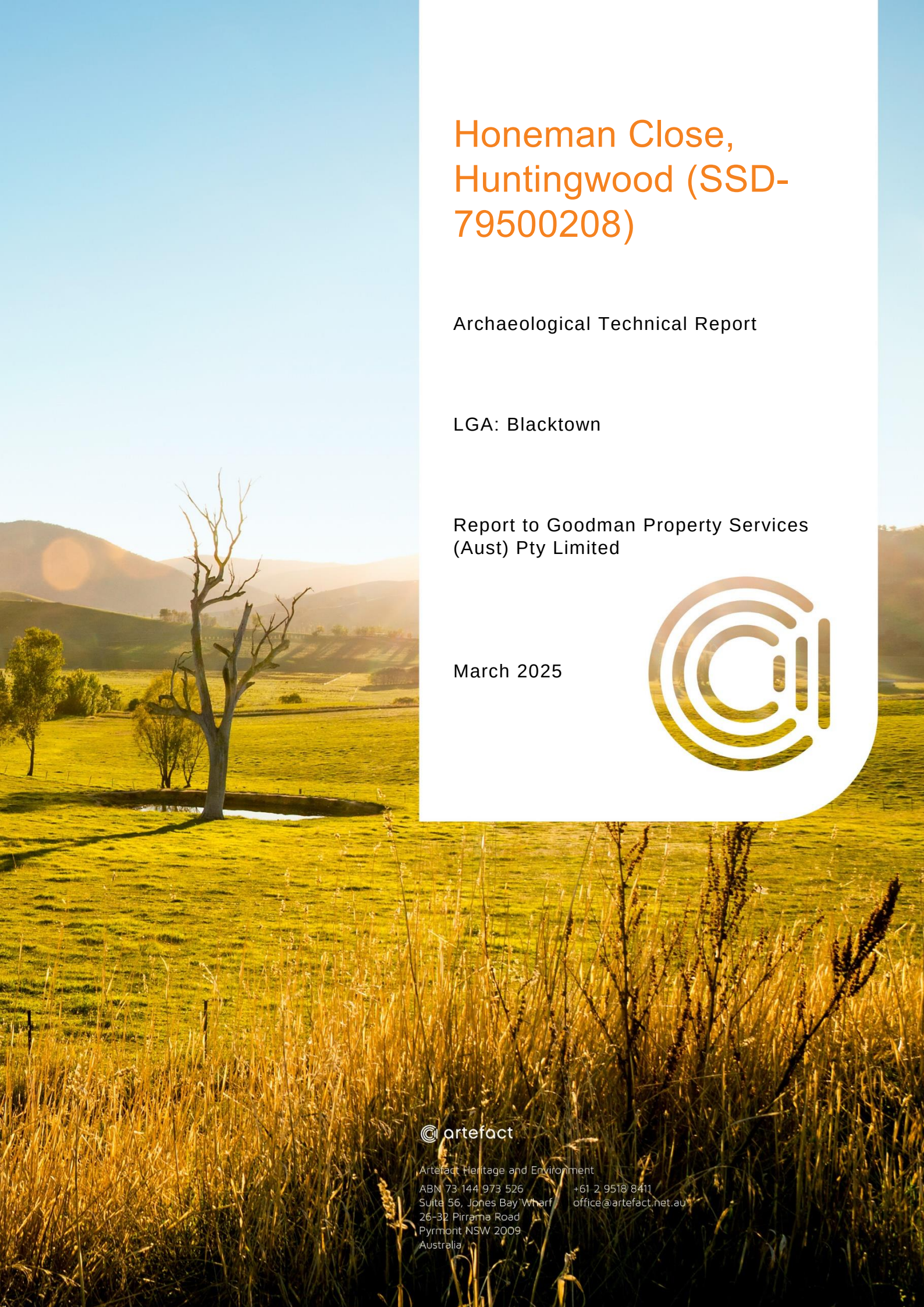
Honeman Close, Huntingwood (SSD-79500208)

Archaeological Technical Report

LGA: Blacktown

Report to Goodman Property Services (Aust) Pty Limited

March 2025



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EXECUTIVE SUMMARY

Goodman Property Services (Aust) Pty Limited (the proponent) are seeking approval for the construction, operation, use and fit-out approval of two warehouses spanning 52,935 sqm Gross Leasable Area (GLA) and associated infrastructure and lead-in works. Approval is sought for 24/7 operation of the proposed Warehouse and Distribution use. The development is proposed to be constructed in one stage and will generally consist of the following scope:

- Infrastructure and Lead-in Works
    - Estate wide infrastructure and preparation works including vegetation clearing, bulk earthworks and remediation, watercourse realignment, retaining walls, internal services reticulation;
    - Lead in services including stormwater, sewer, potable water, electrical and communications
    - New Left in, Left out intersection at Great Western Highway / new proposed estate road including services relocation and eventual dedication;
- Warehouse with ancillary office development;
    - Construction, operation, fit-out and use of two warehouses, totalling 52,935 sqm GLA of warehouse, including ancillary office spaces, access and hardstand, guardhouses, loading bays, landscaping, car parking, electric vehicle charging, solar panels and signage;
    - Warehouse proposed height limit of 15m
    - 24/7 operation
    - Warehouse and distribution use with generic racking layout

The study area is a 20ha greenfield development site located at Honeman Close, Huntingwood. The study area comprises the following:

- Lot 1 in DP 1098102 – to facilitate the proposed two warehouse and distribution centre buildings with ancillary offices zoned IN1 General Industrial
- Great Western Highway, Lot 16 & 19 in DP1024111, and Lot 19 in DP819317 – to facilitate intersection upgrade works and formal access, zoned both SP2 Classified Road and IN1 General Industrial

The project will be seeking development consent as a State Significant Development (SSD) under the *Environmental Planning and Assessment Act 1979*. The Secretary's Environmental Assessment Requirements (SEARs) for the project (SSD-79500208) were issued on 31 January 2025. SEARs requirement 18 stipulates that an Aboriginal Cultural Heritage Assessment Report (ACHAR) must be prepared to support the Environmental Impact Statement (EIS) for the project. In accordance with the statutory guidelines for the preparation of an ACHAR, a standalone ATR must be prepared as an appendix to the ACHAR. This report has been prepared in fulfilment of that requirement. To achieve this aim, the following objectives are included in this report:

- Review of existing knowledge: Review of previous archaeological works and Aboriginal Heritage Information Management System (AHIMS) search results

- Review of the landscape context: Desktop assessment of the archaeological implications of the landscape features (soil landscapes, historic land use, geomorphic character, and natural resources) relevant to the study area
- Summary and discussion of the local and regional archaeological character of Aboriginal land use and its material traces based on the finds of the previous two steps
- Development of a predictive model for the nature and distribution of archaeological evidence of Aboriginal land use based on the previous three steps
- Carry out an archaeological survey of the study area to investigate the existence of Aboriginal sites or area or archaeological potential
- Complete an archaeological significance assessment of any artefacts that may be identified
- Complete an impact assessment for recorded Aboriginal sites and areas of archaeological potential

