



132-134 Beecroft Road, Beecroft (SSD-86878982)

Archaeological Report

Final report

Prepared for Morrison Design Partnership Architects on behalf of DJ Thompson Pty Ltd

20 January 2026

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Biosis acknowledges the Aboriginal and Torres Strait Islander peoples as Traditional Custodians of the land on which we live and work.

We pay our respects to the Traditional Custodians and Elders past and present and honour their connection to Country and ongoing contribution to society.

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Summary

Biosis Pty Ltd (Biosis) was commissioned by Morrison Design Partnership Architects, on behalf of DJ Thompson Pty Ltd, to undertake an Aboriginal Cultural Heritage Assessment (ACHA) of a proposed development at 132–134 Beecroft Road, Beecroft (Lot C DP317843 and Lot F DP15298) (the study area). This Archaeological Report (AR) documents 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 2010b) (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 being assessed under Part 4.36 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The Secretary of the Department of Planning Housing and Infrastructure is the determining authority and will assess the State Significant Development (SSD) application (SSD-86878982) and determine if the proposed development is likely to have a significant effect on Aboriginal cultural heritage.

The study area is located in an urban area approximately 23 kilometres north-west of Sydney's Central Business District and around 1 kilometre south-west of Beecroft Train Station. There are 110 Aboriginal cultural heritage sites registered with the Aboriginal Heritage Information Management System (AHIMS) register within the study area vicinity.

The survey was conducted on 12 August 2025. 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 exposure. No previously unrecorded Aboriginal cultural heritage sites were identified during the field investigation however two areas of moderate archaeological potential were identified.

Test excavations were undertaken in accordance with the Code on 11 and 12 November 2025 within the areas of moderate potential in the study area. No Aboriginal objects or sites were identified during the test excavations. The results of the archaeological test excavations have refined the assessment, concluding there is low potential for Aboriginal objects or sites to be present within the study area.

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 Burra Charter) (Australia ICOMOS 2013).
 - the Code.

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

Management recommendations

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

Recommendation 1: No further assessment is required

No further archaeological investigations or works are required to be undertaken for the study area. In the event that unexpected Aboriginal sites, objects and places including human remains, are unearthed during any phase of the project please refer to Recommendations 4 and 5 below.

Recommendation 2: Undertake a heritage induction

Heritage inductions for all site workers and contractors should be undertaken to prevent any unintentional harm to unexpected Aboriginal objects or sites, or Aboriginal sites or objects located within proximity to the study area. The heritage induction should 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 the discovery of human remains during construction works.
- Penalties and non-compliance.

Recommendation 3: Stop works provision for the discovery of previously unidentified sites or objects

It is an offence to disturb an Aboriginal site without a consent permit issued by Heritage NSW, NSW Department of Climate Change, Energy, the Environment and Water (Heritage NSW). Should any Aboriginal sites be encountered during works, works must cease in the vicinity, and the find should not be moved or impacted in any way until assessed by a qualified archaeologist. If the find is determined to be an Aboriginal site, the archaeologist will provide further recommendations. These may include notifying Heritage NSW and RAPs.

Recommendation 4: Stop work provision for any potential discovery of human remains

If any suspected human remains are discovered during any activity works, all activity in the vicinity must cease immediately. The remains must be left in place and protected from harm or damage. The following contingency plan describes the immediate actions that must be taken in instances where human remains or suspected human remains are discovered. Any such discovery at the study area must follow these steps:

1. **Discovery:** If suspected human remains are discovered all activity in the vicinity must stop to ensure minimal damage is caused to the remains; and the remains must be left in place and protected from harm or damage.
2. **Notification:** Once suspected human skeletal remains have been found, the NSW Police must be notified immediately, and they will subsequently inform the Coroner's Office.
 - Following this, and if the human remains are likely to be Aboriginal in origin, the find will be reported to the Aboriginal parties and Heritage NSW. Aboriginal human remains must also be notified under the *Aboriginal and Torres Strait Island Heritage Protection Act 1984*. If the find is determined to be non-Aboriginal in origin and more than 100 years in age, the Heritage Council of NSW will be notified of the find under s.146 of the *Heritage Act 1977* (Heritage Act) instead.

Definitions

ACHA	Aboriginal Cultural Heritage Assessment
ADDA	Aboriginal Due Diligence Assessment
AHIMS	Aboriginal Heritage Information Management System
AR	Archaeological Report
Biosis	Biosis Pty Ltd
CBD	Central Business District
Consultation requirements	<i>Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010</i>
Cth DCCEW	<i>Australian Commonwealth Department of Climate Change, Energy, the Environment and Water</i>
DA	Development Application
DP	Deposited Plan
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
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
JMCHM	Jo McDonald Cultural Research Management
LALC	Local Aboriginal Land Council
LEP	Local Environmental Plan
LGA	Local Government Area
MDP Architects	Morrison Design Partnership Architects
NPW Act	<i>National Parks and Wildlife Act 1974</i>
NPWS	National Parks and Wildlife Service
NSW	New South Wales
NSW DCCEW	NSW Department of Climate Change, Energy, the Environment and Water
NTSCORP	Native Title Services Corporation
PAD	Potential Archaeological Deposit
RAP	Registered Aboriginal Party
SEPP	State Environmental Planning Policy
SSD	State Significant Development
Study area	132 and 134 Beecroft Road, Beecroft (Lot C DP317843 and Lot F DP15298), NSW
the Code	<i>Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW</i>

1 Introduction

1.1 Project background

Biosis was commissioned by Morrison Design Partnership Architects, on behalf of DJ Thompson Pty Ltd, to undertake an ACHA of the proposed development of a residential aged care facility at 132 and 134 Beecroft Road, Beecroft (Lot C DP317843 and Lot F DP15298), NSW (study area) (Figure 1 and Figure 2). 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 ACHA is being prepared for an SSD application under Part 4.36 of the EP&A Act.

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 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.

1.2 Study area

The study area is located approximately 23 kilometres north-west of Sydney's Central Business District and around 1 kilometre south-west of Beecroft Train Station (Figure 1). The study area encompasses approximately 0.79 hectares of private land. The study area is within the:

- North Sydney LGA.
- Parish of Field of Mars.
- County of Cumberland.

The site is surrounded by detached residential dwellings to the south, east, and west. It is rectangular in shape and currently accommodates a Residential Aged Care facility and a single dwelling house (Figure 2).

1.3 Planning approvals

The proposed development will be assessed against Part 4 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*.
- *State Environmental Planning Policy (Transport and Infrastructure) 2021*.
- *State Environmental Planning Policy (Industry and Employment) 2021*.

- *North Sydney Local Environmental Plan 2013.*
- *North Sydney Development Control Plan 2013.*

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 Metropolitan Local Aboriginal Land Council (Metro 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
Mathew Smith BA/BSc (Hons)	Mathew is a Senior Heritage Consultant with 10 years' experience in the consulting industry. Mathew has extensive experience consulting with Aboriginal communities across NSW as well as completing Aboriginal due diligence assessments, Aboriginal cultural heritage assessments, heritage management plans and Aboriginal heritage Impact Permits (AHIPs), including both archaeological survey, excavation and monitoring field works. Mathew is a full member of the Australian Association of Consulting Archaeologists Inc. and is also recognised as a specialist in the recording and analysis of Aboriginal artefacts.	• Quality assurance

Name and qualifications	Experience summary	Project role
Crystal Garabedian Bachelor of Arts (Honours) Bachelor of Science	Crystal has been a valued member of the New South Wales Heritage team since 2021 and specialises in shell midden archaeology. Since joining the team, Crystal has successfully managed a diverse portfolio of projects involving ADDAs, ACHAs, Historical Archaeological Assessments, Statements of Heritage Impact, Aboriginal and non-Aboriginal Heritage Management Plans, and permit applications. She has secured numerous AHIPs and Section 60 approvals, demonstrating a strong understanding of regulatory requirements and effective stakeholder engagement. Crystal's solid foundation in heritage legislation underpins her work, enabling her to deliver practical, high-quality outcomes tailored to the needs of each project. She has provided heritage advice for a wide range of developments, including Integrated Development Applications (DAs), State Significant Infrastructure (SSI) and SSD projects, as well as works involving items of local and state heritage significance across various government-owned assets.	• Project Manager • Quality assurance • Technical advice
Bronte Baonza Bachelor of Arts	Bronte has over two years of archaeological consulting experience with the Sydney Heritage team. She holds a Bachelor of Arts majoring in Archaeology, Ancient History and International Relations, where she developed an understanding of Australasian archaeology and its influence on modern representations of the region and its people. Since joining Biosis, Bronte has gained experience in project management, Aboriginal community consultation, research, report writing, artefact analysis, and fieldwork, including surveys and excavations across the Sydney, Newcastle, Albury and Illawarra regions.	• Test excavations
Rhiannon Whitton Bachelor of Archaeology Bachelor of Philosophy	Rhiannon joined Biosis in 2024 as a Graduate Heritage Consultant based in the Western Sydney office. She holds degrees in archaeology and philosophy and gained early experience through a research internship and work digitising artefacts at Macquarie University. Since joining Biosis, Rhiannon has contributed to a range of Aboriginal and historical heritage projects across New South Wales, undertaking community consultation, research, report writing, artefact analysis, field surveys, monitoring, and excavations. She is also beginning to manage projects and is eager to continue developing her skills at Biosis.	• Test excavations • Technical reporting
Megan Porter Bachelor of Arts (Honours)	Megan joined Biosis in 2025 after completing a Bachelor of Archaeology (Honours) in 2024. Combining her background in Australasian archaeology with previous trade experience as a theatrical costume maker, she completed an artefact analysis of mid-nineteenth-century leather, textile, and rubber footwear. During her studies at the University of Sydney, Megan gained experience in historical and Indigenous archaeology across Australia and internationally. Since joining Biosis, she has contributed to projects across the Sydney, Albury and Illawarra regions, undertaking research, field surveys, test excavations, and consultation documentation.	• Aboriginal community consultation • Background research • Field investigation
Henri Liswoyo Bachelor of Science (in progress)	Henri joined the Biosis NSW GIS team in July 2023 and has since worked on a range of ecology and heritage projects for clients across the energy, mining, and residential development sectors. He produces high-quality maps, conducts spatial analyses, and develops data collection tools for field teams, integrating client data such as Computer-Aided Designs into his work. Before joining Biosis, Henri was a Geospatial Intern at New Zealand's Ministry for Primary Industries, where he developed GIS web applications that continue to support biosecurity response planning.	• GIS mapping

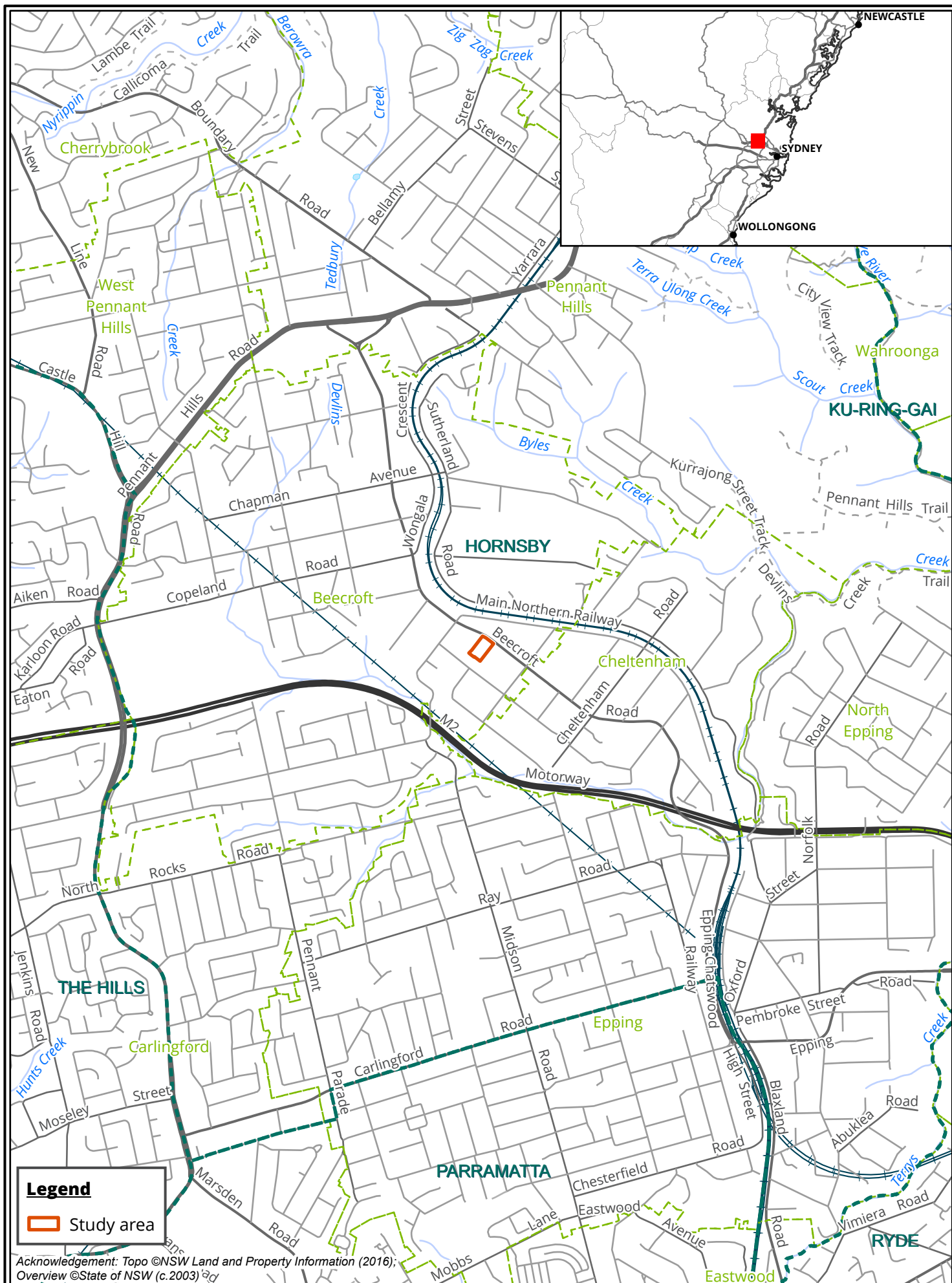


Figure 1 Location of the study area

Matter: 43030, Date: 19 November 2025,
Prepared for: SDJ, Prepared by: JB, Last edited by: owilliams
Location: P:\43000s\43030\Mapping
43030_BeecroftRd_HHA
Layout: 43030_F1_Locality

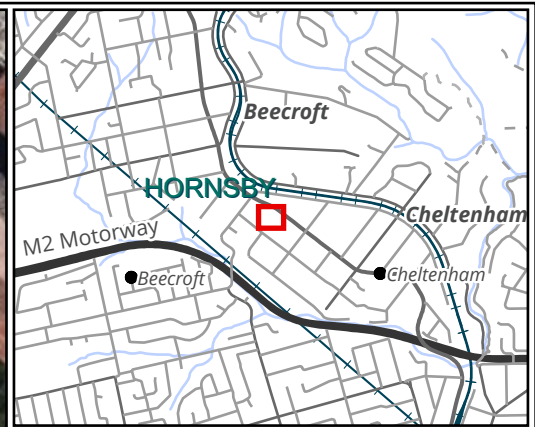
2 Proposed development

The proposed development involves the construction of a residential aged care facility at 132 and 134 Beecroft Road, Beecroft (Lot C DP317843 and Lot F DP15298), NSW (Figure 3). The development will include construction of:

- A residential care facility, with independent living units and recreational areas.
- Driveways and landscaped areas.

The proposed works will also include the:

- Demolition of existing structures.
- Installation of utility services including but not limited to water, electricity, and sewerage.
- Earthworks, with potential benching and battering.
- Heavy vehicle movement Beecroft Road.



Legend

Study area

Figure 3 Proposed works

0 10 20
Metres
Scale: 1:500@ A3
Coordinate System:
GDA2020 MGA Zone 56

biosis
APEM Group

Matter: 43030, Date: 19 November 2025,
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43030_BeecroftRd_HHA,
Layout: 43030_F3_PropWorks

3 Desktop assessment

The desktop assessment involves researching and reviewing existing archaeological studies and reports relevant to the study area and North Sydney 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 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

Geology, landforms, hydrology and soils provide useful information for determining the potential for Aboriginal sites and objects to be present in an area. Geology can aid in determining if there were useful raw material resources that could be exploited; soils can be used to determine the likelihood of preservation of archaeological materials; and hydrology is often an indicator of the potential for sites to be present depending on the perennality and size of the water sources.

The study area lies within the broader Sydney Basin. It is located within the Ashfield Shale formation which makes up part of the Wianamatta Group geological sequence (Figure 4). The Ashfield Shale formation contains dark grey to black claystone-siltstone and fine sandstone-siltstone laminate. Artefact sites are common across these formations, as are Potential Archaeological Deposits (PADs). Owing to the relative lack of sandstone outcropping and overhangs in these formations, other varieties of sites such as rock shelters and engraving sites are less common. Topographically, the study area is situated within a crest, sloping along the north-eastern edge (Figure 5). Aboriginal sites are commonly found on elevated landforms, such as ridgelines and crests, as they are prime locations for occupation, resource use, and ceremonial activity.

Stream order is recognised as a factor which helps the development of predictive modelling in Aboriginal archaeology in NSW. Predictive models which have been developed for the region have a tendency to favour permanent water courses 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, and are more likely to be found upon well drained topographies associated with permanent watercourses (creek banks, flats, terraces) (Dyall 1979, Dean-Jones 1990, Biosis 2017).

The stream order system used for this assessment was originally developed by Strahler (1952). It functions by adding two streams of equal order at their confluence to form a higher order stream, as shown in Photo 1. As stream order increases, so does the likelihood that the stream would be a perennial source of water. Hydrological features identified within the study area would have most likely been associated with temporary land use due to their non-perennial nature, and Aboriginal sites within the study area are more likely to be identified within well-drained topographies such as foot slopes and gentle slopes within proximity to these water sources.

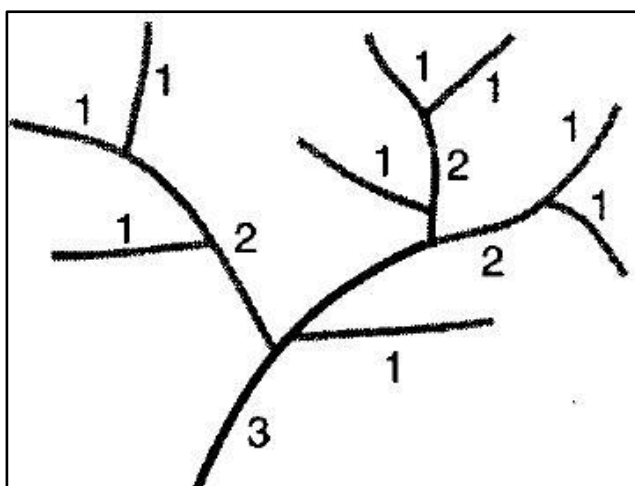


Photo 1 Diagram showing Strahler stream order (Ritter et al. 1995, p. 151)

There are no watercourses within the study area. The closest source water source is Devlins Creek, a second/third order, non-perennial watercourse which stretches from south-west to the east (Figure 5). At its closest point, Devlins Creek is approximately 353 metres south-west from the study area where it is classified as a second order water course. It then increases to a third order water course approximately 1.5 kilometres from the study area. The largest body of water in proximity to the study area is Lane Cove River, a fifth-order perennial source, located approximately 8.5 kilometres to the south-east. The absence of nearby perennial water sources suggests that potential Aboriginal sites within the study area are less likely to be associated with permanent occupation and may instead reflect periodic or short-term use.

3.1.2 Soil landscapes

The study area is dominated by the erosional Glenorie soil landscape (Figure 6). This landscape is composed of undulating to rolling rises and low hills with local reliefs of 50–80 metres, with 5–20% slopes. Glenorie soils are shallow to moderately deep (under 100 centimetres) on crests, moderately deep (70–150 centimetres) on upper slopes and deep (up to 200 centimetres) along drainage lines. Considering the soil depths and levels of disturbance in the study area, it is probable that archaeological evidence found in the area may be *in situ* in deeper deposits (Chapman et al. 2009, p. 70). Specific details on the soil characteristics of the Glenorie soil landscape can be found in Table 2.

