View of the study area from the east.

ABORIGINAL CULTURAL HERITAGE AND HISTORIC HERITAGE ASSESSMENT REPORT

BLESSED CARLO COLLEGE

MOAMA, NSW

APRIL 2022

Report prepared by

OzArk Environment & Heritage

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Heritage NSW

ABORIGINAL CULTURAL HERITAGE ASSESSMENT REPORT COVER SHEET

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Harrison Rochford, Archaeologist, OzArk Environment & Heritage

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Acknowledgement

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

ABBREVIATIONS AND GLOSSARY

ACHAR	Aboriginal Cultural Heritage Assessment Report. As set out in the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*, all developments where harm to Aboriginal objects is likely must be assessed in an ACHAR.
ACHCRs	*Aboriginal Cultural Heritage Consultation Requirements for Proponents.* Guidelines for conducting Aboriginal community consultation for developments where harm to Aboriginal objects is likely.
AHIMS	Aboriginal Heritage Information Management System. Administered by Department of Premier and Cabinet, AHIMS is the central register of all Aboriginal sites within NSW.
AHIP	Aboriginal Heritage Impact Permit. Issued by Heritage NSW to allow harm to Aboriginal objects.
BP	Years before present
Code of Practice	*Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* under Part 6 NPW Act. Issued by DECCW in 2010, the Code of Practice is a set of guidelines for archaeological assessments.
DPIE	NSW Department of Planning, Industry and Environment
EARs	Environmental Assessment Requirements issued by the NSW Department of Planning, Industry and Environment.
EIS	Environmental Impact Statement. A required document for major projects documenting all potential impacts to the environment, including heritage, that may arise due to the development.
GSE	Ground surface exposure. A measure of factors that may reveal surface artefacts such as erosion scalds.
GSV	Ground surface visibility. A measure of factors that may obscure the detection of surface artefacts such as leaf litter.
Heritage NSW	Government department tasked with ensuring compliance with the NPW Act. Heritage NSW is advised by the Aboriginal Cultural Heritage Advisory Committee (ACHAC) and is part of the Environment, Energy and Science cluster within DPIE.

Holocene:	Geological epoch which lasted from around 12,000 years ago (10,000 BCE) to the present. This period is generally warmer and wetter than the preceding Pleistocene period.
NPW Act	*National Parks and Wildlife Act 1974*. Primary legislation governing Aboriginal cultural heritage within NSW.
PAD	Potential archaeological deposit. Indicates that a particular location has potential to contain subsurface archaeological deposits, although no Aboriginal objects are visible.
Pleistocene:	Geological epoch which lasted from about 2.5 million years ago to 10,000 BCE. This period spans the world's recent period of repeated glaciations. Aboriginal occupation of Australia occurs during the upper Pleistocene.
RAP	Registered Aboriginal Party. An individual or group who have indicated through the ACHCR process that they wish to be consulted regarding the project.
SEARs	Secretary's Environmental Assessment Requirements issued by DPIE.

EXECUTIVE SUMMARY

OzArk Environment & Heritage (OzArk) has been engaged by Clarke Hopkins Clare/ Impact Tomorrow (CHC/IT) on behalf of Wilcannia-Forbes Diocese (the proponent) to prepare an *Aboriginal Cultural Heritage Assessment Report* (ACHAR) with a Historic Heritage component for the proposed Blessed Carlo College (the proposal). The proposal is located on the northern outskirts of Moama, NSW.

The proposal will involve the construction of multiple structures and facilities that would comprise the Blessed Carlo College. The current draft design includes education buildings, carparks, landscaped open space, and sporting fields.

The study area describes the area in which impacts associated with the proposal will be located. The study area comprises of 4.5 hectares (ha) of land at Lot 76 DP751159 on Lignum Road and Kiely Road, approximately 1.5 kilometres (km) north and east of the Murray River.

The survey component of the assessment was undertaken by OzArk Archaeologist Harrison Rochford and LaToya Morgan, representing the Moama Local Aboriginal Land Council (LALC) on 16 September 2021.

No Aboriginal objects or cultural values pertaining specifically to the study area were recorded because of the assessment. It was concluded that the proposal will not impact Aboriginal objects or intangible cultural heritage values.

Aboriginal Cultural Heritage Recommendations

As it has been assessed that there are no likely impacts to Aboriginal objects because of the proposal, there are no further requirements for additional assessment of the study area.

Following approval of the proposal it is recommended that:

- An *Aboriginal Cultural Heritage Management Plan* (ACHMP) be developed that will include appropriate procedures to be followed if unanticipated Aboriginal objects or human skeletal remains are encountered during works.

Historic Heritage Recommendations

The historic heritage assessment concluded that the proposal will not impact heritage fabric, potential archaeological remains or significant heritage values.

Following approval of the proposal it is recommended that:

- An unanticipated finds protocol for historic heritage (see **Appendix 3**) be in place during works to assist in conservation outcomes in the unlikely event that heritage items are encountered.

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1 INTRODUCTION

1.1 DESCRIPTION OF THE PROPOSAL

OzArk Environment & Heritage (OzArk) has been engaged by Clarke Hopkins Clare/ Impact Tomorrow (CHC/IT) on behalf of Wilcannia-Forbes Diocese (the proponent) to prepare an *Aboriginal Cultural Heritage Assessment Report* (ACHAR) for the proposed Blessed Carlo College (the proposal).

The proposal is located on the northern outskirts of Moama, NSW (**Figure 1-1**). The proposal is within the Murray River Council Local Government Area (LGA).

1.2 PROPOSED WORK

The proposal will involve the construction of multiple structures and facilities that would comprise the Blessed Carlo College. The current draft design includes education buildings, carparks, landscaped open space, and sporting fields (**Figure 1-2**).

1.3 STUDY AREA

The study area describes the area in which impacts associated with the proposal will be located. The study area comprises of 4.5 hectares (ha) of land at Lot 76 DP751159 on Lignum Road and Kiely Road at Moama, NSW (**Figure 1-3**).

The study area is situated on flat plains, approximately 1.5 kilometres (km) north and east of the Murray River. Most of the study area has been cleared and used for low-intensity agriculture.

Figure 1-1: Map showing the location of the proposal.

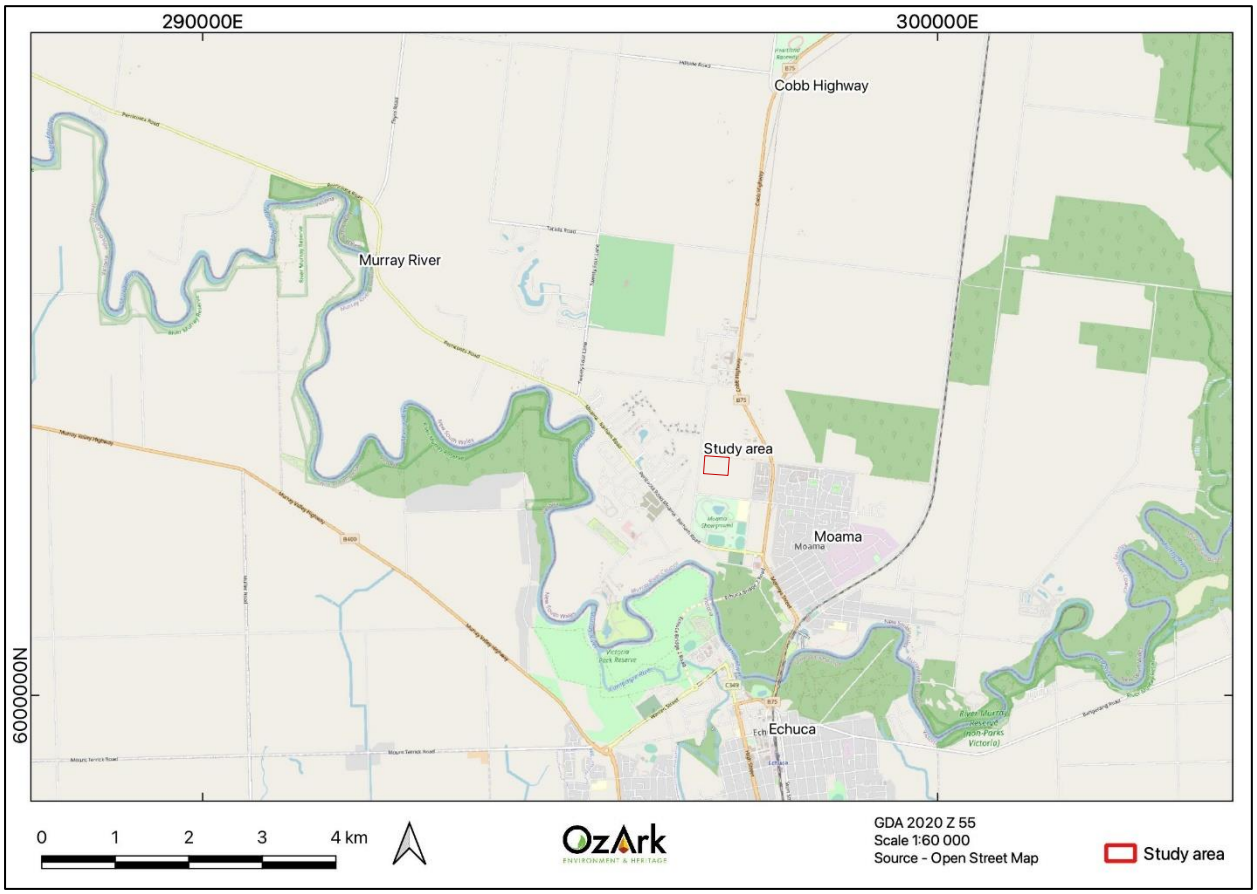
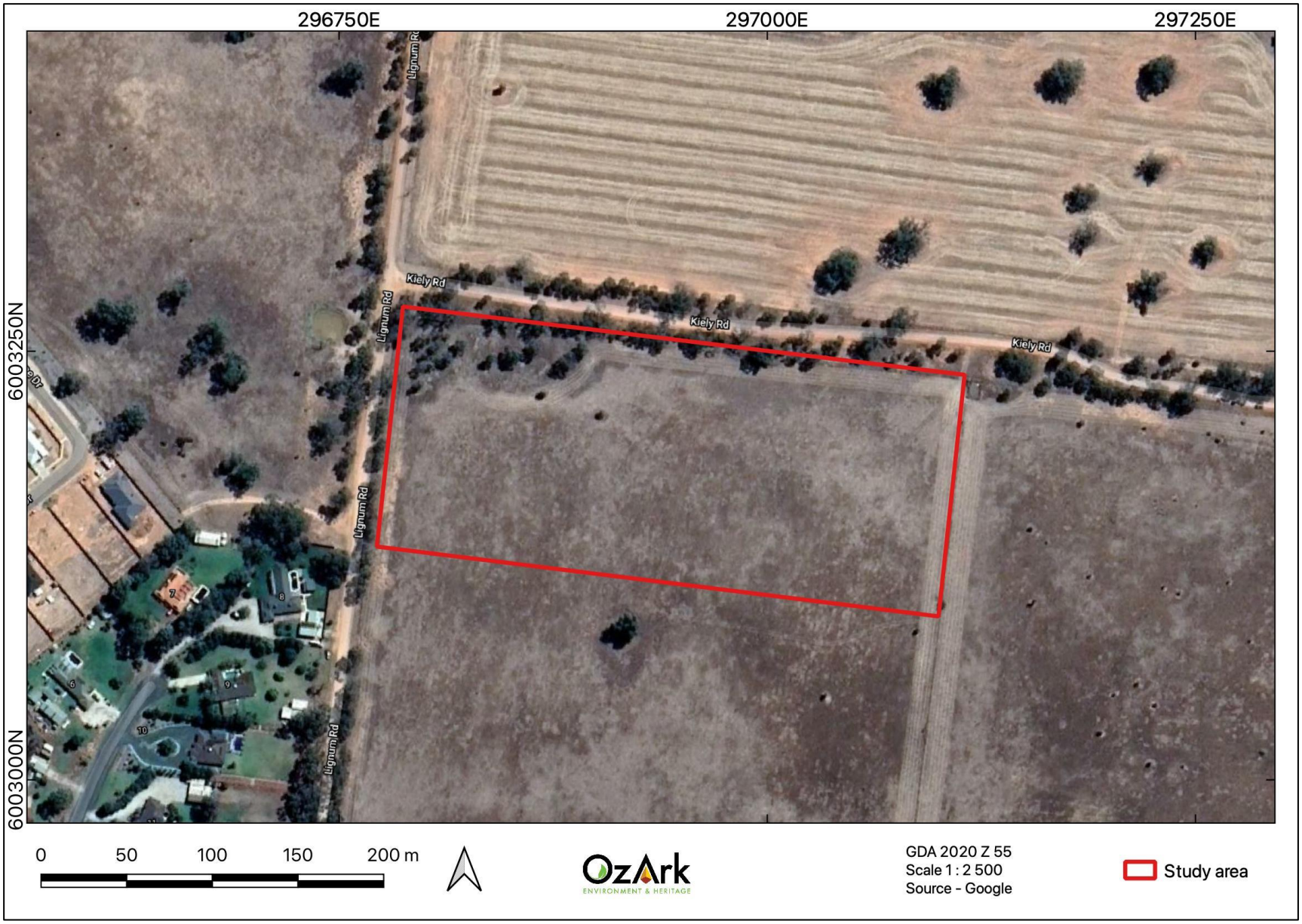


Figure 1-2: Proposed work showing impact footprint.