The search of the AHIMS database and review of existing archaeological literature identified five registered sites within the study area:

1. AHIMS ID 45-5-2362 - EC 2 (5): an artefact scatter consisting of two artefacts, one chert and one quartz located immediately adjacent to the heavily eroded western tributary of Bungaribee Creek.
2. AHIMS ID 45-5-2363 – EC3 (5): is an artefact scatter consisting of two red silcrete artefacts located in an eroded area which has been disturbed by freeway construction, removal of topsoil, grading and flood mitigation.
3. AHIMS ID 45-5-2364 – EC 4 (5): is a possible Scarred Tree. Two ironbark trees with toeholds located between approximately 100m south of the confluence of two distant drainage lines which comprise the northern extent of Bungaribee Creek. This site is located within the study area. The KNC (2023) report, states that the location of this site is 80m south of its registered location.
4. AHIMS ID 45-5-3309 – NBP1: is an Open Campsite consisting of four red silcrete artefacts, one cream tuff flake fragment. The site card was lodged by Mary Dallas Consulting Archaeologists based on the outcome of a report they prepared (2007). The site card notes that an earlier assessment had been completed by Ngara Consulting Pty Ltd. (2003) which identified glass and ceramic that may have been worked. However, the site card recorder was not able to locate ceramic or glass Aboriginal objects. The eastern edge of the site contains a scoured area of exposed clay subsoil approximately 5 metres by 30 metres and does not appear to be associated with any Potential Archaeological Deposit (PAD). The deposited soil at its downslope margin shows the active movement of soil in this area.
5. AHIMS ID 45-5-3310 – NBP2: is mapped as being approximately 130 m to the south of the southern boundary of the study area. However, it's location is noted on the site card as being within the Northern Boiler Paddock between Honeman Close and the M4 Motorway at Huntingwood, which would place it within the study area. There is very little additional detail on the site card. It only states the site type as an 'open campsite'. The card notes also notes it

was originally recorded by Ngara Consulting Pty Ltd. (2003) but the site could not be relocated by Mary Dallas Consulting Archaeologist in 2007.

Due to dense vegetation overgrowth only artefacts at AHIMS ID 45-5-3309 – NBP1 could be relocated. Based on the review of existing literature and the archaeological survey, it was determined that AHIMS ID 45-5-3309 – NBP1 and the entirety of the study area is not likely to contain Aboriginal objects from the post-contact period. This was based on the lack of documented evidence of contact archaeology and the present of historic rubbish within the vicinity of AHIMS ID 45-5-3309 – NBP1. The remaining four sites were overgrown and Aboriginal objects could not be relocated. Therefore, the sites are considered to be valid and preserved by the vegetation overgrowth.

The survey identified that the study area had been subject to extensive historic disturbance which had removed sediment deposits that could conceal Aboriginal objects. Therefore, no areas of PAD were identified, and it is considered likely that any additional Aboriginal objects concealed within the vegetation would be located on the surface as extensions of the currently identified sites.

AHIMS ID 45-5-2362 - EC 2 (5), AHIMS ID 45-5-2363 – EC3 (5), AHIMS ID 45-5-3309 – NBP1, and AHIMS ID 45-5-3310 – NBP2 were characterised as surface artefact sites of low archaeological significance. AHIMS ID 45-5-2364 – EC 4 (5) is a potential modified tree of moderate archaeological significance. Based on the current design plans, it is understood that AHIMS ID 45-5-2363 – EC 3(5), AHIMS ID 45-5-3309 – NBP1, AHIMS ID 45-5-2364 – EC 4 (5), and AHIMS ID 45-5-3310 – NBP2 will be subject to direct harm that will result in a total loss of value. AHIMS ID 45-5-2362 – EC 2(5) is unlikely to be harmed. Based on these findings, the following recommendations are made:

- SSD consent should be obtained to authorise harm to AHIMS ID 45-5-2363 – EC 3(5), AHIMS ID 45-5-3309 – NBP1, AHIMS ID 45-5-2364 – EC 4(5), and AHIMS ID 45-5-3310 – NBP2.
    - An opportunity to complete a surface collection across the entire impact area should be provided to the Aboriginal community as a condition of the SSD consent. Any recovered artefacts should be buried within a portion of the study area not subject to future works.
    - An arborist assessment must be completed to inform the development of a methodology to salvage AHIMS ID 45-5-2364 – EC 4(5). Long term management for the tree would be informed by the findings of the arborist report and consultation with the RAPs and advice from Heritage NSW.
- AHIMS ID 45-5-2362 – EC 2(5) is unlikely to be harmed. However, the proponent should take action to ensure that these sites are not subject to incidental harm during construction works and should ensure all project staff are made aware of the location of the sites.
- An ACHAR with associated Aboriginal consultation be undertaken in accordance with the SEARs. The ACHAR would include an assessment of the socio-cultural, historic and aesthetic significance of the identified Aboriginal objects and the broader study area. The ACHAR would also include a detailed methodology for surface collection, site avoidance, and long term management of salvaged artefacts.

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1.0 INTRODUCTION

1.1 Project brief

Goodman Property Services (Aust) Pty Limited (the proponent) are proposing the construction, operation, use and fit-out approval of two warehouses spanning 52,935 sqm Gross Leasable Area (GLA) and associated infrastructure and lead-in works. Approval is sought for 24/7 operation of the proposed Warehouse and Distribution use. The project will be seeking development consent as a State Significant Development (SSD) under the *Environmental Planning and Assessment Act 1979*. The Secretary's Environmental Assessment Requirements (SEARs) for the project (SSD-79500208) were issued on 31 January 2025. SEARs requirement 18 stipulates that an Aboriginal Cultural Heritage Assessment Report (ACHAR) must be prepared to support the Environmental Impact Statement (EIS) for the project. In accordance with the statutory guidelines for the preparation of an ACHAR, a standalone ATR must be prepared as an appendix to the ACHAR. This report has been prepared in fulfilment of that requirement.

1.2 Description of the study area

The study area is a 20ha greenfield development site located at Honeman Close, Huntingwood. The study area comprises the following:

- Lot 1 in DP 1098102 – to facilitate the proposed two warehouse and distribution centre buildings with ancillary offices zoned IN1 General Industrial
- Great Western Highway, Lot 16 & 19 in DP1024111, and Lot 19 in DP819317 – to facilitate intersection upgrade works and formal access, zoned both SP2 Classified Road and IN1 General Industrial

The study area is located within the Blacktown Local Government Area (LGA). The study area exists within the boundaries of the Deerubbin Local Aboriginal Land Council (LALC). The study area is currently undeveloped and is bounded to the north by dense regrowth of trees and the Great Western Highway, the east by Reservoir Road, the south by the Western Motorway, and the west by commercial/industrial development.

