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Barker College Masterplan SSDA Aboriginal Cultural Heritage Assessment Report

Prepared for Barker College

March 2022- FINAL

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Executive summary

Extent Heritage Pty Ltd (Extent Heritage) has been commissioned by EPM Projects Pty Ltd (EPM) on behalf of The Council of Barker College ('the proponent'), to undertake an Aboriginal Cultural Heritage Assessment Report (ACHAR) relating to the Concept Master Plan Development at Barker College located at 91 Pacific Highway, Hornsby NSW 2077 (hereafter the 'study area'; Figure 1). The ACHAR is required to support a modification approval to State Significant Development Application which will allow Barker to increase the limit of student enrolments and full-time staff employed there. This will require the development of additional facilities on the campus.

Key Findings

From a regional perspective, Aboriginal people have occupied and utilised the Sydney Basin for a considerable length of time, certainly throughout the Holocene (10,000 years ago to the present) and likely also in the late Pleistocene (+10,000 years ago). Archaeological studies pertaining to the region reflect the complexity of this locale, being at the interface of the Cumberland Plain and Pittwater sandstone plateau. As such, proximity to water, elevation and the presence of sandstone geology with suitable overhangs and/or flat exposures are considered important factors in Aboriginal site patterning of the region. Evidence for Aboriginal occupation in the region reflects these varied landscapes, with pigmented and engraved art sites, grinding grooves and rock shelters with occupation deposit and art, as well as artefact scatters and isolated finds being characteristic.

Extent Heritage completed a search of the Aboriginal Heritage Information Management Systems (AHIMS) database on 8 August 2021 to confirm if Aboriginal sites are registered within the study area. The results of the search found that no sites have been registered within the extent of the study area.

Environmental and archaeological investigations of the region indicate that cultural material is commonly found in the form of surface and/or subsurface stone artefacts. This is primarily due to the fact that these are most likely to have survived the widespread historic development of the region. These can come in the form of isolated artefacts or low-density scatters suggestive of ephemeral or transient use of the landscape, or denser deposits indicative of intense or repeated occupation. There is some evidence of rockshelters, engravings and grinding grooves found in the broader region, but these are constrained to areas of exposed sandstone geology, which is not found in the study area.

A site visit of the study area was completed on 20 October 2021 with the aim of understanding the landscape features and potential for subsurface Aboriginal archaeological remains to be present. The site visit did not identify any Aboriginal sites or areas of archaeological potential. Given the significant ground disturbance observed during field survey and the limited depths of the mapped soil landscapes, there remains low potential for subsurface Aboriginal objects and sites in the form of buried artefacts. Additionally, there is low potential for culturally modified trees due to the widespread clearing of a majority of the remnant vegetation.

Management Strategy

The proposal is unlikely to impact any Aboriginal objects, therefore no further archaeological investigation or mitigation is required. However, unexpected finds remain protected under the NPW Act. If unforeseen Aboriginal objects are uncovered during construction, work should cease, and an archaeologist, Heritage NSW – DPC and the Metropolitan LALC should be informed.

Aboriginal burials which occur outside of designated cemeteries are protected under the National Parks and Wildlife Act and should not be disturbed. Interpreting the age and nature of skeletal remains is a specialist field, and an appropriately skilled archaeologist or physical anthropologist should therefore be contacted to inspect the find and recommend an appropriate course of action. Should the remains prove to be Aboriginal in origin, you are required to notify Heritage NSW – DPC and the Local Aboriginal Land Council. Notification should also be made to the Commonwealth Minister for the Environment, under the provisions of the Aboriginal and Torres Strait Islander Heritage Protection Act.

In order to appropriately manage Aboriginal cultural heritage present within the study area, the following recommendations are made:

1. No further assessment is required as no known Aboriginal objects or areas of PAD will be impacted by the project.
2. A copy of this ACHAR report should be lodged with the AHIMS Sites Registrar and provided to each of the Registered Aboriginal Parties (RAPs).
3. If any element of the development is relocated outside the area assessed in this study, or if any alteration to the development plan is proposed that could result in additional impact, a new Aboriginal heritage due diligence assessment should be undertaken by a suitably qualified heritage consultancy to identify whether any further Aboriginal heritage assessment is required in accordance with the risk management process set out in the Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (DECCW, 2010).
4. The proponent should ensure that all relevant personnel and contractors involved in the development works are aware of all relevant Aboriginal heritage legislative requirements, including any conditions of approval made by DPIE with respect to Aboriginal heritage protection and management.
5. If Aboriginal objects are uncovered during construction, work should cease, and an archaeologist, Heritage NSW – DPC and the Metropolitan LALC should be informed.
6. If human skeletal material is identified at any time during development works, all works in the vicinity of the discovery should cease immediately and the NSW Police, the NSW Coroner's Office and Heritage NSW should be contacted for advice about how to proceed. Human skeletal remains are protected under the provisions of the *Coroners Act 2009* (remains that are less than 100 years old) and the *National Parks and Wildlife Act 1974* (traditional Aboriginal burials).

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1. Introduction

1.1 Project description

Extent Heritage Pty Ltd (Extent Heritage) has been commissioned by EPM Projects Pty Ltd (EPM) on behalf of The Council of Barker College ('the proponent'), to undertake an Aboriginal Cultural Heritage Assessment Report (ACHAR) relating to the Concept Master Plan Development at Barker College located at 91 Pacific Highway, Hornsby NSW 2077 (hereafter the 'study area'; Figure 1). The ACHAR is required to support the lodgement of a State Significant Development Application (SSDA) seeking statutory approval of the Concept Master Plan and Stage 1 Works to Heritage NSW (DPC) and seek modification of the existing Student and Staff Cap within Condition #60 of DA/1194/2016. Part of this application requires consideration of Aboriginal heritage.

This ACHAR aims to:

- identify the type, nature and extent of any Aboriginal sites, objects, archaeological deposits, and potential archaeological deposits within the study area;
- identify socially and culturally significant values and places to the local Aboriginal community;
- map the locations of known and potential Aboriginal sites, objects, cultural values areas and identified deposits;
- assess the cultural heritage significance of Aboriginal sites, objects, cultural values and identified deposits;
- assess and identify heritage constraints and opportunities and the potential impacts of the proposed development on Aboriginal sites or Aboriginal heritage values;
- identify and recommend any actions warranted to conserve or mitigate any heritage impacts, drawing on a significance-based approach to cultural heritage management.

The relevant guidelines specified for the preparation of the assessment were:

- *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW 2011* (OEH 2011).
- *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales 2010* (DECCW 2010).
- *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010).

There are several Commonwealth and State Acts (and associated regulations) that manage and protect Aboriginal cultural heritage within development contexts. These are outlined in detail in Appendix 1 and summarised in Table 1.

Table 1. Summary of legislative context for the project

Legislation	Description	Relevant to subject area?	Details
Commonwealth			
<i>Environment Protection and Biodiversity Conservation Act 1999</i>	Protects Aboriginal places on the world, national and commonwealth registers.	No	
<i>Native Title Act 1993</i>	Administers rights and interests over lands and waters by Aboriginal people. Often used in NSW to identify relevant stakeholders for consultation.	No	
<i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984</i>	Protection of areas identified by Aboriginal people as of high significance and under threat.	No	
State (NSW)			
<i>National Parks and Wildlife Act 1974</i>	Protects blanket protection for all Aboriginal objects. Includes process and mechanisms for development where Aboriginal objects are present.	No	
<i>Environmental Planning and Assessment Act 1979</i>	Requires assessment and management of Aboriginal heritage through a range of environmental and approval contexts.	Yes	
<i>Aboriginal Land Rights Act 1983</i>	Allows transfer of ownership of vacant crown land to a Local Aboriginal Land Council. Often used in NSW to identify relevant stakeholders for consultation.	No	

1.2 Study area

The study area is located within the Hornsby Shire Local Government Area (LGA) and encompasses the following cadastral land titles (see Figure 1): Lot 100 DP1262386, Lot 100 DP1232343, Lot 1, DP857049 and Lots 4, 5, 6 and 8 DP 236907.

1.3 Proposed development

Through the SSDA process, Barker seeks to enhance existing conditions on the site as well as improve and plan for amenities and facilities to support the current and future student and staff population. This SSDA seeks approval for the staged development of Barker College, including:

- Concept Proposal for the provision of new and upgraded facilities, including:
 - A Co-curricular Performing Arts and Exams Centre building and associated basement parking on the south-western corner of Unwin Road and Clarke Street (subject to a further detailed approval)
 - A new maintenance shed and associated parking to the south of the Performing Arts and Exam Centre Building (subject to a further detailed approval)

- An Aquatic and Tennis Centre incorporating an indoor pool and roof-top tennis courts and associated basement parking on the north-western corner of Unwin Road and Clarke Street (subject to a further detailed approval)
- Approval for the associated demolition of existing school buildings to accommodate the buildings described above.
- Stage 1 detailed works including:
 - Rationalisation of the of the internal Chapel Drive carriageway and parking area associated with the Junior School to improve the traffic flow and pedestrian safety associated with the internal pick-up and drop off system
 - Re-alignment of the internal Chapel Drive carriageway and provision of adjacent footpath to improve the traffic flow and pedestrian safety associated with the internal pick-up and drop off system
 - Landscape works to 'The Avenue' roadway (an internal share way) to create a new Civic space for the school and transitioning to the existing east-west site connection on RB Finlay Walk and toward C-Block
 - Construction of a new elevated east-west walkway along the southern edge of C-Block and incorporating spectator viewing to Bowman Field
 - Construction of a north-south pathway connection linking the Rosewood Centre to the Junior School Campus
 - Increasing the existing cap that applies to total staff and student numbers, up to a maximum of 2850 students and 480 (FTE) staff using the campus at any one time.

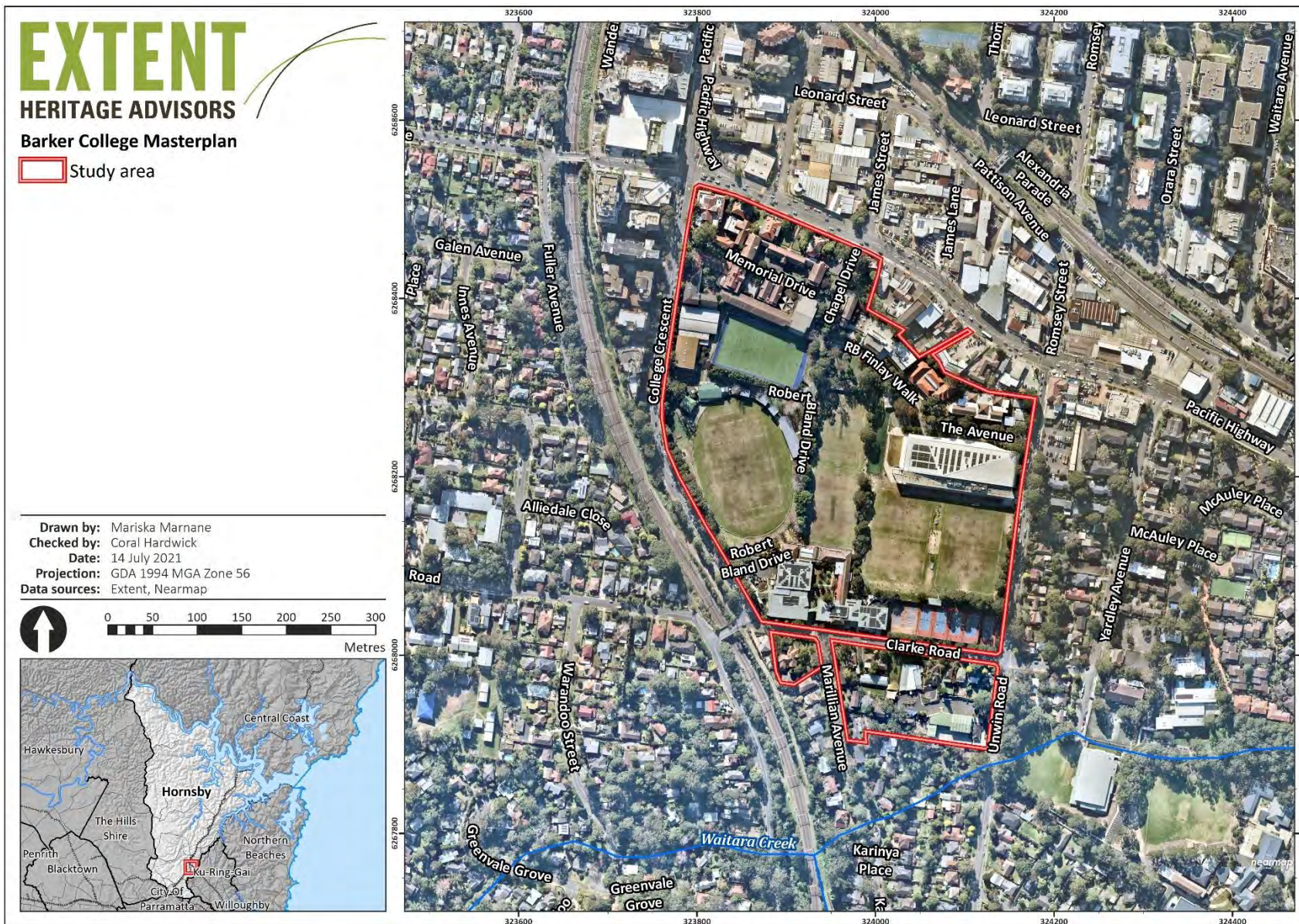


Figure 1. The study area.

2. Aboriginal consultation

2.1 The process

Aboriginal consultation for this assessment has been undertaken in accordance with procedures set out in the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, 2010). These guidelines identify a four-stage process of consultation, which includes:

Stage 1: Notification of project proposal and registration of interest

- Pre-Notification—Identification of the Aboriginal parties through contacting various government agencies.
- Notification—Contacting any Aboriginal community organisations identified to determine their interest (if any) in the project. This includes the placement of an advertisement in local print media seeking expressions of interest from Aboriginal community members.

Stage 2: Presentation of information about the proposed project

- Presentation of Project Information—Briefing registered Aboriginal parties (RAPs) about the project proposal and scope of the Aboriginal Cultural Heritage Assessment Report (ACHAR). This is usually undertaken through written correspondence and/or an on-site visit, and may undergo several iterations through the project lifetime as the nature of the assessment changes (e.g. field survey may lead to a requirement for test excavations).

Stage 3: Gathering information about cultural significance

- Seeking cultural information—engagement with RAPs to identify and understand any cultural, social or intangible values associated with the project.
- Consultation protocols—Identification of any protocols that the RAPs would like adopted during the information gathering process, including how sensitive information will be managed.
- Potential impacts and mitigation measures—Discussion of potential impacts to heritage and appropriate mitigation options prior to developing the ACHAR. This is often undertaken onsite at the end of any field program and/or as part of the overall report review phase.

Stage 4: Review of draft Aboriginal cultural heritage assessment report

- Review of draft report—Review of the draft ACHAR by the RAPs, to provide comments on the overall findings, assessment of cultural significance and recommendations for management of Aboriginal heritage within the study area.

The consultation process for this project has two aims. Firstly, it is designed to comply with the DPIE consultation procedures to obtain and take into consideration comment and feedback from

registered Aboriginal parties regarding our proposed assessment methodology, our assessment report and its management recommendations. Secondly, through consultation with knowledge holders, the process seeks to accurately identify any Aboriginal cultural places and/or values that may be impacted by proposed development of the study area.

2.2 This project

A log of completed actions and correspondence received during Aboriginal community consultation for the current assessment project is included in Appendix 2.1 and summarised in Table 2 below.

The consultation process identified 48 Aboriginal stakeholders in the region (Appendix 2.2). Of these Aboriginal stakeholders, nine registered an interest in the project (Appendix 2.3), and two participated in the archaeological excavations.

Table 2. Summary of Aboriginal consultation for the project.

Consultation stage	Description	Date initiated	Date completed	Details
1	Pre-notification	28.06.2021	12.06.2021	Further correspondence and information in Appendix 2.4.
2	Notification (including advertisement in Hornsby Advocate on 28/06/2021)	28.06.2021	14.06.2021	Newspaper advert presented in Appendix 2.5. Further correspondence and information in Appendix 2.6
3	Presentation of information/assessment methodology	15.07.2021	12.08.2021	Further correspondence and information in Appendix 2.7.
	Field investigation	20.10.2021	20.10.2021	
4	Impact and mitigation options	26.11.2021	24.12.2021	As part of site inspection & report review (5)
5	Report review	26.11.2021	24.12.2021	Further details are presented in Part 2.3 and Appendix 2.8.

2.3 Aboriginal stakeholder feedback

One response was received during the report review period from Kamilaroi Yankuntjatjara Working Group. This response emphasised the significance of the study area for local flora and

fauna due to its location on the Georges River. This is presumably an error, given that the study area is over 22km northeast of the Georges River. The email outlines the use of the sky for navigation, and the waterways as cultural areas and resource gathering areas. The email recommended interpretation be implemented within the development, suggesting 3D imagery of the identified sites to be impacted. No sites were previously registered or identified during the field survey. KYWG disagrees with the recommendations of the report due to the 75 AHIMS sites with 82km² surrounding the study area. Monitoring of the development was also recommended by KYWG.

No other responses were received during the report review period.

3. Existing environment

This section explores the landscape and landforms within the study area. For the purposes of an ACHAR, the type of landscape, geomorphic history and extent of disturbance within a given area all play a role in the presence and/or preservation of Aboriginal objects. As outlined in DPIE's *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales 2010* (DECCW 2010), this section aims to assist in the determination or prediction of:

- the potential of the landscape, over time, to have accumulated and preserved objects;
- the ways Aboriginal people used the landscape in the past, with reference to the presence of resource areas, surfaces for art, other focal points for activities and settlement; and
- the likely distribution of the physical remains of Aboriginal land use based on the above.

To investigate these aims, this section will focus on environmental variables including soils and geology, landforms, hydrology and previous land use and disturbance.

3.1 Bioregions

The study area is located within the Sydney Basin Bioregion, on the Northern Suburbs of NSW. Bioregions are large, geographically distinct areas that are distinguished from one another based on differences in geology, landform patterns, climate, ecological features and plant and animal communities. Bioregions are often further classified into finer-scale subregions, with localised differences in geomorphology and vegetation (Thackway and Cresswell 1995).

The study area is situated on the Cumberland bio-subregion and is ecologically and geologically characteristic of the Cumberland Plain subregion. Bioregions are large, geographically distinct areas that are distinguished from one another based on differences in geology, landform patterns, climate, ecological features and plant and animal communities. Bioregions are often further classified into smaller scale subregions, with localised differences in geomorphology and vegetation (Thackway and Cresswell 1995). The Cumberland Plain environment is characterised by low rolling hills and wide valleys on Triassic Wianamatta group shales and sandstones. This subregion is partly covered by Tertiary river gravels and sands. Quaternary alluvium occurs along the main streams (NSW National Parks and Wildlife Service 2003). The gently undulating shale-based landscape of north Sydney naturally supports grey box, forest red gum and narrow-leaved ironbark woodland with some spotted gum on the shale hills, and swamp box in low lying flood prone areas.

3.2 Geology, geomorphology and soils

The study area is underlain predominantly by the Ashfield Shale unit of the Wianamatta Group shales. The lithology of the Wianamatta Group shales is predominantly shale with sporadic thin lithic sandstones. The group was formed during the Late Triassic period (~237 Ma - ~201.3 Ma) as part of the coastal alluvial plain sequence (Jones and Clark 1991). Ashfield Shale is the basal

layer of the Wianamatta Group, formed during the Late Triassic period as the seas lowered due to increased aridity, probably during a single sea-level regression episode. The lower portion of the Ashfield Shale unit was likely formed by lacustrine (possibly freshwater) sediment deposition, while the upper portion was formed by brackish or shallow marine sediment deposition. The Ashfield Shale unit reaches maximum thicknesses of ~60m, and is typically only exposed as erosional remnant on plateaus (Jones and Clark 1991; Geoscience Australia 2018). The lithology can be ordered or randomly distributed and commonly includes claystone and siltstone, laminate, sandstone, coal and highly carbonaceous claystone and tuff (Jones and Clark 1991). The unit is often carbonaceous and frequently contains fossilised roots and plant debris.

The study area is predominately located within the various soil landscapes which are primarily located on moderately steep and undulating topographic landscape typical of the North Sydney region (Bannerman & Hazelton 1990; Kovac et al. 1990) (Figure 2). A majority of the subject land is underlain by the Glenorie soil landscape, with small portions of the subject land underlain by the West Pennant Hills soil landscape in the north and the Gymea soil landscape in the south.

The local topography of the Glenorie soil landscape is characterised by low rolling to steep hills, with narrow ridges, hillcrests and valleys. Slopes are often 5-20%, though typically moderately inclined (10-15%), and the local relief is between 50-80m. Dominant soil materials in the Glenorie soil landscape includes friable dark brown pedal loam and hardsetting brown clay apedal loam (A horizons), overlaying a medium reddish-brown strongly pedal clay (B horizon). On mid-slopes similar to those in the study area, friable loam (<15cm) overlies hardsetting clay loam (5-30cm) and strongly pedal plastic clay (>100cm).

The topography of the West Pennant Hills soil landscape is characterised as rolling to steep sideslopes on Wianamatta Group shales and shale colluvium. Slopes are often moderate (>20%) with local relief of 40-100m. Dominant soils include friable dark brown clay loam, whole-coloured strong pedal clay, and mottled light grey highly plastic clay. On upper slopes similar to those within the study area, the soil landscape comprises friable dark brown clay loam (up to 50cm) whole-coloured strong pedal clay (>100cm) over several metres of mottled grey highly plastic clay. The friable dark brown clay loam is considered the A1 topsoil with potential for Aboriginal objects and sites. The whole-coloured strong pedal clay and mottled light grey highly plastic clay are considered B Horizon soils. Given this information, there is deep deposits of potential cultural material bearing soils on colluvial shale benches, and moderate depths of potential cultural material bearing soils on midslopes, upper slopes and drainage lines.

The topography of the Gymea soil landscape is characterised by undulating to rolling low hills, while the Hawksbury soil landscape in contrast tends towards rolling to very steep hills. Lower slopes form the topography of the landscape where these soil landscapes extend into the study area. On these landforms, the Gymea soil landscape presents generally as loose quartz sandy loam (30-70cm) over bedrock, situated over Hawksbury Sandstone bedrock.

The above soil landscapes form the moderately steep and undulating topographic landscape typical of the north Sydney region. While moderately steep in some areas, the landscape is highly urbanised and modified. Sharp exposed sandstone reliefs are present in this area but

often not without post-colonial modification. These factors restrict the range of archaeological site types, such as rock shelters and rock engravings, which require these landscape features and are sensitive to modification. Archaeologically, the landscape is more likely to exhibit surface artefact scatters and buried cultural material.

3.3 Hydrology

The study area lies within the Berowra sub-catchment of the Hawkesbury Nepean catchment area (HNCMA 2007a; 2007b). The Berowra Creek subcatchment lies between the Cattai subcatchment to its west and Cowan/Pittwater subcatchments to its east (HNCMA 2007b, 11). It is a tidal river subcatchment with 40% of the total stream length having tidal influences (HNCMA 2007b, 11). The study area itself lies close to the headwaters of the Berowra subcatchment, one of which – Waitara Creek – is located between 25m to 100m south of the study area (Figure 3).

3.4 Previous disturbance

Research into historical land use aids Aboriginal archaeological assessment because activities causing ground disturbance has an impact on the integrity of the archaeological record. Vegetation clearance for agriculture is considered to have a minor to moderate impact on the archaeological record (depending on the extent of the clearance) because removing vegetation generally only disturbs the upper units of soil. However, clearance may remove carved/scarred trees. Vegetation clearance is also commonly followed by sheet erosion, as there are no longer any root systems to hold the soil in place. Ploughing, residential development and major erosion generally have a moderate to high impact on the soil profile because often the natural A-horizon soil is removed or significantly disturbed during these processes. Identifying areas of past land use and soil disturbance is important because it is within undisturbed soils that intact Aboriginal archaeological deposits may be found.

British colonists began to arrive in the areas that presently make up Hornsby Shire as farmers and orchardists from as early as 1794 (Hornsby Shire Council 2021a). Within the onset of significant land clearing by timber-getters from 1816 onwards, more land was brought under cultivation by orchardists and farmers (Hornsby Shire Council 2021a). In particular, blue gum and ironbark trees that grew along the ridges were felled and sold (Hornsby Shire Council 2021b). The first railway junction – Hornsby Junction (presently Hornsby Station, approximately 750m from the study area) – was built in this area in 1893 (Hornsby Shire Council 2021b). With the improvements in roads and the establishment of the railway, fruit growers were able to diversify their plantings as their produce could now reach market without spoiling (Hornsby Shire Council 2021a).

Subsequently, land holdings along the railway line began to increase in value as the Hornsby area became a popular residential area for families of professionals who commuted to work in the city (Hornsby Shire Council 2021b). This resulted in the subdivision of these land holdings into various residential blocks (Hornsby Shire Council 2021a). By the turn of the century, Hornsby had developed into a railway town and provided work for railway employees, shopkeepers and publicans (Hornsby Shire Council 2021b).

A local dolerite quarry was also established in Old Man's Valley (approximately 1.5km northwest of the study area) at the site of the largest volcanic diatreme in the Sydney area (Hornsby Shire Council 2021c). The quarry commenced operations in 1905 (Bush n.d.) and was operated by various public and private entities (including Hornsby Shire Council) for over 100 years (Hornsby Shire Council 2021b). The quarry provided a plentiful source of mineral dolerite that was used throughout the twentieth century as blue metal gravel and road base (Clugston 2008; Hornsby Shire Council 2021b).

Founded by The Reverend Henry Plume at Kurrajong Heights in the early 1890, Barker College moved to its present location at Hornsby in 1896 to avoid an outbreak of scarlet fever (Barker College n.d.a; n.d.b). As a boarding school, the new building at Hornsby originally comprised a residence to which the dining hall and classroom were attached (Barker College n.d.a). As boarding numbers increased during the early twentieth century, senior boarders were moved into rented cottages adjacent to the school property (Barker College n.d.a). Aerial imagery over the study area in 1930 show that most of the study area had already been cleared of vegetation (Figure 4); the study area was predominantly occupied by various school buildings and cottages, with a line of remnant vegetation running along a north-south axis across the middle of the study area. A large oval (presently Barker Oval) was also established along the western boundary of the study area, close to the railway line, by this time.

In 1947, much of the remnant vegetation in the centre of the study area was cleared for a large rectangle sports field (presently Phipps Field). Another smaller sports field was established to the north of Barker oval, and more school buildings were constructed at the northwest corner of the study area (Figure 5). By 1978, a number of properties at the eastern half of the study area were demolished to make way for the establishment of a fourth sports field (presently Rosewood Field) for the school (Figure 6); a number of new buildings were also erected to the north of the oval as well as to the south of Phipps Field in the middle of the study area by this time.

By 1986, the remaining cottages located to the south of the oval were pulled down and replaced with a carpark (Figure 7). By 1991, two large buildings were established at the northeast corner of the study area, while three cottages located along Clarke Road were demolished to make way for four tennis courts (Figure 8). By 2010, more buildings and facilities – including the Barker Foundation Aquatic Centre – were established at the northwest corner of the study area north of Barker Oval, and the remaining cottages along Clarke Road were demolished to make way for five more tennis courts (Figure 9).

Evidently, there has been a significant amount of ground disturbance both within and around the study area. Historical land clearances, agricultural activities, the establishment of roads and railways as well as urbanisation have impacted the land around the study area, whereas the establishment of Barker college and subsequent construction of associated buildings and facilities would have resulted in a similar level of impact on portions of land within the study area. Nonetheless, as large tracts of land across the centre of the study area have remained relatively undisturbed due to their use as various sporting fields, there is potential for the original soils bearing intact Aboriginal archaeological deposits to be preserved at these locations.

