives importance to the spiritual identity, or traditional knowledge, art and practices of a cultural group. Spiritual value may also be reflected in the intensity of aesthetic and emotional responses or community associations, and be expressed through cultural practices and related places (Australia ICOMOS 2013). The qualities of the place may inspire a strong and/or spontaneous emotional or metaphysical response in people, expanding their understanding of their place, purpose and obligations in the world, particularly in relation to the spiritual realm (Australia ICOMOS 2013). When considering the spiritual value and significance of a site and/or PAD, some questions to consider may include:

- Does the object or place contribute to the spiritual identity or belief system of you, your community or another cultural group?
- Is the place a repository of knowledge, traditional art or lore related to spiritual practice for you, your community or another a cultural group?
- Is the object or place important in maintaining the spiritual health and wellbeing of you, your community people or another culture or group?
- Do the physical attributes of the object or place play a role in recalling or awakening an understanding of an individual or a group's relationship with the spiritual realm?
- Do the spiritual values of the object or place find expression in Awabakal cultural practices or human-made structures, or inspire creative works?

4.1.5 PROVIDING YOUR KKNOWLEDGE AND CULTURAL SIGNIFICANCE INFORMATION

It is difficult to provide options that will ensure every individual's needs are met. In light of this, the following proposed options are provided are in no way the only options available. If you have alternative ways of providing your knowledge and cultural significance information, please notify MCH to ensure we can facilitate your requirements where appropriate.

It is acknowledged and understood that the methods and options discussed are not traditional customs and some may take offence. MCH sincerely apologise for any offence taken as none is intended.

1) Discussion in the field during the field work
2) Written documentation (letter, e-mail)
3) Meeting to discuss and/or provide written documentation
4) Formal interview with specific questions/answers and/or discussions
5) Phone conversation
6) Internet video conversation
7) Using the attached form/questioner

4.2 ARCHAEOLOGICAL INVESTIGATION METHODS

4.2.1 OBJECTIVES

The objective of the investigation is to determine whether surface and, or, subsurface cultural material exists in the areas identified as having archaeological potential. The detection of surface material will drive the management recommendations and mitigation measures to ensure that any significant cultural resources are identified and protected where possible or is subject to minimal impact by the proposed development.

4.2.2 ABORIGINAL CULTURAL HERITAGE ASSESSMENT METHODOLOGY & REPORT

Overall, the ACHA will include, but not limited to, the following;

- Project background, including project description, detailed maps, legislative context, qualifications of the investigator
- Consultation outlining the process as per the Heritage NSW Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010
- Landscape context including, landforms, soils, geology, geomorphology, water sources, fauna and flora, history of land use and impacts and, natural impacts
- Archaeological context including review of previous regional and local work in the area, AHIMS search, summary and discussion of the local and regional character of Aboriginal land use and its material traces, occupation model and site-specific predictive model
- Results that will include the field work results (see below for proposed methodology), detailed descriptions of landforms (survey units), vegetation cover, exposures, land uses and disturbances, site(s) and PAD(s). It will also include any analysis and discussion
- An assessment of scientific values and significance assessment
- An impact assessment
- Management and mitigation measures
- Recommendations
- References
- Appendices will include the AHIMS results and community consultation log and communications

4.2.3 PROPOSED TEST EXCAVATION METHODOLOGY

The test excavation methodology of the previously identified PAD will be in accordance with the Heritage NSW - Code of Practice for Archaeological Investigations of Aboriginal Objects in New South Wales 2010, Section 2.2. This proposed methodology is subject to variation due to unforeseen field conditions/constraints. The area to be subject to a test excavation program will include the area clarified as having archaeological potential and will include:

- the test excavation units will be placed on a 15m x 15m systematic grid system across the PAD (ensuring that the maximum surface area of all test excavation pits is no greater than .5% the PAD areas (three test pits);
- test excavations will cease when enough information has been recovered to adequately characterise the objects/site(s) present with regard to their nature and significance;
- the test excavation will be pegged by a surveyor who will also provide a plan and coordinated of each test pit;
- test excavations units will be excavated using hand tools only;
- test excavations will be excavated in 50 cm x 50 cm units. If the pits are deeper than 1m, due to safety, the pits will be battered to allow safe access and batters excavated and sieved as the test excavation;
- the first excavation unit will be excavated and documented in 5 cm spits. Based on the evidence of the first excavation unit, 10 cm spits or sediment profile/stratigraphic excavation (whichever is smaller) will then be implemented;
- all material excavated from the test excavation units will be sieved using a 5-mm wire-mesh sieve;
- test excavation units will be excavated to the base of the identified Aboriginal object-bearing units, or until the B horizon is reached;
- if more than 5 artefacts are uncovered in one pit, then additional test pits will be located north, south, east and west of that pit and placed at 5m from the original pit so long as the total area excavated did not exceed 0.5% of the PAD;
- photographic and scale-drawn records of the stratigraphy/soil profile, features and informative Aboriginal objects will be made for each excavation point;
- test excavations units will be backfilled as completed; and
- all artefacts will be removed at the end of each day for security and held with MCH until the artefact analysis is complete and will be handed to the RAPs (care and control to be determined).

Following the completion of the salvage excavations and community collections, an artefact analysis was undertaken and the details of the methods used will include, but not limited to, the block method of measuring artefacts (measures the greatest length from the platform and perpendicular to the platform), the greatest width perpendicular to the length and the greatest thickness). Artefact will be classified based on the materialist approach as opposed to the typological approach. Materialist classifications do not concentrate on the purpose or intention of the artefact maker but focus on how morphological features came into being. Raw materials will also be noted as well as heat treatment of artefacts, use-wear and re-touch. Artefact counts will be made, cortex and breakage will also be included in the analysis. Any other cultural materials uncovered will also be analysed and included in the report.

4.2.4 TEST EXCAVATION RESEARCH QUESTIONS

The assessment is designed to address a number of research hypothesis. The research questions listed below derive from Kuskies (2005) detailed work in the region and are used here for consistency in analysis and discussions as well as local and regional comparative research.

- What past Aboriginal activities occurred within the project area?
- What types of past Aboriginal occupation occurred within the project area (e.g., transitory movement, hunting, gathering, camping etc)?

- Were the types of activity and nature of occupation related to environmental factors (e.g., landforms, proximity to reliable water)?
- Does spatial patterning of activity areas occur within the project area?
- Did single or multiple episodes of occupation occur within the project area?
- Did episodes of occupation occur at different times over the whole time-span of occupation in the region within the project area?
- Is there potential for older evidence of occupation (i.e., early Holocene)?
- How intensive was occupation of the sites, in both a local and regional context?
- Did microblade and microlith production occur on the sites?
- Were other tools manufactured on the sites?
- Was maintenance of tools conducted on site?
- Was knapping of flakes largely casual and opportunistic, meeting requirements on 'as needed' basis?
- What raw materials were favoured for use on site within the project area and why?
- Did thermal alteration of raw materials occur within the project area?
- How does the evidence and inferred human behaviour represented within the project area compare with evidence from other locations in the region?
- How does the evidence relate to the regional and local models of occupation?

4.3 FORMS

You will find forms attached for your connivance. However, if you prefer to use your own, please feel free to do so. Please ensure that these are either filled out in full or your own forms/letters answer the questions and return to MCH no later than 25th September 2024.

5 ROLES, RESPONSIBILITIES AND FUNCTIONS OF PARTIES

The roles, responsibilities and functions of all parties are outlined below and is taken from DECCW (2010).