1.3 Aims and objectives

This report has been prepared to address the requirements of the SEARs and aims to determine if Aboriginal objects are present within the study area and assess the potential for impacts to those objects and their significance.

To achieve this aim, the following objectives are included in this report:

- Review of existing knowledge: Review of previous archaeological works and Aboriginal Heritage Information Management System (AHIMS) search results
- Review of the landscape context: Desktop assessment of the archaeological implications of the landscape features (soil landscapes, historic land use, geomorphic character, and natural resources) relevant to the study area
- Summary and discussion of the local and regional archaeological character of Aboriginal land use and its material traces based on the finds of the previous two steps

- Development of a predictive model for the nature and distribution of archaeological evidence of Aboriginal land use based on the previous three steps
- Carry out an archaeological survey of the study area to investigate the existence of Aboriginal sites or area or archaeological potential
- Complete an archaeological significance assessment of any artefacts that may be identified
- Complete an impact assessment for recorded Aboriginal sites and areas of archaeological potential
- Recommend further archaeological investigation and consultation with Aboriginal stakeholders where required, and provide measures to avoid, minimise and, if necessary, offset the predicted impacts to Aboriginal heritage values.

1.4 Limitations and constraints

Background research completed to inform the development of this report was limited to existing and publicly accessible sources of information. The findings of archaeological assessments cited in the report were not independently verified except where inconsistencies within the documents were identifiable. The report was prepared for the study area only. Non-Aboriginal (historical) heritage has not been assessed as part of this study. Artefact has prepared a Statement of Heritage Impact (SoHI) to assess non-Aboriginal heritage.

1.5 Authors and contributors

This report was prepared by Kieran Murray (Heritage Consultant, Artefact Heritage), Rebecca Bryant (Senior Heritage Consultant, Artefact Heritage) and Dr Stephen Gapps (Historian, Artefact Heritage). Management and review were provided by Ryan Taddeucci (Principal, Artefact Heritage), and Samantha Higgs (Team Leader – Archaeology, Artefact Heritage). Mapping was provided by Mike Douglas (Geographic Information System Officer, Artefact Heritage). A summary of the authors, contributors and their role are provided in Table 1 below.

Table 1: Summary of authors and contributors.

Authors and Contributors	Qualifications	Experience	Tasks
Kieran Murray (Heritage Consultant)	Bachelor of Archaeology	2 years	• Report writing • Archaeological survey
Rebecca Bryant (Senior Heritage Consultant)	Bachelor of Science (Archaeology and Palaeoanthropology) Master of Research (Aboriginal lithics)	13+ years	• Report writing • Archaeological survey
Samantha Higgs (Team Leader - Archaeology)	Bachelor of Arts (Hons), PhD Archaeology	20+ years	• Quality control • Technical support

Authors and Contributors	Qualifications	Experience	Tasks
Ryan Taddeucci (Principle)	Bachelor of Arts (Honours - Archaeology) Master of Museum Studies Graduate Certificate (Maritime Archaeology)	11+ years	• Project management • Technical review
Mike Douglas (GIS Officer)	Bachelor of Arts North American Archaeology Master of Science Geology Master's Certificate in GIS Science	20+ years	• Preparation of mapping • GIS support
Dr Stephen Gapps (Historian)	Bachelor of Arts (Hons)., History Master of Applied History PhD History	20+ years	• Background Histories

Figure 1: The study area

Document Path: C:\Users\MDouglas\OneDrive - Artefact Heritage Services Pty Ltd\GIS\GIS_Mapping\240467_Lot1 Honeman Close Huntingwood\MXD\240467_StudyArea_v3_240225.mxd

2.0 PROJECT FRAMEWORK

2.1 Commonwealth legislation

2.1.1 Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) provides a legal framework for the protection and management of Australia's unique environment, including biodiversity and culturally significant places. The EPBC Act also includes provisions to identify places for addition to the National Heritage List (NHL) and Commonwealth Heritage List (CHL) to enhance the protection, conservation and presentation of those places. A search of the NHL and CHL was completed on 28 January 2025 and found no listed places.

2.1.2 Aboriginal and Torres Strait Islander Heritage Protection Act 1984

The Commonwealth *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (ATSIHP Act), deals with Aboriginal cultural property (intangible heritage) in a wider sense. Such intangible heritage includes any places, objects and folklore that 'are of particular significance to Aboriginals in accordance with Aboriginal tradition'. These values are not currently protected under the NPW Act.

There is no cut-off date and the ATSIHP Act may apply to contemporary Aboriginal cultural property as well as ancient sites. The ATSIHP Act takes precedence over state cultural heritage legislation where there is conflict. The Commonwealth Minister who is responsible for administering the ATSIHP Act can make declarations to protect these areas and objects from specific threats of injury or desecration. The responsible Minister may make a declaration under Section 10 of the Commonwealth Act in situations where state or territory laws do not provide adequate protection of intangible heritage.

Where an Aboriginal individual or organisation is concerned that intangible values within the proposal are not being adequately protected, they can apply to the Minister for a declaration over a place. A search of the Federal Gazette was undertaken on 28 January 2025, and no declarations were found within the study area.

2.1.3 Native Title Act 1993

The main purpose of the *Native Title Act 1993* is to recognise and protect native title. Native title is the rights and interests in land and waters that Aboriginal and Torres Strait Islanders have under their traditional laws and customs. Under the *Native Title Act 1993* the National Native Title Tribunal has a number of functions including maintaining the Register of Native Title Claims, the National Native Title Register and the Register of Indigenous Land Use Agreements and mediating native title claims.

Proponents are not required to comply with the requirements of steps 4.1.2 to 4.1.7 of the Consultation Requirements where there is an approved determination that native title exists in relation to the entire study area. In this circumstance, proponents need only consult with the native title holders. However, steps 4.1.2 to 4.1.7 are appliable for any portion of the study area not covered by a native title determination. A search of the National Native Title Tribunal database was completed on 20 January 2025. The search did not identify any Native Title claims within the study area.

Both the National Native Title Tribunal and NTSCorp should be consulted under Requirement 4.1.2 of the Consultation Requirements to ascertain the names of Aboriginal people who may hold cultural knowledge relevant to determining the significance of Aboriginal objects or places.

2.2 State legislation

2.2.1 National Parks and Wildlife Act 1974

The *National Parks and Wildlife Act 1974* (NPW Act), administered by Heritage NSW provides statutory protection for all Aboriginal 'objects' (consisting of any material evidence of the Aboriginal occupation of NSW), and for 'Aboriginal Places' (areas of cultural significance to the Aboriginal community).

