biosis
APEM Group

Cessnock Hospital Redevelopment

Aboriginal Cultural Heritage Assessment

Prepared for Health Infrastructure

Final report

29 November 2024

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- Turner & Townsend: Georgia Leonard, Bianca Greentree and Les Palma.

Biosis staff involved in this project were:

- Henri Liswoyo (mapping)
- Crystal Garabedian (assistance in the field)

Glossary

ACHA	Aboriginal Cultural Heritage Assessment
AHIMS	Aboriginal Heritage Information Management System
AR	Archaeological report
Biosis	Biosis Pty Ltd
CBD	City Business District
DECCW	Department of Environment, Climate Change and Water (now Heritage NSW)
DP	Deposited Plan
EPBC Act	Commonwealth Environment Protection and Biodiversity Conservation Act 1999
EP&A Act	*Environmental Planning and Assessment Act 1979*
ESD	Ecologically Sustainable Development
GDA	Geocentric Datum of Australia
GPS	Global Positioning System
GSV	Ground Surface Visibility
Heritage NSW	Heritage NSW, NSW Department of Climate Change, Energy, the Environment and Water
ICOMOS	International Council on Monuments and Sites
LALC	Local Aboriginal Land Council
LEP	Local Environmental Plan
LGA	Local Government Area
MGA	Map Grid of Australia
NHL	National Heritage List
NNTT	National Native Title Tribunal
NPW Act	*National Parks and Wildlife Act 1974*
NPWS	National Parks and Wildlife Service
NSW	New South Wales
NTSCORP	Native Title Services Corporation
PAD	Potential Archaeological Deposit
RAPs	Registered Aboriginal Parties
REF	Review of Environmental Factors
SEPP Act	Transport and Infrastructure State Environmental Planning Policy 2021
Study area	Defined as 24 View Street, Cessnock NSW (Lot 2 DP 1173784, Lot 7 DP 13203, Lot 8 DP 13203, Lot 1 DP 103663, Lot 10 DP 5442, Lot B DP 103664, Lot 2 Section 20 DP 5442, Lot 1 DP 254743 and Lot 11 DP 882585)
the Code	*Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW*

Summary

This Aboriginal Cultural Heritage Assessment (ACHA) has been prepared by Biosis Pty Ltd (Biosis) on behalf of Health Infrastructure to assess the potential environmental impacts that could arise from the redevelopment of the Cessnock Hospital health surface at 24 View Street, Cessnock (the study area. The study area is located within Lot 2 DP 1173784, Lot 7 DP 13203, Lot 8 DP 13203, Lot 1 DP 103663, Lot 10 DP 5442, Lot B DP 103664, Lot 2 Section 20 DP 5442, Lot 1 DP 254743 and Lot 11 DP 882585 and is approximately 1.1 kilometres north of Cessnock city business district (CBD) and approximately 50 kilometres west of Newcastle CBD.

The project is to be assessed as a Development without Consent under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The report accompanies a Review of Environmental Factors (REF) that seeks approval for the construction and operation of a new two-storey clinical services building including:

- Demolition of selection existing structures.
- Construction of a new hospital building on the site's northern portion.
- Realignment of internal roads and a new primary vehicular and pedestrian entrance to the hospital campus from Jurd Street.
- Refurbishment of the existing at-grade car park.
- Installation and realignment of selected services.
- Installation of ancillary development including, but not limited to, lighting and signage.
- Landscaping including new kerb, gutter and resurfacing to Jurd Street.

For a detailed description, refer to the REF prepared by Ethos Urban.

Impact assessment summary

Based on the identification of potential issues and an assessment of the nature and extent of the impacts of the proposed development, it is determined that:

- The extent and nature of potential impacts are low, this is due to the test excavation program not identifying any Aboriginal artefacts or sites and therefore the study area holds low archaeological potential. The extent and nature of the potential impacts will not have a significant adverse effect on the locality, community, and the environment.

Potential impacts can be appropriately mitigated or managed to ensure that there is minimal effect on the locality and community, refer to Section 6.2.Consultation

The Aboriginal community was consulted regarding the heritage management of the project throughout its lifespan. Consultation has been undertaken as per the process outlined in the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010) (consultation requirements). The appropriate government bodies were notified, and advertisements placed in the Cessnock Advertiser (13 September 2023), which resulted in the following Aboriginal organisations registering their interest (Table 1):

Table 1 List of registered Aboriginal parties and group contact

No.	Organisation	Contact person
1	Mindarriba Local Aboriginal Land Council	Tara Dever
2	Didge Ngunawal Clan	Lillie Carroll and Paul Boyd
3	Nunawanna Aboriginal Corporation	Colin Ahoy
4	Scott Franks on behalf of the Wonnarua PBC, Yarrawalk Pty Ltd	Scott Franks
5	Ungooroo Aboriginal Corporation	Alan Paget
6	Thomas Dahlstrom Offers ACH value by using 3D Laser and Drone technology	Thomas Dahlstrom
7	Long Gully Cultural Services	Ethan Trewlynn
8	Culturally Aware	Tracey Skene
9	Jarban & Mugrebea	Les Atkinson
10	A1 Indigenous Services	Carolyn Hickey
11	ACHS	Amanda Hickey
12	Confidential Party 1	N/A
13	Gomery Cultural Consultants	David Horton
14	Wallangan Cultural Services	Maree Waugh
15	Wonnarua Elders Council Incorporated	Richard Edwards
16	Awabakal & Guringai	Kerrie Brauer
17	Kevin Duncan	Kevin Duncan

A search conducted by the Office of the Registrar, *Aboriginal Land Rights Act 1983* provided contacts for the Worimi Conservation Lands as well as Mindaribba LocaL Aboriginal Land Council (LALC) and suggested that Biosis contact whether both organisations would like to participate. A search conducted by the National Native Title Tribunal (NNTT) listed no Registered Native Title Claims, Unregistered Claimant Applications or Registered Indigenous Land Use Agreements within the study area.

Upon registration, the Aboriginal parties were invited to provide their knowledge on the study area and on the proposal provided in Methodology / Sampling Strategy Title. The responses identify the study area as an area of high significance. Responses from the Registered Aboriginal Parties (RAPs) are included in Appendix 3.

The outcome of the consultation process was that the RAPs considered the study area to have a high level of cultural significance, although that significance was not clearly defined and specific examples were not provided. The results of the consultation process are included in this document.

The recommendations that resulted from the consultation process are provided below.

Results

The ACHA assessment undertook background research for the proposed study area. Key considerations arising from the background research include:

- There are 113 Aboriginal cultural heritage sites registered with the Aboriginal Heritage Information Management System (AHIMS) register within a 5 kilometre radius, centred on the study area.
- Previous predictive modelling conducted in the Cessnock region indicates that Aboriginal artefacts are likely to be located within proximity to water sources.
- A review of historical aerials identified that the northern portion of the study area has been subject to vegetation clearance however, has not been used for public buildings associated with the hospital.

An archaeological survey was conducted on 28 February 2024. The survey did not identify any surface artefact sites or other Aboriginal site types. This was attributed to low levels of Ground Surface Visibility (GSV) noted across the extent of the study area. Although the survey demonstrated that the study area has been subject to disturbance, three areas of moderate archaeological potential were identified. These areas of potential were identified as they have proximity to numerous water courses and have remained relatively undisturbed.

A program of test excavations was undertaken to determine whether subsurface archaeological deposits within identified areas of moderate archaeological potential to be impacted by the proposed development.

A total of eleven test pits were excavated within the three areas of moderate potential. Test pits ended on the clay (B Horizon) layer and the test pit depths ranged from 160 to 250 millimetres. No Aboriginal artefacts were identified by the test excavations. The areas of moderate potential were revised from moderate to low.

Management recommendations

Prior to any development impacts occurring within the study area, the following is recommended.

Recommendation 1: Continued consultation with the registered Aboriginal parties

As per consultation requirements, it is recommended that the proponent provides a copy of this final report to the Aboriginal stakeholders and considers all feedback received. The proponent should continue to keep these groups informed via the project mailing list for updates and will maintain ongoing consultation with the Connecting with Country Working Group throughout the duration of the project.

Recommendation 2: No further archaeological work required

No further archaeological work is required, except in the event that unexpected finds are recovered during any phase of the project (refer to Recommendation 5, 6 and 7).

Recommendation 3: Heritage induction

Heritage inductions for all site workers and contractors should be undertaken in order to prevent any unintentional harm to Aboriginal sites located within the study area and its surrounds. This induction will include the following items:

- Relevant legislation.
- Location of identified Aboriginal heritage sites, areas of archaeological potential, and areas of archaeological sensitivity.
- Basic identification skills for Aboriginal and non-Aboriginal artefacts and human remains.

- Procedure to follow in the event of an unexpected heritage item find during construction works.
- Procedure to follow in the event of discovery of human remains during construction works.
- Penalties and non-compliance.
- This should include a Cultural Heritage Toolbox Induction for all site works and contractors involved in the proposed project works and should be delivered by Awabakal Descendants.

Biosis understands that this recommendation has been captured within the Preliminary Construction Management Plan.

Recommendation 4: Heritage Interpretation plan

Given the significance of the region to Aboriginal people, there is an opportunity for heritage interpretation as part of the design. Heritage interpretation is an innovative way to integrate culture into design and can not only honour the deep-rooted connection to the land but also ensure that Aboriginal cultural heritage remains present in the daily operations of the proposed industrial estate. As such, it is recommended that a Heritage Interpretation Plan be prepared by a suitably qualified heritage consultant following the NSW Heritage Council's *Interpreting Heritage Places and Items Guidelines*.

It is understood that a Development Application for Category One remediation works is being completed concurrently with the REF application and a Heritage Interpretation will form part of this work. This work will be completed before any scope of the REF thus satisfying this recommendation.

Recommendation 5: Discovery of unanticipated Aboriginal objects

All Aboriginal objects and Places are protected under the NPW Act. It is an offence to disturb an Aboriginal site without a consent permit issued by Heritage NSW. Should any unanticipated Aboriginal objects be encountered during works associated with this proposal, works must cease in the vicinity and the find should not be moved until assessed by a qualified archaeologist. If the find is determined to be an Aboriginal object the archaeologist will provide further recommendations. These may include notifying Heritage NSW and Aboriginal stakeholders.

Biosis understands that this recommendation has been captured within the Preliminary Construction Management Plan.

Recommendation 6: Discovery of unanticipated historical relics

Relics are historical archaeological resources of local or State significance and are protected in NSW under the *Heritage Act 1977* (Heritage Act). Relics cannot be disturbed except with a permit or exception/exemption notification. Should unanticipated relics be discovered during the course of the project, work in the vicinity must cease and an archaeologist contacted to make a preliminary assessment of the find. The Heritage Council will require notification if the find is assessed as a relic.

Biosis understands that this recommendation has been captured within the Preliminary Construction Management Plan.

Recommendation 7: Discovery of human remains

If any suspected human remains are discovered during any activity you must:

1. Immediately cease all work at that location and not further move or disturb the remains.

2. Notify the NSW Police and Heritage NSW Environmental Line on 131 555 as soon as practicable and provide details of the remains and their location.
3. Not recommence work at that location unless authorised in writing by Heritage NSW.

Biosis understands that this recommendation has been captured within the Preliminary Construction Management Plan.

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1. Introduction

1.1. Project background

Biosis has been commissioned by Turner & Townsend (Project Manager) on behalf of Health Infrastructure to undertake an ACHA to inform the development of new contemporary facilities at Cessnock Hospital located at 24 View Street, Cessnock, New South Wales (NSW) (Figure 1).

This report details the investigation, consultation and assessment of Aboriginal cultural heritage undertaken for the study area. The Archaeological Report (AR) (Appendix F) details the findings of the archaeological investigations conducted as part of the ACHA. As required under Section 2.3 of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (the Code), the AR provides evidence about the material traces of Aboriginal land use to support the conclusions and management recommendations in the ACHA.

The project is to be assessed as a Development without Consent under Part 5 of the EP&A Act, which requires an REF.

1.2. Study area

The study area is located within Lot 2 DP 1173784, Lot 7 DP 13203, Lot 8 DP 13203, Lot 1 DP 103663, Lot 10 DP 5442, Lot B DP 103664, Lot 2 Section 20 DP 5442, Lot 1 DP 254743 and Lot 11 DP 882585 and is approximately 1.1 kilometres north of Cessnock CBD and approximately 50 kilometres west of Newcastle CBD (Figure 1). It encompasses 4.22 hectares of public land and the adjacent road reserves.

The study area is within the:

- Cessnock Local Government Area (LGA).
- Parish of Pokolbin.
- County of Northumberland (Figure 2).

The study area is bounded by Jurd Street to the north, residential properties to the east and west and View Street to the south.

1.3. Proposed development

The scope of works will include the following:

- Demolition of select existing structures.
- Construction of a new hospital building on the site's northern portion.
- Realignment of internal roads and a new primary vehicular and pedestrian entrance to the hospital campus from Jurd Street.
- Refurbishment of the existing at-grade car park.
- Installation and realignment of selected services.
- Installation of ancillary development including, but not limited to, lighting and signage.

- Landscaping.
- New kerb, gutter and road resurfacing on Jurd Street.

1.4. Planning approvals

The proposed development will be assessed against Part 5 of the EP&A Act. Other relevant legislation and planning instruments that will inform this assessment include:

- *Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (*EPBC Act*).*
- NSW NPW Act.
- *NSW National Parks and Wildlife Amendment Act 2010.*
- *Transport and Infrastructure State Environmental Planning Policy 2021* (SEPP Act).
- *Cessnock Local Environmental Plan 2011.*
- *Cessnock Development Control Plan 2010.*

1.5. Restricted and confidential information

Appendix F contains AHIMS information which is confidential and not to be made public. This is clearly marked on the title page for the Attachment.

1.6. Aboriginal cultural heritage

1.6.1. General description

In NSW, according to Bowler et al. (2003), Aboriginal people have occupied the land for over 42,000 years. Without being part of the Aboriginal culture and the productions of this culture, it is not possible for non-Aboriginal people to fully understand the meaning of site, objects and places to Aboriginal people – only to move closer towards understanding this meaning with the help of the Aboriginal community. Similarly, definitions of Aboriginal culture and cultural heritage without this involvement constitute outsider interpretations.

With this preface Aboriginal cultural heritage broadly refers to things that relate to Aboriginal culture and hold cultural meaning and significance to Aboriginal people (DECCW 2010, pp. 3). There is an understanding in Aboriginal culture that everything is interconnected. In essence Aboriginal cultural heritage can be viewed as potentially encompassing any part of the physical and/or mental landscape, that is, 'Country' (DECCW 2010, pp. iii).

Aboriginal people's interpretation of cultural value is based on their 'traditions, observance, lore, customs, beliefs and history' (DECCW 2010, pp. 3). The things associated with Aboriginal cultural heritage are continually and actively being defined by Aboriginal people (DECCW 2010, pp. 3). These things can be associated with traditional, historical or contemporary Aboriginal culture (DECCW 2010, pp. 3).

1.6.2. Tangible Aboriginal cultural heritage

Three categories of tangible Aboriginal cultural heritage may be defined:

- Things that have been observably modified by Aboriginal people.
- Things that may have been modified by Aboriginal people but no discernible traces of that activity remain.
- Things never physically modified by Aboriginal people (but associated with Dreamtime Ancestors who shaped those things).

1.6.3. Intangible Aboriginal cultural heritage

Examples of intangible Aboriginal cultural heritage would include memories of stories and 'ways of doing', which would include language and ceremonies (DECCW 2010, pp. 3).

1.6.4. Statutory

Currently Aboriginal cultural heritage, as statutorily defined by the NPW Act, consists of objects and places which are protected under Part 6 of the Act.

Aboriginal objects are defined as:

> *any deposit, object or material evidence…relating to the Aboriginal habitation of the area that comprises NSW, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains*

Aboriginal places are defined as a place that is or was of special Aboriginal cultural significance. Places are declared under section 84 of the NPW Act.

1.6.5. Values

Aboriginal cultural heritage is valued by Aboriginal people as it is used to define their identity as both individuals and as part of a group (DECCW 2010, pp. iii). More specifically it is used:

- To provide a:
  - *'Connection and sense of belonging to Country'* (DECCW 2010, pp. iii).
  - Link between the present and the past (DECCW 2010, pp. iii).
- As a learning tool to teach Aboriginal culture to younger Aboriginal generations and the general public (DECCW 2010, pp. 3).

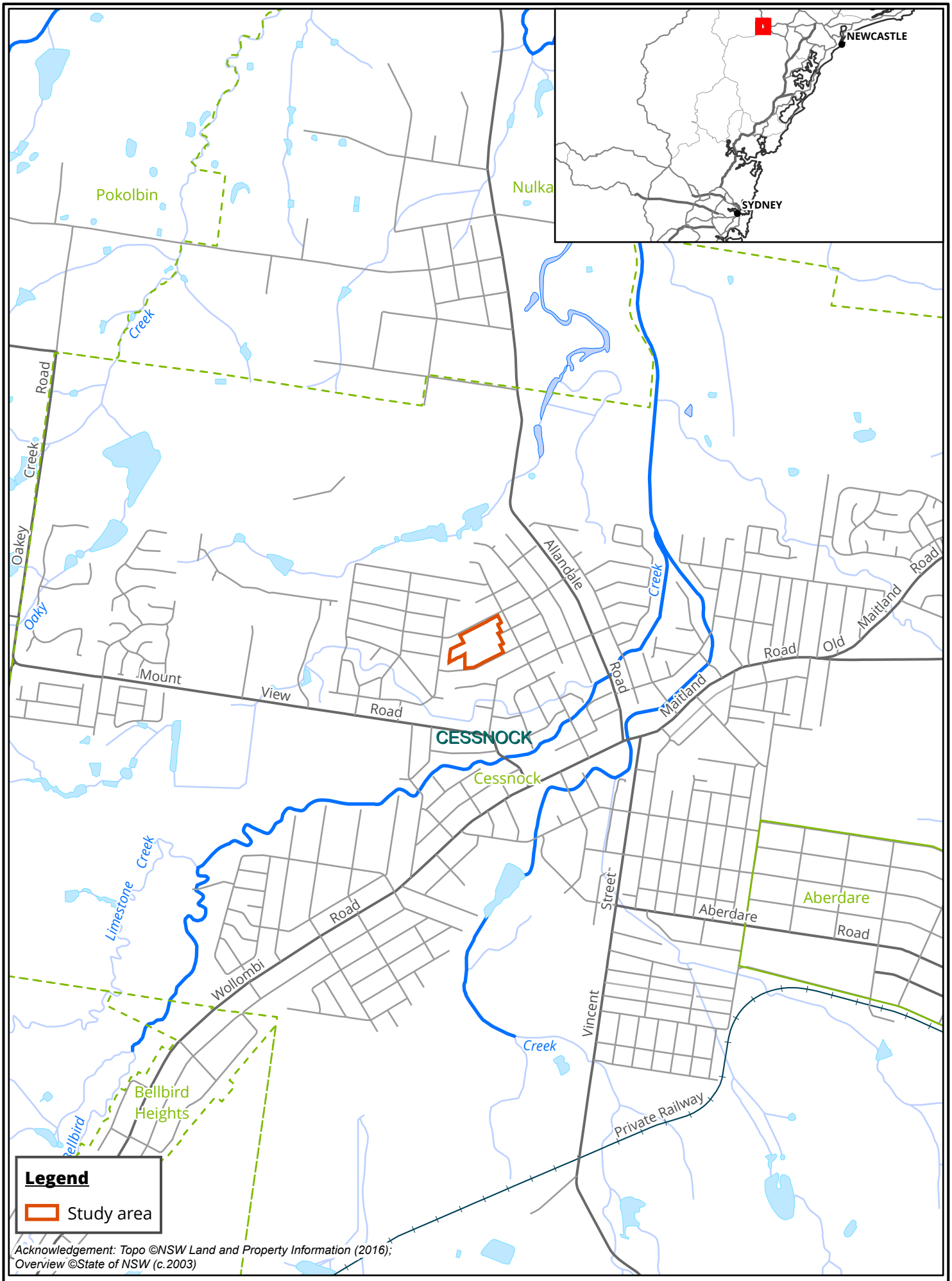

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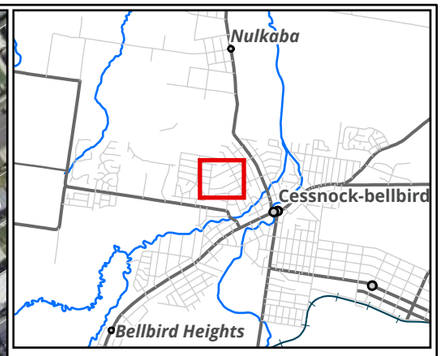
Figure 1 Location of the study area

Matter: 39532, Date: 30 August 2024,
Prepared for: AKE, MC, Prepared by: HL, Last edited by: hliswoyo
Location: P:\39500s\39532\Mapping\39532_Cessnock_Hospital_ACHA_AR
Layout: 39532_ACHA_F1_Locality

0 200 400 600 800 1,000
Metres
Scale 1:25,000@ A4, GDA2020 MGA Zone 56

N



Legend

- Study area
- Lot

Figure 2 Study area detail

0 20 40 60 80

Metres
Scale: 1:2,000@ A3
Coordinate System:
GDA2020 MGA Zone 56

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Matter: 39532, Date: 30 August 2024,
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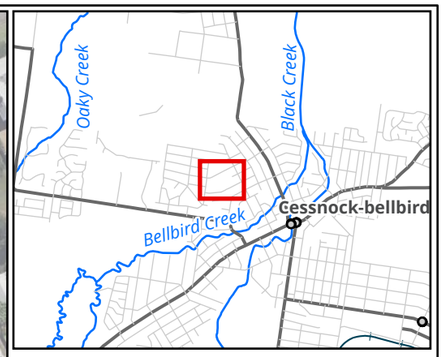

Legend

Study area

Figure 3 Proposed works

0 10 20 30 40

Metres

Scale: 1:1,500@ A3

Coordinate System: GDA2020 MGA Zone 56

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Matter: 39532, Date: 30 September 2024,
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Location: P:\39500s\39532\Mapping\
39532_Cessnock_Hospital_ACHA_AR,
Layout: 39532_ACHA_F3_ProposedWorks

2. Study area context

This section discusses the study area in regard to its landscape, environmental and Aboriginal cultural heritage context. This section should be read in conjunction with the AR attached in Appendix F. The background research has been undertaken in accordance with the Code.

2.1. Topography and hydrology

The study area is situated within the Central Lowlands of the Hunter Valley Region and is located within the Farley, Greta Coal Measures geological formations. The Farley formation comprises silty sandstone and overlies the Rutherford formation, which consists of siltstone, marl and minor sandstone (Voisey 1958).The Greta Coal Measures formation also runs north to south through the western portion of the study area, and consists of coal seams, siltstone, sandstone, claystone and chert deposits. Claystone and chert deposits within the Great Coal Measures formation present a valuable resource for Aboriginal stone tool production that may have been utilised by Aboriginal people in the local region. The Greta Coal Measures formation is made up of Permian fluvial, coastal plain and marine sediments that were deposited on the Paleozoic basement, following rapid subsidence leading to the deposition of coal-bearing sequences. Which occur in a wedgelike sequence from 60 to 90 metres thick. The formation is sulphur rich, indicating that it was deposited in a marine environment (Australian Government 2019). Historically, the Greta Coal Measures were first mined at Anvil Creek, nearby Greta, in 1868 (Whitehouse 1926, p.281, Huleatt 1991, p.29), and are one of the most intensely worked coal fields in the country (Wells 1998). The presence of sandstone within the underlying geology of the study area is a positive indicator for grinding groove and engravings sites should suitable sandstone exposures be present, particularly in proximity to fresh water sources.

Within the vicinity of the study area a number of hydrological and topographical features are present which have been associated with Aboriginal land use within the Hunter Region.

Stream order is recognised as a factor which assists in the development of predictive modelling in Aboriginal archaeology and has seen extensive use in the Hunter region. Predictive models which have been developed for the region tend to favour high order streams as the locations of campsites as they would have been more likely to provide a stable source of water and by extension other resources which would have been used by Aboriginal groups (Environmental Resources Management Australia Pty Ltd (ERM) 2001, McCardle Cultural Heritage 2005, Biosis 2017, Kuskie 2012). Several permanent fresh water sources are located within close proximity to the study area. The study area is located 300 metres north of a second Strahler order non perennial water course. A fifth order perennial water course, Bellbird Creek is located approximately 500 metres south-west of the study area. The presence of a higher order permanent creekline, along with lower order creeklines located within and in close proximity to the study area indicates that water resources, and by extension food resources, were readily accessible. The presence of several hydrological features within proximity to the study area, suggests that the study area would have provided natural resources which may have been utilised by Aboriginal people in the local region.

2.2. Soil landscapes

Soil landscapes have distinct morphological and topological characteristics that result in specific archaeological potential. Soil landscapes are defined by a combination of soils, topography, vegetation and weathering conditions, soil landscapes are essentially terrain units that provide a useful way to summarise archaeological potential and exposure.