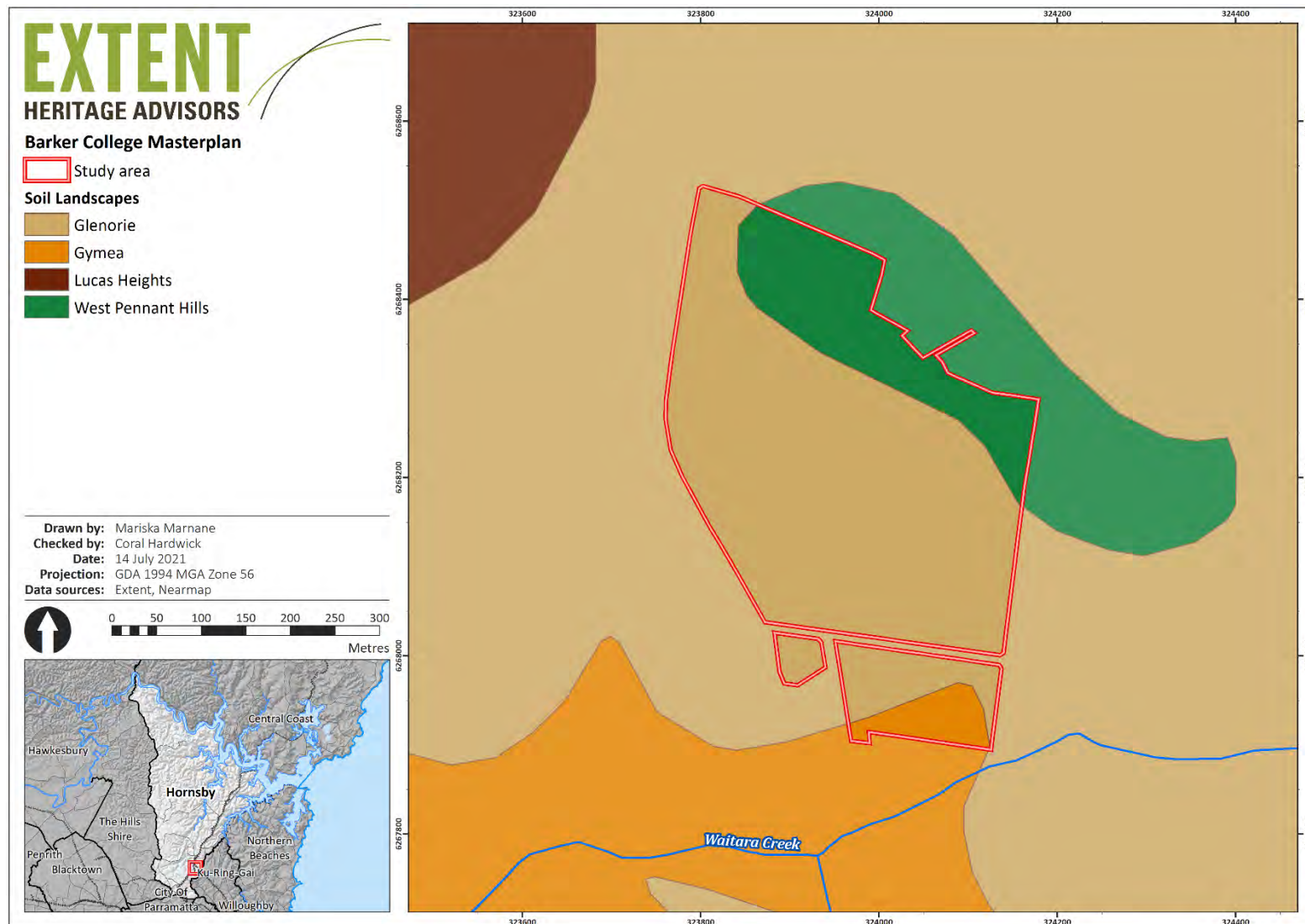


Figure 2. Soil landscapes in the vicinity of the study area.

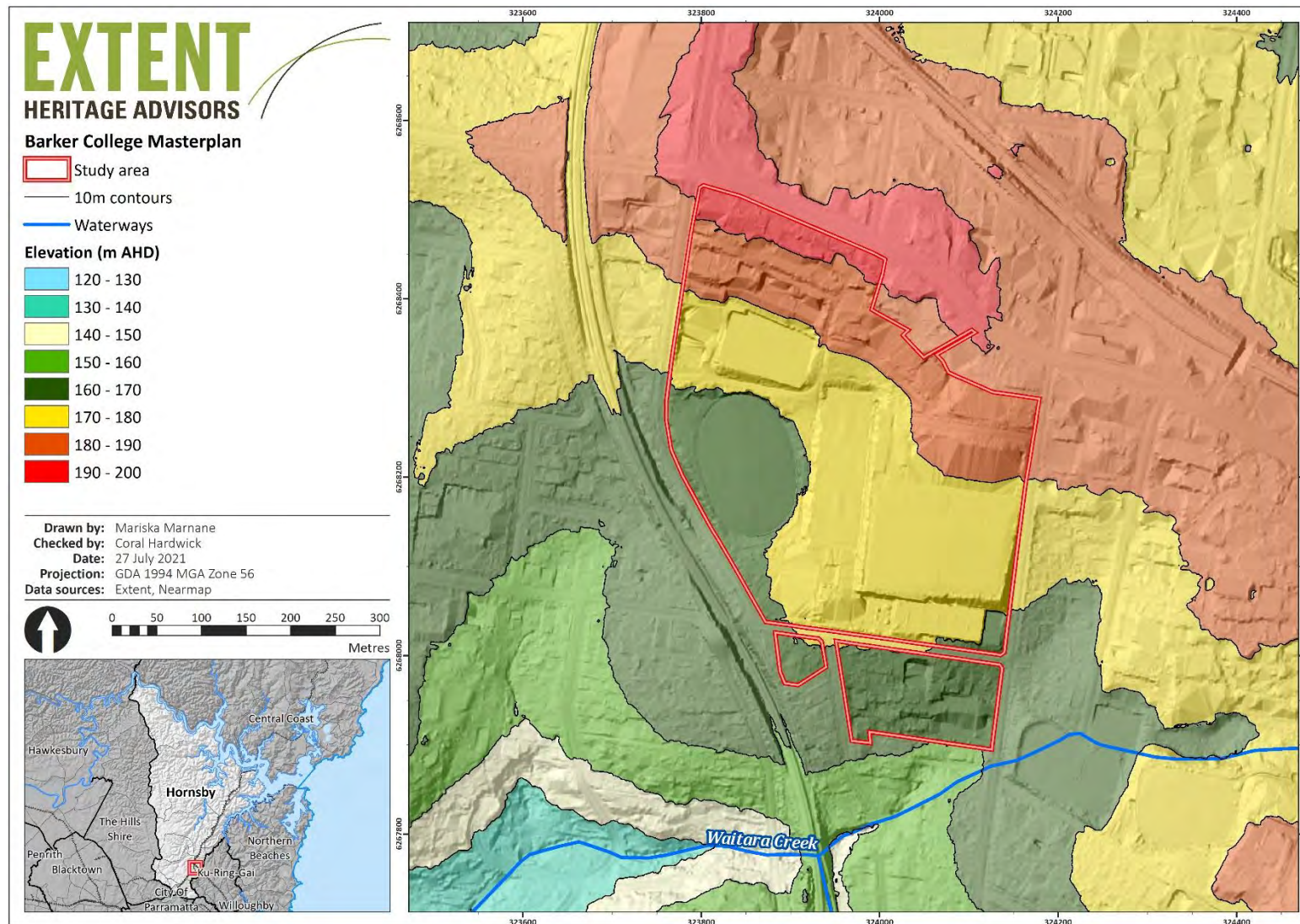


Figure 3. Watercourses and topography in the vicinity of the study area.

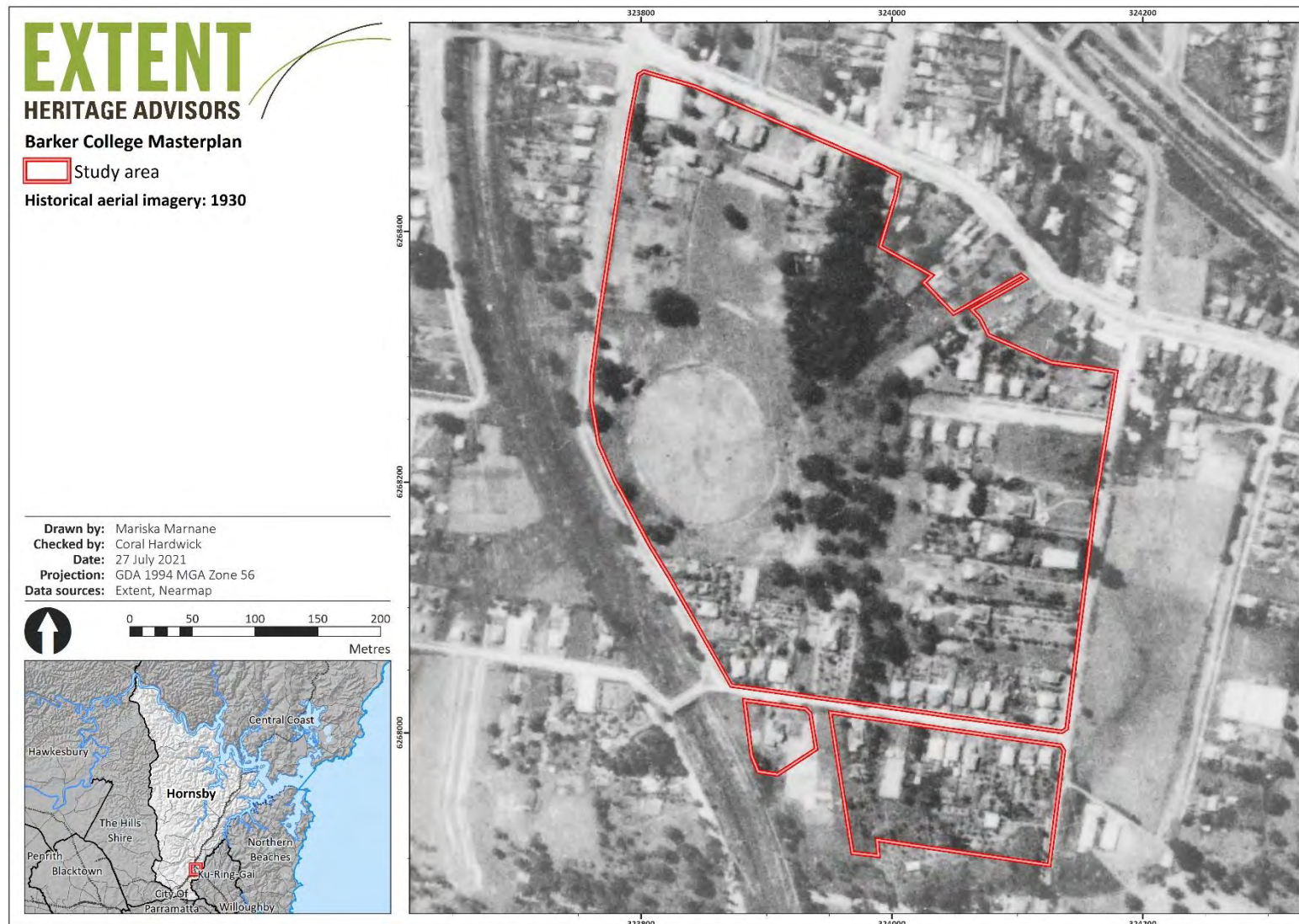



Figure 4. Historical aerial from 1930.

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Barker College Masterplan

 Study area

Historical aerial imagery: 1947

Drawn by: Mariska Marnane
Checked by: Coral Hardwick
Date: 27 July 2021
Projection: GDA 1994 MGA Zone 56
Data sources: Extent, Nearmap



0 50 100 150 200
Metres

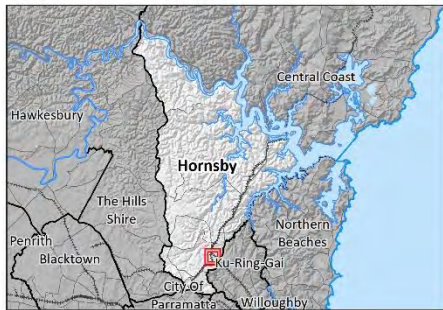


Figure 5. Historical aerial from 1947.

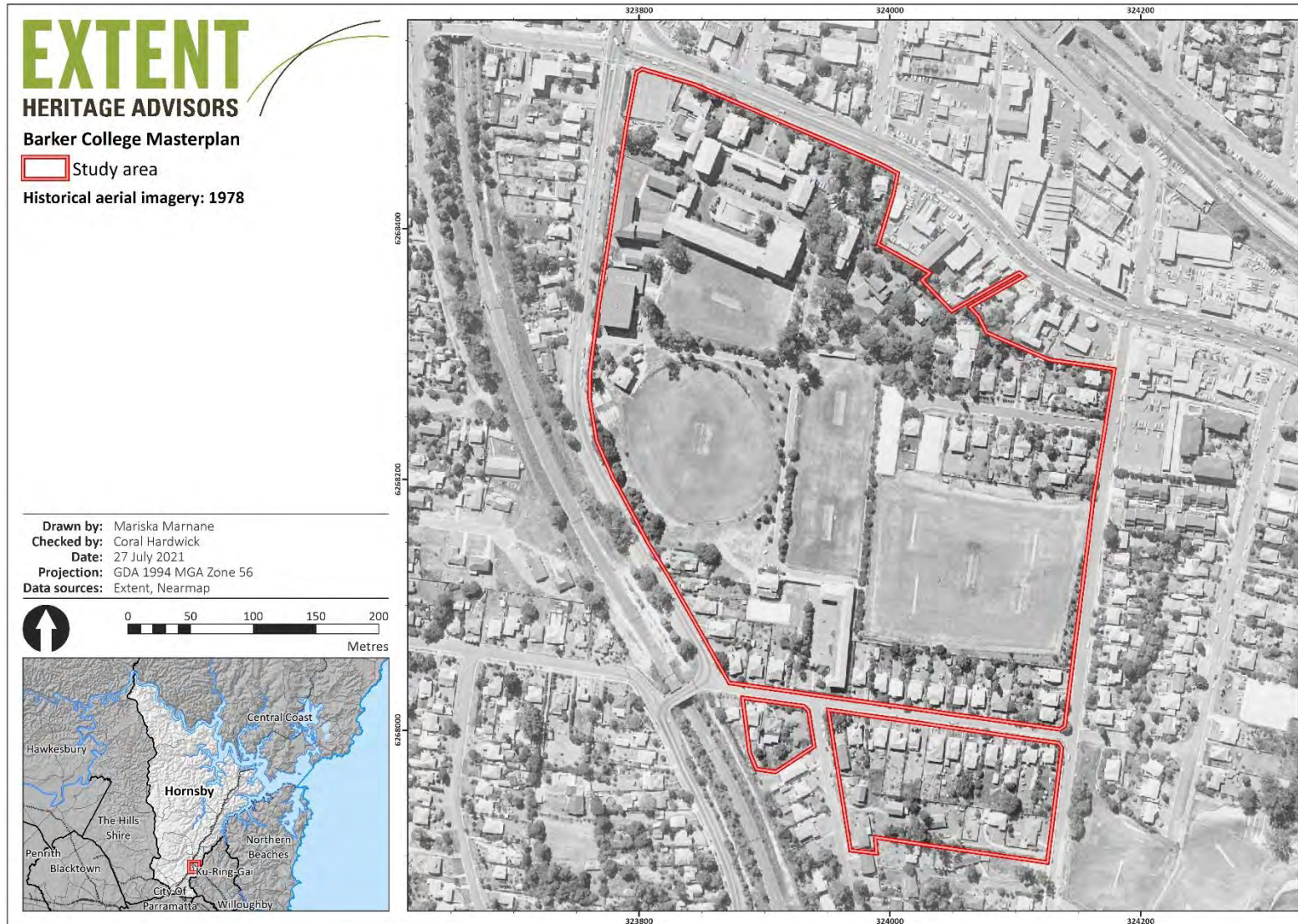


Figure 6. Historical aerial from 1978.

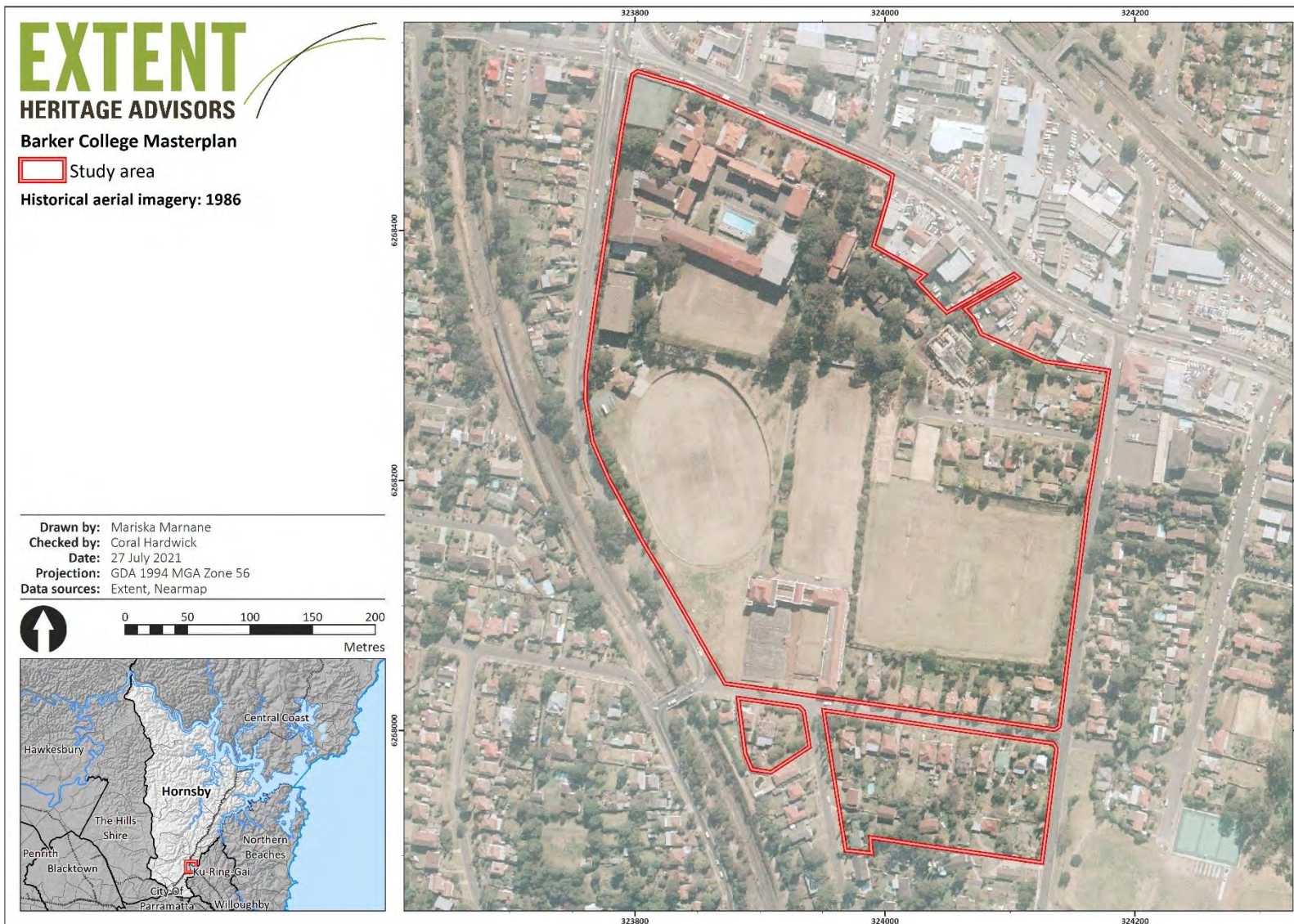


Figure 7. Historical aerial from 1986.

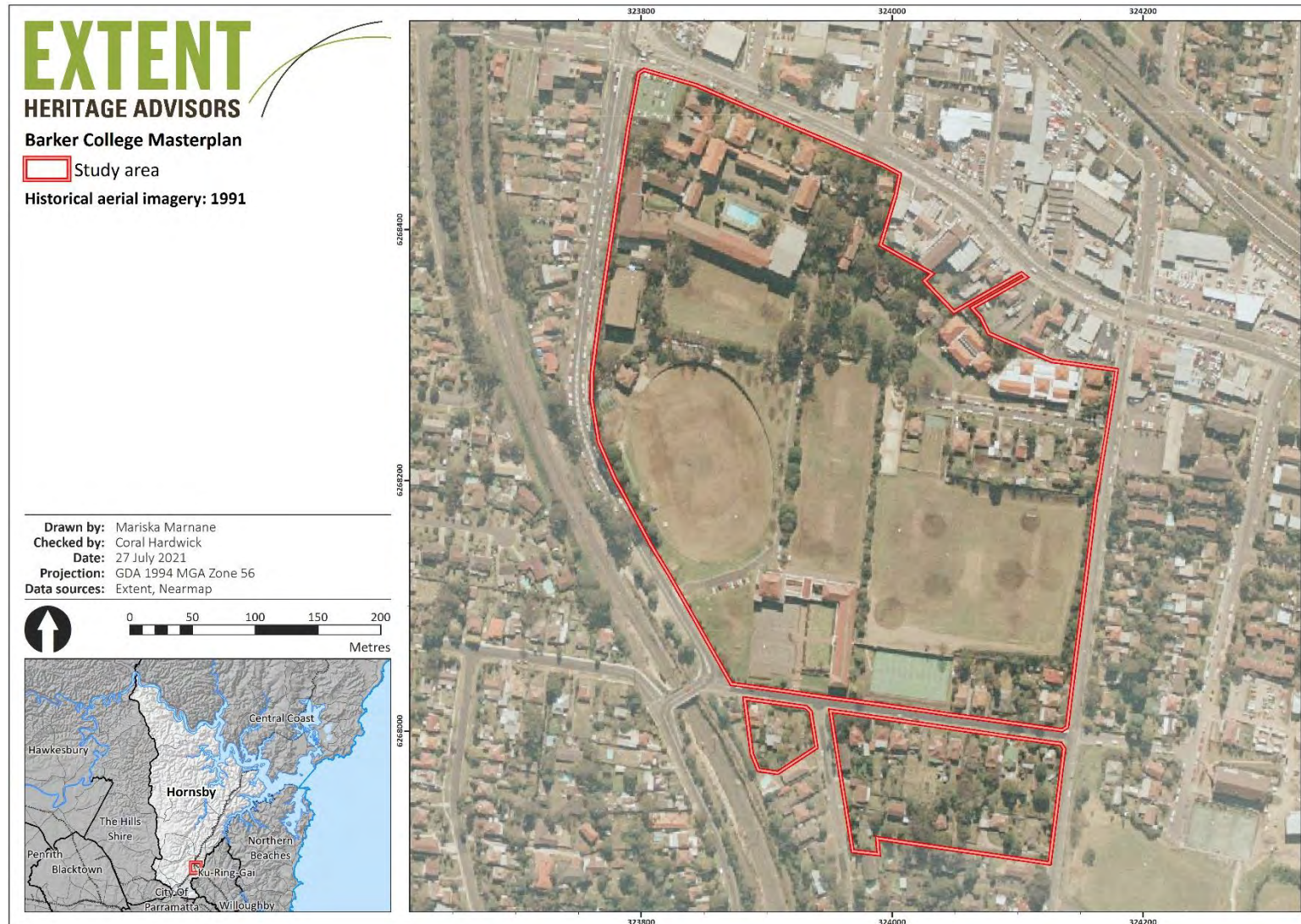


Figure 8. Historical aerial from 1991.

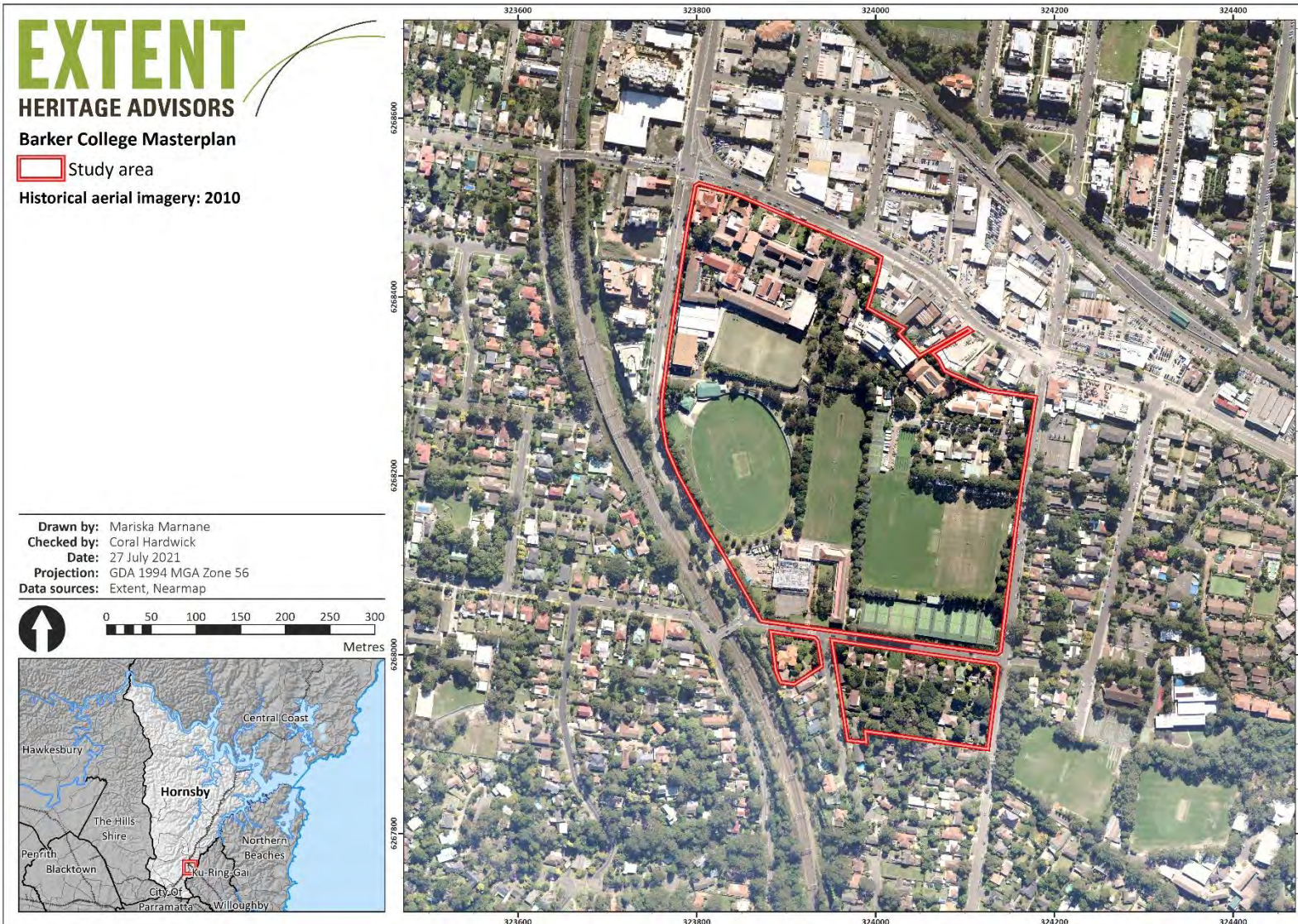


Figure 9. Historical aerial from 2010.

4. Aboriginal history

The following section is a brief overview of Aboriginal histories connected to the study area. It is important that the Aboriginal values and stories connected to the place are understood and protected.

Much of the information we have about the lives of Aboriginal people after colonisation comes from contemporary documentary sources such as diaries, newspapers, and official proclamations. These sources were written almost exclusively by British men (Clendinnen 2005, 12-66), and so they have inherent limitations. In this crowd of overwhelmingly non-Aboriginal commentators, Gamegal man Mahroot, who testified to the 'Select Committee on the Conditions of the Aborigines', stands out as an exception (NSW Legislative Council 1845). Notwithstanding the issues and limitations of colonial sources, historians are left with a rich variety of sources, and careful reading can shed a great deal of light on Aboriginal lives throughout this period.

Although Aboriginal people have preserved their histories for many millennia, it was only in the twentieth century that a variety of Aboriginal voices came to the fore in the documented history of places like Hornsby. Sources such as oral histories, interviews, and the writings of Aboriginal people living in Sydney contribute immeasurably to our increasingly more complex understandings of the past. These are critical sources that have formed an important body of research over the duration of this project.