The protection provided to Aboriginal objects applies irrespective of the level of their significance or issues of land tenure. However, areas are only gazetted as Aboriginal places if the Minister is satisfied that sufficient evidence exists to demonstrate that the location was and/or is of special significance to Aboriginal culture.

There are no gazetted Aboriginal places in the study area. All Aboriginal objects, whether recorded or not, are protected under the NPW Act.

Section 86 of the NPW Act identifies that it is an offence to harm or desecrate an Aboriginal object and/or an Aboriginal place. Section 86 outlines penalty units applicable where it is identified that a person or corporation is in breach of Section 86.

The NPW Act defines harm to an object or place as any act or omission that:

(a) destroys, defaces or damages the object or place, or

(b) in relation to an object moves the object from the land on which it had been situated, or

(c) is specified by the regulations, or

(d) causes or permits the object or place to be harmed in a manner referred to in paragraph (a), (b) or (c)

An Aboriginal Heritage Impact Permit (AHIP) may be issued under section 90 of the *National Parks and Wildlife Act 1974* by Heritage NSW as a defence against harm to Aboriginal objects and Places. Various factors are considered by Heritage NSW in the AHIP application process, such as site significance, Aboriginal consultation requirements, Ecological Sustainable Development (ESD) principles, project justification and consideration of alternatives. There are penalties and fines for damaging or defacing an Aboriginal object without a valid defence.

As this project is being assessed under Part 4 Division 4.1 of the EP&A Act, permits issued under the NPW Act are not required for impacts approved under the SSD provisions. Impacts to Aboriginal objects will be authorised by the Conditions of Approval for the project issued under the EP&A Act.

2.2.2 Environmental Planning and Assessment Act 1979

The EP&A Act establishes the framework for cultural heritage values to be formally assessed in the land use planning, development assessment and environmental impact assessment processes. Part 3, Division 3.4 deals with the development of Local Environmental Plans (LEPs). Planning decisions within Local Government Areas (LGAs) are guided by LEPs. Each LGA is required to develop and maintain an LEP that includes Aboriginal and historical heritage items which are protected under the *EP&A Act* and in some cases also protected under the *Heritage Act 1977*. The study area is located

within the boundaries of the Blacktown LGA and is covered by the Blacktown LEP. No registered heritage items were identified within the study area.

The proposal will be assessed under Part 4, Division 4.1 of the EP&A Act, which establishes an assessment and approval regime for SSD. Part 4, Division 4.1 applies to development that is declared to be an SSD by a State Environmental Planning Policy (SEPP). Section 4.41 (previously section 89J(c)) of the EP&A Act specifies that approvals or permits under section 90 of the NPW Act 1974 are not required for approved SSD.

2.2.3 Heritage Act 1977

The Heritage Act 1977 protects protection to heritage items (natural and cultural) in NSW. Under the *Heritage Act 1977*, 'items of environmental heritage' include places, buildings, works, relics, moveable objects and precincts identified as significant. While Aboriginal heritage is primarily protected under the *National Parks and Wildlife Act 1974* but may also be subject to the provisions of the *Heritage Act 1977* if an item listed on the State Heritage Register or subject to an interim heritage order. In such cases, Aboriginal objects and places are protected under Section 60 of the *Heritage Act 1977* and approval from the Heritage Council of NSW may also be required in addition to an AHIP. Section 60 approvals are not required for an approved SSD project.

There are no items listed on the State Heritage Register within the study area. However, two State Heritage Registered items are located within a 250m buffer of the study area:

- Former Great Western Road, Prospect (SHR #01911)
- Prospect Reservoir and Surrounding Areas (SHR #01370).

The Former Great Western Road, Prospect (SHR #01911) at Prospect has important historical association with the Aboriginal people of the Prospect area as the probable alignment of an earlier Aboriginal route over Prospect Hill. There are no specific Aboriginal heritage values associated with Prospect Reservoir and Surrounding Areas (SHR #01370).

2.2.4 NSW Native Title Act 1994

The *Native Title Act 1994* was introduced to ensure that the laws of NSW are consistent with the Commonwealth *Native Title Act 1993*. Native Title claims, registers and Indigenous Land Use Agreements are administered under the Act. No Native Title claims were found within the study area as outlined in Section 2.1.3.

2.2.5 Aboriginal Lands Right Act 1983

The *Aboriginal Land Rights Act 1983* (ALR Act) established Aboriginal Land Councils (at State and Local levels). The study area is within the boundary of the Deerubbin LALC which has a statutory obligation under the ALR Act to:

> *(a) take action to protect the culture and heritage of Aboriginal persons in the council's area, subject to any other law, and*
>
> *(b) promote awareness in the community of the culture and heritage of Aboriginal persons in the council's area.*

The ALR Act also establishes the Registrar whose functions include maintaining the Register of Aboriginal Land Claims and the Register of Aboriginal Owners. Registration as an Aboriginal owner does not confer land title rights but acknowledges the person's cultural association with the land. Under the ALR Act, the Registrar is to give priority to the entry in the Register of the names of Aboriginal persons who have a cultural association with:

- Lands listed in Schedule 14 to the *National Parks and Wildlife Act 1974*
- Lands to which Section 36A of the *Aboriginal Land Rights Act 1983* applies.

Requirement 4.1.2 of the Consultation Requirements stipulates that the Deerubbin LALC and the Registrar should be contacted to ascertain the names of Aboriginal people who may hold cultural knowledge relevant to determining the significance of Aboriginal objects or places.

3.0 ARCHAEOLOGICAL CONTEXT

3.1 AHIMS search

NOTE: The location of Aboriginal sites is considered culturally sensitive information. It is advised that this information, including the AHIMS data appearing on mapping below must be removed from this report if it is to enter the public domain.

An extensive search of the AHIMS was undertaken on 10 January 2024 (Client Service ID: 964780) to determine the location of Aboriginal sites in relation to the current study area. The search area measured approximately 4 kilometres by 4 kilometres centred around the study area to inform the characterisation of the local archaeological context. The AHIMS search parameters were as follows:

GDA, Zone 56	302969.23 – 306969.23 6256031.98 – 6260031.98
Buffer	0 metres (m)
Number of sites	33

There were 33 AHIMS registered sites located within the search area, four of which were mapped as being within the study area (Figure 2). The AHIMS coordinates for AHIMS ID 45-5-3310 locate the site130 m south of the study area boundary. However, the site card description indicates that AHIMS ID 45-5-3310 is within the study area (Figure 3). Therefore, there are five AHIMS sites located within the study area.