Glenorie soils are classed as erosional. Landscapes of this nature comprise soils that are generally subject to movement of shallow soils, which can result in poor preservation of the archaeological record. Additionally, when the land is cleared of vegetation, the soils can be subjected to more extensive levels of erosion. As this soil type is characterised as highly erosional, the soils can be shallow, highly permeable, and have low levels of soil fertility. This could suggest that Aboriginal sites and objects have lower potential to be present where erosion has occurred (Chapman et al. 1989, pp. 64–67, McInnes 1997, p.45, cited by Umwelt (Australia) Pty Limited 2016, p. 13). This would result in the poor preservation of archaeological material at shallow depths but may also potentially lead to the exposure of any deeper archaeological deposits where topsoil has eroded away.

Table 2 Glenorie soil landscape characteristics (Chapman et al. 2009, pp. 70–74)

Soil material	Description
gn1—Friable dark brown loam	This is generally a dark brown, friable loam, silt loam or silty clay loam with moderately to strongly pedal structure and porous rough-faced ped fabric. This material occurs as topsoil (A1 horizon). Peds are commonly sub-angular blocky to polyhedral, 2–10 mm in size and are

Soil material	Description
	rough faced and porous. In uncompacted soils these peds break down readily to very small crumbs. Surface condition is distinctly friable but may become hardsetting when compacted and dry. Colour is generally dark brown (10YR 3/3, 7.5YR 3/3) and may range from brownish-black (7.5YR 2/2) to brown (10YR 4/4). This material is occasionally water repellent. The pH ranges from moderately acid (pH 5.0) to slightly acid (pH 6.0). Shale fragments occur and charcoal is occasionally present whilst roots are common. On crests, upper slopes and midslopes, gn1 can be up to 15cm deep.
gn2—Hardsetting brown clay loam	This is commonly a clay loam to fine sandy clay loam with an apedal massive or weakly pedal structure and an earthy or porous, rough-faced ped fabric. This material occurs as an A2 horizon and is occasionally hardsetting when exposed at the surface. Peds, when present, are sub-angular blocky, 10–50 mm in size, and are rough faced and porous. Otherwise this material has apedal massive structure with an earthy porous fabric. Colour is commonly brown (7.5YR 4/4) but may range between dull yellowish-brown (10YR 5/4) and reddish-brown (5YR 4/6). The pH ranges between strongly acid (pH 4.0) and moderately acid (pH 6.0). Shale rock fragments, charcoal fragments and roots are present. On crests, upper slopes and midslopes, gn2 can be between 10-30 centimetres deep.
gn3—Whole-coloured, reddish-brown, strongly pedal clay	This is medium clay with strongly pedal structure and smooth-faced, dense, ped fabric. It generally occurs as subsoil (B horizon). Texture is generally medium clay but may range from silty clay to heavy clay. The peds are usually sub-angular blocky or polyhedral. They range in size from 5–20 mm and are smooth-faced and porous. Cutans are also present. Colour is generally reddish-brown (5YR 4/6-8) and can range from bright reddish-brown (2.5YR 4/8) to dull yellowish-brown (10YR 5/4). The pH ranges from strongly acid (pH 4.0) to moderately acid (pH 5.5). Shale rock fragments are common. Roots are rare and charcoal fragments are absent. On crests, upper slopes and midslopes, gn3 can be between 30–100 cm deep.
gn4—Mottled grey plastic clay	This is a grey, mottled, medium to heavy clay with strongly pedal structure and dense, smooth ped fabric. It commonly occurs as deep subsoil. The peds are usually sub-angular blocky, 10–20 mm in size, and are smooth-faced and dense. These can be broken down easily to smaller (2–5 mm) polyhedral peds. Colour is usually pale grey (5YR 7/1), but ranges from light reddish-grey (2.5YR 7/1) to brownish-grey (7.5YR 6/1). Yellow and red mottles are common. It is usually moist and is very plastic. The pH ranges from strongly acid (pH 4.0) to moderately acid (pH 5.0). Shale rock fragments and gravels are common. Roots are rare and charcoal is absent.
gn5—Brownish-grey plastic silty clay	This is commonly brownish-grey, plastic silty clay which is often saturated and exhibits apedal massive structure. It usually occurs as subsoil (B horizon). Colour is dark brown (10YR 3/3) often becoming brownish-grey (10YR 4/1) with dark brown mottles at depth. This material is moderately sticky and very plastic when moist. The pH ranges from moderately acid (pH 5.0) to slightly acid (pH 6.5). Rock and charcoal fragments are absent and roots are rare.

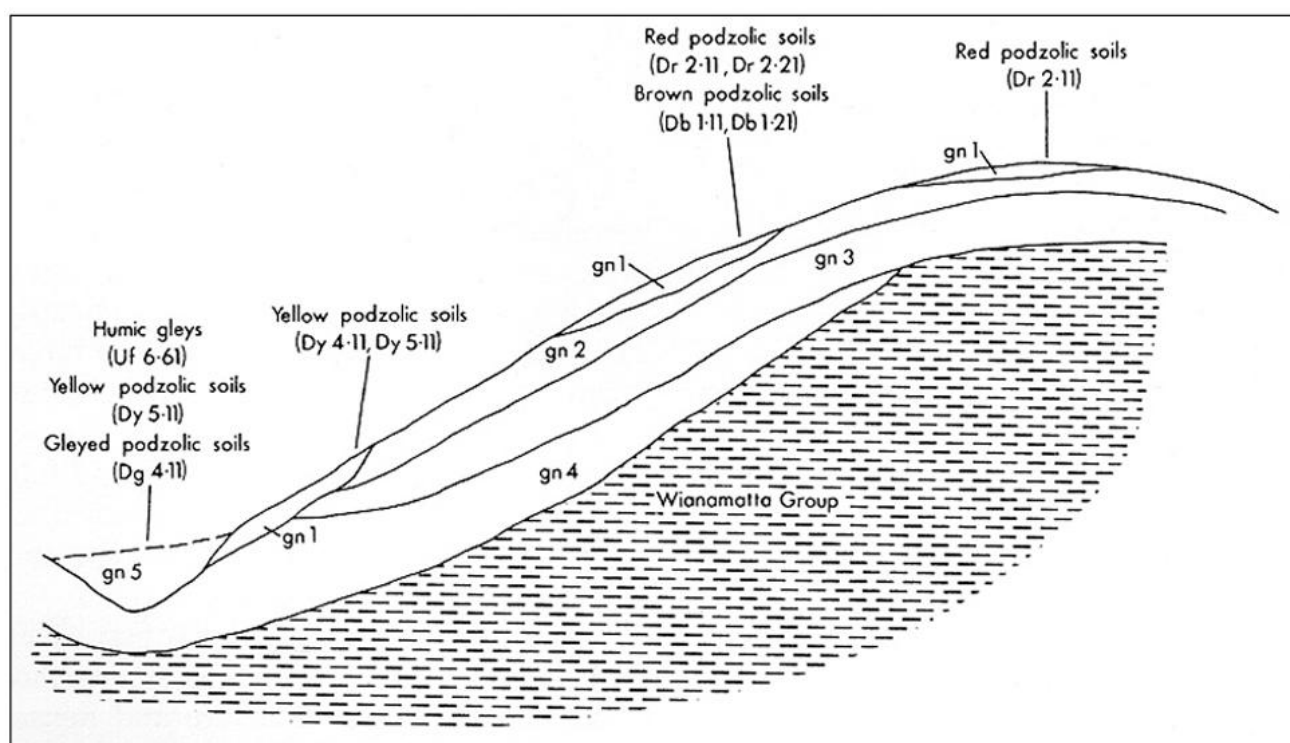


Photo 2 Schematic cross-section of Glenorie soil landscape illustrating the occurrence and relationship of the dominant soil materials (Chapman et al. 2009, pp. 70–74).

3.1.3 Landscape resources

While the diverse natural environment would have provided vast and plentiful floral and faunal resources and the temperate climate would have made the area suitable for year-round occupation, the distance of the study area from permanent water sources would have detracted from its appeal as a long-term occupation site. Although extensively cleared today, the Glenorie Soil Landscape typically supports predominant species of eucalypt, including Sydney Blue Gum *Eucalyptus saligna*, Blackbutt *E. Pilularis*, Grey Gum *E. paniculata* and White Stringybark *E. globoidea*. Turpentine *Syncarpia glomulifera*, Rough-barked apple *Angophora floribunda*, Sweet Pittosporum *Pittosporum undulatum* and Coffee Bush *Breynia oblongifolia* were also present (DECCW 2008).

Within the Cumberland subregion of the Sydney Basin Bioregion there is a variety of vegetation types present, with Forest Red Gum *E. tereticornis*, Narrow-leaved Ironbark *E. Creba* woodland and Spotted Gum *Corymbia maculata* present on shale hills. Hard-leaved Scribbly Gum *E. sclerophylla* and Old Man Banksia *Banksia serrata* are identified on alluvial sands and gravels. Broad-leaved Apple *A. subvelutina*, Cabbage Gum *E. amplifolia*, Forest Red Gum and Swamp Oak *Casuarina galuca* are present on river flats. Tall Spike Rush *Eleocharis spachelata*, and Juncus with Parramatta Red Gum *E. parramattaensis* is noted around lagoons and swamps (NSW National Parks and Wildlife Service 2003, p. 193).

Native fauna that would have been present in the vicinity of the study area includes Australian Wood Duck *Chenonetta jubata*, White-faced Heron *Egretta novaehollandiae*, Welcome Swallow *Hirundo neoxena*, Purple Swamphen *Porphyrio porphyrio*, Eastern Long-necked Tortoise *Chelodina longicollis*, Eastern Water Skink *Eulamprus quoyii*, Garden Skink *Lampropholis delicata*, as well as arboreal fauna including owls *Strigiformes*, Ring- and Brush-tailed Possums *Pseudocheirus peregrinus* and *Trichosurus vulpecula*, and gliders *Petauridae*.

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 from eucalypts was used in the provision of shelter, such as a large sheet of bark being propped against a stick to form a gunyah (Attenbrow 2002). Swamp Oak bark could be used for the making of canoes, and smooth-barked apple for the making of baskets and bowls.

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, are often an abundant part of 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 (Attenbrow 2002).

3.1.4 Land use history

Historical aerial imagery allows for modern developments and land use to be identified within the study area. The earliest available imagery of the study area is dated to 1943 (Photo 3) and shows extensive vegetation clearance and residential development across the study area. Historical research determined that the landscaping and gardening visible at 132 Beecroft Road would not have been the earliest impacts to the soil profile, with the lot earlier being part of the former Ramona estate directly to the north-west which had previously included stables and coach house, gardener's cottage, paddocks for horses, a kitchen garden, and flower beds (Hornsby Shire Council 2024).

Aerial imagery from 1965 (Photo 4) shows that the gardens at 132 Beecroft Road still exist but that large parts of them have been reduced to grass, while few changes are visible at 134 Beecroft Road. By 1978 (Photo 5) all of the gardens and sheds at 132 Beecroft Road have been demolished and replaced with grass and the extensive paving for vehicle access and parking currently at 134 Beecroft Road has been started. Aside from small changes, such as the construction and demolition of sheds, 132 Beecroft Road appears to be relatively unchanged between 1978 and 1986 (Photo 6). Comparatively, at 134 Beecroft Road, intensive developments visible in 1986 imagery (Photo 6) have impacted the lot far more extensively, including extensions to the front and rear of the existing dwelling and further landscaping. From 1986 up until the current day (Figure 2) some changes have taken place, however these were not as extensive as previous years. Further landscaping, some vegetation clearance, concreting and carpark construction has taken place, as well as renovations to the current building in 134 Beecroft Road.



Photo 3 Aerial imagery of the study area from 1943 showing the study area outlined in orange (Source: NSW Spatial Viewer 2025).



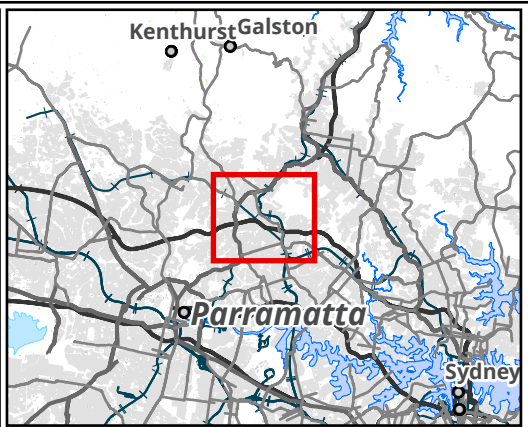
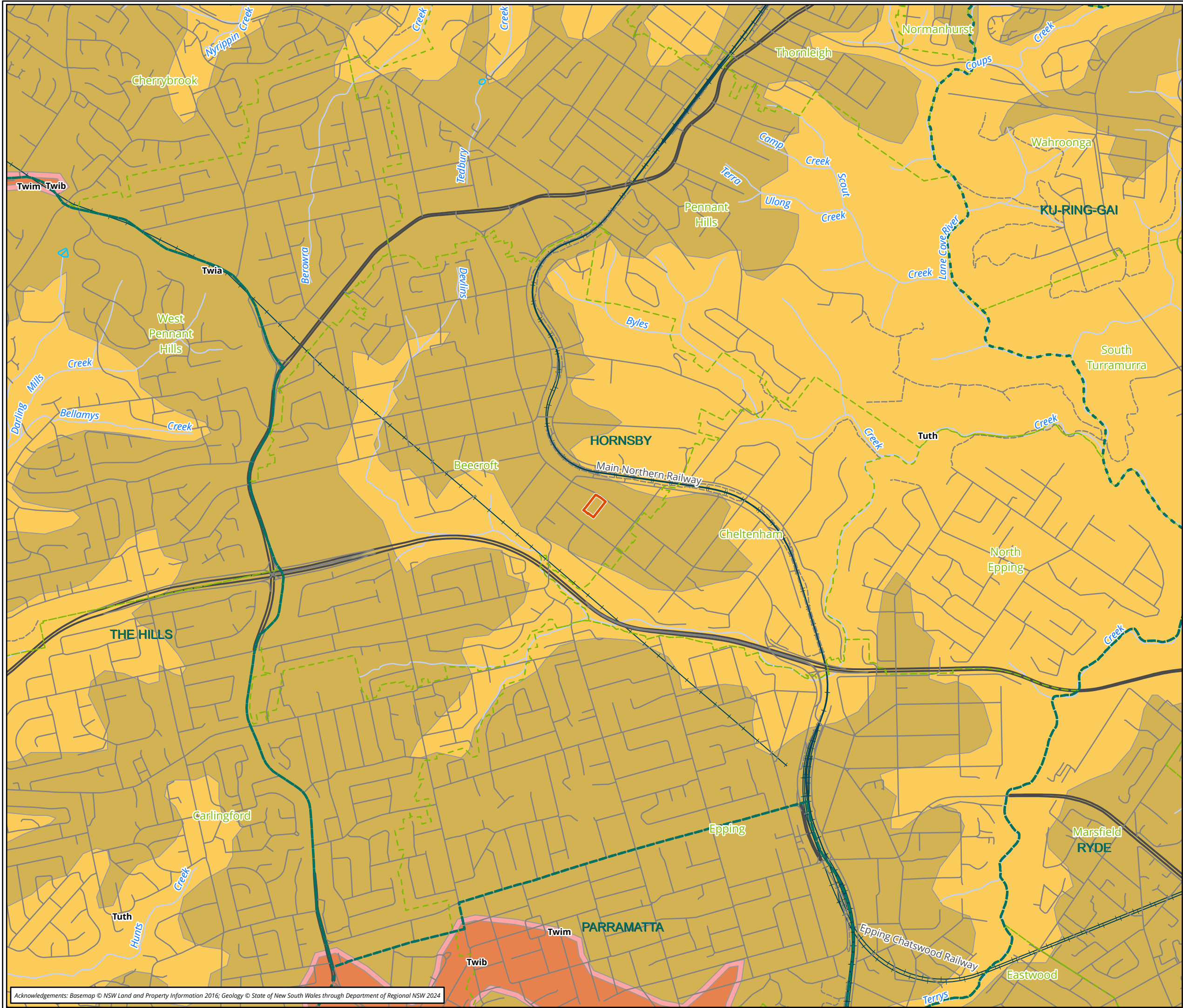
Photo 4 Aerial imagery from 1965 showing the study area outlined in orange (Source: NSW Spatial Viewer 2025).



Photo 5 Aerial imagery from 1978 showing the study area outlined in orange (Source: NSW Spatial Viewer 2025).



Photo 6 Aerial imagery from 1986 showing the study area outlined in orange (Source: NSW Spatial Viewer 2025).



Legend

Study area

Geological units

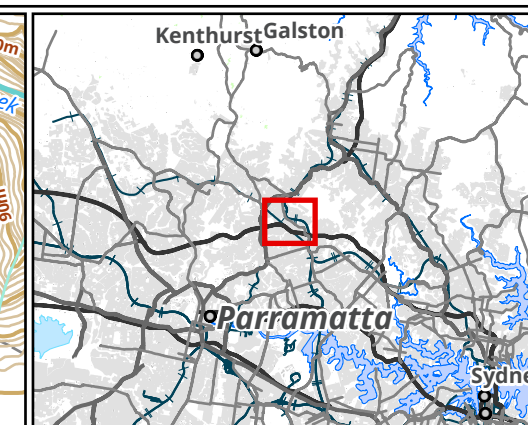
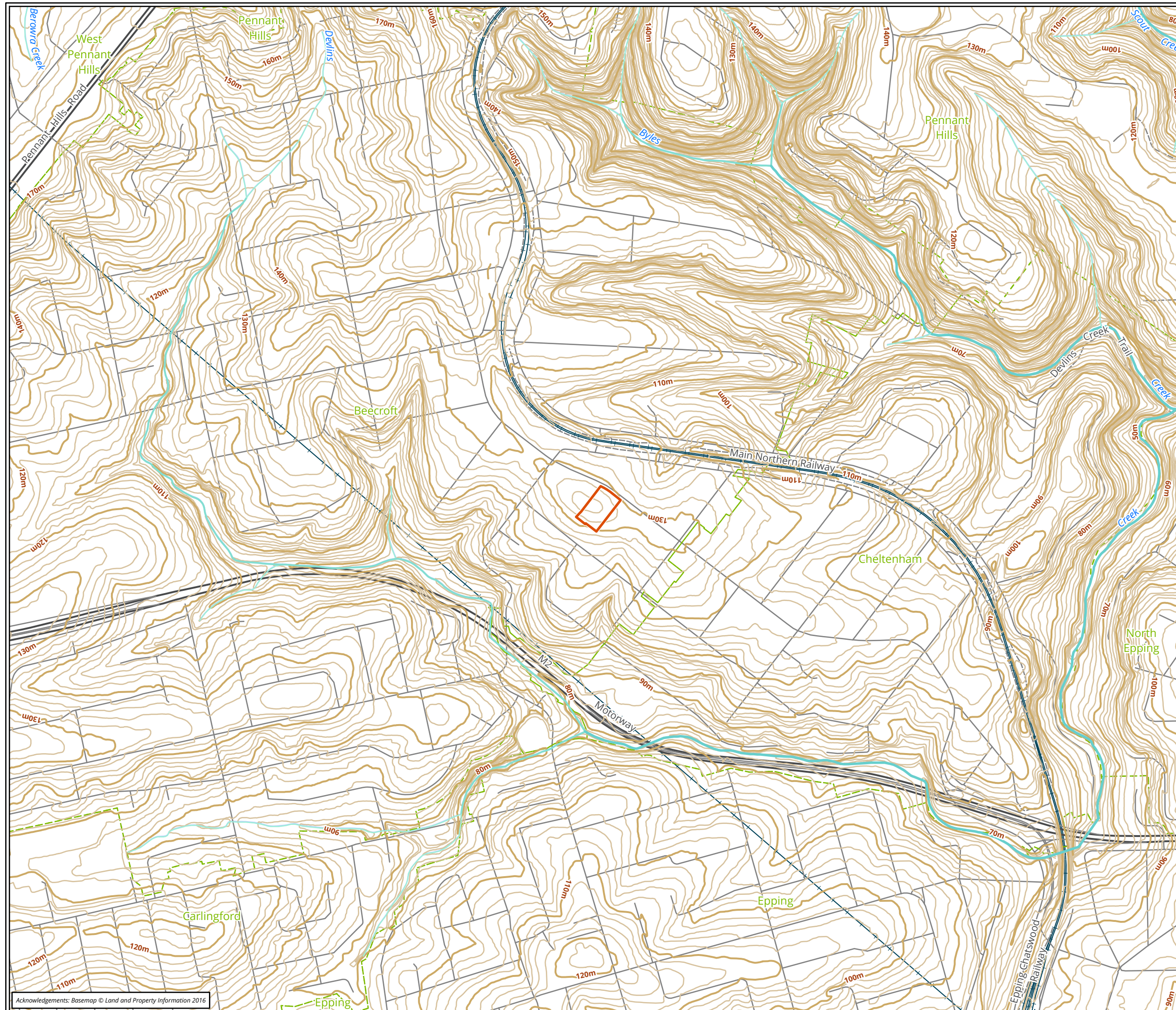
- Tuth - Hawkesbury Sandstone
- Twia - Ashfield Shale
- Twib - Bringelly Shale
- Twim - Minchinbury Sandstone