The Branxton soil landscape is present within the study area. It is characterised by undulating rises, low hills, and creek flats between Singleton and Cessnock. It has a low local relief (between 10 and 40 metres) with slope gradients of 3 to 5%. Drainage lines are common within the landscape, space at 400 to 1500 metre in intervals. Yellow and red podzolic soils are common on midslopes and crests respectively, with yellow soloths on lower slopes and in drainage lines. Soloths are susceptible to gully erosion which can impact the likelihood of archaeological deposits remaining *in situ*. Alluvial soils are present in some creeks, and siliceous sands are present on flats and large valleys. Alluvial soils can be subject to regular flooding which can result in the deposition of soils which can preserve archaeological deposits. However, the soil and water movement during flood events can also result in disturbances to these deposits. The Branxton soil landscape therefore has low to moderate potential for archaeological deposits in areas that are subject to flooding. Raised landforms are unlikely to be affected by flooding and are likely to have been favoured by Aboriginal people for occupation as a result (Kelly and Price 2003 Brooke & Jacobs 2009, Pollock & Price 2007), and therefore hold higher archaeological potential as deposits are more likely to be found *in situ*.

2.3. Climate and rainfall

Climate data was provided by the Cessnock Airport AWS NSW weather station approximately 4.4 kilometres away, Station No. 061260 (Bureau of Meteorology 2024).

- The mean maximum average temperature is highest in January when it reaches 30.4 degrees.
- The lowest mean maximum temperature is in July at 17.6 degrees.
- The mean minimum temperature is highest in January at 17.1 degrees and lowest in July at 4.2 degrees.
- The average rainfall is highest in February at 100.7 millimetres and lowest in August at 34.1millimetres.

Rainfall would have supported a number of plant and animal resources within the area, while lower temperatures during winter months may have limited activity in the area during colder periods. While there have been dramatic climate variations over the past 65,000 years, the recent climate data suggests overall the area was temperate, indicating resources were likely available year-round/seasonally.

2.4. Landscape resources

The wider region includes distinct ecological zones, including open forest and open woodland, with riparian vegetation extending along many of the watercourses. Each ecological zone hosts a different array of floral and faunal species, many of which would have been utilised according to seasonal availability. Aboriginal inhabitants of the region would have had access to a wide range of avian, terrestrial and aquatic fauna and repeated firing of the vegetation would have opened up the foliage allowing ease of access through and between different resource zones.

Plant resources were used in a variety of ways. Fibres were twisted into string, which was used for many purposes, including the weaving of nets, baskets and fishing lines. String was also used for personal adornment. Bark was used in the provision of shelter; a large sheet of bark being propped against a stick to form a gunyah (Attenbrow 2002). The study area contains generally cleared tall open-forest (Department of Planning, Industry and Environment 2020, pp. 108). Vegetation species that are supported by the Branxton soil landscape include Broad-Leaved Ironbark *E. fibrosa*, Spotted Gum *Corymbia maculate*, Small-flower Grevillea *Grevillea parviflora subsp. Parviflora* and Narrow-leaved Bottlebrush *Calliestemon linearis.*

As well as being important food sources, animal products were also used for tool making and fashioning a myriad of utilitarian and ceremonial items. For example, tail sinews are known to have been used to make fastening cord, while 'bone points', which would have functioned as awls or piercers, have been identified in

the archaeological record. Animals such as Brush-tailed Possums were highly prized for their fur, with possum skin cloaks worn fastened over one shoulder and under the other. Kangaroo teeth were incorporated into decorative items, such as head bands (Attenbrow 2002).

Animal species that may have inhabited the study area include mammal species such as Eastern Grey Kangaroo *Macropus giganteus*,Grey-headed Flying-fox *Pteropus poliocephalus* and Bare-nosed Wombat *Vombatus ursinus*. A number of bird, reptile and fish including Galah *Eolophus roseicapilla*, Red-bellied Black Snake *Pseudechis porphryiacus* and Eastern Kelpfish *chironemus marmoratus* have also been recorded in the vicinity of the study area (Atlas of Living Australia 2022).

2.5. European land use history

Historical aerial imagery allows for modern developments and land use to be identified within the study area. Refer to the AR in Appendix F for historical aerial imagery. An aerial image dated to 1963 shows that the land was already established as Cessnock District Hospital. The study area has been cleared of vegetation and developed with several hospital buildings. It appears that the northern portion of the study area has remained cleared of vegetation with no development. By 1976, further development occurred with structures development in the northern portion and a driveway that runs north towards Jurd Street. Less than a decade later, in 1984 amendments to the hospital occurred. This included the development of a building in the western portion of the study area. This also included the western portion of the study area being utilised as a further source of car parking as the only parking prior was in the eastern portion or street parking. By the nineties, only small alterations occurred in the study area. These alterations included the development of a shed within the most western portion of the study area. A helipad was also introduced within the northern portion of the study area, located to the west of the driveway.

3. Aboriginal cultural heritage context

3.1. Ethnohistory

Exploration of the Hunter Valley began relatively early in the life of the NSW colony. Recorded sightings of Aboriginal groups in the area date back as far as 1801, with Grant sighting several Aboriginal groups on his travels, often with their canoes or at campfires (Grant J 1803, pp.162–163). In 1826, Dawson also reported sighting an Aboriginal hunting party at Lochinvar, in the process of encircling a kangaroo (Dawson R 1830, p.8). Early ethnographic evidence notes the specific use of fire by local groups within the region. In 1826, Threlkeld (in Gunson N 1974, p.206) observed local groups burning off the grass in some areas in order to stimulate new growth, and in preparation for a hunt, as animals gathered to eat the new shoots.

More broadly in the Hunter Valley, early observations noted Aboriginal use of the natural environment, with wood, specifically bark from various species of trees being heavily utilised in order to create huts, shields, baskets, and cord (Dawson R 1830). Hardwood species were also used in the manufacture of weapons and hunting tools such as spears, clubs, axes, and spear throwers (Threlkeld in Gunson N 1974). Scrapers made from shell were used to sharpen spears, and also ground into shape for use as fishhooks. Animal products such as kangaroo bone was used to make awls, and their sinew was used as thread. Kangaroo and possum skin were also used as garments, with early European observers noting that these materials formed the bulk of Aboriginal clothing in the area (Brayshaw H 1987, p.67). Brayshaw describes a complex social system as being present among local tribes, which were organised into small clans made up of family groups for the purposes of hunting and other food gathering (Brayshaw 1987, pp. 36).

As with many areas in NSW, the impact of European colonisation was felt in the first part of the 19th century, with the expansion of farming and pastoralism activities and deforestation leading to the destruction of Aboriginal hunting grounds and a decrease in the abundance of food sources and native plant and animal habitats (South East Archaeology 2010, p.40).

Our knowledge of Aboriginal people and their land-use patterns and lifestyles prior to European contact is mainly reliant on documents written by non-Indigenous people. The inherent bias of the class and cultures of these authors necessarily affect such documents. They were also often describing a culture that they did not fully understand – a culture that was in a heightened state of disruption given the arrival of European settlers and disease. Early written records can, however, be used in conjunction with archaeological information and surviving oral histories from members of the Aboriginal community in order to gain a picture of Aboriginal life in the region.

Despite a proliferation of Aboriginal heritage sites within the Hunter region there is considerable ongoing debate about the nature, territory and range of pre-contact Aboriginal language groups in the Hunter region. These debates have arisen largely because, by the time colonial diarists, missionaries and proto-anthropologists began making detailed records of Aboriginal people in the late-19th century, pre-European Aboriginal groups had been broken up and reconfigured by European settlement activity.

3.2. Aboriginal heritage located in the study area

The archaeological assessment of the study area did not identify any Aboriginal sites within the study area. However, consultation has identified cultural heritage values (Section 1.6) that are important to the Aboriginal community.

3.3. Interpretation of past Aboriginal land use

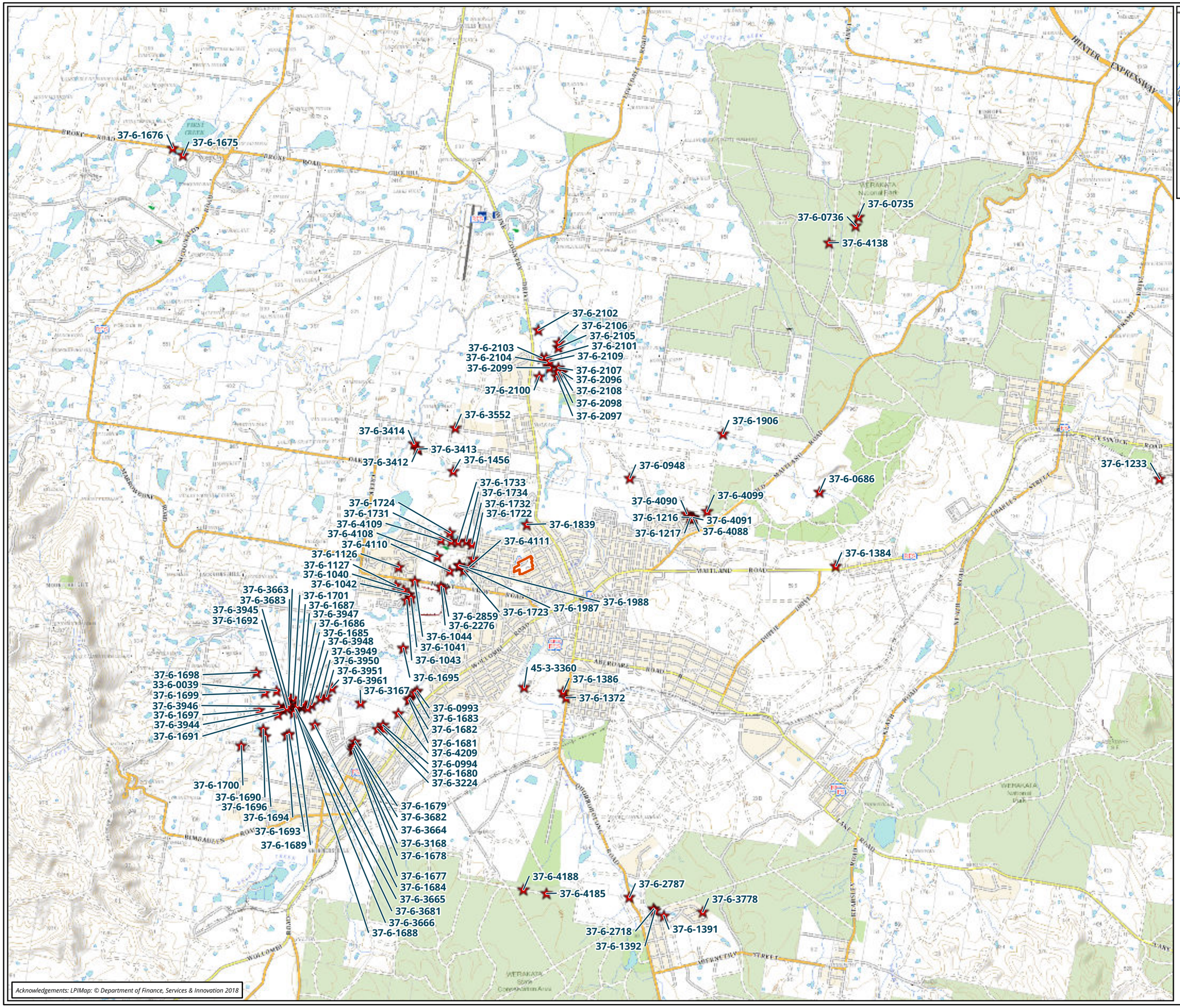
Background research has identified that the study area is located within the Central Lowlands of the Hunter Valley Region and is located within the Farley geological formation. The Farley formation comprises silty sandstone and overlies the Rutherford formation, which consists of siltstone, marl and minor sandstone (Voisey 1958). These geological units are commonly associated with Aboriginal artefact scatter sites and PADS. Topographically, the study area lies within a shoulder and sloping landform which is located in close proximity to Bellbird Creek, a fifth Strahler order perennial creek line located approximately 500 metres south-west of the study area and 300 metres north of a second Strahler order non perennial water course. The presence of a higher order permanent creekline, along with lower order creeklines located within and in close proximity to the study area indicates that water resources, and by extension food resources, were readily accessible.

The study area is also underlain by the Branxton soil landscape is present within the study area. It is characterised by undulating rises, low hills, and creek flats between Singleton and Cessnock. Yellow and red podzolic soils are common on midslopes and crests respectively, with yellow soloths on lower slopes and in drainage lines. Alluvial soils are present in some creeks, and siliceous sands are present on flats and large valleys. This soil landscape therefore has low to moderate potential for archaeological deposits in areas subject to flooding. Raised landforms are unlikely to be affected by flooding and are likely to have been favoured by Aboriginal people for occupation as a result (Kelly and Price 2003 Brooke & Jacobs 2009, Pollock & Price 2007).

A review of historical aerial photographs show that the study area has predominately been used for public service as a hospital. Disturbances include historical vegetation clearance, the construction of public service buildings and sheds, construction of driveways, and subsurface infrastructure.

A program of test excavations was undertaken that sought to identify whether subsurface archaeological deposits have the potential to occur within the area of moderate potential. A total of four test pits were excavated across the area of moderate potential and were spaced at 20 metre intervals. Test pits all ended on clay, ranging from depths of 160 millimetres to 250 millimetres. Soils were found to be highly disturbed and representative of redeposited natural soils with some areas of introduced fill material. This is most likely due to the vegetation clearance practices and the development of the hospital site observed in the study area and the surrounds. Overall, subsurface soils appeared to have undergone significant levels of disturbance.

Despite the lack of archaeological deposits within the study area, the study area was likely utilised by Aboriginal people prior to European development. Due to the study areas close proximity to high order water sources, and by extension food resources, this would suggest that the study area would have provided natural resources which may have been utilised by Aboriginal people in the local region. The study area and local region would have been likely to provide a stable source of water and by extension other resources which would have been used by Aboriginal groups (Environmental Resources Management Australia Pty Ltd (ERM) 2001, McCardle Cultural Heritage 2005, Biosis 2017, Kuskie 2012). Overall, the study area has undergone low to high levels of disturbance and holds low archaeological potential. However, the study area would have provided natural resources which may have been utilised by Aboriginal people in the past, and therefore the study area holds high cultural value.



Legend

- Study area
- AHIMS

NOT TO BE MADE PUBLIC

Figure 4 AHIMS search results

0 500 1,000 1,500 2,000

Metres

Scale: 1:51,000@ A3

Coordinate System: GDA2020 MGA Zone 56

N

biosis

APEM Group

Matter: 39532, Date: 09 September 2024,
Prepared for: AKE, MC, Prepared by: HL, Last edited by: hliswoyo
Location: P:\39500s\39532\Mapping\
39532_Cessnock_Hospital_ACHA_AR,
Layout: 39532_AR_F7_AHIMS

4. Aboriginal community consultation

Consultation with the Aboriginal community has been undertaken in compliance with the consultation requirements as detailed below. A consultation log of all communications with RAPs is provided in Appendix A.

4.1. Stage 1: Notification of project proposal and registration of interest

4.1.1. Identification of relevant Aboriginal stakeholders

In accordance with the consultation guidelines, Biosis notified the following bodies regarding the proposal:

- Cessnock City Council
- Heritage NSW, Department of Climate Change, Energy, the Environment and Water.
- NSW Native Title Services Corporation Limited (NTSCORP Limited).
- Office of the Registrar, Aboriginal Land Rights Act 1983 of Aboriginal Owners.
- National Native Title Tribunal (NNTT).
- Hunter Local Land Services.
- Mindaribba Local Aboriginal Land Council.

A list of known Aboriginal stakeholders in the Cessnock region was provided by Heritage NSW (a copy of these responses are provided in Appendix B and include:

- MLALC
- Worimi Conservation Lands
- A1 Indigenous Services
- Aboriginal Native Title Consultants
- AGA Services
- Aliera French Trading
- Arwarbukarl Cultural Resource Association, Miromaa Aboriginal Language and Technology Centre
- Awabakal & Guringai Pty Ltd
- Awabakal Descendants Traditional Owners
- Awabakal Local Aboriginal Land Council
- Awabakal Traditional Owners Aboriginal Corporation
- Biraban Local Aboriginal Land Council
- Cacatua Culture Consultants
- Corroboree Aboriginal Corporation
- Crimson-Rosie
- Culturally Aware
- D F T V Enterprises
- Deslee Talbott Consultants
- Didge Ngunawal Clan
- Gidawaa Walang & Barkuma Neighbourhood Centre Inc.
- Glen Morris
- Gomery Cultural Consultants
- Gunjeewong Cultural Heritage Aboriginal Corporation
- Hunter Traditional Owner

- Hunter Valley Cultural Surveying
- Indigenous Learning
- Jarban & Mugrebea
- Kamilaroi Yankuntjatjara Working Group
- Kauma Pondee Inc.
- Kawul Pty Ltd trading as Wonn1 Sites
- Kevin Duncan
- Lower Hunter Aboriginal Incorporated
- Lower Hunter Wonnarua Cultural Services
- Lower Wonnaruah Tribal Consultancy Pty Ltd
- Mayaroo
- Metropolitan Local Aboriginal Land Council
- Murra Bidgee Mullangari Aboriginal Corporation
- Myland Cultural & Heritage Group
- Nunawanna Aboriginal Corporation
- Renee Sales
- Sharon Hodgetts
- Steve Talbott
- The Men's Shack Indigenous Corporations
- Thomas Dahlstrom Offers ACH value by using 3D Laser and Drone technology
- Scott Franks on the behalf of the Wonnarua PBC, Yarrawalk Pty Ltd
- Trent Hodgetts
- Ungooroo Aboriginal Corporation
- Wallagan Cultural Services
- Wanaruah Local Aboriginal Land Council
- Warragil Cultural Services
- WATTAKA Pty Ltd
- Widescope Indigenous Group
- Wonnarua Culture Heritage
- Wonnarua Elders Council
- Wonnarua Nation Aboriginal Corporation
- Wurrumay Pty Ltd
- Yinarr Cultural Services
- Girragirra Murun Aboriginal Corporation
- Wingarra Wilay Aboriginal Corporation
- Long Gully Cultural Services
- Guthers Aboriginal Corporation

A search conducted by the Office of the Registrar, *Aboriginal Land Rights Act 1983* (NSW) listed no Aboriginal Owners with land within the study area. A search conducted by the NNTT listed no Registered Native Title Claims, Unregistered Claimant Applications or Registered Indigenous Land Use Agreements within the study area.

4.1.2. Public notice

In accordance with the consultation guidelines, a public notification was placed in the following newspapers:

- Cessnock Advertiser (13 September 2023)

The advertisement invited Aboriginal people who hold cultural knowledge to register their interest in a process of community consultation to provide assistance in determining the significance of Aboriginal object(s) and/or places in the vicinity of the study area. A copy of the public notice is provided in Appendix B.

4.1.3. Registration of Aboriginal parties

Aboriginal groups identified in Section 4.1.1 were sent a letter inviting them to register their interest in a process of community consultation to provide assistance in determining the significance of Aboriginal object(s) and/or places in the vicinity of the study area. In response to the letters and public notice, a total of 15 groups registered their interest in the project. Responses to registration from Aboriginal parties are provided in Appendix B. A full list of Aboriginal parties who registered for consultation is provided below:

Table 2 List of registered Aboriginal parties

No.	Organisation	Contact person
1	Mindaribba Local Aboriginal Land Council	Tara Dever
2	Didge Ngunawal Clan	Lillie Carroll and Paul Boyd
3	Nunawanna Aboriginal Corporation	Colin Ahoy
4	Scott Franks on behalf of the Wonnarua PBC, Yarrawalk Pty Ltd	Scott Franks
5	Ungooroo Aboriginal Corporation	Alan Paget
6	Thomas Dahlstrom Offers ACH value by using 3D Laser and Drone technology	Thomas Dahlstrom
7	Long Gully Cultural Services	Ethan Trewlynn
8	Culturally Aware	Tracey Skene
9	Jarban & Mugrebea	Les Atkinson
10	A1 Indigenous Services	Carolyn Hickey
11	AHCS	Amanda Hickey
12	Confidential Party 1	N/A
13	Gomery Cultural Consultants	David Horton
14	Wallangan Cultural Services	Maree Waugh
15	Wonnarua Elders Council Incorporated	Richard Edwards
16	Kevin Duncan	Kevin Duncan
17	Awabakal & Guringai Pty Ltd	Kerrie Brauer

4.2. Stage 2: Presentation of information about the proposed project

On 17 October 2023 Biosis provided RAPs with details about the proposed development works (project information pack). A copy of the project information pack is provided in Appendix C.

4.3. Stage 3: Gathering information about cultural significance

4.3.1. Archaeological assessment methodology information pack

On 17 October 2023, Biosis provided each RAP with a copy of the project methodology pack outlining the proposed ACHA process and methodology for this project. RAPs were given 28 days to review and prepare feedback on the proposed methodology. A copy of the project methodology pack is provided in Appendix C.

A total of three responses were received for the project, which were in support of the project information and the methodology.

Long Gully Cultural Services provided a response on 24 October 2023 via email:

> *"I read over everything and I agree to the methodology, I'm hoping to be apart of the team, To do the recovery as it has Cultural significance for many of my family in Newcastle and surrounding areas".*

A1 Indigenous provided a response on 14 November 2023 via email:

> *"I have reviewed the document and support the information and methodology. A1 would like to be included in the fieldwork".*

Awabakal & Guringai Pty Ltd were missed in the first mailing of Stage 2 and 3 and were provided the document on the 11 June 2024. Awabakal & Guringai provided a response on 27 June 2024 via email:

> *"Considering that there will be the Demolition of select existing structures and Construction of a new hospital building, what stage or process of the Hospital Redevelopment project is currently under construction.*
>
> *Although you mention in the email below that soils consisted completely of imported fill and no Aboriginal objects were identified, however, it is our belief that just because you cant see Aboriginal Objects it doesn't mean that it should be assumed that they don't exist within the proposed development area. We believe that caution and consideration is needed regarding the extent of the proposed works, as it had been our experience that extensive damage to Aboriginal Objects has been misjudged pertaining to the actual extent of the maximum impacts when demolition is underway within the development area including machinery impact earthworks being proposed, which are continually being underestimated.*
>
> *The continued destruction of our Cultural Heritage and Values is demonstrated by the common expressions such as; disturbed areas, isolated finds, contains fill, no visible Aboriginal object and common sites etc, which are used to devalue the project area of our Awabakal Cultural Heritage, Values and rights to Care for our Land and Sea Country.*
>
> *We recommend that Biosis may need to consider the value of 'place' within the Heritage and Cultural weighting within the ACHA, as this consideration is to insure the protection and conservation of Place & Objects which impact significantly on the spirituality, cultural, historic and general legacy needs of Aboriginal people to address inequalities in social and community well being.*
>
> *Our Elders also highly recommend that all Contractors receive a Cultural Heritage Toolbox Induction, for all workers involved in the proposed project by the Awabakal Descendants."*

4.3.2. Information gathered during fieldwork

No comments from RAPs were received at this stage of consultation.

4.4. Project updates

It was noted on 16 September 2024, that consultation for this project had lapsed. Biosis contacted Heritage NSW for advice regarding what the next steps should be. Heritage NSW advised that as some RAPs had been receiving projects updates due to their involvement in fieldwork, this would be deemed substantially compliant providing that an update to all RAPs is sent out as soon as possible. The project update to all RAPs was sent out on 25 September 2024. Further information can be found in Appendix A.

4.5. Stage 4: Review of draft ACHA report

A copy of the draft ACHA was provided to the RAPS on the 30 October 2024 in accordance with consultation requirements. RAPS were provided 28 days to response with comments. No further comments were received from RAPS.

5. Aboriginal cultural significance assessment

The two main values addressed when assessing the significance of Aboriginal sites are cultural values to the Aboriginal community and archaeological (scientific) values. This report will assess the cultural values of Aboriginal sites in the study area. Details of the scientific significance assessment of Aboriginal sites in the study area are provided in Appendix F.

5.1. Introduction to the assessment process

Heritage assessment criteria in NSW fall broadly within the significance values outlined in the Australia International Council on Monuments and Sites (ICOMOS) *Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance* (Australia ICOMOS 2013) (the Burra Charter). This approach to heritage has been adopted by cultural heritage managers and government agencies as the set of guidelines for best practice heritage management in Australia. These values are provided as background and include:

- **Historical significance** (evolution and association) refers to historic values and encompasses the history of aesthetics, science and society, and therefore to a large extent underlies all of the terms set out in this section. A place may have historic value because it has influenced, or has been influenced by, a historic figure, event, phase or activity. It may also have historic value as the site of an important event. For any given place the significance will be greater where evidence of the association or event survives in situ, or where the settings are substantially intact, than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains significance regardless of subsequent treatment.
- **Aesthetic significance** (Scenic/architectural qualities, creative accomplishment) refers to the sensory, scenic, architectural and creative aspects of the place. It is often closely linked with social values and may include consideration of form, scale, colour, texture, and material of the fabric or landscape, and the smell and sounds associated with the place and its use.
- **Social significance** (contemporary community esteem) refers to the spiritual, traditional, historical or contemporary associations and attachment that the place or area has for the present-day community. Places of social significance have associations with contemporary community identity. These places can have associations with tragic or warmly remembered experiences, periods or events. Communities can experience a sense of loss should a place of social significance be damaged or destroyed. These aspects of heritage significance can only be determined through consultative processes with local communities.
- **Scientific significance** (Archaeological, industrial, educational, research potential and scientific significance values) refers to the importance of a landscape, area, place or object because of its archaeological and/or other technical aspects. Assessment of scientific value is often based on the likely research potential of the area, place or object and will consider the importance of the data involved, its rarity, quality or representativeness, and the degree to which it may contribute further substantial information.