5.1 HERITAGE NSW, DEPARTMENT OF PREMIER AND CABINET

The Chief Executive of Heritage NSW, Department of Premier & Cabinet is the decision-maker who decides to grant or refuse an Aboriginal Heritage Impact Permit (AHIP) application. If an AHIP is issued, conditions are usually attached and Heritage NSW, Department of Premier & Cabinet is responsible for ensuring the AHIP holder complies with those conditions. When considering an application under Part 6 of the NPW Act, the Chief Executive will review the information provided by proponents in line with its internal policies and procedures to assess potential or actual harm to Aboriginal objects or places (DECCW, 2009).

The Environment Protection and Regulation Group (EPRG) of Heritage NSW, Department of Premier & Cabinet is responsible for administering the regulatory functions under Part 6 of the NPW Act. Heritage NSW, Department of Premier & Cabinet expects that proponents and Aboriginal people should:

- be aware that Part 6 of the NPW Act establishes the Chief Executive or delegate of Heritage NSW, Department of Premier & Cabinet as the decision-maker; and
- recognise that the Chief Executive's (or delegates) decisions may not be consistent with the views of the Aboriginal community and/or the proponent. However, Heritage NSW, Department of Premier & Cabinet will consider all relevant information it receives as part of its decision-making process.

5.2 PROPONENT

All proponents operate within a commercial environment which includes:

- strict financial and management issues, priorities and deadlines;
- the need to gain community support in order to secure any necessary approval/consent/ licence/permit to operate;
- the need for clearer processes and certainty of outcomes;
- the need for suitable access to land for the purpose of their development project;
- the need to work efficiently within the project's time, quality and cost planning and management parameters; and
- the need for culturally appropriate assessment findings relevant to their project.

Under these requirements, proponents should undertake the following:

- bring the RAPs or their nominated representatives together and be responsible for ensuring appropriate administration and management of the consultation process;
- consider the cultural perspectives, views, knowledge and advice of the RAPs involved in the consultation process in assessing cultural significance and developing any heritage management outcomes for Aboriginal object(s) and/or place(s);
- provide evidence to Heritage NSW, Department of Premier & Cabinet of consultation by including information relevant to the cultural perspectives, views, knowledge and advice provided by the registered Aboriginal parties; and
- accurately record and clearly articulate all consultation findings in the final ACHA report.

5.3 REGISTERED ABORIGINAL STAKEHOLDERS

The interests and obligations of Aboriginal people relate to the protection of Aboriginal cultural heritage. It is only Aboriginal people who can determine who is accepted by their community as being authorised to speak for Country and its associated cultural heritage. Where there is a dispute about who speaks for Country, it is appropriate for Aboriginal people, not Heritage NSW, Department of Premier & Cabinet or the proponent, to resolve this dispute in a timely manner to enable effective consultation to proceed.

Aboriginal people who can provide information about cultural significance are, based on Aboriginal lore and customs, the traditional owners or custodians of the land that is the subject of the proposed project area. Traditional owners or custodians with appropriate cultural heritage knowledge necessary to make informed decisions who wish to register as an Aboriginal party are those people who:

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

The registered Aboriginal parties should undertake the following;

- ensure the appropriate cultural knowledge holder is providing the appropriate information;
- uphold and respect the traditional rights, obligations and responsibilities of Aboriginal people within their own boundaries and not to infringe in other areas or Aboriginal people outside their own boundaries;
- consider and provide the proponent the cultural perspectives, views, knowledge and advice during the consultation process, assessing cultural significance and developing any heritage management outcomes for Aboriginal object(s) and/or place(s); and
- need to work efficiently within the project's time and provide feedback in a timely manner.

5.4 LOCAL ABORIGINAL LAND COUNCILS

The NSW Aboriginal Land Council (NSWALC) and Local Aboriginal Land Councils (LALCs) have statutory functions relevant to the protection of Aboriginal culture and heritage under the NSW Aboriginal Land Rights Act 1983. These requirements do not extend the role of NSWALC and LALCs in the significance assessment process. That is, these requirements do not provide NSWALC and/or LALCs any additional or specific decision-making role in the assessment of significance of Aboriginal object(s) and/or place(s) that are subject to an AHIP application under Part 6 of the NPW Act.

LALCs may choose to register an interest to be involved in the consultation process, or may assist registered Aboriginal parties to participate in the consultation process established by these requirements. In order to ensure effective consultation and the subsequent informed heritage assessment, LALCs are encouraged to identify and make contact with Aboriginal people who hold cultural knowledge in their area.

5.5 EMPLOYMENT

The proponent may engage a number of Aboriginal representatives from the registered parties (based on the size and nature of the project) to participate and assist in the fieldwork component of this project. Renumeration for any fieldwork is not part of the consultation process and MCH do not get involved in any such issues. However, please note that any renumeration offered by the proponent for any field work component of the assessment may be based on a number of factors, including but not limited to, the overall

project budget, job description, receipt of CVs and insurance certificate of currencies, and will be above the industry standard rate of pay for the specific work.

If you would like to be considered for paid field work, please answer the selection criteria attached and ensure you attach certificates of currency for the relevant insurances, CV(s), any certificates and references. MCH will then pass this information onto the proponent for their consideration to make the selection for fieldwork participants should they wish to do so. MCH will ensure all Aboriginal parties are invited to participate in fieldwork regardless of renumeration. Paid participation is determined by the proponent not MCH.

5.6 FORMS

You will find forms attached for your connivance. However, if you prefer to use your own, please feel free to do so. Please ensure that these are either filled out in full or your own forms/letters answer the questions and return to MCH no later than 25th September 2024.

Appendix A

MCH would like to clearly state that, should you wish to provide feedback in another form, you are encouraged to do so. You are under no obligation to complete the current form.

However, should you wish to use this form, please complete, sign and return to MCH using one of the following;

E-mail: penny@mcheritage.com.au

Postal address: MCH

PO Box 166

Adamstown, NSW 2289

ABORIGINAL STAKEHOLDER SITE OFFICER APPLICATION

Position description (site officers are selected by the proponent and based on the information provided by you (CV, experience, reference check, insurances, rates).

A site officer must demonstrate that they have satisfactorily participated in previous archaeological fieldwork with an archaeologist. A trainee site officer does not need to demonstrate previous archaeological experience. Site officers must be able to:

- undertake direction from the project archaeologist
- work in a range of climates wearing the required PPE
- work in teams with a wide range of people
- identify a broad range of Aboriginal objects across the landscape

To qualify as a site officer, appropriate training in identifying Aboriginal objects must have been undertaken (such as the NPWS sites awareness training course, or other relevant secondary or tertiary studies) or equivalent knowledge or experience must be demonstrated. The duties of the site officer under the direction of the project archaeologist may include, but not limited to:

- assist with set up and pack up, excavate/dig test pits, carry heavy buckets, sieve, backfill
- meeting general and site-specific Occupational Health and Safety requirements

Selection criteria

The proponent will offer positions based on the following key selection criteria:

- an individual's ability to undertake the tasks specified above
- an individual's availability to undertake the activity (physically able to undertake field work)
- an individual's experience in undertaking similar activities. Applications may be subject to a reference check
- individuals with demonstrated cultural knowledge relevant to the local area
- individuals who can demonstrate they can communicate the results of the field work back to their managers and RAPs
- in addition to a consideration of the key selection criteria, the Proponent may give preference to applicants who live locally

The proponent is under no obligation to offer site officer positions based on an individual's association with a cultural group or area. The proponent makes no guarantee that registered parties will be engaged to undertake archaeological field activities. The number of site officer positions available will be based on need as described in the archaeological methodology. However, MCH will ensure all registered stakeholders are invited to participate in the fieldwork regardless of engagement arrangements between the stakeholder(s) and the proponent. Applicants will be notified whether they have been successful or unsuccessful in their application for renumeration for fieldwork.