Figure 1-3: Aerial showing the study area.



2 THE ABORIGINAL CULTURAL HERITAGE ASSESSMENT

2.1 RELEVANT LEGISLATION

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

Several Acts of parliament provide for the protection of heritage at various levels of government.

2.1.1 Commonwealth legislation

2.1.1.1 Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

The EPBC Act, administered by the Commonwealth Department of Agriculture, Water and the Environment, provides a framework to protect nationally significant flora, fauna, ecological communities, and heritage places. The EPBC Act establishes both a National Heritage List and Commonwealth Heritage List of protected places. These lists may include Aboriginal cultural sites or sites in which Aboriginal people have interests. The assessment and permitting processes of the EPBC Act are triggered when a proposed activity or development could potentially have an impact on one of the matters of national environment significance listed by the Act. Ministerial approval is required under the EPBC Act for proposals involving significant impacts to national/commonwealth heritage places.

2.1.1.2 Aboriginal and Torres Strait Islander Heritage Protection Act 1984

The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* is aimed at the protection from injury and desecration of areas and objects that are of significance to Aboriginal Australians. This legislation has usually been invoked in emergency and conflicted situations.

Applicability to the proposal

It is noted there are no Commonwealth or National heritage listed places within the study area, and as such, the heritage provisions of the EPBC Act and other Commonwealth Acts do not apply.

2.1.2 State legislation

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

This Act established requirements relating to land use and planning. The main parts of the EP&A Act that relate to development assessment and approval are Part 4 (development assessment) and Part 5 (environmental assessment). The Minister responsible for the Act is the Minister for Planning and Public Spaces.

The EP&A Act currently provides the primary legislative basis for planning and environmental assessment in NSW. The objects of the EP&A Act include encouragement of:

- The proper management, development, and conservation of natural resources
- The provision and coordination of the orderly and economic use and development of land
- Protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats
- Ecologically sustainable development.

The objects also provide for increased opportunity for public involvement and participation in environmental planning and assessment.

The EP&A Act includes provisions to ensure that the potential environmental impacts of a development or activity are rigorously assessed and considered in the decision-making process.

The framework governing environmental and heritage assessment in NSW is contained within the following parts of the EP&A Act:

- Part 4: Local government development assessments, including heritage. May include schedules of heritage items
    - Division 4.7: Approvals process for state significant development

<u>Applicability to the proposal</u>

The current proposal is a new school development, so under the State Environmental Planning Policy (SEPP) for Education Establishments and Child Care Facilities 2017, it must be assessed as a State Significant Development (SSD) under Part 4 of the EP&A Act.

As the project is a SSD, if approved, Section 4.41 of the EP&A Act would apply and an AHIP under section 90 of the NPW Act to harm Aboriginal objects would not be required. Instead, all management related to Aboriginal cultural heritage within the study area would be governed by the policies within an approved *Aboriginal Cultural Heritage Management Plan* (ACHMP).

2.1.2.2 National Parks and Wildlife Act 1974 (NPW Act)

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

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

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

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

Under Section 89A of the Act, it is a requirement to notify the Secretary of the Department of Planning, Industry and Environment (DPIE) of the location of an Aboriginal object. Identified Aboriginal items and sites are registered on Aboriginal Heritage Information Management System (AHIMS) that is administered by Heritage NSW.

Applicability to the proposal

Any Aboriginal sites within the study area are afforded legislative protection under the NPW Act.

Under Section 89A of the NPW Act, the Secretary of DPIE will be notified of the location of any Aboriginal object recorded and these will be registered on AHIMS.

2.1.2.3 Secretary's Environmental Assessment Requirements (SEARs)

SEARs were issued by DPIE on 13 August 2021. In relation to Aboriginal cultural heritage, the SEARs state:

> *Cultural Heritage and Aboriginal Cultural Heritage – including*

- *Provide a statement of significance and an assessment of the impact on the heritage significance of the heritage items on and adjacent to the site in accordance with the guidelines in the NSW Heritage Manual (Heritage Office and DUAP, 1996) and Assessing Heritage Significance (OEH, 2015).*
- *Provide an Aboriginal Cultural Heritage Assessment Report (ACHAR) that: identifies and describes the Aboriginal cultural heritage values that exist across the site.*

It is noted here that the Historic (non-Aboriginal) heritage SEARs are addressed in a concurrent report. No additional requirements from Heritage NSW are contained in the SEARs.

SEARs	Where addressed in the ACHAR
Aboriginal Cultural Heritage	
Provide an Aboriginal Cultural Heritage Assessment Report (ACHAR) that: identifies and describes the Aboriginal cultural heritage values that exist across the site.	The report fulfils this requirement
Includes surface surveys and test excavations where necessary.	Code survey presented in **Section 6**. The results of the survey indicated that test excavation is not required.
Has been prepared in accordance with the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (OEH, 2011) and Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW (OEH, 2010).	Throughout document, detailed compliance table at **Section 2.3**
Incorporates consultation with Aboriginal people in accordance with Aboriginal Cultural Heritage Consultation Requirements for Proponents (Department of Environment, Climate Change and Water, 2010).	**Section 3** and **Section 6**
Documents the significance of cultural heritage values of Aboriginal people who have a cultural association with the land.	**Section 3**
Identifies, assesses and documents all impacts on the Aboriginal cultural heritage values.	**Section 7**
Demonstrates attempts to avoid any impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the ACHAR and EIS must outline measures proposed to mitigate impacts.	**Section 8**
Demonstrates attempts to interpret the Aboriginal cultural heritage significance identified into the development.	**Section 7**. As no objects or values of Aboriginal cultural heritage significance were identified, there is a limited role for interpretation based on the results of this assessment. The proponent could consider including wider cultural values of the region into any interpretation at the new school.
Any Aboriginal objects recorded as part of the Aboriginal Cultural Heritage Assessment Report must be documented and notified to the Aboriginal Heritage Information Management System (AHIMS) within Heritage NSW of the Department of Premier and Cabinet.	Not applicable

SEARs	Where addressed in the ACHAR
Historic Heritage	
Identify any archaeological potential or archaeological significance on and adjacent to the site and the impacts the development may have on this significance.	**Section 10**
Provide a statement of significance and an assessment of the impact on the heritage significance of the heritage items on and adjacent to the site in accordance with the guidelines in the NSW Heritage Manual (Heritage Office and DUAP, 1996) and Assessing Heritage Significance (OEH, 2015).	**Section 11**

2.2 ASSESSMENT APPROACH

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

The Aboriginal cultural heritage assessment followed the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (the Guide; OEH 2011) and the *Aboriginal cultural heritage consultation requirements for proponents* (ACHCRs) (DECCW 2010b).

2.3 PURPOSE AND OBJECTIVES

The purpose of this study is to identify and assess heritage constraints relevant to the proposed works.

The study will apply the Code of Practice, the Guide, and the ACHCRs in the completion of the Aboriginal cultural heritage assessment to meet the following objectives:

Objective One: Undertake background research on the study area to formulate a predicative model for site location within the study area

Objective Two: Identify and record Aboriginal cultural heritage values within the survey areas. This includes intangible cultural values, Aboriginal objects, and any landforms likely to contain further archaeological deposits

Objective Three: To assess the significance of any recorded Aboriginal cultural values, Aboriginal objects, or sites in consultation with Registered Aboriginal Parties (RAPs)

Objective Four: Assess the likely impacts of the proposed work to Aboriginal cultural heritage values and provide management recommendations.

2.4 REPORT COMPLIANCE WITH THE CODE OF PRACTICE

The Code of Practice establishes requirements that should be followed by all archaeological investigations where harm to Aboriginal objects may be possible. **Table 2-1** tabulates the compliance of this report with the requirements established by the Code of Practice.

Table 2-1: Report compliance with the Code of Practice.

Code of Practice Requirement	Context of the Requirement	Concordance in this report
Requirement 1a	Review previous archaeological work	**Section 5**
Requirement 1b	Review AHIMS searches	**Section 5.3**
Requirement 2	Review the landscape context	**Section 4**
Requirement 3	Summarise and discuss the local and regional character of Aboriginal land use and its material traces	**Section 5.2**
Requirement 4a	Develop predictive model	**Section 5.4**
Requirement 4b	Present predictive model results	**Section 6.5.1**
Requirement 5a	Archaeological survey sampling strategy	Full survey was undertaken, see **Section 6**
Requirement 5b	Archaeological survey requirements	This Requirement was fulfilled during the undertaking of the survey
Requirement 5c	Archaeological survey units	Section **4.1.1**
Requirement 6	Site definition	**Section 5.4.1**
Requirement 7a	Site recording information to be recorded	Not applicable to this report as no new sites were recorded.
Requirement 7b	Site recording: scales for photography	Not applicable to this report as no new sites were recorded.
Requirement 8a	Geospatial information	Not applicable to this report as no new sites were recorded.
Requirement 8b	Datum and grid coordinates	All coordinates are provided in GDA Zone 55.
Requirement 9	Record survey coverage data	**Section 6.4**
Requirement 10	Analyse survey coverage	**Section 6.3**
Requirement 11	Archaeological Report content and format	This report adheres to this Requirement.
Requirement 12	Records	OzArk undertakes to maintain all survey records for at least five years.
Requirement 13a	Notifying Heritage NSW of breaches	Not applicable
Requirement 13b	Providing Heritage NSW with information in the event of non-compliance	Not applicable
Requirement 14	Test excavation which is not excluded from the definition of harm	Test excavation did not take place as part of this assessment.
Requirement 15a	Consultation regarding test excavation	Not applicable
Requirement 15b	Developing a test excavation sampling strategy	Not applicable
Requirement 15c	Providing Heritage NSW with notification of the test excavation	Not applicable
Requirement 16a	Test excavation that can be carried out in accordance with the Code of Practice	Not applicable
Requirement 16b	Objects recovered during test excavations	Not applicable
Requirement 17	When to stop test excavations	Not applicable

2.5 DATE OF ARCHAEOLOGICAL ASSESSMENT

The field survey was undertaken by OzArk on 16 September 2021.

2.6 OZARK INVOLVEMENT

2.6.1 Field survey

The fieldwork survey was undertaken by:

- Archaeologist: Harrison Rochford (B. Liberal Studies [Hons], M. Phil. [Arts and Social Science]).

2.6.2 Reporting

The reporting component of the heritage assessment was undertaken by:

- Report author: Harrison Rochford
- Reviewer: Ben Churcher (OzArk Principal Archaeologist; BA [Hons], Dip Ed).).

3 ABORIGINAL COMMUNITY CONSULTATION

3.1 INTRODUCTION TO CULTURAL VALUES

No matter who you are, we all have culture. Each person's culture is important; it's part of what makes us who we are.

Many Aboriginal people in Australia have a unique view of the world that's distinct from the mainstream. Land, family, law, ceremony, and language are five key interconnected elements of Aboriginal culture. For example, families are connected to the land through the kinship system, and this connection to land comes with specific roles and responsibilities which are enshrined in the law and observed through ceremony. In this way, the five elements combine to create a way of seeing and being in the world that is distinctly Aboriginal.

Aboriginal and Torres Strait Islander peoples are connected to Country through lines of descent (paternal and maternal), as well as clan and language groups. Territory is defined by spiritual as well as physical links. Landforms have deep meaning, recorded in art, stories, songs, and dance. Songlines or Dreaming Tracks as well as kinship structures link Aboriginal peoples to the territories of other groups. In the past, these links were also used for trade.

Living on this land for more than 50,000 years, Aboriginal and Torres Strait Islanders established effective ways to use and sustain resources. One important aspect is the right of certain people to control the use of resources in a particular area, as well as cultural and spiritual values like totemism that were fundamental in resource management. There was a wide range of traditional methods for gathering food including fish traps, subsistence agriculture, hunting and harvesting a wide range of natural fruits and vegetables. Some groups of people would stay in one place, while others moved around the land according to the seasons, to ensure sustainable and rich food supplies, and to fulfil their spiritual and cultural obligations.

