

PACIFIC BROOK CHRISTIAN SCHOOL, 72-74 MAITLAND
STREET, MUSWELLBROOK, NSW

ABORIGINAL CULTURAL HERITAGE ASSESSMENT REPORT

Report to NBRS Architecture on behalf of

Pacific Brook Christian School (PBCS)

LGA: Muswellbrook

July 2024





EXECUTIVE SUMMARY

Apex Archaeology were engaged by NBRS Architecture on behalf of Pacific Brook Christian School (PBCS) to undertake an Aboriginal Cultural Heritage Assessment (ACHA) in accordance with the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (April 2011); the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, April 2010) (the ACHCRs); and the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (September 2010) (the Code of Practice), in advance of a proposed development on Maitland Street, Muswellbrook. This report details the results of this assessment.

The project is within the Muswellbrook Shire Council (MSC) area. The proponent for the project is PBCS. This report details the results of the archaeological assessment completed in accordance with the Code of Practice and the consultation undertaken with the Aboriginal community in accordance with the ACHCRs.

The site is triangular in shape, with a northwest/southeast alignment and has an area of 2.432 ha. The site is bound by Muswellbrook Golf Course along the north eastern boundary, Maitland Street along the south western boundary and residential properties to the south eastern boundary. The site address is 72-74 Maitland Street and is legally described as Lot 100 in Deposited Plan (DP) 1261496.

The site is generally level with a slight slope to a watercourse at the north west boundary. This watercourse flows northeast into the adjoining golf course and on to Muscle Creek via a series of dams on the golf course. Muscle Creek flows west into the Hunter River which at its closest is 1.3 km north-west of the site. Stormwater management on site is by overland flow.

72-74 Maitland Street was previously used for forestry plantation purposes and is mapped as Muswellbrook State Forest. The site is no longer used for this purpose and currently sits as an empty and underutilised site.

The main vehicular access to the site is from Maitland Street, as well as pedestrian access. Existing vehicular parking on site includes open air at grade parking spaces facing Maitland Street.

In terms of travel, Muswellbrook is approximately three (3) hours from Sydney, three hours (3) from Dubbo, two (2) hours from Tamworth and 90 minutes from Newcastle.

The proposed development is for the establishment of a new K-12 school (Pacific Brook Christian School) on the subject site. The development will comprise site preparation, demolition, tree removal, construction of new school buildings, covered outdoor learning area, covered walkways, car parking, landscaping and associated works. The school will accommodate 140 students and 16 staff.



Initially, a State Significant Development Application (SSDA) was proposed to be lodged for the project, and this report was prepared in advance of the issue of Secretary's Environmental Assessment Requirements (SEARs) for the project, in anticipation of an ACHA being required to fulfil the SEARs. However, it has subsequently been determined to submit a Development Application to Muswellbrook Shire Council rather than an SSDA.

A total of thirteen Aboriginal people and organisations registered an interest in being consulted for the project. The following list comprises the registered Aboriginal parties (RAPs) for the project:

- A1 Indigenous Services
- Aboriginal Native Title Elders Consultants
- Alieria French Trading
- Divine Diggers Aboriginal Cultural Consultants
- Gunjeewong Cultural Heritage Corp
- Hunter Traditional Owner
- Robert Syron
- Ungooroo Aboriginal Corporation
- Wanaruah LALC
- Wattaka Wonnarua CC Service
- Widescope Indigenous Group
- Wonnarua Nation Aboriginal Corporation
- Yinarr Cultural Services

Consultation with the RAPs has been conducted in accordance with the ACHCRs. Information about the project, the sampling strategy and the methodology for undertaking the assessment of cultural heritage significance was provided to the RAPs for their review and comment on 2 June 2020, with comments received until 30 June 2020, a total of 28 days.

To date, no comments regarding the cultural heritage significance of the area have been received from the RAPs.

The archaeological investigation of the area identified that the area is heavily disturbed and does not possess potential for archaeological deposits to be present. No archaeological material was identified on the ground surface during the site inspection and no registered sites fall within the study area boundaries.



Based on the results of the cultural heritage and archaeological assessments, the following recommendations have been made for the project:

RECOMMENDATION 1: NO FURTHER ARCHAEOLOGICAL ASSESSMENT REQUIRED

This report details the Aboriginal archaeological potential of the site, which has been assessed as nil. No further Aboriginal archaeological assessment is required for the site.

RECOMMENDATION 2: DEVELOPMENT BOUNDARIES

The proposed development works must be contained within the assessed boundaries for this project. If there is any alteration to the boundaries of the proposed development to include areas not assessed as part of this archaeological investigation, further investigation of those areas should be completed to assist in managing Aboriginal objects and places which may be present in an appropriate manner.

RECOMMENDATION 3: STOP WORK PROVISION

Should unanticipated Aboriginal archaeological material be encountered during site works, all work must cease in the vicinity of the find and an archaeologist contacted to make an assessment of the find and to advise on the course of action to be taken. Further archaeological assessment and Aboriginal community consultation may be required prior to the recommencement of works. Any objects confirmed to be Aboriginal in origin must be reported to Heritage NSW under Division 1, Section 89A of the NPW Act.

In the unlikely event that suspected human remains are identified during construction works, all activity in the vicinity of the find must cease immediately and the find protected from harm or damage. The NSW Police and the Coroner's Office must be notified immediately. If the finds are confirmed to be human and of Aboriginal origin, further assessment by an archaeologist experienced in the assessment of human remains and consultation with both Heritage NSW and the RAPs for the project would be required.

This recommendation should be included in any Construction Environmental Management Plan (CEMP) developed for the site.

RECOMMENDATION 4: REPORTING

One digital copy of this report should be forwarded to Heritage NSW for inclusion on the Aboriginal Heritage Information Management System (AHIMS).

One copy of this report should be forwarded to each of the registered Aboriginal stakeholders for the project.



Apex Archaeology would like to acknowledge the Aboriginal people who are the traditional custodians of the land in which this project is located. Apex Archaeology would also like to pay respect to Elders both past and present.

DOCUMENT CONTROL

The following register documents the development and issue of the document entitled 'Pacific Brook Christian School, 72-74 Maitland Street, NSW: Aboriginal Cultural Heritage Assessment Report', prepared by Apex Archaeology in accordance with its quality management system.

Revision	Prepared	Reviewed	Comment	Issue Date
1 – Draft	Leigh Bate	Jenni Bate	Issue for client review	14 August 2020
2 – Draft	Jenni Bate	NBRS	Issue for RAP review	21 August 2020
3 – Final	Jenni Bate	RAPs	Issue of final report	25 September 2020
4 – Final	Jenni Bate	NBRS	Updating figures	27 October 2020
5 – Final	Jenni Bate	NBRS	Updating figures	1 July 2021
6 – Final	Jenni Bate	NBRS	Updating figures	15 September 2021
7 – Final	Jenni Bate	NBRS	Minor amendments	8 November 2021
8 – Final	Jenni Bate	NBRS	Minor updates	27 May 2024
9 – Final	Jenni Bate	Impact Group	Minor updates	17 July 2024



GLOSSARY OF TERMS

Aboriginal Object	An object relating to the Aboriginal habitation of NSW (as defined in the NPW Act), which may comprise a deposit, object or material evidence, including Aboriginal human remains.
ACHA	Aboriginal Cultural Heritage Assessment
ACHAR	Aboriginal Cultural Heritage Assessment Report
AHIMS	Aboriginal Heritage Information Management System maintained by Heritage NSW, detailing known and registered Aboriginal archaeological sites within NSW
AHIP	Aboriginal Heritage Impact Permit
ASIRF	Aboriginal Site Impact Recording Form
BP	Before Present, defined as before 1 January 1950.
Code of Practice	The DECCW September 2010 <i>Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales</i>
Consultation	Aboriginal community consultation in accordance with the DECCW April 2010 <i>Aboriginal cultural heritage consultation requirements for proponents 2010</i> .
DA	Development Application
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DECCW	The Department of Environment, Climate Change and Water
Disturbed Land	If land has been subject to previous human activity which has changed the land's surface and are clear and observable, then that land is considered to be disturbed
Due Diligence	Taking reasonable and practical steps to determine the potential for an activity to harm Aboriginal objects under the <i>National Parks and Wildlife Act 1974</i> and whether an application for an AHIP is required prior to commencement of any site works, and determining the steps to be taken to avoid harm
Due Diligence Code of Practice	The DECCW Sept 2010 <i>Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales</i>
GIS	Geographical Information Systems
GSV	Ground Surface Visibility
Harm	To destroy, deface or damage an Aboriginal object; to move an object from land on which it is situated, or to cause or permit an object to be harmed
Heritage NSW	Heritage NSW within the Department of Climate Change, Energy, the Environment and Water; responsible for overseeing heritage matters within NSW
ka	Kiloannus, a unit of time equating to 1,000 years
LALC	Local Aboriginal Land Council
LGA	Local Government Area
MSC	Muswellbrook Shire Council
NPW Act	NSW <i>National Parks and Wildlife Act 1974</i>
OEH	The Office of Environment and Heritage (now Heritage NSW)
PAD	Potential Archaeological Deposit
RAPs	Registered Aboriginal Parties



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1.0 INTRODUCTION

Apex Archaeology were engaged by NBRS Architecture on behalf of Pacific Brook Christian School (PBCS) to undertake an Aboriginal Cultural Heritage Assessment (ACHA) in accordance with the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (April 2011); the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, April 2010) (the ACHCRs); and the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (September 2010) (the Code of Practice), in advance of a proposed development at Lot 100 DP 1261496, Maitland Street, Muswellbrook (Figure 1).

This report details the results of the archaeological assessment completed in accordance with the Code of Practice and the consultation undertaken with the Aboriginal community in accordance with the ACHCRs.

1.1 STUDY AREA AND PROJECT BRIEF

The study area is triangular in shape, with a northwest/southeast alignment and has an area of 2.432 ha. The site is bound by Muswellbrook Golf Course along the north eastern boundary, Maitland Street along the south western boundary and residential properties to the south eastern boundary. The site address is 72-74 Maitland Street and is legally described as Lot 100 in Deposited Plan (DP) 1261496. The original lot and DP for the study area was Lot 62 DP 1208238. It is located within the Muswellbrook Shire Council (MSC) Local Government Area (LGA).

The site is generally level with a slight slope to a watercourse at the north west boundary. This watercourse flows northeast into the adjoining golf course and on to Muscle Creek via a series of dams on the golf course. Muscle Creek flows west into the Hunter River which at its closest is 1.3 km north-west of the site. Stormwater management on site is by overland flow.