1. AHIMS ID 45-5-2362 - EC 2 (5): is an artefact scatter consisting of two artefacts, one chert and one quartz located immediately adjacent to the heavily eroded western tributary of Bungaribee Creek.
2. AHIMS ID 45-5-2363 – EC3 (5): is an artefact scatter consisting of two red silcrete artefacts located in an eroded area which has been disturbed by freeway construction, removal of topsoil, grading and flood mitigation.
3. AHIMS ID 45-5-2364 – EC 4 (5): is a possible Scarred Tree. Two ironbark trees with toeholds located between approximately 100m south of the confluence of two distant drainage lines which comprise the northern extent of Bungaribee Creek. This site is located within the study area. The KNC (2023) report, states that the location of this site is 80m south of its registered location, the corrected location is illustrated in Figure 3.
4. AHIMS ID 45-5-3309 – NBP1: is an Open Campsite consisting of four red silcrete artefacts, one cream tuff flake fragment. The site card was lodged by Mary Dallas Consulting Archaeologists based on the outcome of a report they prepared (2007). The site card notes that an earlier assessment had been completed by Ngara Consulting Pty Ltd. (2003) which identified glass and ceramic they may have been worked. However, the site card recorder was not able to locate ceramic or glass Aboriginal objects. The eastern edge of the site contains a scoured area of exposed clay subsoil approximately 5 metres by 30 metres and does not appear to be associated with any Potential Archaeological Deposit (PAD). The deposited soil at its downslope margin shows the active movement of soil in this area.
5. AHIMS ID 45-5-3310 – NBP2: is registered as being approximately 130 m to the south of the southern boundary of the study area. However, it's location is noted on the site card as being

within the Northern Boiler Paddock between Honeman Close and the M4 Motorway at Huntingwood, which would place it within the study area. the corrected location is illustrated in Figure 3. There is very little additional detail on the site card. It only states the site type as an 'open campsite'. The card notes also notes it was originally recorded by Ngara Consulting Pty Ltd. (2003) but the site could not be relocated by Mary Dallas Consulting Archaeologist in 2007.

Only one site AHIMS ID 45-5-5863 (HDC-24 CMT 1), is within 200m of the study area. AHIMS ID 45-5-5863 is a Culturally Modified Tree (CMT) that was identified by a Dharug knowledge holder during a Connecting with Country activity. A formal assessment by an archaeologist or arborist has not occurred and the site may not be an Aboriginal object. It is located 100 metres to the nearest source of water in an isolated clump of trees.

The AHIMS database also records sites using a list of 20 standard site features, and more than one feature can be used for each site. The search results identified three site features within the extensive search. The highest frequency of Aboriginal site features within the extensive search are sites that contain 'Artefact', this is followed by 'Modified Trees', then Potential Archaeological Deposits 'PAD's (Table 2). The nature and location of the registered sites is a reflection of the past Aboriginal occupation from which they derive but is also influenced by historical land-use and the nature and extent of previous archaeological investigations. There is a correlation between the proximity of recorded Aboriginal sites and watercourses.

Table 2: Frequency of site features in AHIMS search results

Site Feature	Frequency	Percentage (%)
Artefact	28	84.8
Modified Tree (Carved or Scarred)	3	9
Potential Archaeological Deposit (PAD)	2	6
Total	**33**	**100**

Figure 2. AHIMS results indicating sites within a 2km radius.

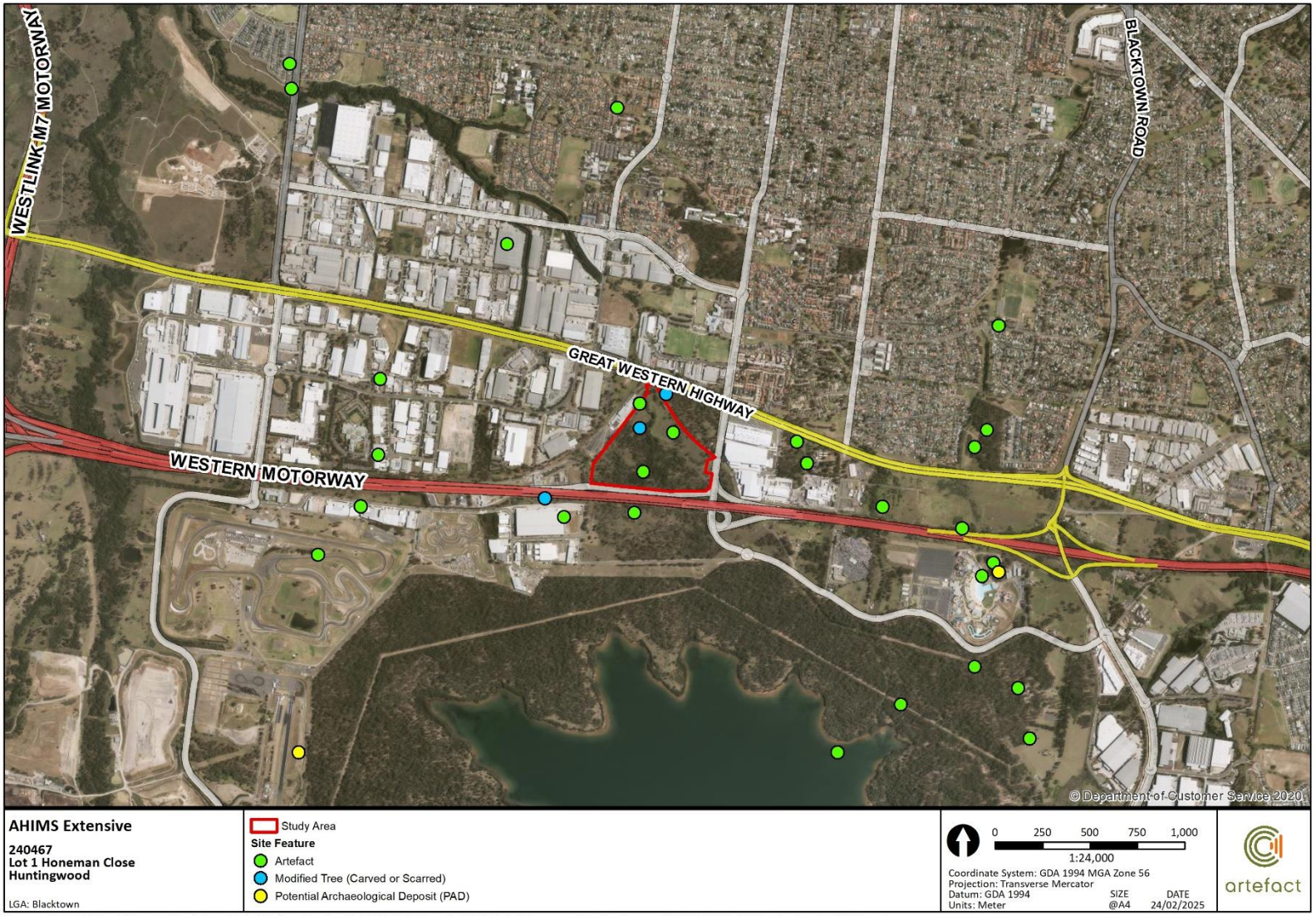


Figure 3. AHIMS search results showing sites within the study area

3.2 Review of existing archaeological literature

3.2.1 Previous archaeological investigations within the study area

Four assessments are known to have completed for land overlapping with the study area. The reports prepared by Ngara Consulting Pty Ltd. (2003) and Mary Dallas Consulting Archaeologists (2007) could not be located on any publicly accessible databases. Summaries of the two accessible reports are provided below.