In much of eastern Australia, Aboriginal communities live their lives like most Australians without resorting to tribal lore. However, in certain crucial areas, particularly associated with family, leadership roles and caring for Country, Aboriginal lore continues, even in the most urbanised communities.

3.2 ABORIGINAL COMMUNITY CONSULTATION

A major aim of this assessment is to identify any cultural values within the landscape in which the proposal is located so that those values can be recognised and incorporated into the proposal's management recommendations.

The Aboriginal cultural heritage assessment of the proposal has followed the ACHCRs (DECCW 2010b). A log and copies of correspondence with Aboriginal community stakeholders is presented in (**Appendix 1 Figure 1**).

The ACHCRs include four main stages, and these will be detailed in the following sections.

3.2.1 ACHCRs Stage 1

The aim of Stage 1 is to identify RAPs who wish to be consulted about the proposal.

An advertisement was placed in *The Border Mail* on Friday 16 July 2021 to seek expressions of interest (**Appendix 1 Figure 2**).

In addition, the following agencies were contacted to identify potential stakeholders for the area: Heritage NSW; the Moama Local Aboriginal Land Council (LALC); the Office of The Registrar, *Aboriginal Land Rights Act 1974*; the National Native Title Tribunal; Native Title Services (NTSCORP); the Murray River Council, and the Murray Local Land Services.

Letters were then sent to individuals and groups whose contact details had been provided by the government agencies (**Appendix 1 Figure 3**).

As a result, the following individuals/groups registered to be consulted about the project:

- Moama LALC
- Bangerang Aboriginal Corporation.

These individuals/groups constitute the RAPs for the project.

3.2.2 ACHCRs Stages 2 & 3

The aim of Stages 2 and 3 is to provide information about the proposal to the RAPs and to acquire information regarding Aboriginal cultural values associated with the proposal either through consultation and/or field work. Often these two stages are run together, and the detailed project information is provided in the assessment methodology that is issued to all RAPs for their consideration.

The stage 2/3 methodology was sent to RAPs on 23 August 2021 (**Appendix 1 Figure 4**). A summary of this document is presented in **Section 6.1**.

3.2.3 ACHCRs Stage 4

Stage 4 involves the production of a draft ACHAR that is issued to all RAPs for their consideration. The ACHAR will document the results of the assessment, outline opportunities for the conservation of Aboriginal cultural values, and suggest recommendations for the management of Aboriginal objects should impacts to these objects be unavoidable.

The draft ACHAR was provided to RAPs on 22 December 2021 with the stage 4 feedback window finalising on 24 January 2022. Bangerang Aboriginal Corporation acknowledged receipt of the email but had no specific comments or concerns regarding the ACHAR or the project. No response was received from Moama LALC.

3.3 ABORIGINAL COMMUNITY INVOLVEMENT IN THE ASSESSMENT

LaToya Morgan, representing the Moama LALC, assisted the field assessment on 16 September 2021.

3.4 CULTURAL VALUES IDENTIFIED THROUGHOUT THE ACHCR PROCESS

No specific cultural values were identified by the RAPs through consultation. However, Moama LALC CEO John Kerr did note that their organisation held the most relevant knowledge of the Moama area and could speak to the cultural values of its landscapes and cultural heritage sites.

Mr Kerr also noted that the Moama area is in Yorta Yorta country, rather than Baraba Baraba country as indicated in the OzArk Stage 2 Assessment Methodology (**Appendix 1 Figure 4**) that followed the guidelines presented in Horton 1994.

4 LANDSCAPE CONTEXT

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

4.1 TOPOGRAPHY

The study area is situated on generally flat, alluvial land to the north of the Murray River. The topography of the study area is slightly elevated above the current floodplain to the south (**Figure 4-1**).

Figure 4-1: Topography of the study area.

1. View west across the alluvial plain landform of the study area.

2. View south at the study area showing exposed, leached alluvial soils.

4.1.1 Survey units

Based on the undifferentiated topography of the study area, only one survey unit was used describe the topographical features of the study area:

- Survey Unit 1: Alluvial plains.

4.2 GEOLOGY AND SOILS

Soil analysis has important ramifications for archaeological research through the potential impact of different soils on human activity (such as agricultural exploitation) and the impact of the soils on archaeological evidence (such as post-depositional movement).

Alluvial plains such as at the study are an aggraded soil formation derived primarily from the Murray River but also, further afield, from the Murrumbidgee River. Soils are red-brown Chromosol silts and sands with some pockets of aeolian sands. Due to agricultural use and wind erosion, it has been estimated that 50-100% of topsoil loss has occurred across this soil landscape (OEH 2018). As such, the soil characteristics of the study area suggest that archaeological deposits, if present, are more likely to be subject to erosive processes rather than concealed by aggradation.

The Murray Scalded Plains landscape category within which the study area is located does not highlight any distinctive geological formations or features (Mitchell 2002: 104). As such, the alluvial formation of the landscape indicates that geological resources such as outcropping rock are locally rare.

4.3 HYDROLOGY

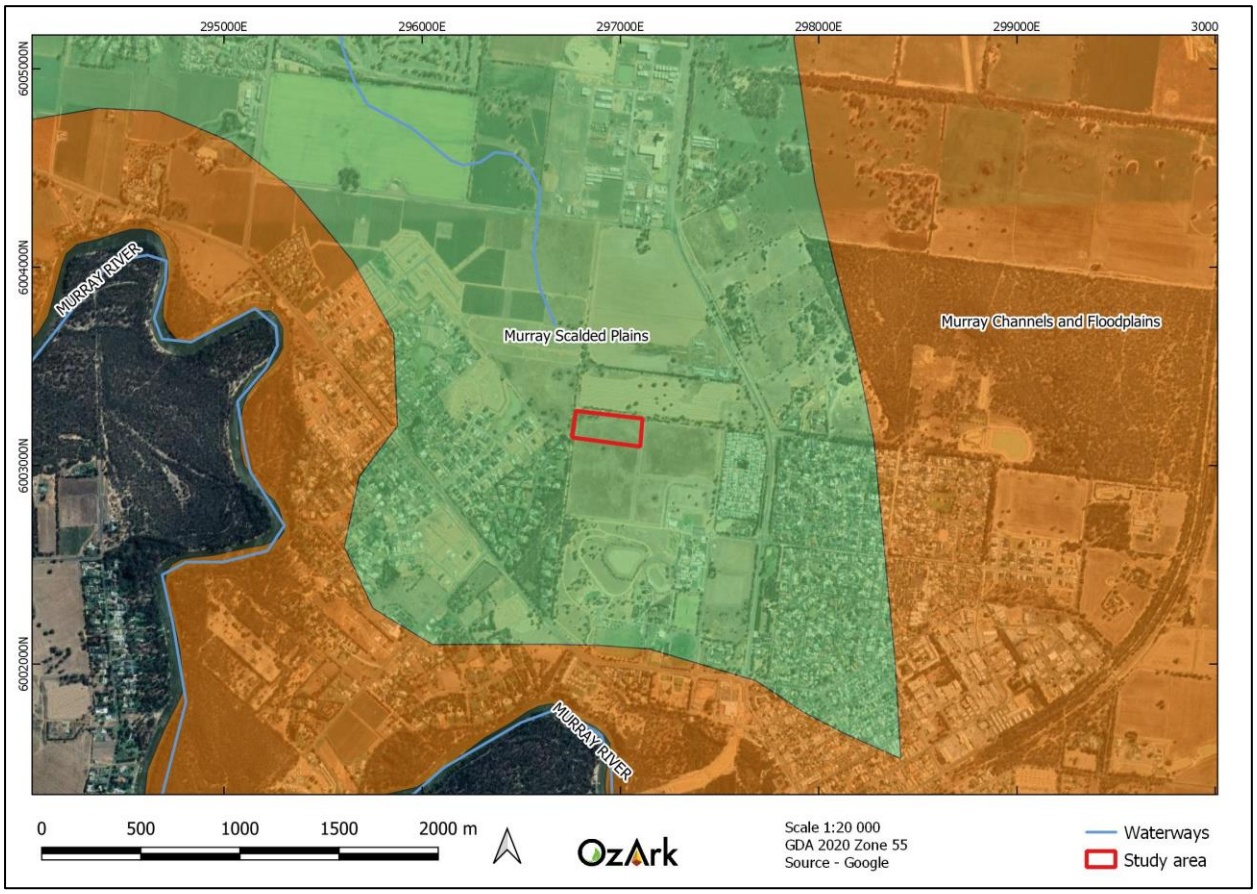
The study area is 1.5 km from the Murray River and 450 metres (m) southeast of the headwaters to a minor drainage feature that joins Benarca Waterholes. The hydrological features and landscape categories near the study area are shown on **Figure 4-2**.

The study area is unlikely to have been regularly inundated and is not in the Flood Planning Area (EPI Flood 2014), although more significant flooding events may have impacted the area.

4.4 VEGETATION

The study area is situated on the Murray Scalded Plains landscape classification (Mitchell 2002: 104). Vegetation across this landscape would have been open cypress pine woodland with scattered grey box prior to the extensive clearing that has taken place since colonial occupation. Some River Red Gum communities would have been present at the transition between the higher scalded plains and the floodplains closer to the Murray River.

Figure 4-2: Hydrology and landscape classifications near the study area.



4.5 LAND USE HISTORY AND EXISTING LEVELS OF DISTURBANCE

Moama was settled as a village (originally under the name Maiden's Crossing) in 1845. While there were some pastoral holdings along the Murray in the 1860s, the settlement was important as a location in the 'Long Paddock' Travelling Stock Reserve (TSR) that connected the grazing country of south and west NSW to the Victorian goldfields. On the outskirts of town, the study area is likely to have been used for grazing and possibly wheat cropping that was also an important agricultural industry for the town. There is no evidence of previous structures within the study area and the construction of a small dam is the only visible disturbance to the ground surface.

The more recent land use of the study area is mapped as grazing (modified pastures), according to the NSW Land Use 2017. Previous land use data (pre-2014) maps the area as grazing on native pastures. The historical imagery shown on **Figure 4-3** suggests that the study area has been used for similar low intensity grazing or agriculture since at least 1961.

Figure 4-3: 1961 Aerial with the approximate study area shown in red.

4.6 CONCLUSION

Review of the environmental factors at the study area indicates that there are no topographic or hydrological features that distinguish the landscape from its local surrounds apart from general elevation above particularly flood prone lands to the south and east. The absence of hills and the alluvial formation of the landscape lowers the likelihood for the presence of Aboriginal occupation.

The land use history and soil profile of the surrounding region suggest that topsoil loss and compaction are likely to have affected the study area. While the flat topography is conducive to the retention of archaeological deposits, cumulative impacts to the landscape suggest that deposits, if present, would likely be disturbed from their depositional context. The likelihood of culturally modified trees remaining among the sparse (or non-existent) mature trees at the study area is low.

5 ARCHAEOLOGICAL CONTEXT

5.1 ETHNO-HISTORIC SOURCES OF REGIONAL ABORIGINAL CULTURE

While the study area is situated within identified as those associated with the Baraba Baraba people by Horton, the Mid-Lower Murray region has many ethno-linguistic groups that shared similar customs and language with neighbouring groups (Horton 1994; NGH 2017:13–14). The present study area near Moama, for example, is also associated with the Yorta Yorta (Bangerang) language group (Horton 1994). The Moama LALC identified the study area as within Yorta Yorta lands (John Kerr *pers. comm*. 1 September 2021).

The first colonial explorers to the Murray River area, Hume and Hovell in 1825, and Sturt in 1828-30, recorded features of the Aboriginal inhabitants of the area that they thought most interesting from their perspective. While this information can be valuable, the colonial explorers were not impartial observers and their accounts cannot be used as unbiased records of Aboriginal life and practices, especially sections where the authors offering editorial comments, such as Sturt in the passage below:

> *It would, however, appear that the tribes do not generally frequent the river. They must have a better country back from it, and most probably linger amongst the lagoons and creeks where food is more abundant. The fact is evident from the want of huts upon the banks of the Murray, and the narrowness of the paths along its margin.* (Sturt 1833 Ch. 7).

Sturt's comment here comes in a passage recounting their journey along the Murray, during which they were harangued by Aboriginal people whenever they made landfall. As such these observations are derived from Sturt's view from the boat, rather than any broader appreciation of the settlement and resource procuring strategies of the Murray River people.