Another important source of information on the lives of Aboriginal people in nineteenth-century Sydney are visual representations such as paintings, drawings, and lithographs. Many early 'views' of Sydney include Aboriginal people fishing, camping, and spending time on Country. While many of these works may be romanticised artworks, rather than fact-based depictions, as archaeologist and historian Paul Irish writes, it is likely that these artworks reflected a broader reality:

I now think that if Aboriginal people were not actually captured standing there in pictures like this, then the artist probably observed them somewhere close by. Perhaps they were even looking over his shoulder as he worked, and asked to be put in the picture. (Irish 2017, 41).

Many images of Aboriginal people created by non-Aboriginal artists, and especially sketches and cartoons printed in newspapers, frequently contain racist depictions. Irish has observed that these say more about the preconceptions of the artist than they do the nature of the subject (Irish 2017, 111). As with documentary records, the perspectives and prejudices of artists should always be taken into consideration when using images as a historical source.

The synthesis presented below provides a detailed overview of the nineteenth century history of the study area, but is currently limited with respect to the more recent past. Where possible, the report aims to illustrate the history of the twentieth and twenty-first century and contemporary communities, but without community consultation there are some limitations. This is a current gap in research, but consultation with the community, to guide decision making around which places are of significance and stories from the later period will help to address this.

Aboriginal groups associated with the study area

The study area is located within the territory of the Eora Nation. 'Eora' was the name given to the coastal Aboriginal people around Sydney, and it simply means 'here' or 'from this place'. When the British arrived, the local people used the word to describe where they came from, and so it soon became used to define the community (Collins 1798, Appendix 1). The name Eora is proudly used today by the descendants of those very same people. With regards to the language group associated with the study area specifically, the information available is both complex and sensitive due to the impact of colonisation. Some previous records indicate that the Guringai/Kuring-gai language group is associated with the area (AHO 2011: 5), however recently the Metro Local Aboriginal Land Council (MLALC) has requested that people 'refrain from referring to themselves as Guringai if they identify with belonging to the Sydney region' (*The Koori Mail*, December 4 2019 p21).

The introduction of this name in the history of the Sydney basin is complex and has become confused due to colonial misrepresentation. The word Ku-ring-gai, associated with the North Shore of Sydney, was identified by the anthropologist John Fraser. Alternatively, the coastal Darug/Daruk language group may be more appropriate for the area, as identified by Tindale (1974, Figure 10) and Attenbrow (2010: 34). Attenbrow (2010: 34) has suggested that the coastal Darug/Daruk language was spoken on the Sydney peninsula and north of Port Jackson, possibly as far north as Broken Bay and west to Parramatta. Within language groups there were several smaller groups, the Cammeragal group, referenced as being part of the Guringai/Kuring-gai language group is referred to as being associated with the Hornsby area, travelling from the woods around Pennant Hills downstream (approximately 3km to the south-west of the study area, Hawkins nd.: 6). Alternatively, there is the Wallumedegal/Wallamattagal group, associated with the coastal Darug/Daruk language, who are suggested to have camped along the Parramatta river bank in the summer (Hawkins n.d.: 6).

The Terramerrigal (Darramurragal, Terramerragal or Turramurragal) group is also noted to be associated with the area, residing to the east of the Lane Cove River (Figure 11, Goodrum, 1987: 345, Dictionary of Sydney, 2011). Jo McDonald (2008) found different engraving subject matters on either side of Berowra Creek (approximately 3.5km to the west), with more marine animals to the east and terrestrial to the west. This may indicate a difference in groups, or may simply relate to the impact of the environment on resource gathering. The Lane Cove River and Berowra Creek have been suggested as the border between two languages (Capell 1970). Cammerai, Wallumede, or a form similar to Turramurra, may be the name of the land that the study area falls within, with the suffix -gal referring to the group. Turramurra is thought to mean Big Hill in the local Aboriginal language, with the suburb Turramurra (approximately 5km to the south-east) named after this word.

Further research, community consultation and understanding of the sources relating to this area may aid in revealing more information on the groups associated with the study area.



Figure 10. Map of Aboriginal groups around Sydney as per Tindale (1974).

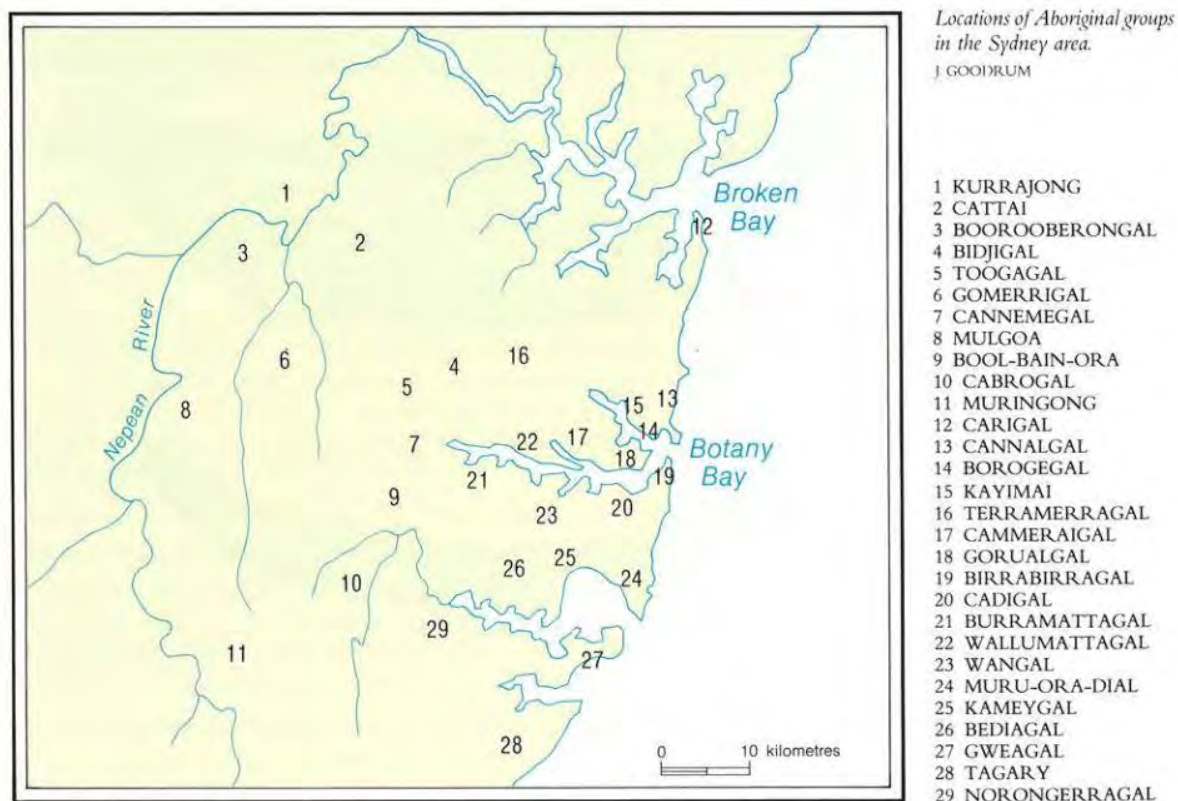


Figure 11 Locations of Aboriginal Groups in the Sydney Area.

Source: J Goodrum in Mulvaney, D J & White, J Peter (1987: 345).

Attenbrow (2010: 34) has summarised approximate locations for the three language groups that are suggested to have bordered to the south, west and south-west:

- The inland Dharug lands are approximately recorded as ranging from the southernmost point at Appin then north to the Hawkesbury River and west of the Georges River.
- The Gandangara lands are approximately located west of the Georges River inclusive of the southern portion of the Cumberland Plain and the southern Blue Mountains.
- The Dharawal lands are approximately recorded from the southern side of Botany Bay down to the Shoalhaven River and west to Camden.

There is evidence that people from these language groups were on occasion able to converse with people from other language groups (Mathews and Everitt 1900: 265). Furthermore, it is important to note that the groups were not confined to these approximate boundaries (Attenbrow 2010: 35), and complex inter-group connections were maintained. Several records note the movement of people across the land over long distances for various reasons. For example, the Dharawal people are noted to have travelled throughout the Hawkesbury-Nepean river system, visiting other groups at Prospect, Parramatta and Windsor, Botany Bay and Broken Bay, Bathurst and Lake Bathurst (Liston 1988: 49). People's movements were often dictated by the seasons, determined by the availability of certain species of plants and animals. The bogon moth feast in Monaro and the mullet runs in Sydney Harbour were major events that saw people travelling long distances to attend (Hawkins n.d.: 23)

Changes over time and connection to the environment

The Aboriginal occupation of the study area in Deep Time must be considered within the context of changing sea levels. The coastline of Australia has changed considerably during the last 50,000 years, and this change would have had a dramatic impact on the landscape, and by extension the communities who lived here. At the end of the Pleistocene period, the ancient river that had carved its way through the coastal plain was flooded, forming the Sydney estuary and changing the landscape dramatically. The coastline shifted considerably between the late Pleistocene period and Holocene epoch (17,000 –10,000 years ago) (Attenbrow 2010, 38; Birch 2007, 218–219). Sea-levels reached a high-stand above present sea-level between 7,700 and 7,400 years ago, and remained at this elevation until 2,000 years ago, when it fell to present levels. (Lewis et al 2012: 14). This changing coastline and the flooding of the valley, means that communities and culture have adapted and changed over the millennia. These changes would also have had an impact on the available resources, and by extension, food procurement and economic systems. With the flooding of valleys, the encroaching sea water would have created new habitats, inviting new species of plants and animals.

Recently, evidence of submarine slides have been identified off the coast of New South Wales (Hawkins n.d.: 3). These submarine slides on occasion would have caused large tidal waves up the Parramatta and Hawkesbury rivers. Large boulders have been found several metres above sea level, with two recent slides approximated at 870 and 520 years ago. A story recorded by C.W. Peck (1938 in Hawkins n.d.: 3) may reference these events:

Aborigines in eastern Australia believed that the sky was held up by supports at the edges of the earth, and that the eastern prop had either collapsed or was rotting implying that the ocean had fallen from the sky. Tribes far into the interior of the continent were requested to send tribute to the east to be given to the spirit people in charge of holding up the sky so that it could be repaired. Possum rugs and stone axes were sent eastwards in response.

People's lifestyles were determined by their kinship with Country and the depth of knowledge that was passed down through millennia by stories, songs and dance (AHO 2011: 7). The lore, spirituality, language and customs ensured the continual connection to land and its sustainable use enabled the gathering of resources.

Diet and resource exploitation

The harbours now referred to as Port Jackson and Broken Bay, along with their tributaries such as the Parramatta River, off which the Lane Cove River (approximately 4km to the south of the study area) runs, provided a rich source of food and other resources, harvested from both the shallows and from bark canoes, called *nawi* (Karskens 2014, Coast 2019: 23, Figure 12). These *nawi* were also used to travel and maintain connections with other groups (Coast 2019: 23). Fishing lines were made from the bark of the kurrajong, cabbage and hibiscus trees and called carr-e-jun (Karskens 2014). These lines were made by twisting two strands of the bark together, running them across the skin, animal fur and skin were also often used to manufacture fishing line (Karskens 2014). The hooks were made from turban shells with the use of a stone file to sharpen them (Figure 13), with the British noting the ingenuity and significance of these items to women (Karskens 2014). Fishing with lines and hooks in *nawi* is a practice often associated with women, who played major roles in the fishing economy. Women would head out in the *nawi*, nursing their babies and singing with other women as they fished. Fires were lit in the base of the canoes to provide light and heat for cooking (SLM n.d.). The men were known to use multi-pronged spears (*Galara* four-pronged harpoon) tipped with bone and fished from the shallows. Fishing was both a means to obtain food and a cultural practice, involving men, women and children (Figure 14). *Malgun*, the practice of removing a portion of a finger, generally the 'pinky', was only practised on women, generally when they were children. This practice was noted to involve the tying of animal sinew around the joint of a finger and over time the top part of the finger would fall off. This portion of the finger was then taken out into deep water and dropped so that the fish would eat it and would forever be attracted to the hand from which it originated from (Smith and Hunt n.d.:3).

Shellfish such as rock oysters, clams, mussels and cockles were collected and heated over a fire to open them, with their shells were discarded on specific mounds referred to now as middens. Several middens have been found along Berowra and Marramarra creeks and the types of shellfish contained within them reflect the available resources (Hawkins n.d.: 7). Often animal bone are found within middens and in some cases human remains, reflecting burial practices.



Figure 12. Watercolour by Philip Gidley King depicting fishing with lines and hooks.

Source: SLNSW collection [a2225005 / Banks Papers - Series 36a.05 (Safe 1 / 457), Series 36a : charts and illustrations, ca 1790s, 1803].



Figure 13. Stages of shell hook manufacture from a turban shell and the final product.

Source: Smith and Hunt, n.d. p4.



Figure 14. A Family of New South Wales, by William Blake from a sketch by Governor King. In Hunter 1793, opposite page 414.

In addition to the many varieties of fish and shellfish, the Eora ate a range of local plant foods, insects, birds, and mammals including possums, wombats and kangaroos. Given the importance of the harbour, campsites were often located not far from the shore. The creeks running into the harbour were also a critical source of fresh water and food, and so were also important locations for campsites (Heiss and Gibson 2013). Fish, shellfish and birds such as black swans, redbills, sulphur crested cockatoos, brolgas and quails were also collected from resource rich swamps and lagoons (Attenbrow 2010:85-90; City of Sydney n.d.:2). Important plants and animals were also found in wetlands, fertile floodplains and along estuaries and lagoons, providing medicines, fibres, vitamin and food sources. They provided a reliable supply of water, as well as fish, eels; and terrestrial animals were likely drawn to the water and were hunted for food.

Kangaroos, wallabies, possums, sugar gliders, bandicoots, wombats, echidnas, fruit bats (flying foxes) and other smaller mammals were amongst the wide range of land animals that inhabited the Sydney region and were available to both coastal and hinterland people. Most Australian land animals are not migratory and therefore their seasonal availability and abundance do not

vary markedly (Attenbrow 2010:70). The diet also included honey produced by native bees, as well as ants and their eggs. Many foods were harvested by tree climbing. Colebee and Ballederry called these people the 'climbers of trees' after their practice of skilfully ascending gums in pursuit of animals, cutting footholds in the trunks with a stone axe. Birds and tree dwelling mammals could be captured, and bird eggs and honey could be collected in this way (Tench 1793:126).

The Blue Gum High Forest at Pennant Hills (approximately 5km south-west of the study area) was rich in resources. George Caley, a British botanist, recorded the forest in 1805 (Caley 1805: 260);

The grass was very high, accompanied with a deal of thorn, and a species of *Platylobium*. The ground hilly, the gullies emptying their waters to our right, probably into Lane Cove. The timber chiefly Blue Gum and She Oak. In some places small stones appeared, but taking the land in general it is of good quality, and more fit to be converted into arable than pasture ground.

Starchy tubers and roots, bush fruits and native seeds were also frequently consumed. Certain plant foods such as the blackbean and cunjevoi plants along with some varieties of wild yam (*Dioscorea* sp.) were unpalatable or toxic in their natural state and required complex processing before consumption. Watkin Tench described how 'a poor convict' had become violently ill trying to eat a poisonous yam. After having seen Darug people eating the same yam, referred to as the 'midiny' (Hawkins n.d.: 19), he concluded that the people had a way of preparing them to render them an 'innocent food' (Tench 1793:83). To combat toxicity, these foods were roasted in ashes, open fires or earth ovens; pounded and baked into cakes; or grated, peeled or sliced using bone, stone and shell implements and leached for lengthy periods of time in water (Beck 1985:107, 211). Plants also provided resources for the manufacture of tools, for example the grass tree flower stems provided spear shafts (Hawkins n.d.: 17) and bark was used to form *nawi* (canoes). William Govett (1836) recorded the use and manufacture of canoes along the Berowra and Cowan creeks;

they are made but for temporary use at their different fish places, and as they sojourn from one creek to another, so they find means to provide canoes if required – a sheet of Bark is cut from the tree about 12 feet in length – and heated over a strong fire until it warps, and becomes capable of being bent to the proper shape – the two extremities are then tapered off and brought together bent upwards and fastened by strong bandages. Two strong sticks are sometimes placed crossing at either end to keep it in shape and the boat is formed'

Engravings on sandstone platforms often depict important resources, with those in the local area displaying kangaroos, fish, wallabies, koalas, emus and lizards (Hawkins n.d.: 21). These engravings may also reference significant stories such as the Dinewan Emu and Goomble-Gubbon Bush Turkey story as told by Langloh Parker (1953: 1), with engravings of these animals found in Cherrybrook, Canoelands and Brooklyn (Hawkins n.d.: 41);

Goomble-Gubbon the bush turkey had tricked Dinewan the emu into cutting off her wings with a stone hatchet, saying that a bird without wings would be greatly admired and respected and would soon be made leader. Dinewan did so and soon realised she had been tricked. In retaliation she pretended to have killed all but two of her chicks. She persuaded Goomble-

Gubbon to emulate her. That is why, nowadays, the emu has tiny useless wings but lays many eggs and the bush turkey can fly but lays only a couple of eggs'

Shelters were constructed using a frame of forked branches secured to the ground. Sheets of bark were placed against the frame, angled against the wind. The front of the shelter was generally left open, facing a small fire. Rockshelters and sandstone overhangs, were also employed as occupation areas, providing shelter from the elements.

Freshwater was found in several locations close to the study area in the form of waterholes and springs. Deep waterholes have been recorded along Devlin's Creek (approximately 4.5km south of the study area) and at Westleigh along Berowra creek (approximately 3.5km west of the study area) (Hawkins, n.d.: 9). Springs have also been noted at Thornleigh (approximately 3.5km south-west of the study area). Fresh water created habitats for yabbies, tortoises, eels and fish. A pond now underneath the Commenara Parkway (approximately 6km south of the study area) was historically referred to as the Crayfish Ponds (Hawkins n.d.: 9). Water in conjunction with sandstone is significant as it is conducive to the formation of grinding grooves, used to sharpen ground-stone axes that were employed for multiple functions such as bark removal.

Fire was a constant presence in early Sydney, from the 'moving lights' seen on the harbour at night (Banks 1998:243) to lone trees burning on the Cumberland Plain, 'the smoke issuing out of the top part as through a chimney' (White 1788). 'In all the country thro' which I have passed,' wrote Arthur Phillip in May 1788, 'I have seldom gone a quarter of a mile without seeing trees which appear to have been destroyed by fire' (Phillip: 15 May 1788 [1792]). The first Australians became known as the fire-makers. They used fire to open paths and to clean country; to drive animals into the paths of hunters and then to cook the kill; to keep warm at night and to carry as a torch the next day; to treat wood, melt resin and crack stone for tools; to gather around and dance and share stories.

Early observations provide an insight into local burning regimes. On a hot dry day in September 1790, for example, David Collins observed Aboriginal people 'burning the grass on the north shore opposite to Sydney, in order to catch rats and other animals' (Hunter 1793 [1968]: 31 August 1791). Almost exactly twelve months later, on 31 August 1791, they were again 'firing the country' in the same place on a hot day ahead of heavy rains. While Collins regarded this to be another 'remarkable coincidence', it suggests a connection to the land and an understanding of the seasons which the settlers could not fathom.

Walking tracks crisscrossed the land, following ridgelines and crossing creeks. The Hornsby plateau also afforded viewsheds to important landmarks such as Mt Gibraltar, Mt Tomah and Mt Jellore (Hawkins n.d.: 13).

Colonisation

On 26 January 1788, life in Eora Country changed forever, when the First Fleet arrived in what came to be known as Port Jackson. Under the command of Governor Arthur Phillip eleven ships sailed into the harbour carrying convicts, marines, officials, and their families.

Soon after the arrival of the British, a smallpox outbreak had a devastating impact on Aboriginal people. From May 1789, British officers began to find the bodies of smallpox victims washed up

on beaches (Collins 1798, Chapter 7; Tench 1793, Chapter 4). Several Aboriginal people were brought into Sydney Town for medical treatment, but all but two of them died. Judge Advocate David Collins was told by Arabanoo that many had been killed by the outbreak, and others had ‘fled into the interior parts of the country’, perhaps spreading the disease further (Collins 1798, Chapter 7).

The First Fleet’s arrival heralded change on an unprecedented scale for the Eora, and ultimately for all of Australia’s First peoples. While relations were at first cordial, it soon became apparent that the British intended to stay. This first chapter of colonisation was characterised by some fascinating politics and instances of cross-cultural relationship building (Clendinnen 2005; Karskens 2009). As traditional laws were consistently violated by the British and access to Country and resources were increasingly restricted, violence and deprivation became a reality. Along the Hawkesbury River tensions were high as people were continuously pushed off their lands and attacks on farms occurred. Governor King (to Hobart 20 December 1804, HRA vol 5 pp 166-167) reported that Aboriginal people;

Did not like to be driven from the few places that were left on the banks of the river, where alone they could procure food; that they had gone down the river as the white men took possession of the banks; if they went across the white men’s grounds the settlers fired upon them and were angry; that if they could retain some places on the lower part of the river they should be satisfied and would not trouble the white men. The observation and request appear to be so just and so equitable that I assured them no more settlements should be made lower down the river.

Attacks became more frequent between the two groups and bounties were placed on specific people who were perceived to lead the attacks. Militaristic campaigns were organised by the British, forcing Aboriginal people off their lands. An article in the Sydney Gazette on the 19 May 1805 details;

‘Last Monday a party composed of the settlers of the Northern Boundary and Baulkham Hills, joined by the constables of Parramatta went in quest of the natives in the neighbourhood of Pennant Hills, in order to disperse them, and prevent any ravages in that quarter, having previously driven off a number secreted in the Northern Rocks, who being alarmed by their dogs, escaped, many of the dogs being killed by the settlers. At Pennant Hills the same night one of their number was apprehended, whose vices have on many former occasions rendered his very name terrifying to the unwary passengers. This fellow proves to be Tedbury, the son of the assassin Pemulwoy’

However, documentary sources, oral histories and archaeological evidence all tell us that, notwithstanding this disruption and destruction, the Eora continued to maintain their presence within Sydney. Aboriginal people continued camping, fishing, and performing ceremony in the vicinity of Sydney until the late nineteenth century (Irish 2017). It is true that they had to compete with the colonists for access to resources, and were increasingly forced to the margins, but it is also important to recognise that their occupation continued, as it does to this day (Irish 2017; Smith 2011). Many Aboriginal people during this period made their living through fishing and guiding activities, and successfully inserted themselves into the settler economy of Sydney (Irish 2017, 32-50; 66-85).

The death and disruption to Aboriginal communities caused by colonisation also meant that their traditional social structures changed, adapting to the new colonial environment as required. Surviving members of different traditional clans joined together to form new groups. Kissing Point Tribe was a group north of the harbour in the Ryde area, consisting of people who had re-grouped (Barani n.d.). From the early 1880s onwards, more overt government intervention came to play a role in the lives of the Aboriginal people of Sydney, and informal campsites in the city became the targets of government intrusion.

Many Aboriginal people were forced into labour on land grants, such as Moowattin, William Bellamy's 100 acre grant in West-Pennant Hills (approximately 10km to the south-west of the study area, Hawkins n.d.: 22). Later, others were forced onto reserves such as the Hawkesbury Aboriginal Reserve and Mission at Sackville Reach approximately 55km north of the study area. Children were removed from their families and placed into training homes, such as Margaret Tucker who was removed

With colonisation came a disruption to the burning regimes, causing the environment to change. Thomas Mitchell, a British surveyor recorded the changes in the mid-1800s (1848 in Journal of an Expedition into the Interior of Tropical Australia)

Where a man might gallop whole miles without impediment and see whole miles before him ... the omission of the annual periodic burn by the natives of the grass and young saplings has already produced in the open forest lands nearest Sydney thick forests of young trees ... kangaroos can no longer be seen there, the grass is choked by underwood'

With colonisation came the disturbance, destruction and physical collection of significant material/objects and areas. In the early 1800s, middens were destroyed and exploited for their lime content by the British. In Broken Bay, middens were mined and burned to manufacture lime for construction and transported to Sydney (Hawkins n.d.: 7). The north shore was known for its timber, and teams of sawyers were sent as detailed by William Govett (Govett 1836: 31);

Upon a descent of this range in the valleys leading towards Lane Cove Companies of Bushmen Sawyers were employed in cutting down and sawing in planks the Blue Gum, Black Butt & other trees whose timber is valuable, which were afterwards conveyed to Sydney by water'

An article in the *Evening News* on 24 October 1893 details the discovery of a cave in the vicinity of Cowan Creek by a group of men within which multiple skeletons were buried approximately 18 inches below the surface of the cave floor. The bones were observed to be in good condition and removed and displayed at the boatshed near Berowra. The remains were reburied at the Guringai Resting place at Towlers Bay in 2005.

5. Archaeological record

This section contains a discussion of the regional archaeological context within which the study area is situated. For the purposes of determining settlement and site location patterns, archaeologists examine the distribution of known sites in relation to environment and topography. These assist archaeologists to predict likely site features, site locations, and the nature of the archaeological resource in any given area. A description of Aboriginal site features is provided in Appendix 3.

5.1 Regional background

Aboriginal occupation of NSW spans at least 40,000 years (Stockton and Holland 1974; Nanson et al. 1987; JMCHM 2005, 107-125), although older dates have been claimed for artefacts and human remains found within the barrier sands of Lake Mungo in the Willandra Lakes Region (Bowler et al. 2003; Shawcross 1998). Within the Sydney Basin, Aboriginal occupation dates back well into the Pleistocene period. This evidence comes from radiocarbon dating of charcoal retrieved from excavated sites at Cranebrook Terrace, Penrith (41,700 years before present [BP]), Shaw's Creek K2 (14,700 BP) and George & Charles Streets, Parramatta (c. 25,000-30,000 BP). As the dating of Cranebrook Terrace is currently under review (Attenbrow 2010, 21; see also Williams et al. 2017), the oldest reliable dates for Aboriginal occupation in the Cumberland Plain are presently derived from the George and Charles Streets site.

The archaeological record of the Cumberland Plain is well documented by a large number of academic studies, regional management studies and consulting impact assessment investigations over the past 30 years. Over 7,000 sites have been recorded and registered on the DPC Aboriginal Heritage Information Management System (AHIMS) on the Cumberland Plain, reflecting both the extent of the archaeological record and the number of investigations undertaken in the region. Consequently, the Cumberland Plain is the most intensively investigated archaeological landscape in Australia.

The distribution, density, size and features of sites on the Cumberland Plain largely depends on their environmental contexts. For instance, middens are typically found in close proximity to marine, estuarine and sometimes freshwater bodies. On the other hand, rock shelters are only found in areas of exposed sandstone escarpment. Grinding grooves are located in areas of exposed flat bedded sandstone near water sources.

Spatial Patterns in Aboriginal Archaeology

A number of predictive models for patterns of Aboriginal occupation and site locations across the Cumberland Plain have been developed over the years (e.g. Dallas 1989; Haglund 1980; Kohen 1986; Smith 1989). These models have since been refined by subsequent studies (e.g. JMCHM 1997, 1999, 2001; McDonald 1999), the most comprehensive of which is the study formulated by White and McDonald (2010), which identifies a key set of patterns found throughout the Cumberland Plain:

- Artefact distributions reflect continuous cultural landscapes rather than bounded sites.
- Artefact scatters are most commonly found within 100–200m of permanent water sources, such as rivers, creeks, and alluvial flats. Stream order also plays a role in artefact distribution, with more artefact types and raw materials found close to major watercourses.
- Artefact density varies according to landform. Elevated areas with views along major creek lines, valley floors, and low slopes are more likely to contain higher artefact densities.
- Silcrete is the primary raw material used for stone artefacts, followed by chert and tuff.
- High concentrations of artefacts are more likely to be located within resource-rich areas.
- Surface artefact finds do not necessarily reflect the potential for subsurface deposits.
- There is low potential for modified trees to be present, given large-scale land clearance.

5.2 Local Aboriginal archaeological context

This Part provides a brief summary of Aboriginal sites and archaeological investigations undertaken in the vicinity of the study area. It provides an indication of local site patterning and the nature of the local archaeological resource.

The studies discussed above indicate that the archaeological resource of the study area is likely to be characterised by isolated artefacts and artefact scatters (both surface and sub-surface) present in a relatively continuous state at varying levels of concentration, as well as potential archaeological deposits (PADs). The likely presence of these site-types within the study area, along with the potential for grinding grooves to occur along watercourses, are also supported by the results of recent investigations conducted within the Cumberland Plains as part of various public and private development projects. These studies are summarised and outlined below.