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



Matter: 43030, Date: 19 November 2025,
Prepared for: LKS, Prepared by: JB, Last edited by: owilliams
Location: P:\43000s\43030\Mapping\
43030_BecroftRd_HHA,
Layout: 43030_AR_F4_Geology



Legend

- Study area
- Contour (2m)

Strahler Order

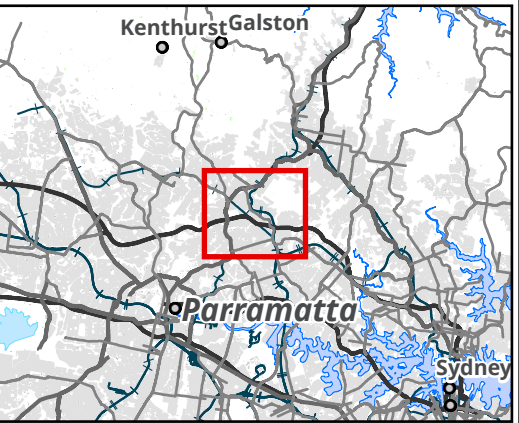
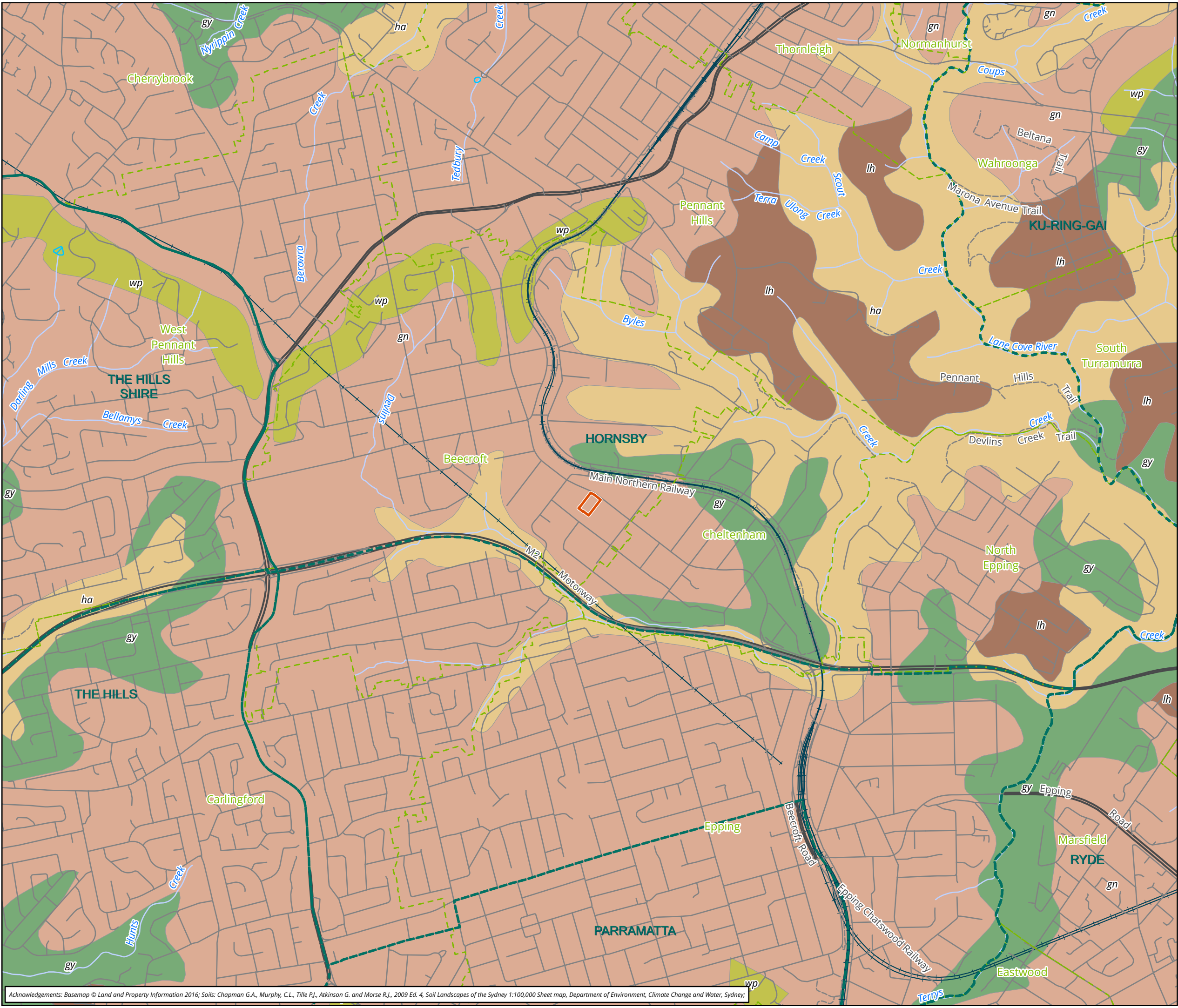
- 1
- 2
- 3
- 4

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



Matter: 43030, Date: 19 November 2025,
Prepared for: LKS, Prepared by: JB, Last edited by: owilliams
Location: P:\43000s\43030\Mapping\
43030_BeecroftRd_HHA,
Layout: 43030_AR_F5_Hydrology



- Legend**
- Study area
- Soil landscape units**
- gn - GLENORIE
 - gy - GYMEA
 - ha - HAWKESBURY
 - lh - LUCAS HEIGHTS
 - wp - WEST PENNANT HILLS

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



Matter: 43030, Date: 19 November 2025,
Prepared for: LKS, Prepared by: JB, Last edited by: owilliams
Location: P:\43000s\43030\Mapping\43030_BeecroftRd_HHA,
Layout: 43030_AR_F6_Soils

Acknowledgements: Basemap © Land and Property Information 2016; Soils: Chapman G.A., Murphy, C.L., Tille P.J., Atkinson G. and Morse R.J., 2009 Ed. 4, Soil Landscapes of the Sydney 1:100,000 Sheet map, Department of Environment, Climate Change and Water, 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 40 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

Several Aboriginal cultural heritage investigations have been conducted for the Sydney basin region. Models for predicting the location and type of Aboriginal sites with a general applicability to the Cumberland lowlands 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.

The archaeology of the Sydney Basin region has been well documented through a large number of academic and commercial investigations over the past 30 years (e.g. Kohen, J. 1986, Haglund, L. 1980, Smith 1989, McDonald & Rich 1993). This is particularly evident in the Cumberland Plain region of the Sydney Basin, largely because of archaeological studies related to rapid urban development across the area. The study area is on the border of the Cumberland Plain region. These studies have enabled a comprehensive model of archaeological site distribution to be developed for the Sydney Basin which can be generally applied to the current study area.

In a detailed analysis of site types and distributions over the Cumberland Plain, McDonald (1997) identified open artefact scatters/open camp sites as the dominant site type (89% of all sites), followed by isolated finds (3.5%) and scarred trees (2.1%). It was determined that excavated sites on the Cumberland Plain could not be characterised on the basis of surface evidence alone. Further, open sites were noted in all landscape units. The high proportion of sites located on creek banks reflects factors such as surface visibility rather than indicating cultural artefact distribution (McDonald 1997, p. 36).

Based on previous archaeological studies across the Cumberland Plain and on the archaeological survey and excavation results across an Australian Defence Industries site, McDonald (1997) developed a predictive Aboriginal site location model. McDonald (1997) noted that the size (density and complexity) of archaeological sites on the Cumberland Plain will vary according to permanence of water (stream order), landscape unit and proximity to stone resources in the following way:

- At the headwaters of upper tributaries (first-order creeks) archaeological evidence will be sparse and will comprise little more than background scatters of stone artefacts.
- At the middle reaches of minor tributaries (second-order creeks) archaeological evidence will be sparse but indicate focused activity (e.g. one-off camp locations).
- At the lower reaches of tributary creeks (third-order creeks) archaeological evidence will indicate more frequent occupation and evidence of repeated, more concentrated activities.
- On major creek lines and rivers (fourth-order creeks) archaeological evidence will indicate more permanent occupation, which is of greater complexity.
- Creek junctions and swamps may provide foci for site activity.
- Ridge top locations between drainage lines will usually contain limited archaeological evidence although isolated knapping floors or other forms of one-off occupation may be in evidence.
- Sites in proximity to an identified stone source will include stone artefacts with a range of size and cortex characteristics. Artefact size and percentage of cortex will decrease with distance from source.

Australian Museum Business Service (2000) undertook salvage excavations at Mungerie Park located approximately 20 kilometres north-west of the study area. These excavations followed a previous survey that located numerous sites, including rock shelters, grinding grooves and rock art sites. Two new sites were also identified during the survey which consisted of a group of grinding grooves and an artefact scatter. Excavations undertaken in 2000 totalled 211 square metres in a mixture of transects, patterned test pit areas, and open excavations. From this sample, a total of 5504 artefacts were recovered, giving an average artefact density of 26.1 artefacts per metre squared.

The results of this excavation led to the characterisation of three zones of complexity. These are areas where activities took place which are located in relation to environmental focal points, in this case, grinding groove sites and Caddies Creek (Australian Museum Business Service 2000):

- A "complex zone", where overlapping knapping floors and high density concentrations are present due to the repeated occupation and use of the area with closest access to resources and facilities.
- A "dispersed zone", where knapping floors and/or activity areas are spatially discrete due to less frequent occupation of those areas, or the positioning of activities requiring a measure of separation from a main camp.
- A "sparse zone" comprising a consistently low density distribution of artefacts likely to have resulted from discard in the context of use (or loss) rather than manufacture.

JMCHM (2002) conducted an archaeological survey of the former CSIRO animal research laboratory in Prospect, approximately 18 kilometres southwest of the study area. This land had been mostly cleared and disturbed by previous pastoral use, quarrying, cultivation, building and use as a World War II US Army Camp. Predictive modelling was used to target areas including creek flats landforms and areas of close proximity to the second order tributary stream within the study area, indicating a sparse presence of archaeological evidence. No new sites were identified, but three new areas of PAD (PAD 2, PAD 3, PAD 4) were recorded, along with a potential scarred tree, previously recorded as AHIMS 45-5-1083/CSIRO 1.

Dominic Steele Consulting Archaeology (2003) undertook test excavations at Wallgrove Road, Eastern Creek, approximately 25 kilometres south-west of the study area. The predictive modelling employed by Steele is of relevance to the Cumberland Plain generally, drawing on assessments made by JMCHM and Australian Museum Business Service in the Rouse Hill Area. Steele noted the McDonald (1997) study, which had stated that surface artefacts were not an effective way to characterise archaeological sites, and concluded that:

- Seventeen out of the 61 excavated sites on the Cumberland Plain had no artefacts present on the surface prior to excavation. However, most areas with sparse or no surface manifestations contained considerable archaeological deposits.
- The ratio of recorded surface to excavated artefacts is 1:25 across the Cumberland Plain.
- None of the excavated sites could be properly characterised on the basis of their surface artefacts alone.
- Open campsites are located in all landscapes on the Cumberland Plain. The predominance of sites recorded along creek banks is likely to be indicative of surface visibility conditions and taphonomic factors, rather than the human distribution of artefacts across the landscape (Dominic Steele Consulting Archaeology 2003, pp. 19–20).

This statement highlights a number of issues with predictive models that base their assessment of subsurface potential entirely on the presence or absence of surface artefacts.

A total of 20, one by one metre squares were excavated using a backhoe and sieved through nested five and 2.5 millimetre sieves. The deposits encountered tended to be relatively shallow, with most test pits not

exceeding 20 centimetres. The deposit consisted primarily of silcrete, with quartz, tuff, and volcanic rock present in much lesser quantity. The vast majority of the deposit was identified as manuport, with some flake and core fragments present, and one potential broken axe. A total of 38 artefacts were identified by surface survey and excavation, with a density characterised by Steele as extremely low. The area was interpreted as being visited sporadically, and not the site of any sort of knapping or camping, but rather a general background scatter.

JMCHM (2006b) conducted a salvage excavation of the Colebee Release Area in Schofields, approximately 26 kilometres north-west of the current study area. The excavations recovered over 80,000 artefacts and concluded that Aboriginal people utilised this area for its close proximity to resources, including silcrete and stable water courses. These artefacts were suggested to have been sourced from the Plumpton Ridge silcrete quarry, which is located approximately 19 kilometres north-west of the current study area.

JMCHM (2006b) undertook an archaeological assessment for the Phase 1 Bungarribee Precinct Western Sydney Parklands Development, located approximately 24 kilometres south-west of the study area. Over 52 AHIMS sites were identified within the Western Sydney Parklands area with a majority of them consisting of artefact scatters or isolated artefacts sites. The field survey identified an additional 18 sites and five defined areas of PAD. WSP PAD04 was identified adjacent to Eastern Creek and was associated with AHIMS 45-5-3261/WSP 14. It was concluded that artefacts associated with AHIMS 45-5-3261/WSP 14 had been exposed due to disturbances within this portion of the study area, and intact archaeological deposits were likely to have been preserved. Ploughing and tree removal activities were noted within the PAD area. Further investigation was recommended. AHIMS 45-5-3020/EC_AMBS_04 was also relocated during the field survey. The site was noted to have undergone significant disturbance from the construction of a gas easement and sewer carrier. The site was assessed to have low significance.

White and McDonald (2010) undertook a review of previous work in the Rouse Hill development area (approximately 21 kilometres north-west from the current study area), discussing lithic artefact distribution in previous investigations carried out by JMCHM. The study considered a number of factors including stream order, distance from water, landform, aspect, and distance to silcrete sources. As a result of the assessment, the following statements were made:

- Water supply was a significant factor influencing Aboriginal land use and habitation in the area. There was a correlation between increasing stream order and larger numbers and higher densities of artefacts (from a comparison of first, second, and fourth order streams).
- The proximity of water sources in correlation to site location determined that within first order stream landscapes, there was no significant correlation between artefact distribution and distance to water. In second order landscapes, artefact density was highest within 50 metres of water sources and declined with increasing distance. In forth-order landscapes, density was highest between 51–100 metres from water.
- Artefact density was considered to be lowest on upper slopes and ridgetops, with density increasing on mid and lower slopes. Density was highest in terrace landforms, and lower on creek flats, likely due to repeated flooding events and the subsequent erosion.
- The results of the study showed no significant difference between sites located closer to or further away from silcrete resources. However, 6 kilometres was the maximum distance tested from silcrete outcrops, so the sample is considered representative of a limited study.
- The aspect of sites only appeared to have an influence on sites in the lower parts of the valleys and these may have been located to take advantage of steady factors such the rising/setting sun and wind direction.

The study concluded that the nature of landforms and distance from water had an influence on site distribution, with artefacts becoming more numerous closer to creeks, and along higher order creek lines. The study also determined that although artefacts are found on or within all landforms, landform type influenced artefact distribution, with a preference being for slightly elevated, well-drained topographies in the lower parts of the valleys.

JMCHM (2011) undertook test excavations within the Bungarribee Park Precinct 2, located approximately 24 kilometres south-west of the study area. The testing methodology targeted an identified landscape that was in good condition with no surface archaeological manifestation. The methodology included both system testing and open area excavations, with the open area excavations aimed to salvage any archaeological material. The subsurface testing was focused on the PAD located in Zone 1 with forty one 1 metre by 1 metre test pits excavated in accordance with condition 15 of the AHIP. The open area excavations were centralised on areas where features or activities were present.

As a result of this, six open areas were excavated (labelled A to F), with a total of 82 square metres of excavation. Areas B and E were not continued due to relatively low artefact densities or high level of disturbance. Areas A, C, D and F provided viable statistical samples. The conclusion of the test and salvage excavations reported a total of 5535 artefacts along with 1083 other cultural lithology's that were predominantly heat shatter or indeterminate fragments. JMCHM (2011) concluded that the moderate to high archaeological significance of the site has not altered since the initial investigations as the excavations at the site has confirmed both the cultural and scientific significance of the site.

Artefact (2015) completed an archaeological salvage report for Stages 1, 2, and 3 of Bungarribee Park, approximately 24 kilometres south-west of the study area. The salvage works were a condition of AHIP C0000697. Two areas were salvaged: Bungarribee North and Bungarribee South. Bungarribee North was associated with floodplains, valley flats and drainage depressions. All of the units excavated within this area were located on undulating floodplain in close proximity to Eastern Creek. A total of 287 artefacts were recovered from Bungarribee North. Bungarribee South was associated with gently undulating rises on Wianamatta Group Shales. All of the units excavated within this area were located on slightly raised terrain associated with a first order watercourse flowing onto the Bungarribee and Eastern Creek floodplains. A total of 346 artefacts were recovered from Bungarribee South. The artefact densities at Bungarribee North are considered to be moderate at 16 artefacts per square metre excavated on average. The artefact densities at Bungarribee South are considered to be low with nine artefacts per square metre excavated on average (Artefact 2015, p. 56,57). Artefact concluded that the Eastern Creek floodplain comprises a moderate density subsurface stone artefact scatter located across a disturbed floodplain.

From the results of the salvage excavations, Artefact developed the following statements:

- Excavation of the undulating floodplain landform revealed a moderate density subsurface stone artefact scatter with the presence of at least one to several knapping events. Although the area has suffered some disturbance it still retains research potential and has been assessed as having moderate scientific significance. Therefore, this type of landform present within the Bungarribee Precinct has the potential to contain other similar sites, outside of the Stage 1, 2 and 3 boundaries and should be subject to further archaeological investigation prior to any proposed impacts.
- Excavation of the raised terrain associated with a first order creek revealed a low density subsurface stone artefact scatter with evidence of opportunistic and generalised stone tool reduction. This type of site is common to the Bungarribee Precinct and wider Cumberland Plains and has also been investigated thoroughly. This type of landform present within the Bungarribee Precinct should not require further intensive archaeological investigation prior to any proposed impacts occurring.

- Raised terrain landforms which overlook higher order creeks (third or fourth order creeks) may have high potential to contain archaeological deposits of significance as demonstrated by the excavations undertaken by JMCHM (2011) for AHIMS 45-5-3883/WSP PAD.

Artefact recommended that portions of the floodplain be conserved as grassland areas to mitigate any impact to potentially significant archaeological deposits. Artefact also recommended that artefacts from Bungarabee North and Bungarabee South should be buried adjacent to the reburial location of AHIMS 45-5-3255/WSP 09 and 45-5-3256/WSP 10 located approximately 50 metres south-east of AHIMS 45-5-3255/WSP 09.