72-74 Maitland Street was previously used for forestry plantation purposes and is mapped as Muswellbrook State Forest. The site is no longer used for this purpose and currently sits as an empty and underutilised site.

The main vehicular access to the site is from Maitland Street, as well as pedestrian access. Existing vehicular parking on site includes open air at grade parking spaces facing Maitland Street.

In terms of travel, Muswellbrook is approximately three (3) hours from Sydney, three hours (3) from Dubbo, two (2) hours from Tamworth and 90 minutes from Newcastle.

The proposed development is for the establishment of a new K-12 school (Pacific Brook Christian School) on the subject site (Figure 2). The development will comprise site preparation, demolition, tree removal,



construction of new school buildings, covered outdoor learning area, covered walkways, car parking, landscaping and associated works. The development will accommodate 140 students and 16 staff.

The proposed school will support high-quality educational outcomes to meet the needs of students within the local community. The development consists of:

- Site remediation;
- Removal of 7 trees;
- Facilities for a maximum of 140 students and 16 staff, including:
 - One (1) administration and staff building;
 - One (1) staff and student amenities block;
 - Five (5) General Learning Areas (GLAs);
 - One (1) Science classroom; and
 - Covered Outdoor Learning Area (COLA)
- Landscaping;
- Internal infrastructure works; and
- Widening of existing vehicular access via Maitland Street.

Initially, a State Significant Development Application (SSDA) was proposed to be lodged for the project, and this report was prepared in advance of the issue of Secretary's Environmental Assessment Requirements (SEARs) for the project, in anticipation of an ACHA being required to fulfil the SEARs. However, it has subsequently been determined to submit a Development Application to Muswellbrook Shire Council rather than as an SSDA.

This project includes construction of associated infrastructure, including installation of water and sewer mains, electricity and gas connections, as well as construction of internal roads and landscaping of the completed school.

1.2 OBJECTIVES OF THE ABORIGINAL CULTURAL HERITAGE ASSESSMENT

The archaeological investigation was undertaken to meet the requirements of the Code of Practice and ACHCRs.

The purpose of the archaeological investigation is to understand and establish the potential harm the proposed development may have on Aboriginal cultural heritage within the study area, both tangible and intangible.

Aboriginal community consultation was undertaken for the project with the aim of:

- Identifying the Aboriginal community members who can speak for Country within which the study area is located;
- Involving the Aboriginal community in making decisions about the management of their cultural heritage;



- Identifying, assessing and recording Aboriginal heritage values within the study area;
- Preparing an assessment of the cultural heritage values in consultation with the Aboriginal community;
- Identifying the potential impact of the proposed development on the assessed cultural heritage values; and
- Developing conservation and mitigation strategies for these values, with the aim of minimising impacts to cultural heritage wherever possible.

In addition, this report provides a significance assessment of the identified Aboriginal heritage values, as defined by the registered Aboriginal stakeholders (RAPs) for the project. Aboriginal people are the primary determinants of the significance of their cultural heritage and therefore Apex Archaeology cannot make a determination on the cultural significance without the input of the RAPs.

Any development works which disturb the ground surface have the potential to impact Aboriginal archaeological deposits and therefore an assessment of whether the study area contains such deposits is required prior to the commencement of construction works. An assessment of whether the proposed development would impact these deposits (if present) is also necessary, and identification of to what extent the deposits would be impacted is also required. The degree of impact which may be allowable is determined, in part, with consideration of the level of cultural significance attributed to the cultural values of the study area, both tangible and intangible.

1.3 PROJECT PROPONENT

The proponent for the project Pacific Brook Christian School Ltd (PBCS). Apex Archaeology were engaged by NBRs Architecture on behalf of PBCS.

1.4 INVESTIGATORS AND CONTRIBUTORS

This archaeological assessment was commissioned and funded by NBRs Architecture on behalf of PBCS. Apex Archaeology thanks Vivian Go and Maria Orellana Romero of NBRs and Mark Smith of PBCS for their assistance with the project. Thanks are also extended to the registered Aboriginal groups for their participation and assistance with the project.

This report has been prepared by Leigh Bate, Director and Archaeologist with Apex Archaeology. The report was reviewed by Jenni Bate, Director and Archaeologist with Apex Archaeology. Both Jenni and Leigh have over twelve years of archaeological consulting experience within NSW. Project team roles and qualifications are shown in Table 1.

Table 1: Project team roles and qualifications

Name	Role	Qualifications
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Jenni Bate	Project Manager; Primary Report Author	B.Archaeology; Grad. Dip. CHM
Leigh Bate	Field inspection, Excavation Director; Review; GIS	B.Archaeology; Grad. Dip. Arch; Dip. GIS

1.5 LIMITATIONS

This report is based on previously recorded archaeological and environmental information for the wider region. This includes information from AHIMS, which is acknowledged to be occasionally inaccurate, due to inaccuracies in recording methods. No independent verification of the results of external reports has been made as part of this report.

Field investigations for this report included survey. The results are considered to be indicative of the nature and extent of Aboriginal archaeological remains within the study area, but it should be noted that further Aboriginal objects and sites which have not been identified as part of this assessment may be present within the study area, although this is considered to be highly unlikely.

1.6 REPORT STRUCTURE

This report addresses the requirements of the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (The Guide), the Code of Practice and the ACHARs. The Guide provides guidance as to what must be contained in an ACHAR. The following tables outline the requirements of both the Guide and the Code of Practice, and how they have been addressed in this report.

Table 2: Required contents of an ACHAR and where met in this report

Report requirements	Where met
Description of the Aboriginal objects and declared Aboriginal places located within the area of the proposed activity	Section 4.5
Description of the cultural heritage values, including the significance of the Aboriginal objects and declared Aboriginal places, that exist across the whole area that will be affected by the proposed activity	Section 6
The significance of the above values for the Aboriginal people who have a cultural association with the land	Section 6.4
How requirements for consultation with Aboriginal people have been met (as specified in clause 80C of the NPW Regulation)	Section 3
The views of those Aboriginal people regarding the likely impact of the proposed activity on their cultural heritage	Section 3
Actual or likely harm posed to the Aboriginal objects or declared Aboriginal places from the proposed activity, with reference to the cultural heritage values identified	Section 7.1; 7.2
Any practical measures that may be taken to protect and conserve those Aboriginal objects or declared Aboriginal places	Section 8
Any practical measures that may be taken to avoid or mitigate any actual or likely harm, alternatives to harm, or if this is not possible, to manage (minimise) harm	Section 8

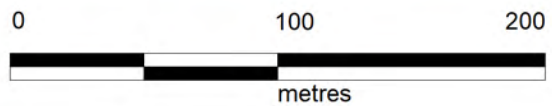


Table 3: Requirements of Code of Practice and where met in this report

Requirement #	Where met
1 – Review previous archaeological work	Section 4.6
2 – Review the landscape context	Section 4
3 – Summarise and discuss the local and regional character of Aboriginal land use and its material traces	Section 4.6.1
4 – Predict the nature and distribution of evidence	Section 4.7
5 – Undertake an archaeological survey	Section 5
5a/b/c – Prepare an archaeological survey sampling strategy	Section 5.1; Appendix E
6 – Define identified sites	Appendix E
7 – Site recording	Appendix E
8 – Location information and geographic reporting	Report Figures
9 – Record survey coverage data	Section 5.3
10 – Analyse survey coverage	Section 5.3; 5.4
11 – Prepare a report detailing results of analysis	This report



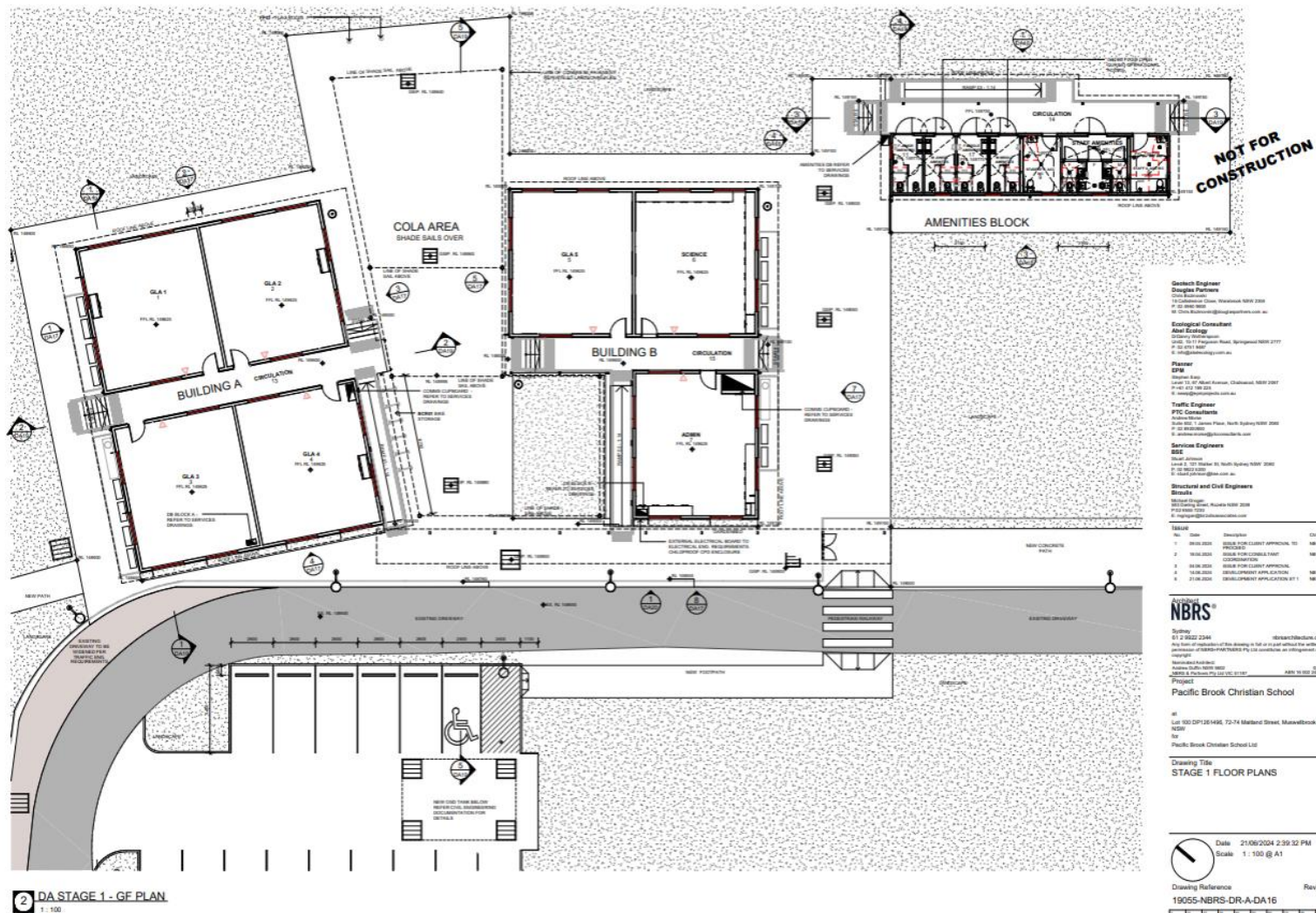
PO Box 236
NOWRA
NEW SOUTH WALES 2541



Projection:
MGA Zone 56 (GDA 94)
Base Map:
Google Earth Pro
Final - Version 1

Figure 1: General location of the proposed development in its local context







2.0 STATUTORY CONTEXT

Heritage in Australia, including both Aboriginal and non-Aboriginal heritage, is protected and managed under several different Acts. The following section presents a summary of the applicable Acts which provide protection to cultural heritage within NSW.