Hornsby Shire Aboriginal Study (Koettig 1996)

An extensive heritage study of Aboriginal cultural heritage sites within the Hornsby Shire Council local government area was conducted by Margrit Koettig Archaeological Services in 1996. The study demonstrated that the Hornsby area was rich with archaeological evidence of past Aboriginal occupation and utilisation. Due to its underlying geology and hilly landform, Koettig (1996) identified that the predominant site types within the Hornsby area are rock shelters with art, exposed sandstone with engravings and axe grinding grooves. A number of rock shelters were also found to contain shell middens and potential for intact occupation deposits.

In addition, Koettig (1996) also predicted that the estuarine foreshore of the Hornsby area is likely to have the highest frequency of sites. Unsurprisingly, sites with engravings were found predominantly on landforms such as ridges or crests, whereas axe grinding grooves occur more frequently on exposed sandstone near or within creek lines.

'Sheoaks' 1927-1931 Pittwater Road Bayview (AHMS 2004a; 2004b; 2005)

Between 2004 and 2005, Archaeological & Heritage Management Solutions (AHMS, presently Extent Heritage) undertook Aboriginal archaeological test and salvage excavations in advance of a proposed development at 1927-1931 Pittwater Road, formerly known as the 'Sheoaks' holiday cottage (approximately 20km northeast of the study area). In the Aboriginal Heritage Impact Assessment (AHMS 2004a) that preceded the excavations, it was determined that two shell midden sites, one PAD and potential for other sites including artefact scatters and culturally-modified trees are present within the Sheoaks property.

Consequently, test excavations were recommended and conducted at the property in September 2004 (AHMS 2004b). The test excavation program recovered at least 117 individual stone artefacts along with 356 pieces of broken artefacts; the stone artefacts were mostly made of fine grained silicious rock, followed by quartz and grey volcanic tuff that were likely gathered from cobbles and pebbles found among river gravels (AHMS 2004b, 41). Within the stone artefact assemblage, tools including backed blades, bipolar cores and scrapers were identified (AHMS 2004b, 44). Around 111kg of shell were also recovered from most of the test pits; at least 18 different species of shellfish were identified, with the assemblage predominated by the Sydney cockle, followed by rock oyster, mud oyster and Hercules Whelk (AHMS 2004b, 48). The absence of other food remains outside of shellfish indicated that shellfish exploitation on the estuarine mudflats was the primary activity at this location (AHMS 2004b, 48). Radiocarbon dating of a sample of cockle shells indicate that the site was occupied for approximately 4,500 years, beginning some time around 2,800-2,400 BC and used up to the contact period in the late eighteenth to early nineteenth century AD.

Based on the results of the test excavation program, a limited salvage excavation program was conducted on the property between May and June 2005 (AHMS 2005). Four trenches were excavated across the area of development impact which recovered at least 81 individual stone artefacts (also made of fine grained silicious rock, quartz and grey volcanic tuff), including backed blades, bipolar cores, scrapers, and a possible elouera (AHMS 2005, 24-25). Another 9kg of shell were also recovered and found to contain at least six different shellfish species dominated by the Sydney cockle, followed by the rock oyster, mud oyster and Hercules Whelk (AHMS 2005, 29-30).

City of Ryde Aboriginal Site Management Report (AHO 2011)

In 2011, the Aboriginal Heritage Office – a joint initiative by the Ku-ring-gai, Lane Cove, North Sydney, Manly, Pittwater, Warringah, Willoughby and City of Ryde Councils – compiled a report documenting all known Aboriginal sites located within the City of Ryde (approximately 12km southeast of the study area). A total of 56 Aboriginal sites were documented and various management recommendations were made by the report to conserve Aboriginal cultural heritage values as well as provide a schedule for these conservation works (AHO 2011, 22-31). The list of sites documented within the City of Ryde included rock shelters with art and potential occupation deposits, rock engravings, shell middens, grinding grooves as well as isolated finds and stone artefact scatters (AHO 2011 25, 58-59). More importantly, the grave of Bennelong – the Eora man who served as an interlocutor between the Eora people and the British– was identified as being located within the suburb of Putney in the City of Ryde (AHO 2011, 59).

Similar to the Hornsby Shire Aboriginal study (Koettig 1996), this report also observed a strong correlation between landforms and site features (AHO 2011, 26). Rockshelters with potential deposits, engraving and grinding grooves are typically located on sandstone landforms, whereas shell middens are located along the Lane Cove River within the Lane Cove National Park. The report also observed that historical ground disturbances since British colonisation have severely impacted the preservation of sites featuring isolated stone artefacts or scatters, shell middens as well as culturally-modified trees.

Hornsby Quarry Aboriginal Archaeological Survey Report (Artefact 2018)

In 2018, Artefact Heritage conducted an assessment of Aboriginal cultural heritage at the Hornsby Quarry (approximately 1.5km northwest of the study area) as part of the proposed rehabilitation works at the site. As a part of this assessment, an archaeological survey program was conducted to assess and identify any potential Aboriginal sites or places within the study area that may be impacted by the proposed works. While the assessment had predicted that site types such as grinding grooves, rock art, culturally-modified trees and PADs may be present, no Aboriginal archaeological sites or PADs were identified during the survey itself (Artefact 2018, 24-27). The assessment determined that the levels of historical land use at the Hornsby Quarry had resulted in major subsurface disturbance and hence, there was a low potential for intact archaeological resources to be present at the site.

1 Sirius Road, Lane Cove (Biosis 2019)

In 2019, Biosis Pty Ltd (Biosis) conducted an Aboriginal Cultural Heritage Assessment in advance of a proposed development at 1 Sirius Avenue at Lane Cove (approximately 12km southeast of the study area). An archaeological survey program was conducted as part of this assessment in November 2018 (Biosis 2019, 29). Despite the presence of landforms – including the nearby Lane Cove River, ridges as well as sandstone surface exposures and overhangs – that are typically sensitive to Aboriginal cultural heritage at this location, no Aboriginal objects or sites were identified during the survey (Biosis 2019, 29-38). In conclusion, the assessment determined that this locality held low archaeological potential for Aboriginal sites due to extensive levels of ground disturbance which have altered “much of the original ground surface” through various cut and fill actions (Biosis 2019, 38).

Macquarie University Campus (Extent Heritage 2020).

In 2020, Extent Heritage Pty Ltd (Extent Heritage) undertook an Aboriginal Cultural Heritage Assessment as part of the proposed redevelopment of the Central Courtyard Precinct at Macquarie University (approximately 8km southeast of the study area). While a variety of Aboriginal sites – including pigmented and engraved art sites, grinding grooves, rock shelters with occupation deposit and art as well as artefact scatters and isolated finds – were identified within 6km of Macquarie University, no Aboriginal objects or sites were identified at this location during the archaeological survey program conducted as part of this assessment (Extent Heritage 2020, 55-56, 61-74). Nonetheless, the cultural significance of Lane Cove River, as well as the importance of early Aboriginal and settler interaction following the settlement of this area, was noted by the Aboriginal stakeholders identified in this assessment (Extent Heritage 2020, 75).

5.3 AHIMS data

The Aboriginal Heritage Information Management System (AHIMS) database is managed by Heritage NSW-DPC and includes all spatial and compositional information of Aboriginal objects and sites previously recorded and registered, through academic and cultural resource management (Appendix 3).

An extensive search of the AHIMS database was carried out on 05 August 2021 for a 84 km² (12 km by 7 km) search area centred on the study area (Client ID: 610874; Appendix 3). Land surrounding the study area was included within the search parameters to gain information on the regional archaeological context and inform predictive statements regarding the archaeological potential of the study area.

A total of 77 entries (Figure 15) were returned within these search parameters. Of these 77 entries however, one site had received a permit to be completely destroyed (AHIMS ID #45-6-1487), while another (AHIMS ID #45-6-1439) has since been confirmed to not be a valid site (i.e. 'Not a Site'). Hence, only 75 entries remain identified as valid Aboriginal archaeological sites within the search area.

In the AHIMS system, sites are recorded with one or more of twenty site features, which summarise the nature of each site (Table 3; Figure 15). The most common site features recorded for the 75 valid sites are art (Pigment or Engraved) (n=43; 57.33%); two of these sites were also identified in association with other features such as stone artefacts and grinding grooves. The remaining features include stone artefacts (n=11; 14.67%), a hearth found in association with stone artefacts (n=1; 1.33%), grinding grooves (n=10, 13.33%), potential archaeological deposits (n=6, 8%), two culturally-modified trees (n=2, 2.67%) and two Aboriginal resource and gathering sites associated with various other site features (n=2, 2.67%).

According to the data provided by AHIMS, there are no Aboriginal sites identified within the study area.

Based on the spatial distribution of these valid sites within the search area, it appears that almost all of these sites are located along or near riparian corridors within the Berowra Valley National Park to the west, Ku-ring-gai Chase National Park to the east or Lane Cove National park to the south (Figure 15). Evidently, this distribution pattern is correlated with the relative low levels of urbanisation and development within the three national parks as there are almost no registered AHIMS sites identified within the urbanised areas of the current search area.

A search of the *Environment Protection and Biodiversity Act 1999* (EPBC Act) lists do not include any declarations of National, Commonwealth or World heritage listing for the study area. An additional search of the available information surrounding the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (ATSIHP Act) suggests that there are no Section 9 (emergency declaration) or Section 10 (other declaration) declarations currently underway.

Table 3. Valid site features recorded in the AHIMS search area

Site feature	No.	Percentage
Art (Pigment or Engraved)	36	48%
Art (Pigment or Engraved); Artefact	4	5.33%
Art (Pigment or Engraved); Grinding Groove	3	4%
Artefact	11	14.67%
Artefact; Hearth	1	1.33%
Grinding Groove	10	13.33%
Potential Archaeological Deposit (PAD)	6	8%
Modified Tree (Carved or Scarred)	2	2.67%
Aboriginal Resource and Gathering; Habitation Structure	1	1.33%
Aboriginal Resource and Gathering; Modified Tree (Carved or Scarred); Potential Archaeological Deposit (PAD)	1	1.33%
Total	75	100%

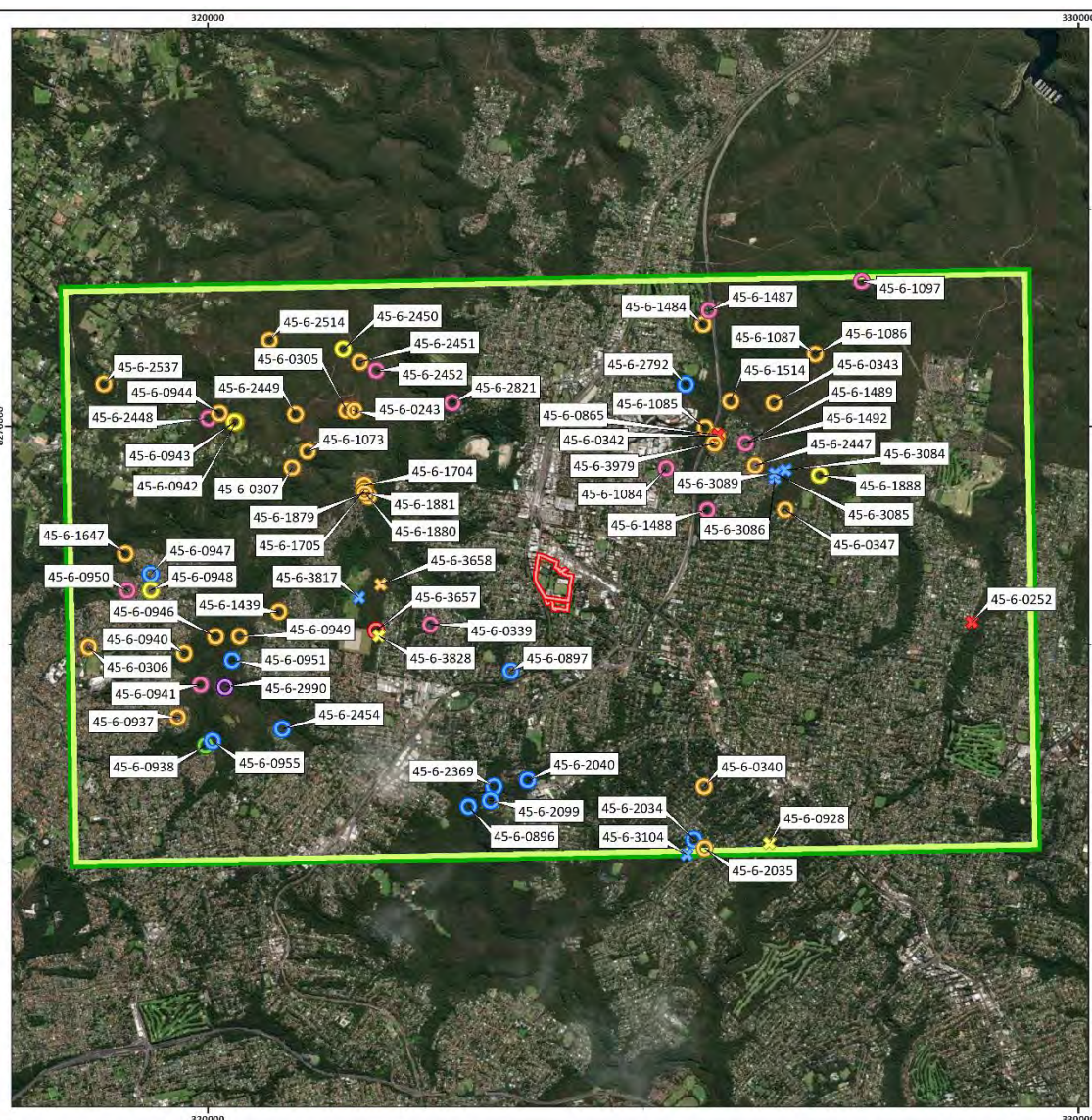
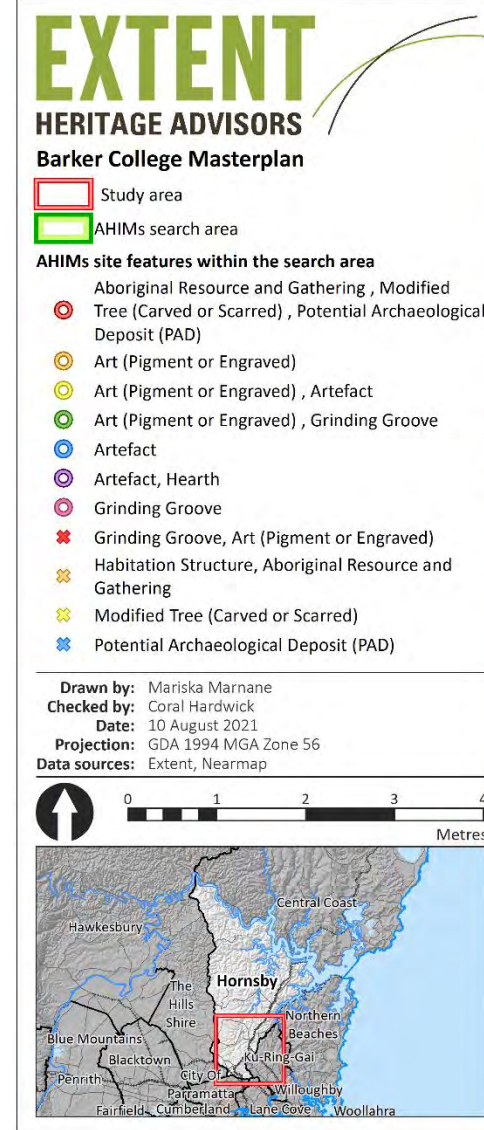


Figure 15. Results of the AHIMS search.

5.4 Predictive model

Archaeological predictive models identify, locate and map where archaeological resources are likely to survive, and are used in development and land use planning contexts to strategically identify risks to Aboriginal cultural heritage. They can apply to small single sites or large areas and can be simple exercises or enhanced by the use of specially designed GIS based spatial models. Each predictive model consists of a series of statements about the nature and distribution of evidence for Aboriginal land use that is expected in the subject site. These statements are based on the information gathered regarding:

- Landscape context and landform units.
- Ethnohistorical evidence of Aboriginal land use.
- Historical disturbance and landscape modification.
- Results of previous archaeological work in the vicinity of the subject site.
- Historical accounts of Aboriginal occupation, and landscape character.
- Predictive modelling proposed in previous archaeological investigations.

Based on the environmental and archaeological context surrounding the study area, as discussed in the preceding sections, the predictive model for the study area is detailed as follows (Figure 16):

- **Areas of moderate potential:** These are areas presently occupied by Barker Oval, Phipps Field, the smaller field north of Barker Oval, the immediate areas around any remaining remnant vegetation, as well as any remaining ground exposures that have remained undeveloped since 1930. Additionally, areas south of Clarke Road are considered to have moderate archaeological potential due to the proximity to Waitara Creek to the south of the study area. As these areas do not appear to have experienced the extensive developments that other parts of the study area have undergone, it is likely that ground disturbances since their establishment (i.e. sports and recreational activities, returfing and lawn maintenance, etc) have been relatively minor and mostly restricted to the topsoil at these locations. Hence, it is likely that the original Glenorie soils at these locations may have been preserved up to the present.

Aboriginal objects that may be contained within these soils are likely to be potential archaeological deposits of isolated stone artefacts or artefact scatters. There is also potential for culturally-modified trees to be present in areas where remnant vegetation have been preserved.

- **Areas of moderate-low potential:** This area consists of Rosewood Field to the east of the study area. As only small residential cottages were present at this location prior to their demolition to make way for the sports field, ground disturbance at this location is likely to have been shallow. Furthermore, no significant development appears to have occurred at this location since its conversion into Rosewood Field. Hence, it is also likely that the original

Glenorie soils may have been preserved at this location, albeit partially impacted by the construction and subsequent demolition of the residential cottages.

Similarly, Aboriginal objects that may be contained within these soils are likely to be potential archaeological deposits of isolated stone artefacts or artefact scatters. As no remanent vegetation appears to have survived at this location, it is unlikely that any culturally-modified trees will be present in this area.

- **Areas of low potential:** This area includes the remainder of the study area which is presently densely occupied by various buildings and amenities of Barker College. Due to the extensive levels of historical ground disturbance involved in the construction of these buildings and amenities, none of the original Glenorie or Gynea soils are expected to have been preserved at these locations.

Nonetheless, it remains possible for unexpected Aboriginal objects – typically in the form of isolated stone artefacts – to be encountered within disturbed or redeposited soils at this location.

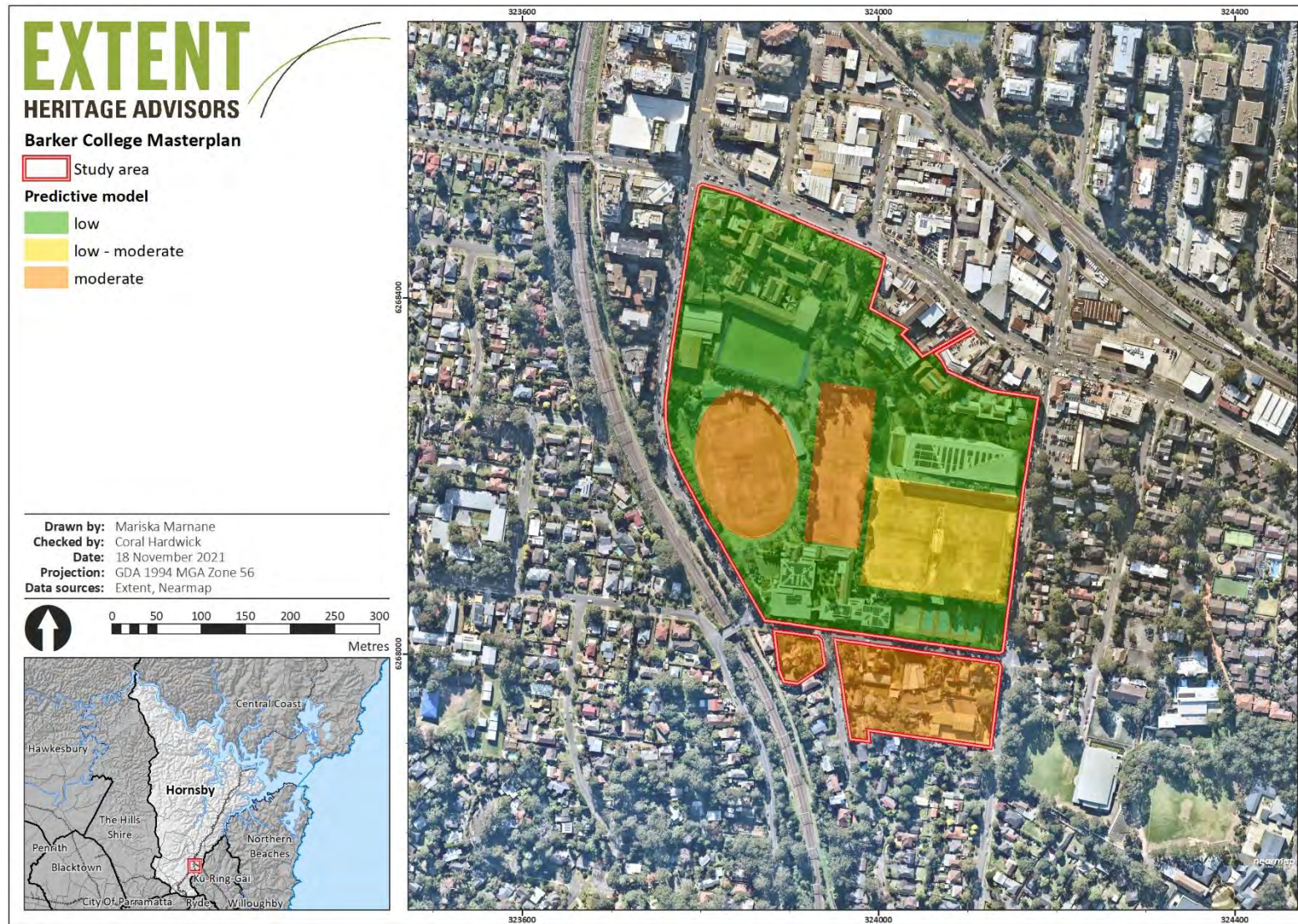


Figure 16. Predictive model.

6. Archaeological survey

6.1 Approach and methods

This section outlines the physical archaeological investigation of the study area undertaken as part of this ACHAR. The investigation was undertaken in conjunction with the Aboriginal stakeholders (see Part 2 of this report). All field investigation was undertaken in accordance with the DPIE's *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010).

The main aims of field investigation were to:

- verify the desktop review outlined in preceding sections.
- identify any extant Aboriginal objects or sites present within the study area through visual observation.
- identify any potential deposits or landforms of archaeological interest that may be present within the study area.
- identify evidence of previous and existing disturbance that may have had a detrimental impact to any Aboriginal objects that may have been present.

6.2 Site definitions and recording

An Aboriginal site is generally defined as an Aboriginal object or place. An Aboriginal object is the material evidence of Aboriginal land use, such as stone tools, scarred trees, or rock art. Some sites, or Aboriginal places, can also be intangible and although they might not be visible, these places have cultural significance to Aboriginal people. The Heritage NSW – DPC guidelines state that one or more of the following criteria must be used when recording material traces of Aboriginal land use:

- The spatial extent of the visible objects, or direct evidence of their location.
- Obvious physical boundaries where present, e.g., mound site and middens (if visibility is good), a ceremonial ground.
- Identification by the Aboriginal community on the basis of cultural information.

For the purposes of this study an Aboriginal site would be defined by recording the spatial extent of visible traces or the direct evidence of their location.

The survey methodology involved the field team traversing the entire study area, which is characterised by upper-, mid- and lower slope landforms. There were no registered AHIMS sites within or adjacent to (within 500m of) the study area. Any areas of good ground surface exposure were examined for archaeological evidence such as stone artefact scatters or isolated finds, and areas containing old growth vegetation were examined for evidence of Aboriginal cultural modification. Where identified, cuttings and soils in sections were also examined to document landscape configuration, soil profiles, soil disturbance, erosion and potential for

subsurface archaeological deposits. During the survey, detailed field notes, GPS coordinates and photographs were taken to document landform units, soil profiles, ground surface visibility and vegetation types.

6.3 Description of the study area

A field survey was undertaken on 20 October 2021 by Coral Hardwick and Rebekah Hawkins (Extent Heritage), and representatives from Metropolitan Local Aboriginal Land Council and Didge Ngunawal Clan.

The study area was divided into three survey units based on landform context for the purposes of reporting. The survey was undertaken by six personnel at a spacing of 5 m between each person. Survey coverage data and survey effectiveness is presented in Table 4 and Figure 17. Representative photos of the survey unit are illustrated in Figure 18- Figure 20. The landform and general soil information, as well as land surface and vegetation conditions are described as follows:

Survey Unit 1 – Upper Slope

Survey Unit 1 comprises the area on the upper slope landform across the northern extent of the study area from the Pacific Highway school frontage down to The Avenue (Figure 17). This survey unit is covered almost entirely with terraced built form including school buildings, paved pathways and concreted areas connected by stairs to complement the steep incline (Photograph 1-4). Topographically, the slope is highest in the north along Pacific Highway and extends down to the south at R B Finlay Walk.

Visibility across Survey Unit 1 was low (five per cent), with numerous small exposures (0.5m² to 1m²) within discrete areas of green space providing a small window into the underlying soil profile (ten per cent) (Photograph 5). Most exposures within Survey Unit 1 were caused by downslope erosion or erosion caused by foot traffic across areas of green space. The ground exposures in this area exhibited mid brown introduced granite-based fill (Photograph 6). Few mature trees were observed in a garden in the west of Survey Unit 1 (near Science Gates) however none exhibited any evidence of cultural modification (Photograph 7).

Survey Unit 2 – Mid Slope

Survey Unit 2 comprised the area on the mid slope landform underlaying the central part of the study area. Survey Unit 2 comprised primarily ovals, playing fields and few supporting buildings with far less of the area covered with built form in contrast to Survey Unit 1 (Figure 19). The slope in this area is similar to Survey Unit 1, with the northern portion of this area higher in elevation and sloping down to the south at Clarke Road (Photograph 1). The slope across Survey Unit 2 has been supplemented by significant areas of cut and fill, creating a series of large, terraced playing fields (Photograph 2-6). The south/southwest of Survey Unit 2 is occupied one large junior school building with frontage on Clarke Road. This building has one large impact footprint and is on less of an incline than the northern portion of Survey Unit 2 with far fewer stairs connecting the open spaces. Even though the slope is less extreme in this area, the junior school structure does display evidence of significant levelling with sloping open areas covered with concrete/cement surfaces and large buildings cut into the slope.

Overall, visibility in Survey Unit 2 was good (seventy per cent), with few moderate-sized ground exposures present (3m^2 to 5m^2) with twenty-five per cent of these areas exposing the underlying ground. The playing fields across Survey Unit 2 exhibited large areas of short grass with few small ground exposures caused by downslope erosion and erosion caused by foot traffic. Exposures were limited to areas around the playing field boundaries and in other small, vegetated areas across Survey Unit 2 (Photograph 7-8). Vegetation in Survey Unit 2 was limited to small garden beds of introduced and native vegetation, and tree lining along the north-south part of Robert Bland Drive (see Photograph 5).

Survey Unit 3 – Lower Slope

Survey Unit 3 comprised the area on the lower slope landform underlaying the southern portion of the study area located to the south of Clarke Road and extending down to Waitara Creek located 10-50m south of the study area (Figure 20). The slope in this area is similar to that across the junior school buildings in Survey Unit 2, being more gentle than the slope in the north of the study area. (Photograph 1-2). Survey Unit 3 included residential houses and support buildings associated with the school (Photograph 3-5). This area exhibited less ground disturbance than Survey Unit 1 and 2, with localised impacts in the vicinity of structures, most of which have involved small-scale cut and fill impacts.

Visibility in Survey Unit 3 was limited (twenty-five per cent) with few small ground exposures (1m^2 to 2m^2) observed across the area (twenty-five per cent). The underlying soil profile exhibited mid-brown silt with introduced material similar to that of demolition debris (Photograph 6). Remnant vegetation was observed at the southern limit of the study area, however most of the land parcels have been cleared of old growth for the minor development of residential buildings. One large old tree was observed in the driveway of a collection of houses, however it did not exhibit any evidence of cultural modification (Photograph 7).