Artefact Heritage (2016) undertook an archaeological heritage assessment including test excavations in the Sydney Zoo section of the Bungarabee Precinct, located approximately 25 kilometres south-west of the study area. The survey targeted areas of high surface visibility and inspected the recorded locations of all AHIMS sites within the study area. The visibility was generally low across the study area with limited exposures which were associated with access tracks. The site survey was unable to relocate sites within the study area registered on the AHIMS database and this was likely a result of limited visibility due to dense vegetation cover.

Two areas of archaeological potential were identified during the survey. These included SZ PAD01 and SZ PAD02 and were observed to have been subjected to minimal disturbances. SZ PAD01 was located on a raised terrace adjacent to Eastern Creek and SZ PAD01 was located on an intact crest landform overlooking Eastern Creek. The portions of the crest landform that exists within the Bungarabee Precinct had not been previously excavated and had undetermined significance. The test excavations identified two new Aboriginal sites, SZ AS01 which consisted of 26 stone artefacts and site SZ AS02 which consisted of three stone artefacts. Both sites were characterised as dispersed, low-density artefact scatters and are considered to have low research potential, having been assessed as possessing low archaeological significance.

Coast History and Heritage (2023) completed an Aboriginal Heritage Study on the Hornsby LGA for the Hornsby Shire Council. The study identified archaeological sensitive within the Hornsby Shire, concluding that:

- Most known sites are associated with outcropping sandstone. Those parts of the Shire that are located on sandstone geology, and where natural sandstone outcrops may be present, should be considered to have archaeological sensitivity.
- Open sites, including culturally modified trees and surface and sub-surface artefact scatters, are particularly vulnerable to impact from historical and current development and land use. These site types are most likely to survive in areas where development has been relatively moderate in scale, such as parks and reserves, and land zoned for environmental conservation and low-density development.
- Proximity to water is often used as an indication of locations where past Aboriginal occupation was focussed, due to the rich natural resources. Based on the available data, most site types associated with water, including foreshore middens and grinding grooves, are found within 50 metres of water.

Biosis (2025a, 2025b) was commissioned to undertake a PIHAI for both Asquith Boys and Asquith Girls High Schools, located approximately 11 and 14 kilometres from the current study area respectively. Predictive statements for both locations indicated that there was low potential for Aboriginal sites to be located within the areas due largely to the high levels of disturbance present. Both locations were located in similar geological formations and soil landscapes to the current study area, with water sources abundant in the area. It was noted that while the schools were in an area with resource potential, based on geology and their proximity to several watercourses, the level of modification within the assessment areas had greatly impacted the integrity of the landforms. The field investigations were hampered by low Ground Surface Visibility (GSV) and high levels of disturbance were noted throughout both areas. At Asquith Boys Girls High School, the

eastern portion of the site was inaccessible due to dense vegetation and fencing, and it was recommended that if impacts were to occur within that portion that further assessment would be required. For the remaining portions of both areas, it was determined that they both contained low archaeological potential.

3.2.2 Local overview

Several Aboriginal cultural heritage investigations have been conducted within the local area (within approximately 15 kilometres of the study area). There is a scarcity of investigations in the regions to the north and north-east of the study area, which includes the Berowra Valley and Ku-ring-gai Chase National Parks. While these regions are considered to likely contain numerous Indigenous sites, it is recognised that many of these sites are yet to be identified and investigated (Koettig 1988, Ku-ring-gai Council 2021). The majority of the investigations conducted within close proximity to the current study area were undertaken to the south-east and south-west of the study area. These investigations were done so as part of DAs and included surface and subsurface investigation and are summarised below.

Conyers 1990 conducted a comprehensive survey of the Lane Cove River State Recreation Area (SRA), now known as Lane Cove National Park and located approximately 1.2 kilometres east of the study area at its closest boundary. Approximately one third of the SRA was surveyed during a twelve day survey. Seven previously unrecorded Aboriginal sites were located, which included two engraving sites, two middens, and three rock shelters with deposit. Five potential habitation sites were also recorded along with three engraving sites which had previously been recorded.

Corkill (1991) undertook a heritage assessment for proposed upgrades at the CSIRO facility in Lindfield, located approximately 8 kilometres south-east of the study area. The survey targeted areas of remnant vegetation adjacent to Lane Cove River on a sandstone slope. Two sites were identified, including a shelter with midden and possible art, previously recorded by Haglund (AHIMS 45-6-1854/L C/2 Lanecove 2 Epping Road Bridge RYDE 012) and a rock shelter with PAD (AHIMS 45-6-2599/CSIRO 2 (CSIRO North Ryde) RYDE 011). Lane Cove River was highlighted for its significance in relation to Aboriginal occupation. Test excavations were subsequently undertaken at AHIMS 45-6-2599/CSIRO 2 (CSIRO North Ryde) RYDE 01 which consisted of ten test pits (Corkill 1997). A total of 14 artefacts were identified which were produced from silcrete, chert and indurated mudstone. It was assessed that surface stripping may have occurred and impacted the preservation of archaeological materials.

HLA-Envirosciences (2003) undertook archaeological subsurface testing at Eden Gardens, Macquarie Park, approximately 6.6 kilometres south-east of the study area. The testing program consisted of nine test pits excavated along two transects, with the purpose of the excavations to establish the nature of soil profiles across the study area. The project also cleared some of the sandstone outcropping in a controlled manner to identify potential engravings. Test excavations encountered disturbance across all test pits. In one pit, a quartz artefact was identified along with one potential artefact. There was European material present at a greater depth in this pit however, suggesting that the artefact was in a disturbed context. No other artefacts were identified, and no engravings were identified on the sandstone outcrop. It was recommended that a Consent to Destroy for the area be sought, with no requirement for further investigation.

JMCHM (2005) conducted an excavation prior to the construction of a high rise residential apartment block and underground car park, at 109–113 George Street, Parramatta, located approximately 8.5 kilometres south-west of the current study area. This site was situated on the Parramatta Sand Body with phases of prehistoric occupation (Pleistocene) and more recent occupation (Holocene) being identified. Low to moderate densities of stone artefacts were recovered in all areas excavated. The stone artefact assemblage was unique in that it showed changes in raw material preference and stone reduction strategies over time. The assemblage consisted of 4775 artefacts, with silcrete being the dominant raw material. Seventy-five percent of artefacts were recovered within the first 40 centimetres of the deposit, 16% within 40–60

centimetres and 8% between 60–80 centimetres. Other raw materials in the assemblage, in order of frequency, include silicified tuff, quartz and volcanic and other igneous materials. This site (RTA-G1) was assessed to be of high archaeological significance. At the time at which the report was written it was the oldest site of Aboriginal occupation in Sydney and on the south eastern coastline of Australia, with a date of 30,000 years Before Present. This date represented the maximum basal date for occupation, and was taken from a sterile layer beneath the lowest artefact bearing profile (JMCHM 2005, p. 135)

Aboriginal Heritage Office 2011 completed a broad planning study for Aboriginal heritage in the Ryde LGA, which is located approximately 2.7 kilometres south-east of the study area. The purpose of the study was to identify, access, and re-record all Aboriginal sites located in the City of Ryde, to provide a planning document for conserving cultural values, and to provide a schedule for conservation works. It was concluded that 56 sites were recorded in the City of Ryde, most of which were rock shelters and middens. The LGA was divided into three Sections: Area 1–Lane Cove River, Area 2–Central Plateau, and Area 3–Parramatta River. Area 1 was dominated by rock shelters, engravings, and grinding grooves. Area 2 contained a single artefact scatter. The current study area is located within Area 1 of this assessment. The report recommended a program for staff education take place to enable workers to identify and avoid Aboriginal sites, and regular monitoring of sites in the LGA was to be undertaken to ensure that Aboriginal sites were appropriately managed.

Mary Dallas Consulting Archaeologists (2012) undertook test excavations at 44 Oakes Road, Winston Hills, located approximately 9 kilometres south-west of the study area. This excavation focused on areas of PAD AHIMS 45-5-4106) and used mechanical excavation to open five trenches across the site extent. A total of 31 artefacts were identified including nine flaked artefacts, two multiplatform cores and a nosed end scraper. Silcrete and tuff were the most common material.

AHMS (2016) conducted a series of test excavations on the site of the Old Kings School, Parramatta (approximately 8.6 kilometres south-west of the study area), in response to proposed redevelopment and upgrade of facilities on the site. Initial investigations by AHMS confirmed the presence of the Parramatta Sand Body on the Old Kings School site. A total of 23 test pits were dug across the southern portion of the site at 5–20 metre spacing where potential direct and indirect impacts of the proposed redevelopment were to occur. Pits were dug to a maximum depth of 160 centimetres. The excavations revealed presence of a thin unit of sand across the entire site, situated approximately 40 to 70 centimetres below the surface and beneath a modern fill unit. This layer of sand was one metre thick in some places, and found to be characteristic of the Parramatta Sand Body (Archaeological & Heritage Management Solutions 2016, p. iii).

During excavations 61 Aboriginal objects were retrieved, of which 57 were recovered from a single test pit located on the western edge of the subject area. The artefact assemblage was dominated by indurated mudstone/tuff/chert (IMTC) raw material (77.1%), whilst smaller quantities of silcrete and milky quartz were also present. The majority of artefacts had no cortex present (70.5%), and had been heavily reduced (Archaeological & Heritage Management Solutions 2016, p. 42). AHMS concluded that the southern portion of the site had a soil profile similar to the Parramatta Sand Body and had been subjected to limited disturbance. It was considered that the nearby playing fields area had high potential for significant cultural material, and should cultural material be present, it would be of high significance (Archaeological & Heritage Management Solutions 2016, p. 48).

Biosis (2025c) undertook an ACHA for the proposed development at 1–3 Reid St and 2–4 Woodside Avenue, Lindfield, approximately 9.3 kilometres south-east of the current study area. This project area was contained within the Ashfield Shale geological formation and the Glenorie soil landscape. The closest water source in the area was Gordon Creek; a non-perennial first order water course located approximately 645 metres south-east from the project area. The AHIMS search undertaken during the desktop assessment revealed that artefact sites were the predominant site type within the locality, accounting for 36.60% of total site types. This finding was supported by the presence of the Ashfield Shale geological unit as such sites are compatible with

the formation. The closest Aboriginal site was recorded as being one kilometre north-east of the project area. The desktop assessment revealed that the project area had already been heavily developed by the early-to mid-1900s. The construction associated with this development would have involved: landscaping and vegetation clearance; fencing; installation of services lines (gas, water, electricity etc.); and production of the homes themselves. It was recognised that such disturbances (especially those subterranean in nature) likely would have removed or destroyed any potential archaeology within the project area.

During the survey no trees with cultural modifications were identified with the majority of old growth native trees having been removed in the past. No Aboriginal objects or areas of potential were identified due to the shallow erosional nature of soils combined with the disturbances that had occurred across the area likely to have removed anything that may have been present. It was noted that the area was also located in an unfavourable landscape and surrounding investigations had shown that Aboriginal sites are most often located in closer proximity to water sources than the project area was located. The site was assessed as having low archaeological potential and no further archaeological works were required.

Biosis (2025d) was commissioned to undertake an ADDA at 9–21 Beaconsfield Parade, Lindfield NSW, located approximately 9 kilometres south-east of the current study area. The assessment found that the area had been subject to considerable historic disturbance, having been nearly entirely developed as early as the 1940s. Similar to the current study area, the assessment area was located on the erosional Glenorie soil landscape which indicated potential poor preservation of the archaeological record. Previous assessments within the locality identified a variety of Aboriginal sites throughout the area including PADs, shell middens, shelters and artefact sites (Conyers 1990, Corkill 1991, HLA-Envirosciences 2003, Artefact Heritage 2011). Local investigations also recognised that locations which had undergone significant disturbance are less likely to contain archaeological material (Evans 1981, Artefact Heritage 2014, Biosis 2019, Biosis 2020b, Biosis 2023a). The field investigation was hampered by low GSV and exposure, and high levels of disturbance development associated with the construction of residential dwellings were noted throughout the area. The field investigation did not identify any Aboriginal sites, and the area was assessed as having low potential to contain archaeological material due mainly to the extent of developmental impacts.

3.2.3 AHIMS site analysis

An extensive search of the AHIMS database was conducted on 1 August 2025 (Client service ID: 1029437). The search identified 110 Aboriginal archaeological sites within a 5.5-kilometre search area, centred on the study area (Table 3 and Appendix 1). None of these registered sites are located within the study area (Figure 7). The closest registered site located approximately 322 metres south-west of the study area (AHIMS 45-6-3082/NWRL PAD1). However, it should be noted that this site was investigated in 2013 and was re-assessed as no longer being a valid site due to the lack of subsurface deposits. The closest valid site is an artefact site located approximately 365 metres east of the study area (AHIMS 45-6-3083/Crescent 3).

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 art (pigment or engraved), 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 128 results presented here, compared to the 110 sites identified in AHIMS.

Table 3 AHIMS search results

Site type	Occurrences	Frequency (%)
Artefact	61	47.66
Art (Pigment or Engraved)	34	26.55
Grinding Groove	12	9.38
PAD	11	8.59
Modified Tree (Carved or Scarred)	4	3.13
Water Hole	2	1.56
Aboriginal Resource and Gathering	2	1.56
Hearth	1	0.78
Habitation Structure	1	0.78
Total	128	100.00

AHIMS 45-6-3083/Crescent 3

The closest valid AHIMS site to the study area is AHIMS 45-6-3083/Crescent 3, located approximately 365 metres east of the study area (Photo 7). Crescent 3 is comprised of two artefacts that were identified on a driveway entrance into a rail corridor. Another artefact was identified 5 metres south of the driveway in a disturbed area bordering a power pole.

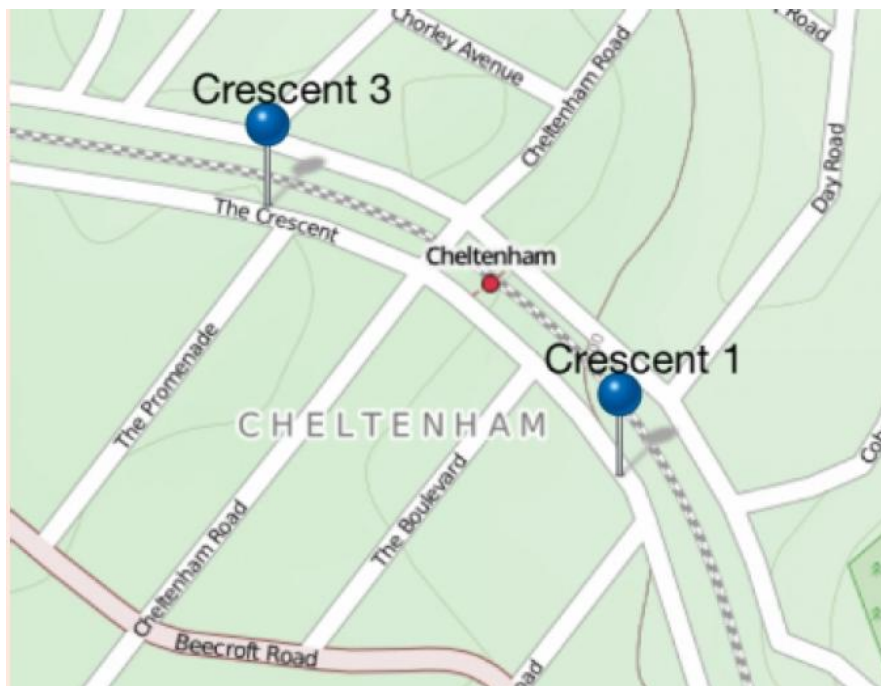


Photo 7 Location of AHIMS 45-6-3083/Crescent 3 provided in AHIMS site card

3.3 Discussion

The study area is located within the Ashfield Shale geological unit which underlies the erosional Glenorie soil landscape. The closest source of water is Devlins Creek, a second/third order, non-perennial watercourse which stretches from south-west to the east. At its closest point, Devlins Creek is approximately 353 metres south-west from the study area. The largest water source closest to the study area is Lane Cove River, a fifth-order, perennial water source, located approximately 8.5 kilometres to the south-east.

Previous archaeological assessments within the local and regional context of the study area have identified varying trends between the presence of fresh water sources and Aboriginal sites. The proximity of water sources to the study area is typically a positive indicator for the presence of Aboriginal archaeological sites, particularly higher order perennial streams (McDonald 1997, Dominic Steele Consulting Archaeology 2003, Coast History and Heritage 2023, Biosis 2025c). Previous assessments within the locality identified a variety of Aboriginal sites throughout the area including PADs, shell middens, shelters and artefact sites (Conyers 1990, Corkill 1991, HLA-Envirosciences 2003, Artefact Heritage 2011). However, local investigations also recognised that locations which had undergone significant disturbance are less likely to contain archaeological material (Evans 1981, Artefact Heritage 2014, Biosis 2019, Biosis 2020b, Biosis 2023a).

A review of aerial photographs shows that the study area has been extensively used for residential purposes since at least 1943, with widespread vegetation clearance and construction across most of the site. Historical research indicates that the landscaping and gardens at 132 Beecroft Road were preceded by the lot's inclusion in the former Ramona estate, which contained stables, a coach house, a gardener's cottage, paddocks, a kitchen garden, and flower beds (Hornsby Shire Council 2024). These developments and landscaping activities would have significantly disturbed the soil profile and any archaeological material present. However, some areas of the site appear to have been subject only to minor garden maintenance, suggesting a higher potential for archaeological deposits in these locations.

A search of the AHIMS register identified no sites to be located within the study area. Sites in the locality are located within proximity to tributaries of the Lane Cove River in undisturbed areas. AHIMS sites are scattered across Hornsby as development is not only extensive but has been present since the early 1900s. The lack of water sources in proximity to the study area and position on a crest suggests that the area was likely used for transitory purposes rather than occupational ones. Areas which have only been subject to gardening and minor landscaping could preserve archaeological material in the form of isolated artefacts or low-density scatters, but the potential these sites occur would be low to moderate.

3.3.1 Predictive statements

A model has been formulated to broadly predict the type and character of Aboriginal cultural heritage sites likely to have existed 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 4 indicates 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 4 **Aboriginal site prediction statements**

Site type	Site description	Potential
Flaked stone artefact scatters and isolated artefacts	Artefact scatter sites can range from high-density concentrations of flaked stone and ground stone artefacts to sparse, low-density 'background' scatters and isolated finds.	Moderate: Stone artefact sites have been previously recorded in the region. Due to presence of some favourable landscape characteristics such as the elevated landform and deep soil profiles and the varying levels of disturbance within the study area, there is a moderate potential for subsurface archaeological deposits in some parts in the study area.
PADs	Potential sub surface deposits of cultural material.	Moderate: PADs have been previously recorded in the region, however due to the disturbance within the study area it is likely that any PAD encountered are unlikely to be in situ.
Modified trees	Trees with cultural modifications	Low: The level of disturbance and vegetation clearance within the study area has likely destroyed the possibility of locating scarred trees.
Quarries	Raw stone material procurement sites.	Low: There is no record of any quarries being within or surrounding 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 buildings associated with post-contact Aboriginal use.	Low: There are no post-contact sites previously recorded in the study area and historical sources do not identify one.
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.
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	Nil: The sites will only occur where suitable sandstone exposures or overhangs possessing sufficient sheltered space exist. The study area

Site type	Site description	Potential
	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.	is not situated on a geological formation which supports this site type and no sandstone exposures exist within the study area.
Grinding grooves	Grooves created in stone platforms through ground stone tool manufacture.	Nil: As with rock shelters, the study area is not situated on a geological formation which supports this site type. No suitable horizontal sandstone rock outcrops are present within the study area.
Burials	Aboriginal burial sites.	Nil: 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 profile associated with the study area are not commonly associated with burials.
Shell middens	Deposits of shells accumulated over either singular large resource gathering events or over longer periods of time.	Nil: Shell midden sites have not been recorded within the vicinity of the study area. There is a very low potential for shell middens to be located in the study area as there are no sources of water.