Kerry Navin 1993, Eastern Creek & Prospect Corridors: Excluded lands Study Preliminary Archaeology and Survey, report prepared for Gutteridge Haskins & Davey Pty.

Navin undertook a preliminary archaeological investigation of four parcels of land within the Eastern Creek, Prospect and Horsley Park Corridors. They included the Prospect parcel of land which extended from Kente Street in the west to Fox Hills Crescent in the east. The current study is within this area. It was noted that no survey had previously been conducted.

The field inspection included participation by members of the Dharuk Local Aboriginal Land Council (now Deerrubin LALC). Four sites were identified within the Prospect-parcel-of- land study area and three (sites 2 to 4) are within the current study area (see descriptions below). It was noted that the surface visibility was limited due to vegetation, ground litter and there was secondary deposition of eroded material and deliberate dumping of waste/fill. Fill was noted to have been in a number of areas, including the western section (an archery range) within the current study area (Navin 1993:22). Visibility was primarily afforded by tracks and roads and eroded areas associated with creek lines.

The assessment resulted in the identification of four sites:

- Site 1 (AHIMS ID 45-5-2361) is located approximately 1.3 km to the east of the current study area and was recorded as a low-density artefact scatter comprising 11 artefacts located in a 5 m x 6 m exposure adjacent to the motorway fence line on the southern boundary of the study area. One artefact was also noted as being 15 m east of the scatter. The 11 artefacts, including one yellow/orange chert ‘waste piece’, 10 silcrete ‘flaked pieces’ and ‘waste pieces’, and one ‘core’. Colours included yellow, orange/red, purple/black. and pink silcrete artefacts included.
- Site 2 (AHIMS ID 45-5-2362 - EC 2 (5)) consisted of two artefacts, one chert and one quartz located immediately adjacent to the heavily eroded western tributary of Bungaribee Creek.
- Site 3 AHIMS ID 45-5-2363 – EC3 (5) was an artefact scatter consisting of two red silcrete artefacts located in an eroded area which has been disturbed by freeway construction, removal of topsoil, grading and flood mitigation.
- Site 4 AHIMS ID 45-5-2364 – EC 4 (5) was identified as a possible Scarred Tree. Two ironbark trees with toeholds located between approximately 100 m south of the confluence of two distant drainage lines which comprise the northern extent of Bungaribee Creek. Toeholds are evident on two of the three oldest trees in the paddock.

KNC 2023, North Boiler Paddock, Honeman Close, Huntingwood NSW: Aboriginal Heritage Due Diligence Report, report prepared for Sydney Water

KNC was engaged by Sydney Water to undertake an Aboriginal heritage due diligence assessment on Lot 1 and Lot 2 in DP 1098102 at Honeman Close, Huntingwood NSW in November 2023. The current study area comprises the entirety of Lot 1 DP 1098102. KNC's assessment aimed to determine if the proposed works would disturb the culturally modified trees or other Aboriginal objects. It included an AIMS search for registered Aboriginal sites, consideration of the landscape, impact avoidance, and a visual inspection.

The assessment identified five previously registered Aboriginal archaeological sites as being within their study area:

- AHIMS ID 45-5-2362, EC 2 (5) – artefact scatter
- AHIMS ID 45-5-2363, EC 3 (5) – artefact scatter
- AHIMS ID45-5-2364, EC 4 (5) – culturally modified tree
- AHIMS ID 45-5-3309, NPB1 - artefact scatter
- AHIMS ID 45-5-3310, NPB2 – (site feature not identified)

KNC's archaeological survey inspected the areas where the five sites had been recorded but did not relocate any of the artefacts within the artefact-scatter sites. However, the survey did relocate one the modified tree and observed that the notches were still visible. The tree was noted to have a central dead trunk but living branches sprouting from its base. Areas of archaeological sensitivity were identified as being within landforms exhibiting minimal land disturbance and comprising gentle crests and slopes overlooking Bungarribee Creek watercourse and its drainage tributary. These included the slopes of the western side of the tributary creek, an elevated area located on the south east corner, and a natural higher ground next to Honeman Close which overlooks Bungarribee Creek.

3.2.2 Archaeological investigations completed within the local area

EMM 2023, Huntingwood Data Centre ACHAR, report prepared for LCI Consultants Pty Ltd

EMM prepared an ACHAR to address the SEARs requirements for a proposal located at Lot 5, DP 12384405, immediately east of the study area. EMM and Mary Dallas had previously completed an archaeological assessment of the proposal area which concluded that Aboriginal objects were unlikely to be present. However, the ACHAR was prepared to address the SEARs. The findings of the EMM ACHAR concluded that Aboriginal objects are unlikely to be present within Lot 5, DP 12384405 due to historic land disturbance which resulted in the removal the natural sediment deposit.

Artefact Heritage and Environment 2022, 19 Stoddart Road and 24 Rowood Road Prospect ACHAR, report prepared for Archile

Artefact prepared an ACHAR for 19 Stoddart Road, located approximately 2 kilometres east of the study area, which concluded that extensive historical earthworks had resulted in a nil-low archaeological potential. No AHIMS registered artefacts were recorded, and no artefacts were found during the survey. The ground surface had been significantly disturbed by the construction of buildings, carparks, and landscaped gardens, with deep excavation evident along the northern and western boundaries due to the development of the shopping precinct. This level of disturbance suggests that any remaining original soil was unlikely to be intact or in situ. Although some native vegetation was present, it was young, with no old growth vegetation observed. No areas of PAD were identified.

Coast History and Heritage 2023, Augusta Street Warehouse and Distribution Centre Blacktown ACHAR, report prepared for the Trustee for Huntingwood Property Trust

An ACHAR was prepared for the Augusta Street Warehouse and Distribution Centre, Blacktown located approximately 680 metres east of the study area. Two AHIMS registered sites exist on the property in a disturbed context and are not associated with any subsurface archaeological deposit. During the Coast survey, neither site could be relocated due to limitations such as limited visibility and erosion. It is most likely that one of the registered artefact sites has been washed into the creek corridor downslope to the west. It was found that the property does not have the potential to contain intact or extensive archaeological remains due to the heavy impact of historical development.