Records from the following period of colonial occupation also depict features of the lives of First Nations people of the Moama area. In the early 1850s, a visitor to the original Thule homestead (approximately 20 km northwest of the study area) described how Aboriginal people living there fished the lagoon at night:

> *A native tribe had marked themselves with white stripes on their chests and foreheads and were fishing in the lagoon, which was illuminated by smoking torches. Standing or kneeling in their bark canoes, holding in one hand a resinous torch and in the other a fishing spear with several jagged points, they furrowed the surface of the lagoon and struck vigorously at the fishes allured to the light. Some of these were so large that their struggles when speared overset three canoes. In a brief time a dozen beautiful cod were gasping on the bank.* (Grant 1970: 42)

Peter Beveridge, who lived in Swan Hill on the southern side of the Murray River in the mid-nineteenth century, also recorded details of fishing practices of Aboriginal people in the region. One passage records practice during flood events along the river, which he notes were an opportunity for resources, such as crayfish and water birds, rather than an obstacle or danger (Beveridge 1883).

5.2 REGIONAL ARCHAEOLOGICAL CONTEXT

While the significant archaeological findings at Lake Mungo exhibit evidence of human habitation of the Lower Murray-Darling Basin that is as much as 40,000 years old, the physical record of Aboriginal occupation across most of the region has a greater concentration of sites that suggest occupation for the past 20,000 years (Pardoe 1995). Sites often also contain evidence of cooking and/or food preparation such as the remains of ground ovens marked by baked clay, sandstone and silcrete heat retaining stones, or hearthstones and charcoal.

In contrast to Lake Mungo, burial sites nearer to the study area, such as at Gunbower National Park on the Murray River 50 km downstream from Moama, have been dated to 1,600 years before present (Pardoe 2012). While evidence of cooking and food preparation was recorded, stone tools were absent or had been disturbed from the sites.

Broader archaeological studies near the study area also show a distribution of sites and site types that differs from archaeological modelling in surrounding NSW bio-regions (Witter 2004).

5.2.1 Witter 2004

The study area falls withing the Riverine Plain classification of Witter's study that sought to categorise and compare archaeological features between the bioregions of Western NSW. According to Witter's analysis, the region is defined by the comparative rarity of workable stone, which is matched by the low frequency of flaked stone sites. Earth mounds (ovens) are also a defining feature, not only more common on the Riverine Plains but also larger in size and with a higher density and diversity of components (artefacts, bone, heat retainers etc.; Witter 2004: 141). Middens, which tend to occur along levees and lake margins, and burials, which occur within dunes, levees, and paleochannels, have a higher densities across the Riverine Plains than comparable sites in other inland regions.

5.2.2 Craib 1991

While not referenced directly by Witter's study above, the results of Craib's (1991) survey of the the Moira, Millewa, and Gulpa State Forests (now combined into the Murray River National Park, 30 km northeast of the study area) conforms to the general archaeological characteristics of the Riverine Plain region. The survey recorded 61 scarred trees,15 shell middens, two burials, but only one artefact scatter across a relatively undisturbed landscape.

5.2.3 Murray River Crossing – TerraCulture 2000

An option for a second crossing between Echuca and Moama led to an assessment of an area of along the Murray River and its associated floodplains. No sites were recorded on the NSW side of the Murray River, which was attributed to very low archaeological potential due to extensive disturbances and the absence of high sensitivity landforms, such as sandhills.

5.2.4 Moira Station Cattle Feedlot – HLA Enviroscience 2005

A proposed feedlot development covering 1,200 ha of plains north of the Murray River (30 km northeast of the current study area) was assessed in 2005. Three sites were recorded during the survey: one scarred tree, one earth mound, and one isolated artefact. All sites were recorded on a plains landform that was vegetated and had low levels of agricultural disturbances.

5.2.5 Navin Officer 2009

Navin Officer conducted a survey of the Koondrook and Perricoota State Forests along the Murray River for proposed flood prevention infrastructure 40 km northwest of the study area. Of particular interest from this study was the desktop analysis of the relevant State Forest Aboriginal site database. The database contained 307 entries within the Koondrook and Perricoota State Forests, of which 195 were earth mounds or ovens (63.5%) and only two were stone artefact sites (0.65%). Four previously unrecorded modified trees were identified during the survey that followed the desktop analysis.

5.2.6 Echuca-Moama Bridge – Kelleher Nightingale 2019

The 2019 assessment for the proposed Echuca-Moama Bridge compiled multiple survey efforts over previous years (including Terraculture 2000 and Rhodes 2012). The compiled results did not record any Aboriginal objects within their survey area, but two potential archaeological deposits (PADs) were identified. The resulting test excavation program at the two locations, one on the banks of the Murray River and one sandhill landform along Boundary Road, did not identify any Aboriginal objects or archaeological features.

5.3 LOCAL ARCHAEOLOGICAL CONTEXT

5.3.1 Desktop database searches conducted

A search of the Heritage NSW administered AHIMS database on 17 August 2021 returned 34 results for Aboriginal sites within a 5 km radius centred on the study area (GDA Zone 55 Lat, Long from: -36.14, 144.66 to: -36.0, 144.9 with no buffer). The results of this search are summarised in **Table 5-1** and presented in detail in **Appendix 2**.

Table 5-1: Aboriginal cultural heritage: desktop-database search results.

Name of Database Searched	Date of Search	Type of Search	Comment
Commonwealth Heritage Listings	17 August 2021	Murray River LGA	No places listed on either the National or Commonwealth heritage lists are located within the study area
National Native Title Claims Search	17 August 2021	NSW	No Native Title Claims cover the study area.
AHIMS	17 August 2021	5 x 5 km centred on the study area	No AHIMS sites occur within the study area.
Local Environmental Plan (LEP)	17 August 2021	Murray LEP of 2011	None of the Aboriginal places or heritage items noted occur near the study area.

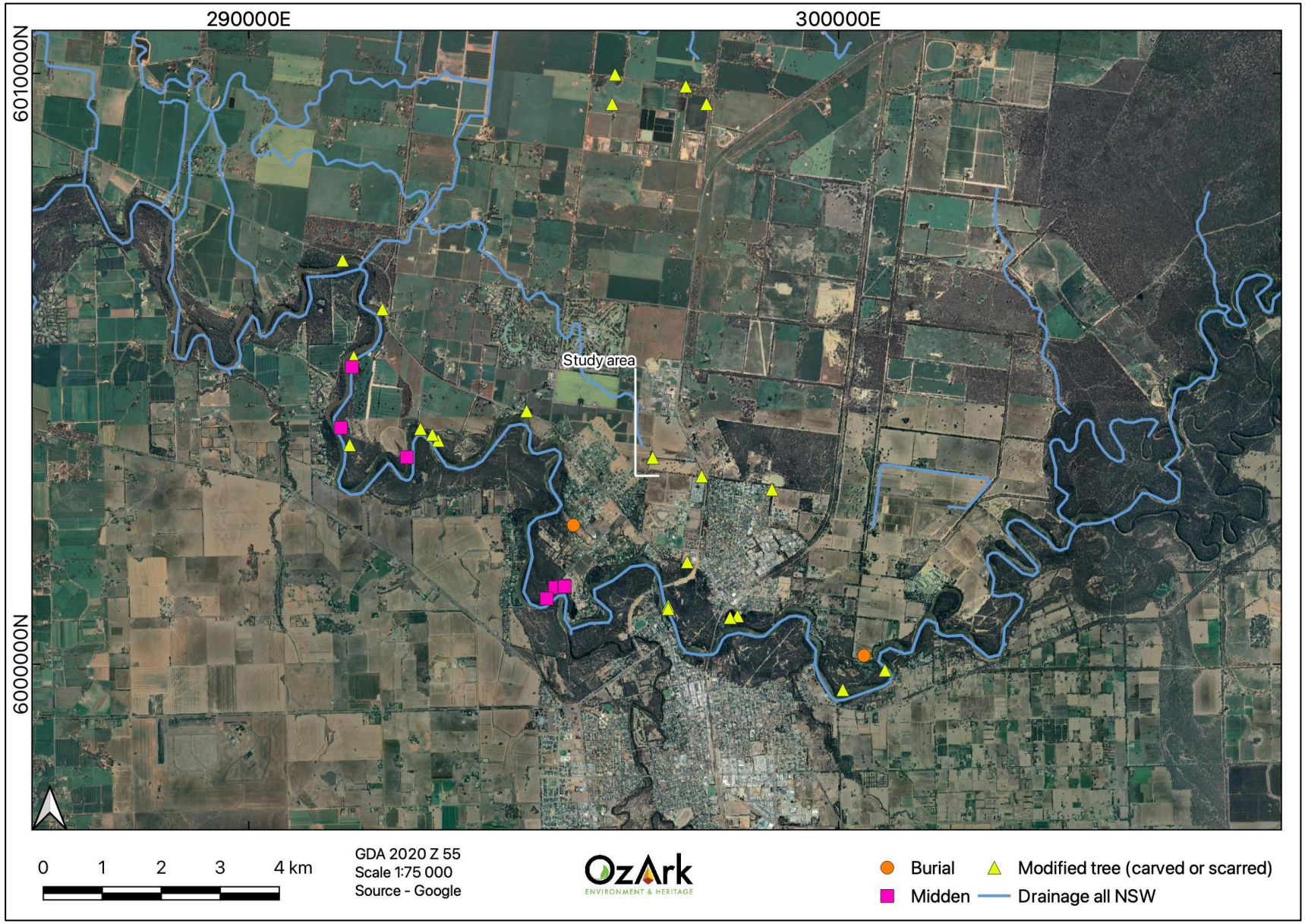
The search returned 34 results for Aboriginal heritage within the search area. Modified trees are the most frequently recorded site types (74.59% of all sites), followed by midden sites (23.53%) (**Table 5-2**). These are predominantly shell middens, but include some complex sites with earth mound features, stone artefacts, and food remains. There are two recorded burial sites within the search area (5.88%).

Figure 5-1 shows the location of the AHIMS sites that have been recorded near the study area. The AHIMS search results contradict Sturt's observation that the Murray River was not a focus for Aboriginal activity presented in **Section 5.1**. Most sites, especially middens and burials, are within 500 m of the Murray River. Modified trees are the most common site type within 1 km of the study area, including 'Moama Kiely Road' (AHIMS ID: 59-2-0077) which plots 500 m to the east of the study area; and 'W 1-7' (AHIMS ID: 59-2-0048) which is 200 m north of the study area.

Table 5-2: Site types and frequencies of AHIMS sites near the study area.

Site Type	Number	% Frequency
Modified tree (carved or scarred)	24	70.59
Midden or mound	8	23.53
Burial	2	5.88
Total	**34**	**100**

Figure 5-1: Location of previously recorded AHIMS sites in relation to the study area.



5.4 PREDICTIVE MODEL FOR SITE LOCATION

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

In formulating a predictive model for Aboriginal archaeological site location within any landscape it is also necessary to consider post-depositional influences on Aboriginal material culture. In all but the best preservation conditions very little of the organic material culture remains of ancestral Aboriginal communities survives to the present. Generally, it is the more durable materials such as stone artefacts, stone hearths, shells, and some bones that remain preserved in the current landscape. Even these, however, may not be found in their original depositional context since these may be subject to either (a) the effects of wind and water erosion/transport, both over short- and long-time scales, or (b) the historical impacts associated with the introduction of European farming practices including grazing and cropping, land degradation, and farm related infrastructure. Scarred trees, due to their nature, may survive for up to several hundred years but rarely beyond.

5.4.1 Site types in the region of the study area

The site types listed in **Table 5-3** are present in the region of the study area. The likelihood of these sites being present in the study area is discussed in **Section 5.4.3**.

Table 5-3: Site types recorded in the region of the study area.

Site type	Site description
Isolated finds	May be indicative of random loss or deliberate discard of a single artefact, the remnant of a now dispersed and disturbed artefact scatter, or an otherwise obscured or subsurface artefact scatter. They may occur anywhere within the landscape but are more likely to occur in topographies where open artefact scatters typically occur.
Open artefact scatters	Artefact scatters are defined as two or more artefacts, not located within a rock shelter, and located no more than 50 m away from any other constituent artefact. This site type may occur almost anywhere that Aboriginal people have travelled and may be associated with hunting and gathering activities, short- or long-term camps, and the manufacture and maintenance of stone tools. Artefact scatters typically consist of surface scatters or sub-surface distributions of flaked stone discarded during the manufacture of tools but may also include other artefactual rock types such as hearth and anvil stones. Less commonly, artefact scatters may include archaeological stratigraphic features such as hearths and artefact concentrations which relate to activity areas. Artefact density can vary considerably between and across individual sites. Small ground exposures revealing low density scatters may be indicative of a background scatter rather than a spatially or temporally distinct artefact assemblage. These sites are classed as 'open', that is, occurring on the land surface unprotected by rock overhangs, and are sometimes referred to as 'open camp sites'. Artefact scatters are most likely to occur on level or low gradient contexts, along the crests of ridgelines and spurs, and elevated areas fringing watercourses or wetlands. Larger sites may be expected in association with permanent water sources.