4 Archaeological survey

An archaeological investigation of the study area was undertaken on 12 August 2025 by Megan Porter (Graduate Heritage Consultant, Biosis) and Josh Marr (Cultural Sites Officer, Metro LALC). The 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 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 those portions of the study area which were accessible and had the least amount of disturbance. The survey targeted all landforms and all areas which were to be impacted by development.

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 (94) coordinate system.

4.3 Archaeological survey results

A total of two transect was walked across all landforms with surveyors walking 2 metres apart where possible (Figure 8). This follows the methodology set out in Burke & Smith (2004, p. 65), which states that a single person can only effectively visually survey an area of two linear metres. No Aboriginal sites or PADs were identified in the study area. The results from the field survey have been summarised in Table 5 and Table 6 below.

Table 5 Survey coverage

Survey unit	Landform	Survey unit area (m ²)	Visibility (%)	Exposure (%)	Effective coverage area (m ²)	Effective coverage (%)
1	Crest	3892.68	30	10	116.78	3

Table 6 Landform summary

Landform	Landform area (m ²)	Area effectively surveyed (m ²)	Landform effectively surveyed (%)	No. of Aboriginal sites	No. of artefacts or features
Crest	7820.54	116.78	1.49	0	0

4.3.1 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 2010).

Average visibility within the study area is estimated to be approximately 30%. There were areas of limited visibility (0%) throughout the majority of the study area due to previous disturbances, including maintained lawns (Photo 9 and Photo 11), paving for vehicle and pedestrian access (Photo 8 and Photo 12), gravel (Photo 8), and formal garden beds with introduced soils and flora (Photo 11). In areas of the lawn where the grass had been disturbed by vehicle access and GSV was high (80%) (Photo 10).



Photo 8 No GSV (0%) in the northern portion of 132 Beecroft Road, facing south-west (scale rod: 1 metre)



Photo 9 No GSV (0%) in the southern portion of 132 Beecroft Road, facing south-west (scale rod: 1 metre)



Photo 10 High GSV (80%) in the northern portion of 132 Beecroft Road, facing west (scale rod: 1 metre)



Photo 11 No GSV (0%) in the northern portion of 134 Beecroft Road, facing north-west (scale rod: 1 metre)



Photo 12 No GSV (0%) in the southern portion of 134 Beecroft Road, facing south-east (scale rod: 1 metre)

4.3.2 Exposure

Exposure differs from visibility in that it is a percentage estimate of the amount of ground surface in which buried artefacts or deposits may be identified rather than a simple observation of the amount of ground surface that is visible (Burke & Smith 2004, DECCW 2010). Overall, the study area displayed no areas of exposure (0%). At 134 Beecroft Road, the entirety of the lot was highly developed, with large portions of the landform altered and developed to include graduation planters (Photo 15) and vehicle access (Photo 16). While soils were visible in some areas associated with garden beds at both lots, it is likely that soils visible in the garden beds were imported for that purpose and do not represent natural Glenorie soil landscapes (Photo 13 and Photo 14).



Photo 13 No exposure (0%) in the northern portion of 132 Beecroft Road, facing north-east (scale rod: 1 metre)



Photo 14 No exposure (0%) in the southern portion of 134 Beecroft Road, facing south-east (scale rod: 1 metre)



Photo 15 No exposure (0%) in the eastern portion of 134 Beecroft Road, facing north-east (scale rod: 1 metre)



Photo 16 No exposure (0%) in the southern portion of 134 Beecroft Road, facing north-east (scale rod: 1 metre)

4.3.3 Disturbances

Disturbances can be associated with both natural (e.g. burrowing and scratching in soil by animals) and human agents (residential and commercial development). The level to which the disturbances that were identified during a comprehensive inspection of ground surface, landform, and aerial imagery have impacted the study area are 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*.

Moderate to high levels of disturbances associated with recent human action are prevalent across the study area and cover large sections of the land surface. These agents are primarily residential developments, including the construction of dwellings, landscaping (Photo 15, Photo 18, and Photo 19) and vegetation clearance (Photo 9), but also include commercial features such as large areas of vehicle access and parking (Photo 12, Photo 17 and Photo 20). Associated disturbances also include subsurface utilities.

At 132 Beecroft Road, modern excavations, landscaping, and levelling of the landform across the study area has resulted in extreme and intensive impacts to the local soil profiles (Photo 16, Photo 19 and Photo 20). As a result, it is unlikely that natural soils potentially containing Aboriginal archaeological deposits have survived *in situ*. In contrast, at 134 Beecroft Road, although existing features and remnant traces of earlier landscaping and structures have caused some soil disturbance, the impacts appear less extensive and intensive and do not seem to have affected the full depth (>100 centimetres) of the natural Glenorie soil profile in the northern and southern areas of the lot. Consequently, it is possible that Aboriginal cultural material may be present.



Photo 17 Driveway and parking in the northern portion of 132 Beecroft Road, facing north (scale rod: 1 metre)



Photo 18 Landscaping in the southern portion of 132 Beecroft Road, facing south-west (scale rod: 1 metre)



Photo 19 Landscaping and recreation area in the northern portion of 134 Beecroft Road, facing south-west (scale rod: 1 metre)



Photo 20 Driveways and parking in the northern portion of 134 Beecroft Road, facing south-west (scale rod: 1 metre)

4.4 Discussion of archaeological survey results

The archaeological investigation consisted of three meandering transects walked across the entire study area. The results of the field investigation have been summarised below and the transect locations walked by two surveyors are provided in Figure 8. The transect walked by Josh Marr from Metro LALC was not GPS mapped.

Topographically, the study area is situated on a crest, beginning to slope in the north-eastern and south-western portions of the study area. No watercourses are present within the study area, with the closest source of water being Devlins Creek, a second to third order nonperennial watercourse which curves around from the south-west (approximately 353 metres at its closest point) to the east (approximately 1.5 kilometres away). Lane Cove River, a first order perennial source, is located approximately 8.5 kilometres to the south-east. Predictive models for the wider region have found that previous Aboriginal occupation of the region was likely more intensive in areas that had more permanent and therefore reliable and convenient access to water, such as Lane Cove River. Ideal landforms include well-drained creek banks, flats, and terraces. Although the study area is situated on a well-drained crest, its distance from a permanent water source and the steep incline to reach Devlins Creek suggests that there is lower potential for permanent occupation across the study area.

Background research identified that a large part of the study area is underlain by the erosional Glenorie soil landscape. Erosional soils are prone to shallow movement of soils resulting in extensive levels of erosion when exacerbated by the kind of vegetation clearance that has taken place within the study area since at least the 1940s. On crests, upper slopes and midslopes, Glenorie soil profiles can be up to 100 centimetres deep, including a friable loamy topsoil (gn1) between 0–15 centimetres that may not be present on upper slopes and midslopes (Table 2 and Photo 2). Extensive subsurface and surface landscape modifications have the potential to have impacted the majority of the soil profile at 134 Beecroft Road and the northern half of 132 Beecroft Road. However, in the southern portion of 134 Beecroft Road, it is unlikely that historical gardening alone would have impacted the entire soil profile.

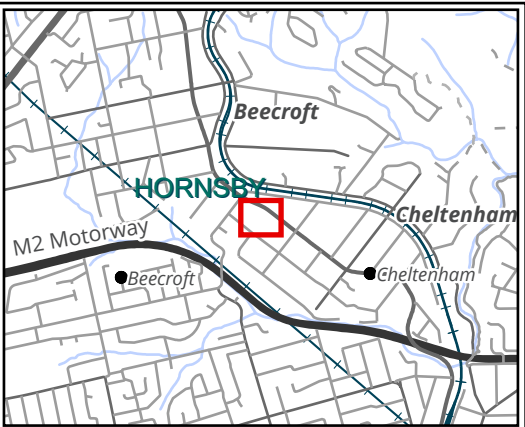
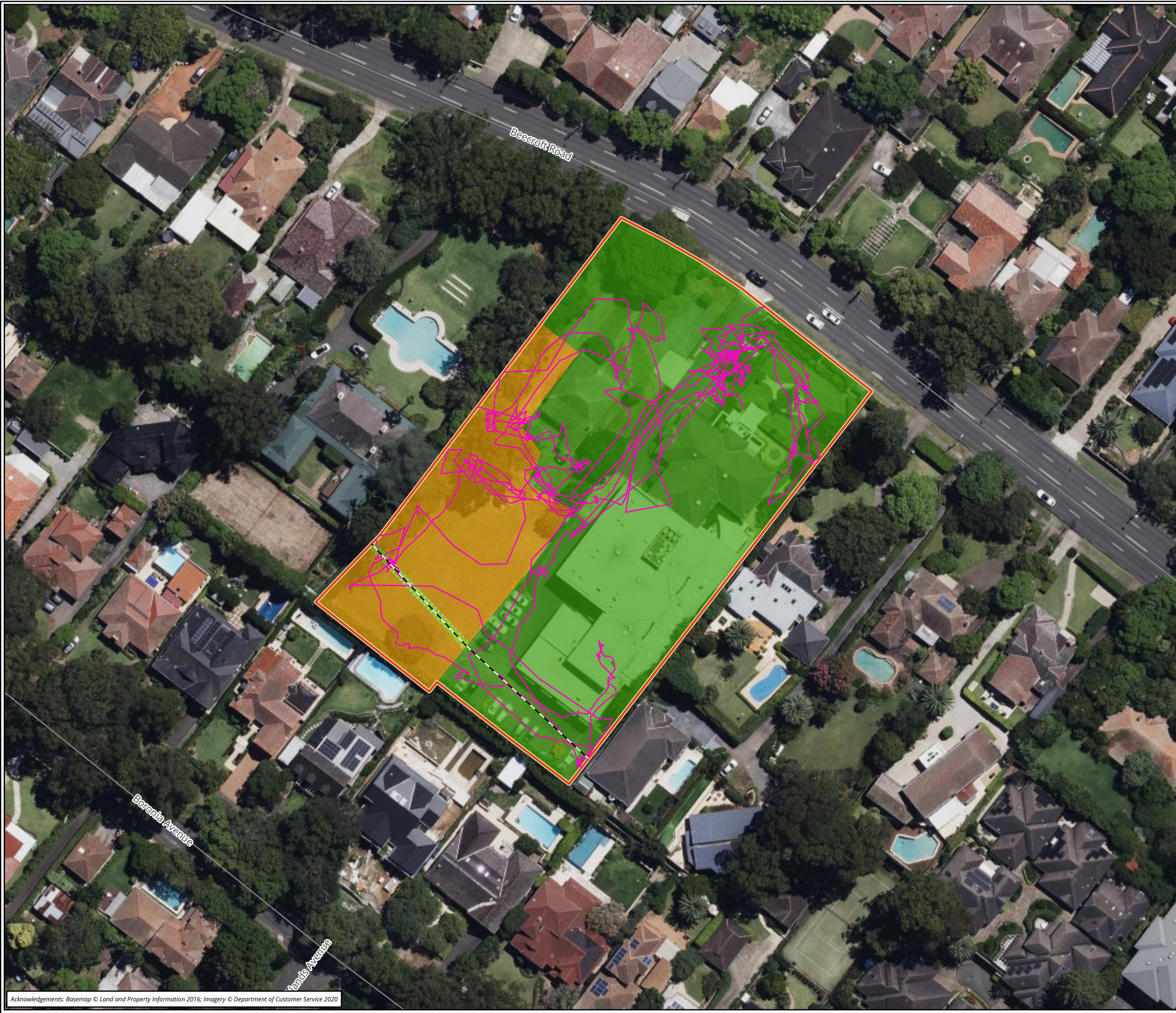
The majority of the investigations conducted within proximity to the current study area were undertaken to the south-east and south-west of the study area as part of DAs. A broad planning study for Aboriginal heritage conducted approximately 7 kilometres south-west of the study area by Aboriginal Heritage Office 2011 found that the most common form of site in the area where the study area is located are rock shelters, engravings, and grinding grooves. This is due to the fact that the study area is located in proximity to

the Hawkesbury Sandstone geological formation. The study area itself is located on Ashfield Shale which does not support these site types. The assessment conducted by AHMS (2016) at the Old Kings School site concluded that in areas where the soil profiles had been subjected to limited disturbance there was a high potential for significant cultural material, particularly in areas of sandy deposits in proximity to water sources. Due to the extensive historical disturbances (described above), these findings do not correspond to the majority of the study area, but increases the likelihood of potential in the less impacted portion in the south-west.

An extensive search of the AHIMS database was conducted on 1 August 2025 (Client service ID: 1029437). The search identified 110 Aboriginal archaeological sites within a 5.5 x 5.5-kilometre search area, centred on the study area. There are no sites located within the study area with the closest valid site is an artefact site located approximately 365 metres east of the study area (AHIMS 45-6-3083 Crescent 3). The most common sites are artefacts, followed by art (pigment or engraved). This site distribution likely correlates with the early twentieth century development of the Beecroft area where sites that may have been present were impacted before they could be recorded. However, it should be noted that a general retention of early twentieth-century properties in the area also means that very few more recent developments have taken place since the introduction of legislated heritage assessments.

Consultation was undertaken with Josh Marr from Metro LALC who attended the survey of the study area. Josh noted that the study area has been heavily developed and so traces of any Aboriginal people living or having lived within the study area were not visible to the naked eye. However, Josh also raised concerns that the limited number of AHIMS registered sites may be the result of a sampling bias because of the limited number of previous heritage assessments undertaken within the Beecroft area. Josh Marr recommended that monitoring be undertaken during any demolishing and clearance, as well as bulk earthworks.

The archaeological survey confirmed extensive ground disturbance and low ground surface visibility and exposure throughout the majority of the study area. Considering the erosional soils, limited water sources, and past land use, most of the study area was deemed to contain low archaeological potential (Figure 8). However, the potential for deeper soil profiles and the varying levels of previous ground disturbances, combined with the favourable crest landform, lead to the identification of an area of moderate archaeological potential.



- Legend**
- Study area
 - Survey tracks
 - Existing sewer main
- Archaeological potential**
- Low
 - Disturbed (1m buffer of existing sewer main)
 - Moderate

Figure 8 Survey effort and results

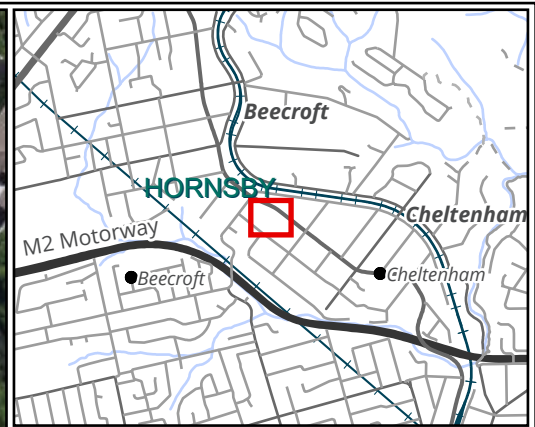


Metres
Scale: 1:800@ A3
Coordinate System:
GDA2020 MGA Zone 56



APEM Group

Matter: 43030, Date: 19 November 2025,
Prepared for: SDJ, Prepared by: JB, Last edited by: owilliams
Location: P:\43000s\43030\Mapping\
43030_BeecroftRd_HHA,
Layout: 43030_AR_F8_SurveyResults



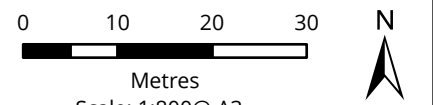
Legend

 Study area

Landform

 Crest

Figure 9 Landforms



Metres
Scale: 1:800@ A3
Coordinate System:
GDA2020 MGA Zone 56



Matter: 43030, Date: 19 November 2025,
Prepared for: SDJ, Prepared by: JB, Last edited by: owilliams
Location: P:\43000s\43030\Mapping\
43030_BeecroftRd_HHA,
Layout: 43030_AR_F9_Landforms

5 Test excavation

Following the results of the field survey a test excavation program was undertaken to characterise the extent, nature and archaeological (scientific) value of Aboriginal cultural heritage within the identified area of moderate potential. The sampling strategy, methodology and results of the test excavation program are discussed below. Test excavations were undertaken from 11–12 November 2025 and included a field team of the following individuals:

- Aaron Taylor (Murra Bidgee Mullangari Corporation, Cultural Sites Officer)
- Bronte Baonza (Biosis, Heritage Consultant)
- Rhiannon Whitton (Biosis, Graduate Heritage Consultant)

5.1 Test excavation objectives

The objectives of the sub-surface investigation were to characterise the extent, nature and archaeological (scientific) value of cultural heritage within the area of moderate archaeological potential.

5.2 Test excavation methodology

The test excavations conformed to the following methodology in line with Requirement 16 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 20 metre spacing; however, this distance was adjusted in the field depending on the results of the excavations—being no smaller than 5 metres.
- The first test pit within an area of potential was excavated in 5 centimetre spits; the subsequent test pits conducted within the site area were then excavated in either 10 centimetre spits 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 prevented reaching sterile deposits within the 50 by 50 centimetre test pit, additional 50 by 50 centimetre test pits were 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 were 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 could be excavated in any one continuous area was three metres squared (3 m²).
- The Code dictated 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.
- In the test excavation methodology, it was stated that all cultural material would be collected, bagged and clearly labelled and temporarily stored in the Sydney Biosis office for analysis (at Unit 14, 17–27 Power Avenue Alexandria NSW 2015). No cultural material was identified during the testing programme.
- For each test pit that is 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 not backfilled but fenced off per MDP's request.
 - An Aboriginal Site Impact Recording form would be completed and submitted to the AHIMS Registrar for any sites impacted during test excavations, though none were encountered.
 - In the event that suspected human remains were identified works would immediately cease and the NSW Police and Heritage NSW, Department of Climate Change, Energy, the Environment and Water (Heritage NSW) would be notified.
 - Test excavations would cease when enough information* had 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 2010, p. 28).*

5.3 Test excavation results

A total of seven test pits were excavated within the area of moderate archaeological potential (Figure 10). Individual test pit and soil analysis results are provided in Appendix 2. Results within this area of potential are shown in Table 7 and a detailed discussion of results is provided below.

Table 7 Test excavation results in area of moderate archaeological potential

Landform	Moderate potential area (m2)	Area tested (m2)	PAD effectively tested (%)	No. of sites	No. of artefacts
Crest	1960.07	3.5	0.2	0	0

5.3.1 Area of moderate potential

A total of seven test pits were excavated in the area of moderate potential at 20–30 m intervals in order to determine the extent and nature of across a broad area. No artefacts were identified in any of the test pits (Figure 10). Generally, soil stratigraphy consisted of loamy silt to between 300 mm and 600 mm depth overlying a hard clay layer. Variations from this stratigraphy were evident in areas closer to disturbances, and all but one of the test pits contained considerable shale inclusions. Most test pits also exhibited certain levels of disturbance through the presence of litter and debris.

Transect 1

A total of two test pits were excavated in transect one at an interval of approximately 30 metres in the area of moderate potential. Distance between the two test pits were altered in the field due to the presence of disturbances including the sewer main extending through the study area, as well as access tracks around the sewer line which had impacted the top layers of the ground surface.

No artefacts were identified in either of the test pits and both ended on clay. Soil stratigraphy depths differed between the test pits due to the proximity to disturbances, however both consisted of loamy silts overlaying hard clay layers. Test pit 1 contained an asphalt layer between 290–310 millimetres, which was attributed to the presence of the nursing home carpark located approximately 5 metres east of the test pit (Photo 21 and Photo 22). Test pit 1 was also the deepest test pit across the study area, extending to a depth of 600 millimetres before reaching clay. Both pits contained extensive shale inclusions across all layers which was present even in clay bases. Various disturbances were noted across both test pits including remnants of old piping, pieces of plastic and imported stone material.