The cultural and archaeological significance of Aboriginal and historic sites and places is assessed on the basis of the significance values outlined above. As well as the Burra Charter significance values guidelines, various government agencies have developed formal criteria and guidelines that have application when assessing the significance of heritage places within NSW. Of primary interest are guidelines prepared by the Australian Government, Heritage NSW and the Heritage Branch, and the NSW Department of Climate Change, Energy, the Environment and Water The relevant sections of these guidelines are presented below.

These guidelines state that an area may contain evidence and associations which demonstrate one or any combination of the Burra Charter significance values outlined above in reference to Aboriginal heritage. Reference to each of the values should be made when evaluating archaeological and cultural significance for Aboriginal sites and places.

In addition to the previously outlined heritage values, the Heritage NSW *Guidelines to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011) also specify the importance of considering cultural landscapes when determining and assessing Aboriginal heritage values. The principle behind a cultural landscape is that 'the significance of individual features is derived from their inter-relatedness within the cultural landscape'. This means that sites or places cannot be 'assessed in isolation' but must be considered as parts of the wider cultural landscape. Hence the site or place will possibly have values derived from its association with other sites and places. By investigating the associations between sites, places, and (for example) natural resources in the cultural landscape the stories behind the features can be told. The context of the cultural landscape can unlock 'better understanding of the cultural meaning and importance' of sites and places.

Although other values may be considered – such as educational or tourism values – the two principal values that are likely to be addressed in consideration of Aboriginal sites and places are the cultural/social significance to Aboriginal people and their archaeological or scientific significance to archaeologists and the Aboriginal community. The determinations of archaeological and cultural significance for sites and places should then be expressed as statements of significance that preface a concise discussion of the contributing factors to Aboriginal cultural heritage significance.

5.2. Cultural (social significance) values

Cultural or social significance refers to the spiritual, traditional, historical and/or contemporary associations and values attached to a place or objects by Aboriginal people. Aboriginal cultural heritage is broadly valued by Aboriginal people as it is used to define their identity as both individuals and as part of a group (DECCW 2010, pp. iii). More specifically it provides:

- A 'connection and sense of belonging to Country' (DECCW 2010, pp. iii).
- A link between the present and the past (DECCW 2010, pp. 3).
- A learning tool to teach Aboriginal culture to younger Aboriginal generations and the general public (DECCW 2010, pp. 3).
- Further evidence of Aboriginal occupation prior to European settlement for people who do not understand the magnitude to which Aboriginal people occupied the continent (DECCW 2010, pp. 3).

It is acknowledged that Aboriginal people are the primary determiners of the cultural significance of Aboriginal cultural heritage.

A response from Awabakal & Guringai Pty Ltd during Stage 2 and 3 of community consultation noted that despite no Aboriginal sites being identified during the field investigation and test excavation program, it does not mean that sites do not exist within the proposed development area. Awabakal & Guringai Pty Ltd emphasised that the site holds high cultural value for the Awabakal people and that caution and consideration is needed regarding the extent of the proposed works.

5.3. Historic values

Historic significance refers to associations a place or object may have with a historically important person, event, phase or activity to the Aboriginal and other communities. Background research, a survey and consultation with the Aboriginal community has concluded that the study area is not known to have any historic associations. Therefore, this assessment has concluded that the study area has low historic significance.

5.4. Archaeological (scientific significance) values

A program of test excavations was undertaken that sought to identify whether subsurface archaeological deposits have the potential to occur within the area of moderate potential. A total of four test pits were excavated across the area of moderate potential and were spaced at 20 metre intervals. Test excavations within the study area did not identify any Aboriginal artefacts. Results from the program of test excavations combined with the observations seen during the field investigation, there are high levels of disturbance across the study area that indicate the study area is unlikely to contain intact archaeological deposits. As a result of this, the study area is considered to have low archaeological value.

An archaeological scientific assessment was undertaken for the study area and is presented in detail as part of the attached AR (Appendix F).

5.5. Aesthetic values

The southern portion of the study area is highly disturbed, and the northern portion is moderately disturbed. The study area has been historically used for public use as a hospital. The clearance of the study area to support the hospital development has caused extensive disturbances to the surface and subsurface soils. Due to the development associated with the hospital, the study area is no longer representative of its original character. However, its place within the regional landscape is closely linked with Aboriginal cultural values and provides a context for Aboriginal sites that gives a strong sense of place. The Aboriginal community strongly identifies with the broader landscape of the study area which provides the study area with aesthetic value.

The study area has been impacted by the hospital development and therefore has low aesthetic significance.

5.6. Statement of significance

The significance of sites was assessed in accordance with the following criteria:

- Requirements of the Code.
- The Burra Charter.
- Guide to Investigating and Reporting on Aboriginal Heritage.

The combined use of these guidelines is widely considered to represent the best practice for assessments of Aboriginal cultural heritage. The identification and assessment of cultural heritage values includes the four values of the Burra Charter: social, historical, scientific and aesthetic values. The resultant statement of significance has been constructed for the study area based on the significance ranking criteria assessed in Table 3.

5.6.1. Statement of significance for the study area

The study area is located within the suburb of Cessnock and has been impacted by land clearing and hospital development. The archaeological significance of this site has been assessed as low, as the test excavations did not identify any Aboriginal artefacts. Due to the development associated with the hospital, the study area is no longer representative of its original character. However, its place within the regional landscape is closely linked with Aboriginal cultural values and provides a context for Aboriginal sites that gives a strong sense of place**.** This site is not connected to any historical event or personage and therefore possesses low historical significance. The cultural significance of the site has been assessed as part of the consultation process and has high cultural significance. The study area would have been utilised by Aboriginal people prior to European occupation and was likely utilised for resource gathering due to the study areas close proximity to high order water sources. The study area has a value of "place" which provides spiritual, cultural, historic values and a general legacy for Aboriginal people in the local community.

Table 3 Significance assessment criteria for the study area

Site name	Criteria	Ranking
The study area	Cultural significance - Discussions as part of the consultation process have assessed the study area as having high cultural significance.	High
	Historic values - The study area is not connected to any historical event or personage. The study area has low direct historical associations.	Low
	Scientific significance - The results of the archaeological investigation determined that the study area had undergone various levels of disturbances associated with the construction of the existing hospital. This has likely resulted in the destruction of any potential Aboriginal sites within the study area. Therefore, the scientific significance of the site has been assessed as low.	Low
	Aesthetic values - The clearance of the study area to support the hospital development has caused extensive disturbances to the surface and subsurface soils. Due to the development associated with the hospital, the study area is no longer representative of its original character. However, its place within the regional landscape is closely linked with Aboriginal cultural values and provides a context for Aboriginal sites that gives a strong sense of place. The Aboriginal community strongly identifies with the broader landscape of the study area which provides the study area with aesthetic value. The study area holds moderate aesthetic values.	Moderate

6. Development limitations and mitigation measures

As previously outlined, the proposed works involve upgrade works to the hospital, which will comprise of the following works:

- Demolition of select existing structures.
- Construction of a new hospital building on the site's northern portion.
- Realignment of internal roads and a new primary vehicular and pedestrian entrance to the hospital campus from Jurd Street.
- Refurbishment of the existing at-grade car park
- Installation and realignment of selected services
- Installation of ancillary development including, but not limited to, lighting and signage
- Landscaping
- New kerb, gutter and road resurfacing on Jurd Street

6.1. Predicted physical impacts

The impacts to the study area consists of demolition of select existing structures and the construction of a new hospital building in the northern portion of the study area. The construction of the proposed works will likely require bulk earthworks which will impact the ground surfaces and the subsurface soils. Test excavations were undertaken within the areas of moderate archaeological potential located within the northern portion of the study area which will be impacted by the proposed works. The text excavation program did not identify any Aboriginal sites or objects. Due to the results of the test excavations undertaken, the northern portion of the study area has been reassessed to hold low archaeological potential. Therefore, the extent and nature of the potential impacts will not have a significant effect and will not impact on any Aboriginal sites within the study area.

6.2. Management and mitigation measures

Ideally, heritage management involves conservation of sites through the preservation and conservation of fabric and context within a framework of 'doing as much as necessary, as little as possible' (Marquis-Kyle & Walker 1994, pp. 13). In cases where conservation is not practical, several options for management are available. For sites, management often involves the salvage of features or artefacts, retrieval of information through excavation or collection (especially where impact cannot be avoided) and interpretation.

Consideration has been given to the principles of Ecologically Sustainable Development (ESD) in order to minimise impacts. Avoidance of impact to archaeological and cultural heritage sites through design of the development is the primary mitigation and management strategy and should be implemented where practicable. Avoidance of impact to archaeological and cultural heritage sites through design of the development is the primary mitigation and management strategy, and should be implemented where practicable.

Mitigation measures are provided in Table 4 below.

Table 4 Mitigation measures

Mitigation Measures	Relevant Section of Report
No further archaeological work required Based upon the observations made during the field investigation and the results of the archaeological test excavations it is evident that the study area has been disturbed due to the previous construction works associated with the development of the site. Due to this, no further investigation of the study area is warranted, as the study area holds low archaeological potential.	Refer to Section 5 and the AR provided within Appendix F.
Heritage induction Heritage inductions for all site workers and contractors should be undertaken in order to prevent any unintentional harm to Aboriginal sites located within the study area and its surrounds. This includes the following items: • Relevant legislation. • Location of identified Aboriginal heritage sites, areas of archaeological potential, and areas of archaeological sensitivity. • Basic identification skills for Aboriginal and non-Aboriginal artefacts and human remains. • Procedure to follow in the event of an unexpected heritage item find during construction works. • Procedure to follow in the event of discovery of human remains during construction works. • Penalties and non-compliance. • As per community consultation, this should also include a Cultural Heritage Toolbox Induction for all site works and contractors involved in the proposed project works and should be delivered by Awabakal Descendants.	Refer to Section 4 and the AR provided within Appendix F.
Interpretation plan Given the significance of the region to Aboriginal people, there is an opportunity for heritage interpretation as part of the design. Heritage interpretation is an innovative way to integrate culture into design and can not only honour the deep-rooted connection to the land but also ensure that Aboriginal cultural heritage remains present in the daily operations of the proposed industrial estate. As such, it is recommended that a Heritage Interpretation Plan be prepared by a suitably qualified heritage consultant following the NSW Heritage Council's *Interpreting Heritage Places and Items Guidelines*. The plan should identify how information on the Aboriginal history of the region could be communicated through the proposed industrial development. The heritage devices used in interpretation must be created in consultation with the RAPS. Interpretation can be achieved through native landscaping, Aboriginal art, digital displays, signage, edible and medicinal gardens, and apps educating about the history and use of the land by Aboriginal people.	Refer to Section 4 and the AR provided within Appendix F.

7. Recommendations

The recommendations below respond specifically to the wishes of the RAPs. Recommendations regarding the archaeological value of the site, and the subsequent management of Aboriginal cultural heritage is provided in the archaeological report Appendix F.

Impact assessment summary

Based on the identification of potential issues and an assessment of the nature and extent of the impacts of the proposed development, it is determined that:

- The extent and nature of potential impacts are low, this is due to the test excavation program not identifying any Aboriginal artefacts or sites and therefore the study area holds low archaeological potential. The extent and nature of the potential impacts will not have a significant adverse effect on the locality, community, and the environment.

Potential impacts can be appropriately mitigated or managed to ensure that there is minimal effect on the locality and community, refer to Section 6.2.

Recommendation 1: Continued consultation with the registered Aboriginal parties

As per consultation requirements, it is recommended that the proponent provides a copy of this final report to the Aboriginal stakeholders and considers all feedback received. The proponent should continue to keep these groups informed via the project mailing list for updates and will maintain ongoing consultation with the Connecting with Country Working Group throughout the duration of the project.

Recommendation 2: No further archaeological work required

No further archaeological work is required, except in the event that unexpected finds are recovered during any phase of the project (refer to Recommendation 5, 6 and 7).

Recommendation 3: Heritage induction

Heritage inductions for all site workers and contractors should be undertaken in order to prevent any unintentional harm to Aboriginal sites located within the study area and its surrounds. This induction will include the following items:

- Relevant legislation.
- Location of identified Aboriginal heritage sites, areas of archaeological potential, and areas of archaeological sensitivity.
- Basic identification skills for Aboriginal and non-Aboriginal artefacts and human remains.
- Procedure to follow in the event of an unexpected heritage item find during construction works.
- Procedure to follow in the event of discovery of human remains during construction works.
- Penalties and non-compliance.
- This should include a Cultural Heritage Toolbox Induction for all site works and contractors involved in the proposed project works and should be delivered by Awabakal Descendants.

Biosis understands that this recommendation has been captured within the Preliminary Construction Management Plan.

Recommendation 4: Heritage Interpretation plan

Given the significance of the region to Aboriginal people, there is an opportunity for heritage interpretation as part of the design. Heritage interpretation is an innovative way to integrate culture into design and can not only honour the deep-rooted connection to the land but also ensure that Aboriginal cultural heritage remains present in the daily operations of the proposed industrial estate. As such, it is recommended that a Heritage Interpretation Plan be prepared by a suitably qualified heritage consultant following the NSW Heritage Council's *Interpreting Heritage Places and Items Guidelines*.

It is understood that a Development Application for Category One remediation works is being completed concurrently with the REF application and a Heritage Interpretation will form part of this work. This work will be completed before any scope of the REF thus satisfying this recommendation.

Recommendation 5: Discovery of unanticipated Aboriginal objects

All Aboriginal objects and Places are protected under the NPW Act. It is an offence to disturb an Aboriginal site without a consent permit issued by Heritage NSW. Should any unanticipated Aboriginal objects be encountered during works associated with this proposal, works must cease in the vicinity and the find should not be moved until assessed by a qualified archaeologist. If the find is determined to be an Aboriginal object the archaeologist will provide further recommendations. These may include notifying Heritage NSW and Aboriginal stakeholders.

Biosis understands that this recommendation has been captured within the Preliminary Construction Management Plan.

Recommendation 6: Discovery of unanticipated historical relics

Relics are historical archaeological resources of local or State significance and are protected in NSW under the *Heritage Act 1977* (Heritage Act). Relics cannot be disturbed except with a permit or exception/exemption notification. Should unanticipated relics be discovered during the course of the project, work in the vicinity must cease and an archaeologist contacted to make a preliminary assessment of the find. The Heritage Council will require notification if the find is assessed as a relic.

Biosis understands that this recommendation has been captured within the Preliminary Construction Management Plan.

Recommendation 7: Discovery of human remains

If any suspected human remains are discovered during any activity you must:

4. Immediately cease all work at that location and not further move or disturb the remains.
5. Notify the NSW Police and Heritage NSW Environmental Line on 131 555 as soon as practicable and provide details of the remains and their location.
6. Not recommence work at that location unless authorised in writing by Heritage NSW.

Biosis understands that this recommendation has been captured within the Preliminary Construction Management Plan.

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Appendices

Appendix A. Consultation log

Stage 1: Notification of project proposal and registration of interest

Step 1: Identification of Aboriginal people/parties with an interest in the proposed study area.

Organisation contacted	Date and type of contact	Date and type of response	Response details
Heritage NSW	29/08/2023 – Email	04/09/2024	Stakeholder List
National Native Title Tribunal	29/08/2023 – Email	29/08/2024 – Email	No Native Title claims
Native Title Services CORP Limited	29/08/2023 – Email	n/a	n/a
Office of the Registrar, Department of Aboriginal Affairs	29/08/2023 – Email	31/08/2023 – Email	Note of nearby Aboriginal Owners
Hunter Local Land Services	29/08/2023 – Email	29/08/2023 – Email	Note to contact relevant LALC
Mindaribba Local Aboriginal Land Council	29/08/2023 – Email	n/a	n/a
Cessnock City Council	29/08/2023 – Email	n/a	n/a

Step 2: Public advertisement

The public notice was published in the 13 September 2023 in the Cessnock Advertiser. A copy of the advertisement is provided in Appendix B.

Step 3: Registration of interest.

The registration period ran from the 15 September 2023 to 29 September 2023. Leeway was given to Aboriginal parties/groups who provided responses shortly after the close of this period and they have been registered as Aboriginal parties for consultation.

Organisation contacted	Date and type of contact	Method of contact	Date and type of response	Response details
Mindaribba LALC	15/09/2023	email	n/a	n/a
Worimi Conservation Lands	15/09/2023	email	n/a	n/a
A1 Indigenous Services	15/09/2023	email	17/09/2023 – Email	Registered
Aboriginal Native Title Consultants	15/09/2023	email	n/a	n/a
AGA Services	15/09/2023	email	n/a	n/a
Aliera French Trading	15/09/2023	post	n/a	n/a
Arwarbukarl Cultural Resource Association,	15/09/2023	email	n/a	n/a

Organisation contacted	Date and type of contact	Method of contact	Date and type of response	Response details
Miromaa Aboriginal Language and Technology Centre				
Awabakal & Guringai Pty Ltd	15/09/2023	email	20/09/2023 – Email	Registered
Awabakal Descendants Traditional Owners	15/09/2023	email	n/a	n/a
Awabakal Local Aboriginal Land Council	15/09/2023	email	n/a	n/a
Awabakal Traditional Owners Aboriginal Corporation	15/09/2023	email	n/a	n/a
Biraban Local Aboriginal Land Council	15/09/2023	email	n/a	n/a
Cacatua Culture Consultants	15/09/2023	email	n/a	n/a
Corroboree Aboriginal Corporation	15/09/2023	email	n/a	n/a
Crimson-Rosie	15/09/2023	post	n/a	n/a
Culturally Aware	15/09/2023	email	3/10/2023 – Email	Registered
D F T V Enterprises	15/09/2023	email	n/a	n/a
Deslee Talbott Consultants	15/09/2023	email	n/a	n/a
Didge Ngunawal Clan	15/09/2023	email	15/09/2023 – Email	Registered
Gidawaa Walang & Barkuma Neighbourhood Centre Inc.	15/09/2023	email	n/a	n/a
Glen Morris	15/09/2023	email	n/a	n/a
Gomery Cultural Consultants	15/09/2023	email	23/09/2023 – Email	Registered
Gunjeewong Cultural Heritage Aboriginal Corporation	15/09/2023	email	n/a	n/a
Hunter Traditional Owner	15/09/2023	email	n/a	n/a
Hunter Valley Cultural Surveying	15/09/2023	email	n/a	n/a
Indigenous Learning	15/09/2023	email	n/a	n/a
Jarban & Mugrebea	15/09/2023	email	15/09/2023 – Email	Registered
Kamilaroi Yankuntjatjara Working Group	15/09/2023	email	n/a	n/a
Kauma Pondee Inc.	15/09/2023	email	n/a	n/a

Organisation contacted	Date and type of contact	Method of contact	Date and type of response	Response details
Kawul Pty Ltd trading as Wonn1 Sites	15/09/2023	email	n/a	n/a
Kevin Duncan	15/09/2023	email	18/09/2023 – Email	Registered
Lower Hunter Aboriginal Incorporated	15/09/2023	post	n/a	n/a
Lower Hunter Wonnarua Cultural Services	15/09/2023	email	n/a	n/a
Lower Wonnaruah Tribal Consultancy Pty Ltd	15/09/2023	email	n/a	n/a
Mayaroo	15/09/2023	email	n/a	n/a
Metropolitan Local Aboriginal Land Council	15/09/2023	email	n/a	n/a
Murra Bidgee Mullangari Aboriginal Corporation	15/09/2023	email	n/a	n/a
Myland Cultural & Heritage Group	15/09/2023	email	n/a	n/a
Nunawanna Aboriginal Corporation	15/09/2023	email	n/a	n/a
Nunawanna Aboriginal Corporation	15/09/2023	email	15/09/2023 – Email	Registered
Renee Sales	15/09/2023	email	n/a	n/a
Sharon Hodgetts	15/09/2023	email	n/a	n/a
Steve Talbott	15/09/2023	email	n/a	n/a
The Men's Shack Indigenous Corporations	15/09/2023	email	n/a	n/a
Thomas Dahlstrom	15/09/2023	email	15/09/2023 – Email	Registered
Scott Franks on the behalf of the Wonnarua PBC, Yarrawalk Pty Ltd	15/09/2023	email	15/09/2023 – Email	Registered
Trent Hodgetts	15/09/2023	email	n/a	n/a
Ungooroo Aboriginal Corporation	15/09/2023	email	15/09/2023 – Email	Registered
Wallagan Cultural Services	15/09/2023	email	26/09/2023 – Email	Registered
Wanaruah Local Aboriginal Land Council	15/09/2023	email	n/a	n/a
Warragil Cultural Services	15/09/2023	email	n/a	n/a
WATTAKA Pty Ltd	15/09/2023	email	n/a	n/a
Widescope Indigenous Group	15/09/2023	email	n/a	n/a
Wonnarua Culture Heritage	15/09/2023	post	n/a	n/a

Organisation contacted	Date and type of contact	Method of contact	Date and type of response	Response details
Wonnarua Elders Council	15/09/2023	post	n/a	n/a
Wonnarua Nation Aboriginal Corporation	15/09/2023	email	n/a	n/a
Wurrumay Pty Ltd	15/09/2023	email	n/a	n/a
Yinarr Cultural Services	15/09/2023	email	n/a	n/a

Stage 2: Presentation of information about the proposed project

Step 1: Provision of project information pack

A copy of the information pack is provided in Appendix C and a copy of the covering email is provided following.

Organisation contacted	Date and type of contact	Method of contact	Date and type of response	Response details
A1 Indigenous Services	18/10/2023	email	14/11/2023 – Email	Supports the information and methodology
Amanda Hickey Cultural Services	18/10/2023	email	n/a	n/a
Awakabal & Guringai	11/06/2024	email	26/07/2024	Read the information and methodology. Provided feedback and recommended that a cultural heritage induction provided by Awabakal Descendants should be undertaken by all contractors working on the proposed works.
Confidential Party no.1	18/10/2023	email	n/a	n/a
Culturally Aware	18/10/2023	email	n/a	n/a
Didge Ngunawal Clan	18/10/2023	email	n/a	n/a
Gomery Cultural Consultants	18/10/2023	email	n/a	n/a
Jarban & Mugrebea	18/10/2023	email	n/a	n/a
Kevin Duncan	11/06/2024	email	n/a	n/a
Long Gully Cultural Services	18/10/2023	email	24/10/2023 – Email	Supports the information and methodology

Organisation contacted	Date and type of contact	Method of contact	Date and type of response	Response details
Mindaribba LALC	18/10/2023	email	n/a	n/a
Nunawanna Aboriginal Corporation	18/10/2023	email	n/a	n/a
Scott Franks	18/10/2023	email	n/a	n/a
Thomas Dahlstrom	18/10/2023	email	n/a	n/a
Ungooroo Aboriginal Corporation	18/10/2023	email	n/a	n/a
Wallangan Cultural Services	18/10/2023	email	n/a	n/a
Wonnarua Elders Council Inc	18/10/2023	email	n/a	n/a

Stage 3: Gathering information about cultural significance

Step 1- Provision of project methodology pack and consultation meeting

A copy of the methodology pack is provided in Appendix C and a copy of the covering email is provided following.

Organisation contacted	Date and type of contact	Method of contact	Date and type of response	Response details
A1 Indigenous Services	18/10/2023	email	14/11/2023 – Email	Supports the information and methodology
Amanda Hickey Cultural Services	18/10/2023	email	n/a	n/a
Awakabal & Guringai	11/06/2024	email	26/07/2024	Read the information and methodology. Provided feedback and recommended that a cultural heritage induction provided by Awabakal Descendants should be undertaken by all contractors working on the proposed works and discussed cultural values.
Confidential Party no.1	18/10/2023	email	n/a	n/a
Culturally Aware	18/10/2023	email	n/a	n/a
Didge Ngunawal Clan	18/10/2023	email	n/a	n/a

Organisation contacted	Date and type of contact	Method of contact	Date and type of response	Response details
Gomery Cultural Consultants	18/10/2023	email	n/a	n/a
Jarban & Mugrebea	18/10/2023	email	n/a	n/a
Kevin Duncan	11/06/2024	email	n/a	n/a
Long Gully Cultural Services	18/10/2023	email	24/10/2023 – Email	Supports the information and methodology
Mindaribba LALC	18/10/2023	email	n/a	n/a
Nunawanna Aboriginal Corporation	18/10/2023	email	n/a	n/a
Scott Franks	18/10/2023	email	n/a	n/a
Thomas Dahlstrom	18/10/2023	email	n/a	n/a
Ungooroo Aboriginal Corporation	18/10/2023	email	n/a	n/a
Wallangan Cultural Services	18/10/2023	email	n/a	n/a
Wonnarua Elders Council Inc	18/10/2023	email	n/a	n/a

Project update

A project update was provided on 25 September 2024 to all registered parties, a copy is provided in Appendix D.