Engagement & Payment

The Proponent selects and has final approval on who will be engaged as a site officer. Successful applicants will be engaged to provide the services through a written contract that will be provided at a later date. The proponent will only engage Service Providers with NSW workers compensation insurance, public liability insurance, and comprehensive motor vehicle insurance or third-party property damage insurance. Engagement of the Service Provider will be a rate that may be based on a number of factors, including but not limited to, the overall project budget, job description, receipt of CVs and insurance certificate of currencies, offered rates of the RAPs and will be above the industry standard rate of pay for the specific work.

The quoted rate is the rate to be paid by the Proponent to the Service Provider - not to the individual site officer/trainee site officer. Payment will only be made for the provision of the services (actual hours worked), not for the time spent travelling to and from site, and there is no daily or half daily rate. Payment will be made upon the receipt of a cultural heritage report and receipt of your response to the draft report.

ABORIGINAL SITE OFFICER APPLICATION FORM

Hillview Quary test excavation

An Aboriginal site officer application form must be filled out for each individual seeking engagement as a site officer.

Name of organisation (if relevant)	
Name	
Contact number	
Mailing address	
Email address	
Position applied for	Site officer ☐ Trainee Site Officer ☐
Please list any formal qualifications or relevant experience to the position applied for (attach documentation as required)	
Please list any previous archaeological, sites, survey, excavation or other relevant experience (attach additional sheets)	
Please provide the contact details of at least one archaeologist who can be contacted as a referee	

INSURANCES

Public Liability	Expiry date:	(attach certificate of currency)
Worker Compensation	Expiry date:	(attach certificate of currency)
Comprehensive Motor Vehicle	Expiry date:	(attach certificate of currency)

Failure to provide up to date Certificate of Currencies will prevent you participating in any fieldwork. MCH may have received copies previously, however, they must be provided for each project.

FINANCIAL (do not fill out GST column if you are not registered for GST)

Hourly rate	Excluding GST	Including GST	Other Information
$	$	$	

OCCUPATIONAL HEALTH & SAFETY (OH&S)

All participants are required to comply with MCH and the proponents OH&S requirements, including PPE requirements (long pants, long sleeved shirt, high visibility clothing, hat, sunscreen and steel caped boots). You will be advised of any additional requirements. All fieldworkers will arrive on time at the meeting location and stay for the duration of the fieldwork. All fieldworkers will need to bring lunch, snacks and drinking water.

This also includes appropriate and acceptable behaviour at all times and be fit and ready for work (including being alcohol, drug and fatigue free).

Failure to comply will prevent you from participating in the field work.

COMMENTS ON PROPOSED METHODOLOGY

Hillview Quary test excavation

I, _____ (*please insert your name*) of _____ (*please insert the name of your group*), **agree to the methodology** outlined by MCH in the information packet for the above-named project.

_____

_____

Signed: _____ Date: _____

Position within organisation: _____

I, _____ (*please insert your name*) of _____ (*please insert the name of your group*), **do not agree to the methodology** outlined by MCH in in the information packet for the above-named project for the following reasons (*please explain your reasons for disagreeing):*

_____

_____

I would like to suggest the following (please provide your reasoning):

_____

_____

Signed: _____ Date: _____

Position within organisation: _____

PROVIDING KNOWLEDGE ABOUT CULTURAL SIGNIFICANCE

Hillview Quary test excavation

Company Name):_____

Contact:_____

Postal address:_____

_____

Mobile No:_____

E-Mail:_____

Date:_____

I would like to provide knowledge about cultural significance using the following method(s). Please tick your preferred method(s):

1) Discussion in the field during field work
2) Written documentation (letter, e-mail)
3) Meeting to discuss and/or provide written documentation
4) Formal interview with specific questions/answers and/or discussions
5) Phone conversation
6) Internet video conversation
7) Using the attached form/questioner

Other: Please provide details:

_____

_____

_____

_____

ABORIGINAL SITE OFFICER APPLICATION FORM

Hillview Quary test excavation

An Aboriginal site officer application form must be filled out for each individual seeking engagement as a site officer.	
Name of organisation (if relevant)	Karuah Indigenous Company Pty Ltd.
Name	Dave Feeney
Contact number	0421114853
Mailing address	1/7 Mustons Rd, Karuah NSW 2324
Email address	indigenouskaruah@outlook.com
Position applied for	Site officer [X] Trainee Site Officer [ ]
Please list any formal qualifications or relevant experience to the position applied for (attach documentation as required)	We Have History
Please list any previous archaeological, sites, survey, excavation or other relevant experience (attach additional sheets)	AS ABOVE
Please provide the contact details of at least one archaeologist who can be contacted as a referee	DR Penny McCardle

INSURANCES

Public Liability	Expiry date: 07-12-24	(attach certificate of currency) ✓
Worker Compensation	Expiry date: 30-11-24	(attach certificate of currency) ✓
Comprehensive Motor Vehicle	Expiry date: 21-Feb-25	(attach certificate of currency) ✓

Failure to provide up to date Certificate of Currencies will prevent you participating in any fieldwork. MCH may have received copies previously, however, they must be provided for each project.

FINANCIAL (do not fill out GST column if you are not registered for GST)

Hourly rate	Excluding GST	Including GST	Other Information
$ 110	$	$ 10	

OCCUPATIONAL HEALTH & SAFETY (OH&S)

All participants are required to comply with MCH and the proponents OH&S requirements, including PPE requirements (long pants, long sleeved shirt, high visibility clothing, hat, sunscreen and steel caped boots). You will be advised of any additional requirements. All fieldworkers will arrive on time at the meeting location and stay for the duration of the fieldwork. All fieldworkers will need to bring lunch, snacks and drinking water.

This also includes appropriate and acceptable behaviour at all times and be fit and ready for work (including being alcohol, drug and fatigue free).

Failure to comply will prevent you from participating in the field work.

PROVIDING KNOWLEDGE ABOUT CULTURAL SIGNIFICANCE

Hillview Quary test excavation

Company Name): Karuah Indigenous Company Pty Ltd.
Contact: Dave Feeney
Postal address: 1/4 Mustons Road
Karuah NSW 2324
Mobile No: 0421114853
E-Mail: indigenouskaruah@outlook.com
Date: 10-09-2024

I would like to provide knowledge about cultural significance using the following method(s). Please tick your preferred method(s):

(1) Discussion in the field during field work
2) Written documentation (letter, e-mail)
3) Meeting to discuss and/or provide written documentation
4) Formal interview with specific questions/answers and/or discussions
5) Phone conversation
6) Internet video conversation
7) Using the attached form/questioner

Other: Please provide details:

COMMENTS ON PROPOSED METHODOLOGY

Hillview Quary test excavation

I, Dave Feeney (*please insert your name*) of Karuah Indigenous Corp (*please insert the name of your group*), **agree to the methodology** outlined by MCH in the information packet for the above-named project.

Signed: [signature] Date: 10-9-24

Position within organisation: _____

I, _____ (*please insert your name*) of _____ (*please insert the name of your group*), **do not agree to the methodology** outlined by MCH in in the information packet for the above-named project for the following reasons (*please explain your reasons for disagreeing):*

I would like to suggest the following (please provide your reasoning):

Signed: _____ Date: _____

Position within organisation: _____

Karuah Indigenous Company Pty Ltd

ABN: 62 664 001 594

*1/7 Mustons Road, Karuah NSW 2324 * Phone: (02) 49975952 * Mobile: 0421114853*
Email: indigenouskaruah@outlook.com

Aboriginal Sites Officer

Effective from 01st June 2023

Daily Rate-8 hours	**$ 880.00**
Min Call out 4 hrs	**$ 440.00**
Hourly Rate	**$110.00**
Administration	
Car Hire per Day	**$ 0.78c per km**

GST will be add to the hourly rate.

Payment will be required within 14 days of invoice date.