Photo 21 Transect 1 test pit 1 showing representative soils

43030 132-134 Beecroft Road
 Test Excavations
 Section drawing
 Transect 1 Test pit 1
 11/11/2025 [RW]

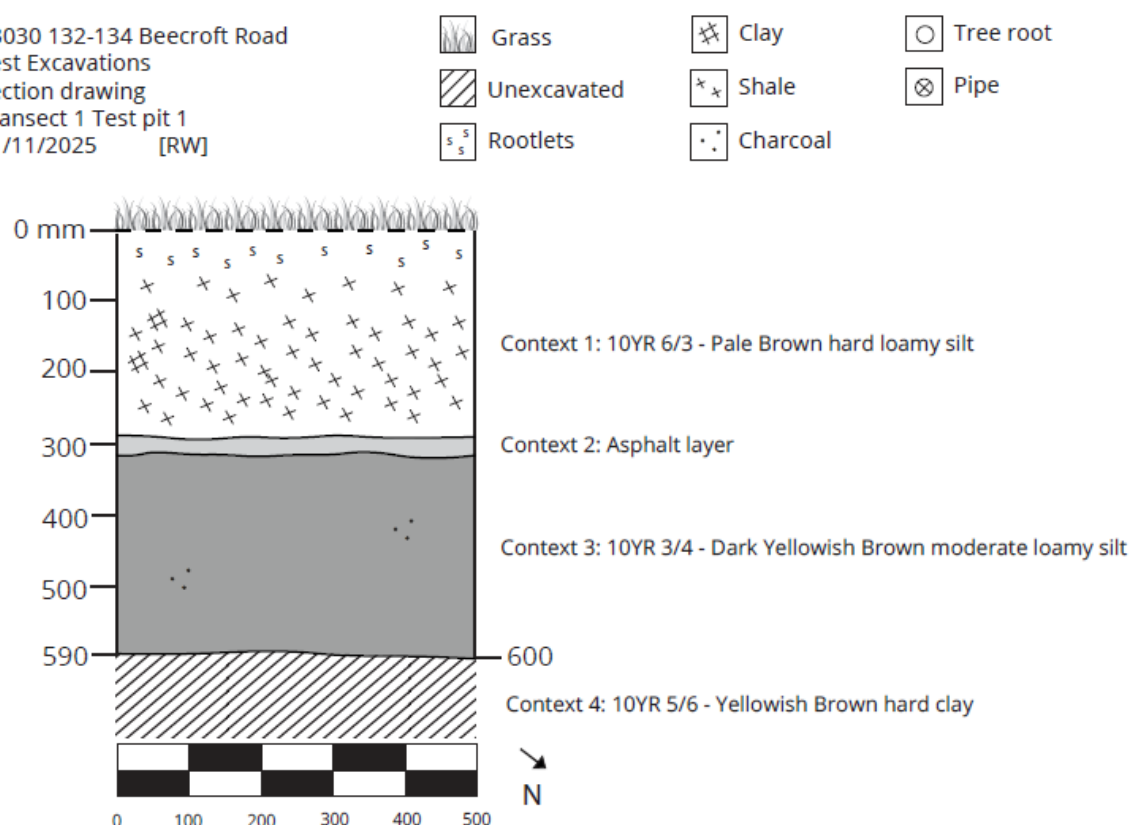


Photo 22 Transect 1 test pit 1 section drawing

Transect 2

A total of four test pits were excavated in transect two at an interval of 20 metres in the area of moderate potential. Distances between some of the test pits were extended in the field due to the presence of disturbances including the sewer main extending through the study area, development and construction around the house at 134 Beecroft Road and avoidance of large trees. Extensions in this transect did not exceed 30 metres.

No artefacts were identified in any of the test pits and all four ended on clay. Soil stratigraphy consisted of a loamy silt which ended between 20–350 millimetres overlying a clay layer extending as deep as 400 millimetres. The two test pits in the grassed area behind the dwelling were consistent, displaying extensive evidence of shale inclusions. Test pit 1 consisted of a loamy silt to 170 millimetres overlying hard clay extending from 100–250 millimetres (Photo 23 and Photo 24). Disturbances were present across the transect, with sieved material including pieces of glass, old nails, other metal and litter though pits were less disturbed than those in transect one.

Test pits in the property of the dwelling also displayed high levels of disturbance due to the development which had taken place, though the nature of the disturbances differed. Test pit 3 consisted of loamy silt to 150 millimetres, over a silty clay loam to 310 millimetres, above hard baked clay between 310–400 millimetres. There was a pipe present at 300 millimetres and a layer of hard shale at the base of the test pit (Photo 25 and Photo 26). In the fourth test pit, which was closest to the house, the loamy silt layer only extended to a depth of 20 millimetres, before hard clay was reached (extending only to 90 millimetres). It was noted that no shale or disturbances were identified within this test pit, indicating it was likely that the landscape around the dwelling was scraped and levelled throughout its construction and little-to-no upper soil layers exist within its proximity.



Photo 23 Transect 2 test pit 1 showing representative soils

43030 132-134 Beecroft Road
 Test Excavations
 Section drawing
 Transect 2 Test pit 1
 11/11/2025 [RW]

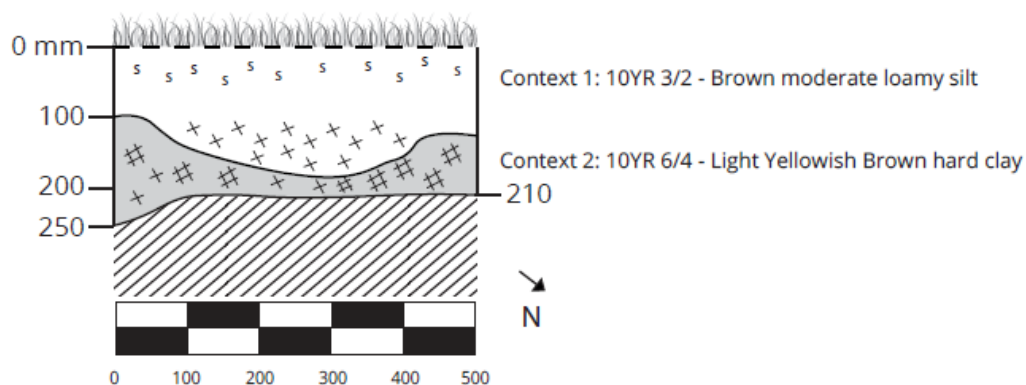


Photo 24 Transect 2 test pit 1 section drawing



Photo 25 Transect 2 test pit 3 showing representative soils

43030 132-134 Beecroft Road
 Test Excavations
 Section drawing
 Transect 2 Test pit 3
 12/11/2025 [RW]

	Grass		Clay		Tree root
	Unexcavated		Shale		Pipe
	Rootlets		Charcoal		

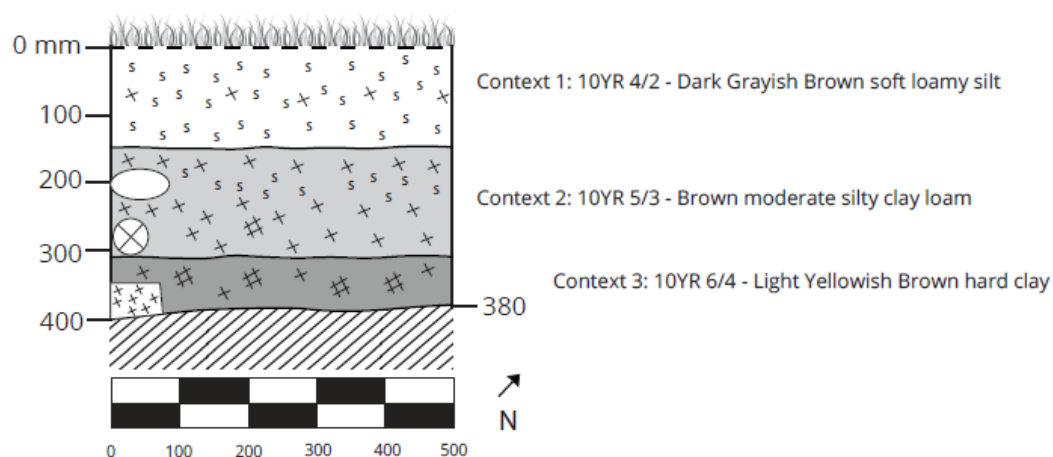


Photo 26 Transect 2 test pit 3 section drawing

Transect 3

One test pit was excavated in transect three within the area of moderate potential. This additional test pit was excavated between transects one and two in order to accommodate for extended distances between test pits in other transects. It also confirmed the nature of the landscape across the study area.

No artefacts were identified within the test pit which ended on clay. Soil stratigraphy consisted of a loamy silt which ended at 230 millimetres overlying a clay layer between 230-280 millimetres (Photo 27 and Photo 28). All layers within the test pit contained extensive shale inclusions, and disturbances including imported stone material, litter and debris, which was consistent with results from neighbouring transect two test pits.



Photo 27 Transect 3 test pit 1 showing representative soils

43030 132-134 Beecroft Road
 Test Excavations
 Section drawing
 Transect 3 Test pit 1
 12/11/2025 [RW]

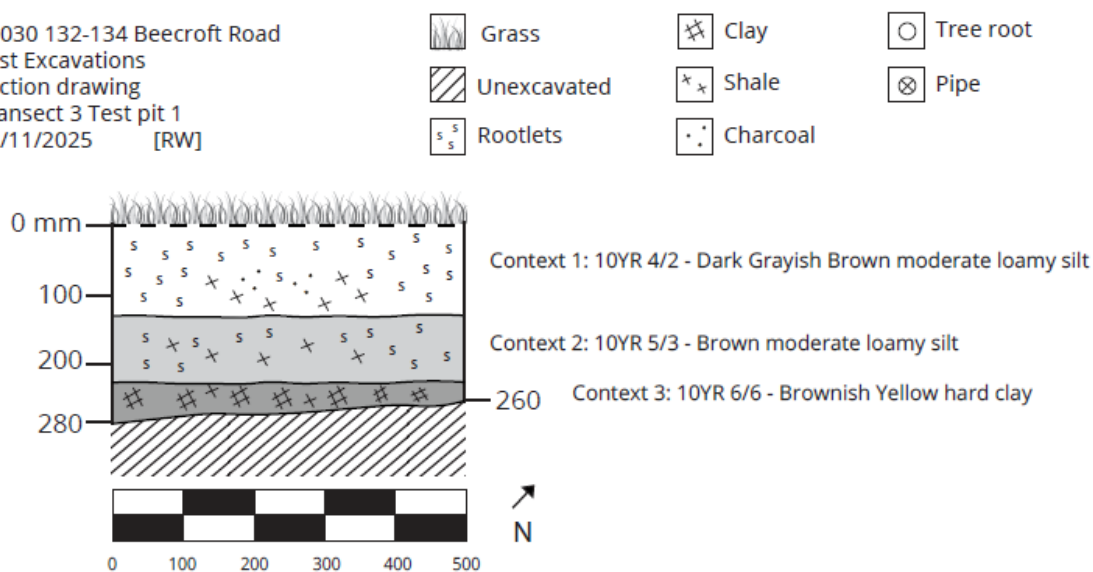
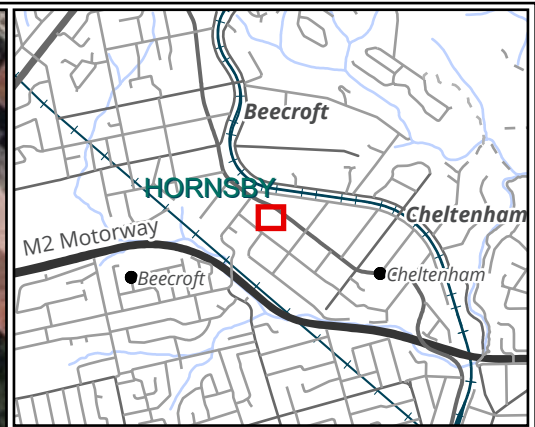
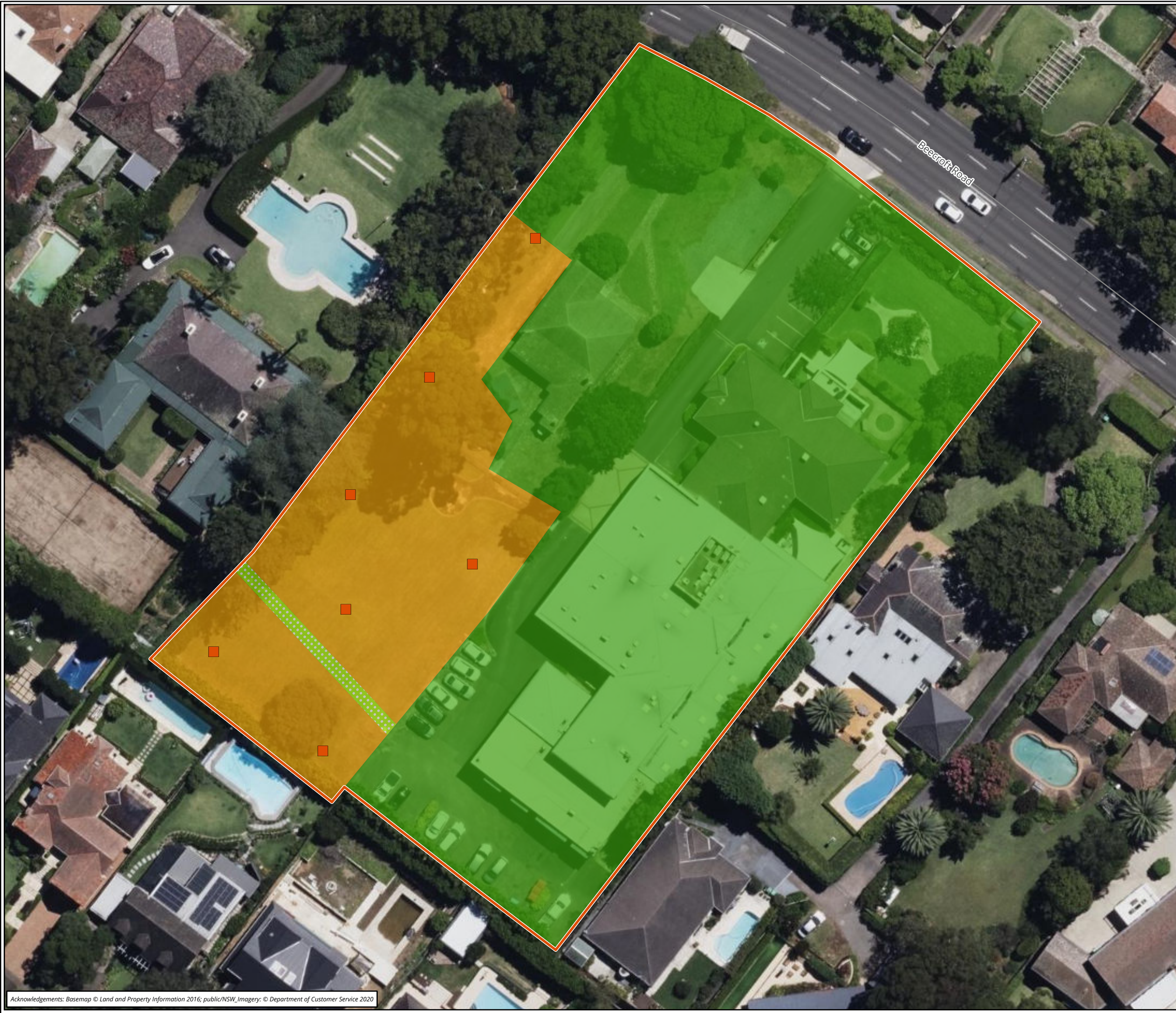


Photo 28 Transect 3 test pit 1 section drawing



Legend

Study area

Test pit - number of artefacts

0

Archaeological potential

Low

Disturbed (1m buffer of existing sewer main)

Moderate

Figure 10 Test excavation coverage and results

0 10 20
Metres

Scale: 1:500@ A3
Coordinate System:
GDA2020 MGA Zone 56

biosis
APEM Group

Matter: 43030, Date: 19 November 2025,
Prepared for: BB, Prepared by: OW, Last edited by: owilliams
Location: P:\43000s\43030\Mapping\
43030_BeecroftRd_HHA,
Layout: 43030_AR_F10_TestExcResults

6 Discussion of test excavation results

Test excavations within the study area did not identify any Aboriginal objects. An analysis of the study area within the local region is discussed below.

The study area is located within the Ashfield Shale geological unit which underlies the erosional Glenorie soil landscape. The closest source of water is Devlins Creek, a second/third order, non-perennial watercourse which stretches from south-west to the east. The lack of water sources in close proximity to the study area suggests that the area may have been used for transitory purposes rather than occupational ones which is supported by previous assessments (McDonald 1997, Dominic Steele Consulting Archaeology 2003, Coast History and Heritage 2023, Biosis 2025c). Artefact and PAD sites are considered the most common site types within the region and have frequently been identified within proximity to fresh water sources upon several varying landforms, including crests (Mary Dallas Consulting Archaeologists 2012, Biosis 2025c). A search of the AHIMS register did not identify any sites within the study area or within 50 metres of the study area.

An archaeological survey was conducted on 12 August 2025 and attended by Megan Porter (Biosis, Graduate Heritage Consultant) and Josh Marr (Cultural Site Officer, Metro LALC). Josh noted that the study area has been heavily developed and so traces of any Aboriginal people living or having lived within the study area were not visible to the naked eye. However, Josh also raised concerns that the limited number of AHIMS registered sites may be the result of a sampling bias because of the limited number previous heritage assessments undertaken within the Beecroft area. On the basis of the landform of the study area, superficial disturbances in the south-western portion of the study area and the potential of the archaeological material to be present in deeper soil deposits, Biosis identified one area of moderate archaeological potential. The remainder of the study area was assessed with low potential due to disturbance.

A program of test excavations was undertaken that sought to identify whether sub-surface archaeological deposits were within the study area. Excavations were conducted in accordance with Requirement 16a of the Code. A total of seven test pits were excavated across the area of moderate potential. The testing methodology proposed 20 metre transect intervals with 20 metre test pit spacing. While 20 metre transect intervals were utilised, distances between test pits had to be extended in some areas due to the presence of disturbances which prohibited placement of some test pits. Test pits all ended at clay, ranging from depths of 90 to 600 millimetres. No artefacts were recovered from the test excavation program.

While the background research suggested that the Glenorie soil landscape had potential to contain deeper subsurface archaeological deposits within crest landforms and historical aerials indicated superficial disturbances had taken place within the south-western portion of the study area, test excavations revealed that the soil profiles were generally quite shallow and had been impacted by development. Extensive shale inclusions were prevalent (Photo 29) across all but one of the test pits (which is consistent with the Glenorie soil landscape), and disturbances were noted across all transects. Disturbance included evidence of old piping, glass, plastic, metal debris, demolished materials and imported stone material, and were present across most test pits at varying depths. . . While the types of soil stratigraphy were generally consistent, the depths at which they were identified varied across the study area, indicating that some level of landform modification had taken place within the study area.

Investigations in the vicinity of the study area recognised that locations which had undergone significant disturbance are less likely to contain archaeological material (Evans 1981, Artefact Heritage 2014, Biosis 2019, Biosis 2020b, Biosis 2023a) which this is supported by the findings from the test excavations. As well as this, the distance to water courses suggest that the study area was likely not utilised for occupational purposes, and the erosional soils will not have retained any archaeological material potentially left behind during

transitory activities. No artefacts were identified within any of the test pits and disturbances were noted across all excavated areas.

Based on an absence of Aboriginal artefacts recovered during test excavations, the archaeological potential of the study area has now been revised to having low potential. No comments were provided from RAPs regarding the test excavation and development. No sites were impacted, and no new sites were identified.



Photo 29 Remnants of sieving activities showing the extent of shale inclusions and stone material

7 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.

7.1 Introduction to the assessment process

Heritage assessment criteria in NSW fall broadly within the significance values outlined in 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, 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 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 Commonwealth Department of Climate Change, Environment, Energy, and Water (Cth DCCEEW), Heritage NSW, NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW). 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 (Office of Environment and Heritage, Department of Premier and Cabinet 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.

7.2 Archaeological (scientific significance) values

Archaeological significance (also called scientific significance, as per the 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, p. 249, National Parks & Wildlife Service 1997, p. 26).

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’ (National Parks & Wildlife Service 1997, p. 26).

The NPWS criteria for archaeological significance assessment are based largely on the 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 8 and Table 9 outline the site content and site condition rating used for archaeological sites.