Organisation contacted	Date and type of contact	Method of contact	Date and type of response	Response details
A1 Indigenous Services	25/09/2024	email	n/a	n/a
Amanda Hickey Cultural Services	25/09/2024	email	n/a	n/a
Awakabal & Guringai	25/09/2024	email	n/a	n/a
Confidential Party no.1	25/09/2024	email	n/a	n/a
Culturally Aware	25/09/2024	email	n/a	n/a
Didge Ngunawal Clan	25/09/2024	email	n/a	n/a
Gomery Cultural Consultants	25/09/2024	email	25/09/2024 - email	Email received from David Horton asking what work has been undertaken on the project so far. Biosis responded on 29

Organisation contacted	Date and type of contact	Method of contact	Date and type of response	Response details
				October 2024 with an update.
Jarban & Mugrebea	25/09/2024	email	n/a	n/a
Kevin Duncan	25/09/2024	email	n/a	n/a
Long Gully Cultural Services	25/09/2024	email	25/09/2024 – email	Email received from Ethan Trewlynn confirming receival of the update.
Mindaribba LALC	25/09/2024	email	n/a	n/a
Nunawanna Aboriginal Corporation	25/09/2024	email	n/a	n/a
Scott Franks	25/09/2024	email	n/a	n/a
Thomas Dahlstrom	25/09/2024	email	n/a	n/a
Ungooroo Aboriginal Corporation	25/09/2024	email	n/a	n/a
Wallangan Cultural Services	25/09/2024	email	n/a	n/a
Wonnarua Elders Council Inc	25/09/2024	email	n/a	n/a

Stage 4: Review of draft report

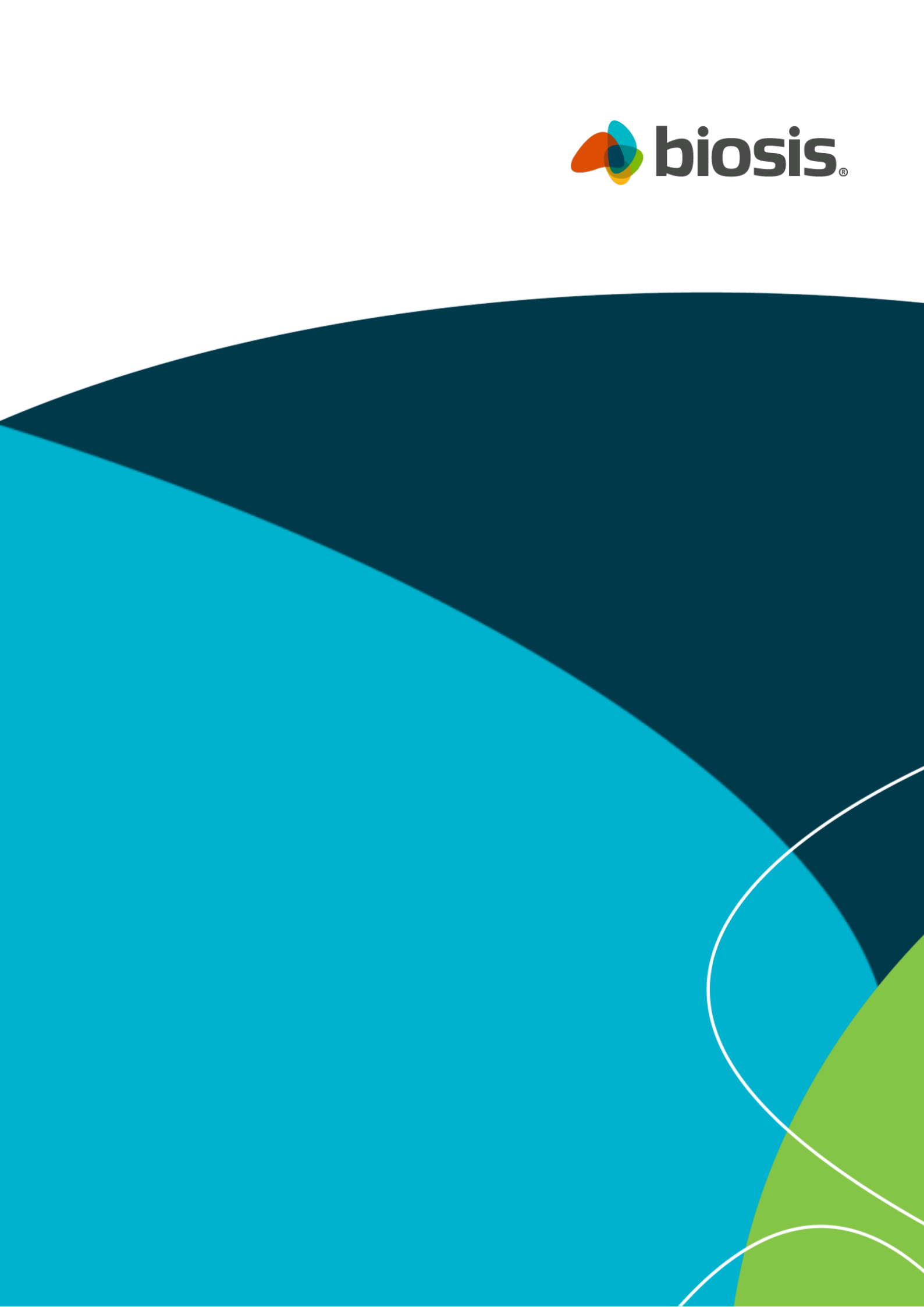
Step 1: Provision of draft report for review

A project update was provided on 30 September 2024 to all registered parties, a copy is provided in Appendix E.

Organisation contacted	Date and type of contact	Method of contact	Date and type of response	Response details
A1 Indigenous Services	30/10/2024	email	n/a	n/a
Amanda Hickey Cultural Services	30/10/2024	email	n/a	n/a
Awakabal & Guringai	30/10/2024	email	n/a	n/a
Confidential Party no.1	30/10/2024	email	n/a	n/a
Culturally Aware	30/10/2024	email	n/a	n/a
Didge Ngunawal Clan	30/10/2024	email	n/a	n/a
Gomery Cultural Consultants	30/10/2024	email	n/a	n/a

Organisation contacted	Date and type of contact	Method of contact	Date and type of response	Response details
Jarban & Mugrebea	30/10/2024	email	n/a	n/a
Kevin Duncan	30/10/2024	email	n/a	n/a
Long Gully Cultural Services	30/10/2024	email	n/a	n/a
Mindaribba LALC	30/10/2024	email	n/a	n/a
Nunawanna Aboriginal Corporation	30/10/2024	email	n/a	n/a
Scott Franks	30/10/2024	email	n/a	n/a
Thomas Dahlstrom	30/10/2024	email	n/a	n/a
Ungooroo Aboriginal Corporation	30/10/2024	email	n/a	n/a
Wallangan Cultural Services	30/10/2024	email	n/a	n/a
Wonnarua Elders Council Inc	30/10/2024	email	n/a	n/a

Appendix F. Archaeological report



biosis
APEM Group

Cessnock Hospital Redevelopment

Archaeological Report

Final Report

Prepared for Health Infrastructure

29 November 2024

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Document information

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Prepared by:	Molly Crissell
Biosis project no.:	39532
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Document control

Version	Internal reviewer	Date issued
Draft version 01	Mathew Smith	04/09/2024
Draft version 02	Mathew Smith	01/10/2024
Draft version 03	Anthea Vella	23/10/2024
Final version 01	Maggie Butcher	29/11/2024

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Biosis acknowledges the contribution of the following people and organisations in undertaking this study:

- Turner & Townsend: Georgia Leonard, Bianca Greentree and Les Palma.

Biosis staff involved in this project were:

- Henri Liswoyo (mapping).
- Crystal Garabedian (assistance in the field).

Summary

This Archaeological Report (AR) has been prepared by Biosis Pty Ltd (Biosis) on behalf of Health Infrastructure to assess the potential environmental impacts that could arise from the redevelopment of the Cessnock Hospital health surface at 24 View Street, Cessnock (the study area). This AR has been prepared to document the findings of the archaeological investigations conducted as part of the ACHA. As required under Section 2.3 of *The Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010a) (the Code), the AR provides evidence about the material traces of Aboriginal land use to support the conclusions and management recommendations in the ACHA.

The report accompanies a Review of Environmental Factors (REF) that seeks approval for the construction and operation of a new two-storey clinical services building and refurbishment works including:

- Demolition of select existing structures.
- Construction of a new hospital building on the site's northern portion.
- Realignment of internal roads and a new primary vehicular and pedestrian entrance to the hospital campus from Jurd Street.
- Refurbishment of the existing at-grade car park.
- Installation and realignment of selected services.
- Installation of ancillary development including, but not limited to, lighting and signage.
- Landscaping.
- New kerb, gutter and road resurfacing on Jurd Street.

For a detailed description, refer to the Review of Environmental Factors prepared by Ethos Urban.

The study area is located within Lot 2 DP 1173784, Lot 7 DP 13203, Lot 8 DP 13203, Lot 1 DP 103663, Lot 10 DP 5442, Lot B DP 103664, Lot 2 Section 20 DP 5442, Lot 1 DP 254743 and Lot 11 DP 882585 and is approximately 1.1 kilometres north of Cessnock central business district (CBD) and approximately 50 kilometres west of Newcastle CBD.

There are 113 Aboriginal cultural heritage sites registered with the Aboriginal Heritage Information Management System (AHIMS) register, located within a 5 kilometre radius of the study area.

The Aboriginal community was consulted regarding the heritage management of the project throughout its lifespan. Consultation has been undertaken as per the process in the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010b) (consultation requirements).

The survey was conducted on 28 February 2024. The overall effectiveness of the survey for examining the ground for Aboriginal sites was deemed low. This was attributed to vegetation cover restricting ground surface visibility (GSV) combined with a low number of exposures. No previously unrecorded Aboriginal cultural heritage sites were identified during the survey. Although the survey demonstrated that the study area has been subject to disturbance, one area of moderate archaeological potential was identified. This area of potential as identified due to its proximity to numerous water courses which would have provided useful resources for Aboriginal people and its relatively undisturbed nature meaning any potential site may be preserved.

Test excavations were undertaken under the Code on 29 April 2024 in the area of moderate archaeological potential. No Aboriginal artefacts were identified. Based on the results of the test excavations, the area of moderate archaeological potential was revised from moderate to low potential for Aboriginal sites to be present

Impact assessment summary

Based on the identification of potential issues and an assessment of the nature and extent of the impacts of the proposed development, it is determined that:

- The extent and nature of potential impacts are low, this is due to the test excavation program not identifying any Aboriginal artefacts or sites and therefore the study area holds low archaeological potential. The extent and nature of the potential impacts will not have a significant adverse effect on the locality, community, and the environment.
- Potential impacts can be appropriately mitigated or managed to ensure that there is minimal effect on the locality and community, refer to Section 7.2.

Strategies have been developed based on the archaeological significance of cultural heritage relevant to the study area. The strategies also take into consideration:

- Predicted impacts to Aboriginal cultural heritage.
- The planning approvals framework.
- Current best conservation practice, widely considered to include:
  - The ethos of the Australia — International Council on Monuments and Sites (ICOMOS) Burra Charter.
  - the Code.

The recommendations that resulted from the consultation process are provided below.

Management recommendations

Prior to any development impacts occurring within the study area, the following is recommended.

Recommendation 1: Continued consultation with the registered Aboriginal parties

As per consultation requirements, it is recommended that the proponent provides a copy of this final report to the Aboriginal stakeholders and considers all feedback received. The proponent should continue to keep these groups informed via the project mailing list for updates and will maintain ongoing consultation with the Connecting with Country Working Group throughout the duration of the project.

Recommendation 2: No further archaeological work required

No further archaeological work is required, except in the event that unexpected finds are recovered during any phase of the project (refer to Recommendation 5, 6 and 7).

Recommendation 3: Heritage induction

Heritage inductions for all site workers and contractors should be undertaken in order to prevent any unintentional harm to Aboriginal sites located within the study area and its surrounds. This induction will include the following items:

- Relevant legislation.
- Location of identified Aboriginal heritage sites, areas of archaeological potential, and areas of archaeological sensitivity.
- Basic identification skills for Aboriginal and non-Aboriginal artefacts and human remains.
- Procedure to follow in the event of an unexpected heritage item find during construction works.
- Procedure to follow in the event of discovery of human remains during construction works.
- Penalties and non-compliance.
- This should include a Cultural Heritage Toolbox Induction for all site works and contractors involved in the proposed project works and should be delivered by Awabakal Descendants.

Biosis understands that this recommendation has been captured within the Preliminary Construction Management Plan.

Recommendation 4: Heritage Interpretation plan

Given the significance of the region to Aboriginal people, there is an opportunity for heritage interpretation as part of the design. Heritage interpretation is an innovative way to integrate culture into design and can not only honour the deep-rooted connection to the land but also ensure that Aboriginal cultural heritage remains present in the daily operations of the proposed industrial estate. As such, it is recommended that a Heritage Interpretation Plan be prepared by a suitably qualified heritage consultant following the NSW Heritage Council's *Interpreting Heritage Places and Items Guidelines*.

It is understood that a Development Application for Category One remediation works is being completed concurrently with the REF application and a Heritage Interpretation will form part of this work. This work will be completed before any scope of the REF thus satisfying this recommendation.

Recommendation 5: Discovery of unanticipated Aboriginal objects

All Aboriginal objects and Places are protected under the NPW Act. It is an offence to disturb an Aboriginal site without a consent permit issued by Heritage NSW. Should any unanticipated Aboriginal objects be encountered during works associated with this proposal, works must cease in the vicinity and the find should not be moved until assessed by a qualified archaeologist. If the find is determined to be an Aboriginal object the archaeologist will provide further recommendations. These may include notifying Heritage NSW and Aboriginal stakeholders.

Biosis understands that this recommendation has been captured within the Preliminary Construction Management Plan.

Recommendation 6: Discovery of unanticipated historical relics

Relics are historical archaeological resources of local or State significance and are protected in NSW under the *Heritage Act 1977* (Heritage Act). Relics cannot be disturbed except with a permit or exception/exemption notification. Should unanticipated relics be discovered during the course of the project, work in the vicinity must cease and an archaeologist contacted to make a preliminary assessment of the find. The Heritage Council will require notification if the find is assessed as a relic.

Biosis understands that this recommendation has been captured within the Preliminary Construction Management Plan.

Recommendation 7: Discovery of human remains

If any suspected human remains are discovered during any activity you must:

1. Immediately cease all work at that location and not further move or disturb the remains.
2. Notify the NSW Police and Heritage NSW Environmental Line on 131 555 as soon as practicable and provide details of the remains and their location.
3. Not recommence work at that location unless authorised in writing by Heritage NSW.

Biosis understands that this recommendation has been captured within the Preliminary Construction Management Plan.

Contents

Tables

Figures

Photographs

Glossary

ACHA	Aboriginal Cultural Heritage Assessment
AHIMS	Aboriginal Heritage Information Management System
AR	Archaeological Report
Biosis	Biosis Pty Ltd
CBD	Central business district
Consultation requirements	*Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*
DECCW	Department of Environment, Climate Change and Water (now Heritage NSW)
DP	Deposited Plan
EP&A Act	*Environmental Planning and Assessment Act 1979*
GDA	Geocentric Datum of Australia
GPS	Global Positioning System
GSV	Ground Surface Visibility
Heritage NSW	Heritage NSW, NSW Department of Climate Change, Energy, the Environment and Water
ICOMOS	International Council on Monuments and Sites
LALC	Local Aboriginal Land Council
LEP	Local Environmental Plan
LGA	Local Government Area
MGA	Map Grid of Australia
NPW Act	*National Parks and Wildlife Act 1974*
NPWS	National Parks and Wildlife Service
NSW	New South Wales
NTSCORP	Native Title Services Corporation
PAD	Potential Archaeological Deposit
RAP	Registered Aboriginal Party
REF	Review of Environmental Factors
SEPP	State Environmental Planning Policy
Study area	Defined as 24 View Street, Cessnock NSW (Lot 2 DP 1173784, Lot 7 DP 13203, Lot 8 DP 13203, Lot 1 DP 103663, Lot 10 DP 5442, Lot B DP 103664, Lot 2 Section 20 DP 5442, Lot 1 DP 254743 and Lot 11 DP 882585)
the Code	*Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW*

1. Introduction

1.1. Project background

Biosis has been commissioned by Turner & Townsend (Project Manager) on behalf of Health Infrastructure to undertake an ACHA to inform the development of new contemporary facilities at Cessnock Hospital located at 24 View Street, Cessnock, New South Wales (NSW) (the study area) (Figure 3). This AR documents the findings of the archaeological investigations conducted as part of the ACHA. The AR provides evidence about the material traces of Aboriginal land use to support the conclusions and management recommendations in the ACHA.

The project is to be assessed as a Development without Consent under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), which requires an REF.

This investigation has been carried out under Part 6 of the NPW Act and in accordance with the Code. The Code has been developed to support the process of investigating and assessing Aboriginal cultural heritage by specifying the minimum standards for archaeological investigation undertaken in NSW under the NPW Act. The archaeological investigation must be undertaken in accordance with the requirements of the Code.

It is stated in section 1.2 of the Code that where the ACHA report concludes that the proposed activity will result in harm to Aboriginal objects or declared Aboriginal Places, an application for an AHIP will be required. This application must be supported by an ACHA report.

The EP&A Act includes provisions for local government authorities to consider environmental impacts in land-use planning and decision making. Each Local Government Area (LGA) is required to create and maintain a Local Environmental Plan (LEP) that includes Aboriginal and historical heritage items. Local Councils identify items that are of significance within their LGA, and these items are listed on heritage schedules in the local LEP and are protected under the EP&A Act and *Heritage Act 1977*.

1.2. Study area

The study area is located within Lot 2 DP 1173784, Lot 7 DP 13203, Lot 8 DP 13203, Lot 1 DP 103663, Lot 10 DP 5442, Lot B DP 103664, Lot 2 Section 20 DP 5442, Lot 1 DP 254743 and Lot 11 DP 882585 and is approximately 1.1 kilometres north of Cessnock CBD and approximately 50 kilometres west of Newcastle CBD (Figure 1). It encompasses 4.22 hectares of public land and the adjacent road reserves.

The study area is within the:

- Cessnock Local Government Area (LGA).
- Parish of Pokolbin.
- County of Northumberland (Figure 2).

The study area is bounded by Jurd Street to the north, residential properties to the east and west and View Street to the south.

1.3. Planning approvals

The proposed development will be assessed against Part 5 of the EP&A Act. Other relevant legislation and planning instruments that will inform this assessment include:

- Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*
- NSW NPW Act.
- NSW *National Parks and Wildlife Amendment Act 2010*.
- *Transport and Infrastructure State Environmental Planning Policy 2021*
- *Cessnock Local Environmental Plan 2011* (LEP).
- *Cessnock Development Control Plan 2010*.

1.4. Objectives of the investigation

The objectives of the investigation can be summarised as follows:

- To identify and consult with any registered Aboriginal stakeholders and the Mindaribba Local Aboriginal Land Council (LALC).
- To conduct additional background research in order to recognise any identifiable trends in site distribution and location.
- To search statutory and non-statutory registers and planning instruments to identify listed Aboriginal cultural heritage sites within the study area.
- To highlight environmental information considered relevant to past Aboriginal occupation of the locality and associated land use and the identification and integrity/preservation of Aboriginal sites.
- To summarise past Aboriginal occupation in the locality of the study area using ethnohistory and the archaeological record.
- To formulate a model to broadly predict the type and character of Aboriginal sites likely to exist throughout the study area, their location, frequency and integrity.
- To conduct a field survey of the study area to locate unrecorded or previously recorded Aboriginal sites and to further assess the archaeological potential of the study area.
- To assess the significance of any known Aboriginal sites in consultation with the Aboriginal community.
- To identify the impacts of the proposed development on any known or potential Aboriginal sites within the study area.
- To recommend strategies for the management of Aboriginal cultural heritage within the context of the proposed development.

1.5. Investigators and contributors

The roles, previous experience and qualifications of the Biosis project team involved in the preparation of this archaeological report are described below in Table 1.

Table 1 Investigators and contributors

Name and qualifications	Experience summary	Project role
Samantha Keats BA (Hons)	Samantha is the NSW heritage manager at Biosis, with over eight years of experience as a Heritage Consultant. Samantha has had experience working as an archaeologist and project manager on a number of Aboriginal and European heritage projects across NSWincluding water infrastructure and linear projects, residential development projects, renewable energy projects, and telecommunications projects. As part of these project Samantha has interacted with a diverse client base including Local Government, National Parks and Wildlife Service, Department of Primary Industry and Water, resource companies, architectural firms, engineering firms, and private developers.	• Project director
Mathew Smith BA Bsc (Hons)	Mathew is a Senior Heritage Consultant with 8 years' experience in the consulting industry. Mathew has been with Biosis since 2016 and has extensive experience in Aboriginal archaeology. He has successfully obtained project approvals for Aboriginal Heritage under both the NPW Act and the EPBC Act for a wide range of project types including large scale water infrastructure, linear projects including road upgrades, urban development of all sizes, renewable and non-renewable energy projects, and mineral resource projects. Mathew's key areas of expertise include Aboriginal archaeological and heritage management advice, archaeological excavation and survey, Aboriginal community consultation, artefact analysis, technical report writing and review of technical reports. He has completed Aboriginal Due Diligence Assessments, Aboriginal Cultural Heritage Assessments, Conservation Management Plans, Heritage Interpretation Plans, Constraints Analysis, and Heritage Impact permits for a range of projects. Mathew has also served as an expert witness for section 34 conciliation conferences, and Land and Environment Court hearings.	• Quality assurance
Molly Crissell BA	Molly joined Biosis in 2021 a Heritage Consultant within the Newcastle Heritage team. Molly has participated in projects spanning Western Australia and NSW in a variety of historical and Aboriginal excavations and surveys. Molly has also made practical headway into the areas of reporting, community consultation, artefact analysis and project management. Since joining Biosis Molly has continued to gain experience in project management, Aboriginal consultation practices and report preparation.	• Project management • Aboriginal community consultation • Background research • Reporting • Test excavations
Crystal Garabedian BA (Hons)/Bsc	Crystal joined Biosis in the Sydney office in 2021. She possesses specialist skills in the identification of marine zooarchaeological remains, whilst also having experience in processing historical artefacts, including ceramics, building materials and glass. Since joining Biosis, Crystal has had experience in Aboriginal and historical heritage assessments This has allowed her to further develop her skills in Aboriginal and historical surveys and excavations	• Test excavations

Name and qualifications	Experience summary	Project role
	across NSW, while also honing her skills in project management, reporting, desktop research and Aboriginal consultation.	
Nathan Windram BA	Nathan is a Heritage Consultant based out of the south-coast of New South Wales and has gained most of his professional experience within that region, with a focus on Aboriginal heritage. Academically trained with a hands-on approach, Nathan has worked on both salvage and test excavation sites and is experienced in surveying, background research, Aboriginal community consultation and reporting.	• Aboriginal community consultation