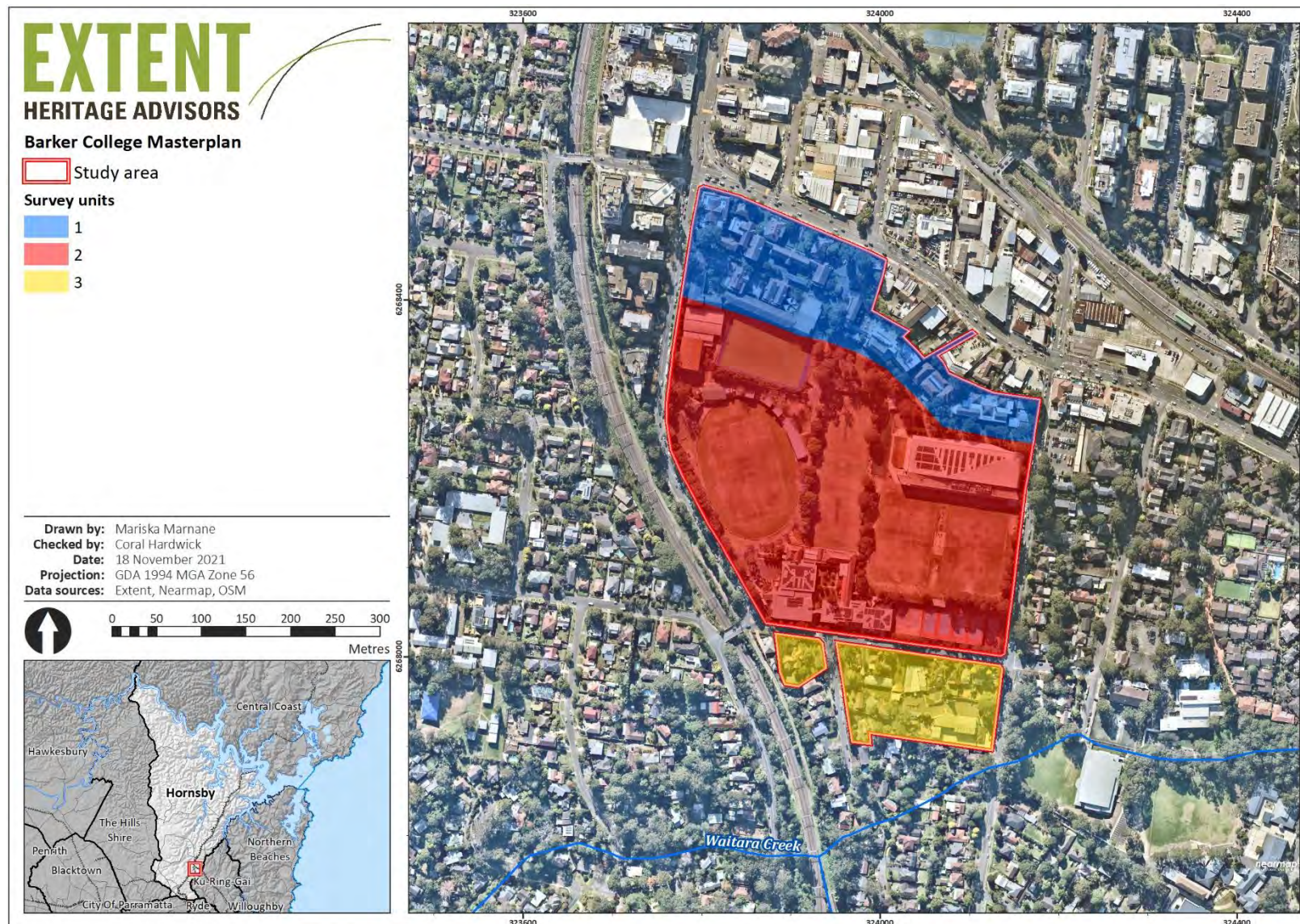


Figure 17. Survey units examined during archaeological survey.

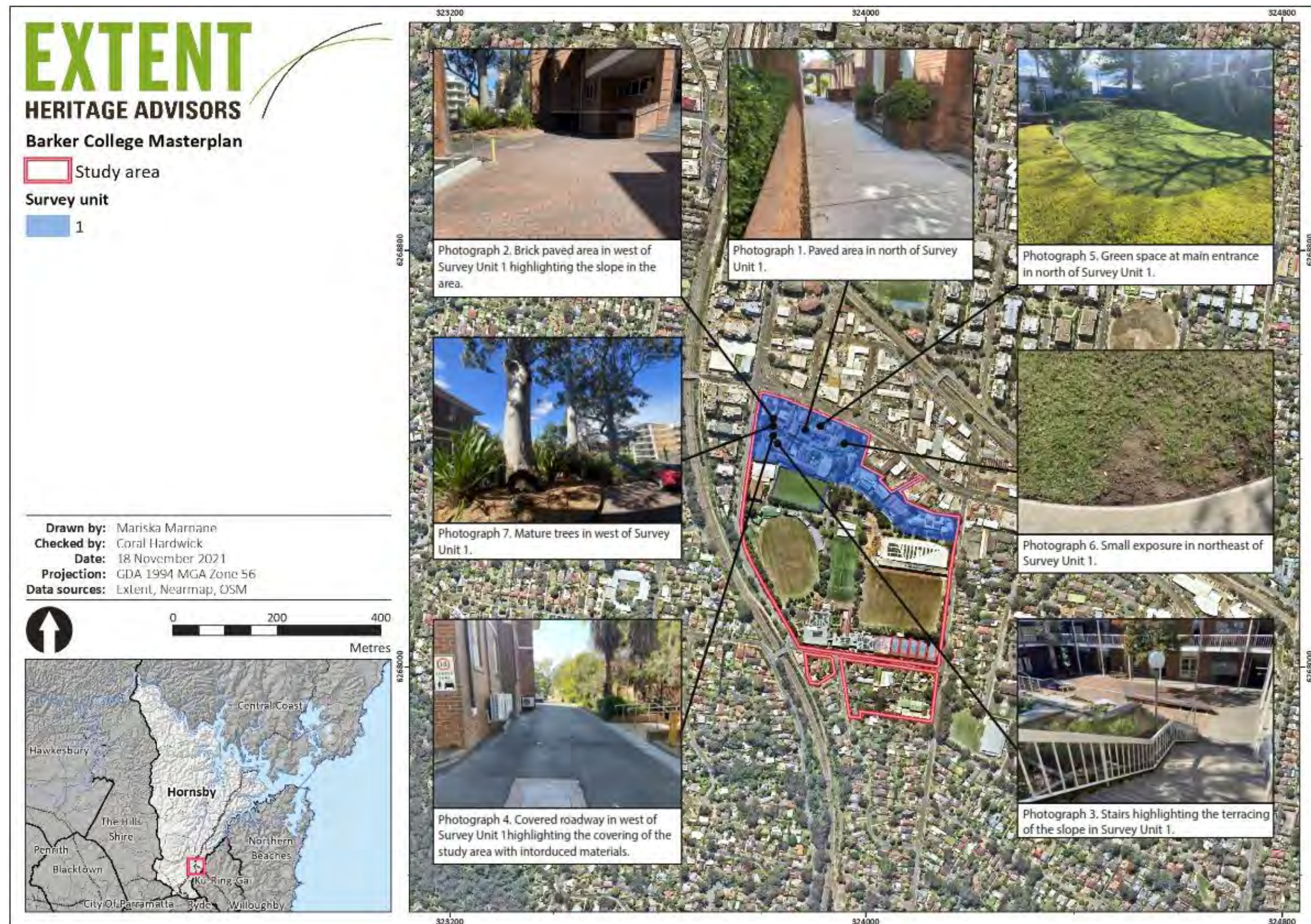


Figure 18. Survey Unit 1 and photo insets.

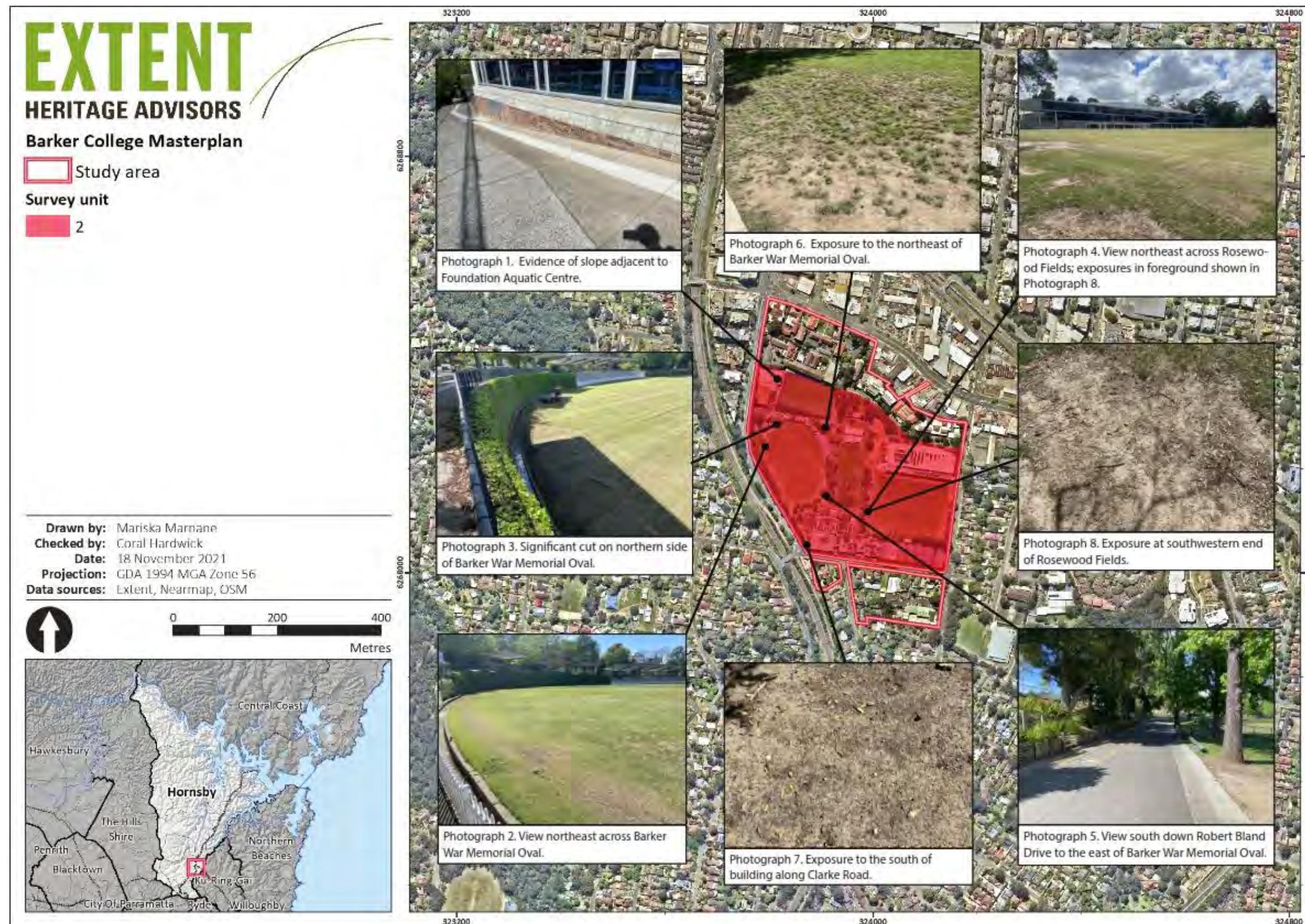


Figure 19. Survey Unit 2 and photo insets.

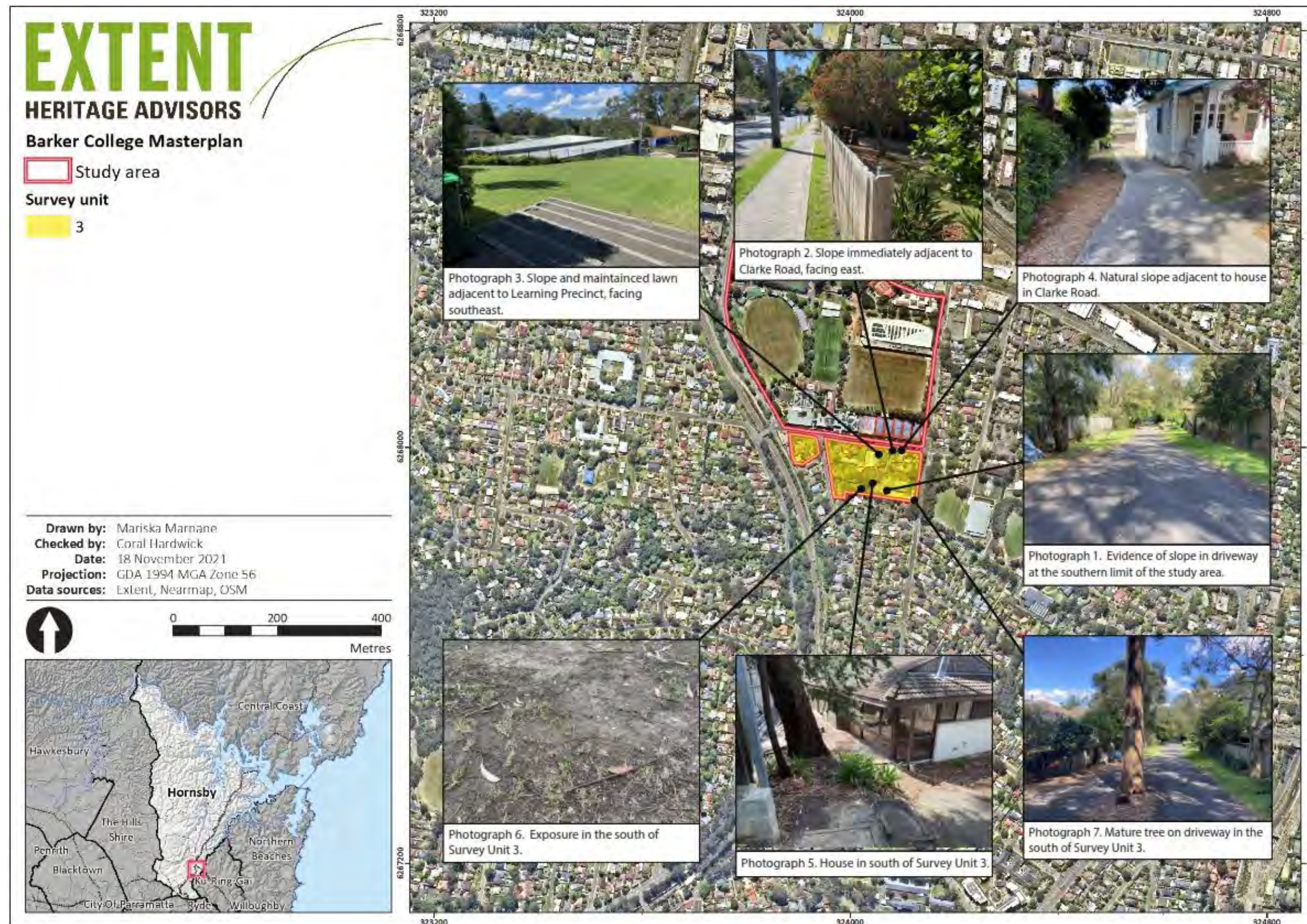


Figure 20. Survey Unit 3 and photo insets.

7. Analysis and discussion

This section summarises the results of the background research, field investigation, community consultation and predictive modelling of the study area. These conclusions will be used in subsequent sections to assess the archaeological and cultural significance of the study area, identify potential impacts to Aboriginal heritage as a result of the proposed development, and propose strategies to manage and mitigate these impacts.

From a regional perspective, Aboriginal people have occupied and utilised the Sydney Basin for a considerable length of time, certainly throughout the Holocene (10,000 years ago to the present) and likely also in the late Pleistocene (+10,000 years ago). Archaeological studies pertaining to the region reflect the complexity of this locale, being at the interface of the Cumberland Plain and Pittwater sandstone plateau. As such, proximity to water, elevation and the presence of sandstone geology with suitable overhangs and/or flat exposures are considered important factors in Aboriginal site patterning of the region. Evidence for Aboriginal occupation in the region reflects these varied landscapes, with pigmented and engraved art sites, grinding grooves and rock shelters with occupation deposit and art, as well as artefact scatters and isolated finds being characteristic.

Environmental and archaeological investigations of the region indicate that cultural material is commonly found in the form of surface and/or subsurface stone artefacts primarily due to the survivability of these site types with the widespread development of the region. These can come in the form of isolated artefacts or low-density scatters suggestive of ephemeral or transient use of the landscape, or denser deposits indicative of intense or repeated occupation. There is some evidence of rock shelters, engravings and grinding grooves found in the broader region, but these are constrained to areas of exposed sandstone geology, which is not found in the study area.

No Aboriginal objects or sites were identified during the field survey. Given the significant ground disturbance which has occurred across the study area, and the limited depths of the mapped soil landscapes, there remains little potential for subsurface Aboriginal objects and sites in the form of buried artefactual material. Additionally, there is low potential for culturally modified trees due to the widespread clearing of a majority of the remnant vegetation.

Table 4. Summary of survey coverage.

Survey unit	Landform	Area (m ²)	Visibility (%)	Exposure (%)	Effective coverage (m ²)	Effective coverage (%)
1	Upper slope	36691.48	5	10	1834.57	5.0
2	Mid slope	109216.4	70	25	19112.87	17.5
3	Lower slope	19414.95	25	25	1213.43	6.2

EXTENT

HERITAGE ADVISORS

Barker College Masterplan

 Study area

Archaeological potential

 low

Drawn by: Mariska Marnane
Checked by: Coral Hardwick
Date: 18 November 2021
Projection: GDA 1994 MGA Zone 56
Data sources: Extent, Nearmap



0 50 100 150 200 250 300
Metres

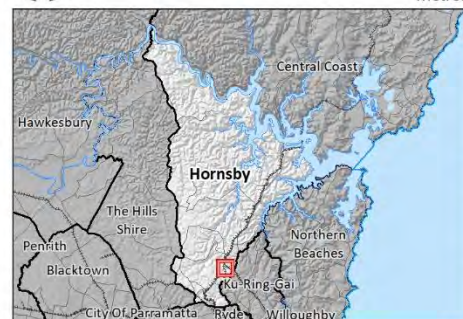


Figure 21. Archaeological potential of the study area.

8. Significance assessment

While all Aboriginal objects in NSW are protected under NSW legislation, the *National Parks and Wildlife Act 1974* recognises that the destruction of sites may be necessary to allow other activities or developments to proceed. In order for the State regulator to make informed decisions on such matters, a consideration of the significance of cultural heritage places and objects is an important element of the assessment process.

An assessment of the archaeological significance of an item or place is required in order to form the basis of its management. The Code of Practice required that the assessment must reflect best practice assessment processes as set out in the Burra Charter (Australia ICOMOS 2013):

- Research potential: does the evidence suggest any potential to contribute to an understanding of the area and/or region and/or state's natural and cultural history?
- Representativeness: how much variability (outside and/or inside the subject area) exists, what is already conserved, how much connectivity is there?
- Rarity: is the subject area important in demonstrating a distinctive way of life, custom, process, land-use, function or design no longer practised? Is it in danger of being lost or of exceptional interest?
- Education potential: does the subject area contain teaching sites or sites that might have teaching potential?

In accordance with the National Parks and Wildlife Regulations 2019, this report only includes an assessment of the scientific values of identified Aboriginal sites. An assessment of social, aesthetic and historic significance would be included in an Aboriginal Cultural Heritage Assessment Report (ACHAR) prepared in accordance with the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011) (the Guide) and the Consultation Requirements.

It is important to note that heritage significance is a dynamic value and will be updated in consideration of the results of future investigations.

Based upon consultation with RAPs to date, no information regarding the study area has identified any social/spiritual, historic or aesthetic significance.

8.1 Archaeological Significance Assessment

The background research and site visit did not result in the identification of any Aboriginal sites or areas of PAD. Therefore, the study area has not been assessed as having low archaeological significance.

Unexpected Aboriginal archaeological material may be present within layers of fill. Any Aboriginal objects retrieved from the fill would likely be assessed as holding low scientific significance due to a lack of archaeological context and integrity.

9. Impact assessment

9.1 Proposed development

The purposes of seeking approval to modify the existing consent condition will allow Barker to increase the limit of student enrolments and full-time staff employed at Barker College. Consent Condition #60 limits the number of students that Barker may enrol to 2,420 (including a maximum of 40 children in the preschool) and limits the number of full-time equivalent staff that Barker may employ to 339. Barker cannot exceed the limits set by this condition unless and until it obtained Development Consent.

To complement this increase in student numbers, Barker is proposing to improve traffic management in and around the school, construct a new aquatics and tennis centre to replace the ageing facilities, improve pedestrian infrastructure and construct a new co-curricular performing arts and exam centre (Figure 22). The proposed development will include significant ground disturbance and excavation/levelling across the study area, particularly concerning new underground parking facilities beneath the aquatics and tennis centre north of Clarke Road, and the co-curricular performing arts and exam centre and new maintenance facility to the south of Clarke Road. Minor landscaping impacts are proposed in the areas of pedestrian link upgrades (i.e. pathways) and additional green space development.

9.2 Impact assessment

No Aboriginal places or objects were identified within the study area. Due to the highly disturbed nature of the study area, intact archaeological deposits are not likely to be present below the ground surface. Therefore, the project is unlikely to impact any Aboriginal heritage items or places, or potential Aboriginal archaeology.

As no impacts to Aboriginal sites, places or archaeology associated with the project have been identified, direct and/or indirect impacts (including cumulative impacts and visual impacts) to Aboriginal places or objects are considered unlikely.



Figure 22. Proposed site plan.

10. Management and mitigation strategy

10.1 Management strategy

The proposal is unlikely to impact any Aboriginal objects, therefore no further archaeological investigation or mitigation is required. However, unexpected finds remain protected under the NPW Act. If unforeseen Aboriginal objects are uncovered during construction, work should cease, and an archaeologist, Heritage NSW – DPC and the Metropolitan LALC should be informed.

Aboriginal burials which occur outside of designated cemeteries are protected under the National Parks and Wildlife Act and should not be disturbed. Interpreting the age and nature of skeletal remains is a specialist field, and an appropriately skilled archaeologist or physical anthropologist should therefore be contacted to inspect the find and recommend an appropriate course of action. Should the remains prove to be Aboriginal in origin, you are required to notify Heritage NSW – DPC and the Local Aboriginal Land Council. Notification should also be made to the Commonwealth Minister for the Environment, under the provisions of the Aboriginal and Torres Strait Islander Heritage Protection Act.

10.2 Recommendations

In order to appropriately manage Aboriginal cultural heritage present within the study area, the following recommendations are made:

1. No further assessment is required as no known Aboriginal objects or areas of PAD will be impacted by the project.
2. A copy of this ACHAR report should be lodged with the AHIMS Sites Registrar and provided to each of the Registered Aboriginal Parties (RAPs).
3. If any element of the development is relocated outside the area assessed in this study, or if any alteration to the development plan is proposed that could result in additional impact, a new Aboriginal heritage due diligence assessment should be undertaken by a suitably qualified heritage consultancy to identify whether any further Aboriginal heritage assessment is required in accordance with the risk management process set out in the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW, 2010).
4. The proponent should ensure all relevant personnel and contractors involved in the development works are aware of all relevant Aboriginal heritage legislative requirements, including any conditions of approval made by DPIE with respect to Aboriginal heritage protection and management.
5. If unforeseen Aboriginal objects are uncovered during construction, work should cease, and an archaeologist, Heritage NSW – DPC and the Metropolitan LALC should be informed.

6. If human skeletal material is identified at any time during development works, all works in the vicinity of the discovery should cease immediately and the NSW Police, the NSW Coroner's Office and Heritage NSW should be contacted for advice about how to proceed. Human skeletal remains are protected under the provisions of the *Coroners Act 2009* (remains that are less than 100 years old) and the *National Parks and Wildlife Act 1974* (traditional Aboriginal burials).

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12. Glossary

Aboriginal cultural heritage assessment report (ACHAR)	A document developed to assess the archaeological and cultural values of an area, generally required as part of an environmental assessment (EA).
<i>Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010</i>	Guidelines developed by DECCW to guide formal Aboriginal community consultation undertaken as part of an Aboriginal cultural heritage assessment report (ACHAR).
Aboriginal Heritage Impact Permit (AHIP)	The statutory instrument that the Director General of the Department of Planning, Industry and Environment (DPIE) issues under section 90 of the <i>National Parks and Wildlife Act 1974</i> (NSW) to allow the investigation (when not in accordance with certain guidelines), impact and/or destruction of Aboriginal objects. AHIPs are not required where project approval under the state-significant provisions of Part 4 (Division 4.1) of the <i>Environmental Planning and Assessment Act 1979</i> (NSW).
Aboriginal object	A statutory term defined under the <i>National Parks and Wildlife Act 1974</i> (NSW) as ‘any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains’.
<i>Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales</i>	Guidelines developed by DECCW (2010) to inform the structure, practice and content of any archaeological investigations undertaken as part of an Aboriginal cultural heritage assessment report (ACHAR).
Department of Environment, Climate Change and Water (DECCW)	Now known as the Department of Planning, Industry and Environment (DPIE), Department of Premier and Cabinet.
<i>Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales</i>	Guidelines developed by DECCW, outlining the first stage of a two-stage process in determining whether Aboriginal objects and/or areas of archaeological interest are present within a study area. The findings of a due diligence assessment may lead to the development of an Aboriginal cultural heritage assessment report.
<i>Environmental Planning and Assessment Act 1979 (NSW)</i>	Statutory instrument that provides planning controls and requirements for environmental assessment in the development approval process. The Act is administered by the Department of Planning and Environment.
<i>Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW</i>	Guidelines developed by OEH to inform the structure and content of an Aboriginal cultural heritage assessment report (ACHAR).
Isolated find	An isolated find is usually considered a single artefact or stone tool, but can relate to any product of prehistoric Aboriginal societies. The term ‘object’ is used in the Aboriginal cultural heritage assessment report (ACHAR), to reflect the definitions of Aboriginal stone tools or other products in the <i>National Parks and Wildlife Act 1974</i> (NSW).

<i>National Parks and Wildlife Act 1974 (NSW)</i>	The primary piece of legislation for the protection of Aboriginal cultural heritage in New South Wales. Part 6 of this Act outlines the protection afforded to and offences relating to disturbance of Aboriginal objects. The Act is administered by DPIE
Department of Planning, Industry and Environment (DPIE)	The DPIE is responsible for managing the Aboriginal Heritage (and other) provisions of the <i>National Parks and Wildlife Act 1974</i> .
Potential archaeological deposit (PAD)	An area assessed as having the potential to contain Aboriginal objects. PADs are commonly identified on the basis of landform types, surface expressions of Aboriginal objects, surrounding archaeological material, disturbance, and a range of other factors. While not defined in the <i>National Parks and Wildlife Act 1974 (NSW)</i> , PADs are generally considered to retain Aboriginal objects and are therefore protected and managed in accordance with that Act.
Proponent	A corporate entity, government agency or an individual in the private sector which proposes to undertake a development project.

Appendix 1. Legislation

A1.1. Commonwealth legislation

Aboriginal and Torres Strait Islander Heritage Protection Act 1984

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

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

Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* provides for the protection of natural and cultural heritage places. The Act establishes (amongst other things) a National Heritage List (NHL) and a Commonwealth Heritage List (CHL). Places on the NHL are of natural or cultural significance at a national level and can be in public or private ownership. The CHL is limited to places owned or occupied by the Commonwealth which are of heritage significance for certain specified reasons.

Places listed on the NHL are considered to be of state and local heritage value, even if state or local various heritage lists do not specifically include them.

The heritage values of places on the NHL or the CHL are protected under the terms of the EPBC Act. The Act requires that the minister administering the Act assess any action which has, will have, or is likely to have, a significant impact on the heritage values of a listed place. The approval (or rejection) follows the referral of the matter by the relevant agency's minister.

Native Title Act 1993

The *Native Title Act 1993* provides recognition and protection for native title. The Act established the National Native Title Tribunal to administer native title claims to rights and interests over lands and waters by Aboriginal people. The Tribunal also administers the future act processes that attract the right to negotiate under the *Native Title Act 1993*.