2.1 COMMONWEALTH LEGISLATION

2.1.1 ABORIGINAL AND TORRES STRAIT ISLANDER HERITAGE PROTECTION ACT 1984

This Act provides for the preservation and protection of injury and/or desecration of areas and objects in Australia and its waters that are of significance to Aboriginal people, in accordance with Aboriginal tradition.

Under this Act, the responsible Minister has provision to make both temporary and/or long-term declarations, in order to provide protection to areas and objects which are at threat of injury or desecration. In some instances, this Act can override State or Territory provisions, or be invoked if State or Territory provisions are not enforced. An Aboriginal or Torres Strait Islander individual or organisation must invoke the Act.

No items within the study area are listed or protected under this Act.

2.1.2 ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999

The EPBC Act provides protection to environmental sites of national significance, including places with cultural heritage values that contribute to Australia's national identity. The Act aims to respect the role of Indigenous peoples in the conservation and ecologically sustainable use of Australia's biodiversity, and to enhance the protection and management of important natural and cultural places. Additionally, the Act is designed to promote the use of Indigenous peoples' knowledge of biodiversity with the involvement of, and in cooperation with, the owners of the knowledge.

The National Heritage List provides a listing of natural, historic and Indigenous places of outstanding significance to the nation, while the Commonwealth Heritage List details the Indigenous, historic and natural places owned or controlled by the Australian Government.

Under the EPBC Act, approvals are required if any action is proposed that will have (or is likely to have) a significant impact on the National Heritage values of a National Heritage place. Therefore, actions must be referred to the Australian Government Minister for the Environment and Heritage. A decision will be made as to whether the proposed action will have a significant impact on any matters of national significance.

A search of both the NHL and the CHL did not identify any items within the study area.



2.1.3 NATIVE TITLE ACT 1993

The *Native Title Act 1993*, as amended, provides protection and recognition for native title. Native title is recognised where the rights and interests of over land or waters where Aboriginal and Torres Strait Islander practiced traditional laws and customs prior to the arrival of European settlers, and where these traditional laws and customs have continued to be practiced.

The National Native Title Tribunal (NNTT) was established to mediate native title claims made under this Act. Three registers are maintained by the NNTT, as follows:

- National Native Title Register
- Register of Native Title Claims
- Register of Indigenous Land Use Agreements.

Searching the NNTT registers allows identification of potential Aboriginal stakeholders who may wish to participate in consultation.

A search of all three registers did not identify any Native Title holders or traditional owners within the study area. The Gomeroi People's claim does not extend into the study area, with the boundaries located to the north and west of the township of Muswellbrook, on the opposite side of the Hunter River.

2.2 NEW SOUTH WALES LEGISLATION

2.2.1 NATIONAL PARKS AND WILDLIFE ACT 1974

The *National Parks and Wildlife Act 1974* provides protection for all Aboriginal objects and places within NSW. Aboriginal objects are defined as the material evidence of the Aboriginal occupation of NSW, while Aboriginal Places are defined as areas of cultural significance to the Aboriginal community. All Aboriginal objects are protected equally under the Act, regardless of their level of significance. Aboriginal Places are gazetted if the Minister is satisfied that the location was and/or is of special significance to Aboriginal people.

Following amendments to the NPW Act in 2010, approval to impact Aboriginal cultural heritage sites is only granted under a Section 90 AHIP, which is granted by Heritage NSW.

2.2.2 ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979

Under the EP&A Act, it is necessary to consider environmental impacts, including impact to cultural heritage, as part of the land use process. Local Environmental Plans (LEPs) and Development Control Plans (DCPs) are also required to be prepared by Local Government Areas (LGAs) in order to provide guidance on the applicable level of environmental assessment. LGAs are required to maintain a list of locally significant heritage items as part of their LEP.

The current project will be assessed under Part 4 of the Act, with Muswellbrook Shire Council the consent authority.

2.2.3 MUSWELLBROOK LEP 2009

The *Muswellbrook Local Environmental Plan (LEP) 2009* is the overarching planning instrument applicable to the Muswellbrook LGA.

Clause 5.10 Heritage Conservation, identifies protection for Aboriginal objects and areas of significance. There are no heritage items, heritage conservation areas or archaeological sites identified on the LEP heritage maps within the study area. No other listed heritage items are within close proximity to the study area.

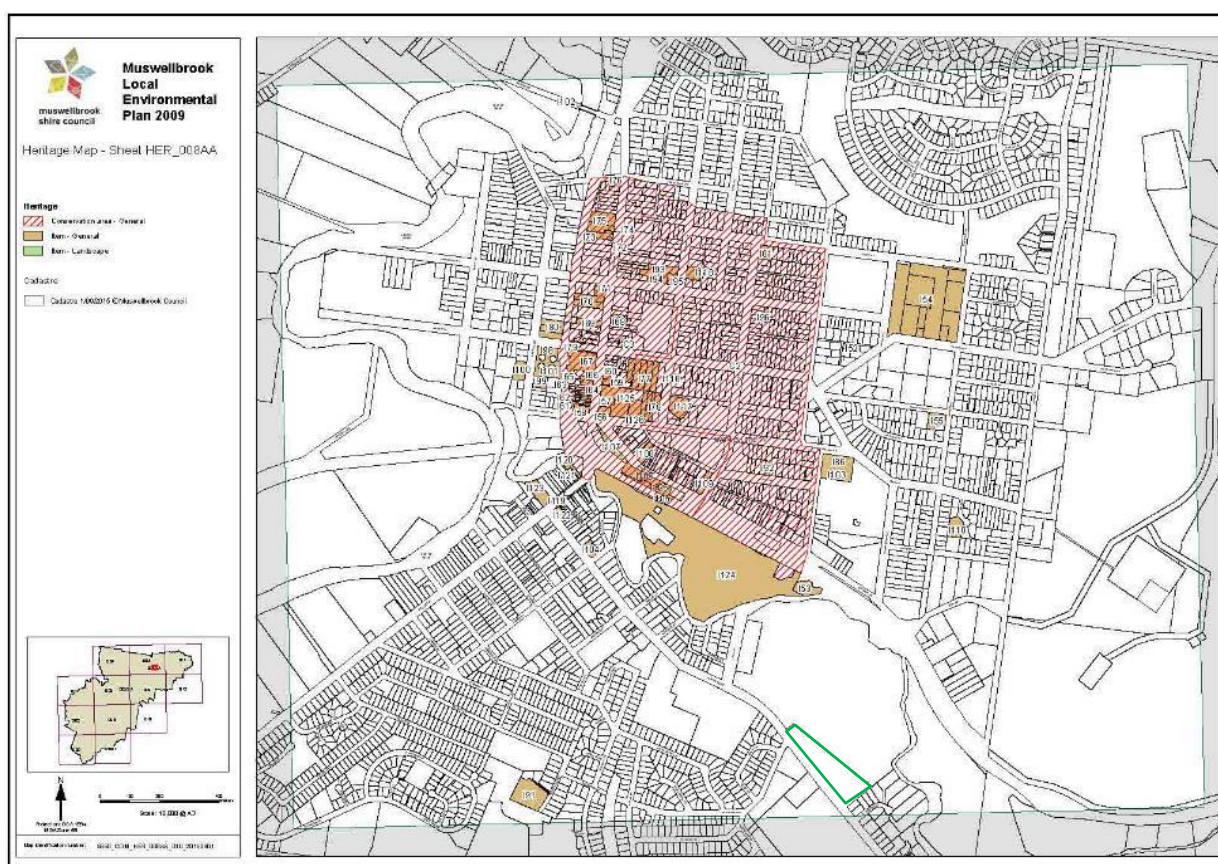


Figure 3: Muswellbrook LEP 2009 Heritage Map. Study area outlined in green (Source: Muswellbrook LEP 2009 Heritage Map Sheet HER_008AA)

2.2.4 MUSWELLBROOK DCP 2009

The Muswellbrook Development Control Plan 2009 (MDCP 2009) applies in conjunction to the provisions of the Muswellbrook LEP 2009. Section 15.1.5 outlines the objectives and controls to manage Aboriginal cultural heritage within the Muswellbrook LGA. Specifically, the following notes are taken from the Development Control Plan (DCP) in relation to Aboriginal cultural heritage:



In order to ensure that local Aboriginal Community is consulted in the development application process, the following requirements must be met: -

a) The proponent must actively seek to identify stakeholder groups or people that may wish to be consulted about the project and invite them to register their interest. Undertaking this task prior to lodging a development application can prevent delays in the assessment in the process and assist in addressing any issues identified as part of the proposal submitted for consideration by Council.

b) Compliance with a) above can be achieved by the proponent placing an advertisement in the local paper seeking registrations of interest. The proponent should also contact the following organisations to determine the potential impact of the proposed development and preferred course of action: -

- The local Aboriginal Land Council (Wanaruah)*
- Registrar of Aboriginal Owners*
- The Department of Environment and Climate Change*
- Native Title Services*

This is a preferable course of action for: -

- subdivisions of undeveloped land*
- where the scale of the development is likely to result in significant ground disturbance*
- where the proposal is located within 100m of a waterhole, river or stream*
- where the site contains rock outcrops, caves, platforms*

c) The proponent may then need to commission an Aboriginal Heritage Study to determine the presence of artefacts or sites of significance, and obtain appropriate recommendations for how these matters can be addressed in submitting the development proposal.

d) For smaller proposals, Council will advertise development applications in accordance with Section 3 of this DCP, which will invite registrations of interest from interested groups or individuals, and Council may require an Aboriginal Heritage Study to be undertaken in accordance with c) above following consultation with the Local Aboriginal Land Council if necessary.