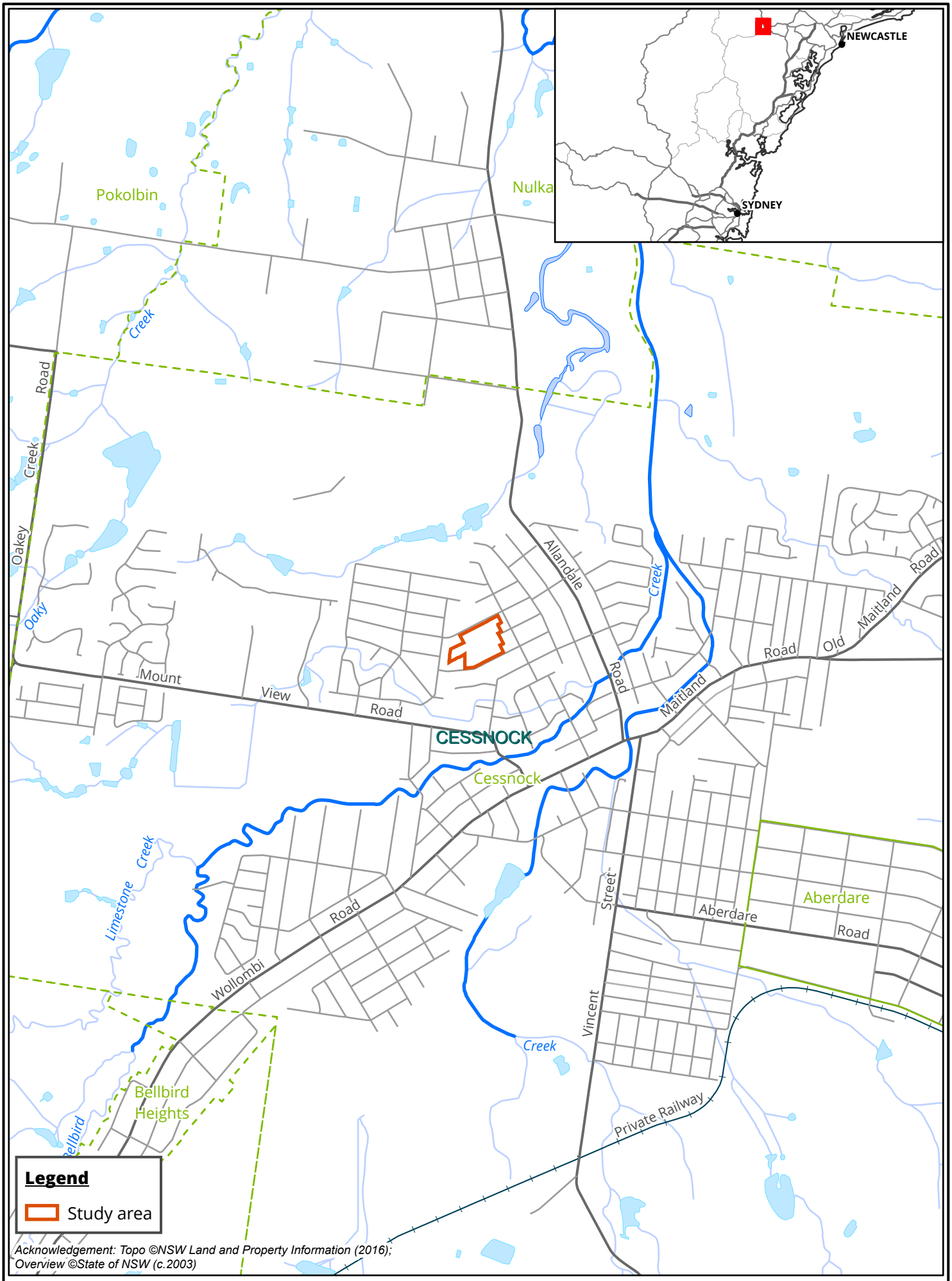

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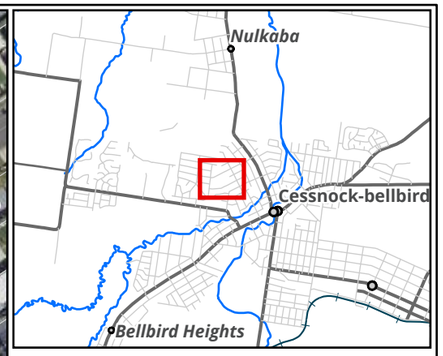
Figure 1 Location of the study area

Matter: 39532, Date: 30 August 2024,
Prepared for: AKE, MC, Prepared by: HL, Last edited by: hliswoyo
Location: P:\39500s\39532\Mapping\39532_Cessnock_Hospital_ACHA_AR
Layout: 39532_ACHA_F1_Locality

0 200 400 600 800 1,000
Metres
Scale 1:25,000@ A4, GDA2020 MGA Zone 56

N



Legend

- Study area
- Lot

Figure 2 Study area detail

0 20 40 60 80

Metres
Scale: 1:2,000@ A3
Coordinate System:
GDA2020 MGA Zone 56

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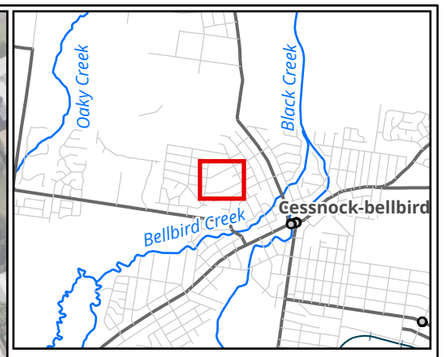
Prepared for: AKE, MC, Prepared by: HL, Last edited by: hliswoyo
Location: P:\39500s\39532\Mapping\
39532_Cessnock_Hospital_ACHA_AR,
Layout: 39532_ACHA_F2_StudyArea

2. Proposed development

The scope of works will include the following:

- Demolition of select existing structures.
- Construction of a new hospital building on the site's northern portion.
- Realignment of internal roads and a new primary vehicular and pedestrian entrance to the hospital campus from Jurd Street.
- Refurbishment of the existing at-grade car park.
- Installation and realignment of selected services.
- Installation of ancillary development including, but not limited to, lighting and signage.
- Landscaping.
- New kerb, gutter and road resurfacing on Jurd Street.

For a detailed project description, refer to the REF prepared by Ethos Urban (Figure 3).



Legend

Study area

Figure 3 Proposed works

0 10 20 30 40

Metres

Scale: 1:1,500@ A3

Coordinate System: GDA2020 MGA Zone 56

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Location: P:\39500s\39532\Mapping\
39532_Cessnock_Hospital_ACHA_AR,
Layout: 39532_ACHA_F3_ProposedWorks

3. Desktop assessment

The desktop assessment involves researching and reviewing existing archaeological studies and reports relevant to the study area and surrounding region. This information is combined to develop an Aboriginal site prediction model for the study area, and to identify known Aboriginal sites and/or places recorded in the study area. This desktop assessment has been prepared in accordance with requirements 1 to 4 of the Code.

3.1. Landscape context

It is important to consider the local environment of the study area for any heritage assessment. The local environmental characteristics can influence human occupation and associated land use and consequently the distribution and character of cultural material. Environmental characteristics and geomorphological processes can affect the preservation of cultural heritage materials to varying degrees or even destroy them completely. Lastly, landscape features can contribute to the cultural significance that places can have for people.

3.1.1. Geology, topography and hydrology

The study area is situated within the Central Lowlands of the Hunter Valley Region and is located within the Farley, Greta Coal Measures geological formations (Figure 4). The Farley formation comprises silty sandstone and overlies the Rutherford formation, which consists of siltstone, marl and minor sandstone (Voisey 1958).The Greta Coal Measures formation also runs north to south through the western portion of the study area, and consists of coal seams, siltstone, sandstone, claystone and chert deposits. Claystone and chert deposits within the Great Coal Measures formation present a valuable resource for Aboriginal stone tool production that may have been utilised by Aboriginal people in the local region. The Greta Coal Measures formation is made up of Permian fluvial, coastal plain and marine sediments that were deposited on the Paleozoic basement, following rapid subsidence leading to the deposition of coal-bearing sequences. Which occur in a wedgelike sequence from 60 to 90 metres thick. The formation is sulphur rich, indicating that it was deposited in a marine environment (Australian Government 2019). Historically, the Greta Coal Measures were first mined at Anvil Creek, nearby Greta, in 1868 (Whitehouse 1926, p.281, Huleatt 1991, p.29), and are one of the most intensely worked coal fields in the country (Wells 1998). The presence of sandstone within the underlying geology of the study area is a positive indicator for grinding groove and engravings sites should suitable sandstone exposures be present, particularly in proximity to fresh water sources.

Within the vicinity of the study area a number of hydrological and topographical features are present which have been associated with Aboriginal land use within the Hunter Region.

Stream order is recognised as a factor which assists in the development of predictive modelling in Aboriginal archaeology and has seen extensive use in the Hunter region. Predictive models which have been developed for the region tend to favour high order streams as the locations of campsites as they would have been more likely to provide a stable source of water and by extension other resources which would have been used by Aboriginal groups (Environmental Resources Management Australia Pty Ltd (ERM) 2001, McCardle Cultural Heritage 2005, Biosis 2017, Kuskie 2012). Several permanent fresh water sources are located within close proximity to the study area (Figure 5). The study area is located 300 metres north of a second Strahler order non perennial water course. A fifth order perennial water course, Bellbird Creek is located approximately 500 metres south-west of the study area. The presence of a higher order permanent creekline, along with lower order creeklines located within and in close proximity to the study area indicates that water resources, and by extension food resources, were readily accessible. The presence of several hydrological features within

proximity to the study area, suggests that the study area would have provided natural resources which may have been utilised by Aboriginal people in the local region.

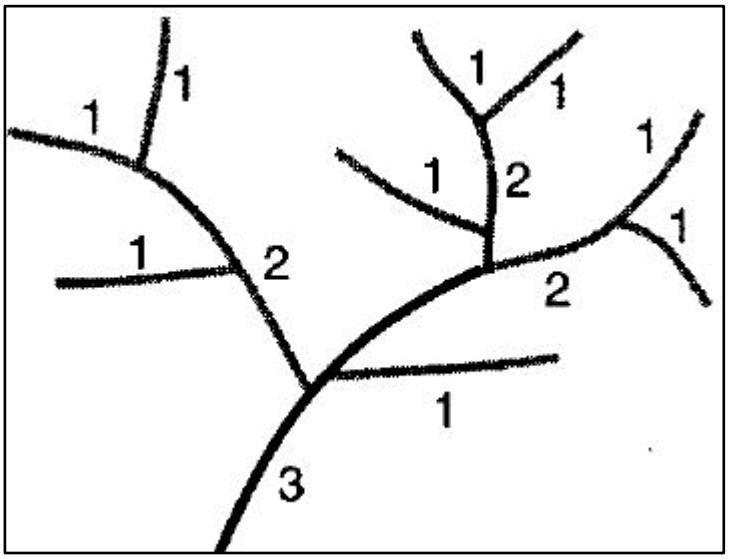


Photo 1 **Diagram showing Strahler stream order (Ritter, Kochel, & Miller 1995, pp. 151)**

3.1.2. Soil landscapes

Soil landscapes have distinct morphological and topological characteristics that result in specific archaeological potential. Soil landscapes are defined by a combination of soils, topography, vegetation and weathering conditions, soil landscapes are essentially terrain units that provide a useful way to summarise archaeological potential and exposure.

The Branxton soil landscape is present within the study area. It is characterised by undulating rises, low hills, and creek flats between Singleton and Cessnock (Figure 6). It has a low local relief (between 10 and 40 metres) with slope gradients of 3 to 5%. Drainage lines are common within the landscape, spaced at 400 to 1500 metre intervals. Yellow and red podzolic soils are common on midslopes and crests respectively, with yellow soloths on lower slopes and in drainage lines. Soloths are susceptible to gully erosion which can impact the likelihood of archaeological deposits remaining *in situ*. Alluvial soils are present in some creeks, and siliceous sands are present on flats and large valleys. Alluvial soils can be subject to regular flooding which can result in the deposition of soils which can preserve archaeological deposits. However, the soil and water movement during flood events can also result in disturbances to these deposits. The Branxton soil landscape therefore has low to moderate potential for archaeological deposits in areas that are subject to flooding. Raised landforms are unlikely to be affected by flooding and are likely to have been favoured by Aboriginal people for occupation as a result (Kelly and Price 2003 Brooke & Jacobs 2009, Pollock & Price 2007), and therefore hold higher archaeological potential as deposits are more likely to be found *in situ*. A summary of the characteristics of these soils are presented in Table 2.

Table 2 **Branxton soil landscape characteristics (Kovac & Lawrie 1991, pp. 91)**

Soil Material	Description
Yellow podzolic soils	Topsoils consist of a brown sandy loam with a weak structure overlying a bleached yellow orange loamy sand to a depth of 20 cm. Subsoils consist of a mottled brown light medium clay overlying a reddish brown medium clay. Depth to bedrock is over 100 cm.

Soil Material	Description
Red podzolic soils	Topsoils consist of a dark reddish brown sandy loam overlying a brown sandy loam to 25 cm in depth. Subsoils consist of a reddish brown medium clay overlying a yellowish brown light medium clay with orange and grey mottles. Depth to bedrock is over 65 cm.
Yellow soloths	Topsoils consist on a brown loamy sand, gradually changing to a bleached brown or yellow sandy loam or loamy sand to a depth of 25 cm. Subsoils consist of a brown light medium clay. Depth to bedrock is over 140 cm.
Alluvial soils	Consists of a brown loamy sand to a depth of 20 cm overlying a yellow loamy sand. Depth to bedrock is over 60 cm.
Siliceous sands	Topsoils consist on a dark brown sandy loam overlying a yellowish brown fine sandy loam to a depth of 70 cm. Subsoil consists on a brown loamy sand. Depth to bedrock is over 100 cm.

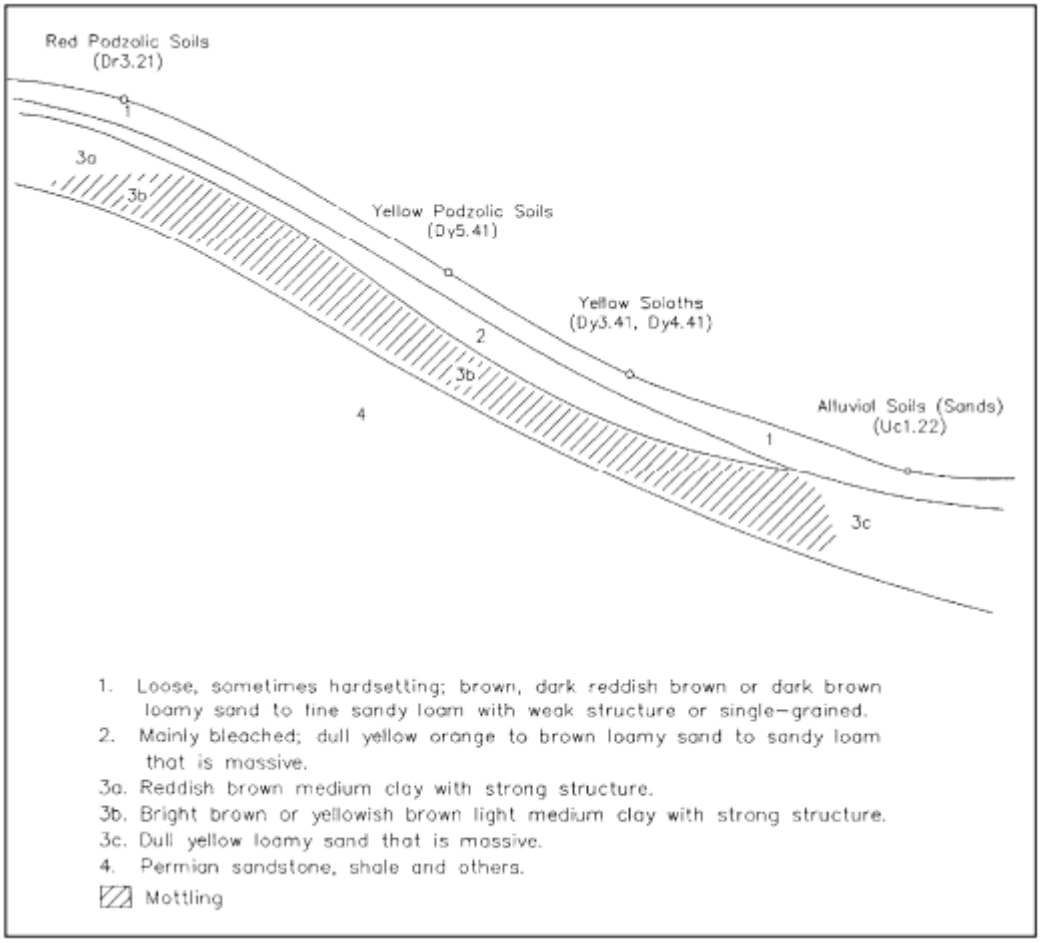


Photo 2 Diagram of the Branxton Soil Landscape (Source:(Kovac & Lawrie 1991)

3.1.3. Landscape resources

The wider region includes distinct ecological zones, including open forest and open woodland, with riparian vegetation extending along many of the watercourses. Each ecological zone hosts a different array of floral and faunal species, many of which would have been utilised according to seasonal availability. Aboriginal inhabitants of the region would have had access to a wide range of avian, terrestrial and aquatic fauna and

repeated firing of the vegetation would have opened up the foliage allowing ease of access through and between different resource zones.

Plant resources were used in a variety of ways. Fibres were twisted into string, which was used for many purposes, including the weaving of nets, baskets and fishing lines. String was also used for personal adornment. Bark was used in the provision of shelter; a large sheet of bark being propped against a stick to form a gunyah (Attenbrow 2002). The study area contains generally cleared tall open-forest (Department of Planning, Industry and Environment 2020, pp. 108). Vegetation species that are supported by the Branxton soil landscape include Broad-Leaved Ironbark *E. fibrosa*, Spotted Gum *Corymbia maculate*, Small-flower Grevillea *Grevillea parviflora subsp. Parviflora* and Narrow-leaved Bottlebrush *Calliestemon linearis.*

As well as being important food sources, animal products were also used for tool making and fashioning a myriad of utilitarian and ceremonial items. For example, tail sinews are known to have been used to make fastening cord, while 'bone points', which would have functioned as awls or piercers, have been identified in the archaeological record. Animals such as Brush-tailed Possums were highly prized for their fur, with possum skin cloaks worn fastened over one shoulder and under the other. Kangaroo teeth were incorporated into decorative items, such as head bands (Attenbrow 2002).

Animal species that may have inhabited the study area include mammal species such as Eastern Grey Kangaroo *Macropus giganteus*,Grey-headed Flying-fox *Pteropus poliocephalus* and Bare-nosed Wombat *Vombatus ursinus*. A number of bird, reptile and fish including Galah *Eolophus roseicapilla*, Red-bellied Black Snake *Pseudechis porphryiacus* and Eastern Kelpfish *chironemus marmoratus* have also been recorded in the vicinity of the study area (Atlas of Living Australia 2022).

3.1.4. Land use history

Historical aerial imagery allows for modern developments and land use to be identified within the study area. An aerial image dated to 1963 shows that the land was already established as Cessnock District Hospital. The study area has been cleared of vegetation and developed with several hospital buildings. It appears that the northern portion of the study area has remained cleared of vegetation with no development.

Photo 3 Historical aerial dated to 1963 with the study area outlined in red (Source: NSW Aerial Imagery)

Photo 4 Historical aerial dated to 1976 with the study area outlined in red (Source: NSW Aerial Imagery)

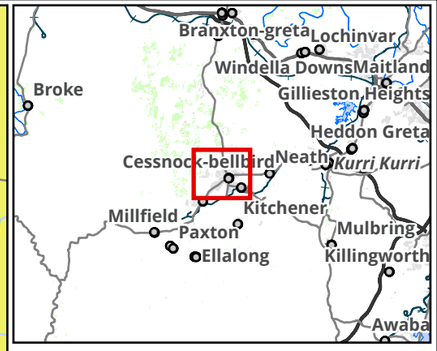
By 1976, further development occurred with structures development in the northern portion and a driveway that runs north towards Jurd Street.

Photo 5 Historical aerial dated to 1984 with the study area outlined in red (Source: NSW Aerial Imagery)

Less than a decade later, in 1984 amendments to the hospital occurred. This included the development of a building in the western portion of the study area. This also included the western portion of the study area being utilised as a further source of car parking as the only parking prior was in the eastern portion or street parking.

Photo 6 Historical aerial dated to 1994, with the study area outlined in red (Source: NSW Aerial Imagery)

By the nineties, only small alterations occurred in the study area. These alterations included the development of a shed within the most western portion of the study area. A helipad was also introduced within the northern portion of the study area, located to the west of the driveway.



Legend

Study area

Geological units

- Pdaf, Farley Formation
- Pdar, Rutherford Formation
- Pdarr, Ravensfield Sandstone Member
- Pgr, Greta Coal Measures
- Pmtb, Branxton Formation

Figure 4 Geological units in the vicinity of the study area

0 200 400 600 800

Metres

Scale: 1:20,000@ A3

Coordinate System: GDA2020 MGA Zone 56

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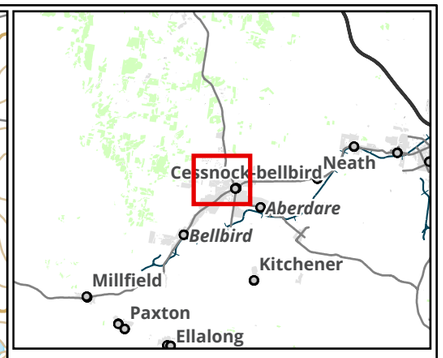
Matter: 39532, Date: 30 August 2024,
Prepared for: AKE, MC, Prepared by: HL, Last edited by: hliswoyo
Location: P:\39500s\39532\Mapping\
39532_Cessnock_Hospital_ACHA_AR,
Layout: 39532_AR_F4_Geology

Acknowledgements: Basemap © NSW Land and Property Information 2016; Geology © State of New South Wales through Regional NSW 2020



Legend

- Study area
- Contour (2m)

Strahler Order

- 1
- 2
- 3
- 4
- 5
- 6

Figure 5 Hydrology and topography in the vicinity of the study area

0 100 200 300 400

Metres

Scale: 1:10,000@ A3

Coordinate System: GDA2020 MGA Zone 56

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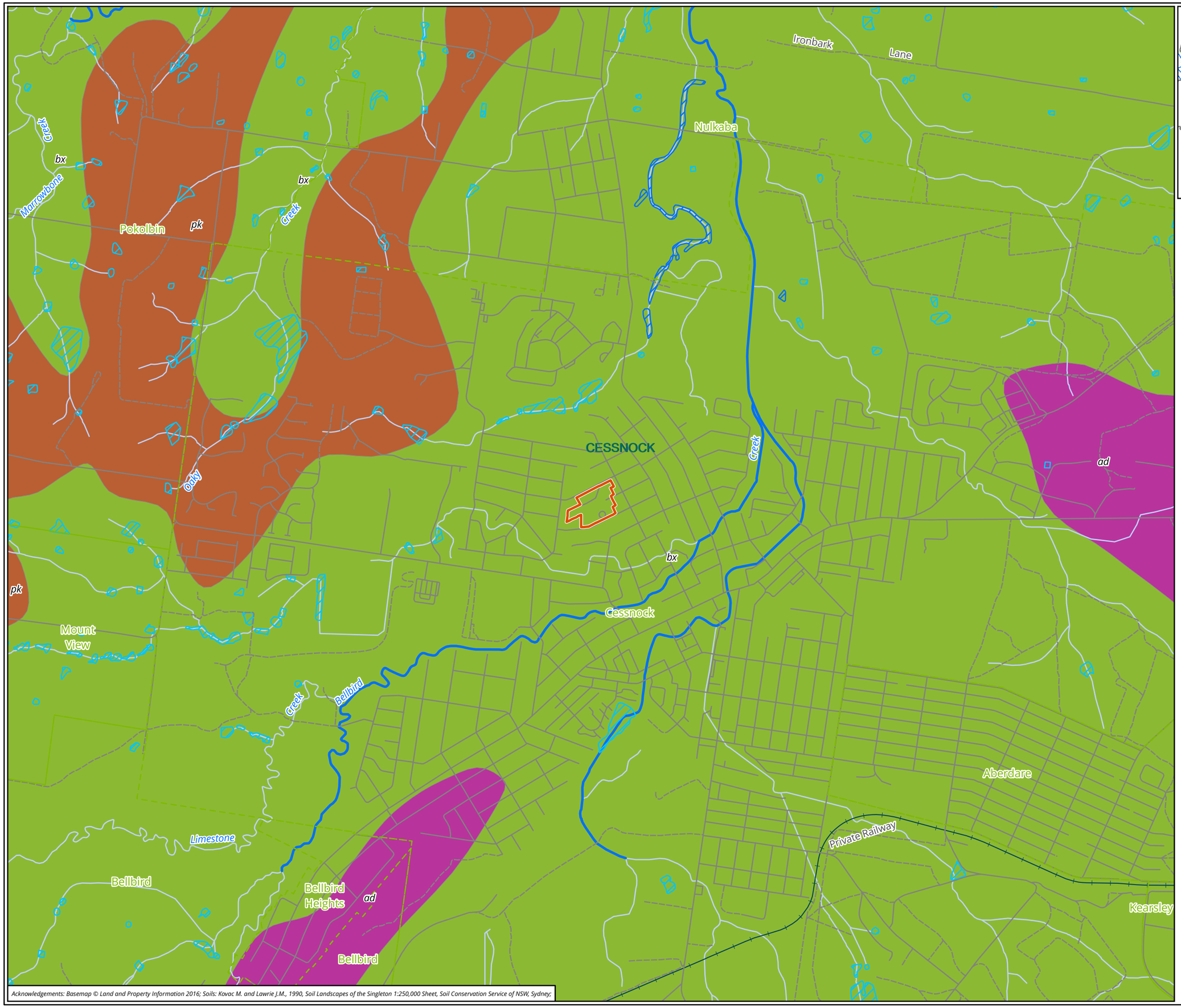
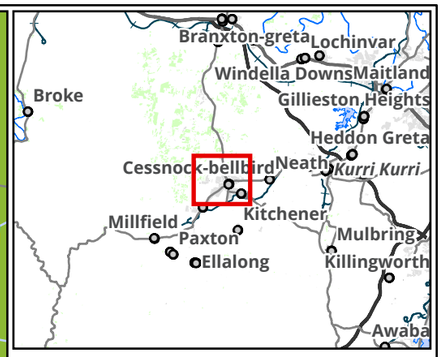
Matter: 39532, Date: 30 August 2024,
Prepared for AKE, Prepared by HL, Last edited by: hliswoyo
Location: P:\39500s\39532\Mapping\,
39532_Cessnock_Hospital_ACHA_AR,
Layout: 39532_AR_F5_Hydrology

Acknowledgements: Basemap © Land and Property Information 2016





Legend

Study area

Soil landscape units

- ad - ABERDARE
- bx - BRANXTON
- pk - POKOLBIN

Figure 6 Soil landscapes in the vicinity of the study area

0 200 400 600 800

Metres

Scale: 1:20,000@ A3

Coordinate System: GDA2020 MGA Zone 56

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APEM Group

Matter: 39532, Date: 30 August 2024,
Prepared for AKE, Prepared by HL, Last edited by: hliswoyo
Location: P:\39500s\39532\Mapping\
39532_Cessnock_Hospital_ACHA_AR,
Layout: 39532_AR_F6_Soils

Acknowledgements: Basemap © Land and Property Information 2016; Soils: Kovac M. and Lawrie J.M., 1990, Soil Landscapes of the Singleton 1:250,000 Sheet, Soil Conservation Service of NSW, Sydney;

3.2. Previous archaeological work

A large number of cultural heritage surface (surveys) and sub-surface (excavations) investigations have been conducted throughout NSW in the past 30 years. There has been an increasing focus on cultural heritage assessments in NSW due to ever-increasing development, along with the legislative requirements for this work and greater cultural awareness of Aboriginal cultural heritage.