Site type	Site description
	Topographies which afford effective through-access across, and relative to, the surrounding landscape, such as the open basal valley slopes and the valleys of creeks, will tend to contain more and larger sites, mostly camp sites evidenced by open artefact scatters.
Culturally modified trees	Aboriginal scarred trees contain evidence of the removal of bark (and sometimes wood) in the past by Aboriginal people, in the form of a scar. Bark was removed from trees for a wide range of reasons. It was a raw material used in the manufacture of various tools, vessels, and commodities such as string, water containers, roofing for shelters, shields and canoes. Bark was also removed because of gathering food, such as collecting wood boring grubs or creating footholds to climb a tree for possum hunting. Due to the multiplicity of uses and the continuous process of occlusion (or healing) following removal, it is difficult to accurately determine the intended purpose for any example of bark removal. Scarred trees may occur anywhere old growth trees survive. The identification of scars as Aboriginal cultural heritage items can be problematical because some forms of natural trauma and European bark extraction create similar scars. Many remaining scarred trees probably date to the historic period when bark was removed by Aboriginal people for both their own purposes and for roofing on early European houses. Consequently, the distinction between European and Aboriginal scarred trees may not be clear.
Earth mounds, hearths and ovens	A classification typically used to describe earth mounds slightly raised above their surrounds that contain a concentration of cultural material. As such, there is considerable overlap between this category and others that are sometimes expressed independently, such as middens and artefact scatters. Mounds are characteristic of the Riverine Plains of the lower Murray-Darling Basin, but do occur in more isolated pockets across Australia, such as in the Macquarie Marshes and Arnhem Land. Hearths and ovens can occur outside of a raised earthen mound, but across the Riverine plain the three terms appear have been used interchangeably in site recording data. Hearths and ovens are features used by Aboriginal people for the preparation of food and would generally be in the vicinity of available resources, such as water sources to procure fish and shellfish, and on elevated ground to avoid impact from environmental threats.
Middens	Formed from Aboriginal exploitation and consumption of shellfish, in marine, estuarine, or freshwater contexts. Middens may also include faunal remains such as fish or mammal bone, stone artefacts, hearths, charcoal, and occasionally, burials. They are usually located on elevated dry ground close to the aquatic environment from which the shellfish has been exploited and where freshwater resources are available. Deeper, more compacted, midden sites are often found in areas containing the greatest diversity of resources, such as river estuaries and coastal lagoons.
Burials	Generally found in soft sediments such as aeolian sand, alluvial silts, and rock shelter deposits. In valley floor and plains contexts, burials may occur in locally elevated topographies rather than poorly drained sedimentary contexts. Burials are also known to have occurred on rocky hilltops in some limited areas. Burials are generally only visible where there has been some disturbance of sub-surface sediments or where some erosional process has exposed them.
Bora/Ceremonial sites	Places which have ceremonial or spiritual connections. Ceremonial sites may comprise of natural landscapes or have archaeological material. Bora sites are ceremonial sites which consist of a cleared area and earthen rings.

5.4.2 Landform modelling of archaeological potential

The relatively uniform landforms of the Riverine Plain bioregion have contributed to a relatively consistent understanding of the general distribution of archaeological sites. The density of site types is expected to be highest close to the banks of the Murray River, especially for midden sites and burials which are more strongly correlated with proximity to the river in the AHIMS data. Most site types become more infrequent as distance from the Murray increases, although modified trees are expected to be less strongly correlated with stream proximity (Rhodes 2012). Similarly, burials are related to some riparian landforms but can also occur in landforms that can be distant from the river, such as sandhills, paleochannels, and lunettes (Pardoe 1998).

5.4.3 Conclusion

Based on knowledge of the environmental contexts of the study area and a desktop review of the known local and regional archaeological record, the following predictions are made concerning

the probability of landforms within the study area to contain Aboriginal objects (**Table 5-4**), and what types of sites may be present within the study area (**Table 5-5**).

Table 5-4: Likelihood of landforms within the study area to contain Aboriginal objects.

Survey Unit	Landform type	Likelihood to contain Aboriginal objects
1	Alluvial plains	Alluvial plains are originally an aggrading environment, although soil loss in the historic period also makes the upper strata of the soil profile a degrading environment. Habitation resources are likely to have been present across this landform. The aggrading geomorphology of the landform may be conducive to retaining archaeological deposits, but post-deposition disturbance is also likely.

Table 5-5: Likelihood of certain site types being present in the study area.

Site type	Likelihood of being present in the study area
Isolated finds	As isolated finds can occur anywhere, particularly within disturbed contexts, it is predicted that this site type could be recorded within the study area.
Open artefact scatters	As the study area is distant from the Murray River and the site type is not frequent in the local area, the likelihood artefact scatters being present at the study area is expected to be low.
Culturally modified trees	Due to the near-total clearance of trees from within the study area, this site type is predicted to be unlikely.
Mounds, hearths and ovens	These site types are considered possible in areas where A-Horizon soils are relatively undisturbed. While the frequent occurrence of this site type in the region suggests that it could be present, the small size of the study area and the evidence of historic disturbance from grazing and, possibly cultivation, suggests that the likelihood of mound or oven sites being present remains low.
Burials	Although it is possible that this site type could be present within the study area, the distinctive landform features associated with burials are unlikely to be present.
Bora/Ceremonial sites	This site type does not necessarily follow landform predictability and are, overall, a rare site type with a low likelihood of being present and remaining extant within the study area.

The alluvial plain landform of the study area is one with moderate archaeological potential within its regional context. While the study area would have presented some natural resources that were sought after by Aboriginal people in the past, there is nothing that indicates the availability of resources that were rare in the surrounding landscape. Similarly, the study area does not have key landform or environmental characteristics that are associated with, or necessary for, the most frequent site types across the local area and region. For example, archaeologically sensitive landforms that occur nearer to the Murray River, such as sandhills, are not present. The study area has also been almost entirely cleared of trees, which makes the presence of modified trees, the most frequently recorded site type in the local area, very unlikely.

The elevation of the alluvial plains of the study area above the floodplains closer to the Murray River suggests that it may have good location for resource gathering or habitation in times of flood. Nevertheless, the relatively high distance to the Murray or other waterways suggests that occupation and resource gathering at the study are would have been infrequent and/or unlikely to have resulted in an archaeological record.

5.5 RESEARCH QUESTIONS

Several research questions can meaningfully be applied to the investigation of the study area. These research questions include:

- What resources were available to the Aboriginal people using the land within the study area (food, stone, and water) and what resources were transported to the area?
- Is there any evidence of landform variation that might suggest key regional site types, such as mounds or hearths, could be present?
- Establish how the findings within the study area (if any) accord with the Riverine Plain archaeological characteristics examined in **Section 5.4**.

6 RESULTS OF ABORIGINAL ARCHAEOLOGICAL ASSESSMENT

6.1 ASSESSMENT METHODOLOGY AND FIELD METHODS

OzArk distributed the draft assessment methodology for the proposal to RAPs on 23 August 2021 (**Appendix 1 Figure 4**). The methodology document outlined the approach to be taken to the study area, aiming to identify archaeological potential and characteristics of all landforms within the study area are known. However, the relatively small size of the study area is conducive to a comprehensive approach. Therefore, the aims of the survey will be to:

- Undertake full pedestrian survey of the study area so that the archaeological potential of its landforms can be determined
- Confirm that the two previously recorded modified trees (59-2-0048 and 59-2-0077) are not present within the study area and will not be harmed by the project (see **Section 5.3**)
- Evaluate whether the predictive model set out in **Section 5.4** is valid
- Determine if the research questions set out in **Section 5.5** can be answered
- Determine if any landforms at the study area require test excavation to understand the archaeological potential at a particular location
- Undertake sufficient assessment in order to satisfy Sections 2.2, 2.4, 2.5, 2.6, and 2.7 in the Guide
- Collect sufficient data so that the results can be presented in an ACHAR as set out in Section 3 in the Guide
- Undertake survey and record keeping satisfying Requirements 1–13 of the Code of Practice.

Standard archaeological field survey and recording methods were to be employed in this study (Burke & Smith 2004).

As per the survey methodology, full coverage of the study area was completed. The survey was undertaken by OzArk Archaeologist Harrison Rochford and LaToya Morgan, representing the Moama LALC on 16 September 2021.

6.2 PROJECT CONSTRAINTS

There were no significant constraints to the survey effort.

6.3 EFFECTIVE SURVEY COVERAGE

Two of the key factors influencing the effectiveness of archaeological survey are ground surface visibility (GSV) and ground surface exposure (GSE). These factors are quantified to ensure that the survey data provides adequate evidence for the evaluation of the archaeological materials

across the landscape. For the purposes of the current assessment, these terms are used in accordance with the definitions provided in the Code of Practice.

GSV is defined as:

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

GSE is defined as:

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

Table 6-1 calculates the effective survey coverage within the study area. In general, **Table 6-1** presents an approximation of the amount of ground surface able to be seen at any location within specific landform units. For example, at any one location within the study area, approximately 5% of the ground surface could be seen. However, exposures were variable and while the edges of the paddock had large exposures with reasonable visibility, other areas were completely obscured by thick grasses.

Based on the size of the study area, it is considered that despite low survey efficacy, a representative sample of the ground surface could be assessed and that the archaeological potential of the study area could be understood.

Table 6-1: Effective survey coverage within the study area.

Survey Unit	Landform	Survey Unit Area (sq m)	Visibility %	Exposure %	Effective Coverage Area (sq m) (= Survey Unit Area x Visibility % x Exposure %)	Effective Coverage % (= Effective Coverage Area / Survey Unit Area x 100)
1	Alluvial plains	47318	50	10	2366	5

6.4 ABORIGINAL SITES RECORDED OR LOCATED

No Aboriginal sites were recorded during the survey and no locations were assessed as likely to contain PAD.

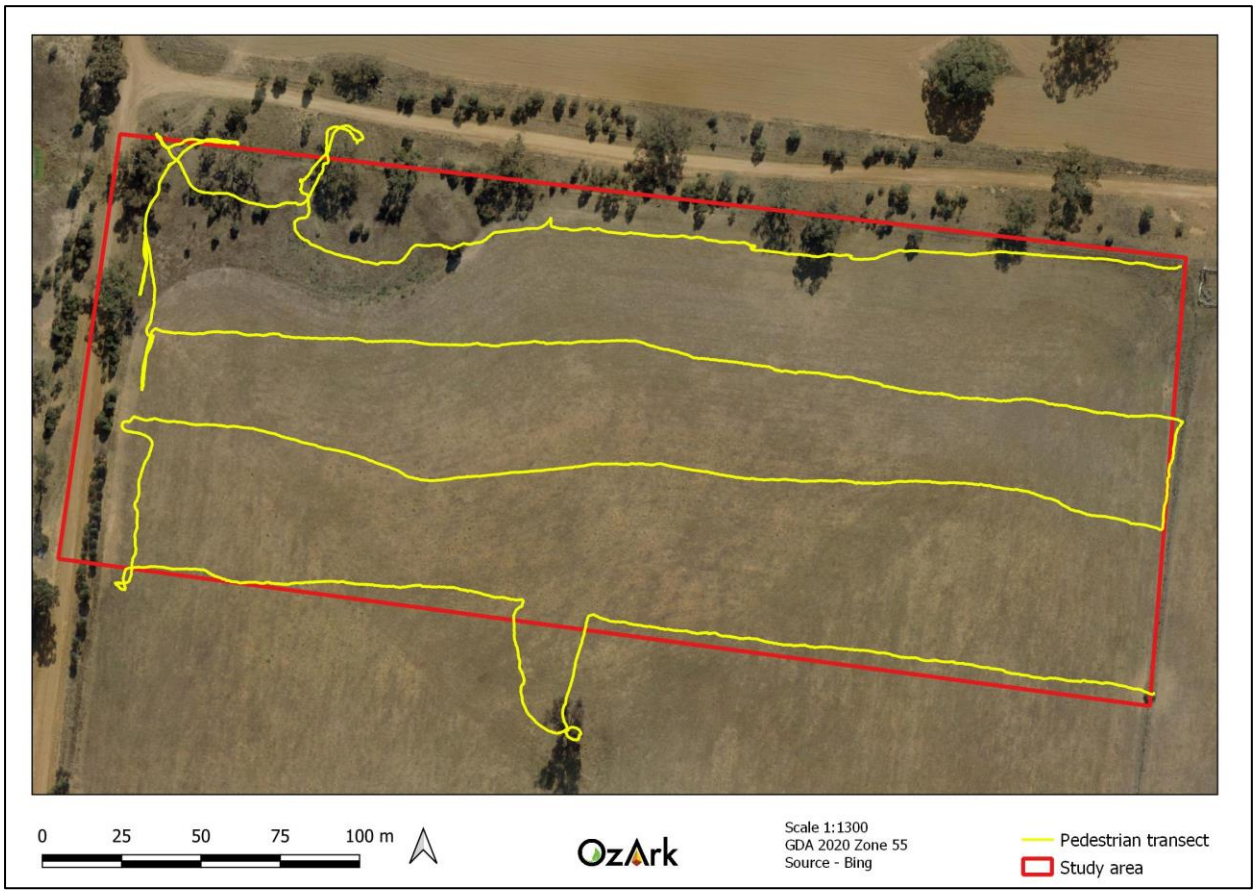
Views of the study area are shown on **Figure 6-1**. Survey coverage of one surveyor of the two-person survey team is shown on **Figure 6-2**.