In the event of inclement weather, a Karuah Indigenous Company Pty Ltd employee will arrive at the appointed time. An assessment will be made in conjunction with the proponents' representative. If the decision is made to postpone the day's work a minimum charge of 4 hours at the hourly rate will apply.

Thanks

David Feeney

Dave Feeney
Chief Executive Officer
Snr Aboriginal Cultural Officer

ABORIGINAL SITE OFFICER APPLICATION FORM

Hillview Quary test excavation

An Aboriginal site officer application form must be filled out for each individual seeking engagement as a site officer.

Name of organisation (if relevant)	Murooma Inc
Name	Bec Young
Contact number	0421078695
Mailing address	9 Vardon Rd Fern Bay
Email address	murroomainc1@gmail.com
Position applied for	Site officer [X] Trainee Site Officer [ ]
Please list any formal qualifications or relevant experience to the position applied for (attach documentation as required)	Degree in Aboriginal Studies 2 - NPWS Aboriginal Sites Identification Courses OHS White Card
Please list any previous archaeological, sites, survey, excavation or other relevant experience (attach additional sheets)	Over 20 years experience working within the field of Cultural Heritage- Including, field work surveys, reports and excavations on Worimi Country Only. All Representatives of Murrooma are also highly qualified.
Please provide the contact details of at least one archaeologist who can be contacted as a referee	Nicola Roche- 0427125685

INSURANCES

Public Liability	Expiry date:	31/08/2025	(attach certificate of currency)
Worker Compensation	Expiry date:	30/11/2024	(attach certificate of currency)
Comprehensive Motor Vehicle	Expiry date:	MAY 2025	(attach certificate of currency)

Failure to provide up to date Certificate of Currencies will prevent you participating in any fieldwork. MCH may have received copies previously, however, they must be provided for each project.

FINANCIAL (do not fill out GST column if you are not registered for GST)

Hourly rate	Excluding GST	Including GST	Other Information
$ Half Day $400 Full Day $800 Call out fee $150 per hour	$ $400 $800 $150	$ $440 $880 $165	All survey works are charged for a minimum of 4 hours- unless emergency call out or onsite meeting.

OCCUPATIONAL HEALTH & SAFETY (OH&S)

All participants are required to comply with MCH and the proponents OH&S requirements, including PPE requirements (long pants, long sleeved shirt, high visibility clothing, hat, sunscreen and steel caped boots). You will be advised of any additional requirements. All fieldworkers will arrive on time at the meeting location and stay for the duration of the fieldwork. All fieldworkers will need to bring lunch, snacks and drinking water.

This also includes appropriate and acceptable behaviour at all times and be fit and ready for work (including being alcohol, drug and fatigue free).

Failure to comply will prevent you from participating in the field work.

COMMENTS ON PROPOSED METHODOLOGY

Hillview Quary test excavation

I, Bec Young (*please insert your name*) of Murrooma Inc (*please insert the name of your group*), **agree to the methodology** outlined by MCH in the information packet for the above-named project.

Murrooma Agrees with this methodology outlined and happy to provide relevant information as Traditional Owners of the Worimi area.

Signed: R. young Date: 20/9/2024

Position within organisation: Operations Manager

I, _____ (*please insert your name*) of _____ (*please insert the name of your group*), **do not agree to the methodology** outlined by MCH in in the information packet for the above-named project for the following reasons (*please explain your reasons for disagreeing):*

_____

_____

I would like to suggest the following (please provide your reasoning):

_____

_____

Signed: _____ Date: _____

Position within organisation: _____

PROVIDING KNOWLEDGE ABOUT CULTURAL SIGNIFICANCE

Hillview Quary test excavation

Company Name): Murrooma Inc

Contact: Bec Young

Postal address: 9 Vardon rd Fern Bay NSW 2295

Mobile No: 0421078695

E-Mail: murroomainc1@gmail.com

Date: 20/09/2024

I would like to provide knowledge about cultural significance using the following method(s). Please tick your preferred method(s):

1) Discussion in the field during field work

2) Written documentation (letter, e-mail)

3) Meeting to discuss and/or provide written documentation

4) Formal interview with specific questions/answers and/or discussions

5) Phone conversation

6) Internet video conversation

7) Using the attached form/questioner

Other: Please provide details:

M
MCCARDLE
CULTURAL HERITAGE

PO Box 166
Adamstown 2289 NSW
penny@mcheritage.com.au
P: 0412 702 396

mcheritage.com.au

3 October 2024

indigenouskaruah@outlook.com

murroomainc1@gmail.com

lennie.anderson011@bigpond.com

sites@worimi.org.au

Dear All,

RE: Heritage NSW Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 3) –Survey invitation and letter of engagement- Hillview Hard Rock Quarry located at Booral

The proponent (Coastwide Materials Pty Ltd) has received a number of applications and after careful consideration has selected whom they wish to engage in a paid capacity. The proponent and MCH would like to advise that your application for paid participation has been successful. MCH would like to organise the test excavation (2 test pits) for the above-named project for the 22nd October 2024 starting at 9am at 67 Maytoms Lane, Booral NSW. We anticipate work will be complete within a day, however, please be advised this time may change.

As part of the assessment process the proponent require an appropriate person from your organisation to participate in the test excavation of two test pits to identify known or potential cultural heritage features. A cultural heritage report must be prepared following the survey and receipt of the draft archaeological report within the required 28 days review period. The cultural heritage report will identify known or potential Aboriginal objects or places and/or any other cultural heritage matters that may be affected by the project.

Coastwide Materials Pty Ltd and MCH wishes to reiterate our intent to positively engaging with the local Aboriginal community. In this spirit an invitation has been extended to all registered applicants to attend the survey. If you accept the terms outlined in the Letter of Engagement (attached) please sign the Letter of Engagement and return to MCH. Participation in the program is dependent on the receipt of the Letter of Engagement and insurance certificate of currencies (Workers Comp, Public Liability and Comprehensive Motor vehicle).

As all communications, including phone calls, faxes, letters, and e-mails must be included in the consultation component of the report as per the Heritage NSW requirements, please ensure that any items that you or your group deem confidential are made apparent to your field representative prior to field work to ensure that information remains confidential if required. Failure to disclose that information is confidential may result in the information being included in the report.

Should you have any questions regarding these terms and conditions or the project please contact myself on 0412 702 396.

Yours sincerely,
for McCardle Cultural Heritage Pty Ltd

Dr. Penny McCardle
Principal Archaeologist
Forensic Anthropologist

Aboriginal Site Officer/Trainee Site Officer

Letter of Engagement

Coastwide Materials Pty Ltd wishes to engage «Company» (Service Provider) to provide one Site Officer to undertake an archaeological survey of the proposed development at the Hillview Hard Rock Quarry located at Booral.

The proponent and Service Provider agree to the terms and conditions of the engagement as follows:

Services
The Service Provider will engage one Site Officer to undertake the following:

- Test excavation (two test pits)
- a cultural heritage report and invoice within 28 days of receiving the draft report from MCH

Fees
The proponent has determined the rate of pay based on the overall project budget, job description and information provided by the RAPs. The proponent will pay the following Fees to the Service Provider for Services:

- $100.00 + GST per person per hour for work undertaken by a Site Officer (inclusive of travel)

Payment will be within 28 days of receipt of a correct invoice and cultural heritage report. Invoices are to be provided at the end of the month.

Invoices are to be addressed to:
Coastwide Materials Pty Ltd
C/o- MCH
penny@mcheritage.com.au

Time sheets
The Service provider must ensure that the Site Officers sign a time sheet at the start and finish of each day the Services are provided. Fees will not be paid unless time sheets for each Site Officer has been completed. The archaeologist will have a time sheet that may be used.

Work performance
The Service Provider must ensure that the Site Officers are fit for work, undertake the Services in a timely manner, with reasonable care, skill and professionalism and in accordance with all applicable laws and any reasonable directions or requirements made by the proponent and/or MCH.