Table 8 Site contents ratings used for archaeological sites

Rating	Description
0	No cultural material remaining.
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 9 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 & Sullivan (1995, p. 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. 247–248). 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 10 outlines the site representativeness ratings used for archaeological sites.

Table 10 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 11.

Table 11 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.

7.2.1 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 the study area was determined. The results of the archaeological significance assessment are given in Table 12 below.

Table 12 Scientific significance assessment of the study area

Site name	Site content	Site condition	Representativeness	Scientific significance
Area of moderate potential	0	0	0	Nil – no Aboriginal objects were identified

Table 13 **Statements of scientific significance for the study area**

Site name	Statement of significance
Area of moderate potential	An archaeological survey of the study area resulted in the identification of one area of moderate archaeological potential. Subsequent test excavations revealed widespread disturbances, and no Aboriginal sites or objects were identified within the study area. Based on an absence of Aboriginal artefacts recovered during test excavations, the results of testing reduced the level of archaeological potential from medium to low. The study area contains and is surrounded by high levels of residential development, which has greatly disturbed the natural landscape. This has resulted in low aesthetic significance for the region. The study area itself has been impacted by residential and commercial developments and there is low potential for sites to be present. Due to the lack of any Aboriginal sites or objects within the study area, the study area contains no archaeological scientific significance. The study area is not associated with any historical event or personage, and discussions with the local Aboriginal communities did not identify any specific cultural values associated with the study area.

8 Impact assessment

The proposed development involves the development the proposed development of a residential aged care facility at 132 and 134 Beecroft Road, Beecroft (Lot C DP317843 and Lot F DP15298), NSW (Figure 3). The development will include construction of:

- A residential care facility, with independent living units and recreational areas.
- Driveways and landscaped areas.

And will also involve:

- Installation of utility services including but not limited to water, electricity, and sewerage.
- Earthworks, with potential benching and battering.
- Heavy vehicle movement along Beecroft Road.

8.1 Predicted physical impacts

The study area does not contain any recorded Aboriginal sites or objects and has been assessed as having low archaeological potential due to extensive disturbances observed in the study area and an absence of Aboriginal artefacts recovered during test excavations (Figure 11). The proposed works will therefore not impact on any Aboriginal heritage values.

8.2 Ecologically Sustainable Development

One of the primary aims of the NP&W Act is the 'conservation of objects places and features ... of cultural value within the landscape, including ... places, objects and features of significance to Aboriginal people ...' ((s.2A(1)(b)(i)). The *Operational Policy: Protecting Aboriginal Cultural Heritage (Version 2)* (DECC NSW 2011) provides guidance to proponents in term of 1.1 Ecologically Sustainable Development (ESD).

ESD has been defined in Part 3, 6. (2) Objective of the Authority of the *Protection of the Environment Administration Act 1991* (NSW). This outlines that the ESD requires the integration of economic and environmental considerations (including cultural heritage) in the decision-making process. In regard to Aboriginal cultural heritage, ESD can be achieved by applying the principle of intergenerational equity and the precautionary principle.

Intergenerational equity

The principle of intergenerational equity states that the present generation should make every effort to ensure the health, diversity and productivity of the environment – which includes cultural heritage – for the benefit of future generations.

In terms of Aboriginal cultural heritage, intergenerational equity can be considered in terms of the 'cumulative impacts' of any proposal to Aboriginal objects and places. For example, if few Aboriginal objects and places remain in a region (because of harm authorised under previous AHIPs), fewer opportunities remain for future generations of Aboriginal people to enjoy the cultural benefits of those Aboriginal objects and places.

Information about the significance of Aboriginal cultural heritage values associated with the Aboriginal objects and places proposed to be harmed will be relevant to the consideration of intergenerational equity and an understanding of the cumulative impacts of a proposal.

Where there is uncertainty, the precautionary principle should also be followed (see below).

The precautionary principle

The precautionary principle states that the lack of full scientific certainty about the threat of harm should not be used as a reason for not taking measures to prevent harm from occurring.

In applying the precautionary principle, decisions should be guided by:

- *a careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment (which includes cultural heritage)*
- *an assessment of the risk-weighted consequences of various options. The precautionary principle is relevant to OEH consideration of potential harm to Aboriginal cultural heritage where:*
- *the proposal involves a risk of serious or irreversible harm to Aboriginal objects or places or to the value of those objects or places, and*
- *there is a lot of uncertainty about the significance of Aboriginal cultural heritage values of the Aboriginal objects or places proposed to be harmed.*

Where this is the case, a precautionary approach should be taken and all cost-effective measures implemented to prevent or reduce harm to the Aboriginal objects/place.

8.3 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, p. 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.

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. As part of the management and mitigation measures for the proposed works, an ACHA including archaeological survey, test excavations, and consultation with the Aboriginal community was undertaken. This was done to determine the presence and nature of any potential Aboriginal sites so that appropriate management could be undertaken. The test excavations did not identify any Aboriginal sites or objects, therefore the study area has been assessed as having low archaeological potential. However, this assessment and test excavation program has positively contributed to our knowledge of Aboriginal land use in the area and will be available for future generations to build on in line with inter-generational equity principles. The proposed works will avoid impacts to any known Aboriginal sites. Consultation undertaken has resulted in the following management strategies.

8.3.1 Continued consultation with Registered Aboriginal Parties

Continuous consultation should be maintained with RAPs throughout the life of the project. The maintenance of consultation will assist in the management of any unexpected finds which may be identified during works.

In the event of unexpected finds, an AHIP may be required, a condition of which would be to prove continuous consultation with RAP groups. As outlined in Section 5 of Aboriginal Heritage Impact Permit: Guide for applicants (OEH 2011), RAPs need to be provided with consultation updates every six months to qualify as continuous consultation. Should consultation lapse and an unexpected find is identified, the consultation process may need to recommence from the beginning.

8.3.2 Undertake a heritage induction before work commences

Heritage inductions for all site workers and contractors should be undertaken 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.

8.3.3 Stop works provisions for unexpected Aboriginal Heritage

All Aboriginal places and objects are protected under the NSW National Parks and Wildlife Act 1974 (NPW Act). This protection extends to Aboriginal objects and places that have not been identified but might be unearthed during the proposed works. Work must cease if Aboriginal objects or places are identified which have not previously been identified as part of this assessment or have not been approved for harm under an AHIP. Heritage NSW and the archaeologist must be notified to make an assessment of the find and advise on subsequent management.

8.3.4 Stop works provisions for human remains

If any suspected human remains are discovered during any activity works, all activity in the vicinity must cease immediately. The remains must be left in place and protected from harm or damage. The following contingency plan describes the immediate actions that must be taken in instances where human remains or suspected human remains are discovered. Any such discovery at the study area must follow these steps:

1. **Discovery:** If suspected human remains are discovered all activity in the vicinity must stop to ensure minimal damage is caused to the remains; and the remains must be left in place, and protected from harm or damage.
2. **Notification:** Once suspected human skeletal remains have been found, the NSW Police must be notified immediately, and they will subsequently inform the Coroner's Office.
 - Following this, and if the human remains are likely to be Aboriginal in origin, the find will be reported to the Aboriginal parties and Heritage NSW. If the find is likely to be non-Aboriginal in origin and more than 100 years in age, the Heritage Council of NSW will be notified of the find under s.146 of the *Heritage Act 197*.

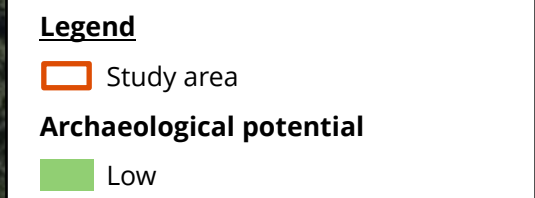
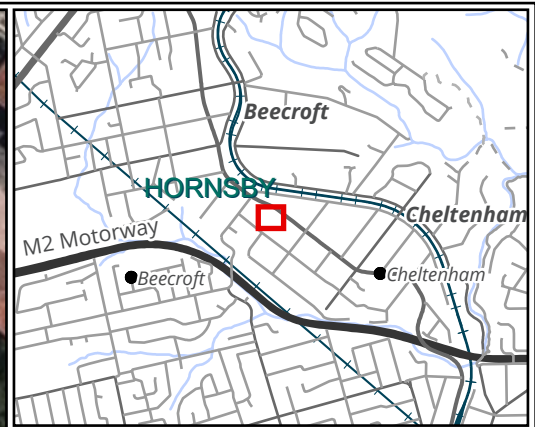
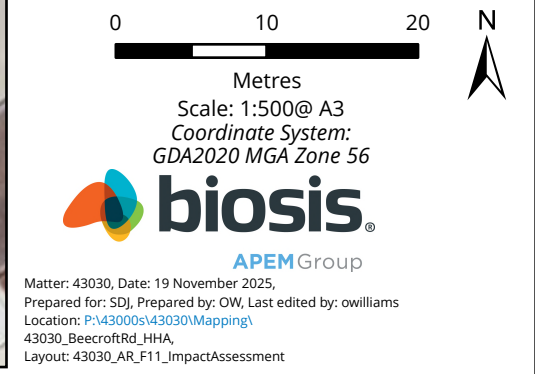


Figure 11 Impact assessment



9 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:
 - The Burra Charter.
 - The Code.

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

Recommendation 1: No further assessment is required

No further archaeological investigations or works are required to be undertaken for the study area. In the event that unexpected Aboriginal sites, objects and places including human remains, are unearthed during any phase of the project please refer to Recommendations 4 and 5 below.

Recommendation 2: Undertake a heritage induction

Heritage inductions for all site workers and contractors should be undertaken to prevent any unintentional harm to unexpected Aboriginal objects or sites, or Aboriginal sites or objects located within proximity to the study area. The heritage induction should 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 the discovery of human remains during construction works.
- Penalties and non-compliance.

Recommendation 3: Stop works provision for the discovery of previously unidentified sites or objects

It is an offence to disturb an Aboriginal site without a consent permit issued by Heritage NSW. Should any Aboriginal sites be encountered during works, works must cease in the vicinity, and the find should not be moved or impacted in any way until assessed by a qualified archaeologist. If the find is determined to be an Aboriginal site, the archaeologist will provide further recommendations. These may include notifying Heritage NSW and RAPs.

Recommendation 4: Stop work provision for any potential discovery of human remains

If any suspected human remains are discovered during any activity works, all activity in the vicinity must cease immediately. The remains must be left in place and protected from harm or damage. The following contingency plan describes the immediate actions that must be taken in instances where human remains or suspected human remains are discovered. Any such discovery at the study area must follow these steps:

1. **Discovery:** If suspected human remains are discovered all activity in the vicinity must stop to ensure minimal damage is caused to the remains; and the remains must be left in place and protected from harm or damage.
2. **Notification:** Once suspected human skeletal remains have been found, the NSW Police must be notified immediately, and they will subsequently inform the Coroner's Office.
 - Following this, and if the human remains are likely to be Aboriginal in origin, the find will be reported to the Aboriginal parties and Heritage NSW. Aboriginal human remains must also be notified under the *Aboriginal and Torres Strait Island Heritage Protection Act 1984*. If the find is determined to be non-Aboriginal in origin and more than 100 years in age, the Heritage Council of NSW will be notified of the find under s.146 of the Heritage Act instead.

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Appendices

Appendix 1 AHIMS results

THE FOLLOWING APPENDIX IS NOT TO BE MADE PUBLIC.

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 43030 LKS 5.5km

Client Service ID : 1029437

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
45-6-2041	Darling Mills S.F. 1	AGD	56	317050	6262430	Closed site	Valid	Artefact : -	Shelter with Deposit	1776,1809,191 1,2113,2114
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							
45-6-1768	Cherrybrook	AGD	56	317440	6266920	Open site	Valid	Grinding Groove : -	Axe Grinding Groove	360
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							
45-6-0937	Callicoma Trail Red Hand Stencils SWA	GDA	56	319825	6266594	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	102473
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							
45-6-0940	Rogans Hill;(duplicate copy of 45-3-0940)	AGD	56	319621	6267209	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	102473
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							
45-6-0949	Normanhurst;	AGD	56	320258	6267404	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	102473
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							
45-6-0897	Normanhurst;	AGD	56	323375	6267007	Closed site	Valid	Artefact : -	Shelter with Deposit	
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							
45-6-1053	Lane Cove River;	GDA	56	326000	6262000	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	98744
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							
45-6-1054	Lane Cove;Man Goanna Cave;	GDA	56	325690	6263590	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							
45-6-1893	KP.1.;	GDA	56	326239	6262975	Closed site	Valid	Artefact : -	Shelter with Deposit	
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							
45-6-2560	Lake Parra R2;LP R2;	AGD	56	315500	6258780	Open site	Valid	Artefact : -	Open Camp Site	102196
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							
45-6-2099	Dynamited;	AGD	56	323140	6265520	Closed site	Valid	Artefact : -	Shelter with Deposit	
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							
45-6-2573	Turpentines;	AGD	56	319280	6257620	Open site	Valid	Artefact : -	Open Camp Site	102196
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							
45-6-2162	CF4 a b;Cumberland S.F.;	AGD	56	315701	6262054	Closed site	Valid	Artefact : -, Art (Pigment or Engraved) : -	Shelter with Art,Shelter with Deposit	1776,1779,211 3,2114
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							
45-6-0340	Turramurra;Pennant Hills;	AGD	56	325595	6265678	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							

Report generated by AHIMS Web Service on 01/08/2025 for Samantha Keats for the following area at Datum :GDA, Zone : 56, Eastings : 315535.0 - 326755.0, Northings : 6257680.0 - 6268866.0 with a Buffer of 0 meters.. Number of Aboriginal sites and Aboriginal objects found is 110

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

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
45-6-3828	Thornleigh Reservoir Scarred Tree 1	GDA	56	321963	6267595	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	<u>Contact</u>	<u>Recorders</u>	Mr.Peter Saad					<u>Permits</u>		
45-6-3868	86 Chelmsford Avenue	GDA	56	321244	6260447	Open site	Destroyed	Artefact : -, Potential Archaeological Deposit (PAD) : -		
	<u>Contact</u>	<u>Recorders</u>	Comber Consultants Pty Limited,Comber Consultants Pty Limited,Apex Archaeolog					<u>Permits</u>		
45-6-2034	English house SWA	GDA	56	325480	6265070	Closed site	Valid	Artefact : -, Art (Pigment or Engraved) : -	Shelter with Deposit	1333
	<u>Contact</u>	<u>Recorders</u>	Warren Bluff,Mr.Oliver Descoeudres					<u>Permits</u>		
45-6-1649	Pyes Creek 1 (Cherry brook)	AGD	56	317620	6267040	Closed site	Valid	Artefact : -	Shelter with Deposit	764,1039
	<u>Contact</u>	<u>Recorders</u>	Doctor.Jo McDonald					<u>Permits</u>		
45-6-0306	West Pennant Hills;Rogan's Hill;	AGD	56	318523	6267279	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	
	<u>Contact</u>	<u>Recorders</u>	ASRSYS					<u>Permits</u>		
45-6-2861	FR01	AGD	56	317654	6265123	Open site	Not a Site	Artefact : 5		
	<u>Contact</u> T Russell	<u>Recorders</u>	Jo McDonald Cultural Heritage Management see GML					<u>Permits</u>		
45-6-2949	M2A1	GDA	56	323895	6262241	Open site	Valid	Grinding Groove : 1		
	<u>Contact</u>	<u>Recorders</u>	Mr.Rick Bullers					<u>Permits</u>		
45-6-2970	CHIF 1	GDA	56	316151	6267190	Open site	Valid	Artefact : 1		
	<u>Contact</u>	<u>Recorders</u>	GML Heritage Pty Ltd - Surry Hills,Ms.Jenni Bate					<u>Permits</u>		
45-6-1488	HB-17;Cockle Ck;	GDA	56	325630	6268850	Open site	Valid	Grinding Groove : -	Axe Grinding Groove	542,940
	<u>Contact</u>	<u>Recorders</u>	ASRSYS					<u>Permits</u>		
45-6-2407	Acacia Park;	AGD	56	319270	6258890	Open site	Valid	Artefact : -	Open Camp Site	102196
	<u>Contact</u>	<u>Recorders</u>	Michael Guider					<u>Permits</u>		
45-6-2571	Substation;	AGD	56	319520	6258520	Open site	Valid	Artefact : -	Open Camp Site	102196
	<u>Contact</u>	<u>Recorders</u>	Michael Guider					<u>Permits</u>		
45-6-3041	Rofe Park Shelter KUR 032	GDA	56	326184	6264540	Closed site	Valid	Potential Archaeological Deposit (PAD) : 1		
	<u>Contact</u>	<u>Recorders</u>	Aboriginal Heritage Office					<u>Permits</u>		
45-6-3042	Eden Ave Groove 1 KUR 052	GDA	56	325374	6262955	Open site	Valid	Grinding Groove : 1		
	<u>Contact</u>	<u>Recorders</u>	Aboriginal Heritage Office					<u>Permits</u>		
45-6-4121	Refuge Rock Cherrybrook ENG	GDA	56	320556	6268681	Open site	Valid	Art (Pigment or Engraved) : -		
	<u>Contact</u>	<u>Recorders</u>	Mr.Oliver Descoeudres					<u>Permits</u>		

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
45-6-4122	Callicoma Trail Red Hand Stencil SWA	GDA	56	320059	6266440	Closed site	Valid	Art (Pigment or Engraved) : -		
	Contact	Recorders	Mr.Oliver Descoeudres					Permits		
45-6-2585	Shrimpton's Creek 2;Macquarie Park (Lane Cove NP); RYDE 006	GDA	56	326189	6261480	Closed site	Valid	Artefact : -	Shelter with Deposit	98744,102489
	Contact	Recorders	Michael Guider,Aboriginal Heritage Office					Permits		
45-6-0955	Rogans Hill;	AGD	56	319950	6266200	Closed site	Valid	Artefact : -	Shelter with Deposit	102473
	Contact	Recorders	Margrit Koettig					Permits		
45-6-0896	Thornleigh; Window Cave	GDA	56	323066	6265673	Closed site	Valid	Artefact : -	Shelter with Deposit	1809
	Contact	Recorders	Val Attenbrow,T Barlow,K Cutmore,Mr.Mike Job					Permits		
45-6-0978	Lane Cove River: KUR-050	GDA	56	324504	6262690	Open site	Valid	Grinding Groove : -, Water Hole : -	Axe Grinding Groove,Water Hole/Well	
	Contact	Recorders	Mr.Phil Hunt,Mr.R Taplin					Permits		
45-5-3695	Lake Parra R4	GDA	56	315856	6259227	Open site	Valid	Artefact : -		102742
	Contact	Recorders	Michael Guider					Permits		
45-6-2939	Balgowlah Cave	GDA	56	318280	6258780	Open site	Valid	Artefact : -		
	Contact	Recorders	Michael Guider					Permits		
45-6-0608	Lane Cove River;Turramurra Public School	GDA	56	325351	6264430	Open site	Valid	Grinding Groove : -	Axe Grinding Groove	
	Contact	Recorders	Michael Guider					Permits		
45-6-2553	Lake Parra R1;LP R1;	AGD	56	315640	6258780	Open site	Valid	Artefact : -	Open Camp Site	102196
	Contact	Recorders	Michael Guider					Permits		
45-6-2097	Darling Mills S. F. 2	AGD	56	317453	6262240	Closed site	Valid	Artefact : -	Shelter with Deposit	1776,1809,191 1,2113,2293
	Contact	Recorders	Val Attenbrow,Mr.Rick Bullers,Ms.Tessa Corkill					Permits	287	
45-6-1156	Epping;Terrys Creek Cave; RYDE 002	GDA	56	323544	6261450	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	102489
	Contact	Recorders	Mr.R Taplin,Aboriginal Heritage Office					Permits		
45-6-2956	Colbarra Place PAD	GDA	56	317200	6263600	Open site	Destroyed	Potential Archaeological Deposit (PAD) : -, Artefact : -		
	Contact	Recorders	AMAC Group P/L,Streat Archaeological Services,Mr.Benjamin Streat					Permits	3305,4054,4594	
45-6-2161	CF3;Cumberland S. F.;	AGD	56	317123	6262357	Closed site	Valid	Artefact : -	Shelter with Deposit	1776,1779,211 3,2114
	Contact	Recorders	Mr.Rick Bullers,Ms.Tessa Corkill					Permits		
45-6-3096	Former Channel 7 site Mobbs Ln	GDA	56	321136	6260245	Open site	Valid	Artefact : 1		
	Contact	Recorders	Doctor.Alan Williams					Permits		