Figure 6-1: Views of the study area.

	
1. View west to the small dam at the north of the study area showing regrowth vegetation.	2. View east along the southern boundary of the study area showing erosion scalds at the edge of the paddock.

An effort was made to located two modified trees recorded on AHIMS: 'Moama Kiely Road' (AHIMS ID: 59-2-0077) which plots 500 m to the east of the study area; and 'W 1-7' (AHIMS ID: 59-2-0048) which is 200 m north of the study area. While 'Moama Kiely Road' could not be located, LaToya Morgan indicated that the tree in question was further east along the Kiely Road walking track on the eastern side of the Cobb Highway (LaToya Morgan *pers. com*. September 2021). Tree 'W 1-7' is located on private land 200 m north of the study area and was not accessed during the survey, but its location is consistent with the site description and is thought to be accurate.

Figure 6-2: Survey coverage at the study area.



6.5 SUMMARY OF THE SURVEY RESULTS

6.5.1 Discussion

The predictive model suggested that the likelihood of Aboriginal sites being present was low, due to small size of the study area and the distance of the alluvial plain landform from the Murray River. The results of the survey conformed to this expectation. The flat alluvial plain has been disturbed by clearing, and possibly ploughing, which has lowered the potential for archaeological deposits and modified trees. The handful of mature trees within the study area had not been culturally modified.

6.5.2 Responses to the research questions

In **Section 0** several research questions were advanced to guide the survey of the study area. While the small size of the study area and absence of recordings limits the inferences that can be drawn from the survey, responses to these research questions are set out below.

- What resources were available to the Aboriginal people using the land within the study area (food, stone, and water) and what resources were transported to the area?

  - The study area would have been flat, open woodland prior to colonial disturbances to the land. It can be assumed that food and timber resources would have been available at the study area, but water and stone resources were absent.

- Is there any evidence of landform variation that might suggest key regional site types, such as mounds or hearths, could be present?

  - The soils at the study area were compacted alluvium, rather than the loose sands that are associated with burial locations. No features indicating the presence of earth mound sites were identified.

- Establish how the findings within the study area (if any) accord with the Riverine Plain archaeological characteristics examined in **Section 5.5**.

  - The survey did not offer any results to challenge the prevailing view that has been established for Riverine Plain archaeology. Site density across alluvial plains distant from water was expected to be low. While there are no recordings to confirm this pattern at the study area, the absence of sites perhaps supports the paradigm.

7 ASSESSING HARM

7.1 ASSESSMENT OF SIGNIFICANCE

As no sites were recorded during the assessment and no cultural values were identified to OzArk, a significance assessment is not applicable.

7.2 CONSERVING SIGNIFICANT ABORIGINAL CULTURAL HERITAGE

An object of the NPW Act i\s the '*conservation of objects places and features… of cultural value within the landscape, including… places, objects and features of significance to Aboriginal people*' (s.2A(1(b)(i)).

As heritage professionals, OzArk, strives for good conservation outcomes. In particular, OzArk is primarily concerned with the conservation and protection of Aboriginal cultural heritage that is of significance to Aboriginal people.

Two primary objectives when managing harm to an Aboriginal object are:

- Impacts to significant Aboriginal objects and places should always be avoided wherever possible
- Where impacts to Aboriginal objects and places cannot be avoided, proposals should be amended to reduce the extent and severity of impacts to significant Aboriginal objects and places using reasonable and feasible measures.

7.3 LIKELY IMPACTS TO ABORIGINAL HERITAGE FROM THE PROPOSAL

There are no Aboriginal objects or specific cultural values that will be impacted by the proposal within the study area.

7.4 ECOLOGICALLY SUSTAINABLE DEVELOPMENT PRINCIPLES

Ecologically sustainable development principles (ESD) (defined in s.6 of the *Protection of the Environment Administration Act 1991*) requires the integration of economic and environmental considerations (including cultural heritage) in the decision-making process. Regarding Aboriginal cultural heritage, ESD can be achieved by applying the principle of intergenerational equity and the precautionary principle.

7.4.1 Intergenerational equity

Intergenerational equity is the principle whereby the present generation should ensure the health, diversity, and productivity of the environment for the benefit of future generations.

In terms of Aboriginal heritage, intergenerational equity can be considered in terms of the cumulative impacts to Aboriginal objects and places in a region. If few Aboriginal objects and places remain in a region (for example, because of impacts under previous permits), fewer

opportunities remain for future generations of Aboriginal people to enjoy the cultural benefits of those Aboriginal objects and places.

Information about the integrity, rarity or representativeness of the Aboriginal objects and places proposed to be impacted, and how they illustrate the occupation and use of land by Aboriginal people across the region, will be relevant to the consideration of intergenerational equity and the understanding of the cumulative impacts of the proposal.

Where there is uncertainty, the precautionary principle should also be followed.

7.4.2 The precautionary principle

The precautionary principle states that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

In relation to Aboriginal cultural heritage values, the precautionary principle should be guided by:

- The proposal involves a risk of serious or irreversible damage to Aboriginal objects or places or to the value of those objects or places
- There is uncertainty about the Aboriginal cultural heritage values or scientific or archaeological values, including in relation to the integrity, rarity or representativeness of the Aboriginal objects or places proposed to be impacted.

7.4.3 Principle of Integration

The Plan of Implementation of the World Summit on Sustainable Development held in Johannesburg, 2002, noted the need to "*promote the integration of the three components of sustainable development- economic development, social development and environmental protection- as interdependent and mutually reinforcing pillars*".

The principle of integration ensures mutual respect and reciprocity between economic and environmental considerations:

- Environmental considerations are to be integrated into economic and other development plans, programs, and projects
- Development needs are to be considered in applying environmental objectives.

7.4.4 Applicability to the proposal

There is a very low impact to Aboriginal cultural heritage values as no Aboriginal objects were recorded, and no intangible heritage values have been identified within the study area.

The results of the surface survey indicate that significant Aboriginal cultural heritage values will not be harmed within the study area.

Table 7-1 examines the application of ESD principles to the proposal.

Table 7-1: Application of ESD principles to the proposal.

ESD principle	Response
Avoiding and minimising harm	There will be no harm to Aboriginal objects and intangible values within the study area.
The integration principle	The environmental consequences of the proposal have been carefully assessed.
The precautionary principle	The Aboriginal cultural heritage investigation has followed the precautionary principle though undertaking a robust Aboriginal cultural heritage assessment to ensure that harm to Aboriginal objects and values is minimised. The survey adopted a precautionary principle when it came to describing and assessing landforms within the survey areas.
The intergenerational equity principle	It is assessed that the proposal will not harm significant Aboriginal cultural heritage values and that there will be no diminution of intergenerational equity.

8 MANAGEMENT OF ABORIGINAL CULTURAL HERITAGE SITES

8.1 GENERAL MANAGEMENT PRINCIPLES

Appropriate management of cultural heritage items is primarily determined based on their assessed significance as well as the likely impacts of the proposal. While no Aboriginal sites will be impacted by the proposal, the following general principles will be applied in the post approval documents relating to cultural heritage.

- Avoid impact by altering the proposal to avoid impact to a recorded Aboriginal site. If this can be done, then a suitable curtilage around the site must be provided to ensure its protection both during the short-term construction phase of development and in the long-term use of the area. If plans are altered, care must be taken to ensure that impacts do not occur to areas not previously assessed.

- If impact is unavoidable then approval to disturb sites under the authority of an ACHMP must be sought from DPIE. Normally the management recommendations contained in the ACHAR become policies of the ACHMP. As the Aboriginal community have been provided the opportunity to view the draft ACHAR, the ACHAR must make it clear that a future ACHMP will manage Aboriginal cultural heritage within the study area so that the Aboriginal community can assess the management recommendations with this knowledge. The ACHMP policies will often stipulate that the Aboriginal community should be involved in any salvage activities and will dictate what the fate of any salvaged Aboriginal objects will be.

8.2 MANAGEMENT AND MITIGATION OF IMPACT TO ABORIGINAL SITES

8.2.1 Unanticipated Finds

As no impacts to Aboriginal sites are proposed, a procedure for unanticipated finds is the only management measure required. The specific processes to be followed in this circumstance will be provided in the ACHMP. An example procedure that could be put forward in the ACHMP is provided here:

1. If any Aboriginal object is discovered and/or harmed in, or under the land, while undertaking the proposed development activities, the proponent must:
2. Not further harm the object
3. Immediately cease all work at the particular location
4. Secure the area to avoid further harm to the Aboriginal object
5. Contact an archaeologist to confirm that it is an Aboriginal object
6. In consultation with the RAPs determine the significance of the find
7. Follow management procedures in the ACHMP in conjunction with the RAPs.

Normally a site of low scientific significance would include a collection of the surface artefact and the reburial of the artefact(s) at a location in the study area outside of any planned disturbances.

In the unlikely event that a site of high scientific significance is encountered, management may include avoidance or further investigation in the form of archaeological excavation.

If burials are unexpectedly encountered during the activity, work must stop immediately, the area secured to prevent unauthorised access and NSW Police and Heritage NSW contacted.

Recommencement of work in the area of the find(s) can only occur in accordance with all applicable policies in the approved ACHMP, including submitting site cards and, if applicable, Aboriginal Site Impact Recording Forms.

HISTORIC HERITAGE ASSESSMENT

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9 HISTORIC HERITAGE ASSESSMENT: INTRODUCTION

9.1 BRIEF DESCRIPTION OF THE PROJECT

Please refer to **Sections 1.1** for a description of the project and **Section 4** for the environmental context of the study area.

9.2 RELEVANT LEGISLATION

9.2.1 State legislation

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

Please refer to **Section 3.3.1** for a description of the EP&A Act.

Heritage Act 1977 (Heritage Act)

The *Heritage Act 1977* (Heritage Act) is applicable to the current assessment. This Act established the Heritage Council of NSW. The Heritage Council's role is to advise the government on the protection of heritage assets, make listing recommendations to the Minister in relation to the State Heritage Register (SHR), and assess/approve/decline proposals involving modification to heritage items or places listed on the SHR. Most proposals involving modification are assessed under Section 60 of the Heritage Act.

Automatic protection is afforded to 'relics', defined as 'any deposit or material evidence relating to the settlement of the area that comprised New South Wales, not being Aboriginal settlement, and which holds state or local significance' (note: formerly the Act protected any 'relic' that was more than 50 years old. Now the age determination has been dropped from the Act and relics are protected according to their heritage significance assessment rather than purely on their age). Excavation of land on which it is known or where there is reasonable cause to suspect that 'relics' will be exposed, moved, destroyed, discovered or damaged is prohibited unless ordered under an excavation permit.

9.2.2 Commonwealth legislation

Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

Please refer to **Section 2.1** for a description of the EPBC Act.

9.2.3 Applicability to the project

The current project will be assessed under Division 4.7 of the EP&A Act as a State Significant Development (SSD).

Any items of local or state historical heritage significance within the study area are afforded legislative protection under the Heritage Act.

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

9.3 HISTORIC HERITAGE ASSESSMENT OBJECTIVES

The current assessment will apply the Heritage Council's *Historical Archaeology Code of Practice* (Heritage Council 2006) in the completion of a historical heritage assessment, including field investigations, to meet the following objectives:

Objective One: To identify whether historical heritage items or areas are, or are likely to be, present within the study area

Objective Two: To assess the significance of any recorded historical heritage items or areas

Objective Three: Determine whether the project is likely to cause harm to recorded historical heritage items or areas

Objective Four: Provide management recommendations and options for mitigating impacts.

9.4 DATE OF HISTORIC HERITAGE ASSESSMENT

The historic heritage assessment took place at the same time as the Aboriginal heritage assessment. Please refer to **Section 2.6** for the dates of the fieldwork.

9.5 OZARK INVOLVEMENT

The fieldwork and reporting of the historic heritage assessment are the same personnel involved with the Aboriginal heritage assessment. Please see **Section 2.6** for details.