The Act also provides for Indigenous land use agreements (ILUA). An ILUA is an agreement between a native title group and others about the use and management of land and waters. ILUAs were introduced as a result of amendments to the *Native Title Act* in 1998. They allow people to negotiate flexible, pragmatic agreements to suit their particular circumstances.

An ILUA can be negotiated over areas where native title has, or has not yet, been determined. They can be part of a native title determination, or settled separately from a native title claim. An ILUA can be negotiated and registered whether there is a native title claim over the area or not.

A1.2. New South Wales state legislation

Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act) requires that environmental and heritage impacts are considered by consent authorities prior to granting development approvals. The relevant sections of the EP&A Act are:

- Part 3A: A single assessment and approval system for major development and infrastructure projects [note that Part 3A has now been repealed and replaced with Part 4 (Division 4.1)].
- Part 4: Development that requires consent under consideration of environmental planning instruments.
- Part 5: An assessment process for activities undertaken by Public Authorities and for developments that do not require development consent but an approval under another mechanism.

Where Project Approval is to be determined under Part 4 (Division 4.1) of the Act, further approvals under the *National Parks and Wildlife Act 1974*, are not required. In those instances, management of Aboriginal heritage follows the applicable Aboriginal assessment guidelines (the Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation, July 2005) and any relevant statement of commitments included in the Development Approval.

National Parks and Wildlife Act 1974

The *National Parks and Wildlife Act 1974* (NPW Act) provides blanket protection for Aboriginal objects (material evidence of Indigenous occupation) and Aboriginal places (areas of cultural significance to the Aboriginal community) across NSW. An Aboriginal object is defined as:

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

An Aboriginal place is any place declared to be an Aboriginal place by the Minister for the Environment, under section 84 of the Act.

It is an offence to disturb Aboriginal objects or places without a permit authorised by the Director-General of the Department of Planning, Industry and Environment. In addition, anyone who discovers an Aboriginal object is obliged to report the discovery to DPIE.

The operation of the NPW Act is administered by DPIE. With regard to the assessment of Aboriginal cultural heritage, DPIE has endorsed the following guidelines:

- *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW 2010c).
- *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b).

- *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010a).
- *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011).

Aboriginal Land Rights Act 1983

The *Aboriginal Land Rights Act 1983* allows for the transfer of ownership to a Local Aboriginal Land Council of vacant Crown land not required for an essential purpose or for residential land. These lands are then managed and maintained by the Local Aboriginal Land Council.

Appendix 2

Appendix 2. Aboriginal consultation

Appendix 2

A2.1. Aboriginal consultation log

Appendix 2

Agency	Contact	Date	Description	Extent contact
Pre-Notifications – Sent				
Hornsby Shire Council	General Manager	28.06.2021	Requested details of any Aboriginal organisations or individuals who may be interested in the project.	Coral Hardwick
Heritage NSW	Heritage mailbox			
Metropolitan Local Aboriginal Land Council	General Manager			
Greater Sydney Local Land Services	General Manager			
NTSCorp	General Manager			
National Native Title Tribunal	General Manager	28.06.2021	Requested details of any Aboriginal organisations or individuals who may be interested in the project. Submitted request for search of Tribunal Registers.	Coral Hardwick
Office of the Registrar Aboriginal Land Rights Act 1983	The Office of the Registrar			
Pre-Notification – Responses				
Heritage NSW	Heritage mailbox	28.06.2021	Automated response- email received	Coral Hardwick
National Native Title Tribunal	General Manager	28.06.2021	Automated response- email received	Coral Hardwick
Greater Sydney Local Land Services	General Manager	28.06.2021	Automated response- email received	Coral Hardwick
Heritage NSW	Barry Gunther	28.06.2021	Emailed RAP List for project	Coral Hardwick
Notifications – Sent				
A1 Indigenous Services	Carolyn Hickey	28.06.2021	Emailed notification letter asking for registrations of interest by 14 July 2021	Coral Hardwick
Amanda Hickey Cultural Services	Amanda Hickey			
Aragung Aboriginal Cultural Heritage Site Assessments	Jamie Eastwood			
B.H. Heritage Consultants	Ralph & Nola Hampton			
Barking Owl Aboriginal Corporation	Jody Kulakowski			
Biamanga	Seli Storer			
Bilinga	Simalene Carriage			
Butucarbin Aboriginal Corporation	Jennifer Beale			
Callendulla	Corey Smith			
Clive Freeman	Clive Freeman			
Darug Boorooberongal Elders Aboriginal Corporation	Paul Hand			
Darug Custodian Aboriginal Corporation	Justine Coplin			
Darug Land Observations	Jamie Workman and Anna Workman			
Dharug	Andrew Bond			
Dhinawan Culture & Heritage Pty Ltd	Stephen Fields			

Agency	Contact	Date	Description	Extent contact
Didge Ngunawal Clan	Lilly Carroll & Paul Boyd			
Ginninderra Aboriginal Corporation	Steven Johnson and Krystle Carroll			
Goobah Developments	Basil Smith			
Goodradigbee Cultural & Heritage Aboriginal Corporation,	Caine Carroll			
Gulaga	Wendy Smith			
Gunyuu	Kylie Ann Bell			
Guringai Tribal Link Aboriginal Corporation	Tracey Howie			
Jerringong	Joanne Anne Stewart			
Kamilaroi Yankuntjatjara Working Group	Phil Khan			
Metropolitan Local Aboriginal Land Council	Nathan Moran			
Munyunga	Kaya Dawn Bell			
Murramarang	Roxanne Smith			
Murrumbul	Mark Henry			
Ngambaa Cultural Connections	Kaarina Slater			
Nundagurri	Newton Carriage			
Pemulwuy CHTS	Pemulwuy Johnson			
Thauaira	Shane Carriage			
Thoorga Nura	John Carriage			
Tocomwall	Scott Franks			
Wailwan Aboriginal Group	Philip Boney			
Walbunja	Hika Te Kowhai			
Walgalu	Ronald Stewart			
Wingikara	Hayley Bell			
Wori Woilywa	Daniel Chalker			
Yerramurra	Robert Parson			
Badu	Karia Lea Bond	28.06.2021	Posted notification letter asking for registrations of interest by 14 July 2021	Coral Hardwick
Darug Aboriginal Cultural Heritage Assessments	Gordon Morton			
DJMD Consultancy	Darren Duncan			
Eric Keidge	Eric Keidge			
Minnamunnung	Aaron Broad			
Mura Indigenous Corporation,	Phillip Carroll			
Waawaar Awaa Aboriginal Corporation	Rodney Gunther			
Wullung	Lee-Roy James Boota			
Notification- Received				
Tocomwall	Danny Franks	28.06.2021	Danny emailed registering an interest in the project	Coral Hardwick

Agency	Contact	Date	Description	Extent contact
Didge Ngunawal Clan	Lilly Carroll	28.06.2021	Lilly emailed registering an interest in the project	Coral Hardwick
Kamilaroi Yankuntjatjara Working Group	Phil Khan	29.06.2021	Phil emailed registering an interest in the project	Coral Hardwick
Gulaga	Wendy Smith	29.06.2021	Wendy emailed registering an interest in the project	Coral Hardwick
A1 Indigenous Services	Carolyn Hickey	04.07.2021	Carolyn emailed registering an interest in the project	Coral Hardwick
Goobah Developments	Basil Smith	07.07.2021	Emailed registering an interest in the project	Coral Hardwick
Butucarbin Aboriginal Corporation	Lowana Gibson	15.07.2021	Lowana emailed a letter registering an interest in the project.	Coral Hardwick
Methodology- Sent				
A1 Indigenous Services	Carolyn Hickey	15.07.2021	Survey methodology sent for 28 day RAP review. Feedback required by 12 August 2021.	Coral Hardwick
Butucarbin Aboriginal Corporation	Jennifer Beale			
Didge Ngunawal Clan	Lillie Carroll & Paul Boyd			
Goobah Developments	Basil Smith			
Gulaga	Wendy Smith			
Kamilaroi Yankuntjatjara Working Group	Phil Khan			
Tocomwall	Danny Franks			
Methodology- Received				
A1 Indigenous Services	Carolyn Hickey	15.07.2021	Carolyn emailed in support of the proposed methodology.	Coral Hardwick
Didge Ngunawal Clan	Lillie Carroll & Paul Boyd	15.07.2021	Lillie emailed in support of the proposed methodology.	Coral Hardwick
Goobah Developments	Basil Smith	20.07.2021	Emailed in support of the proposed methodology.	Coral Hardwick
Kamilaroi Yankuntjatjara Working Group	Kadibulla Khan	21.07.2021	Emailed in support of the proposed methodology.	Coral Hardwick
Gulaga	Wendy Smith	02.08.2021	Emailed in support of the proposed methodology.	Coral Hardwick
RAP list to Heritage NSW and LALC				
Heritage NSW	Heritage mailbox	15.07.2021	Letter sent to Heritage NSW and Metropolitan LALC outlining the registered groups for the project. Appendix included the notification letter and newspaper advert.	Coral Hardwick
Metropolitan Local Aboriginal Land Council	General Manager			
Report Review- Sent				
A1 Indigenous Services	Carolyn Hickey	10.02.2022	Draft report sent to RAPs for review. Comments and feedback required by 10 March 2022 .	Coral Hardwick
Butucarbin Aboriginal Corporation	Jennifer Beale			
Didge Ngunawal Clan	Lillie Carroll & Paul Boyd			
Goobah Developments	Basil Smith			

Agency	Contact	Date	Description	Extent contact
Gulaga	Wendy Smith			
Kamilaroi Yankuntjatjara Working Group	Phil Khan			
Tocomwall	Danny Franks			
		20.02.2022	Email response to the report received from Kadibulla Khan. Email outlined the significance and importance of the study area due to its location and the flora and fauna along the river. Email states that hunting and gathering, and camping would have occurred in this region. The email refers to the close proximity to the Georges River which is 22km southwest of the study area. This is presumably an error. The email suggests interpretation as the most valuable step to a better education. The email suggests 3D imagery of the identified sites, even though there are no sites within the study area. The email states that KYWG disagree with the recommendations of the report, due to the 75 registered sites within the 82km ² search area. The email recommends monitoring of the development work.	Coral Hardwick
Kamilaroi Yankuntjatjara Working Group	Kadibulla Khan			
A1 Indigenous Services	Carolyn Hickey	03.03.2022	Reminder email sent to RAPs for report review. Comments and feedback required by 10 March 2022 .	Coral Hardwick
Butucarbin Aboriginal Corporation	Jennifer Beale			
Didge Ngunawal Clan	Lillie Carroll & Paul Boyd			
Goobah Developments	Basil Smith			
Gulaga	Wendy Smith			
Kamilaroi Yankuntjatjara Working Group	Phil Khan			
Tocomwall	Danny Franks			

A2.2. List of identified Aboriginal stakeholders

- A1 Indigenous Services
- Amanda Hickey Cultural Services
- Aragung Aboriginal Cultural Heritage Site Assessments
- B.H. Heritage Consultants
- Badu
- Barking Owl Aboriginal Corporation
- Biamanga
- Bilinga
- Butucarbin Aboriginal Corporation
- Callendulla
- Clive Freeman
- Darug Aboriginal Cultural Heritage Assessments
- Darug Boorooberongal Elders Aboriginal Corporation
- Darug Custodian Aboriginal Corporation
- Darug Land Observations
- Dharug
- Dhinawan Culture & Heritage Pty Ltd
- Didge Ngunawal Clan
- DJMD Consultancy
- Eric Keidge
- Ginninderra Aboriginal Corporation
- Goobah Developments
- Goodradigbee Cultural & Heritage Aboriginal Corporation,
- Gulaga
- Gunyuu
- Guringai Tribal Link Aboriginal Corporation
- Jerringong
- Kamilaroi Yankuntjatjara Working Group
- Metropolitan Local Aboriginal Land Council
- Minnamunnung
- Munyunga
- Mura Indigenous Corporation,
- Murramarang
- Murrumbul
- Ngambaa Cultural Connections
- Nundagurri
- Pemulwuy CHTS
- Thauaira
- Thoorga Nura
- Tocomwall
- Waawaar Awaa Aboriginal Corporation
- Wailwan Aboriginal Group
- Walbunja
- Walgalu
- Wingikara
- Wori Woilywa
- Wullung
- Yerramurra

A2.3. List of registered Aboriginal parties

- A1 Indigenous Services
- Butucarbin Aboriginal Corporation
- Darkinjung Local Aboriginal Land Council
- Didge Ngunawal Clan
- Goobah Developments
- Gulaga
- Kamilaroi Yankuntjatjara Working Group
- Metropolitan Local Aboriginal Land Council
- Tocomwall

Appendix 2

A2.4. Pre-notification documentation- sent and received

Appendix 2

28 June 2021

Attention: «Organisation»

«Address_1»

«Address_2»

Re: Request for Information on Aboriginal Stakeholders for an Aboriginal Cultural Heritage Assessment at Proposed Barker College Masterplan

Dear Sir or Madam,

Extent Heritage Pty Ltd has been engaged by EPM Projects on behalf of The Council of Barker College (the proponent) to undertake a preliminary Aboriginal Cultural Heritage Assessment Report (ACHAR) to support a State Significant Development Application (SSDA). The development is proposed for the following land parcels: Lot 100 DP1262386, Lot 100 DP1232343, Lot 1, DP857049 and Lots 4, 5 and 6 DP 236907.

The study area land is within Hornsby Shire Local Government Area. In order to increase the staff and student numbers and approve the construction of additional facilities, Barker is required to lodge a State Significant Development Application (SSDA) seeking statutory approval of the Concept Master Plan to Heritage NSW (DPC) and seek modification to the requirements of Condition #60 of DA/1194/2016. Part of this application requires consideration of Aboriginal heritage in the form of an ACHAR.

The proponent is Carrington Centennial Care, and contact details for the proponent are:

Mr Daniel Rickard

C/- EPM Projects Pty Ltd

Level 2, 146 Arthur Street, North Sydney NSW 2060

T: (02) 9452 8300

In accordance with Heritage NSW's *Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010)*, I am writing to you to seek information on relevant Aboriginal individuals and/or communities that you are aware of who may hold cultural knowledge for the area relevant to determining the significance of Aboriginal objects and/or places. It would be appreciated if you could provide this information to the either the postal address or email address below.

Attn: Coral Hardwick

Extent Heritage

3/73 Union St Pyrmont NSW 2009

chardwick@extent.com.au

Please don't hesitate to contact me on (02) 9555 4000 if you have any queries or concerns.

Yours sincerely,

C Hardwick

Coral Hardwick | Heritage Advisor

EXTENT HERITAGE PTY LTD

ABN 24 608 666 306 ACN 608 666 306

info@extent.com.au

extent.com.au

SYDNEY

3/73 Union St

Pyrmont

P 02 9555 4000

MELBOURNE

13/240 Sydney Rd

Coburg

P 03 9388 0622

BRISBANE

12/344 Queen St

Brisbane

P 07 3051 0171

PERTH

32/152 St Georges Tce

Perth

P 08 9381 5206

HOBART

54A Main Rd

Moonah

P 03 6134 8124

Coral Hardwick

From: Laura Fraser <LFraser@hornsby.nsw.gov.au>
Sent: Thursday, 8 July 2021 9:19 AM
To: Coral Hardwick
Subject: Barker College- Request for Aboriginal Cultural Heritage Information
Attachments: HSC_BarkerCollegeMasterplan_PreNotificationLetter.pdf

Dear Ms Hardwick

I refer to your email below and request for the contact details of traditional owners in the area. I have been provided with the following contact details.

Aunties Leanne Watson mulgokiwi@bigpond.com

Auntie Tracey Howie tracey@guringai.com.au

Uncle Laurie Bimson Bimson59@gmail.com

Kind regards

Laura Fraser

Heritage Planner | Strategic Land Use Planning | Hornsby Shire Council

p 02 9847 6782 | **m**

e lfraser@hornsby.nsw.gov.au | **w** [hornsby.nsw.gov.au](https://www.hornsby.nsw.gov.au) | **f** [facebook.com/HornsbyCouncil](https://www.facebook.com/HornsbyCouncil)

Council acknowledges the traditional owners of the lands of Hornsby Shire, the Darug and Guringai peoples.

Coral Hardwick

From: Geospatial Search Requests <GeospatialSearch@NNTT.gov.au>
Sent: Monday, 28 June 2021 5:54 PM
To: Coral Hardwick
Subject: RE: SR21/962 - Barker College- Request for Aboriginal Cultural Heritage Information - SR21/962

UNCLASSIFIED

Native title search – NSW Parcels – Multiple
Your ref: Barker College Masterplan - **Our ref:** SR21/962

Dear Coral Hardwick ,

Thank you for your search request received on 28 June 2021 in relation to the above area. Based on the records held by the National Native Title Tribunal as at 28 June 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.

Search Results

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

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

At the time this search was carried out, there were no relevant entries in the above databases.

Cadastral data as at: 01/02/2021

Parcel ID	Feature Area SqKm	Overlapping Native Title Feature			
		Tenure	NNTT File Number	Name	Category
1//DP857049	0.0025	FREEHOLD	No overlap		
100//DP1232343	0.0169	FREEHOLD	No overlap		
100//DP1262386	0.1459	FREEHOLD	No overlap		
4//DP236907	0.0008	FREEHOLD	No overlap		

5//DP236907	0.0011	Tenure	NNTT File Number	Name	Category
		FREEHOLD	No overlap		
6//DP236907	0.0014	Tenure	NNTT File Number	Name	Category
		FREEHOLD	No overlap		

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

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

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

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

Search results and the existence of native title

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

The Tribunal accepts no liability for reliance placed on enclosed information

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

Cultural Heritage Searches in NSW

The National Native Title Tribunal (the Tribunal) has undertaken steps to remove itself from the formal list of sources for information about indigenous groups in development areas. The existence or otherwise of native title is quite separate to any matters relating to Aboriginal cultural heritage. Information on native title claims, native title determinations and Indigenous Land Use Agreements is available on the Tribunal's website.

Interested parties are invited to use Native Title Vision (NTV) the Tribunal's online mapping system to discover native title matters in their area of interest. Access to NTV is available at

<http://www.nntt.gov.au/assistance/Geospatial/Pages/NTV.aspx>

Training and self-help documents are available on the NTV web page under "Training and help documents". For additional assistance or general advice on NTV please contact GeospatialSearch@NNTT.gov.au

Additional information can be extracted from the Registers available at

<http://www.nntt.gov.au/searchRegApps/Pages/default.aspx>

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

Regards,

Geospatial Searches

National Native Title Tribunal | Perth

Email: GeospatialSearch@nntt.gov.au | www.nntt.gov.au

From: Coral Hardwick <chardwick@extent.com.au>

Sent: Monday, 28 June 2021 9:05 AM

To: Geospatial Search Requests <GeospatialSearch@NNTT.gov.au>

Subject: SR21/962 - Barker College- Request for Aboriginal Cultural Heritage Information

Caution: This is an external email. DO NOT click links or open attachments unless you recognise the sender and know the content is safe.

To whom it may concern,

Extent Heritage is undertaking an Aboriginal Cultural Heritage Assessment of proposed Concept Master Plan Development and Student/Staff Cap Increase at Barker College located at 91 Pacific Highway, Hornsby NSW 2077 (Lot 100 DP1262386, Lot 100 DP1232343, Lot 1, DP857049 and Lots 4, 5 and 6 DP 236907). In accordance with Heritage NSW guidelines, please find attached a letter seeking information on Aboriginal stakeholders in this area who may be interested in the project.

I have attached the NNTT Search Request Form. Please let me know if you need anything further.

Thankyou,
Coral Hardwick

Coral Hardwick | BA (Hons), MRes (Macquarie University)
Heritage Advisor
T 02 9555 4000 | M 0436 333 686
chardwick@extent.com.au
extent.com.au



Coral Hardwick
Heritage Advisor
Extent Heritage
3/73 Union St
Pyrmont NSW 2009

28/06/2021

Dear Coral,

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

**Subject: Aboriginal Cultural Heritage Assessment at Proposed Barker College
Masterplan, Lot 100 DP1262386, Lot 100, DP1232343, Lot 1, DP857049 and Lots 4, 5
and 6 DP 236907.**

Thank you for your correspondence dated 28 June 2021 to Heritage NSW (Department of Premier and Cabinet) regarding the above project.

Attached is a list of known Aboriginal parties for the proposed development at Hornsby 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

A rectangular box containing a handwritten signature in cursive script, which appears to read "Barry Gunther".

Barry Gunther
Aboriginal Heritage Planner
Aboriginal Heritage Regulation Branch – South Heritage NSW

Attachment A:

Registered Aboriginal Interests DPC RAP List for the Hornsby Local Government Area.

Appendix 2

A2.5. Newspaper advertisement

Appendix 2

NOTICE OF ABORIGINAL CULTURAL HERITAGE INVESTIGATIONS AND INVI- TATION FOR REGISTRATIONS OF INTER- EST - PROPOSED BARKER COLLEGE SSDA, HORNSBY

 28/6/2021

On behalf of EPM Projects, Extent Heritage Pty Ltd is proposing to undertake Aboriginal heritage investigations regarding the proposed masterplan upgrade at Barker College, Waitara. Contact details for the proponent are: Daniel Rickard, EPM Projects Pty Ltd, 2/146 Arthur St. North Sydney NSW 2060 (**02 9452 8300**). Registrations are invited from Aboriginal individuals and organisations who hold cultural knowledge relevant to determining the significance of Aboriginal objects and/or places in the area, and who wish to be involved in the consultation process. This process will be used to inform the Aboriginal heritage investigations and obtain any subsequent approvals that may be required for the proposed development.

Registrations of interest should be provided by no later than 14 July 2021 to Coral Hardwick at Extent Heritage Pty Ltd via post (Level 3/73 Union St, Pyrmont, NSW, 2009), email (chardwick@extent.com.au) or phone (**02 9555 4000**).

A2.6. Notification documentation- sent and registrations received

Appendix 2

28 June 2021

Attention: «Name_1»
«Organisation»
«Address_1»
«Address_2»

Re: Notice of Aboriginal Cultural Heritage Investigations and Invitation for Registrations of Interest - Proposed Barker College Masterplan

Dear «Name_2»

In accordance with the NSW Department of Planning, Industry and Environment's (DPIE) (formerly NSW Office of Environment and Heritage [OEH]) *Aboriginal Cultural Heritage Consultation Requirements for Proponents*, 2010, I am writing to notify you that Extent Heritage Pty Ltd has been engaged by EPM Projects on behalf of The Council of Barker College (the proponent) to undertake a preliminary Aboriginal Cultural Heritage Assessment Report (ACHAR) to support a State Significant Development Application (SSDA). The development is proposed for the following land parcels: Lot 100 DP1262386, Lot 100 DP1232343, Lot 1, DP857049 and Lots 4, 5 and 6 DP 236907.

The purpose of the ACHAR is to characterise the archaeological resource of the study area in order to assess the potential impact from the proposed development, and form the basis for management recommendations for the study area. It would also provide the necessary documentation for an Aboriginal Heritage Impact Permit (AHIP) in the event that harm to Aboriginal objects would result from proceeding with the proposed works.

The proponent is EPM Projects Pty Ltd, and contact details for the proponent are:

Mr Daniel Rickard
C/- EPM Projects Pty Ltd
Level 2, 146 Arthur Street, North Sydney NSW 2060
T: (02) 9452 8300

Extent Heritage will be undertaking the assessment in accordance with the relevant DPIE *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* guidelines. An important part of the assessment will be Aboriginal community consultation that aims to identify the Aboriginal cultural heritage within the study area, including the cultural values and places of importance to the Aboriginal community.

We are inviting registrations from Aboriginal individuals and/or organisations, who may hold relevant cultural knowledge for determining the Aboriginal cultural heritage of the area and any associated significance, and who wish to be involved in the community consultation process. If you or your organisation is interested in being part of the consultation process, please provide a registration of interest to:

EXTENT HERITAGE PTY LTD

ABN 24 608 666 306 ACN 608 666 306
info@extent.com.au
extent.com.au

SYDNEY

3/73 Union St
Pyrmont
P 02 9555 4000

MELBOURNE

13/240 Sydney Rd
Coburg
P 03 9388 0622

BRISBANE

12/344 Queen St
Brisbane
P 07 3051 0171

PERTH

32/152 St Georges Tce
Perth
P 08 9381 5206

HOBART

54A Main Rd
Moonah
P 03 6134 8124

Coral Hardwick (Extent Heritage)

3/73 Union Street, Pyrmont, NSW 2009

(T) 02 9555 4000

(E) chardwick@extent.com.au

To assist us with communicating project information effectively, it would be appreciated if you could include the following information in your registration of interest:

1. A clear identification of the organisation registering an interest in the project. Please provide all relevant details of your organisation, including physical address/location, contact details, relevant personnel, etc;
2. Your preferred method of communication with Extent Heritage and the proponent during consultation for this project, including a nominated contact person and their contact details;
3. Comment on the level of consultation/project involvement you require (Do you wish to attend any meetings or fieldwork? Do you simply want a copy of the final report?);
4. If you wish to be involved in any meetings or fieldwork, please ensure we have current copies of your public liability, workers compensation and professional indemnity (if available) insurances.

As part of the consultation process, we are obliged to provide the contact details of organisations and individuals who register an interest to DPIE and the Metropolitan Local Aboriginal Land Council, unless instructed otherwise. Please advise us if you do not wish this to occur.

Please also consider the following, but note that these issues can also be discussed over the course of the project:

1. Guidance on the protocols, sensitivity, use and/or distribution of any cultural information that you provide to Extent Heritage/the proponent as part of this project;
2. Identification of any Aboriginal objects or places of cultural significance that you are aware of within or in the vicinity of the study area.

Registrations are requested by **12 July 2021**.

Please don't hesitate to contact me on (02) 9555 4000 if you have any queries or concerns.

Yours sincerely,

C Hardwick

Coral Hardwick | Heritage Advisor

Coral Hardwick

From: Carolyn .H <cazadirect@live.com>
Sent: Sunday, 4 July 2021 9:25 PM
To: Coral Hardwick
Subject: Re: Invitation for Stakeholder Registration- Barker College ACHAR
Attachments: A1.PL2022.pdf; A1.WC2022.pdf



Contact: Carolyn Hickey
M: 0411650057
E: Cazadirect@live.com
A: 10 Marie Pitt Place, Glenmore Park, NSW 2745
ACN: 639 868 876
ABN: 31 639 868 876

Hi,
Thank you for your email, I would like to register in being involved in all levels of consultation for this project.
Including, Meetings, Reports, Sharing Cultural Information, and available Field Work.

I am a traditional custodian with over 20 years experience in helping preserve Aboriginal cultural heritage on projects.
I hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and values that exist in the project area.

I have attached A1 Indigenous Services Insurances.

We would like the Proponent to consider including A1's, Kawalkan youth and the Women's Circle Employees for all future field work.



The Kawalkan Youth Program is a designed program created to employ young indigenous youths between the ages of (18-29) years of age.



The Women's Circle was created with the need to always have Experienced Indigenous Women present in all field work.

To aim for not only gender equality in the workplace but, to help identify and protect any women's sacred places.

OUR MISSION

Building strength in aboriginal families, communities, and services.

It is our mission to commit to an innovative approach to a better future for indigenous employment.

Giving our people the opportunity to gain employment in a culturally sensitive work environment also giving them the opportunity to work on country and continue the tradition of protecting and passing down

Cultural knowledge from one generation to the next – continuing the importance of keeping culture.

Please feel free to contact me on details supplied

Kind Regards,
Carolyn Hickey
Managing Director

From: Coral Hardwick <chardwick@extent.com.au>

Sent: Monday, 28 June 2021 3:37 PM

To: cazadirect@live.com <cazadirect@live.com>

Subject: Invitation for Stakeholder Registration- Barker College ACHAR

Hi,

In accordance with the Heritage NSW *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010), I am writing to notify you that Extent Heritage Pty Ltd has been engaged by EPM Projects Pty Ltd on behalf of Barker College (the proponent) to undertake an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the proposed masterplan development at Barker College, Waitara.