Absences
All field staff must call MCH the evening before work to notify their absence for the following day and organise for a replacement. If no notice is provided, that staff members place in the field team will be suspended until MCH are notified they will be back at work. It is the responsibility of the Service Provider to organise a replacement site officer from the list of persons provided to MCH at the start of the project.

Proponent and MCH property
All materials and equipment provided by MCH or the proponent during the term of engagement remain the property of MCH or the proponent and must be returned upon completion of the Services or termination of the agreement.

Confidentially
All information provided by MCH or the proponent to the Service Provider and/or Site Officer in relation to the services or the business or operations of the proponent and MCH are confidential. The Service Provider will ensure the Site Officer keep such information confidential at all times (including after the completion of the Services) and must not disclose it to any other person without the prior written consent from the proponent and/or MCH.

OH&S Requirements
Before commencement of work, you must provide MCH with certificate of currencies for Workers Comp, Public Liability and Comprehensive Motor Vehicle insurances. Field representatives participating in the field work will be required to wear PPE including steel cap boots, long pants and long shirt (hi-visibility) with appropriate sun protection including a hat. It is recommended that participants bring adequate amounts of food and water for the day. If field staff attend the site without the required PPE, they will not be permitted on site or to participate in the field work. It is the responsibility of the Service Provider to ensure all field staff are made aware of this.

Bullying, harassment and unacceptable behaviour
All field staff are required to treat others with dignity, courtesy and respect at all times. Behaviours that are unacceptable and may be against the law, include (but not limited to) discrimination, bullying, sexual harassment, racial and religious vilification are unacceptable and are covered by federal and state legislation, abusive language and threats in any form. Field staff found to have engaged in such conduct will be asked to leave the site immediately and their manager contacted. Failure to leave the site may result in the local Police being contacted. It is the responsibility of the Service Provider to ensure all field staff are made aware of this.

Early termination
The proponent reserves the right to terminate this agreement at any time by giving 1-week written notice to the Service Provider. If the proponent terminates this agreement under this clause, then, subject to satisfactory performance of the Services, the proponent will pay the Service provider a proportionate part of the Fee according to the amount or proportion of Services supplied up to the date of termination.

No subcontracting
The Service Provider must not subcontract the provision of the Services without the proponent's prior written consent.

Insurances
The Service Provider must provide certificates of currency for Workers Comp, Public Liability and Comprehensive Motor Vehicle insurances prior to the Services being provided.

Indemnity and release

The Service Provider undertakes the Services at its sole risk and the proponent and MCH will not be liable for any loss, damage, injury or death sustained by any person as a result of the Services being provided. The Service provider indemnifies and releases the proponent and MCH against any loss the proponent or MCH suffers or any claims made against the proponent or MCH by any person arising out of the provisions of the Services except to the extent that any loss or claims arise from any negligence by the proponent or MCH.

Variations
No changes to these terms can be made without the prior written agreement with the proponent.

Exclusion of other terms
This letter contains the sole agreement of the parties and all other terms are excluded.

If you agree that the contents of this letter correctly set out the terms of engagement between the proponent and your organisation then please sign two copies, keep one for yourself, and return the other signed copy to MCH within 10 days.

Acceptance (Hillview Hard Rock Quarry located at Booral)

Signed by «Company»
I/we agree to the terms set out in this letter and acknowledge that it forms a binding legal contract. **I/we declare that I/we are authorised to sign this letter on behalf of «Company».** **Please provide your ABN:**

Signature of Witness	**Signature of authorised person**
Print name of Witness	**Print name of authorised person**
	Print title and position of authorised person
Date:	**Date:**

penny@mcheritage.com.au

From: penny@mcheritage.com.au
Sent: Thursday, 3 October 2024 3:06 PM
To: 'girragirramurun@yahoo.com'; 'pathwaysforsearching@gmail.com'; 'gamila_roi@yahoo.com.au'
Subject: Hillview Hard Rock Quarry located at Booral

RE: Heritage NSW Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 3) –Survey invitation – Hillview Hard Rock Quarry located at Booral

The proponent thoroughly evaluates all responses submitted by the RAPs in relation to the information packets. This includes reviewing CVs, references, experience, insurance details, and proposed rates of pay. Such careful consideration enables the proponent to make an informed decision when it comes to selecting participants who will receive renumeration for their participation in the fieldwork.

Regrettably, your group did not provide any response to the information pack, thereby leaving the proponent without any knowledge or information about your group, experience, or qualifications. Consequently, the proponent is unable to offer your group renumeration for participation in the survey.

If your group is still interested in participating in the survey on an unpaid basis, or if you would like to stay updated on the progress of the survey, please contact Penny McCardle. Please note that if you intend to participate in the site survey then:

- Before commencement you must notify MCH for access arrangements and notification and provide MCH with a Certificate of Currency for Workers Compensation, Public Liability and Comprehensive Motor Vehicle insurances. MCH will also provide you with our OH&S requirements for field staff and request that you ensure all field staff participating in the project have read and understood the document fully prior to going out on site; and

- All field participants must wear covered shoes, long pants and long shirt (hi-visibility) with appropriate sun protection including hat. It is recommended that participants bring adequate amounts of food and water for the day.

As all communications, including phone calls, faxes, letters, and e-mails must be included in the consultation component of the report as per the Heritage NSW requirements, please ensure that any items that you or your group deem confidential are made apparent to your field representative prior to field work to ensure that information remains confidential if required. Failure to disclose that information is confidential may result in the information being included in the report.

Following the completion of the field work, a draft copy of the assessment will be made available to you for comment. Should you have any further questions, please do not hesitate to contact Penny McCardle on 0412 702 396.

Kind regards,

Dr. Penny McCardle
Principal & Forensic Archaeologist
Forensic Anthropologist

McCARDLE
CULTURAL HERITAGE

PO Box 166,
Adamstown 2289 NSW
P: 0412 702 396
mcheritage.com.au

The Service Provider undertakes the Services at its sole risk and the proponent and MCH will not be liable for any loss, damage, injury or death sustained by any person as a result of the Services being provided. The Service provider indemnifies and releases the proponent and MCH against any loss the proponent or MCH suffers or any claims made against the proponent or MCH by any person arising out of the provisions of the Services except to the extent that any loss or claims arise from any negligence by the proponent or MCH.

Variations
No changes to these terms can be made without the prior written agreement with the proponent.

Exclusion of other terms
This letter contains the sole agreement of the parties and all other terms are excluded.

If you agree that the contents of this letter correctly set out the terms of engagement between the proponent and your organisation then please sign two copies, keep one for yourself, and return the other signed copy to MCH within 10 days.

Acceptance (Hillview Hard Rock Quarry located at Booral)

Signed by «Company» WORIMI LOCAL ABORIGINAL LAND COUNCIL

I/we agree to the terms set out in this letter and acknowledge that it forms a binding legal contract.
I/we declare that I/we are authorised to sign this letter on behalf of «Company».
Please provide your ABN: 51 352 201 603

Signature of Witness	Signature of authorised person
Print name of Witness	**Print name of authorised person**
SCOTT NEWLIN	JAMIE MERRICK
	Print title and position of authorised person
	SNR SITES OFFICER.
Date: 4/10/24.	**Date:** 4/10/24.

The Service Provider undertakes the Services at its sole risk and the proponent and MCH will not be liable for any loss, damage, injury or death sustained by any person as a result of the Services being provided. The Service provider indemnifies and releases the proponent and MCH against any loss the proponent or MCH suffers or any claims made against the proponent or MCH by any person arising out of the provisions of the Services except to the extent that any loss or claims arise from any negligence by the proponent or MCH.

Variations
No changes to these terms can be made without the prior written agreement with the proponent.