10 HISTORIC HERITAGE ASSESSMENT: BACKGROUND

10.1 BRIEF HISTORY OF MOAMA

Moama was settled as a village (originally under the name Maiden's Crossing) in 1845. The small settlement developed around the river crossing punt of John Maiden, a station superintendent on the NSW side of the Murray River. Maiden's Crossing had an inn and a punt, but by 1849 faced competition from the Victorian bank of the river, when Henry Hopwood built the Bridge Hotel and Hopwood's Punt at the future location of Echuca. Hopwood's Punt became the more successful settlement and the towns of both Echuca and Moama developed around this position, rather at Maiden's Crossing further to the east (Coulson 1995: 38).

While there were some pastoral holdings along the Murray in the 1860s (such as Maiden's Perricoota and Hopwood's Tattalia), the settlement was important as a location on the 'Western Road' or the 'Long Paddock' stock route that connected the grazing country of south and west NSW to the Victorian goldfields. The present Cobb Highway follows the Long Paddock route, approximately 700 m to the east of the study area.

As demand for meat at the goldfields declined in the later 19th century, other industries began to gain a footing in the towns. Sawmilling and market gardening had become established by the 1870s, although growth at Moama especially was modest in after a major flood in 1870 and the 1890 recession. The 20th century saw agriculture become the key industry in Moama, especially after the soldier settlement schemes after the First World War.

On the outskirts of town, the study area is likely to have been used for grazing and possibly wheat cropping. There is no evidence of previous structures within the study area and the construction of a small dam is the only visible structure apart from fencing. The historic aerial presented above at **Figure 4-3** shows that there were no structures within the study area in 1961, and there has not been noticeable change over the past 60 years.

10.2 LOCAL CONTEXT

10.2.1 Desktop database searches conducted

A desktop search was conducted on the following databases to identify any potential previously recorded heritage within the study area. The results of this search are summarised in **Table 10-1**.

Table 10-1: Historic heritage: desktop-database search results.

Name of Database Searched	Date of Search	Type of Search	Comment
Commonwealth Heritage Listings	17 August 2021	Murray River LGA	No places listed on either the National or Commonwealth heritage lists are located within the study area
State Heritage Register (SHR)	17 August 2021	Murray River LGA	The Moama Historic Precinct is 2.5 km south of the study area.
Local Environmental Plan (LEP)	17 August 2021	Murray LEP of 2011	None of the heritage items noted occur near the study area.

A search of the Heritage Council of NSW administered heritage databases and the Murray LEP 2012 returned no records for historical heritage sites within the designated search areas.

The closest item listed on the SHR is the Moama Historic Precinct 2.5 km south of the study area. The closest LEP historic item is residence Cranford House, 1.5 km southeast of the study area.

10.3 SURVEY METHODOLOGY

Standard archaeological field survey and recording methods were employed in this study (Burke & Smith 2004). The historic heritage assessment of the study area was completed concurrently with the Aboriginal cultural heritage assessment.

10.4 PROJECT CONSTRAINTS

There were no significant constraints in completing the archaeological assessment of the study area. GSV was low during field inspection, however, not to the extent that the efficacy of the survey was unduly diminished.

11 RESULTS OF HISTORIC HERITAGE ASSESSMENT

11.1 HISTORIC HERITAGE SITES

There are no historic sites recorded within the study area. As such, there will be no impact to any historic sites during the proposed works.

11.2 DISCUSSION

Overall, there was limited potential for historic heritage to be present inside the study area. The heritage values associated with the study area are derived from practices which are unlikely to have appreciable physical remains such as grazing. As such, potential remaining physical fabric such as cattle yards, fencing, etc. have been upgraded or removed throughout the use of the study area and no historic remnants were recorded during the survey. In addition, as noted through the environmental context summary, the alluvial formation of the Murray River plains are not particularly conducive to the retention of archaeological deposits. No areas of potential historical deposits were identified during the survey.

11.3 STATEMENT OF SIGNIFICANCE

The study area is a small section of a larger semi-rural paddock that does not contain any built structures apart from functional perimeter fencing. While the study area is part of the semi-rural landscape of the northern outskirts of Moama, no elements of the study area meet the criteria for heritage significance at the local or state level.

11.4 LIKELY IMPACTS TO HISTORIC HERITAGE FROM THE PROJECT

While the proposal will impact the current semi-rural aspect of the study area, this impact is not considered to affect heritage fabric, potential archaeological remains or significant heritage values.

12 MANAGEMENT AND MITIGATION: HISTORIC HERITAGE

12.1 GENERAL PRINCIPLES FOR THE MANAGEMENT OF HISTORIC SITES

Appropriate management of heritage items is primarily determined based on their assessed significance as well as the likely impacts of the proposed development.

In terms of best practice and desired outcomes, avoiding impact to any historical item is a preferred outcome, however, where a historical site has been assessed as having no heritage value, impacts to these items does not require any legislated mitigation.

12.2 MANAGEMENT AND MITIGATION OF RECORDED HISTORIC SITES

No items or sites of historic heritage significance were identified in the study area.

As such, if items of historic heritage significance are uncovered during the project, then the *Unanticipated Finds Protocol for Historic Heritage* (**Appendix 3**) should be enacted.

13 RECOMMENDATIONS

Aboriginal Cultural Heritage

The following recommendations are made based on these impacts and with regard to:

- Legal requirements under the terms of the NPW Act whereby it is illegal to damage, deface or destroy an Aboriginal place or object without the action being covered in an approved ACHMP.
- The findings of the current investigations undertaken within the study area
- The interests of the Aboriginal community.

As it has been assessed that there are no likely impacts to Aboriginal objects because of the proposal, there are no further requirements for additional assessment of the study area.

Following approval of the proposal it is recommended that:

- An ACHMP be developed that will include appropriate procedures to be followed if unanticipated Aboriginal objects or human skeletal remains are encountered during works.

Historic Heritage

The historic heritage assessment concluded that the proposal will not impact heritage fabric, potential archaeological remains or significant heritage values.

Following approval of the proposal it is recommended that:

- An unanticipated finds protocol for historic heritage (see **Appendix 3**) be in place during works to assist in conservation outcomes in the unlikely event that heritage items are encountered.

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APPENDIX 1: ABORIGINAL COMMUNITY CONSULTATION

Appendix 1 Figure 1: Aboriginal Community Consultation Log.

Date	Organisation	Comment	Method
13.7.21	The Border Mail	Rebecca Hardman (RH) sent ad off to the newspaper	Email
13.7.21	Heritage NSW	RH sent stage1 agency letter requesting potential stakeholders. Closing date 27.7.21	Email
13.7.21	Moama Local Aboriginal Land Council	RH sent stage1 agency letter requesting potential stakeholders. Closing date 27.7.21	Email
13.7.21	Office of The Registrar, ALRA	RH sent stage1 agency letter requesting potential stakeholders. Closing date 27.7.21	Email
13.7.21	National Native Title Tribunal	RH sent stage1 agency letter requesting potential stakeholders. Closing date 27.7.21	Email
13.7.21	NTSCORP	RH sent stage1 agency letter requesting potential stakeholders. Closing date 27.7.21	Email
13.7.21	Murray River Council	RH sent stage1 agency letter requesting potential stakeholders. Closing date 27.7.21	Email
13.7.21	Murray Local Land Services	RH sent stage1 agency letter requesting potential stakeholders. Closing date 27.7.21	Email
14.7.21	National Native Title Tribunal	RH received notification *Based on the records held by the National Native Title Tribunal as at 14 July 2021 it would appear that there are no Native Title Determination Applications, Determinations of Native Title, or Indigenous Land Use Agreements over the identified area.*	Email
15.7.21	The Border Mail	RH received proof	Email
15.7.21	The Border Mail	RH approved proof and requested receipt and tear sheet	Email
15.7.21	Murray River Council	RH received email noting to contact the LALC	Email
15.7.21	The Border Mail	RH received receipt	Email
16.7.21	The Border Mail	RH received tear sheet	Email
20.7.21	Heritage NSW	RH received stakeholder list	Email
27.7.21	Yorta Yorta Nation Aboriginal Corporation	RH sent stage 1 community EOI. RSVP 12.8.21	Email
27.7.21	Yarkuwa Indigenous Knowledge Centre	RH sent stage 1 community EOI. RSVP 12.8.21	Email
27.7.21	Bangerang Aboriginal Corporation	RH sent stage 1 community EOI. RSVP 12.8.21	Email
27.7.21	Pappin Family Aboriginal Corporation	RH sent stage 1 community EOI. RSVP 12.8.21	Post

Date	Organisation	Comment	Method
27.7.21	Gary Pappin	RH sent stage 1 community EOI. RSVP 12.8.21	Post
27.7.21	Wakool Indigenous Corporation	RH sent stage 1 community EOI. RSVP 12.8.21	Email
27.7.21	John Jackson	RH sent stage 1 community EOI. RSVP 12.8.21	Email
27.7.21	Wakool Indigenous Corporation	Email undeliverable	RTS
27.7.21	Wakool Indigenous Corporation	RH phoned mobile - number disconnected msg	RTS
27.7.21	Wakool Indigenous Corporation	RH posted EOI instead	Post
28.7.21	Yarkuwa Indigenous Knowledge Centre	Email undeliverable	RTS
28.7.21	Bangerang Aboriginal Corporation	Registered as a RAP	Email
29.7.21	Bangerang Aboriginal Corporation	RH thanked	Email
29.7.21	Yarkuwa Indigenous Knowledge Centre	RH phoned and updated email address	Phone
29.7.21	Yarkuwa Indigenous Knowledge Centre	RH re sent EOI	Email
13.8.21	Wakool Indigenous Corporation	EOI letter return to sender	Email
13.8.21	Gary Pappin	EOI letter return to sender	Post
17.8.21	Heritage NSW	Barry Kerton (BK) sent letter advising of RAPs	Email
17.8.21	Moama Local Aboriginal Land Council	BK sent letter advising of RAPs	Email
18.8.21	Heritage NSW	BK received automated response	Email
23.8.21	Bangerang Aboriginal Corporation	Harrison Rochford (HR) sent Stage 2 methodology - feedback window ends 21 September 2021	Email
23.8.21	Moama Local Aboriginal Land Council	HR sent Stage 2 methodology - feedback window ends 21 September 2021	Email
1.9.21	Moama Local Aboriginal Land Council	Stephanie Rusden (SR) received a called from John asking to speak to Harrison. SR said she would get HR to call back when back in the office	Phone
1.9.21	Moama Local Aboriginal Land Council	HR returned call, left message	Phone
1.9.21	Moama Local Aboriginal Land Council	John returned call to HR noting that Moama was Yorta Yorta county in his view, as opposed to the summary in the methodology. John did want it recorded that their organisation held the most relevant knowledge of the Moama area and that they would be available for fieldwork	Phone
16.9.21	Moama Local Aboriginal Land Council	LaToya Morgan attended the survey	In person
22.12.21	Moama Local Aboriginal Land Council	HR sent Stage 4 ACHAR draft - feedback window ends 24 January 2022	Email
22.12.21	Bangerang Aboriginal Corporation	HR sent Stage 4 ACHAR draft - feedback window ends 24 January 2022	Email

Date	Organisation	Comment	Method
10.1.22	Bangerang Aboriginal Corporation	Vicki phoned asking if further FW was occuring for the project, HR gave project overview and said FW was completed. Vicki thanked and said she would see whether other members had comment on the report	Email

Appendix 1 Figure 2: Community expression of interest advertisement.

44 THE BORDER MAIL Friday, July 16, 2021

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2013 Suzuki Swift Sport excel cond, 120k kms, 6 speed manual reg (1AA4RI), $12,500 ono. 0410 955 450

HOLDEN Commodore Equipe VX Series 11, immac app, drives like new, rwc reg 1TZ30X $3750 0421 659 708

MAZDA E2000 Van 2000 model, one owner v.g.c. 127,000 km's, R/worthy supp. Reg 1TM 7AY $7500 0417 567 689

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Public Notices

Expression of Interest
Cultural Heritage Management

On behalf of Wilcannia-Forbes Diocese, OzArk Environment & Heritage have been engaged to seek registration of Aboriginal groups or individuals who are interested in being consulted with regard to an Aboriginal cultural heritage assessment for the proposed establishment of a new Catholic school, Blessed Carlo College (the Project). The Project is located at Lot 76 DP751159, Lignum/Kiely Road, Moama, NSW, covering approximately 4.5 hectares (ha) within the Murray River Local Government Areas (LGA).

This consultation will form part of an Aboriginal Cultural Heritage Assessment Report (ACHAR) and will assist Heritage NSW in their consideration of the Project.

If you hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects or places in the proposed study area, please register your interest. Registrations can be made by post: OzArk EHM PO Box 2069 Dubbo NSW 2830; email: rebecca@ozarkehm.com.au; or by phoning OzArk on 02 6882 0118. All submissions should be received no later than **Friday 30th July 2021.**

Appendix 1 Figure 3: Heritage NSW correspondence.