An important part of the assessment will be Aboriginal community consultation that aims to identify the Aboriginal cultural heritage within the study area, including the cultural values and places of importance to the Aboriginal community. Hence, we are inviting registrations from Aboriginal individuals and/or organisations, who may hold



BUTUCARBIN ABORIGINAL CORPORATION

PO Box E18, Emerton NSW 2770

28 Pringle Road, Hebersham NSW 2770

Ph: 9832 7167 Fax: 9832 7263

koori@ozemail.com.au

ABN: 83 535 742 276

145h July 2021

To whom it may concern,

On behalf of Butucarbin, I would like to register interest in the consultation in relation to the project at Barker College.

Please see information in relation to Butucarbin below.

Cultural Connection and Representation

Butucarbin Aboriginal Corporation is a successful not for profit community organisation that was established in 1989 to provide Community Development, Education and Training to organisations and individuals in the Blacktown and Penrith LGA's of Western Sydney. The organisation has won many awards for outstanding service delivery over the past 23 years. The latest being our Executive Officer Jennifer Beale being a finalist in the 2014 NSW Australian of the Year awards.

Due to the changes in funding for Aboriginal organisations and for Butucarbin to continue the service that they have been providing, the organisation has developed an Aboriginal Cultural Heritage Assessment business. All profits go back into the organisation to provide services to the community. As community workers we believe it is our duty to involve the Aboriginal community of Western Sydney in this work, as it enables the community to be involved in decisions relating to their culture and therefore, promotes self-determination.

Butucarbin is a contemporary example of cultural heritage in that it is a product of the 1970's resettlement program and self-determination policy (see, Aboriginal Community Controlled Organisations). Due to this resettlement policy, there are generations of Aboriginal people who have been born in Western Sydney and have been raised in the Mount Druitt Community (which has the highest Aboriginal urban population in Australia) and thus, this is where their connection lies. Ultimately, our cultural connection lies in our community work and assistance to the people of wider Western Sydney.

In conclusion, we also believe it is essential to pass on knowledge from generation to generation. Butucarbin provides cultural knowledge to the wider community through Aboriginal Cultural workshops and community development programs.

Previous experience

We have participated in projects with such companies as, Extent, Niche, Kelleher Nightingale, Artefact, AMBS, Virtus Heritage, Navin Officer, Curio and Biosis. This work has involved activities such as, site-walkovers, surface collections, ACHA reviews and excavations.

When on site, our workers were on time, professional and participate in all tasks set for them. It is essential for our community members to participate in Aboriginal Community Consultations and other cultural work as we believe it is of the utmost importance that cultural heritage skills and knowledge are passed on to our younger Aboriginal generations.

Overall, our team is highly skilled and has over ten years' experience in cultural heritage assessment field work. Currently, our team consists of several skilled field officers. We ensure there is diversity amongst our workers in that we do not discriminate against gender and age. In fact, we strongly encourage the employment of individuals of all ages and genders as it is essential to gain insight into cultural heritage from varying perspectives.

Schedule of Rates

In the event Butucarbin is selected for fieldwork, please consider our consultancy rates. Ultimately, Butucarbin can negotiate fees however, our standard fee is \$120 per hour.

Our rates are as follows:

Meetings/site inspections: \$120 - \$480

Fieldwork: \$120.00 per hour

Perusal and comment of reports: \$120.00 per hour

Mileage Allowance: 0.75 cents per kilometre

Pursuant to section 3.4, 'the proponent may reimburse Aboriginal people for any demonstrated reasonable out-of-pocket expenses directly incurred in order to participate in the consultation process.' An example of 'a demonstrated reasonable expense' could be the 'documented loss of wages caused by the need to take time from paid employment to participate in meetings' or travel expenses. Ultimately, Butucarbin's consultation rate includes \$120 per hour + reimbursed expenses.

If you require further information, you can contact Jennifer Beale on 0409924409 or Lowanna Gibson on 0458537666.

Yours Sincerely,

Lowanna Gibson

Project Manager for Butucarbin Cultural Heritage

B.A Archaeology/Anthropology USYD

Juris Doctor UTS

Coral Hardwick

From: lilly carroll <didgengunawalclan@yahoo.com.au>
Sent: Monday, 28 June 2021 4:48 PM
To: Coral Hardwick
Subject: Re: Invitation for Stakeholder Registration- Barker College ACHAR

Hi Coral

DNC would like to register an interest into Barker College

[Sent from Yahoo Mail for iPhone](#)

Coral Hardwick

From: Goobah <goobahchts@gmail.com>
Sent: Wednesday, 7 July 2021 5:49 PM
To: Coral Hardwick
Subject: Re: Invitation for Stakeholder Registration- Barker College ACHAR

Barker College Aboriginal Cultural Heritage Assessment Report (ACHAR)

Please accept my expression of interest with the above project and wish to be kept involved in any further developments

Coral Hardwick

From: Gulaga <gulagachts@gmail.com>
Sent: Tuesday, 29 June 2021 5:56 PM
To: Coral Hardwick
Subject: Re: Invitation for Stakeholder Registration- Barker College ACHAR
Attachments: Current GIO Mobile Business Protect Certificate of Currency GPM005229391.pdf;
Current Workers Insurance Certificate of Currency.pdf

Hi Coral,

Can you please register Gulaga interest in this project.

Details for Gulaga are as follows:

Contact person-Wendy Smith 0401808988

Address-5/11 Osborne St Dapto

My preferred method of communication is by phone or email.

Gulaga wishes to be included in any fieldwork and meetings.

I have attached the insurance certificates needed should Gulaga be involved in any works.

If you require any further information please let me know.

Kind Regards

Wendy Smith

Cultural Heritage Officer

Gulaga

0401 808 988

This email may contain privileged information. Privilege is not waived if it has been sent to you in error, or if you are not the intended recipient. Please immediately notify me and delete the email if you have received this in error.

Coral Hardwick

From: philip khan <philipkhan.acn@live.com.au>
Sent: Tuesday, 29 June 2021 12:13 PM
To: Coral Hardwick
Subject: RE: Invitation for Stakeholder Registration- Barker College ACHAR
Attachments: Public Liability Kamilaroi 2021 to 2022.pdf; ICARE workers comp. insurance Kamilaroi Yankuntjatjara Working Group 2021.pdf

Hi Coral,

Thank you for informing us that **Extent Heritage** will be involved in an Aboriginal Cultural Heritage Assessment at **Barker College** & that you are inviting Aboriginal organisations to register, if they wish too be involved in the community consultation process.

As a senior Aboriginal person for the past 40yrs, I actively participate in the protection of the Aboriginal Cultural Heritage throughout the Sydney Basin, & particularly throughout Western Sydney, on behalf of Kamilaroi Yankuntjatjara Working Group I wish to provide to you my organisation's registration of interest.

I wish to be involved & participate in all levels of consultation/project involvement. I wish to attend all meetings, participate in available field work & receive a copy of the report.

I have attached a copy of Kamilaroi Yankuntjatjara Working group's Public Liability Insurance & Workers Compensation certificate.

Our Rates - \$100 per hour, \$400 half day & \$800 full day (Exc. GST)

Our RAPS have up to 15yrs Cultural Heritage experience in – field work which involves manual excavation (digging), sieving, identifying artefacts, setting up transits, setting up equipment, packing equipment, site surveys & attending meetings.

Should you wish me to provide further information, please do not hesitate to contact me on 0434545982 or Stefeanie on 0451068480.

Kind Regards
Phil Khan



Sent from [Mail](#) for Windows 10

Coral Hardwick

From: Danny Franks <danny@tocomwall.com.au>
Sent: Monday, 28 June 2021 3:36 PM
To: Coral Hardwick; Scott Franks
Subject: Re: Invitation for Stakeholder Registration- Barker College ACHAR

Hi coral

Please accept this email as Tocomwall's ROI

Get [Outlook for iOS](#)

A2.7. Presentation of information and assessment methodology- sent and received

Appendix 2

15 July 2021

Attention:

Dear ,

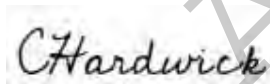
**Re: Aboriginal Cultural Heritage Assessment Methodology – Proposed
Barker College Masterplan, Waitara**

Thank you for your registration of interest in the Aboriginal Cultural Heritage Assessment Report (ACHAR) for the proposed Barker College masterplan development to support a State Significant Development Application (SSDA). The development is proposed for the following land parcels within the Hornsby Shire LGA: Lot 100 DP1262386, Lot 100 DP1232343, Lot 1, DP857049 and Lots 4, 5 and 6 DP 236907. Your interest in the project has been formally registered in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*.

Attached is the proposed methodology for the project, which includes archaeological field survey. I would like to invite you to review the methodology and provide any comments you may have by **12 August 2021**.

If you have any questions, please do not hesitate to contact me on (02) 9555 4000, or by email at chardwick@extent.com.au.

Kind regards



Coral Hardwick
Heritage Advisor | Extent Heritage

Contact Details

This letter has been prepared by Extent Heritage Pty Ltd (Extent) on behalf of The Council of Barker College (the proponent; c/ EPM Projects). The project contact is:

Mr Daniel Rickard
C/- EPM Projects Pty Ltd
Level 2, 146 Arthur Street, North Sydney NSW 2060
T: (02) 9452 8300

Background

EPM Projects propose to undertake development on property within Barker College, located across Lot 100 DP1262386, Lot 100 DP1232343, Lot 1, DP857049 and Lots 4, 5 and 6 DP 236907 within the Hornsby Shire LGA.

As part of the present development, Extent has been engaged to facilitate the Aboriginal Cultural Heritage Assessment process, and will be synthesising the existing assessments in the area and preparing an ACHAR in accordance with current Heritage NSW guidelines. The ACHAR will assess the potential impact of any future development, and will develop relevant management and mitigation measures to be incorporated into the development consent.

Proposed Assessment Methodology

Extent Heritage proposes to develop an ACHAR in accordance with the following guidelines:

- Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH 2011)
- Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW 2010)
- Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW 2010)
- Draft Guidelines for Aboriginal Cultural Impact Assessment and Community Consultation (DPI 2005)

Development of the ACHAR will include the following tasks:

- Aboriginal community consultation
- Archaeological field survey
- Preparation of the ACHAR, which incorporates Aboriginal consultation and any cultural information provided, outlines the findings of the archaeological survey, assesses potential impacts to Aboriginal heritage, and makes recommendations on any Aboriginal heritage sites and/or objects that may be present within the proposed study area.

- If sites are identified, submissions of site recordings for registration on the AHIMS database.

Further details regarding the archaeological survey are provided below. These components of the work would be undertaken in conjunction with representatives of the Registered Aboriginal Parties (RAPs) based on selective commercial engagements determined by the client.

Archaeological Survey Methodology

Extent Heritage proposes to undertake an archaeological survey in accordance with the requirements of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010). This survey will aim to identify any visible Aboriginal objects (material traces and evidence of Aboriginal land), to inspect any important or significant locations identified during the cultural values assessment, attempt to reidentify previously registered Aboriginal sites to record their current condition and integrity, and to assess the extent to which past land-use may have affected the sub-surface archaeological potential within areas of identified archaeological sensitivity.

It is proposed that a desktop analysis of aerial photos and topographic maps is completed to inform the development of a survey strategy. Based on the results of the desktop study, the study area will be divided into survey units to facilitate the completion of a full coverage survey. Where a full coverage survey is not possible, due to access or safety constraints, a sample survey will be completed. Full coverage survey will involve the completion of parallel transects spaced 30 m apart, where possible. The survey team will carry a handheld Global Positioning System (GPS) to track the coverage of the survey and cameras to document representative landform features. Any Aboriginal objects or identified areas of Potential Archaeological Deposit (PAD) would be documented in accordance with the requirements of the Code of Practice.

Timeframes

Extent Heritage proposes the following indicative timeframes for the project:

- Distribution of this document to Registered Aboriginal Parties: **15 July 2021**
- End of review period for the proposed methodology: **12 August 2021**
- Archaeological field survey to be undertaken: **mid August 2021**
- Distribution of draft ACHAR to Registered Aboriginal Parties for review: **early-mid September 2021.**

Information Sought

Extent Heritage would appreciate your feedback on the methodology proposed above for the investigation and assessment of the study area.

In returning your answers, please include the following where appropriate:

- Any protocols that you would like adopted during the project;
- Identification of any Aboriginal objects of cultural significance and/or importance that you are aware of within the study area, and how you wish them to be dealt with during the project;
- Identification of any places of cultural significance and/or importance that you are aware of within the study area, and how you wish them to be dealt with during the project;
- Guidance on the protocols, sensitivity, use and/or distribution of any cultural information that you provide to Extent Heritage;
- Whether you require any further information prior to Extent Heritage proceeding with the project.

Appendix 2

EXTENT
HERITAGE ADVISORS

Barker College Masterplan

Study area

Drawn by: Mariska Mairane
Checked by: Coral Hardwick
Date: 14 July 2021
Projection: GDA 1994 MGA Zone 56
Data sources: Extent, Nearmap

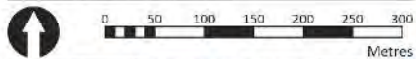


Figure 1. The study area.

Coral Hardwick

From: Carolyn .H <cazadirect@live.com>
Sent: Thursday, 15 July 2021 7:03 PM
To: Coral Hardwick
Subject: Re: Barker College Methodology Letter
Attachments: A1.WC2022.pdf; A1.PL2022.pdf



INDIGENOUS SERVICES PTY LTD

Contact: Carolyn Hickey
M: 0411650057
E: Cazadirect@live.com
A: 10 Marie Pitt Place, Glenmore Park, NSW 2745
ACN: 639 868 876
ABN: 31 639 868 876

Hi,
I have reviewed the document and support the Information and Methodology.
A1 would like to be involved in any future Meetings and field work

I am a traditional custodian with over 20 years experience in helping preserve Aboriginal cultural heritage on projects.

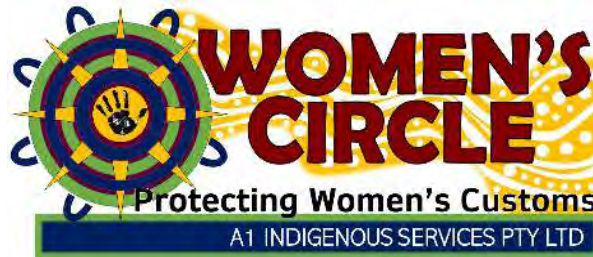
I hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and values that exist in the project area.

I have attached A1 Indigenous Services Insurances.

We would like the Proponent to consider including A1's, Kawalkan youth and the Women's Circle Employees for all future field work.



The Kawalkan Youth Program is a designed program created to employ young indigenous youths between the ages of (18-29) years of age.



The Women's Circle was created with the need to always have Experienced Indigenous Women present in all field work.
To aim for not only gender equality in the workplace but, to help identify and protect any women's sacred places.

OUR MISSION

Building strength in aboriginal families, communities, and services.

It is our mission to commit to an innovative approach to a better future for indigenous employment.

Giving our people the opportunity to gain employment in a culturally sensitive work environment also giving them the opportunity to work on country and continue the tradition of protecting and passing down

Cultural knowledge from one generation to the next – continuing the importance of keeping culture.

Please feel free to contact me on details supplied

Kind Regards,
Carolyn Hickey
Managing Director

Coral Hardwick

From: lilly carroll <didgengunawalclan@yahoo.com.au>
Sent: Thursday, 15 July 2021 2:02 PM
To: Coral Hardwick
Subject: Re: Barker College Methodology Letter

Hi Coral

DNC agrees to all proposals for the methodology/survey and hopes to work with you soon
Fully insured and experienced site officers

Kind regards
Pail Boyd & Lilly Carroll
Directors DNC
0426823944

[Sent from Yahoo Mail for iPhone](#)

Coral Hardwick

From: Goobah <goobahchts@gmail.com>
Sent: Tuesday, 20 July 2021 6:13 PM
To: Coral Hardwick
Subject: Re: Barker College Methodology Letter

This is confirmation that we support the Barker College, Waitara ACHAR methodology for proposed archaeological field survey of the study area and wish to be kept informed on any further developments

Coral Hardwick

From: Gulaga <gulagachts@gmail.com>
Sent: Monday, 2 August 2021 2:10 PM
To: Coral Hardwick
Subject: Re: Barker College Methodology Letter

Received, thank you.
Gulaga supports the methodology.

Kind Regards
Wendy Smith
Cultural Heritage Officer
Gulaga
0401 808 988

This email may contain privileged information. Privilege is not waived if it has been sent to you in error, or if you are not the intended recipient. Please immediately notify me and delete the email if you have received this in error.

Coral Hardwick

From: philip khan <philipkhan.acn@live.com.au>
Sent: Wednesday, 21 July 2021 2:48 PM
To: Coral Hardwick
Subject: Re: Barker College Methodology Letter

Hi Coral,

Thank you for your methodology for Proposed Barker College Masterplan, Waitara. Here at KYWG we hold over 50 years of cultural knowledge, our aspiration is to conserve our cultural heritage and our aim is to pass on cultural knowledge. Aboriginal people have walked this land for tens of thousands of years and continue to do so. We follow the water ways as they provide resource, we hold a deep connection with mother earth, and we are guided by the skies. Aboriginal people would camp, hunt, gather, practice lore and followed customs across mother earth, we protect our sacred sites such as men's and woman's sites.

We would like to agree to your methodology, and we look forward to working along side you on this project.

Kind Regards

Kadibulla Khan



A2.8 Report review- feedback received

Appendix 2

Appendix 3. Archaeological background

A3.1. Site type information

Aboriginal sites

Aboriginal sites are classified in a number of ways. At the most basic level, sites are recorded as 'closed sites' or 'open sites'. Closed sites are associated with rock shelters, and include other evidence of Aboriginal occupation that may be present, such as accumulated cultural deposit within the shelter ('potential archaeological deposit' or PAD), faunal remains (animal bone or shell), and rock art on the shelter walls (paintings or engravings). Open sites are broadly defined, and encompass all other types of Aboriginal sites identified where there is no rock shelter. The most common types of open sites found in NSW include artefacts, which can occur almost anywhere in the landscape, grinding grooves, rock art across formations, culturally modified trees, and shell deposits (middens) (OEH 2012:7). The presence or absence of stone artefacts is often a defining factor, although it is worth pointing out that almost any site is likely to have at least some associated artefacts, as discard or loss of this most ubiquitous and practically indestructible marker of Aboriginal archaeology is likely to have occurred anywhere that Aboriginal people stopped or gathered for any length of time.

Any one site (or close group of linked sites described as a 'site complex') can contain several different site features. For example, a shelter may have art on the walls, artefacts on the floor surface or outside the shelter, and be predicted to contain faunal remains and further artefacts in the accumulated deposit inside.

A description of terms used to describe different site features recorded in the North West Growth Centre and within the vicinity of the Shanes Park and West Schofields precincts is provided in Table A3-2-1. Other features or types of Aboriginal cultural sites that do not necessarily leave physical evidence may exist or have once existed in the North West Growth Centre; however, such sites have not previously been recorded reflecting the archaeological focus of the past studies and the loss of traditional knowledge of such places in this area. Similarly, there may be places of contemporary significance to Aboriginal people in the precincts and this will require consultation with the Aboriginal community to identify such places.

Table A3-2-1. Aboriginal site feature definitions

Site feature	Definition
Artefact	Objects such as stone tools, and associated flaked material, spears, manuports, grindstones, discarded stone flakes, modified glass or shell demonstrating evidence of use of the area by Aboriginal people.
Potential archaeological deposit (PAD)	An area where Aboriginal objects may occur below the ground surface. The term 'potential archaeological deposit' was first applied in Sydney regional archaeology in the 1980s, and referred to rock shelters that were large enough and with enough accumulated deposit to allow archaeologists to presume that subsurface cultural material was highly likely to be present. Since then it has come to include open sites where the same prediction can be made.

Site feature	Definition
Modified tree (carved or scarred)	Trees which show the marks of modification as a result of cutting of bark from the trunk for use in the production of shields, canoes, boomerangs, burials shrouds, for medicinal purposes, foot holds etc., or alternately intentional carving of the heartwood of the tree to form a permanent marker to indicate ceremonial use/significance of a nearby area, again these carvings may also act as territorial or burial markers.
Stone quarry	Usually a source of good quality stone which is quarried and used for the production of stone tools
Burial	A traditional or contemporary (post-contact) burial of an Aboriginal person, which may occur outside designated cemeteries and may not be marked, e.g. in caves, marked by stone cairns, in sand areas, along creek banks etc.

Source: OEH (2012, 4–5).

Stone artefacts

Aboriginal stone artefacts are an important source of archaeological information because stone is preserved for long periods of time whereas organic materials such as bone, shell, wood and plant fibres often decay. Stone artefacts provide valuable information about technology, economy, cultural change through time and settlement patterning. Stone has also been used for 'relative' dating of sites where direct methods such as radiocarbon dating cannot be applied. A technological sequence for stone artefacts for the region was first described in the late 1940s by Fred McCarthy and has since been refined over time by Hiscock and Attenbrow (2005) into the 'Eastern Regional Sequence':

- Capertian—Distinguished by large uniface pebble tools, core tools, horse-hoof cores, scrapers and hammerstones. Backed artefacts occasionally present. Generally, dates to before 5,000 years BP.
- Early Bondaian—Aspects of the Capertian assemblage continue, but backed artefacts and ground-edged artefacts increase. Artefacts during this period were predominantly made from fine-grained siliceous stone such as silcrete and tuff. Generally dated from 5,000 BP to 2,800 BP.
- Middle Bondaian—Characterised by backed artefacts, particularly Bondi Points and ground-edged artefacts. Artefacts made from siliceous materials; however, quartz becomes more frequent. Generally dated from 2,800 BP to 1,600 BP.
- Late Bondaian—Characterised by bipolar technology, eloueras, ground-edged artefacts, and bone and shell artefacts. Bondi points are virtually absent and artefacts are predominantly made from Quartz. Generally dated from 1,600 BP to European contact.

Survivability of the archaeological record

The following observations can be made about the nature and survivability of the archaeological record across the Cumberland subregion:

- Archaeological material is often found in areas of sub-surface exposure, such as those caused by erosion.
- Surface evidence (or the absence of surface evidence) does not necessarily indicate the potential, nature or density of sub-surface material. Extensive excavations have shown that areas with no surface evidence often contain sub-surface deposits buried beneath current ground surfaces (JMCHM 2001; Kohen 1984).
- Due to the limitations of surface surveys, test excavation is often required to establish the nature and density of archaeological material.
- Aboriginal cultural material is more likely to survive in areas that contain remnant portions of the pre-European soil profile, in contrast to landforms that have been impacted by historical or recent disturbances.
- The potential for survival of any archaeological sites will largely depend on the degree of past disturbance.
- Past disturbance to the soil profile can be due to European activity such as clearing, ploughing, grazing, and urban development and/or due to environmental factors such as flooding events, erosion and colluvial movement. These activities may disturb, erode or remove the natural soil profile completely.
- Aboriginal stone artefacts are more likely to survive because stone is preserved for long periods of time whereas organic materials such as bone, shell, wood and plant fibres decay.
- A major impact of more than 200 years of post-contact settlement on Aboriginal sites would have been the destruction of carved and scarred trees, which would have been removed as part of clearing for agricultural activities and the construction of infrastructure such as buildings and roads. However, there is some potential for culturally modified trees to survive in areas where there are stands of remnant native vegetation.

A3.2. AHIMS site search

A copy of the AHIMS search is provided in the following pages.

Appendix 3

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 0220262

Client Service ID : 610874

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
45-6-2369	Bone shelter;	AGD	56	323180	6265680	Closed site	Valid	Artefact : -	Shelter with Deposit	2047
	Contact	Recorders	Val Attenbrow							
45-6-1084	Asquith;	AGD	56	325159	6269328	Open site	Valid	Grinding Groove : -	Axe Grinding Groove	
	Contact	Recorders	ASRSYS							
45-6-1085	Asquith;Little Red Hand Cave;	AGD	56	325607	6269794	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	
	Contact	Recorders	ASRSYS							
45-6-1086	Asquith;	AGD	56	326871	6270642	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	Contact	Recorders	ASRSYS							
45-6-1087	Asquith;Reed Hat Cave;	AGD	56	326871	6270642	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	
	Contact	Recorders	ASRSYS							
45-6-1439	Elouera Bushland Reserve	AGD	56	320710	6267687	Open site	Not a Site	Art (Pigment or Engraved) : -	Not an Aboriginal Site	
	Contact	Recorders	Jack Campbell							
45-6-2514	Tunks 1;	AGD	56	320600	6270800	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	Contact	Recorders	Peter McGee							
45-6-2537	Rock Pool Gully;	AGD	56	318700	6270300	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	Contact	Recorders	Jamie Molloy							
45-6-1888	Cliff Oval (CB1 / KUR0012) SWA	GDA	56	327024	6269440	Closed site	Valid	Artefact : -, Art (Pigment or Engraved) : -	Shelter with Art,Shelter with Deposit	
	Contact	Recorders	Margrit Koettig, Miss.Cheryl Stanborough, Mr.Oliver Descoeudres							
45-6-2447	Cook Trig;	AGD	56	326180	6269360	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	Contact	Recorders	G Ford							
45-6-2448	HR1;	AGD	56	319900	6269900	Open site	Valid	Grinding Groove : -	Axe Grinding Groove	3484
	Contact	Recorders	Margrit Koettig							
45-6-2449	HR2;	AGD	56	320900	6269950	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	3484
	Contact	Recorders	Margrit Koettig							
45-6-2450	HR3;	AGD	56	321450	6270700	Closed site	Valid	Artefact : -, Art (Pigment or Engraved) : -	Shelter with Art,Shelter with Deposit	3484
	Contact	Recorders	Margrit Koettig							

Report generated by AHIMS Web Service on 05/08/2021 for Coral Hardwick for the following area at Lat, Long From : -33.74, 151.04 - Lat, Long To : -33.68, 151.16. Number of Aboriginal sites and Aboriginal objects found is 78

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

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
45-6-2451	HR4;	AGD	56	321640	6270550	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	3484
	<u>Contact</u>	<u>Recorders</u>	Margrit Koettig <u>Permits</u>							
45-6-2452	HR5;	AGD	56	321830	6270450	Open site	Valid	Grinding Groove : -	Axe Grinding Groove	3484
	<u>Contact</u>	<u>Recorders</u>	Margrit Koettig <u>Permits</u>							
45-6-2454	HR7	AGD	56	320750	6266340	Closed site	Valid	Artefact : -	Shelter with Deposit	3484,102473
	<u>Contact</u>	<u>Recorders</u>	Margrit Koettig <u>Permits</u>							
45-6-1484	Apple Tree Creek;HB-10;	AGD	56	325584	6270982	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	542,940
	<u>Contact</u>	<u>Recorders</u>	ASRSYS <u>Permits</u>							
45-6-1487	Golf Links Track;HB-13;	AGD	56	325650	6271140	Open site	Destroyed	Grinding Groove : -	Axe Grinding Groove	542,940
	<u>Contact</u>	<u>Recorders</u>	J.C Lough <u>Permits</u>							
45-6-1488	HB-17;Cockle Ck;	AGD	56	325630	6268850	Open site	Valid	Grinding Groove : -	Axe Grinding Groove	542,940
	<u>Contact</u>	<u>Recorders</u>	ASRSYS <u>Permits</u>							
45-6-2099	Dynamited;	AGD	56	323140	6265520	Closed site	Valid	Artefact : -	Shelter with Deposit	
	<u>Contact</u>	<u>Recorders</u>	Val Attenbrow <u>Permits</u>							
45-6-0339	Normanhurst;	AGD	56	322450	6267538	Open site	Valid	Grinding Groove : -	Axe Grinding Groove	
	<u>Contact</u>	<u>Recorders</u>	ASRSYS <u>Permits</u>							
45-6-0340	Turramurra;Pennant Hills;	AGD	56	325595	6265678	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	<u>Contact</u>	<u>Recorders</u>	ASRSYS <u>Permits</u>							
45-6-0342	Asquith	GDA	56	325850	6269890	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	542,940
	<u>Contact</u>	<u>Recorders</u>	ASRSYS <u>Permits</u>							
45-6-0343	Grosvenor St;Wahroongah;	AGD	56	326400	6270080	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	<u>Contact</u>	<u>Recorders</u>	ASRSYS <u>Permits</u>							
45-6-0347	North Turramurra;Kur-Ring-Gai Chase N P;	GDA	56	326633	6269043	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	
	<u>Contact</u>	<u>Recorders</u>	ASRSYS,MCH - McCardle Cultural Heritage Pty Ltd,Ms.Penny McCardle <u>Permits</u>							
45-6-2034	English house;	AGD	56	325480	6265070	Closed site	Valid	Artefact : -	Shelter with Deposit	1333
	<u>Contact</u>	<u>Recorders</u>	Warren Bluff <u>Permits</u>							
45-6-2035	Becks place;	AGD	56	325600	6264970	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	1333
	<u>Contact</u>	<u>Recorders</u>	Warren Bluff <u>Permits</u>							