Exclusion of other terms
This letter contains the sole agreement of the parties and all other terms are excluded.

If you agree that the contents of this letter correctly set out the terms of engagement between the proponent and your organisation then please sign two copies, keep one for yourself, and return the other signed copy to MCH within 10 days.

Acceptance (Hillview Hard Rock Quarry located at Booral)

Signed by «Company»

I/we agree to the terms set out in this letter and acknowledge that it forms a binding legal contract.
I/we declare that I/we are authorised to sign this letter on behalf of «Company».
Please provide your ABN:

Signature of Witness	**Signature of authorised person**
Benjamin Feeney	David Feeney.
Print name of Witness	**Print name of authorised person**
DIRECTOR.	SNR CULTURAL OFFICER / CHRO
	Print title and position of authorised person
Date: 04/10/2024	**Date:** 04/10/2024

The Service Provider undertakes the Services at its sole risk and the proponent and MCH will not be liable for any loss, damage, injury or death sustained by any person as a result of the Services being provided. The Service provider indemnifies and releases the proponent and MCH against any loss the proponent or MCH suffers or any claims made against the proponent or MCH by any person arising out of the provisions of the Services except to the extent that any loss or claims arise from any negligence by the proponent or MCH.

Variations
No changes to these terms can be made without the prior written agreement with the proponent.

Exclusion of other terms
This letter contains the sole agreement of the parties and all other terms are excluded.

If you agree that the contents of this letter correctly set out the terms of engagement between the proponent and your organisation then please sign two copies, keep one for yourself, and return the other signed copy to MCH within 10 days.

Acceptance (Hillview Hard Rock Quarry located at Booral)

Signed by «Company» Murrooma Inc	
I/we agree to the terms set out in this letter and acknowledge that it forms a binding legal contract. **I/we declare that I/we are authorised to sign this letter on behalf of «Company».** **Please provide your ABN:** 97 807 719 484	
Signature of Witness	**Signature of authorised person**
A.Anderson	R.Young
Print name of Witness	**Print name of authorised person**
Anthony Anderson	Rebecca Young
	Print title and position of authorised person
	Operations Manager
Date: 08/10/2024	**Date:** 08/10/2024

From:	penny@mcheritage.com.au
To:	"indigenouskaruah@outlook.com"; "murroomainc1@gmail.com"; "lennie.anderson011@bigpond.com"; "sites@worimi.org.au"; "girragirramurun@yahoo.com"; "pathwaysforsearching@gmail.com"; "gamila_roi@yahoo.com.au"
Subject:	Proposed Hillview Hard Rock Quarry located at Booral - draft report
Date:	Wednesday, 23 October 2024 6:59:00 PM
Attachments:	image001.png Hillview Hard Rock Quarry, Booral DRAFT 23 10 2024.pdf

Dear All,

RE: Heritage NSW Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 3 & 4 –Review of Draft Cultural Heritage Assessment - Proposed Hillview Hard Rock Quarry located at Booral

Please find enclosed a copy of the draft Aboriginal Cultural Heritage Assessment (ACHA) for the above-named project for your review.

The ACHA includes information provided by the knowledge holders and is included with their permission. As required by the Heritage NSW - Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010), Stage 3 (S. 4.3.5; 4.3.6; 4.3.7) and Stage 4 (S. 4.4.1; 4.4.2; 4.4.3) and based on the information provided by knowledge holders throughout the project, the cultural significance will be included in the final report.

MCH would like to provide further opportunity to provide your further input and request your comments on the draft ACHA. Additionally, any concerns you may have, are also important, and we would like to provide another opportunity to address any concerns you may have.

As outlined in the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010), Stage 4 (S. 4.4.3) MCH would appreciate your input and your comments on the draft report, no later than C.O.B. 21st November 2024.

As all communications, including phone calls, faxes, letters, and e-mails must be included in the consultation component of the report as per the Heritage NSW requirements, please ensure that if any response to the draft report is deemed confidential that this is either stated at the beginning of a conversation or stamped/written on each piece of paper communicate.

Please note that in order to adhere to time constraints, the absence of a response by the requested timeline, will be taken by the proponent as your indication that your organisation has no comments.

Kind regards,

Dr. Penny McCardle
Principal & Forensic Archaeologist
Forensic Anthropologist

M
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21 November 2024

Via email

Dear All,

RE: Heritage NSW Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Stage 4 –Final Cultural Heritage Assessment - Proposed Hillview Hard Rock Quarry located at Booral

MCH and the Proponent would like to take this opportunity to thank you for your involvement in the above-named project. Your time and input have been instrumental throughout the project

As outlined in the Heritage NSW Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010), Stage 4 (S. 4.4.5), please find attached a copy of the final report for your records.

We look forward to continue working with you in the future.

Yours sincerely,
for McCardle Cultural Heritage Pty Ltd

Dr. Penny McCardle
Principal Archaeologist
Forensic Anthropologist

APPENDIX B

AHIMS search results

AHIMS Web Services (AWS)
Search Result

Your Ref/PO Number : Hillview Quarry, Booral

Client Service ID : 727899

Penny Mccardle

Po Box 166
Adamstown New South Wales 2289

Attention: Penny Mccardle

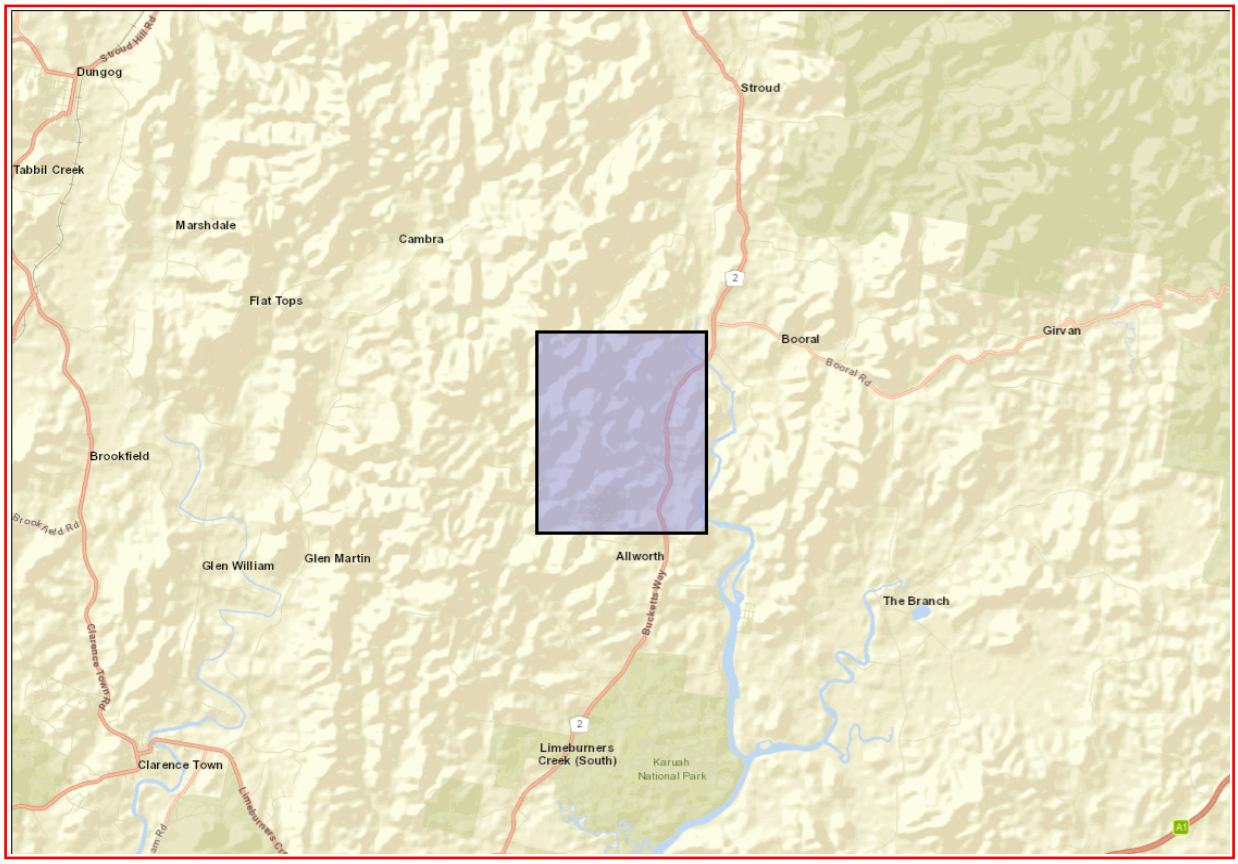
Email: penny@mcheritage.com.au

Date: 31 October 2022

Dear Sir or Madam:

AHIMS Web Service search for the following area at Datum :GDA, Zone : 56, Eastings : 397000.0 - 402000.0, Northings : 6401000.0 - 6407000.0 with a Buffer of 0 meters, conducted by Penny Mccardle on 31 October 2022.

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



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

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

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

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

Important information about your AHIMS search

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

Level 6, 10 Valentine Ave, Parramatta 2150
Locked Bag 5020 Parramatta NSW 2124
Tel: (02) 9585 6345

ABN 34 945 244 274
Email: ahims@environment.nsw.gov.au
Web: www.heritage.nsw.gov.au

APPENDIX C

Unexpected finds procedure

Unexpected finds procedures

Unexpected find protocols have been developed to provide procedures for unexpected finds including Aboriginal objects and the discovery of human remains. These protocols must be followed throughout all stages of the development.

Unexpected Aboriginal objects

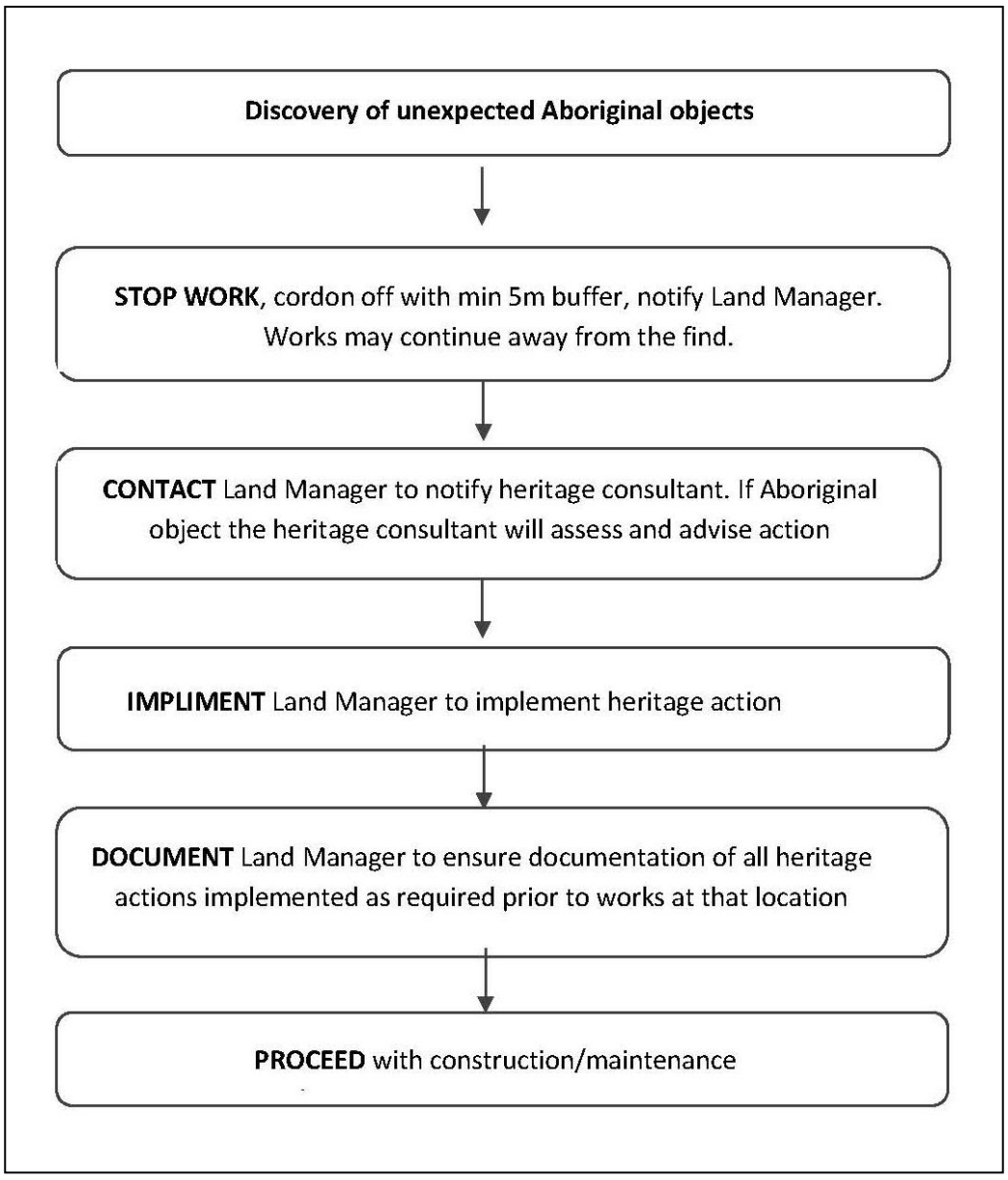
Should unexpected Aboriginal objects be uncovered during any stage of the development, Figure 1 illustrates the protocols. Unexpected Aboriginal objects may include, but not limited to, isolated artefacts, artefact scatters, scarred trees, hearths and shell middens (descriptions of such objects are provided).

Work must stop immediately in that location, the objects cordoned off with at least a 5m perimeter surrounding the object(s) with high visibility fencing/barrier and the Land Manager notified immediately. The Land Manager will then contact the heritage consultant who will assess the object(s) and recommend appropriate mitigation measures, inlcuding contacting the Environmental Line if required. The Land Manager is to implement all reasonable mitigation measures recommended by the heritage consultant and in accordance with Heritage NSW regulations and the NSW NPW Act.

If additional works are required, such as an Aboriginal Cultural Heritage Assessment (ACHA) with or without est excavations) or an Aboriginal Heritage Impact Permit (AHIP) (with collection or salvage excavations), the Land Manager is to arrange for the heritage consultant to undertake those works in accordance with all Heritage NSW requirements, procedures and Code of Practice. The methodology for undertaking additional works will be dependant on a number of factors including, but not limited to, site/object type and disturbances. Due to the unknown nature of unexpected objects, methodologies for furthe investigatiosn (if required) of unexpected Aboriginal objects will be determined during consultation with Heritage NSW.

Provided these heritage unexpected finds protocols have been followed, construction/maintenance works in that location may proceed.

Figure 1. Unexpected finds protocol flow chart



Discovery of human remains

Human skeletal remains are of the highest significance and importance to Aboriginal people, and all care, respect and dignity will be extended by all parties should human remains be uncovered.

If human remains or unidentified bone are uncovered during any stage of the development and maintenance activities, the appropriate State legislation will be followed. All human remains fall under the *Coroners Act 2009* in the first instance. If they are identified as Aboriginal and older than 100 years old, they will fall under the *NSW NPWS Act 1974* (as amended). If they are identified as Aboriginal and 100 years or less, they will remain under Police derestriction under the *Coroners Act 2009*. Figure 2 outlines the required protocols should human remains be uncovered.