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
45-6-4093	CWPS-IF1	GDA	56	318189	6260385	Open site	Destroyed	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	AHIMS APP Users,EMM Consulting - Individual users,Miss.Rohani (emm consulting <u>Permits</u>							
45-6-4148	Belmore Park PAD01	GDA	56	315674	6258292	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	<u>Contact</u>	<u>Recorders</u>	Artefact Heritage and Environment - Pyrmont,Mr.Sammuel Sammut <u>Permits</u>							
45-6-2035	Becks Place	GDA	56	325715	6265204	Closed site	Valid	Art (Pigment or Engraved) : -, Potential Archaeological Deposit (PAD) : -	Shelter with Art	1333,104848
	<u>Contact</u>	<u>Recorders</u>	Warren Bluff,Coast History & Heritage ,Mrs.Julia McLachlan <u>Permits</u>							
45-6-0951	Rogans Hill	AGD	56	320172	6267128	Closed site	Valid	Artefact : -	Shelter with Deposit	102473
	<u>Contact</u>	<u>Recorders</u>	ASRSYS <u>Permits</u>							
45-6-2932	Lake Parra R5	GDA	56	315700	6259050	Closed site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Michael Guider <u>Permits</u>							
45-6-3136	Terrys Creek Shelter PAD1	GDA	56	323515	6261475	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	<u>Contact</u>	<u>Recorders</u>	Mr.Phil Hunt <u>Permits</u>							
45-6-3817	Westleigh PAD	GDA	56	321732	6268038	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	<u>Contact</u>	<u>Recorders</u>	Mr.Peter Saad <u>Permits</u>							
45-6-2309	Ermington PS; RYDE 101	GDA	56	321494	6257820	Open site	Valid	Artefact : -	Open Camp Site	102196,102489
	<u>Contact</u>	<u>Recorders</u>	Michael Guider,Aboriginal Heritage Office <u>Permits</u>							
45-6-1449	Vineyard Creek 1;Telopea;	AGD	56	318070	6258620	Closed site	Valid	Artefact : -	Shelter with Deposit	1809,102196
	<u>Contact</u>	<u>Recorders</u>	Val Attenbrow,K Cutmore <u>Permits</u>							
45-6-2454	HR7	AGD	56	320750	6266340	Closed site	Valid	Artefact : -	Shelter with Deposit	3484,102473
	<u>Contact</u>	<u>Recorders</u>	Margrit Koettig <u>Permits</u>							
45-6-2472	CF6	AGD	56	317750	6262200	Closed site	Valid	Artefact : -, Art (Pigment or Engraved) : -	Shelter with Art,Shelter with Deposit	
	<u>Contact</u>	<u>Recorders</u>	Ms.Tessa Corkill <u>Permits</u>							
45-6-1157	Brown;Cut Inside Cave; RYDE 003	GDA	56	325234	6262680	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	102489
	<u>Contact</u>	<u>Recorders</u>	Mr.R Taplin,Aboriginal Heritage Office <u>Permits</u>							

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
45-6-0339	Normanhurst;	AGD	56	322450	6267538	Open site	Valid	Grinding Groove : -	Axe Grinding Groove	
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							
45-6-2040	Coups creek;	AGD	56	323570	6265750	Closed site	Valid	Artefact : -	Shelter with Deposit	102203
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							
45-6-2584	Shrimptons Creek 1;Macquarie Park (Lane Cove NP); RYDE 005	GDA	56	326234	6261520	Closed site	Valid	Artefact : -	Shelter with Deposit	98744,102489
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							
45-6-0924	Darling Mills Creek;Parramatta	AGD	56	315799	6261555	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	1776
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							
45-6-0938	Callicoma Trail Oval ENG	GDA	56	319961	6266378	Open site	Valid	Art (Pigment or Engraved) : -, Grinding Groove : -	Axe Grinding Groove,Rock Engraving	102473
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							
45-6-0939	Rogans Hill;	AGD	56	317696	6267446	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							
45-6-0946	Rogans Hill;	AGD	56	319983	6267399	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	102473
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							
45-6-0947	Hornsby;	AGD	56	319238	6268116	Closed site	Valid	Artefact : -	Shelter with Deposit	
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							
45-6-0977	Epping;Lane Cove River; Little bloodwood stump cave RYDE 001	GDA	56	323964	6262130	Closed site	Valid	Artefact : -	Shelter with Deposit	2047,102489
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							
45-6-3117	Crescent 2 (C2)	GDA	56	322259	6262900	Open site	Valid	Artefact : 1		
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							
45-6-1886	William Place Shelters,;	AGD	56	315600	6260100	Closed site	Valid	Artefact : -	Shelter with Deposit	1566,102196
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							
45-6-1158	Brown Two Ceiling Domes Cave ENG (RYDE 004)	GDA	56	325274	6262670	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	102489
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							
45-6-3083	Crescent 3	GDA	56	321838	6263337	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							
45-6-2369	Bone shelter;	AGD	56	323180	6265680	Closed site	Valid	Artefact : -	Shelter with Deposit	2047
	<u>Contact</u>	<u>Recorders</u>	<u>Permits</u>							

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 43030 LKS 5.5km

Client Service ID : 1029437

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
45-6-1781	Lake Parramatta Reserve Shelter,;	AGD	56	315650	6259250	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	102196
	<u>Contact</u>	<u>Recorders</u>	Sherie-Lee Evans <u>Permits</u>							
45-6-0928	Catalpa Crescent;Turramurra;	GDA	56	326344	6265030	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	
	<u>Contact</u>	<u>Recorders</u>	ASRSYS <u>Permits</u>							
45-5-1005	IFCH1	AGD	56	322415	6262289	Open site	Not a Site	Artefact : -	Isolated Find	
	<u>Contact</u>	<u>Recorders</u>	Mr.Geordie Oakes,AECOM Australia Pty Ltd - Sydney,Ms.Tessa Corkill <u>Permits</u>							
45-6-2453	HR6	AGD	56	322400	6263970	Closed site	Valid	Artefact : -, Art (Pigment or Engraved) : -	Shelter with Art,Shelter with Deposit	3484
	<u>Contact</u>	<u>Recorders</u>	Margrit Koettig <u>Permits</u>							
45-6-2569	Sturt Street	AGD	56	318950	6258300	Open site	Valid	Artefact : -	Open Camp Site	102196
	<u>Contact</u>	<u>Recorders</u>	Michael Guider <u>Permits</u>							
45-6-2163	CF5;Cumberland S.F,;	AGD	56	317926	6262507	Closed site	Valid	Artefact : -	Shelter with Deposit	1776,1779,2114
	<u>Contact</u>	<u>Recorders</u>	Mr.Rick Bullers,Ms.Tessa Corkill <u>Permits</u>							
45-6-0341	Pymble;Turramurra;	GDA	56	325839	6264120	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	<u>Contact</u>	<u>Recorders</u>	ASRSYS <u>Permits</u>							
45-6-3114	Epping to Thornleigh Third Track Unexpected Find 1	GDA	56	322194	6263106	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Mr.Josh Symons <u>Permits</u>							
45-6-3764	Belmore Park ISO 1	GDA	56	315593	6258267	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Artefact Heritage and Environment - Pymont,Artefact Heritage and Environment - <u>Permits</u>							
45-6-3104	Rothwell Shelter KUR033	GDA	56	325500	6265090	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	<u>Contact</u>	<u>Recorders</u>	Aboriginal Heritage Office <u>Permits</u>							
45-6-2036	Lake Parramatta 2	AGD	56	315710	6258920	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	102196
	<u>Contact</u>	<u>Recorders</u>	Val Attenbrow <u>Permits</u>							
45-6-0749	Cherrybrook 5;	AGD	56	317780	6267920	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	1271
	<u>Contact</u>	<u>Recorders</u>	Doctor.Jo McDonald <u>Permits</u>							
45-6-0945	Rogans Hill;Glenhaven;	AGD	56	317410	6268080	Open site	Valid	Grinding Groove : -, Water Hole : -	Axe Grinding Groove,Water Hole/Well	
	<u>Contact</u>	<u>Recorders</u>	ASRSYS <u>Permits</u>							
45-6-1647	Cherrybrook;Pyes Creek 2;	AGD	56	318950	6268350	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	764,1214

Report generated by AHIMS Web Service on 01/08/2025 for Samantha Keats for the following area at Datum :GDA, Zone : 56, Eastings : 315535.0 - 326755.0, Northings : 6257680.0 - 6268866.0 with a Buffer of 0 meters.. Number of Aboriginal sites and Aboriginal objects found is 110

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

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
	<u>Contact</u>	<u>Recorders</u>	Denise Donlon,Les Smith					<u>Permits</u>		
45-6-0304	Pennant Hills;	AGD	56	322503	6264795	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	<u>Contact</u>	<u>Recorders</u>	ASRSYS					<u>Permits</u>		
45-6-2947	Bidjigal Shelter DCAC	GDA	56	315707	6262265	Open site	Valid	Artefact : 1		
	<u>Contact</u>	<u>Recorders</u>	ARC - Andrew Roberts Consulting					<u>Permits</u>		
45-6-1432	Vineyard Creek 2;Telopea;	AGD	56	318080	6258620	Closed site	Valid	Artefact : -	Shelter with Deposit	1809,102196
	<u>Contact</u>	<u>Recorders</u>	Val Attenbrow,K Cutmore					<u>Permits</u>		
45-5-0888	See 45-6-2550;	AGD	56	315480	6263070	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	
	<u>Contact</u>	<u>Recorders</u>	ASRSYS					<u>Permits</u>		
45-6-1235	Browns Waterhole Animal Tracks ENG	GDA	56	324646	6262727	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	
	<u>Contact</u>	<u>Recorders</u>	ASRSYS,Mr.Oliver Descoeudres					<u>Permits</u>		
45-6-2659	CHHP IF1	GDA	56	315950	6267240	Open site	Valid	Artefact : 1		
	<u>Contact</u>	<u>Recorders</u>	Jim Wheeler					<u>Permits</u>	1688	
45-6-2667	CHHP	AGD	56	315900	6267200	Open site	Valid	Artefact : -, Potential Archaeological Deposit (PAD) : -		
	<u>Contact</u>	<u>Recorders</u>	Jim Wheeler					<u>Permits</u>	1760	
45-6-2805	Lake Parramatta Playground 1	GDA	56	315572	6259151	Open site	Valid	Artefact : -		102196,103774
	<u>Contact</u> Searle	<u>Recorders</u>	Jim Wheeler					<u>Permits</u>	2525	
45-6-3658	Westleigh Shelter	GDA	56	321983	6268188	Open site	Valid	Habitation Structure : -, Aboriginal Resource and Gathering : -		
	<u>Contact</u>	<u>Recorders</u>	Guringai Tribal Link Aboriginal Corporation,Mrs.Tracey Howie,Mr.Peter Saad					<u>Permits</u>		
45-6-2160	CF1 a b;Cumberland S.F.;	AGD	56	318018	6262574	Closed site	Valid	Art (Pigment or Engraved) : -, Artefact : -	Shelter with Art,Shelter with Deposit	1776,2114
	<u>Contact</u>	<u>Recorders</u>	Mr.Rick Bullers,Ms.Tessa Corkill					<u>Permits</u>		
45-6-2990	Zig Zag Creek 02	GDA	56	320196	6267009	Closed site	Valid	Artefact : 2, Hearth : 1		102473
	<u>Contact</u>	<u>Recorders</u>	Mr.Michael Jackson					<u>Permits</u>		
45-6-3082	NWRL PAD1	GDA	56	320967	6262938	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		
	<u>Contact</u>	<u>Recorders</u>	GML Heritage Pty Ltd - Surry Hills					<u>Permits</u>		
45-6-3105	Canoon Rd Grooves 1 KUR143	GDA	56	324284	6264100	Open site	Valid	Grinding Groove : -		

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
45-6-0941	Rogans Hill;	AGD	56	319811	6266846	Open site	Valid	Grinding Groove : -	Axe Grinding Groove	102473
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
45-6-0948	Rogans Hill;Hornsby;	AGD	56	319242	6267933	Closed site	Valid	Artefact : -, Art (Pigment or Engraved) : -	Shelter with Art,Shelter with Deposit	
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
45-6-0950	Rogans Hill;Pyes Ck 3;	AGD	56	318967	6267928	Open site	Valid	Grinding Groove : -	Axe Grinding Groove	764
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
45-6-2931	Lake Parra R3	GDA	56	315820	6258820	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
45-6-2946	Bidjigal Scarred Tree DCAC	GDA	56	315650	6262536	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
45-6-1439	Elouera Bushland Reserve	AGD	56	320710	6267687	Open site	Not a Site	Art (Pigment or Engraved) : -	Not an Aboriginal Site	
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
45-6-2513	CFC (Baulkham Hills) SEE 45-6-2472	AGD	56	317750	6262200	Closed site	Valid	Art (Pigment or Engraved) : -, Artefact : -	Shelter with Art,Shelter with Deposit	
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
45-6-2550	DMC3;DMC 3;	AGD	56	315480	6263070	Closed site	Valid	Art (Pigment or Engraved) : -	Shelter with Art	2670
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
45-6-2570	Kissing Point Rd	AGD	56	318820	6258140	Open site	Valid	Artefact : -	Open Camp Site	102196
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
45-6-2660	CHHP IF2	GDA	56	315860	6267120	Open site	Valid	Artefact : 1		
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>	1688	
45-6-2572	McKillop Place;	AGD	56	319140	6259320	Open site	Valid	Artefact : -	Open Camp Site	102196
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
45-6-2892	PHGC 1 (Hills Golf Course)	GDA	56	319880	6263112	Closed site	Valid	Artefact : -		3652
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		

<u>SiteID</u>	<u>SiteName</u>	<u>Datum</u>	<u>Zone</u>	<u>Easting</u>	<u>Northing</u>	<u>Context</u>	<u>Site Status **</u>	<u>SiteFeatures</u>	<u>SiteTypes</u>	<u>Reports</u>
45-6-3657	Westleigh Scarred Tree	GDA	56	321930	6267659	Open site	Valid	Aboriginal Resource and Gathering : -, Modified Tree (Carved or Scarred) : -, Potential Archaeological Deposit (PAD) : -		
	<u>Contact</u>	<u>Recorders</u>	Insite Heritage Pty Ltd,Guringai Tribal Link Aboriginal Corporation,Mrs.Tracey Hov							
45-6-4016	The Jungo Artefact Site: Zig Zag Creek 2	GDA	56	320040	6267259	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	DPIE - Armidale,Mr.Andrew Duffy							
45-6-3067	Crescent 1	GDA	56	322187	6263082	Open site	Valid	Artefact : 1		
	<u>Contact</u>	<u>Recorders</u>	Kelleher Nightingale Consulting Pty Ltd							
								<u>Permits</u>		

** Site Status

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

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

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

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

Report generated by AHIMS Web Service on 01/08/2025 for Samantha Keats for the following area at Datum :GDA, Zone : 56, Eastings : 315535.0 - 326755.0, Northings : 6257680.0 - 6268866.0 with a Buffer of 0 meters.. Number of Aboriginal sites and Aboriginal objects found is 110

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Appendix 2 Test excavation results

TEST PIT DATA								
Transect Number	Test Pit Number	NW End depth (mm)	NE End Depth (mm)	SE End Depth (mm)	SW End Depth (mm)	Landform	Disturbance	Notes
1	1	600	570	500	590	Crest	Asphalt, debris from development, litter	
	2	350	430	400	390	Crest	Imported stone material, debris	
2	1	210	210	300	250	Crest	Plastic, litter	
	2	360	360	360	390	Crest	Litter	
	3	400	380	390	400	Crest	Pipe, glass, metal, construction/demolition remnants	Hard shale at base, immediately overlies clay
	4	90	90	90	90	Crest		
	1	280	260	280	300	Crest	Imported stone material, litter	

CONTEXT DATA												
Transect	Test pit	Context	Start depth (mm)	End depth (mm)	Colour (Munsell Code)	Compaction	Texture	Inclusions	PH	Horizon clarity	Disturbance	Notes
1	TP1	1	0	290	10YR 6/3 - Pale Brown	Hard	Loamy Silt	Rootlets, shale fragments	6	Diffuse	Old sewage pipe remnants, imported stone material	
		2	290	310	10YR 6/3 - Pale Brown	Hard	Other	Asphalt layer	7	Clear	Asphalt	
		3	310	600	10YR 3/4 - Dark Yellowish Brown	Moderate	Loamy Silt	Charcoal	7.5	Clear		
		4	600	600	10YR 5/6 - Yellowish Brown	Hard	Clay	N/A	7	Clear		Clay base
	TP2	1	0	100	10YR 4/2 - Dark Grayish Brown	Moderate	Loamy Silt	Rootlets, shale fragments	6.5	Diffuse	Imported stone material	
		2	100	430	10YR 5/6 - Yellowish Brown	Hard	Clay	Tree roots, shale fragments, clay	6	Clear	Imported stone material	

CONTEXT DATA												
Transect	Test pit	Context	Start depth (mm)	End depth (mm)	Colour (Munsell Code)	Compaction	Texture	Inclusions	PH	Horizon clarity	Disturbance	Notes
		3	430	430	10YR 4/3 - Brown	Hard	Clay	N/A	7	Clear		
2	TP1	1	0	170	10YR 3/2 - Brown	Moderate	Loamy Silt	Rootlets, shale fragments	6	Clear	Plastic, imported stone material, debris	
		2	100	250	10YR 6/4 - Light Yellowish Brown	Hard	Clay	Shale fragments, clay	7.5	Sharp		
	TP 2	1	0	200	10YR 4/2 - Dark Grayish Brown	Moderate	Loamy Silt	Rootlets, shale fragments, tree roots	7	Gradual	Debris, imported stone material	
		2	200	350	10YR 4/3 - Brown	Moderate	Loamy Silt	Rootlets, shale fragments	6.5	Gradual	Imported stone material	
		3	350	390	10YR 7/4 - Very Pale Brown	Hard	Clay	Shale fragments	5.5	Clear		
	TP 3	1	0	150	10YR 4/2 - Dark Grayish Brown	Soft	Loamy Silt	Rootlets, shale fragments	7	Diffuse	Plastic, glass, metal remnants, other debris	
		2	150	310	10YR 5/3 - Brown	Moderate	Silty Clay Loam	Pipe, tree root, rootlets, shale fragments, clay	7	Diffuse	Piping, other debris	
		3	310	400	10YR 6/4 - Light Yellowish Brown	Hard	Clay	Shale (whole and fragments), clay	6.5	Clear		Baked clay immediately overlying hard shale layer
	TP 4	1	0	20	10YR 4/2 - Dark Grayish Brown	Soft	Loamy Silt	Rootlets	7	Diffuse		
		2	20	90	10YR 5/4 - Yellowish Brown	Hard	Clay	Rootlets, clay	6.5	Diffuse		
3	TP 1	1	0	130	10YR 4/2 - Dark Grayish Brown	Moderate	Loamy Silt	Rootlets, shale fragments, charcoal	7	Gradual	Imported stone material, litter	

CONTEXT DATA												
Transect	Test pit	Context	Start depth (mm)	End depth (mm)	Colour (Munsell Code)	Compaction	Texture	Inclusions	PH	Horizon clarity	Disturbance	Notes
		2	130	230	10YR 5/3 - Brown	Moderate	Loamy Silt	Rootlets, shale fragments	7	Gradual	Imported stone material	
		3	230	280	10YR 6/6 - Brownish Yellow	Hard	Clay	Clay, shale fragments	7.5	Clear		