This report has been prepared to meet and consider these requirements.



3.0 ABORIGINAL CONSULTATION PROCESS

This section details the Aboriginal community consultation undertaken to assist in the heritage assessment of the study area. Aboriginal consultation in accordance with the *Aboriginal cultural heritage consultation requirements for proponents 2010* (the ACHCRs) was undertaken by Apex Archaeology for this project.

Aboriginal community consultation is a requirement in order to make assessments of Aboriginal cultural values, as Aboriginal people are the primary determinants of the significance of their cultural heritage and therefore Apex Archaeology cannot make a determination on the cultural significance without the input of the RAPs. Aboriginal people often have a strong connection to their Country, and to their ancestors, both past and present.

Material evidence of past Aboriginal occupation of an area is a tangible link to the intangible traditions, lore, customs, beliefs and history. These intangible values provide a sense of belonging for Aboriginal people, and cultural heritage and cultural practices are kept alive through being incorporated into everyday life, which helps maintain a connection to the past and to the present. It is a vital part of the identity of Aboriginal people.

Therefore, it is important that Aboriginal people are afforded the opportunity to understand, comment on and have input into projects that may impact areas which may be culturally sensitive, or damage items of cultural significance. The process of Aboriginal community consultation provides this opportunity, and this ACHAR details the results of the consultation undertaken for this project.

3.1 THE CONSULTATION PROCESS

The ACHCRs provide the process for undertaking consultation with the Aboriginal community. This process includes identification, registration, engagement and consultation with those Aboriginal people who may have cultural knowledge which is relevant to determining the cultural significance of Aboriginal objects and places which may be within the study area.

The ACHCRs detail a number of stages for consultation, as follows:

- Identification of those people who should be consulted for the project
- Inviting Aboriginal people to register their interest in being consulted for the project
- Providing information regarding the nature and scope of the project to the Aboriginal people who have registered an interest in being consulted – the registered Aboriginal parties (RAPs)
- Providing opportunities for RAPs to comment on the proposed methodology for cultural heritage consultation
- Presenting information about the potential impacts of the proposed development for the RAPs to comment on



- Providing opportunities for RAPs to comment on the cultural significance of the proposed development area
- Providing opportunities for RAPs to comment on the draft reports detailing the results of the archaeological and cultural assessments for the project

Consultation with the Aboriginal community for this project has been conducted in accordance with the ACHCRs. A log of all correspondence is presented in Appendix A of this ACHAR.

3.2 STAGE 1 CONSULTATION: COMMENCEMENT

Stage 1 requires a list of Aboriginal people who may have cultural knowledge relevant to the area to be prepared from several sources of information. The first step requires enquiries to be made of certain statutory bodies regarding whether they are aware of Aboriginal people or organisations that may have an interest in the study area, and their contact details. Any Aboriginal people or organisations identified in this step must be contacted and invited to register an interest in the project. In addition, a notification must be placed in local print media requesting Aboriginal people or organisations to register their interest in the project. A list of those who register an interest must be compiled. A minimum of 14 days from the date of the letter or newspaper advertisement must be allowed for registrations of interest.

As a result of the Stage 1 activities, a list of Aboriginal people who wish to be consulted for the project is developed. These Aboriginal people become the registered Aboriginal parties – the RAPS – for the project.

Letters requesting the details of Aboriginal people who may hold cultural knowledge relevant to the study area and who may wish to be consulted for the project were sent to several statutory agencies on 27 April 2020. Copies of these letters and responses are attached in Appendix B. These Step 1 letters were sent to the following agencies:

- DPIE Climate Change & Sustainability (now Heritage NSW)
- Hunter Local Land Services (HLLS)
- Muswellbrook Shire Council (MSC)
- Wanaruah Local Aboriginal Land Council (WLALC)
- Office of the Registrar, *Aboriginal Land Rights Act 1983 (NSW)* (ORALRA)
- Native Title Services Corp (NTSCorp)

Responses were received from Heritage NSW, HLLS and MSC. An online search of the National Native Title Tribunal (NNTT) did not identify any Native Title owners or claimants for the study area. Heritage NSW provided a list of Aboriginal people and organisations, with 45 people or organisations listed. These 45 individuals and organisations were invited to participate in consultation for the project.



The Aboriginal people and organisations identified during this initial stage were contacted via letter (email if provided or via post if no email address given) on 11 March 2020, inviting them to register an interest in the project. Registrations were accepted until 25 May 2020. This is Step 2 of Stage 1 of consultation. Copies of these letters are attached in Appendix C.

In addition, an advertisement was placed in *The Newcastle Herald* on 9 March 2020, inviting registrations of interest from people who may have cultural knowledge of the project area. A copy of the advertisement is attached in Appendix D.

A total of thirteen Aboriginal people and organisations registered an interest in being consulted for the project. The following list comprises the registered Aboriginal parties (RAPs) for the project:

- A1 Indigenous Services
- Aboriginal Native Title Elders Consultants
- Alieria French Trading
- Divine Diggers Aboriginal Cultural Consultants
- Gunjeewong Cultural Heritage Corp
- Hunter Traditional Owner
- Robert Syron
- Ungooroo Aboriginal Corporation
- Wanaruah LALC
- Wattaka Wonnarua CC Service
- Widescope Indigenous Group
- Wonnarua Nation Aboriginal Corporation
- Yinarr Cultural Services

3.3 STAGE 2 & 3 CONSULTATION: PRESENTATION AND GATHERING OF INFORMATION

During Stage 2, information about the proposed project is provided to the RAPs, including location, scale, proposed development plans, timeframes, methodologies and any other relevant details relating to the project. This information can be provided in writing or at a meeting (or both), and an opportunity for the RAPs to visit the site may also be provided.

During Stage 3, RAPs are invited to share information about the cultural significance of the study area, which can assist in the assessment of the cultural significance of the Aboriginal objects and/or places within the study area. The cultural heritage assessment informs and integrates with the scientific assessment of significance and therefore can assist in the development of mitigation and management measures for the project. A methodology detailing how this information will be gathered must be provided to the RAPs for comment and a minimum of 28 days must be allowed



for responses to be received. Any feedback must be considered and implemented as appropriate into the methodology.

Stage 2 and 3 can be undertaken concurrently. The information about the project and the methodology for seeking cultural knowledge can be provided in the same written documentation or at the same meeting.

Details of the proposed project and the proposed methodology for undertaking the cultural heritage and archaeological assessments for the project were provided in writing to each of the RAPs on 2 June 2020. Comments were accepted until 30 June 2020, a period of 28 days. Responses were received from A1 Indigenous Services, Alieria French Trading, Robert Syron and Yinarr Cultural Services. All responses were supportive and no alternatives were suggested or requested for the methodology. The RAP response is attached in Appendix E.

No cultural information was received from any of the RAPs for the project during this stage of consultation.

3.4 STAGE 4: REVIEW OF DRAFT REPORT

Stage 4 sees the preparation of the draft ACHAR, which details the results of the cultural heritage assessment. The draft is provided to the RAPs for their review and comment. A minimum of 28 days to comment on the ACHAR must be allowed. All comments must be addressed in the final document and the proponent's response to RAP comments must be included. Copies of any submissions received from RAPs must be included in the final ACHAR.

The draft report was sent to all RAPs on 21 August 2020. Responses were received from Divine Diggers, Wonnarua Nation Aboriginal Corporation, and Tocomwall.

3.5 ABORIGINAL COMMENTS AND APEX ARCHAEOLOGY RESPONSE

This section details all comments received from the RAPs for the project, along with the response from Apex Archaeology.

Laurie Perry on behalf of Wonnarua Nation Aboriginal Corporation, and Deidre Perkins on behalf of Divine Diggers Aboriginal Cultural Consultants sent thanks for provision of the draft report. This was noted with thanks.

Tocomwall sent the following email to Apex Archaeology:

Hi Jenni and Leigh,

I hope you are both well.

I emailed the client directly Registering our interest in this specific project. As we have not been included in this project our position will be to reject all forms of your companies assessment. Out of all the stakeholders to push out of your assessment, the only Native Title Party has not been included.



What due diligence?

regards,

Danny Franks

Apex Archaeology responded as follows:

Good afternoon Danny,

Thank you for your email. I hope you are well too.

I have spoken to the project architect, Maria, who is cc'd to this email. She advised that she did receive an email from you and understood you to be an archaeological firm, wishing to tender for the ACHA work required for the project. She advised you the work had been awarded to another archaeological firm, and you asked her to keep Tocomwall in mind for any future opportunities. Please see the attached email chain. She did not realise you were registering as a RAP (as she is not familiar with the consultation process), and you didn't advise that she had misunderstood your email.

As I'm sure you're aware, standard practice for registrations of interest is to register with the archaeological firm who sends the invitation, or at least cc them into the email to the proponent. Doing so avoids confusion and the risk of registrations being overlooked. Archaeologists are engaged to undertake the consultation process in accordance with the ACHCRs on behalf of the proponent as proponents often aren't aware of the detailed process involved.

We consulted with NTSCorp as required, and they passed information on to you. We did not receive a response directly from NTSCorp. I apologise that your group was not included in the project but we are only able to work with the information we receive.

I will include all your correspondence in the consultation log for the project.

Regards,

Jenni Bate

No further responses were received.

A copy of the correspondence sent by Tocomwall to NBRS is attached in Appendix G, along with other responses received to the draft report.



4.0 ABORIGINAL CULTURAL HERITAGE

An analysis of previous archaeological work within the study area assists in the preparation of predictive models for the area, through understanding what has been found previously. By compiling, analysing and synthesising the previous archaeological work, an indication of the nature and range of the material traces of Aboriginal land use is developed. An understanding of the context in which the archaeological assessment is vital, as development does not occur within a vacuum, but within a wider cultural landscape, and this must be considered during any archaeological assessment in order to develop appropriate mitigation and management recommendations.

This section presents information about both the physical and cultural landscape in which the study area is located, based on previous archaeological and ethnohistorical studies, to provide context and background to the existing knowledge of Aboriginal culture in the area.

4.1 EXISTING ENVIRONMENT

The study area falls within the Central Lowlands topographic zone (Kovac & Lawrie 1991), which is located within along the Hunter River and comprise “undulating to rolling low hills on weak sedimentary rocks” (Kovac & Lawrie 1991). The Central Lowlands are considered to extend between Newcastle and Murrurundi, and is developed on weak sedimentary rocks.