3.2.1. Regional overview

A number of Aboriginal cultural heritage investigations have been conducted for the Cessnock region. Models for predicting the location and type of Aboriginal sites with a general applicability to the Cessnock region and thus relevant to the study area have also been formulated, some as a part of these investigations and others from cultural heritage investigations for relatively large developments.

South East Archaeology (2010) completed the Aboriginal heritage impact assessment for the Maitland to Minimbah rail upgrade, along the Main Northern Railway. Kuskie's investigation took place within the rail corridor, as well as adjacent lots in some areas, to account for the impacts of the development of the third rail and associated works, including the construction of compounds, haul roads, and spoil disposal areas.

Kuskie makes note of the models of Aboriginal occupation for the Hunter Valley proposed by Kuskie and Kamminga and Kuskie(2000) and Clarke (2004). An excerpt from this model is presented in Table 3.

Table 3 Model of Aboriginal occupation (South East Archaeology 2010, pp. 44)

Resource zone	Description
Primary resource zone	Occupation predominantly focused on the relatively more abundant and diverse resource rich zones within the tribal territory (for example, the junction of multiple resource zones) particularly along the Hunter River and its former estuarine margins and around wetlands, swamps and lakes. Within the primary resource zones, such occupation could include nuclear/extended family base camps, community base camps and occasional larger congregations of groups where resources permitted. Encampments in more favorable locations (for example, abundant resources and water) may have been the subject of stays of longer duration and more frequent episodes of occupation than in other areas.
Secondary resource zone	Outside of the primary resource zones sporadic occupation of secondary resource zones, focused on the watercourses, particularly within close proximity (for example, 50 metres) of higher order watercourses and associated level to very gently inclined valley flats (for example, Black Creek). These zones were utilised for encampments by small parties of hunters/gatherers and nuclear/extended family groups during the course of the seasonal round. There was a strong preference for camping on level ground, adjacent to reliable water sources and more abundant subsistence resources. A greater range and frequency of activities were undertaken at the encampments, rather than in the surrounding landscape. Camp sites along the watercourses were occupied by these small groups of people for varying lengths of time (but of typically short duration), during both the course of the seasonal round and in different years. Occupation of these camp sites was predominantly sporadic, rather than continuous.
Other areas	Widespread, generally low intensity, usage of the entire tribal territory. Occupation outside of the primary resource zones and secondary resource zones tended to involve hunting and gathering activities by small parties of men and/or women and children, along with transitory movement between locations and procurement of stone materials. However, the utilisation of these areas (for example, simple slopes, ridge crests, spur crests and lower order watercourses) was far less intense

Resource zone	Description
	than areas such as valley flats and higher order watercourses where encampments were situated and potable water and more abundant resources were present. These areas were probably typically exploited during the course of the normal daily round by inhabitants of encampments located in the primary or secondary resource zones that foraged within an area of up to ten kilometres radius from their campsites.

It is also stated that silcrete and tuff are the favoured materials in the area, dependent on local availability (South East Archaeology 2010, pp. 45). The predictive model for the project stated that there was a high potential for stone artefacts to be identified, and a low to moderate potential for lithic quarries to be identified during survey.

The survey conducted by South East Archaeology identified 77 artefact sites and one grinding groove site along the 30 kilometre length of the railway corridor and associated areas. Of the 526 artefacts recorded during the survey, the vast majority were silcrete (n=270) and tuff (n=209), with complete flakes (n=248) forming the predominant artefact type.

McCardle Cultural Heritage (2009) undertook an Indigenous archaeological assessment in Rutherford, approximately 25 kilometres from the current study area. The purpose of this investigation was to identify any areas of indigenous cultural heritage value in order to determine any potential impacts to the area and to develop management strategies.

Background research for the project developed a general model for occupation in the area which, in conjunction with the local context of the site, provided specific statements about the nature of occupation in the assessment area. McCardle Cultural Heritage made the following broad statements about the Central Lowlands region:

- *A wide variety of site types are represented in the study area with open campsites and isolated artefacts by far the most common.*
- *Lithic artefacts are primarily manufactured from mudstone and silcrete with a variety of other raw materials also utilised but in smaller proportions.*
- *Site numbers and artefact volumes are greatest within close proximity to water.*
- *There appears to be a secondary peak in site numbers and artefact volumes at distances over 100 metres from water.*
- *Creek lines, crest/ridges and slopes are the most archaeologically sensitive landforms* (McCardle Cultural Heritage 2009, pp. 19).

One of the key things noted by MCH was that site numbers peaked within 50 metres of water, then again over 100 metres from water, with relatively few sites being identified between 50 and 100 metres from water. MCH also noted that all grinding groove sites were identified within 50 metres of water, as water sources are important in the grinding process. Low numbers of other site types were present in the area, making predictive statements relating to them unreliable.

In terms of the assessment area, MCH identified a moderate potential for sites to be identified. There was considered to be a higher chance of low density artefact scatters occurring within 50 metres of water, and reduced densities with increasing distance to water. Higher density artefact scatters had the potential to be identified to the south-west of the site, in closer relation to the third order stream and the swamp area.

It was predicted that assemblages would be from the mid to late Holocene (owing to the age of the soils, with the A horizon dating to the Holocene). Sites were expected to be dominated by silcrete and mudstone. It was noted that these statements were affected by past disturbances, particularly those associated with human activity (ploughing and grazing). This disturbance also meant that surface manifestations of sites were no indicator of subsurface deposits.

The survey identified 10 artefact sites (seven artefacts scatters and three isolated finds) and three Potential Archaeological Deposits (PADS). All sites were identified in close proximity to water sources, and the PADs were created to encompass a 20 or 50 metres buffer around the water courses in the study area. Based on the results of the survey, it was stated that their study area was potentially used for hunting, gathering, and / or as a transitory area between the two major water sources of the region, the Hunter River and the Wentworth Swamps.

3.2.2. Local overview

A number of Aboriginal cultural heritage investigations have been conducted within the region (within approximately 10 kilometres of the study area). Most of these investigations were undertaken as part of development applications and included surface and sub-surface investigations. These investigations are summarised below.

Environmental Resource Management (ERM) 2001) conducted an archaeological assessment of lot 23 Vincent Street, Cessnock NSW for Harper Somers Surveyors Pty Ltd. The study undertook a desktop assessment and survey targeting both the Aboriginal and historical heritage of the study area. The assessment of the study area identified a number of activities associated with the Aberdare Collieries.

As part of the desktop assessment conducted during the study, Environmental Resource Management predicted that undisturbed areas within close proximity to Black Creek (200 metres) had a high potential for Aboriginal subsurface archaeological deposits; however, surveys of the study area found no surface archaeological material due to poor surface visibility and limited coverage. The assessment also noted that there was low potential for Aboriginal archaeological material in the areas of the study where past land use had significantly disturbed soils.

McCardle Cultural Heritage (2005) undertook a cultural heritage assessment of 15 hectares of land on the eastern side of Vincent Street Cessnock, NSW, as part of a proposal to re-zone the area for mixed development. MCH surveyed the south-eastern portion of the site, which encompasses the current study area of this assessment, as the area to the north and north-east was occupied by previous mining activities and deemed too disturbed.

Based off their desktop assessment, MCH predicted that the south-east section of the assessment area was likely to contain high concentrations of archaeological material associated with past Aboriginal occupation, with sites most likely occurring as artefact scatter and isolated finds. The survey of the assessment area by MCH was limited to only 4% effective coverage due to low surface visibility and exposure and failed to locate any archaeological sites as a result. A previous excavation to investigate a PAD within the assessment area by MCH consisting of five test pits (2 by 1 metres), identified a total of 47 artefacts, with the most artefacts coming from trenches 3 and 4 (Photo 7). This previous investigation also recorded a single isolated find in the form of a dark grey chert/mudstone flake, but the 2005 survey by MCH failed to relocate this artefact.

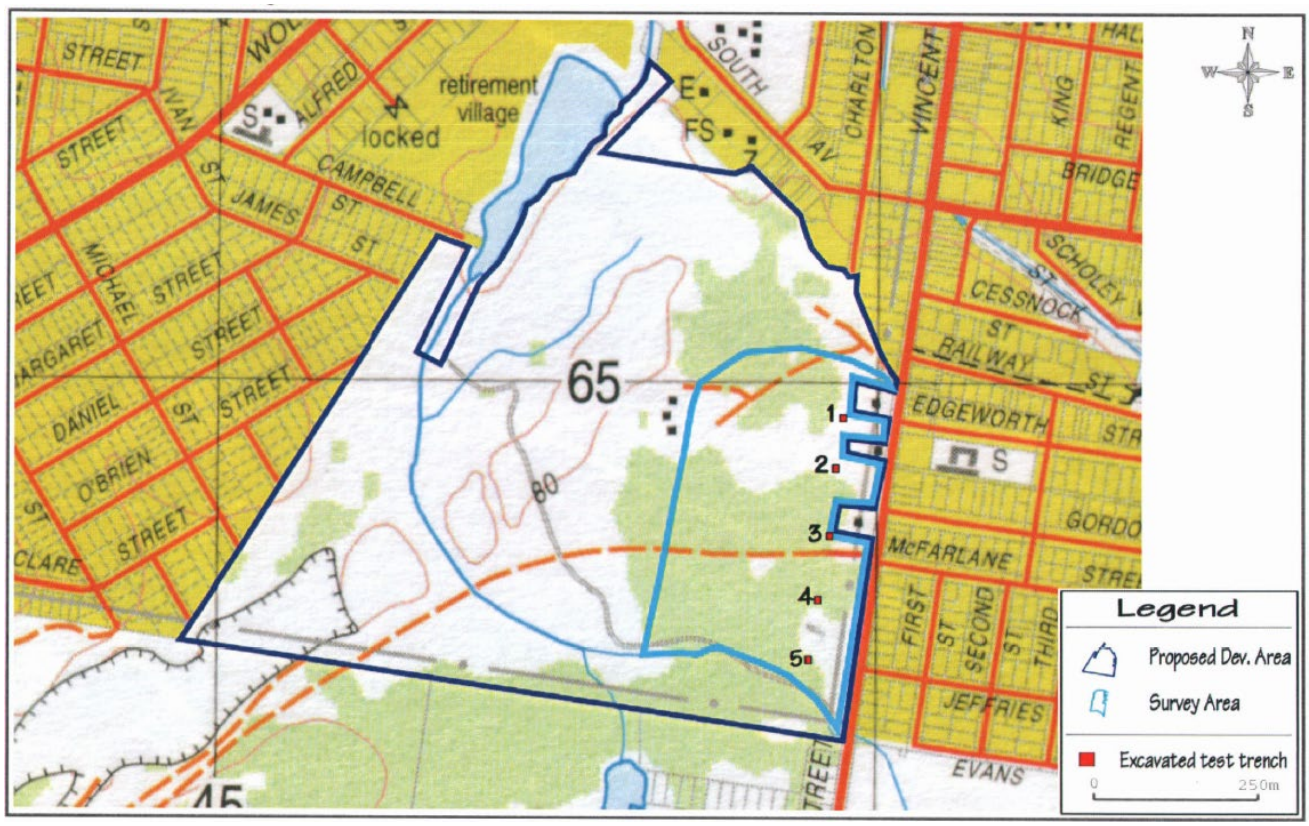


Photo 7 Test pits excavated by MCH (Source: MCH 2005, Figure 3.2)

Biosis (2017)undertook an Aboriginal Cultural Heritage Assessment for a proposed medical centre at 275 Vincent Street, Cessnock (Lot 5 DP 1190628). During the survey undertaken for the assessment, no surface artefacts were identified. It was decided that the PAD initially identified previously by McCardle Cultural Heritage had potential to extend across the entire study area. The study area extended across a single landform (hill crest) with Black Creek located 200 metres to the south. A total of 12 test pits were excavated within PAD 1. The pits were spaced at 20 metre intervals, however due to various disturbances, the intervals were decreased to 10 metre intervals. In addition, where artefacts were found, additional test pits were placed in the vicinity to determine whether further artefacts were present. Two artefacts were recovered, including one from Test Pit 1.2 and one from Test Pit 2.4. Unusually, Test Pit 1.3 had up to 60 centimetres of fill comprising stone and small refuse. This particular disturbance appeared to be fairly isolated with the surrounding test pits showing a more intact soil profile.

The artefacts included one backed chert flake, which was very small (2 centimetres in length) and a larger mudstone flake with retouch (5 centimetres in length). Backed artefacts were multi-functional tools typically used for a range of purposes, including bone-working, wood-working, plant food processing and possibly used for butchering meat (Robertson 2011). Both the backed flake and retouched mudstone flake may have been used onsite as part of short-term camping events or discarded during resource gathering. Overall, the results of the testing suggest a low density, highly disturbed artefact scatter for the section of AHIMS 37-6-1386/HH 1and its associated PAD that is within the assessment area.

3.2.3. AHIMS site analysis

A search of the AHIMS database on 1 September 2024 (Client Service ID: 815416) identified 113 Aboriginal archaeological sites within a 5 kilometre radius search area, centred on the proposed study area. None of these registered sites are located within the study area (Figure 7). AHIMS search results are provided in Appendix A. Table 4 provides the frequencies of Aboriginal site types in the vicinity of the study area. The

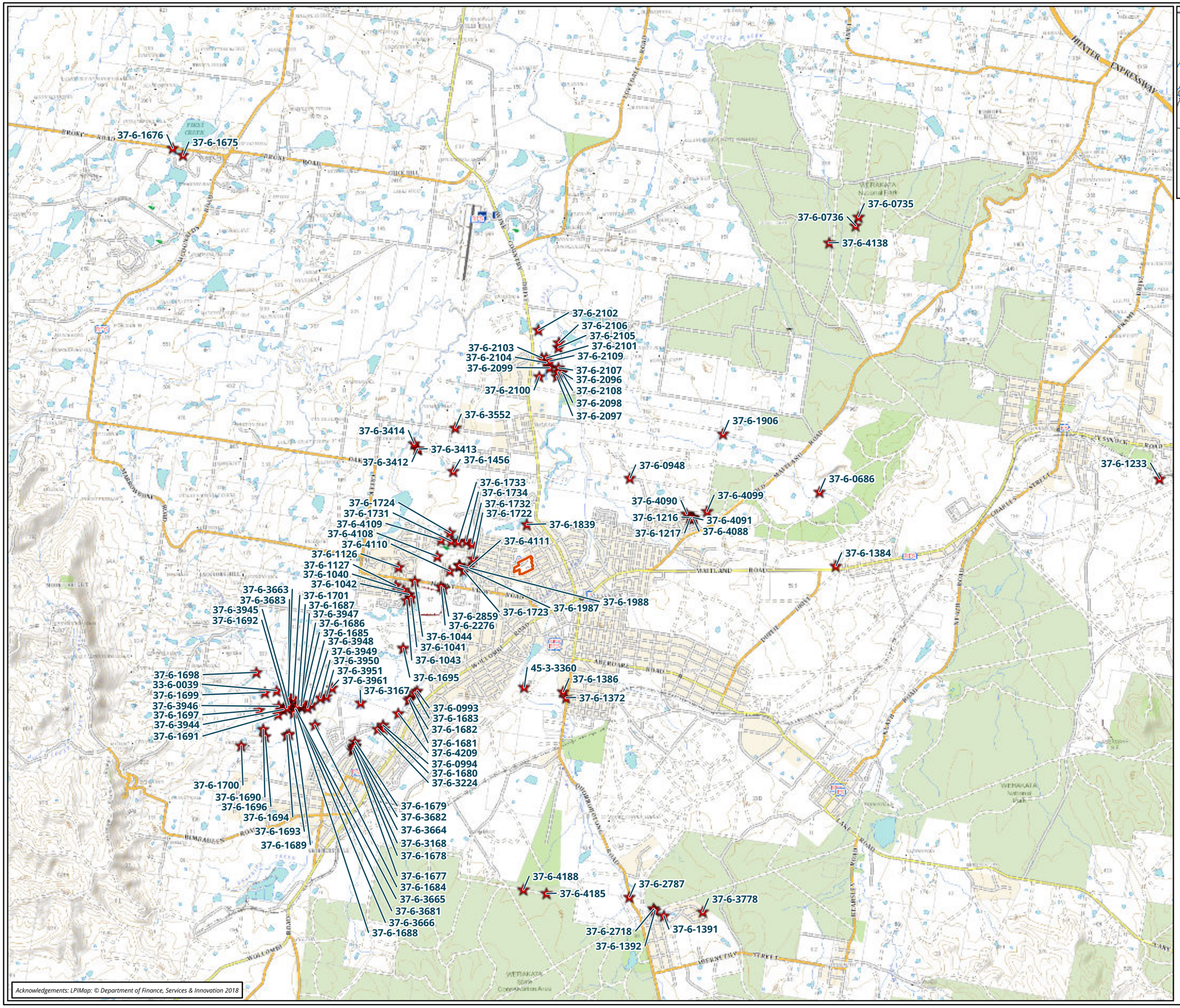
mapping coordinates recorded for these sites were checked for consistency with their descriptions and location on maps from Aboriginal heritage reports where available. These descriptions and maps were relied upon where there were notable discrepancies.

It should be noted that the AHIMS database reflects Aboriginal sites that have been officially recorded and included on the list. Large areas of NSW have not been subject to systematic, archaeological survey; hence AHIMS listings may reflect previous survey patterns and should not be considered a complete list of Aboriginal sites within a given area. Some recorded sites consist of more than one element, for example artefacts and a modified tree, however for the purposes of this breakdown and the predictive modelling, all individual site types will be studied and compared. This explains why there are **118** results presented here, compared to the **113** sites identified in AHIMS.

Table 4 AHIMS site type frequency

Site type	Number of occurrences	Frequency (%)
Artefact	104	88.14
PAD	10	8.47
Modified Tree	2	1.69
Resource and Gathering	1	0.85
Ceremony and Dreaming	1	0.85
Total	**118**	**100**

A simple analysis of the Aboriginal cultural heritage sites registered within the 5 by 5 kilometre buffer of the study area indicates that the dominant site type is artefacts, representing 88.13% (n=104).



Legend

- Study area
- AHIMS

NOT TO BE MADE PUBLIC

Figure 7 AHIMS search results

0 500 1,000 1,500 2,000

Metres

Scale: 1:51,000@ A3

Coordinate System: GDA2020 MGA Zone 56

biosis

APEM Group

Matter: 39532, Date: 09 September 2024,
Prepared for: AKE, MC, Prepared by: HL, Last edited by: hliswoyo
Location: P:\39500s\39532\Mapping\
39532_Cessnock_Hospital_ACHA_AR,
Layout: 39532_AR_F7_AHIMS

3.3. Discussion

Background research has identified that the study area is located within the Central Lowlands of the Hunter Valley Region and is located within the Farley geological formation. The Farley formation comprises silty sandstone and overlies the Rutherford formation, which consists of siltstone, marl and minor sandstone (Voisey 1958). These geological units are commonly associated with Aboriginal artefact scatter sites and PADS. Topographically, the study area lies within a shoulder and sloping landform which is located in close proximity to Bellbird Creek, a fifth Strahler order perennial creek line located approximately 500 metres south-west of the study area and 300 metres north of a second Strahler order non perennial water course. The presence of a higher order permanent creekline, along with lower order creeklines located within and in close proximity to the study area indicates that water resources, and by extension food resources, were readily accessible.

The study area is also underlain by the Branxton soil landscape is present within the study area. It is characterised by undulating rises, low hills, and creek flats between Singleton and Cessnock. Yellow and red podzolic soils are common on midslopes and crests respectively, with yellow soloths on lower slopes and in drainage lines. Alluvial soils are present in some creeks, and siliceous sands are present on flats and large valleys. This soil landscape therefore has low to moderate potential for archaeological deposits in areas subject to flooding. Raised landforms are unlikely to be affected by flooding and are likely to have been favoured by Aboriginal people for occupation as a result (Kelly and Price 2003, Brooke & Jacobs 2009, Pollock & Price 2007).

A review of historical imagery and European land use demonstrates varying levels of disturbance throughout the study area, with impacts from civic development across the extent of the study area with more intensive impacts related to development present in the southern portion.

3.3.1. Predictive model

A model has been formulated to broadly predict the type and character of Aboriginal cultural heritage sites likely to exist throughout the study area and where they are more likely to be located.

This model is based on:

- Site distribution in relation to landscape descriptions within the study area.
- Consideration of site type, raw material types and site densities likely to be present within the study area.
- Findings of the ethnohistorical research on the potential for material traces to present within the study area.
- Potential Aboriginal use of natural resources present or once present within the study area.
- Consideration of the temporal and spatial relationships of sites within the study area and surrounding region.

Table 5indicates the site types most likely to be encountered across the present study area. The definition of each site type is described firstly, followed by the predicted likelihood of this site type occurring within the study area.

Table 5 Aboriginal site prediction statements

Site type	Site description	Potential
Flaked stone artefact scatters	Artefact scatter sites can range from high-density concentrations of flaked stone and	High: Stone artefact sites have been previously recorded in the region across a wide range of

Site type	Site description	Potential
and isolated artefacts	ground stone artefacts to sparse, low-density 'background' scatters and isolated finds.	landforms including alluvial flats; they have the high potential to be present in undisturbed areas within the study area.
PADs	Potential sub surface deposits of cultural material.	Moderate: PADs have been previously recorded in the region across a wide range of landforms including alluvial flats. They have the potential to be present in undisturbed landforms.
Modified trees	Trees with cultural modifications	Low: A small number of mature native trees have survived within the study area, due to extensive vegetation clearing from the 1800's onwards.
Shell middens	Deposits of shells accumulated over either singular large resource gathering events or over longer periods of time.	Low: Shell midden sites have not been recorded within the study area. There is some potential for shell middens to be located in vicinity of permanent water sources. There is a medium potential of Shell Middens being present within the study area.
Quarries	Raw stone material procurement sites.	Low: There is no record of any quarries being within or surrounding the study area.
Axe grinding grooves	Grooves created in stone platforms through ground stone tool manufacture.	Low: The geology of the study area comprises of silty sandstone which could be suitable outcrops for axe-grinding grooves. However, no grinding grooves have been previously recorded within or surrounding the study area. Therefore, there is low potential for axe grinding grooves to occur in the study area.
Burials	Aboriginal burial sites.	Low: Aboriginal burial sites are generally situated within deep, soft sediments, caves or hollow trees. Areas of deep sandy deposits will have the potential for Aboriginal burials. The soil profiles associated with the study area are not commonly associated with burials.
Rock shelters with art and / or deposit	Rock shelter sites include rock overhangs, shelters or caves, and generally occur on, or next to, moderate to steeply sloping ground characterised by cliff lines and escarpments. These naturally formed features may contain rock art, stone artefacts or midden deposits and may also be associated with grinding grooves.	Low: The sites will only occur where suitable sandstone exposures or overhangs possessing sufficient sheltered space exist, which are not present in the study area.
Aboriginal ceremony and Dreaming Sites	Such sites are often intangible places and features and are identified through oral histories, ethnohistoric data, or Aboriginal informants.	Low: There are currently no recorded mythological stories for the study area.
Post-contact sites	These are sites relating to the shared history of Aboriginal and non-Aboriginal people of an area and may include places such as missions, massacre sites, post-contact camp sites and	Low: There are no post-contact sites previously recorded in the study area and historical sources do not identify one.