Should any human remains or unidentifiable bone be found, work is to stop in that area immediately and an area of 15m cordoned off surrounding the remains/bone in high visibility fencing. The Land Manager is to be notified immediately.

The Land Manager will contact the heritage consultant and local NSW Police immediately, who will then contact the NSW Forensic Services who will determine if they are:

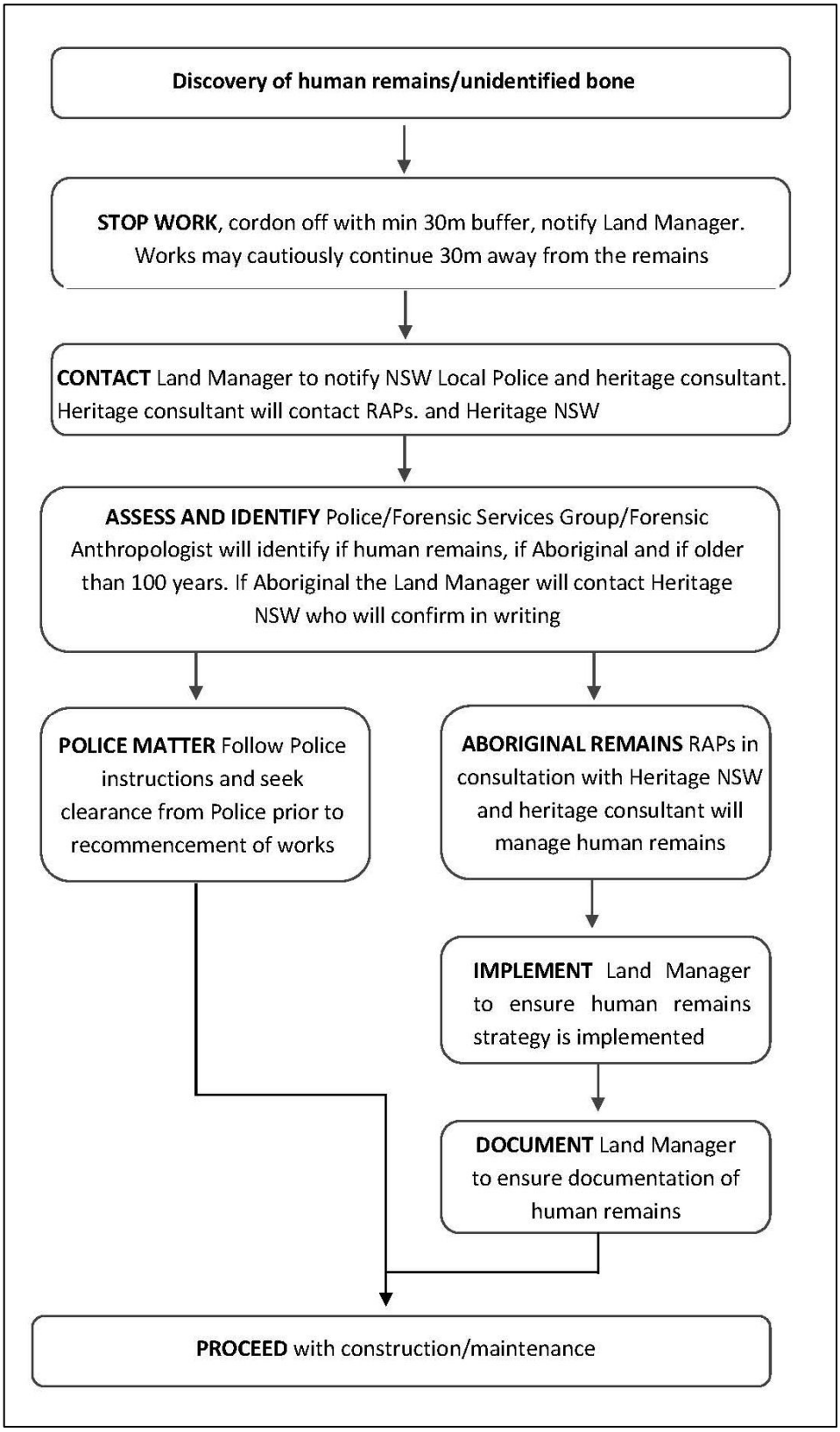
1) Human;
2) Aboriginal or non-Aboriginal;
3) If Aboriginal, determine antiquity (older or younger than 100 years)

If it is determined the remains are Aboriginal and older than 100 years old, the Police will notify the Land Manager who must contact the Environmnetal Line and Heritage NSW immediately. Heritage NSW, in consultation with the relevant Aboriginal community and the heritage consultant will develop a human remains management strategy and the Land Manager is to ensure this strategy is implemented. The Land Manager must also document the human remains management strategy and the heritage consultant will provide a letter of clearance prior to any works recommencing at that location.

If the remains are determined to be a Police matter, Police instructions will be followed and clearance to recommence works should be sought from the Police.

Provided the human skeletal protocols have been followed and documented, and a clearance letter from the heritage consultant has been obtained, construction/maintenance works may proceed in that location.

Figure 2 Human remains protocol flow chart



Verification of all Aboriginal objects (sites)

All potential Aboriginal sites will be verified by the heritage consultant in the first instance, and Heritage NSW if required.

The purpose of the verification process is to determine whether or not the objects in question are in fact Aboriginal objects to ensure appropriate management measures be implemented.

The verification process will include the following provisions:

1. A heritage consultant may assess the scientific status of the Aboriginal object (site) and provide evidence and justification for significance;
2. If it is an Aboriginal object the Environmental Line will be contacted and the site reported;
3. An AHIMS site card will be completed for each Aboriginal object (site); and
4. Management recommendations specific to each Aboriginal object (site), will be determined by Heritage NSW.

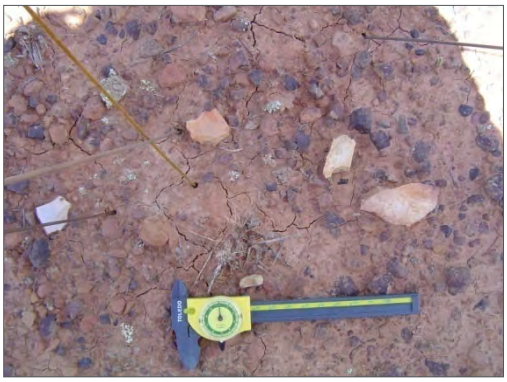
Surface Artefact scatters

Also described as open campsites, artefact scatters and open sites, these deposits have been defined at two or more stone artefacts within 50 or 200 metres of each other and may include archaeological remains such as stone artefacts, shell, and sometimes hearths, stone lined fire places and heat treatment pits. These sites are usually identified as surface scatters of artefacts in areas where ground surface visibility is increased due to lack of vegetation. Erosion, agricultural activities (such as ploughing) and access ways can also expose surface campsites. Artefact scatters may represent evidence of;

- Camp sites, where everyday activities such as habitation, maintenance of stone or wooden tools, manufacturing of such tools, management of raw materials, preparation and consumption of food and storage of tools has occurred;
- Hunting and/or gathering events;
- Other events spatially separated from a camp site, or
- Transitory movement through the landscape.

If a potential artefact scatter has been identified, the Unexpected Finds Protocol must be followed immediately.

Examples of artefact scatters (MCH)



Surface Isolated finds

Isolated artefacts are usually identified in areas where ground surface visibility is increased due to lack of vegetation. Erosion, agricultural activities (such as ploughing) and access ways can also expose surface artefacts. Isolated finds may represent evidence of;

- Hunting and/or gathering events; or
- Transitory movement through the landscape.

If a potential isolated find has been identified, the Unexpected Finds Protocol must be followed immediately.

Examples of isolated artefacts (MCH)