The area has been disturbed by previous land practices. The study area comprises a former nursery owned by NSW Forestry, with planting and propagation of native vegetation taking place within the site. A number of existing buildings are located within the site, such as green houses and assorted shed.

4.1.1 SOIL LANDSCAPES

The study area falls wholly within the Hunter soil landscape. The Hunter soil landscape incorporates the floodplains of the Hunter River and its tributaries, such as Muscle Creek (Kovac & Lawrie 1991). Soils are all alluvial, including Brown Clays and Black Earths.

4.1.2 TOPOGRAPHY

Landforms within the area comprise level plains and river terraces of the Hunter River. Elevations are generally between 20-60m, and slopes are 3% or less. Relief locally is generally less than 10m. The study area itself is generally level.



4.1.3 GEOLOGY

The study area falls within the Sydney Basin geological province (Kovac & Lawrie 1991), which contains mainly freshwater sediments, with some marine sediments, terrestrial deposits and coal. The Hunter soil landscape is underlain by Permian calcareous shale and sandstone, Tertiary basalt, and Quaternary alluvium. The Quaternary alluvium underlying the study area is not known to contain lithic material suitable for the manufacture of Aboriginal stone tools, although the wider region is known to have numerous exploitable resources available.

4.1.4 HYDROLOGY

The nearest major permanent water source is Muscle Creek, which is a tributary of the Hunter River. Muscle Creek is defined as a third order water course according to the Strahler system as used by DPI Water (Figure 5), while the Hunter River is a fourth order water course. Watercourse classification ranges from first order through to fourth order (and above) with first order being the lowest, ie a minor creek or ephemeral watercourse and fourth or above being a large watercourse such as a river.

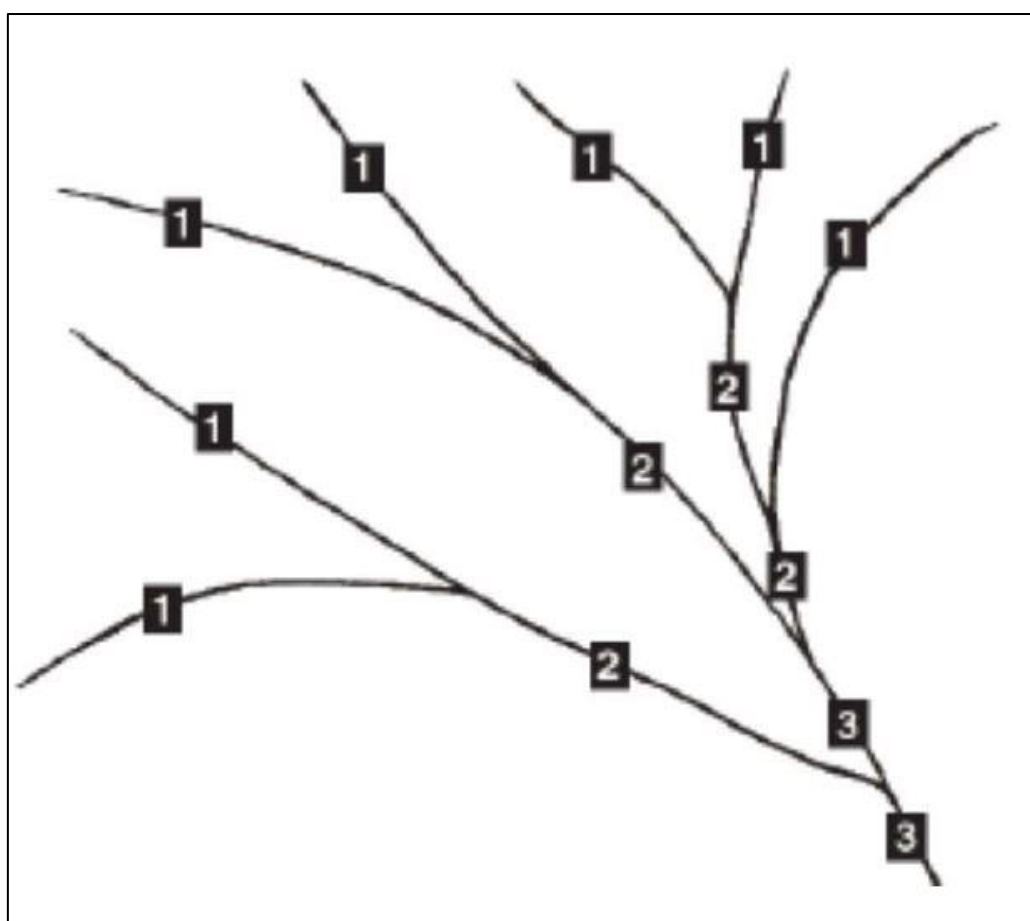


Figure 5: The Strahler system (Source: Department of Planning and Environment 2016).



4.1.5 FLORA AND FAUNA

Due to the widespread clearing that has occurred across the Hunter region, it is difficult to reconstruct the original vegetation that would have existed within the area. However, given the numerous and widespread Aboriginal sites across the landscape, it can be assumed the original vegetation provided sufficient resources to support the Aboriginal inhabitants of the area. Animals such as kangaroos, flying foxes, possums, wallabies, birds, snakes and other reptiles, freshwater fish and yabbies are likely to have been present within the wider region and would have formed a large part of the diet of the Wanaruah people within the area. Various plant resources would also have been utilised for canoes, shields, and everyday items, as well as providing seeds, tubers and grasses for use and consumption.

4.2 ETHNOHISTORY

According to Tindale (1974), Muswellbrook is located within land inhabited by people of the Wonnarua language group. This name is variously spelled as Wanaruwa, Wanarua, Wannarawa, Wannerawa, Wonarua, Wonnah Kuah, or Wonnuaruah. The study area is located on the northern boundary of the Wonnarua's territory, and this boundary may have overlapped with that of the neighbouring Geawegal people to the north. Both groups were considered closely affiliated with the Kamilaroi people, with Brayshaw (1984) considering the Kamilaroi were the dominant cultural influence within the Upper Hunter region.

Although historical records can be contradictory and incomplete regarding the exact tribal boundaries and locations of ceremonial or domiciliary activities of Aboriginal people pre-contact within NSW, and indeed, within Australia, the Wonnarua territory is described as extending along the Hunter River "from a few miles above Maitland west to [the] Dividing Range" (Tindale 1974). The Wonnarua territory was also described as being bounded by the Worimi people who occupied the estuarine Hunter River and coastal lands to the east; the Darkinjung to the south, the Gamilaroi to the south west, and the Gewegal to the north west (Moore 1970). Boundaries between tribes were considered fluid and it may not be possible to definitively define these boundaries.

Aboriginal society was constructed of a hierarchy of social levels and groups, with fluid boundaries (Peterson 1976), with the smallest group comprising a family of a man and his wife/wives, children and some grandparents, referred to as a 'clan' (Attenbrow 2010). The next level consists of bands, which were small groups of several families who worked together for hunting and gathering purposes, also known as a 'band' (Attenbrow 2010). The third level comprised regional networks with a number of bands, and these bands generally shared a common language dialect and/or had a belief in a common ancestor. Networks would come together for specific ceremonial purposes. The highest level is described as a tribe, which is usually described as a linguistic unit with flexible territorial boundaries (Peterson



1976); although Attenbrow (2010) argues that “these groups were not tribes in the current anthropological sense of the word”.

The traditional lifestyles of Aboriginal groups such as the Wonnarua depended largely on the environment in which they lived. The diet of Aboriginal people varied depending on the resources that were available to them and which were related to the landscape in which people lived. The Muswellbrook area would likely have had open woodlands prior to the arrival of colonists, and these would have supported a range of resources for food, medicine, and everyday living.

A number of early colonists wrote about the Aboriginal people who inhabited the Hunter Valley. JW Fawcett described the “Wonnah-ruah” [sic] in 1898 as inhabiting the area drained by the Hunter River and its tributaries, an area of approximately 2,000 square miles (Fawcett 1898). His estimation of the population of this area in 1848 as between 500 and 600 people, which is similar to the estimation of Robert Miller when he wrote that the Wonnarua population of 1841 was considered to comprise approximately 500 individuals (Miller 1886).

Access to fresh water was an important consideration for the Aboriginal people of the Muswellbrook region. A tributary of the Hunter River, Muscle Creek is located north and east of the study area. The closest high order water source is the Hunter River, located approximately 1.3km north east of the study area.

The different environments of the Muswellbrook area contain a diverse range of plant and animal species. On creek banks and surrounds, a wide variety of game would have been found. The vegetation communities along the creeks and gullies, primarily woodlands, would have provided shelter for numerous animal and plant species that could be eaten or used for other purposes such as providing shelter and medicines. Kangaroos, emus and reptiles were hunted as source of protein, and a range of roots, including water lily tubers, were roasted and eaten (Miller 1886). A range of other resources such as bandicoots, birds, kangaroo rats, possums, rats, snakes, lizards, fish, caterpillars, grubs, shellfish, wallabies, larvae of wasps, and other insects were utilised to support the Wonnarua diet (Fawcett 1898).

4.2.1 RAW MATERIALS

A wide range of raw materials were selected by Aboriginal people for flaking to create stone implements. Material types ranged from high quality to poor quality for flaking purposes, depending on the geology of the area and readily available material types. The following is a description of a range of raw material types known to have been utilised by Aboriginal people for the creation of stone artefacts.

BRECCIA

Breccias are coarse, angular volcanic fragments cemented together by a finer grained tuffaceous matrix.



CHALCEDONY

Chalcedony is a microcrystalline, siliceous rock which is very smooth and can be glossy. Introduction of impurities can produce different coloured versions of chalcedony, including yellow/brown (referred to as carnelian), brown (sard), jasper (red/burgundy) and multicoloured agate. It flakes with a sharp edge and was a prized material type for the creation of stone artefacts in parts of Australia (Kuskie & Kamminga 2000: 186).

CHERT

Chert is a highly siliceous sedimentary rock, formed in marine sediments and also found within nodules of limestone. Accumulation of substances such as iron oxide during the formation process often results in banded materials with strong colours. Chert is found in the Illawarra Coal Measures and also as pebbles and colluvial gravels. It flakes with durable, sharp edges and can range in colour from cream to red to brown and grey.

PETRIFIED WOOD

Petrified wood is formed following burial of dead wood by sediment and the original wood being replaced by silica. Petrified wood is a type of chert and is a brown and grey banded rock and fractures irregularly along the original grain.