NSW GOVERNMENT

Rebecca Hardman
Office Manager
OzArk Environment & Heritage
PO Box 2069
DUBBO NSW 2830

via email: rebecca@ozarkehm.com.au

Our reference: DOC21/585284
Your reference:

Dear Rebecca

WRITTEN NOTIFICATION OF PROPOSAL AS REQUIRED UNDER DECCW ABORIGINAL CULTURAL HERITAGE CONSULTATION REQUIREMENTS FOR PROPONENTS 2010

Subject: Registration of Aboriginal Interests – Blessed Carlo College, Lignum/Kiely Road – Moama. Murray River LGA

Thank you for your correspondence dated 13 July 2021 received by Heritage NSW (Department of Premier and Cabinet) regarding the above project.

Attached is a list of known Aboriginal parties for the Murray River local government area that Heritage NSW considers likely to have an interest in the activity. Please note this list is not necessarily an exhaustive list of all interested Aboriginal parties. Receipt of this list does not remove the requirement of a proponent/consultant to advertise in local print media and contact other bodies seeking interested Aboriginal parties, in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (April 2010).

Under Section 4.1.6. of the Consultation Requirements, you must also provide a copy of the names of each Aboriginal person who registered an interest to the relevant **Heritage NSW** office and Local Aboriginal Land Council (LALC) within 28 days from the closing date for registering an interest.

Please note that the contact details in the list provided by Heritage NSW may be out of date as it relies on Aboriginal parties advising Heritage NSW when their details need changing. If individuals/companies undertaking consultation are aware that any groups contact details are out of date, or letters are returned unopened, please contact either the relevant stakeholder group (if you know their more current details) and/or Heritage NSW. AHIP applicants should make a note of any group they are unable to contact as part of their consultation record.

If you have any questions about this advice, please email: heritagemailbox@environment.nsw.gov.au or contact (02) 9873 8500.

Yours sincerely

Dan Clegg
Aboriginal Heritage Planning Support Officer
Aboriginal Heritage Regulation Branch - South
Heritage NSW

Encl: Attachment A: Registered Aboriginal Interests – Murray River Local Government Area

Attachment A: Registered Aboriginal Interests

Murray River Local Government Area

Organisation/ Individual	Contact Name	Email Address/ Fax / Phone	Postal Address
Yorta Yorta Nation Aboriginal Corporation			
Yarkuwa Indigenous Knowledge Centre			
Bangerang Aboriginal Corporation			
Pappin Family Aboriginal Corporation			
Gary Pappin			
Wakool Indigenous Corporation			
John Jackson			

2

Appendix 1 Figure 4: Stage 2/3 Methodology Cover Letter.

OzArk Environment & Heritage ABN 59 104 582 354
Dubbo T: 02 6882 0118 145 Wingewarra St
Queanbeyan enquiry@ozarkehm.com.au PO Box 2069
Newcastle www.ozarkehm.com.au DUBBO NSW 2830

23 August 2021

Members
Moama Local Aboriginal Land Council
[redacted]

ABORIGINAL CULTURAL HERITAGE ASSESSMENT FOR THE BLESSED CARLO COLLEGE, MOAMA, NSW

Dear Members,

Thank-you for your registration of interest to become a Registered Aboriginal Party (RAP) to be consulted for the proposed establishment of a new Catholic school, Blessed Carlo College (the Project). The project is located at Lot 76 DP751159, Lignum/Kiely Road, Moama, NSW, covering approximately 4.5 hectares (ha) within the Murray River Local Government Areas (LGA).

The purpose of this letter is to invite you to comment on the enclosed draft methodology for the Aboriginal Cultural Heritage Assessment Methodology – Blessed Carlo College Moama, NSW August 2021. This assessment will support a potential Aboriginal Heritage Impact Permit (AHIP) application when lodged with Heritage NSW.

In addition to comments on the draft report, if you can share any Aboriginal cultural heritage knowledge relevant to the proposed study area, we welcome this input so as to improve our assessment outcomes and to ensure Aboriginal cultural values are considered. OzArk Environment & Heritage Pty Ltd is required to give you 28 days to supply feedback on the attached documents. This period closes 5pm **on Monday 20th September 2021.**

If you need any help supplying feedback or have any queries in relation to the enclosed information, please do not hesitate to contact our office.

Kind regards,

Barry Kerton
Archaeologist

APPENDIX 2: AHIMS SEARCH RESULTS

AHIMS Web Services (AWS)
Extensive search - Site list report

Your Ref/PO Number : Blessed Carlo
Client Service ID : 614353

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
59-2-0041	MR11	AGD	55	295080	6001111	Open site	Valid	Earth Mound : -, Shell : -, Artefact : -	Midden	
Contact		Recorders	D Rhodes					Permits		
59-2-0042	MR10	AGD	55	295240	6001140	Open site	Valid	Earth Mound : -, Shell : -, Artefact : -	Midden	
Contact		Recorders	D Rhodes					Permits		
59-2-0043	MR1	AGD	55	299962	5999379	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	
Contact		Recorders	D Rhodes					Permits		
59-2-0044	MR1	AGD	55	298177	6000629	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	
Contact		Recorders	D Rhodes					Permits		
59-2-0045	MR12	AGD	55	295245	6001126	Open site	Valid	Artefact : -, Earth Mound : -, Shell : -	Midden	
Contact		Recorders	D Rhodes					Permits		
59-2-0046	LB1	AGD	55	298760	6002771	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	
Contact		Recorders	D Rhodes					Permits		
59-2-0001	Wharparilla North;Boora Boora Property;	GDA	55	291780	6005200	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	
Contact		Recorders	Bill Thornhill					Permits		
59-2-0002	Big Tree Bend Midden, Moama	GDA	55	291750	6005030	Open site	Valid	Shell : -, Artefact : -	Midden	884
Contact		Recorders	R.A Buchan					Permits		
59-2-0003	Big Tree Bend, Moama	GDA	55	292680	6003500	Open site	Valid	Shell : -, Artefact : -, Hearth : -	Midden	884
Contact		Recorders	R.A Buchan					Permits		
59-5-0001	site one;	AGD	55	294600	6004100	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	
Contact		Recorders	Ms.Vanessa Edmonds					Permits		
59-5-0002	Scarred tree 4;	AGD	55	293100	6003600	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	
Contact		Recorders	Ms.Vanessa Edmonds					Permits		
59-5-0003	scarred tree 2;	AGD	55	293000	6003700	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	
Contact		Recorders	Ms.Vanessa Edmonds					Permits		

Report generated by AHIMS Web Service on 17/08/2021 for Harrison Rochford for the following area at Lat, Long From : -36.14, 144.66 - Lat, Long To : -36.0, 144.9. Number of Aboriginal sites and Aboriginal objects found is 34

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AHIMS Web Services (AWS)
Extensive search - Site list report

Your Ref/PO Number : Blessed Carlo
Client Service ID : 614353

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
59-5-0004	scarred tree 1;	AGD	55	292800	6003800	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	
Contact		Recorders	Ms.Vanessa Edmonds					Permits		
59-5-0005	Scarred tree 3;	AGD	55	292800	6003800	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	
Contact		Recorders	Ms.Vanessa Edmonds					Permits		
59-2-0004	Moama;Boora Boora;	GDA	55	291560	6004000	Open site	Valid	Shell : -, Artefact : -	Midden	884
Contact		Recorders	T Negerevich,R.A Buchan					Permits		
59-2-0005	Boora Boora;Moama;	AGD	55	291599	6003525	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	884
Contact		Recorders	ASRSYS					Permits		
59-2-0006	Moama Burials Griffith	AGD	55	300322	5999957	Open site	Valid	Burial : -	Burial/s	882
Contact		Recorders	Michael Green					Permits		
59-2-0007	Site 1;Griffith;	AGD	55	297000	6000800	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	
Contact		Recorders	Mr.Allan Lance					Permits		
59-2-0008	Site 2;Griffith;	AGD	55	297000	6000750	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	
Contact		Recorders	Mr.Allan Lance					Permits		
59-2-0009	Site 3;Griffith;	AGD	55	298050	6000600	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	
Contact		Recorders	Mr.Allan Lance					Permits		
59-2-0017	Moama 1;	AGD	55	297300	6009600	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	2874
Contact		Recorders	Anne Lloyd					Permits	4533	
59-2-0018	Moama 2;	AGD	55	296050	6009300	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	2874
Contact		Recorders	Anne Lloyd					Permits	4533	
59-2-0019	Moama 3;	AGD	55	296100	6009800	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	2874
Contact		Recorders	Anne Lloyd					Permits	4533	

Report generated by AHIMS Web Service on 17/08/2021 for Harrison Rochford for the following area at Lat, Long From : -36.14, 144.66 - Lat, Long To : -36.0, 144.9. Number of Aboriginal sites and Aboriginal objects found is 34

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NSW GOVERNMENT

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : Blessed Carlo
Client Service ID : 614353

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
59-2-0020	Moama 4;	AGD	55	297650	6009300	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	2874
	Contact	**Recorders**	Anne Lloyd					**Permits**		
59-2-0047	Merool Lane Burial, Moama	GDA	55	295506	6002350	Open site	Valid	Burial : 1		3996
	Contact	**Recorders**	Harvey Johnston					**Permits**		
59-2-0048	W1-7	AGD	55	296739	6003311	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact Searle	**Recorders**	Mr.David Rhodes					**Permits**		
59-2-0049	W1-6	AGD	55	294940	6000923	Open site	Valid	Shell : -		
	Contact Searle	**Recorders**	Mr.David Rhodes					**Permits**		
59-2-0050	MUNGABARINA-MM2	AGD	55	302466	6011972	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact Sarah Colley	**Recorders**	Philip Boot					**Permits**		
59-2-0076	Horseshoe Lagoon ST1	GDA	55	300790	5999894	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	**Recorders**	Mr.John Gilding,Ms.Amanda Lavender,DPIE - Armidale,DPIE - Armidale					**Permits**		
59-2-0078	Modified tree Roadside Moama RP	GDA	55	291590	6006833	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	**Recorders**	Mr.Mick Lalor,Environment Protection Authority (EPA) - MOAMA					**Permits**		
59-2-0077	Moama Kiely Road	GDA	55	297681	6003179	Open site	Valid	Modified Tree (Carved or Scarred) : -		103854
	Contact	**Recorders**	Mr.Adam Thompson,Planright Surveying - Echuca					**Permits**		
59-2-0095	Scar tree Boundary Road	GDA	55	297435	6001727	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	**Recorders**	Murray Shire Council,Ms.Llyan Smith					**Permits**		
59-2-0096	Five Mile Scar Tree 1	GDA	55	291590	6006838	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	**Recorders**	Mr.John Gilding,DPIE - Armidale					**Permits**		
59-2-0126	Moama Five Mike ST2	GDA	55	292267	6006008	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	**Recorders**	Mr.John Gilding,DPIE - Armidale					**Permits**		

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APPENDIX 3: HISTORIC HERITAGE: UNANTICIPATED FINDS PROTOCOL

A historic artefact is anything which is the result of past activity not related to the Aboriginal occupation of the area. This includes pottery, wood, glass and metal objects as well as the built remains of structures, sometimes heavily ruined.

Heritage significance of historic items is assessed by suitably qualified specialists who place the item or site in context and determine its role in aiding the community's understanding of the local area, or their wider role in being an exemplar of state or even national historic themes.

The following protocol should be followed if previously unrecorded or unanticipated historic objects are encountered:

1. All ground surface disturbance in the area of the finds should cease immediately, then:
    a) The discoverer of the find(s) will notify machinery operators in the immediate vicinity of the find(s) so that work can be halted
    b) The site supervisor will be informed of the find(s).
2. If finds are suspected to be human skeletal remains, then NSW Police must be contacted as a matter of priority.
3. If there is substantial doubt regarding the historic significance for the finds, then gain a qualified opinion from an archaeologist as soon as possible. This can circumvent proceeding further along the protocol for items which turn out not to be significant. If a quick opinion cannot be gained, or the identification is that the item is likely to be significant, then proceed to the next step.
4. Notify Heritage NSW as soon as practical on 131 555 providing any details of the historic find and its location.
5. If in the view of the heritage specialist or Heritage NSW that the finds appear not to be significant, work may recommence without further investigation. Keep a copy of all correspondence for future reference.
6. If in the view of the heritage specialist or Heritage NSW that the finds appear to be significant, facilitate the recording and assessment of the finds by a suitably qualified heritage specialist. Such a study should include the development of appropriate management strategies.
7. If the find(s) are determined to be significant historic items (i.e. of local or state significance), any re-commencement of ground surface disturbance may only resume following compliance with any legal requirements and gaining written approval from Heritage NSW.