Site type	Site description	Potential
	buildings associated with post-contact Aboriginal use.	
Aboriginal places	Aboriginal places may not contain any 'archaeological' indicators of a site, but are nonetheless important to Aboriginal people. They may be places of cultural, spiritual or historic significance. Often they are places tied to community history and may include natural features (such as swimming and fishing holes), places where Aboriginal political events commenced or particular buildings.	Low: There are currently no recorded Aboriginal historical associations for the study area.

4. Archaeological survey

A field survey of the study area was undertaken on 28 February 2024 by Molly Crissell (Biosis, Heritage Consultant) and Les Draper (Cultural Sites Officer, Mindaribba LALC). The field survey sampling strategy, methodology and a discussion of results are provided below.

4.1. Archaeological survey objectives

The objectives of the survey were to:

- Provide RAPs an opportunity to view the study area and to discuss previously identified Aboriginal object(s) and/or place(s) in or within close proximity to the study area.
- Undertake a systematic survey of the study area targeting areas with the potential for Aboriginal heritage.
- Identify and record Aboriginal archaeological sites visible on the ground surface.
- Identify and record areas of PADs.

4.2. Archaeological survey methodology

The survey methods were intended to assess and understand the landforms and to determine whether any archaeological material from Aboriginal occupation or land use exists within the study area.

4.2.1. Sampling strategy

The survey effort targeted all landforms that will potentially be impacted by the development. It focused on areas with increased ground surface visibility (GSV) and exposure as this enables Aboriginal objects to be identified on the ground surface.

4.2.2. Survey methods

The archaeological survey was conducted on foot with a field team of two members. Recording during the survey followed the archaeological survey requirements of the Code and industry best practice methodology. Information that recorded during the survey included:

- Aboriginal objects or sites present in the study area during the survey.
- Survey coverage.
- Any resources that may have been exploited by Aboriginal people.
- Landform.
- Photographs of the site indicating landform.
- Evidence of disturbance.
- Aboriginal artefacts, culturally modified trees or any other Aboriginal sites.

Where possible, identification of natural soil deposits within the study area was undertaken. Photographs and recording techniques were incorporated into the survey including representative photographs of survey

units, landform, vegetation coverage, GSV and the recording of soil information for each survey unit were possible.

Any potential Aboriginal objects observed during the survey were documented and photographed. The location of Aboriginal cultural heritage and points marking the boundary of the landform elements were recorded using a handheld Global Positioning System (GPS) and the Map Grid of Australia (MGA) (94) coordinate system.

4.3. Archaeological survey results

A total of one meandering transect was walked across three landforms with the two surveyors walking 2 metres apart. This follows the methodology set out in Burke and Smith (2004, pp. 65), which states that a single person can only effectively visually survey an area of two linear metres. One area of PAD was identified in the study area. The results from the field survey have been summarised in Table 6 below and full transect details are provided in Figure 8.

Table 6 Survey coverage

Landform	Survey unit area (m²)	Visibility (%)	Exposure (%)	Effective coverage area (m²)	Effective coverage (%)
Flat	1162.86	10	10	11.6286	1
Slope	3729.68	10	10	37.2968	1
Shoulder	1085.89	10	10	10.8589	1

Table 7 Landform summary

Landform	Landform area (m²)	Area effectively surveyed (m²)	Landform effectively surveyed (%)	No. of Aboriginal sites	No. of artefacts or features
Flat	5241.07	11.2686	0.22	1	0
Slope	308353.38	37.2968	0.12	0	0
Shoulder	6082.29	10.8589	0.17	0	0

4.3.1. Constraints to the survey

With any archaeological survey there are several factors that influence the effectiveness (the likelihood of finding sites) of the survey. The factors that contributed most to the effectiveness of the survey were reduced visibility caused by extensive grass coverage and ground disturbances, including the roads, construction sites, public buildings, driveways, and utilities.

4.3.2. Visibility

In most archaeological reports and guidelines visibility refers to GSV, and is usually a percentage estimate of the ground surface that is visible and allowing for the detection of (usually stone) artefacts that may be present on the ground surface (DECCW 2010a).

GSV during the survey varied throughout the study area but was generally low (0–20%) with the average being approximately 10%. GSV was hindered by extensive grass coverage and low visibility of the ground surface

caused by disturbances, including the roads, construction sites, residential developments, driveways, and utilities (Photo 8 to Photo 10).

Photo 8 **Limited visibility in the south-eastern portion of the study area, facing north**

Photo 9 **Visibility in the north eastern portion of the study area, facing north-east**

Photo 10 **View of the helipad in the northern portion of the study area, facing north-west**

4.3.3. Exposure

Exposure refers to the geomorphic conditions of the local landform being surveyed and attempts to describe the relationship between those conditions and the likelihood the prevailing conditions provide for the exposure of (buried) archaeological materials. Whilst also usually expressed as a percentage estimate, exposure is different to visibility in that it is in part a summation of geomorphic processes, rather than a simple observation of the ground surface (Burke & Smith 2004, pp. 79, DECCW 2010a).

Overall, the study area displayed very few areas of exposure, ranging between 0–10%. Exposure was mainly seen around vehicle access areas and in areas where erosion was evident (Photo 11 to Photo 13).

Photo 11 **Exposure within the northern portion of the study area, facing north-west**

Photo 12 **Exposure within the study area around base of tree in most northern portion of the study area, facing south**

Photo 13 **Exposure within the northern portion of the study area, facing south**

4.3.4. Disturbances

Disturbance in the study area is associated with human agents. The disturbance is associated with recent human action which is prevalent across the majority of study area and cover large sections of land surface. These agents include civic development, such as landscaping and construction associated with the hospital.

Disturbance levels within the study area were assessed during the visual inspection. Levels of disturbance were categorised through an inspection of the ground surface, landforms, and aerial imagery. Disturbance levels within the study area have been categorised according to the following criteria:

- High disturbance—the landform has been heavily disturbed and all natural soil horizons have been displaced or removed, these areas are unlikely to contain Aboriginal cultural material.

- Moderate disturbance—the landform has undergone disturbances to a certain degree, but the extent and nature of these disturbances cannot be fully quantified. Aboriginal cultural material may be present within these locations but is unlikely to be *in situ*.
- Low disturbance—the landform has not been significantly disturbed and is highly likely to contain intact soil horizons. Aboriginal cultural material if present is likely to be *in situ*.

The study area has been subject to a high level of disturbance from human activity. Historic and recent aerials (Photo 3 to Photo 6) show that the study area has been subject to moderate to high levels of disturbance. This has occurred in the forms of vegetation clearance, the construction of the hospital and the construction of driveways and helipad, signage and surface and sub-surface infrastructure. Within the central and northern portion of the study area, the landforms have been built up, likely including fill. A representation of the disturbances that were noted during the archaeological survey are shown in Photo 14 and Photo 16.

Photo 14 **Helipad located in northern portion of the study area, facing north-west**

Photo 15 **Tarmac driveway in the southern portion of the study area, facing east**

Photo 16 **Hospital wards within central portion of the study area, facing east**

Figure 8 Survey effort and results

Matter: 39532, Date: 09 September 2024,
Prepared for: MC, Prepared by: HL., Last edited by: hliswoyo
Location: P:\39500s\39532\Mapping\
39532_Cessnock_Hospital_ACHA_AR,
Layout: 39532_AR_F8_SurveyResults

5. Test excavation

Following the results of the archaeological investigation, a test excavation program was undertaken to characterise the extent, nature and archaeological (scientific) value of Aboriginal cultural heritage within the area of moderate archaeological potential identified by the archaeological survey within the northern portion of the study area.

Test excavations were undertaken on 29 April 2024 by Molly Crissell (Biosis, Heritage Consultant) and Crystal Garabedian (Biosis, Heritage Consultant), Les Draper (Mindaribba Local Aboriginal Land Council, Cultural Sites Officer) and Tara Roberts (Culturally Aware, Cultural Sites Officer).

The sampling strategy, methodology and results of the test excavation program are discussed below.

5.1. Test excavation objectives

The principal objectives of the test excavations were to identify and understand the nature, extent and significance of any areas of moderate potential within the study area. This will further our knowledge of Aboriginal archaeological site patterning within the study area and enable the predictive model to be further testing and refined.

The aims of the testing program were to:

- Determine the nature and extent of the sub-surface archaeological deposits in the study area.
- Identify if the archaeological material occurs in an intact, undisturbed context, by examining the soil profile and stratigraphy.
- Analyse and interpret any archaeological finds (such as stone artefacts, hearths, etc.) recovered during the testing program.
- Inform current knowledge of Aboriginal occupation and land use models of the region.
- Provide management and mitigation measures for Aboriginal archaeological objects located during the subsurface testing program.

5.2. Test excavation methodology

Test excavations were conducted in accordance with requirement 16a of the Code.

- Test excavations were conducted in 50 by 50 centimetre units.
- The test pits were excavated by hand (inclusive of trowels, spades and other hand tools) along transects at intervals of between 10 and 20 metres or other justifiable and regular spacing (being no smaller than five metres).
- The first test pit within an area of potential was excavated in five centimetre spits; the subsequent test pits conducted within the site or PAD area were then excavated in either 10 centimetre spits or stratigraphic units (whichever is smaller) to the base of Aboriginal object-bearing units being the removal of the A-horizon soil deposit down to the sterile clay or bedrock layer (B-horizon).

- If the depth of deposit prevents reaching sterile deposits within the 50 by 50 centimetre test pit, additional 50 by 50 centimetre test pits may be excavated adjacent to the original test pit (for example expanding the test pit to 50 by 100 centimetres) to reach the sterile deposits.
- Test pits may be combined and excavated as necessary in 50 by 50 centimetre units for the purposes of further understanding site characteristics. Note that under the Code, the maximum area that can be excavated in any one continuous area is three metres squared (3 m²).
- The Code dictates that the maximum surface area of all test excavation units must be no greater than 0.5% of the PAD or area being investigated.
- All excavated soil was wet sieved in 5 millimetre sieves.
- For each test pit that was excavated, the following documentation was taken:
  - Unique test pit identification number.
  - GPS coordinate of each test pit.
  - Munsell soil colour and texture.
  - Amount and location of cultural material within the deposit.
  - Nature of disturbance where present.
  - Stratigraphy.
  - Archaeological features (if present).
  - Photographic records.
  - Spit records.
- Test excavation units were backfilled as soon as practicable.
- An AHIMS Site Impact Recording form will be completed and submitted to the AHIMS Registrar for any sites impacted during test excavations.
- In the event that suspected human remains are identified works will immediately cease and the NSW Police and Heritage NSW will be notified.
- Test excavations will cease when enough information* has been recovered to adequately characterise the objects present with regard to their nature and significance.

*Enough information is defined by Heritage NSW as meaning "the sample of excavated material clearly and self-evidently demonstrates the deposit's nature and significance. This may include things like locally or regionally high object density: presence of rare or representative objects: presence of archaeological features: or locally or regionally significant deposits stratified or not."(DECCW 2010a, pp. 28).

5.3. Test excavation results

A total of four test pits were excavated within the area of moderate potential. Individual test pit and soil analysis results are provided in Appendix B. Results by PADs are shown in Table 8 and a detailed discussion of results is provided below.

Table 8 Test excavation results by PAD

PAD	Landform	PAD area (m2)	Area tested (m2)	PAD effectively tested (%)	No. of sites	No. of artefacts
1	Flat	1,298.10	1	0.07%	0	0

5.3.1. PAD1

A total of four test pits (TP) were excavated in PAD 1 at 20 metre intervals. The maximum depth was in Transect 1 TP1 at 250 millimetres and a minimum depth was reached in Transect 1 TP3 at 160 millimetres. Transect 1 TP1 was excavated in 5 centimetre spits and reached a depth of 250 millimetres. Soil stratigraphy was mainly consistent with loamy sand in the upper spit and loamy clay in the lower portion of spit 2, which is consistent with the Branxton soil landscape.

Disturbance in the form of rubbish evident in spit 2 and 3 in Transect 1 TP1 and within spit 2 of TP2. The rubbish consisted of plastic bags, ceramic and glass along with a gravel fill layer. This is likely an imported gravel fill layer which could be associated with development works.

No artefacts were recovered from PAD 1.

Photo 17 Transect 1, TP1

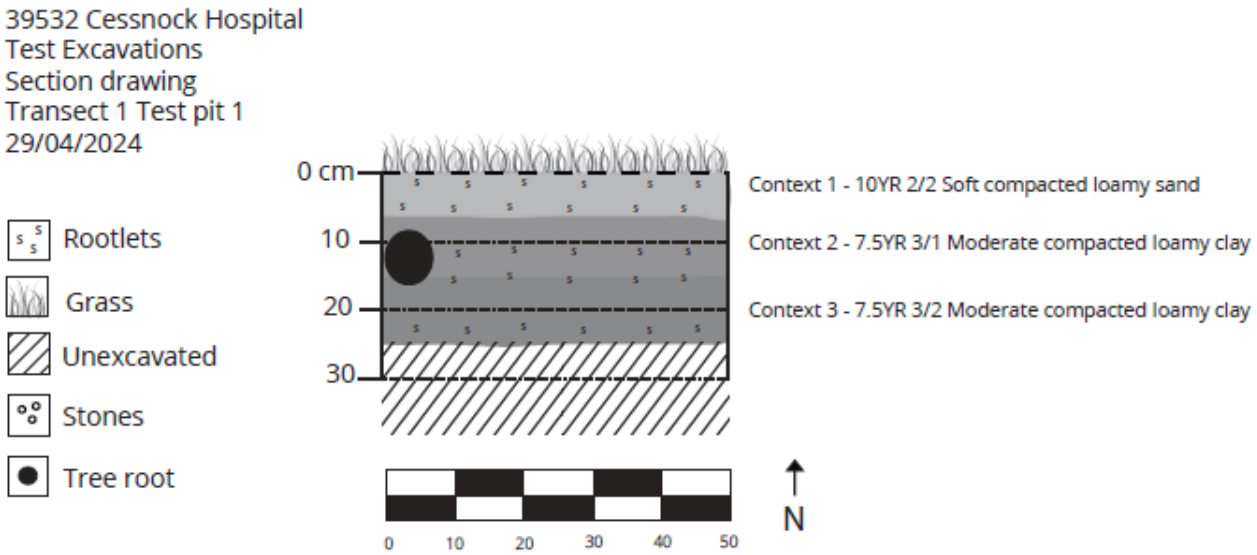


Photo 18 Stratigraphy section drawing of Transect 1 TP1

Photo 19 Transect 1, TP2

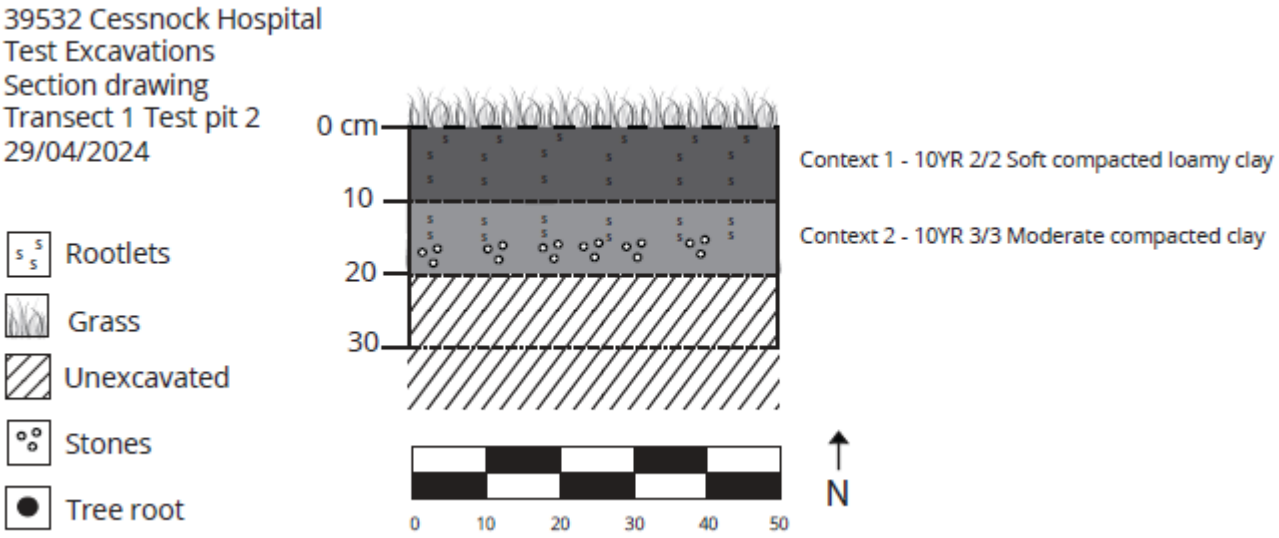


Photo 20 **Stratigraphy section drawing of Transect 1, TP2**

Photo 21 **Transect 1, TP3**

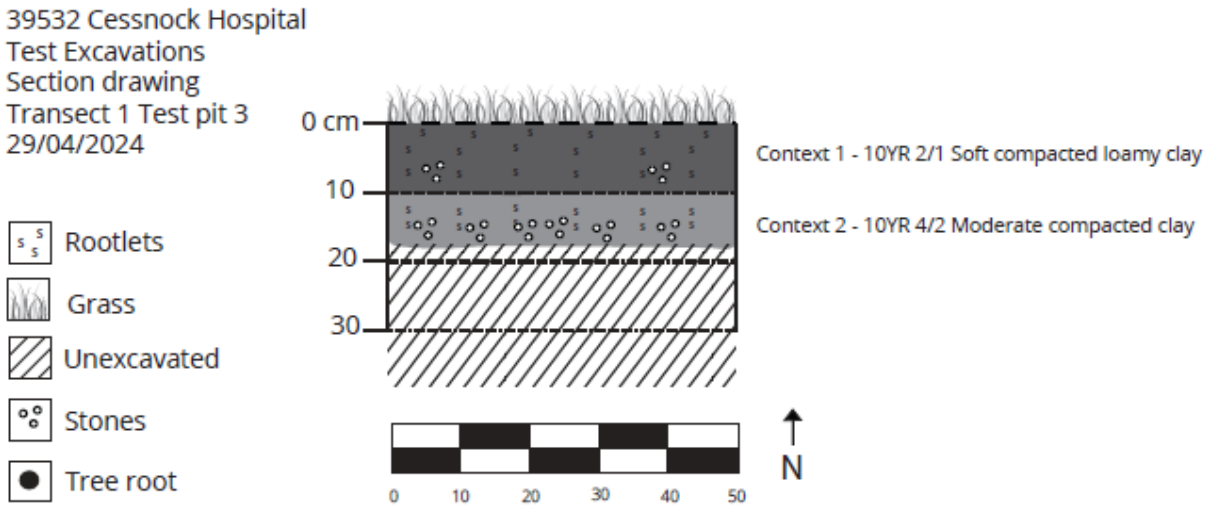


Photo 22 **Stratigraphy section drawing of Transect 1, TP3**

Photo 23 **Transect 1, TP4**

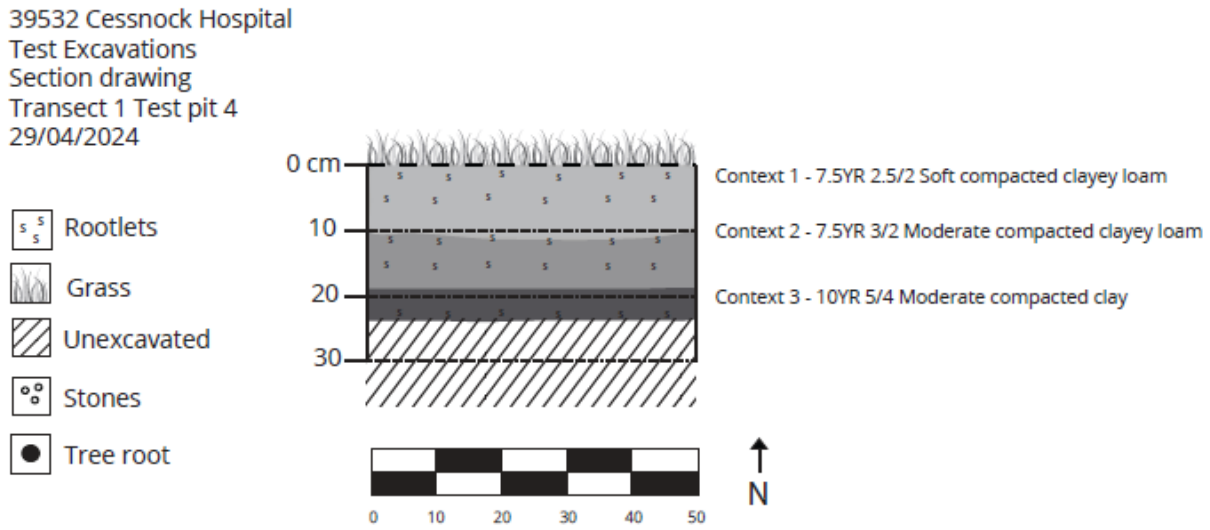


Photo 24 Stratigraphy section drawing of Transect 1, TP4

5.4. Discussion of results

Test excavations within the study area did not identify any Aboriginal artefacts. An analysis of the study area within the local region has been completed below.

Previous predictive modelling conducted for the Cessnock region indicates that the most important factor for site distribution in this landscape is distance to water. Isolated artefacts and small Aboriginal sites are more likely to be identified within proximity to lower order water sources, and at greater distances from a water source. The study area is located 300 metres north of a second Strahler order, non perennial water course. A fifth order perennial water course, Bellbird Creek is located approximately 500 metres south-west of the study area. The presence of a higher order permanent creekline, along with lower order creeklines located within and in close proximity to the study area indicates that water resources, and by extension food resources, were readily accessible.

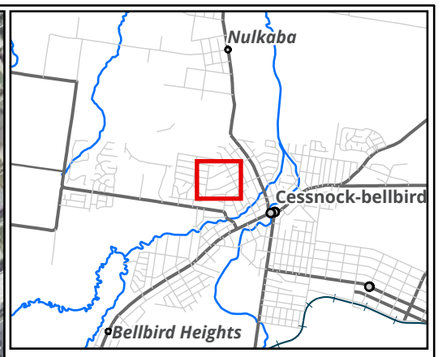
Previous archaeological assessments within the local region have also identified that artefact sites and PAD sites are the most common occurring site types within the region, and are likely to occur across a variety of landforms which have not been subject to high levels of disturbance (Environmental Resources Management Australia Pty Ltd (ERM) 2001, McCardle Cultural Heritage 2005, Biosis 2017, Kuskie 2012). This is supported by an analysis of registered Aboriginal site types within a 5 by 5 kilometre radius of the study area, which determined that 88.13% of sites within the local region were artefact sites, with 8.47% of them were PADs.

Historical imagery for the study area shows that the land had been established for the Cessnock District Hospital prior to 1963. The study area has been cleared of vegetation and developed with several hospital buildings. It appears that the northern portion of the study area has remained cleared of vegetation with no development. The study area has been historically impacted due to human agents associated with the construction of the hospital and the associated infrastructure such as landscaping, construction of driveways, and subsurface infrastructure. The majority of the study area is considered to be highly disturbed with the exception of the northern portion. High disturbance means that the landform has been heavily disturbed and all natural soil horizons have been displaced or removed, these areas are unlikely to contain Aboriginal cultural material.

An archaeological survey was conducted on the 28 February 2024 in order to assess the study area. The survey did not identify any surface artefact sites or other Aboriginal site types. This was attributed to low levels of GSV noted across the extent of the study area, along with low levels of ground surface exposure which would not have aided in the effectiveness of the surveyors to identify surface artefact sites that may be present. However, based upon observations made within the field and the results of background research undertaken as part of this assessment, one small area within the northern portion of the study area was assessed as containing moderate archaeological potential. This area of potential contained an isolated area with low levels of disturbance that may hold the potential to contain subsurface deposits. In the area of moderate potential, the landform has not been significantly disturbed and is highly likely to contain intact soil horizons. Aboriginal cultural material if present is likely to be in situ. The remainder of the study area was highly disturbed and there was low potential for Aboriginal sites to be present or intact.

A program of test excavations was undertaken that sought to identify whether subsurface archaeological deposits have the potential to occur within the area of moderate potential. A total of four test pits were excavated across the area of moderate potential and were spaced at 20 metre intervals. Test pits all ended on clay, ranging from depths of 160 millimetres to 250 millimetres. Soils were found to be highly disturbed and representative of redeposited natural soils with some areas of introduced fill material. This is most likely due to the vegetation clearance practices and the development of the hospital site observed in the study area and the surrounds. Overall, subsurface soils appeared to have undergone significant levels of disturbance.

Results from the program of test excavations combined with the observations seen during the field investigation, there are high levels of disturbance across the study area that indicate the study area is unlikely to contain intact archaeological deposits. As a result of this, the study area is considered to have low archaeological potential.