QUARTZ

Pure quartz is formed of silicon dioxide, and has a glossy texture and is translucent. Introduction of traces of minerals can lead to colouration of the quartz, such as pink, grey or yellow. The crystalline nature of quartz allows for minute vacuoles to fill with gas or liquid, giving the material a milky appearance.

Often quartz exhibits internal flaws which can affect the flaking quality of the material, meaning that in general it is a low-quality flaking material (Kuskie & Kamminga 2000: 186). However, quartz is an abundant and widely available material type and therefore is one of the most common raw materials used for artefact manufacture in Australia. Flaking of quartz can produce small, very sharp flakes which can be used for activities such as cutting plant materials, butchering and skinning.

QUARTZITE

Formed from sandstone, quartzite is a metamorphic stone high in silica that has been heated or had silica infiltrate the voids found between the sand grains. Quartzite ranges in colour from grey to yellow and brown.

SILCRETE

Silcrete is a siliceous material formed by the cementing of quartz clasts with a matrix. These clasts may be very fine grained to quite large. It ranges in colour from grey to white, brown, red or yellow. Silcrete flakes with sharp edges and is quite durable, making silcrete suitable for use in heavy duty woodworking activities and also for spear barbs (Kuskie & Kamminga 2000:184).



TUFF/INDURATED MUDSTONE

There is some disagreement relating to the identification of lithic materials as tuff or indurated mudstone. The material is a finely textured, very hard yellow/orange/reddish-brown or grey rock. Kuskie and Kamminga (2000: 6, 180) describe that identification of lithic materials followed the classification developed by Hughes (1984), with indurated mudstone described as a common stone material in the area. However, Kuskie and Kamminga's analysis, which included x-ray diffraction, identified that lithics identified as 'indurated mudstone' was actually rhyolitic tuff, with significant differences in mineral composition and fracture mechanics between the stone types. They define mudstone as rocks formed from more than 50% clay and silt with very fine grain sizes and then hardened.

The lithification of these mudstones results in shale (Kuskie & Kamminga 2000: 181) and thus 'indurated mudstone', in the opinion of Kuskie and Kamminga, do not produce stones with the properties required for lithic manufacture.

In 2011, Hughes, Hiscock and Watchman undertook an assessment of the different types of stones to determine whether tuff or indurated mudstone is the most appropriate terminology for describing this lithic material. The authors undertook thin section studies of a number of rocks and determined that the term 'indurated mudstone' is appropriate, with an acknowledgment that some of this material may have been volcanic in origin. They also acknowledge that precise interpretation of the differences between material types is difficult without detailed petrological examination, and suggest that artefacts produced on this material are labelled as 'IMT' or 'indurated mudstone/tuff'.

4.2.2 PROCUREMENT

Assemblage characteristics are related to and dependent on the distance of the knapping site from raw materials for artefact manufacture, and different material types were better suited for certain tasks than other material types. Considerations such as social or territorial limitations or restrictions on access to raw material sources, movement of groups across the landscape and knowledge of source locations can influence the procurement behaviour of Aboriginal people. Raw materials may also have been used for trade or special exchange between different tribes.

4.2.3 MANUFACTURE

A range of methodologies were used in the manufacture of stone artefacts and tools, through the reduction of a stone source. Stone may have been sourced from river gravels, rock outcrops, or opportunistic cobble selection. Hiscock (1988:36-40) suggests artefact manufacture comprises six stages, as follows:

1. The initial reduction of a selected stone material may have occurred at the initial source location, or once the stone had been transported to the site.



2. The initial reduction phase produced large flakes which were relatively thick and contained high percentages of cortex. Generally the blows were struck by direct percussion and would often take advantage of prominent natural ridges in the source material.
3. Some of these initial flakes would be selected for further reduction. Generally only larger flakes with a weight greater than 13-15 grams would be selected for further flaking activities.
4. Beginning of 'tranchet reduction', whereby the ventral surface of a larger flake was struck to remove smaller flakes from the dorsal surface, with this retouch applied to the lateral margins to create potential platforms, and to the distal and proximal ends to create ridges and remove any unwanted mass. These steps were alternated during further reduction of the flake.
5. Flakes were selected for further working in the form of backing.
6. Suitable flakes such as microblades were retouched along a thick margin opposite the chord to create a backed blade.

Hiscock (1986) proposed that working of stone materials followed a production line style of working, with initial reduction of cores to produce large flakes, followed by heat treatment of suitable flakes before the commencement of tranchet reduction. These steps did not necessarily have to occur at the same physical location, but instead may have been undertaken as the opportunity presented.

4.3 MATERIAL EVIDENCE

A review of previous archaeological work, including a number of archaeological excavations, within the immediate surrounds of the study area and the vicinity of the study area was undertaken by Apex Archaeology. A number of reports were identified from the AHIMS database and are detailed below in Section 4.9.

4.3.1 AHIMS RESULTS

A search of the AHIMS database on 23 July 2020 of Lot 62 DP1208238 (the original lot description) with a 200m buffer did not identify any previously registered Aboriginal sites within the area. An updated search in May 2024 of Lot 100 DP1261496 (the amended lot) with a 200m buffer did not identify any registered sites.

As there were no registered sites within the area, no associated reports were identified. A copy of the search results is in Appendix F. However, a range of archaeological reports from the wider Muswellbrook region have been reviewed to provide an understanding of Aboriginal cultural heritage within the study area and surrounds.

4.4 SUMMARY OF PREVIOUS ARCHAEOLOGICAL WORK

The archaeological work previously completed within the wider region is summarised here.



The study area is located within Muswellbrook. Numerous archaeological assessments have been completed within this region, including a range of academic assessments, resource management studies and development impact assessments. All of these assist in informing the archaeological assessment of sites within the region.

Generally, the arrival of humans within Australia is considered to have occurred around 43-45 ka (O'Connell & Allen 2004; McDonald 2008). However, recent work at the Madjedbebe site in Arnhem Land in the Northern Territory revealed archaeological evidence confidently dated to the period before 45-46 ka and possibly up to 50-55 ka (Clarkson et al 2015). In NSW, there is strong evidence available to support Aboriginal occupation of the Cumberland Plain region in the Pleistocene period (approximately 10 ka) and likely earlier. Work in Cranebrook Terrace was dated to 41,700 years BCE by Stockton and Holland (1974), and a site in Parramatta within deep sandy deposits was dated to 25-30 ka (JMcDCHM 2005). Kohen's 1984 assessment of Shaws Creek in the Blue Mountain foothills yielded dates of 13 ka, while Loggers Shelter at Mangrove Creek was dated to 11 ka by Attenbrow 1987. These dates are obtained from both radiocarbon and optically stimulated luminescence (OSL) dating.

Some experts have cast doubt onto the assessment of the items from Cranebrook Terrace as artefactual (Mulvaney & Kamminga 1999; McDonald 2008), although they do not doubt the results of the radiocarbon dates – it is the association of the artefacts with the dated deposits is problematic, and Mulvaney and Kamminga (1999) consider that there are better examples of sites with more robust identification of age available. There has certainly been a great deal of research undertaken within NSW and Australia in general in the intervening years.

As part of the many archaeological investigations undertaken within NSW, over 5,000 archaeological sites have been recorded and registered on the Heritage NSW Aboriginal Heritage Information System (AHIMS). In general, the dominant site types identified within the Newcastle region include rock shelters with archaeological deposit (including middens), rock shelters with art, pictographs (rock engravings), artefact concentrations in open contexts, grinding grooves and open middens. The nature and extent of individual sites is closely related to the environmental context in which they are found – for example, rockshelters are found within sandstone escarpments, while middens are generally located close to water bodies including marine, estuarine and freshwater contexts, and grinding grooves are found on flat sandstone platforms in close proximity to water sources.

4.4.1 LOCAL CONTEXT

A review of previous archaeological work within Muswellbrook was undertaken. A number of reports were identified from background research and the AHIMS database and are detailed below.



McCARDLE 2003A/B

An assessment of a proposed rezoning and residential subdivision in North Muswellbrook (some 3.7km to the northeast of the current project area) was completed by McCardle Cultural Heritage (MCH) in 2003. The proposed subdivision comprised approximately 60ha, along the eastern side of the New England Highway. 16 previously unrecorded Aboriginal sites were identified, which included ten open artefact scatters, six isolated artefacts and a further three areas of potential associated with the scatters.

McCARDLE 2003C

An Aboriginal archaeological assessment of the proposed Woodland Ridge subdivision for the Wanaruah LALC was undertaken by MCH in 2003. The area was roughly 115ha in size (approximately 4km east of the project area). Seven previously unrecorded Aboriginal artefact sites were identified – all on exposed areas. The location of these sites indicated that foot slopes within at least 200 metres of Muscle Creek were a focus of past Aboriginal occupation.

BIOSIS 2011

In 2011 Biosis undertook an assessment of the proposed Mitchell Line Feeder Duplication for Ausgrid, which included two phases of assessment (to allow for changes to the proposed feeder line route). The assessment identified 7 new Aboriginal archaeological sites. Four of these sites were identified during site survey, and the further three confirmed through test excavation. Test excavation was undertaken in three zones of moderate archaeological sensitivity identified by a previous Biosis investigation (one of which was located on the banks of Muscle Creek, which flows through the project area). The results of the survey and test excavation confirmed that areas in close proximity to major creek lines throughout the project area had the potential to contain low to moderate density artefact scatters, with all the sites identified generally reflective of this.

UMWELT 2019

As part of a Review of Environmental Factors for the Bridge Street Underbridge replacement project (Approximately, Umwelt conducted an Aboriginal due diligence assessment for the study area. No items or areas of Aboriginal archaeological potential were identified within the study area. The area was assessed as being highly disturbed by past land use activities relating to historical clearance and subsequent rail corridor activities.

MINING

Within the immediate vicinity of Muswellbrook are five mining operations (Bengala, Mount Pleasant, Mount Arthur, Malabar Coal (Maxwell Coal) and Muswellbrook Coal Co). These mines have all had numerous Aboriginal archaeological assessments undertaken over the years. As such, a review of the body of work is beyond the scope of this assessment as it is not mining related. It is sufficient to note that extensive archaeological survey, test and salvage excavations producing massive consultant



reports about artefacts have been prepared. No real in-depth addition to the archaeological record or history of Aboriginal people other than occupation site patterning has been produced.