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
45-6-1489	HB-18;Cockle Ck;	AGD	56	326068	6269620	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	542,940
	<u>Contact</u>	<u>Recorders</u>	ASRSYS					<u>Permits</u>		
45-6-1492	Cockle Creek;HB-23;	AGD	56	326068	6269620	Open site	Valid	Grinding Groove : -	Axe Grinding Groove	542,940
	<u>Contact</u>	<u>Recorders</u>	ASRSYS					<u>Permits</u>		
45-6-0928	Catalpa Crescent;Turramurra;	AGD	56	326344	6265030	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	
	<u>Contact</u>	<u>Recorders</u>	ASRSYS					<u>Permits</u>		
45-6-0937	Rogans Hill	AGD	56	319544	6266475	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	102473
	<u>Contact</u>	<u>Recorders</u>	ASRSYS					<u>Permits</u>		
45-6-0938	Rogans Hill;	AGD	56	319870	6266150	Open site	Valid	Art (Pigment or Engraved) : -, Grinding Groove : -	Axe Grinding Groove,Rock Engraving	102473
	<u>Contact</u>	<u>Recorders</u>	Margrit Koettig					<u>Permits</u>		
45-6-0940	Rogans Hill;(duplicate copy of 45-3-0940)	AGD	56	319621	6267209	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	102473
	<u>Contact</u>	<u>Recorders</u>	ASRSYS					<u>Permits</u>		
45-6-0941	Rogans Hill;	AGD	56	319811	6266846	Open site	Valid	Grinding Groove : -	Axe Grinding Groove	102473
	<u>Contact</u>	<u>Recorders</u>	ASRSYS					<u>Permits</u>		
45-6-0942	Hornsby;Dural;	AGD	56	320220	6269860	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	
	<u>Contact</u>	<u>Recorders</u>	Margrit Koettig					<u>Permits</u>		
45-6-0943	Hornsby;Dural;	AGD	56	320200	6269860	Closed site	Valid	Art (Pigment or Engraved) : -, Artefact : -	Shelter with Art,Shelter with Deposit	
	<u>Contact</u>	<u>Recorders</u>	Margrit Koettig					<u>Permits</u>		
45-6-0944	Dural	AGD	56	320025	6269960	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	
	<u>Contact</u>	<u>Recorders</u>	ASRSYS					<u>Permits</u>		
45-6-0946	Rogans Hill;	AGD	56	319983	6267399	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	102473
	<u>Contact</u>	<u>Recorders</u>	ASRSYS					<u>Permits</u>		
45-6-0947	Hornsby;	AGD	56	319238	6268116	Closed site	Valid	Artefact : -	Shelter with Deposit	
	<u>Contact</u>	<u>Recorders</u>	ASRSYS					<u>Permits</u>		
45-6-0948	Rogans Hill;Hornsby;	AGD	56	319242	6267933	Closed site	Valid	Artefact : -, Art (Pigment or Engraved) : -	Shelter with Art,Shelter with Deposit	

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 0220262

Client Service ID : 610874

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
	<u>Contact</u>	<u>Recorders</u>	ASRSYS					<u>Permits</u>		
45-6-0949	Normanhurst;	AGD	56	320258	6267404	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	102473
	<u>Contact</u>	<u>Recorders</u>	ASRSYS					<u>Permits</u>		
45-6-0950	Rogans Hill;Pyes Ck 3;	AGD	56	318967	6267928	Open site	Valid	Grinding Groove : -	Axe Grinding Groove	764
	<u>Contact</u>	<u>Recorders</u>	ASRSYS					<u>Permits</u>		
45-6-0951	Rogans Hill	AGD	56	320172	6267128	Closed site	Valid	Artefact : -	Shelter with Deposit	102473
	<u>Contact</u>	<u>Recorders</u>	ASRSYS					<u>Permits</u>		
45-6-0955	Rogans Hill;	AGD	56	319950	6266200	Closed site	Valid	Artefact : -	Shelter with Deposit	102473
	<u>Contact</u>	<u>Recorders</u>	Margrit Koettig					<u>Permits</u>		
45-6-1514	North Wahroonga;Kuringai-Chase/North Wahroonga;	AGD	56	325900	6270100	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	
	<u>Contact</u>	<u>Recorders</u>	M.L Stephens					<u>Permits</u>		
45-6-1647	Cherrybrook;Pyes Creek 2;	AGD	56	318950	6268350	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	764,1214
	<u>Contact</u>	<u>Recorders</u>	Denise Donlon,Les Smith					<u>Permits</u>		
45-6-0304	Pennant Hills;	AGD	56	322503	6264795	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	<u>Contact</u>	<u>Recorders</u>	ASRSYS					<u>Permits</u>		
45-6-0305	Pogson Trig Station;Hornsby;	AGD	56	321488	6269989	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	<u>Contact</u>	<u>Recorders</u>	ASRSYS					<u>Permits</u>		
45-6-0306	West Pennant Hills;Rogan's Hill;	AGD	56	318523	6267279	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	
	<u>Contact</u>	<u>Recorders</u>	ASRSYS					<u>Permits</u>		
45-6-0307	Hornsby;	AGD	56	320860	6269336	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	<u>Contact</u>	<u>Recorders</u>	ASRSYS					<u>Permits</u>		
45-6-0865	ASQUITH HB15 ENGRAVINGS	GDA	56	325856	6269903	Open site	Valid	Grinding Groove : -, Art (Pigment or Engraved) : -	Axe Grinding Groove,Rock Engraving	542
	<u>Contact</u>	<u>Recorders</u>	ASRSYS,Ms.Collette Douchkov					<u>Permits</u>		
45-6-0896	Window Cave;Pennant Hills;	AGD	56	322890	6265450	Closed site	Valid	Artefact : -	Shelter with Deposit	1809
	<u>Contact</u>	<u>Recorders</u>	Val Attenbrow,T Barlow,K Cutmore					<u>Permits</u>		
45-6-0897	Normanhurst;	AGD	56	323375	6267007	Closed site	Valid	Artefact : -	Shelter with Deposit	
	<u>Contact</u>	<u>Recorders</u>	ASRSYS					<u>Permits</u>		

Report generated by AHIMS Web Service on 05/08/2021 for Coral Hardwick for the following area at Lat, Long From : -33.74, 151.04 - Lat, Long To : -33.68, 151.16. Number of Aboriginal sites and Aboriginal objects found is 78

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SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
45-6-1879	Blackfellows Head Spur 2;	AGD	56	321700	6269050	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	Contact	Recorders	R Clegg							
45-6-1880	Blackfellows Head Spur 3;	AGD	56	321700	6269050	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	Contact	Recorders	R Clegg							
45-6-1881	Blackfellows Head Spur 4;	AGD	56	321700	6269050	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	Contact	Recorders	R Clegg							
45-6-1073	Hornsby;Black Kangaroo Cave;	AGD	56	321040	6269523	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	
	Contact	Recorders	ASRSYS							
45-6-1703	Blackfellows Head Spur 4;	AGD	56	321740	6269010	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	Contact	Recorders	Doctor.Jo McDonald							
45-6-1704	Blackfellows Head Spur 3;	AGD	56	321690	6269140	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	Contact	Recorders	Doctor.Jo McDonald							
45-6-1705	Black Fellows Head Spur 2;	AGD	56	321690	6269080	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	Contact	Recorders	Margrit Koettig,Doctor.Jo McDonald							
45-6-0228	Blackfellow's Head Spur 1;West Leigh;	AGD	56	321700	6269050	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	209
	Contact	Recorders	Doctor.Jo McDonald,M Donald							
45-6-0243	Hornsby;	AGD	56	321579	6269990	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	Contact	Recorders	ASRSYS							
45-6-0252	North Turramurra;	AGD	56	328668	6267567	Open site	Valid	Grinding Groove : -, Art (Pigment or Engraved) : -	Axe Grinding Groove,Rock Engraving	
	Contact	Recorders	ASRSYS							
45-6-0258	North Turramurra Sphinx Track	AGD	56	329500	6270340	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	
	Contact	Recorders	R.H Mathews,Doctor.Jo McDonald,Charles.D Power							
45-6-2792	Stokes Avenue PAD1	AGD	56	325384	6270290	Open site	Valid	Artefact : 1		
	Contact T Russell	Recorders	Mr.Paul Irish							
45-6-2821	ARRIONGA GG1	AGD	56	322700	6270080	Open site	Valid	Grinding Groove : 1		
	Contact	Recorders	Mr.John Appleton							
45-6-2040	Coups creek;	AGD	56	323570	6265750	Closed site	Valid	Artefact : -	Shelter with Deposit	102203
	Contact	Recorders	Val Attenbrow							

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 0220262

Client Service ID : 610874

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
45-6-2990	Zig Zag Creek 02	GDA	56	320196	6267009	Closed site	Valid	Artefact : 2, Hearth : 1		102473
	<u>Contact</u>	<u>Recorders</u>	Mr.Michael Jackson <u>Permits</u>							
45-6-3104	Rothwell Shelter KUR033	GDA	56	325500	6265090	Open site	Valid	Potential Archaeological Deposit (PAD) :-		
	<u>Contact</u>	<u>Recorders</u>	Aboriginal Heritage Office <u>Permits</u>							
45-6-3084	Barton Cres Shelter 3 KUR142	GDA	56	326635	6269500	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		
	<u>Contact</u>	<u>Recorders</u>	Aboriginal Heritage Office <u>Permits</u>							
45-6-3085	Barton Cres Shelter 2	GDA	56	326510	6269465	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		
	<u>Contact</u>	<u>Recorders</u>	Mr.Phil Hunt <u>Permits</u>							
45-6-3086	Barton Cres Shelter 1 KUR 140	GDA	56	326510	6269410	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		
	<u>Contact</u>	<u>Recorders</u>	Mr.Phil Hunt,Aboriginal Heritage Office <u>Permits</u>							
45-6-3089	Barton Cres Shelter 2 KUR141	GDA	56	326510	6269465	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		
	<u>Contact</u>	<u>Recorders</u>	Mr.Phil Hunt,Aboriginal Heritage Office <u>Permits</u>							
45-6-3657	Westleigh Scarred Tree	GDA	56	321930	6267659	Open site	Valid	Aboriginal Resource and Gathering : -, Modified Tree (Carved or Scarred) : -, Potential Archaeological Deposit (PAD) :-		
	<u>Contact</u>	<u>Recorders</u>	Guringai Tribal Link Aboriginal Corporation,Mrs.Tracey Howie,Mr.Peter Saad <u>Permits</u>							
45-6-3658	Westleigh Shelter	GDA	56	321983	6268188	Open site	Valid	Habitation Structure : -, Aboriginal Resource and Gathering : -		
	<u>Contact</u>	<u>Recorders</u>	Guringai Tribal Link Aboriginal Corporation,Mrs.Tracey Howie,Mr.Peter Saad <u>Permits</u>							
45-6-3828	Thornleigh Reservoir Scarred Tree 1	GDA	56	321963	6267595	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	<u>Contact</u>	<u>Recorders</u>	Mr.Peter Saad <u>Permits</u>							
45-6-3817	Westleigh PAD	GDA	56	321732	6268038	Open site	Valid	Potential Archaeological Deposit (PAD) :-		

Report generated by AHIMS Web Service on 05/08/2021 for Coral Hardwick for the following area at Lat, Long From : -33.74, 151.04 - Lat, Long To : -33.68, 151.16. Number of Aboriginal sites and Aboriginal objects found is 78

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

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 0220262

Client Service ID : 610874

<u>SiteID</u>	<u>SiteName</u>	<u>Datum</u>	<u>Zone</u>	<u>Easting</u>	<u>Northing</u>	<u>Context</u>	<u>Site Status **</u>	<u>SiteFeatures</u>	<u>SiteTypes</u>	<u>Reports</u>
	<u>Contact</u>	<u>Recorders</u>	Mr.Peter Saad					<u>Permits</u>		
45-6-3979	NORTH WAHROONGA CURTIN AVE HB16 MAN ENG	GDA	56	325816	6269804	Open site	Valid	Art (Pigment or Engraved) : -		
	<u>Contact</u>	<u>Recorders</u>	Ms.Collette Douchkov					<u>Permits</u>		

Appendix 3

**** Site Status**

Valid - The site has been recorded and accepted onto the system as valid

Destroyed - The site has been completely impacted or harmed usually as consequence of permit activity but sometimes also after natural events. There is nothing left of the site on the ground but proponents should proceed with caution.

Partially Destroyed - The site has been only partially impacted or harmed usually as consequence of permit activity but sometimes also after natural events. There might be parts or sections of the original site still present on the ground

Not a site - The site has been originally entered and accepted onto AHIMS as a valid site but after further investigations it was decided it is NOT an aboriginal site. Impact of this type of site does not require permit but Heritage NSW should be notified

Report generated by AHIMS Web Service on 05/08/2021 for Coral Hardwick for the following area at Lat, Long From : -33.74, 151.04 - Lat, Long To : -33.68, 151.16. Number of Aboriginal sites and Aboriginal objects found is 78

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

Appendix 4. Field investigation data

Appendix 4

A4.1. Photographic log

Appendix 4



BarkerCollege (1).JPG



BarkerCollege (2).JPG



BarkerCollege (3).JPG



BarkerCollege (4).JPG



BarkerCollege (5).JPG



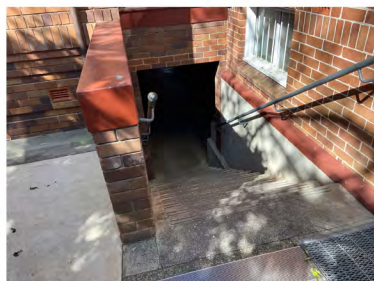
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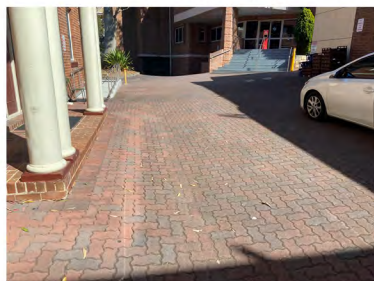
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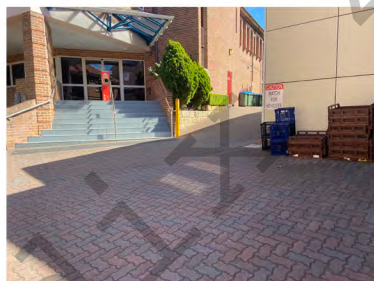
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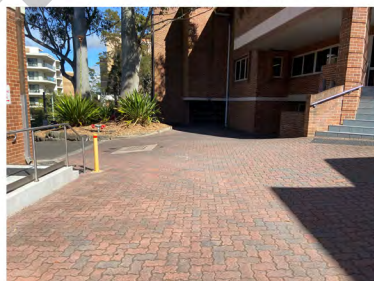
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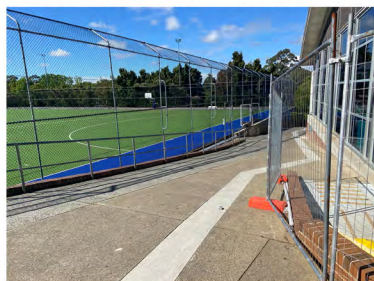
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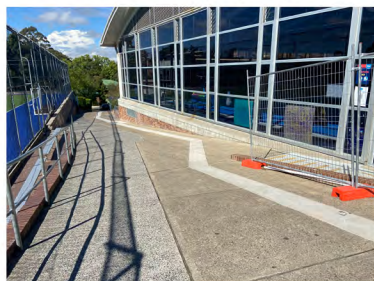
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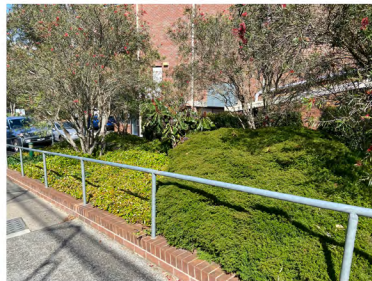
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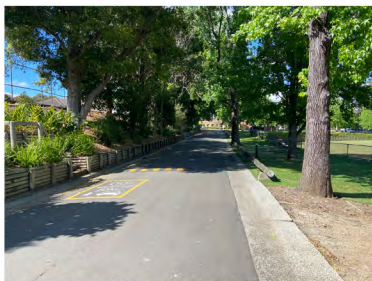
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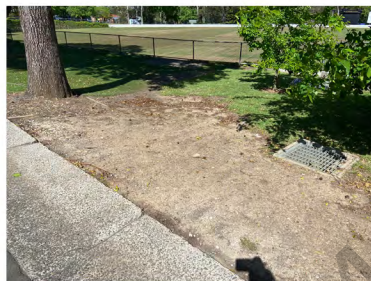
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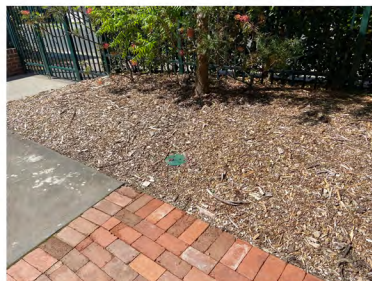
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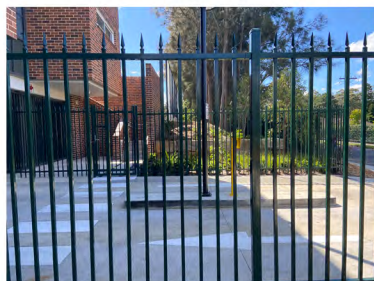
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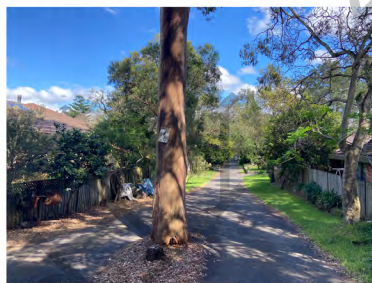
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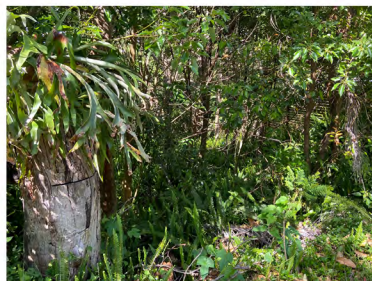
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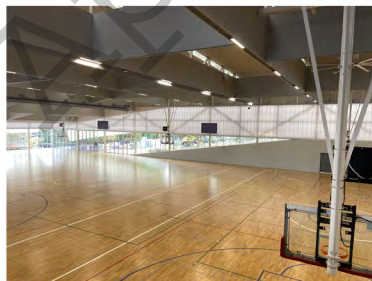
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BarkerCollege (139).JPG



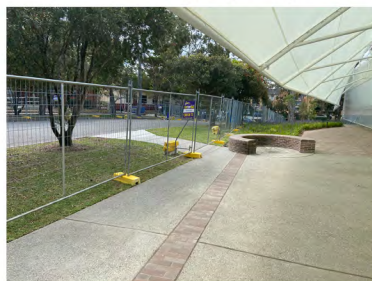
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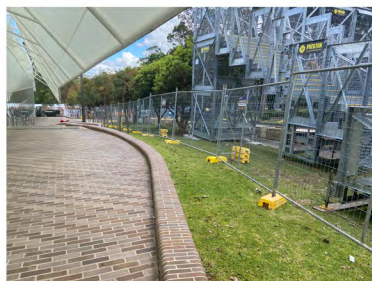
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Appendix

Appendix 5. How significance was assessed

General

While all Aboriginal objects in NSW are protected under NSW legislation, the NPW Act, 1974 recognises that the destruction of sites may be necessary to allow other activities or developments to proceed. In order for the State regulator to make informed decisions on such matters, a consideration of the significance of cultural heritage places and objects is an important element of the cultural heritage assessment process. The heritage significance of Aboriginal archaeological sites can be assessed using the five criteria outlined in *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance, 2013* (the *Burra Charter*): aesthetic, historic, scientific, social, or spiritual (Australia ICOMOS 2013a).

Significance levels and thresholds

Most cultural places and objects are of cultural value to at least some individuals or community groups. The assessment process requires the analysis and ranking of significance. Australia has a four-tiered system of heritage protection that has been implemented across all levels of government i.e. Commonwealth, State and Local governments (see Appendix 1 for details on legislation). While heritage in NSW is managed under NSW legislation it is compliant with this four-tiered system. Under this system, cultural heritage places and objects once identified are assessed according to their significance at World, National, State and Local levels and whether they are above or below threshold for listing or protection. For ease of discussion here we can set aside discussion of world heritage places as such places must meet a threshold of 'Outstanding Universal Value' (OUV) and such places are unlikely to occur in the study area. It is a requirement of this process that the higher levels will meet and exceed the thresholds for the level below. In other words, a place or object of World Heritage Significance will also be of National significance and so on. This process can be visualised as shown in Figure A6-1 where each of the protected categories of Local, State and National are subset of each other and indeed a broader inventory of places that have been assessed and considered. It can be seen that places that meet the threshold for a particular level of significance will have met the thresholds for the levels below: e.g. nationally significant places will as a prerequisite have satisfied the thresholds for State significance and Local significance.

In NSW 'State heritage significance', in relation to a place, building, work, relic, moveable object or precinct, means significance to the State in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item, and 'Local heritage significance', in relation to a place, building, work, relic, moveable object or precinct, means significance to an area in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item (s.4A, Heritage Act).

In assessing the significance of sites aspects such as rarity and representativeness and the integrity (sometimes referred to as the intactness of the site) must be considered. Generally speaking, a site or object that is rare will have a heightened significance although a site that is suitable of conservation as 'representative' of its type will also be significant. Conversely an extremely rare site may no longer be significant if its integrity has been sufficiently compromised.

For example, a rare Pleistocene era site that would normally be considered of high scientific significance may be below threshold if the site has suffered substantial subsurface damage.

A summary of these values is presented in Table A6-1.



Figure A6-1. The tiered heritage system operating in Australia

Aesthetic significance

This criterion refers to aspects of sensory perception and the ability of the site to elicit emotional responses referred to as sensory or sensori-emotional values. The practice notes that supplement the *Burra Charter* note that assessment may include consideration of 'visual and non-visual aspects such as sounds, smells and other factors having a strong impact on human thoughts, feelings and attitudes'. Aesthetic qualities may include 'the concept of beauty and formal aesthetic ideals' (Australia ICOMOS 2013b, 3). With regard to pre-contact Aboriginal

cultural heritage sites, the placement within the landscape would be considered under this criterion as would memoryscapes and the ability of the site to transmit such memories. It is important to consider that sensori-emotional values are not always equated with 'beauty'; for example, massacre sites or sites of incarceration may have value under this criterion. Individual artefacts, sites and site features may also have aesthetic significance.

Table A6-1. A summary of criteria and rankings used to determine a site's significance

Criterion	Threshold indicators state	Threshold indicator local	Below threshold for significance
Aesthetic	<p>The site or object elicits a strong emotional response and is part of a state or national narrative.</p> <p>Is set within a landscape that inspires awe.</p>	<p>The site is known or suspected of eliciting strong responses from the local community.</p> <p>While similar sites may exist elsewhere, they are rare in the local area.</p>	<p>The site or object does not elicit a relevant sensori-emotional response; or</p> <p>The site has been disturbed to the extent that it can no longer elicit a relevant sensori-emotional response.</p>
Historic	<p>The site or object is important in representing an aspect of history important to the State or National as reflected in the Australian (and State) Historical Thematic Framework</p>	<p>The site or object is rare in the local area; and would provide strong opportunities for interpretation to the public.</p> <p>The site illustrates elements of the history of the local area</p>	<p>The site is common in the local area, does not provide opportunities for interpretation to the public and does not contribute substantially to an understanding the historic themes relevant to the local area and/or the State.</p> <p>(Note: individuals may still feel attachment for sites below threshold)</p>
Cultural and or spiritual	<p>The site or object is important to an understanding of pre or post contact Aboriginal cultural life in NSW.</p> <p>The site or object is part of a Dreaming story or track.</p> <p>The site or object is part of ongoing ceremony or ritual.</p> <p>Substantial cultural knowledge about this site exists within the relevant Aboriginal community or custodians for this site or has been previously documented.</p>	<p>The site is important to local Aboriginal community, or subset of the community, and this importance can be articulated.</p>	<p>There is little or no knowledge in the Aboriginal community about this site or object.</p> <p>The knowledge that does exist falls into the category of family history and is not generally relevant to the broader Aboriginal community, and/or Aboriginal historical narrative.</p> <p>(Note: individuals may still feel attachment for sites below threshold)</p>
Scientific (archaeological)	<p>The site or object has potential to answer key questions about</p>	<p>The site or object is rare in the local area; and it provides</p>	<p>The site or object is common in the local area and/or the state.</p>

Criterion	Threshold indicators state	Threshold indicator local	Below threshold for significance
	<p>Aboriginal culture and society in NSW or Australia as a whole pre or post contact.</p> <p>The site or object is unique and/or rare and intact; or</p> <p>The site is the best representative (and intact) example of a type of site that may be common, but not conserved elsewhere.</p>	<p>potential to learn more about a little understood aspect of Aboriginal cultural or society in the local area.</p> <p>The site has a high artefact density, and is large enough in size to be used to interpret larger scale questions about technology and occupation in the local area.</p>	<p>The site does not have excavation /research potential or the site is common but has some potential information to be salvaged.</p>

Historic significance

The practice notes that supplement the *Burra Charter* include the following discussion of historic significance:

Historic value is intended to encompass all aspects of history—for example, the history of aesthetics, art and architecture, science, spirituality and society. It therefore often underlies other values. A place may have historic value because it has influenced, or has been influenced by, an historic event, phase, movement or activity, person or group of people. It may be the site of an important event. For any place the significance will be greater where the evidence of the association or event survives at the place, or where the setting is substantially intact, than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains significance regardless of such change or absence of evidence. (Australia ICOMOS 2013b, 3)

In relation to Aboriginal cultural heritage, many post-contact places and sites would have historic value. Pre-contact places and items may also be significant according to this criterion, although the association with historic figures, events, phases or activities may be more difficult to establish. Places of historic significance may include sacred or ceremonial sites, sites of resistance battles and massacres, and archaeological sites with evidence of technological developments.

Social and spiritual significance

In Aboriginal heritage this criterion concerns the relationship and importance of sites to the contemporary Aboriginal community. Aspects of social and spiritual significance include people's traditional and contemporary links with a place or object as well as an overall concern by Aboriginal people for sites and their continued protection. Aboriginal cultural values may partially reflect or follow on from archaeological values, historic values, aesthetic values or be tied to values associated with the natural environment. This criterion requires the active participation of Aboriginal people in the assessment process as it is their knowledge and values that must be articulated.

Scientific significance

Scientific value is associated with the research potential of a site. Rarity and representativeness are also related concepts that are taken into account. Research potential or demonstrated research importance, is considered according to the contribution that a heritage site can make to present understanding of human society and the human past. Heritage sites, objects or places of high scientific significance are those which provide an uncommon opportunity to provide information about the specific antiquity of people in an area, or a rare glimpse of artistic endeavour or a chronological record of cultural change of continuity through deep archaeological stratigraphy.

The comparative rarity of a site is a consideration in assessing scientific significance. A certain site type may be 'one of a kind' in one region, but very common in another. Artefacts of a particular type may be common in one region, but outside the known distribution in another.

The integrity of a site is also a consideration in determining scientific significance. While disturbance of a topsoil deposit with artefacts does not entirely diminish research value, it may limit the types of questions that may be addressed. A heavily cultivated paddock may be unsuited to addressing research questions of small-scale site structure, but it may still be suitable for answering more general questions of implement distribution in a region and raw material logistics.

The capacity of a site to address research questions is predicated on a definition of what the key research issues are for a region. In the region including the subject area, the key research issues revolve around the chronology of Aboriginal occupation and variability in stone artefact manufacturing technology. Sites with certain backed implements from the Holocene are very common, but sites with Pleistocene evidence are extremely rare, and hence of extremely high significance if found.