3.3 Historic records of Aboriginal material cultural

Many Aboriginal people, like other Indigenous or First Nations people around the world, have been living on Country for 'time immemorial' – that they have always been here, and their origins lie in the creation of the land and animals. As Sydney Elder and Wiradjuri activist Aunty Jenny Munro expresses:

> *'...from time immemorial, we believe as Aboriginal people, Australia has been here from the first sunrise, our people have been here along with the continent, with the first sunrise. We know our land was given to us by Baiami, we have a sacred duty to protect that land' (Munro in Currie 2008:4)*

Over the last few decades, archaeologists' knowledge of deep human time in Australia has expanded from just a few thousand years in the 1950s, to 25,000 years in the 1960s, then 40,000 years, to now around 60,000 years or more. (Belshaw, Nickel and Horton, 2020; Griffith, 2018: 112; Karskens 2009: 25).

Archaeological evidence of Aboriginal people living in the Sydney region from Shaw's Creek west of the Dyarubbin (Nepean) River is dated at around 14,000 years ago and numerous other sites in the area have been dated at around 15,000 ago. While Cranebrook Terrace, near Penrith in Western Sydney, has been dated to 41,700 years and a site near Parramatta at 30,000 years old, there is growing consensus among archaeologists and historians that people have lived across the Sydney region from around 50,000 years ago. (Attenbrow 2010:18-20; Nanson, Young & Stockton 1987: 77; Williams, et al., 2017: 100-109; McDonald 2005: 4, 87-94; Attenbrow, 2012; Williams et al., 2012; Karskens, Burnett & Ross 2017: 4).

More ancient sites lie off the coast and in river valleys, now deep under water. Before the major sea level rise event at the end of the last ice age around 17,000 years ago, Aboriginal people living along the Parramatta River could have walked downstream along the riverbanks to the sea about 30 kilometres beyond the current day coastline. Over generations they would have watched and told stories about the gradual change as the sea rose to fill the 'drowned river valley' of what is now Sydney Harbour until it reached present levels around 6,000 years ago. (Nunn and Reid 2016: 11; Attenbrow 2010: 154-155; Birch 2007: 217-219).

Given the devastating impact of violent dispossession and disease upon Aboriginal people in the Sydney region during colonisation, the precise identification of language groups and historical traditional lands or Country for a given area is often difficult today. Early colonial observer Watkin Tench believed there was at the least coastal and inland dialects of the same language and, while this is challenged by some, there seems to have been an alignment with inland economies of the rivers, creeks and open forests of the Cumberland Plain, and coastal 'saltwater' focused groups. (Tench 1793: 122; AHO 2015; Stanner 1965: 1-26).

Prior to colonisation, Aboriginal people in the relatively resource rich Sydney region lived in extended family groups estimated at around 30 to 50 people. These groups were associated with certain territories or places that gave clan members particular social and economic rights and obligations. Each of the estimated 30 clans in the Sydney region had a name often associated with a place or resource such as the Cabro (Gabra) gal (people) at modern day Cabramatta. Clan groups moved around a defined area in response to changing seasons and the availability of food and other resources. European observers mistakenly took this as a nomadic lifestyle, when in fact they moved around a 'limited and deeply known' area. There were also forms of more sedentary agriculture and aquaculture, and villages such as those described by early colonial diarists at Kamay-Botany Bay and later accounts of '70 huts' at Bent's Basin on the Nepean River west of Sydney. (Gapps 2010: 26-60; Attenbrow 2010: 78; Karskens 2009: 36; Gammage 2012: 281-304).

Some areas, particularly resource rich ones, had shared boundaries or reciprocal rights with bordering and neighbouring groups. With appropriate permission and protocols, people could travel through and hunt on other groups' lands. On special occasions such as feasts associated with the beaching of a whale; a kangaroo hunt on the open forests of southwestern Sydney; trading or exchanging stone, tools and other items, as well as ceremonial occasions, people would often travel long distances around and from outside the Sydney region. (Gammage 2012; Irish 2017: 22-27).

With several rivers and estuarine coastal areas, the Sydney region sustained a large population compared to more arid inland areas. Fish and shellfish were a major part of Saltwater peoples' diets. The nawi (tied-bark canoe) was a common sight both day and night in rivers and creeks and was even dexterously paddled off the coast. There are many accounts by early colonists of Aboriginal people in canoes fishing and cooking their catch on small fires on hearth stones within the vessels. Women were the primary fishers from nawi (men usually fished with spears). Women were highly skilled with shell hooks and twine fishing lines and thus played an important economic role in Sydney. They were noted as cradling their children while fishing, as their songs floated across the waters of Sydney Harbour. (Banks 1770; Attenbrow 2010: 38; Collins 1789: 557).

People living inland across the Cumberland Plain focused on hunting small animals, gathering plants and catching freshwater fish and eels. Banksia flowers, wild honey, varieties of yam and burrawang nuts (macrozamia - a cycad palm with poisonous seeds that require processing to remove toxins) were recorded as important food sources. Xanthorrhoea, also known as the grass tree, had many uses - the nectar was eaten, the stalk used as a spear and the resin as a glue. Small animals such as bandicoots and wallabies were hunted with traps and snares. Watkin Tench noted the skill in cutting toeholds in trees to swiftly climb to hunt possums. (Tench 1793: 82, 230; Kohen 1985: 9; Attenbrow, 2010: 41).

The landscape and environment before Europeans arrived was a finely managed one. In 1790 John Hunter observed people 'burning the grass on the north shore opposite to Sydney, in order to catch rats and other animals'. In 1804 Henry Waterhouse described the land around Cowpastures as 'a beautiful park, totally divested of underwood, interspersed with rich, luxuriant grass … except where recently burnt' (Hunter: 1793; Waterhouse in Bladen 1897: 359). These forests that had been managed by many generations of Aboriginal people through such methods as what is known as 'firestick farming'. Fire was an important tool and also used to open up tracks, to 'clean country', drive animals into the paths of hunters, cooking, warmth, treating wood, cracking open stones and for a place to gather, dance and share stories and knowledge. (Gammage 2012: 163-185; Griffith 2018: 240).

The Sydney region was a landscape rich with the imprints of activity, art and culture such as rock engravings and paintings, scarred and carved trees, ceremonial rock and mound structures, cooking ovens, villages of bark huts, stone tool quarries, grinding grooves and tool-making sites, burial and other shell middens, and other artefacts. All this activity had a lasting impact on the landscape, and many elements such as rock engravings in particular survive, or have been kept intact or cared for by

community members. Over time, many Aboriginal pathways were taken up by the colonists and made into roads, some still on the same routes today. 'Kangaroo grounds' became colonial estates, fishing creeks became drains, hills and peaks used for communication became signaling stations and lookouts, and shell middens became the limestone for the bricks and mortar of early colonial buildings. (Griffith 2018: 241; Gammage 2012: xix; Attenbrow, 2012).