4.5 PREDICTIVE MODEL

Based on the results of previous archaeological investigations within the wider region, a number of predictions regarding Aboriginal use of the area can be made. These predictions focus on the nature, extent and integrity of the remaining evidence.

The landscape characteristics of the area influence the prediction of the nature of potential sites within the landscape itself. Site types associated with sandstone country, such as grinding grooves, rock art sites, petroglyph (rock engravings) and sandstone rockshelters with art and/or archaeological deposit are not considered likely to occur within the study area. Scarred trees are also considered unlikely within the study area due to the high levels of historical clearing which have occurred within the landscape.

Disturbance is the predominant factor determining whether or not artefacts are likely to be identified within a landscape.

Surface sites are likely to have been impacted by agricultural processes and land use within the area over the historic period. Natural actions such as bioturbation are likely to have impacted at least the upper levels of archaeological deposits, as are cultural activities such as excavation, construction, demolition, ploughing, clearing and planting. Whilst these actions may impact the integrity of stratigraphy within the deposit, this does not necessarily mean associated archaeological objects will also be disturbed.

Additionally, White and McDonald (2010) suggest that “artefact densities tend to be lower on upper slopes and higher on lower slopes and terraces.”

In general, Aboriginal use of an area is based on a number of factors, such as:

- Proximity to permanent water sources – generally permanent or areas of repeat habitation are located within approximately 200m of permanent water;
- Proximity to ephemeral water sources – generally sites near ephemeral water sources were utilised for one-off occupation;
- Ease of travel – ridgelines were often utilised for travel during subsistence activities; and
- The local relief – flatter, more level areas were more likely to be utilised for long term or repeat habitation sites than areas of greater relief, especially if the slopes are at a distance from water.

In terms of the study area, sites are considered more likely to comprise:



- Isolated finds, which may occur anywhere across a landscape; and
- Open sites, in areas of low relief in close proximity to ephemeral or permanent water sources, particularly fourth order streams.

4.6 LIMITATIONS

The above review of previous archaeological work is subject to a number of limitations.

It should be noted that AHIMS results are a record only of the sites that have been previously registered with AHIMS and are not a definitive list of all Aboriginal sites within an area, as there is potential for sites to exist within areas that have not previously been subject to archaeological assessment.

Aboriginal people may choose not to disclose cultural knowledge of an area for a variety of reasons, and therefore the area may hold cultural significance, but this significance is not disclosed to the archaeologist. This, in turn, makes it difficult to establish the level of cultural significance within an area.



5.0 FIELD WORK

5.1 SAMPLING STRATEGY

Apex Archaeology prepared a detailed methodology for field survey, which was provided to the RAPs for their review and comment as discussed in Section 3.3 above. The entire study area is proposed to be impacted and as such this methodology takes into account total survey coverage. The methodology is attached as Appendix E of this report.

5.2 SITE INSPECTION

A survey was undertaken on Friday 17 July 2020 by Leigh Bate, Archaeologist of Apex Archaeology, as part of the assessment under the Code of Practice and Consultation Requirements.

A representative from the Wonnarua Local Aboriginal Land Council was invited to assist with the archaeological survey; however, no one was available on the day to attend the survey.

5.3 SURVEY COVERAGE

The study area was surveyed in one pedestrian transect (Table 4 & Figure 6) across the landform element (Table 5) by the archaeologist. The archaeologist was responsible for inspecting a 2m wide portion of the transect walked. This meant that on each pass an area covering 2m would be observed for archaeological material.

Table 4: Survey transects

Transect	Landform Element	Number of participants	Total Length
1	flat	1	770m

Table 5: Survey Transect Waypoints

Waypoint	Easting	Northing	Zone	Datum
1	301,936.90	6,426,947.20	56	GDA
2	301,968.00	6,426,911.40	56	GDA
3	301,963.40	6,426,900.20	56	GDA
4	301,970.00	6,426,893.90	56	GDA
5	302,000.50	6,426,916.70	56	GDA
6	302,017.00	6,426,930.60	56	GDA
7	302,036.40	6,426,950.20	56	GDA
8	302,016.60	6,426,968.30	56	GDA
9	302,009.60	6,426,966.60	56	GDA
10	301,967.70	6,427,002.80	56	GDA
11	301,925.00	6,426,967.50	56	GDA
12	301,900.00	6,426,993.60	56	GDA
13	301,941.70	6,427,028.20	56	GDA
14	301,785.10	6,427,148.80	56	GDA
15	301,774.90	6,427,139.50	56	GDA
16	301,860.60	6,427,044.20	56	GDA



Waypoint	Easting	Northing	Zone	Datum
17	301,856.50	6,427,031.60	56	GDA
18	301,871.80	6,427,011.40	56	GDA

During the survey completed by Apex Archaeology the study area was inspected for Aboriginal archaeological evidence. An assessment of landform element and slope was made for the study area, with the results presented in Table 6.

Table 6: Survey area results

Survey Area #	Landform Element	Slope	Vegetation	Detection Limiting Factors	Ground Disturbance
GSS1	Flat	Level-very gentle (<1.45°)	Cleared (Landscaped/Modified)	vegetation/leaf litter/grass	Moderate to High

The total survey coverage (meaning the areas physically inspected for archaeological evidence) was approximately 1,540m². The total area of the development impact is approximately 24,340m². A range of factors were considered and recorded during the survey, including the surface visibility (percentage of bare ground within a survey unit); archaeological visibility (amount of bare ground within an area in which artefacts could be expected to be identified if present); exposure type (A or B soil horizon) and calculations of how effective the survey coverage was. The results of the survey coverage are presented in Table 7.

Table 7: Survey coverage results

Survey Area #	Total Area Surveyed (m ²)	Surface Visibility (%)	Arch Vis (%)	Exposure Type (A/B)	Effective Coverage (m ²)	% Effective Survey Coverage of Context
PBCS01	1540	10	10	A	15.4	1

Surface visibility across the study area was limited due to surface vegetation such as exotic pasture grasses and leaf litter. Total effective survey coverage for the entire study area was 6.3% (Table 8).

Table 8: Total effective survey coverage results

Survey Area #	Total Area of Study Area (m ²)	Total Area Surveyed (m ²)	Effective Coverage of survey area (m ²)	Surface Visibility (%)	Arch Vis (%)	Exposure Type (A/B)	% Total Effective Survey Coverage of Study Area
PBCS	24340	1540	15.4	10	10	A	6.3



5.4 SURVEY RESULTS

The study area was noted to be consistently and heavily disturbed through various landscape modification and building activities related to the site's previous usage as a nursery.

The site has been disturbed through the construction of the residence to the west of the nursery associated infrastructure related to the nursery operations, including construction of sheds and other facilities along with associated landscaping of the site. This has contributed to the overall lack of Aboriginal heritage potential within the study area.

The survey confirmed that disturbance has occurred across much of the study area, and therefore there was no potential for subsurface deposits to be present within this area. No surface artefact sites were identified during the field assessment.



Plate 1: General view across study area looking east from main entrance



Plate 2: General view across study area looking north east along southern boundary



Plate 3: General view of study area looking north west along eastern boundary



Plate 4: Looking north west through the central portion of the study area



Plate 5: Looking south west through the main nursery section of the study area



Plate 6: Looking north west across the study area



Plate 7: Looking north west towards the residence in the northern portion of the study area



Plate 8: Looking north west towards the northern end of the study area

5.5 DISCUSSION

The site inspection identified that the site has been highly modified through construction activities related to the nursery and the residence to the west, as well as associated landscaping throughout the area, such as garden sheds and nursery related infrastructure. Subsurface infrastructure such as stormwater, septic tanks, sewerage and electrical services had been installed in various parts of the study area. All of these had impacted on the ground surface to some extent.

As such, the site was considered have no intact soil deposits across the site, and therefore no potential for intact Aboriginal archaeological deposits to be present.



6.0 ABORIGINAL CULTURAL HERITAGE SIGNIFICANCE ASSESSMENT

6.1 INTRODUCTION

The *Aboriginal cultural heritage consultation requirements for proponents 2010* acknowledge that:

- Aboriginal people have the right to maintain their culture, language, knowledge and identity
- Aboriginal people have the right to directly participate in matters that may affect their heritage
- Aboriginal people are the primary determinants of the cultural significance of their heritage

Undertaking consultation with Aboriginal people ensures that potential harm to Aboriginal objects and places from proposed developments is identified and mitigation measures developed early in the planning process.

6.2 CRITERIA

The Burra Charter is considered an appropriate framework for the assessment of cultural heritage, which can be made based on the following assessment criteria:

- **Social value:** Also referred to as cultural value, this criterion considers the spiritual, traditional, historical or contemporary associations an area or place has for Aboriginal people
- **Historic value:** the relationship between a place and people, events, phases or activities of importance to the Aboriginal community
- **Scientific value:** assessment under this criterion considered the ability of a landscape, place, area or object to inform scientific research and/or analysis and to assist in answering research questions
- **Aesthetic value:** the ability of a place, area, landscape or object to demonstrate aesthetic characteristics, or possess creative or technical values
- **Representativeness:** this criterion examines if the item is a representative example of that site type, and if it possesses the main characteristics of that site type
- **Rarity:** assesses whether the site is uncommon or endangered within a region and to what extent that site type is found elsewhere

Additionally, archaeological significance is assessed based on the archaeological or scientific values of an area. These values can be defined as the importance of the area relating to several criteria. Criteria used for determining the archaeological significance of an area are as follows:

- **Research potential:** Can the site contribute to an understanding of the area/region and/or the state's natural and cultural history? Is the site able to provide information that no other site or resource is able to do?



- **Representativeness:** is the site representative of this type of site? Is there variability both inside and outside the study area? Are similar site types conserved?
- **Rarity:** is the subject area a rare site type? Does it contain rare archaeological material or demonstrate cultural activities that no other site can demonstrate? Is this type of site in danger of being lost?
- **Integrity/Intactness:** Has the site been subject to significant disturbance? Is the site likely to contain deposits which may possess intact stratigraphy?

Further, an assessment of the grade of significance is made, based on how well the item fulfils the assessment criteria. The Heritage Branch of the Department of Planning (now the Heritage Division of the Department of Planning, Industry and Environment) 2009 guideline *Assessing Significance for Historical Archaeological Sites and 'Relics'* defines the grading of significance as follows:

Table 9: Grading of significance, from Heritage Branch 2009

Grading	Justification
Exceptional	Rare or outstanding item of local or State significance. High degree of intactness. Item can be interpreted relatively easily.
High	High degree of original fabric. Demonstrates a key element of the item's significance. Alternations do not detract from significance.
Moderate	Altered or modified elements. Elements with little heritage value but which contribute to the overall significance of the item.
Little	Alterations detract from significance. Difficult to interpret.
Intrusive	Damaging to the item's heritage significance.