Legend

- Study area
- Lot
- Test pit - No artefacts found

Archaeological potential

- Low

Figure 9 Test excavation coverage and results

0 20 40 60 80 100

Metres

Scale: 1:2,000 @ A3

Coordinate System: GDA2020 MGA Zone 56

N

biosis

APEM Group

Matter: 39532, Date: 09 September 2024,
Prepared for: MC, Prepared by: HL., Last edited by: hliswoyo
Location: P:\39500s\39532\Mapping\
39532_Cessnock_Hospital_ACHA_AR,
Layout: 39532_AR_F10_TestPits

Legend

- Study area
- Lot

Landform

- Flat
- Shoulder
- Slope

Figure 10 Landforms

0 20 40 60 80

Metres

Scale: 1:2,000@ A3

Coordinate System: GDA2020 MGA Zone 56

biosis

APEM Group

Matter: 39532, Date: 09 September 2024,
Prepared for: MC, Prepared by: HL, Last edited by: hliswoyo
Location: P:\39500s\39532\Mapping\
39532_Cessnock_Hospital_ACHA_AR,
Layout: 39532_AR_F9_Landforms

Acknowledgements: Basemap © Land and Property Information 2016;public/NSW_Imagery: © Department of Customer Service 2020

6. Scientific values and significance assessment

The two main values addressed when assessing the significance of Aboriginal sites are cultural values to the Aboriginal community and archaeological (scientific) values. This report will assess scientific values while the ACHA report will detail the cultural values of Aboriginal sites in the study area.

6.1. Introduction to the assessment process

Heritage assessment criteria in NSW fall broadly within the significance values outlined in the Australia International Council on Monuments and Sites (ICOMOS) Burra Charter (Australia ICOMOS 2013). This approach to heritage has been adopted by cultural heritage managers and government agencies as the set of guidelines for best practice heritage management in Australia. These values are provided as background and include:

- **Historical significance** (evolution and association) refers to historic values and encompasses the history of aesthetics, science and society, and therefore to a large extent underlies all of the terms set out in this section. A place may have historic value because it has influenced, or has been influenced by, an historic figure, event, phase or activity. It may also have historic value as the site of an important event. For any given place the significance will be greater where evidence of the association or event survives in situ, or where the settings are substantially intact, than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains significance regardless of subsequent treatment.
- **Aesthetic significance** (Scenic/architectural qualities, creative accomplishment) refers to the sensory, scenic, architectural and creative aspects of the place. It is often closely linked with social values and may include consideration of form, scale, colour, texture, and material of the fabric or landscape, and the smell and sounds associated with the place and its use.
- **Social significance** (contemporary community esteem) refers to the spiritual, traditional, historical or contemporary associations and attachment that the place or area has for the present-day community. Places of social significance have associations with contemporary community identity. These places can have associations with tragic or warmly remembered experiences, periods or events. Communities can experience a sense of loss should a place of social significance be damaged or destroyed. These aspects of heritage significance can only be determined through consultative processes with local communities.
- **Scientific significance** (Archaeological, industrial, educational, research potential and scientific significance values) refers to the importance of a landscape, area, place or object because of its archaeological and/or other technical aspects. Assessment of scientific value is often based on the likely research potential of the area, place or object and will consider the importance of the data involved, its rarity, quality or representativeness, and the degree to which it may contribute further substantial information.

The cultural and archaeological significance of Aboriginal and historic sites and places is assessed on the basis of the significance values outlined above. As well as the ICOMOS Burra Charter significance values guidelines, various government agencies have developed formal criteria and guidelines that have application when assessing the significance of heritage places within NSW. Of primary interest are guidelines prepared by the Commonwealth Department of the Environment and Energy Heritage NSW, NSW Department of Climate Change, Energy, the Environment and Water. The relevant sections of these guidelines are presented below.

These guidelines state that an area may contain evidence and associations which demonstrate one or any combination of the ICOMOS Burra Charter significance values outlined above in reference to Aboriginal heritage. Reference to each of the values should be made when evaluating archaeological and cultural significance for Aboriginal sites and places.

In addition to the previously outlined heritage values, the Heritage NSW Guidelines (OEH 2011) also specify the importance of considering cultural landscapes when determining and assessing Aboriginal heritage values. The principle behind a cultural landscape is that 'the significance of individual features is derived from their inter-relatedness within the cultural landscape'. This means that sites or places cannot be 'assessed in isolation' but must be considered as parts of the wider cultural landscape. Hence the site or place will possibly have values derived from its association with other sites and places. By investigating the associations between sites, places, and (for example) natural resources in the cultural landscape the stories behind the features can be told. The context of the cultural landscape can unlock 'better understanding of the cultural meaning and importance' of sites and places.

Although other values may be considered — such as educational or tourism values — the two principal values that are likely to be addressed in a consideration of Aboriginal sites and places are the cultural/social significance to Aboriginal people and their archaeological or scientific significance to archaeologists. The determinations of archaeological and cultural significance for sites and places should then be expressed as statements of significance that preface a concise discussion of the contributing factors to Aboriginal cultural heritage significance.

6.2. Archaeological (scientific significance) values

Archaeological significance (also called scientific significance, as per the ICOMOS Burra Charter) refers to the value of archaeological objects or sites as they relate to research questions that are of importance to the archaeological community, including indigenous communities, heritage managers and academic archaeologists. Generally the value of this type of significance is determined on the basis of the potential for sites and objects to provide information regarding the past life-ways of people (Burke & Smith 2004, pp. 249, NPWS 1997). For this reason, the NPWS summarises the situation as 'while various criteria for archaeological significance assessment have been advanced over the years, most of them fall under the heading of archaeological research potential' (NPWS 1997, pp. 26).

The NPWS criteria for archaeological significance assessment are based largely on the ICOMOS Burra Charter.

Research potential

Research potential is assessed by examining site content and site condition. Site content refers to all cultural materials and organic remains associated with human activity at a site. Site content also refers to the site structure – the size of the site, the patterning of cultural materials within the site, the presence of any stratified deposits and the rarity of particular artefact types. As the site contents criterion is not applicable to scarred trees, the assessment of scarred trees is outlined separately below. Site condition refers to the degree of disturbance to the contents of a site at the time it was recorded.

Table 9 and Table 10 outline the site content and site condition rating used for archaeological sites.

Table 9 Site contents ratings used for archaeological sites

Rating	Description
0	No cultural material remaining.

Rating	Description
1	Site contains a small number (e.g. 0–10 artefacts) or limited range of cultural materials with no evident stratification.
2	Site contains a larger number, but limited range of cultural materials; and/or some intact stratified deposit remains; and/or are or unusual example(s) of a particular artefact type.
3	Site contains a large number and diverse range of cultural materials; and/or largely intact stratified deposit; and/or surface spatial patterning of cultural materials that still reflect the way in which the cultural materials were deposited.

Table 10 Site condition ratings used for archaeological sites

Rating	Description
0	Site destroyed.
1	Site in a deteriorated condition with a high degree of disturbance; lack of stratified deposits; some cultural materials remaining.
2	Site in a fair to good condition, but with some disturbance.
3	Site in an excellent condition with little or no disturbance. For surface artefact scatters this may mean that the spatial patterning of cultural materials still reflects the way in which the cultural materials were laid down.

Pearson and Sullivan (1995, pp.149) note that Aboriginal archaeological sites are generally of high research potential because 'they are the major source of information about Aboriginal prehistory'. Indeed, the often great time depth of Aboriginal archaeological sites gives them research value from a global perspective, as they are an important record of humanity's history. Research potential can also refer to specific local circumstances in space and time — a site may have particular characteristics (well preserved samples for absolute dating, or a series of refitting artefacts, for example) that mean it can provide information about certain aspects of Aboriginal life in the past that other less or alternatively valuable sites may not (Burke & Smith 2004, pp. 247–8). When determining research potential value particular emphasis has been placed on the potential for absolute dating of sites.

The following sections provide statements of significance for the Aboriginal archaeological sites recorded during the sub-surface testing for the assessment. The significance of each site follows the assessment process outlined above. This includes a statement of significance based on the categories defined in the Burra Charter. These categories include social, historic, scientific, aesthetic and cultural (in this case archaeological) landscape values. Nomination of the level of value — high, moderate, low or not applicable — for each relevant category is also proposed. Where suitable the determination of cultural (archaeological) landscape value is applied to both individual sites and places (to explore their associations) and also, to the study area as a whole. The nomination levels for the archaeological significance of each site are summarised below.

Representativeness

Representativeness refers to the regional distribution of a particular site type. Representativeness is assessed by whether the site is common, occasional, or rare in a given region. Assessments of representativeness are subjectively biased by current knowledge of the distribution and number of archaeological sites in a region. This varies from place to place depending on the extent of archaeological research. Consequently, a site that is assigned low significance values for contents and condition, but a high significance value for representativeness, can only be regarded as significant in terms of knowledge of the regional archaeology. Any such site should be subject to re-assessment as more archaeological research is undertaken.

Assessment of representativeness also considers the contents and condition of a site. For example, in any region there may only be a limited number of sites of any type that have suffered minimal disturbance. Such sites would therefore be given a high significance rating for representativeness, although they may occur commonly within the region.

Table 11 outlines the site representativeness ratings used for archaeological sites.

Table 11 Site representativeness ratings used for archaeological sites

Rating	Description
1	Common occurrence
2	Occasional occurrence
3	Rare occurrence

Overall scientific significance ratings for sites, based on a cumulative score for site contents, site integrity and representativeness are provided in Table 12.

Table 12 Scientific significance ratings used for archaeological sites

Rating	Description
1–3	Low scientific significance
4–6	Moderate scientific significance
7–9	High scientific significance

Each site is given a score on the basis of these criteria. The overall scientific significance is determined by the cumulative score. This scoring procedure has been applied to the Aboriginal archaeological sites identified during the sub-surface testing. The results are provided in Table 13.

6.2.1. Statements of archaeological significance

The following archaeological significance assessment is based on Requirement 11 of the Code. Using the assessment criteria detailed in Scientific Values and Significance Assessment, an assessment of significance was determined and a rating for each site was determined. The results of the archaeological significance assessment are given in Table 13 below.

Table 13 Scientific significance assessment of archaeological sites recorded within the study area.

Site name	Site content	Site condition	Representativeness	Scientific significance
Area of moderate PAD	0	0	0	Nil – No Aboriginal sites were identified.

Table 14 Statements of scientific significance for archaeological sites recorded within the study area.

Site name	Statement of significance
Area of moderate PAD	A survey of the study area identified one area of moderate archaeological potential. This was based on the area of low disturbance, in which the landform has not been highly disturbed and is highly likely to contain intact archaeological deposits. The study area is also located in close proximity water resources which indicates that by extension food resources, were readily accessible. The presence of several hydrological features within proximity to the study area, suggests that the study area would have provided natural resources which may have been utilised by Aboriginal people in the local region. Subsequent test excavations in the area of PAD did not identify any Aboriginal sites and confirmed that the area of PAD was also highly disturbed similar to the remainder of the study area. In light of the results of testing and background research which suggest the area of potential is highly disturbed and no likely to contain Aboriginal sites it has been reassessed with low archaeological potential. Due to the lack of any Aboriginal sites or objects within the study area, these areas are not considered to be archaeological sites and therefore has no archaeological significance.

7. Impact assessment

As previously outlined, the proposed works involve upgrade works to the hospital, which will comprise of the following works (Figure 3):

- Demolition of select existing structures.
- Construction of a new hospital building on the site's northern portion.
- Realignment of internal roads and a new primary vehicular and pedestrian entrance to the hospital campus from Jurd Street.
- Refurbishment of the existing at-grade car park.
- Installation and realignment of selected services.
- Installation of ancillary development including, but not limited to, lighting and signage.
- Landscaping.
- New kerb, gutter and road resurfacing on Jurd Street.

Impact assessment summary

Based on the identification of potential issues and an assessment of the nature and extent of the impacts of the proposed development, it is determined that:

- The extent and nature of potential impacts are low, this is due to the test excavation program not identifying any Aboriginal artefacts or sites and therefore the study area holds low archaeological potential. The extent and nature of the potential impacts will not have a significant adverse effect on the locality, community and the environment.
- Potential impacts can be appropriately mitigated or managed to ensure that there is minimal effect on the locality and community, refer to Section 7.2.

7.1. Predicted physical impacts

The impacts to the study area consists of demolition of select existing structures and the construction of a new hospital building in the northern portion of the study area. The construction of the proposed works will likely require bulk earthworks which will impact the ground surfaces and the subsurface soils. Test excavations were undertaken within the areas of moderate archaeological potential located within the northern portion of the study area which will be impacted by the proposed works. The test excavation program did not identify any Aboriginal sites or objects. Due to the results of the test excavations undertaken, the northern portion of the study area has been reassessed to hold low archaeological potential. Therefore, the extent and nature of the potential impacts will not have a significant effect and will not impact on any Aboriginal sites within the study area.

7.2. Management and mitigation measures

Ideally, heritage management involves conservation of sites through the preservation and conservation of fabric and context within a framework of 'doing as much as necessary, as little as possible' (Marquis-Kyle & Walker 1994, pp. 13). In cases where conservation is not practical, several options for management are

available. For sites, management often involves the salvage of features or artefacts, retrieval of information through excavation or collection (especially where impact cannot be avoided) and interpretation.

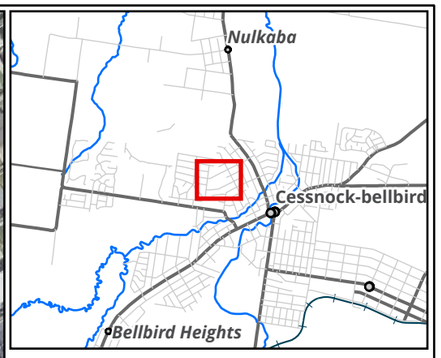
Consideration has been given to the principles of Ecologically Sustainable Development (ESD) in order to minimise impacts. Avoidance of impact to archaeological and cultural heritage sites through design of the development is the primary mitigation and management strategy and should be implemented where practicable. Avoidance of impact to archaeological and cultural heritage sites through design of the development is the primary mitigation and management strategy, and should be implemented where practicable.

Mitigation measures are provided in Table 15 below.

Table 15 Mitigation measures

Mitigation Measures	Relevant Section of Report
No further archaeological work required Based upon the observations made during the field investigation and the results of the archaeological test excavations it is evident that the study area has been disturbed due to the previous construction works associated with the development of the site. Due to this, no further investigation of the study area is warranted, as the study area holds low archaeological potential.	Refer to Section 3, Section 4, Section 5, Section 6 and Section 7. Refer to Section 5 within the ACHA.
Heritage induction Heritage inductions for all site workers and contractors should be undertaken in order to prevent any unintentional harm to Aboriginal sites located within the study area and its surrounds. This includes the following items: • Relevant legislation. • Location of identified Aboriginal heritage sites, areas of archaeological potential, and areas of archaeological sensitivity. • Basic identification skills for Aboriginal and non-Aboriginal artefacts and human remains. • Procedure to follow in the event of an unexpected heritage item find during construction works. • Procedure to follow in the event of discovery of human remains during construction works. • Penalties and non-compliance. • As per community consultation, this should also include a Cultural Heritage Toolbox Induction for all site works and contractors involved in the proposed project works and should be delivered by Awabakal Descendants. • Refer to Figure 10 for impact assessment.	Refer to Section 6 and Section 7. Refer to Section 4 within the ACHA.
Interpretation plan Given the significance of the region to Aboriginal people, there is an opportunity for heritage interpretation as part of the design. Heritage interpretation is an innovative way to integrate culture into design and can not only honour the deep-rooted connection to the land but also ensure that Aboriginal cultural heritage remains present in the daily operations of the proposed industrial estate. As such, it is recommended that a Heritage Interpretation Plan be prepared by a suitably qualified heritage consultant following the NSW Heritage Council's *Interpreting Heritage Places and Items Guidelines*. The plan should identify how information on the Aboriginal history of the region could be communicated through the proposed industrial development. The heritage devices used in interpretation must be created in consultation with the Registered Aboriginal Parties.	Refer to Section 6 and Section 7. Refer to Section 4 within the ACHA.

Mitigation Measures	Relevant Section of Report
Interpretation can be achieved through native landscaping, Aboriginal art, digital displays, signage, edible and medicinal gardens, and apps educating about the history and use of the land by Aboriginal people.	



Legend

- Study area
- Test pit - No artefacts found

Archaeological potential

- Low

Figure 11 Impact assessment

0 20 40 60 80 100

Metres

Scale: 1:2,000 @ A3

Coordinate System: GDA2020 MGA Zone 56

N

biosis

APEM Group

Matter: 39532, Date: 30 September 2024,
Prepared for: MC, Prepared by: HL., Last edited by: hliswoyo
Location: P:\39500s\39532\Mapping\
39532_Cessnock_Hospital_ACHA_AR,
Layout: 39532_AR_F11_ImpactAssessment

8. Recommendations

Strategies have been developed based on the archaeological (significance) of cultural heritage relevant to the study area and influenced by:

- Predicted impacts to Aboriginal cultural heritage.
- The planning approvals framework.
- Current best conservation practise, widely considered to include:
  - Ethos of the Australia ICOMOS Burra Charter.
  - The Code.

Prior to any impacts occurring within the study area, the following is recommended.

Recommendation 1: Continued consultation with the registered Aboriginal parties

As per consultation requirements, it is recommended that the proponent provides a copy of this final report to the Aboriginal stakeholders and considers all feedback received. The proponent should continue to keep these groups informed via the project mailing list for updates and will maintain ongoing consultation with the Connecting with Country Working Group throughout the duration of the project.

Recommendation 2: No further archaeological work required

No further archaeological work is required, except in the event that unexpected finds are recovered during any phase of the project (refer to Recommendation 5, 6 and 7).

Recommendation 3: Heritage induction

Heritage inductions for all site workers and contractors should be undertaken in order to prevent any unintentional harm to Aboriginal sites located within the study area and its surrounds. This induction will include the following items:

- Relevant legislation.
- Location of identified Aboriginal heritage sites, areas of archaeological potential, and areas of archaeological sensitivity.
- Basic identification skills for Aboriginal and non-Aboriginal artefacts and human remains.
- Procedure to follow in the event of an unexpected heritage item find during construction works.
- Procedure to follow in the event of discovery of human remains during construction works.
- Penalties and non-compliance.
- This should include a Cultural Heritage Toolbox Induction for all site works and contractors involved in the proposed project works and should be delivered by Awabakal Descendants.

Biosis understands that this recommendation has been captured within the Preliminary Construction Management Plan.

Recommendation 4: Heritage Interpretation plan

Given the significance of the region to Aboriginal people, there is an opportunity for heritage interpretation as part of the design. Heritage interpretation is an innovative way to integrate culture into design and can not only honour the deep-rooted connection to the land but also ensure that Aboriginal cultural heritage remains present in the daily operations of the proposed industrial estate. As such, it is recommended that a Heritage Interpretation Plan be prepared by a suitably qualified heritage consultant following the NSW Heritage Council's *Interpreting Heritage Places and Items Guidelines*.

It is understood that a Development Application for Category One remediation works is being completed concurrently with the REF application and a Heritage Interpretation will form part of this work. This work will be completed before any scope of the REF thus satisfying this recommendation.

Recommendation 5: Discovery of unanticipated Aboriginal objects

All Aboriginal objects and Places are protected under the NPW Act. It is an offence to disturb an Aboriginal site without a consent permit issued by Heritage NSW. Should any unanticipated Aboriginal objects be encountered during works associated with this proposal, works must cease in the vicinity and the find should not be moved until assessed by a qualified archaeologist. If the find is determined to be an Aboriginal object the archaeologist will provide further recommendations. These may include notifying Heritage NSW and Aboriginal stakeholders.

Biosis understands that this recommendation has been captured within the Preliminary Construction Management Plan.

Recommendation 6: Discovery of unanticipated historical relics

Relics are historical archaeological resources of local or State significance and are protected in NSW under the Heritage Act. Relics cannot be disturbed except with a permit or exception/exemption notification. Should unanticipated relics be discovered during the course of the project, work in the vicinity must cease and an archaeologist contacted to make a preliminary assessment of the find. The Heritage Council will require notification if the find is assessed as a relic.

Biosis understands that this recommendation has been captured within the Preliminary Construction Management Plan.

Recommendation 7: Discovery of human remains

If any suspected human remains are discovered during any activity you must:

1. Immediately cease all work at that location and not further move or disturb the remains.
2. Notify the NSW Police and Heritage NSW Environmental Line on 131 555 as soon as practicable and provide details of the remains and their location.
3. Not recommence work at that location unless authorised in writing by Heritage NSW.

Biosis understands that this recommendation has been captured within the Preliminary Construction Management Plan.

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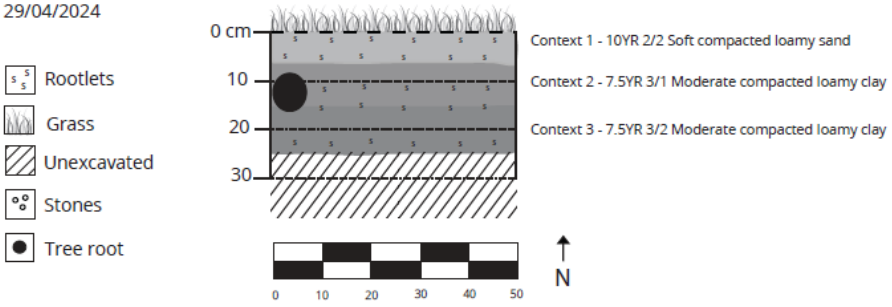
Appendices

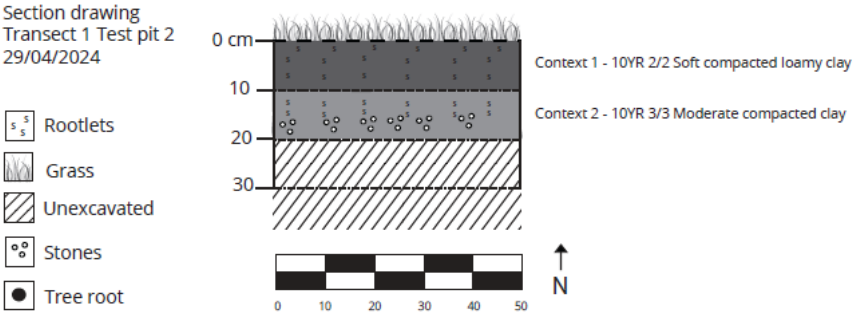
Appendix B. Test excavation results

Test Pit Number	Date excavated	Context Layer	Context layer thickness (mm)	Munsell soil colour	Soil description	pH	Inclusions	Disturbance
Transect 1								
1	29/04/2024	1	0-50	10YR 2/2	Soft compacted loamy sand	7	Grass rootlets	-
		2	50-160	7.5YR 3/1	Moderate compacted loamy clay	6	Tree rootlets and grass roots	Rubbish within spit including plastic, ceramic and glass.
		3	160-250	7.5YR 3/2	Moderate compacted loamy clay	7	Tree roots, roolets and evidence of bioturbation. Clay at base of test pit	Rubbish within spit, likely incorporated fill.
2	29/04/2024	1	0-100	10YR 2/2	Soft compacted loamy clay	6	Grass roots.	-
		2	100-200	10YR 3/3	Moderate compacted clay	6	Grass rootlets and gravel	Imported gravel fill layer
3	29/04/2024	1	0-70	10YR 2/1	Soft compacted loamy sand	7	Grass roots, gravel	-
		2	70-160	10YR 4/2	Moderate compacted clay	7.5	Grass roots, gravel	-
4	29/04/2024	1	0-90	7.5YR 2.5/2	Soft compacted clayey loam	6.5	Grass roots	-
		2	90-180	7.5YR 3/2	Moderate compacted clayey loam	7	Grass roots	-
		3	180-200	10YR 5/4	Moderate compacted clay	7.5	Gravel	

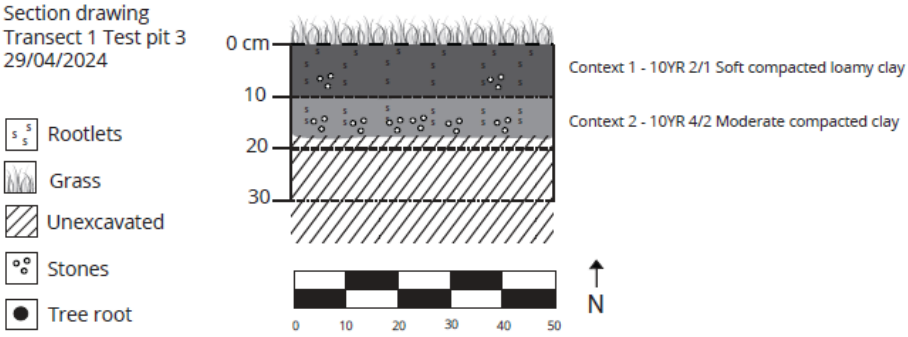
39532 Cessnock Hospital
Test Excavations
Section drawing
Transect 1 Test pit 1
29/04/2024



39532 Cessnock Hospital
Test Excavations
Section drawing
Transect 1 Test pit 2
29/04/2024



39532 Cessnock Hospital
Test Excavations
Section drawing
Transect 1 Test pit 3
29/04/2024



39532 Cessnock Hospital
Test Excavations
Section drawing
Transect 1 Test pit 4
29/04/2024