Whilst this was developed for the assessment of significance of historical items, the criteria are applicable to Aboriginal significance assessments as well. It is important to note that the below assessment is specific to Aboriginal cultural heritage and does not consider the non-Aboriginal significance of the site.

6.3 SIGNIFICANCE ASSESSMENT

SOCIAL VALUE

The Aboriginal community are best placed to make a determination of the social or cultural value of the study area. No specific information was received from any of the RAPs regarding the social value of the study area.

HISTORIC VALUE

The site did not possess Aboriginal cultural material on the ground surface and is considered to have no potential for subsurface archaeological deposits to be present. Therefore, the site is considered to have little to no historical value with regards to Aboriginal heritage.



SCIENTIFIC VALUE

The study area is not considered to have any specific scientific value. The site did not possess Aboriginal cultural material on the ground surface and is considered to have no potential for subsurface archaeological deposits to be present. Therefore, the site is considered to have little to no scientific value.

AESTHETIC VALUE

Generally, aesthetic value is determined by the response evoked by a setting. The study area is not considered to hold aesthetic significance with regards to Aboriginal heritage, based on its disturbed context and limited view lines.

REPRESENTATIVENESS

The site is representative of a disturbed area. However, it is not representative of any Aboriginal cultural values as it is not considered to contain any such values.

RARITY

The site is not considered to have value under this criterion due to its disturbed nature and its lack of Aboriginal cultural heritage within the area.

RESEARCH POTENTIAL

The study area is disturbed and is not considered to possess research potential regarding Aboriginal heritage.

INTEGRITY/INTACTNESS

The site is considered to be disturbed to some extent across the entirety of the study area, and therefore is not considered to have integrity, nor be intact.

6.4 CULTURAL SIGNIFICANCE ASSESSMENT

No specific cultural significance information was provided by any of the RAPs for the project, and thus the study area is not considered to have cultural heritage significance. However, it is noted that areas may have cultural significance even in the absence of tangible cultural heritage evidence within a site, and all archaeological sites are considered significant by Aboriginal people.

6.5 STATEMENT OF ARCHAEOLOGICAL SIGNIFICANCE

The study area located at Lot 100 DP 1261496 is not considered to have Aboriginal archaeological significance, due to its disturbed nature.



7.0 IMPACT ASSESSMENT

7.1 PROPOSED DEVELOPMENT

The proposed development is for the establishment of a new K-12 school (Pacific Brook Christian School) on the subject site. The development will comprise site preparation, demolition, tree removal, construction of new school buildings, covered outdoor learning area, covered walkways, car parking, landscaping and associated works. The school will accommodate 140 students and 16 staff.

The development consists of:

- Site remediation;
- Removal of 7 trees;
- Facilities for a maximum of 140 students and 15 staff, including:
 - One (1) administration and staff area;
 - One (1) staff and student amenities block (including one (1) end of trip facility);
 - Five (5) General Learning Areas (GLAs);
 - One (1) Science classroom; and
 - Covered Outdoor Learning Area (COLA)
- Internal pathways;
- On-site Parking (15 spaces, inclusive of 1 accessible);
- Bike parking x 6;
- Kiss and drop off areas;
- Bus stop;
- Bin storage and collection area;
- Signage;
- Infrastructure works; and
- Widening of existing vehicular access from Maitland Street.

7.2 POTENTIAL IMPACT

No surface artefacts were identified within the study area during the site inspection on 17 July 2020 and therefore the proposed development is considered unlikely to impact any surface artefacts. The site is not considered to have potential for subsurface deposits due to the high level of disturbance across the site and therefore it is not considered likely that the proposed works would impact any Aboriginal heritage values within the site.

Therefore, it is not considered likely that the proposed development would impact on any Aboriginal objects and/or Aboriginal heritage values within the study area.



7.3 ECOLOGICALLY SUSTAINABLE DEVELOPMENT (ESD)

It is a requirement of Section 2A (2) of the NPW Act to apply the principles of Ecologically Sustainable Development (ESD) when considering any impact to Aboriginal objects and places. ESD integrates economic and environmental considerations, which includes cultural heritage, into decision-making processes. In general, ESD can be achieved through consideration and implementation of two key principles, being intergenerational equity and the precautionary principle.

Intergenerational equity refers to the present generation having consideration for the health, diversity and productivity of the environment for those generations to come. In terms of Aboriginal cultural heritage, this relates to cumulative impacts to Aboriginal objects and places within a region. Intergenerational equity therefore relies on the understanding that a reduction in the number of Aboriginal objects and places within a region results in fewer opportunities for Aboriginal people to access their cultural heritage in the future. Thus, it is essential to understand what comprises the Aboriginal heritage resource, both known and potential, when assessing intergenerational equity within a region.

The precautionary principle relates to threats of serious or irreversible environmental damage, and that lack of scientific certainty regarding the degree of potential damage should not be a reason to postpone adequate reasonable measures to prevent harm to the environment. Regarding Aboriginal cultural heritage, the precautionary principle relates to where a proposed development may seriously or irreversibly impact Aboriginal objects or places, or their significance; and where there may be uncertainty relating to the integrity, rarity or representativeness of Aboriginal cultural values. The Code of Practice outlines that a precautionary approach should be taken to avoid or reduce damage to Aboriginal objects or places, with cost-effective measures implemented wherever possible. Additionally, a cumulative impact assessment should be completed to determine of how the proposed development would impact the cultural resource in the wider region.

7.3.1 INTERGENERATIONAL EQUITY

The cumulative impact of the project on the Aboriginal cultural resource can be assessed in two ways, these being:

1. Utilising AHIMS data to compare the identified cultural heritage resource within the study area to that of the wider region; and
2. Utilising aerial photographs, topographic maps and data drawn from GIS databases to identify the potential regional Aboriginal heritage resource.

As discussed in Section 4.8.1, a search of the AHIMS database was undertaken on 23 July 2020 and covered the study area with a 200m buffer. No previously registered sites were identified.



The potential of the site was assessed during the site inspection, and also based on the results of surrounding assessments. It was noted that the study area had been subject to a high degree of disturbance throughout much of the study area with no potential for subsurface deposits to be present.

In terms of cumulative impact, the site does not contain evidence of Aboriginal occupation. Previous activities within the site have removed much of the evidence which may have once been present within the site, thus there is no potential for subsurface material to be present. As such, it is considered that the cumulative impact of the proposed project on Aboriginal cultural heritage would be negligible.



8.0 MANAGEMENT, MITIGATION AND RECOMMENDATIONS

8.1 GUIDING PRINCIPLES

Wherever possible and practicable, it is preferred to avoid impact to Aboriginal archaeological sites. In situations where conservation is not possible or practicable, mitigation measures must be implemented.

The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance, 2013 (The Burra Charter) provides guidance for the management of culturally sensitive places. The Burra Charter is predominantly focussed on places of built heritage significance, but the principles are applicable to other places of significance as well.

The first guiding principle for management of culturally significant sites states that “places of cultural significance should be conserved” (Article 2.1). A cautious approach should be adopted, whereby only “as much as necessary but as little as possible” (Article 3.1) should be changed or impacted.

Mitigation measures depend on the significance assessment for the site. Cultural significance of sites should also be considered in consultation with the Aboriginal community during community consultation.

8.2 HARM AVOIDANCE OR MITIGATION

The study area does not contain any Aboriginal sites or potential for sub surface material to be present. No further archaeological assessment is required prior to the commencement of works on the site. As Aboriginal objects are not located within the study area, an Aboriginal Heritage Impact Permit (AHIP) under Section 90 of the *National Parks and Wildlife Act 1974* will not be necessary prior to impact from development works.

Consultation with the Aboriginal community has been undertaken for this project in accordance with the *Aboriginal cultural heritage consultation requirements for proponents 2010*. The Aboriginal community have been afforded an opportunity to provide feedback regarding the proposed development and its potential impact on Aboriginal cultural heritage. No specific cultural knowledge relevant to the study area was provided.

Given the low scientific significance of the site, further mitigation measures are not considered warranted or appropriate.



9.0 RECOMMENDATIONS

The following recommendations are made on the basis of:

- The statutory requirements of the NP&W Act 1974;
- The requirements of Heritage NSW and MCC;
- The results of the cultural and archaeological assessment;
- An assessment of the likely impacts of the proposed development; and
- The interests of the registered Aboriginal stakeholders and the cultural heritage record.

It was found that:

- There are no registered Aboriginal sites within the study area.
- No surface expressions of artefacts were identified within the study area.
- The area was not considered to have potential for subsurface archaeological material to be present.
- The area was considered to be heavily disturbed.

Therefore, the following recommendations have been made.

RECOMMENDATION 1: NO FURTHER ARCHAEOLOGICAL ASSESSMENT REQUIRED

This report details the Aboriginal archaeological potential of the site, which has been assessed as nil. No further Aboriginal archaeological assessment is required for the site.

RECOMMENDATION 2: DEVELOPMENT BOUNDARIES

The proposed development works must be contained within the assessed boundaries for this project. If there is any alteration to the boundaries of the proposed development to include areas not assessed as part of this archaeological investigation, further investigation of those areas should be completed to assist in managing Aboriginal objects and places which may be present in an appropriate manner.

RECOMMENDATION 3: STOP WORK PROVISION

Should unanticipated Aboriginal archaeological material be encountered during site works, all work must cease in the vicinity of the find and an archaeologist contacted to make an assessment of the find and to advise on the course of action to be taken. Further archaeological assessment and Aboriginal community consultation may be required prior to the recommencement of works. Any objects confirmed to be Aboriginal in origin must be reported to Heritage NSW under Division 1, Section 89A of the NPW Act.

In the unlikely event that suspected human remains are identified during construction works, all activity in the vicinity of the find must cease immediately and the find protected from harm or damage. The NSW Police and the Coroner's Office must be notified immediately. If the finds are confirmed to be human and of



Aboriginal origin, further assessment by an archaeologist experienced in the assessment of human remains and consultation with both Heritage NSW and the RAPs for the project would be required.

This recommendation should be included in any Construction Environmental Management Plan developed for the site.

RECOMMENDATION 4: REPORTING

One digital copy of this report should be forwarded to the Heritage NSW for inclusion on the Aboriginal Heritage Information Management System (AHIMS).

One copy of this report should be forwarded to each of the registered Aboriginal stakeholders for the project.



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