The large swathes of Hawkesbury sandstone across the Sydney region were the canvas for what has been likened to an enormous open air art gallery – engravings of the outlines of spirit creatures, marsupials, birds, fish, weapons, footprints and even European boats alongside people, showing a continuity that carried on beyond the arrival of British colonisers in 1788. This Sydney art tradition was distinctive from other regions such as inland New South Wales where carved trees were more prominent, or further south where painting dominates. There are more than 4,000 known rock art sites and more than 3,000 rock shelters with pigment or painted art, often featuring hand stencils. The Sydney Basin has been compared to Kakadu National Park in terms of the vast numbers of Aboriginal sites that remain today. (Karskens 2009: 32; Griffith 2018: 188; Mulvaney and Kamminga 1999: 284, 376-381; McDonald 2007).

The first encounters between the British colonists and the Sydney people were initially based in curiosity, with both sides attempting to comprehend each other. However, misunderstandings or transgressions of Aboriginal law and protocol soon escalated into violence and retribution. Unarmed convicts outside the encampment at Sydney Cove were increasingly targeted during 1788. However in April 1789, what Sydney Aboriginal people called galgala or smallpox broke out and more than half - possibly even 80 percent - of the population around Sydney Harbour were dead within a month. Captain John Hunter wrote that 'it was truly shocking to go round the coves of this harbour [seeing] men, women and children, lying dead'. David Collins wrote that those who witnessed the Sydney man Arabanoo's grief and agony could never forget either – on being taken on a boat around the harbour Arabanoo 'lifted up his hands and eyes in silent agony [and exclaimed] 'All dead! All dead!'' (Hunter, Collins in Gapps 2019).

Despite such massive death and disruption to Aboriginal lives across Sydney, in 1794 resistance warfare against the colonisers began in earnest along the new settlements on the Dyarubbin (Hawkesbury) River and was to carry on through the 1790s, largely under the leadership of the famous warrior Pemulwuy. This 'constant sort of war' as one colonist described it, continued until Governor Macquarie ordered the now infamous military campaign across the Sydney region that ended in the Appin Massacre of April 17th 1816. (Gapps 2018: 125-155, 226-255).

Sydney Aboriginal society was not static and did not cease after contact with Europeans. Both material and cultural traditions of Aboriginal Sydney continued after the devastation to Aboriginal society, sometimes for example, by incorporating non-Aboriginal materials in traditional elements such as using glass and ceramics to make spear points and other tools. Twenty-nine engraved and pigment art sites have been dated to the period after European arrival. Some creation and other stories told to R. H. Mathews by Gundungurra (Gandangarra) people in 1901 were carried on for generations and survive today. (Irish and Gowan 2013: 61; Artefact Heritage, 2022: 18; Goward 2011; Meredith, 1989; Smith and Jennings 2011: 241).

Many of Sydney's roads and streets today follow the original tracks and pathways that had been used for millennia by Aboriginal people. Indeed, the shape of the city's road networks and the city itself owes a great deal to the early colonists simply taking the easiest and most practical solution in building roads along pre-existing trackways. When the colonists arrived in 1788 and began journeying out from Sydney Cove they often followed pathways, or as Surgeon John White wrote in May 1788, 'we fell in with an Indian path'. As Sydney language expert Jakelin Troy notes, it often made sense the colonists would use established pathways particularly in avoiding dense forest areas and rugged terrain. Troy has noted how these pathways were used for 'visiting family, collecting food or conducting ceremonies'. According to Paul Irish, the Europeans pronounced the local Sydney

Aboriginal word for a pathway or track as ‘maroo’. Many of these maroo underpin the structure of Sydney to this day. (White 1790; Troy 1992; Irish in Daniel 2018).

As the Cumberland Plain became more closely settled during the 1800s, Aboriginal people continued to live near their traditional Country where they could. Some managed to live in the centre of the growing city of Sydney such as a groups of families who caught and sold fish at Circular Quay and others at Rose Bay, while other families continued to live on the outskirts of populated areas such as at La Perouse and at Salt Pan Creek on the Georges River. From the 1880s, others moved to or were forced on to reserves such at Sackville in the northwest. (Irish in Daniel 2018).

4.0 LANDSCAPE CONTEXT

4.1 Soils

The study area lies completely within the Blacktown soil landscape which are vulnerable to moderate natural erosion including sheet and gully erosion depending on the underlying landform. The soils can be brownish-black loam, to brown clay loam, and extend up to approximately 300 mm deep, which overlies up to 200 mm of clay. They have the capacity to preserve Aboriginal objects in the subsurface soils, but the integrity of the archaeological deposits will be impacted by the level of land disturbance. Intrusive artificial activities which included deep excavation could destroy the soil profile and remove or displace Aboriginal objects. However, activities such as vegetation clearance and ploughing may only have impacted the upper soil profile. Natural disturbance from erosion and flooding may also only have impacted the upper soil profile

4.2 Geology

The study area is located on the Cumberland Plain, a subregion of the Sydney Basin. The Sydney Basin stretches from Port Stephens in the north to Batemans Bay in the south, and from Ulan in the central West NSW to the coast. The underlying geology of the study area comprises of Bringelly Shale, a Triassic Wianamatta Group geological unit displaying shale and some sandstone beds, occasional calcareous claystone and sparce coal deposits (Clarke and Jones, 1991).

4.3 Hydrology

The Bungarribee Creek is present within the study area and would have provided freshwater and habitat areas for fish, waterbirds, frogs, lizards, snakes and mammals as well as to plants and trees which would grow along its banks (Figure 4). The Bungarribee Creek flows into Eastern Creek, to South Creek and to the Hawkesbury River. The Bungarribee Creek terminates within the study area, which as a 1st order stream, holds less likelihood of containing Aboriginal objects (White & McDonald 2010).

4.4 Landforms

The study area and surrounding area features a local relief of 10-30m and slopes generally >5% but occasionally up to 10%. Shale outcrops do not occur naturally on the surface, however, may occur where soils have been removed (eSpade 2023).

4.5 Historic land disturbance

The study area was originally part of a 1200-acre land grant to John Brabyn by Governor Lachlan Macquarie on the condition that Brabyn was to cultivate at least 76-acres of land and to provide timber as requested to the government and the navy. Aerial imagery from 1943 shows the study area to be widely cleared of trees (Figure 5). By 1965, industrial warehouses along Boiler Close appear (Figure 6). By 1984, bulk earthworks are visible with the creation of an archery range with small associated structures (Figure 7). By 1991, access tracks had been laid (Figure 8).

Figure 4. Topography and Hydrology of the study area.

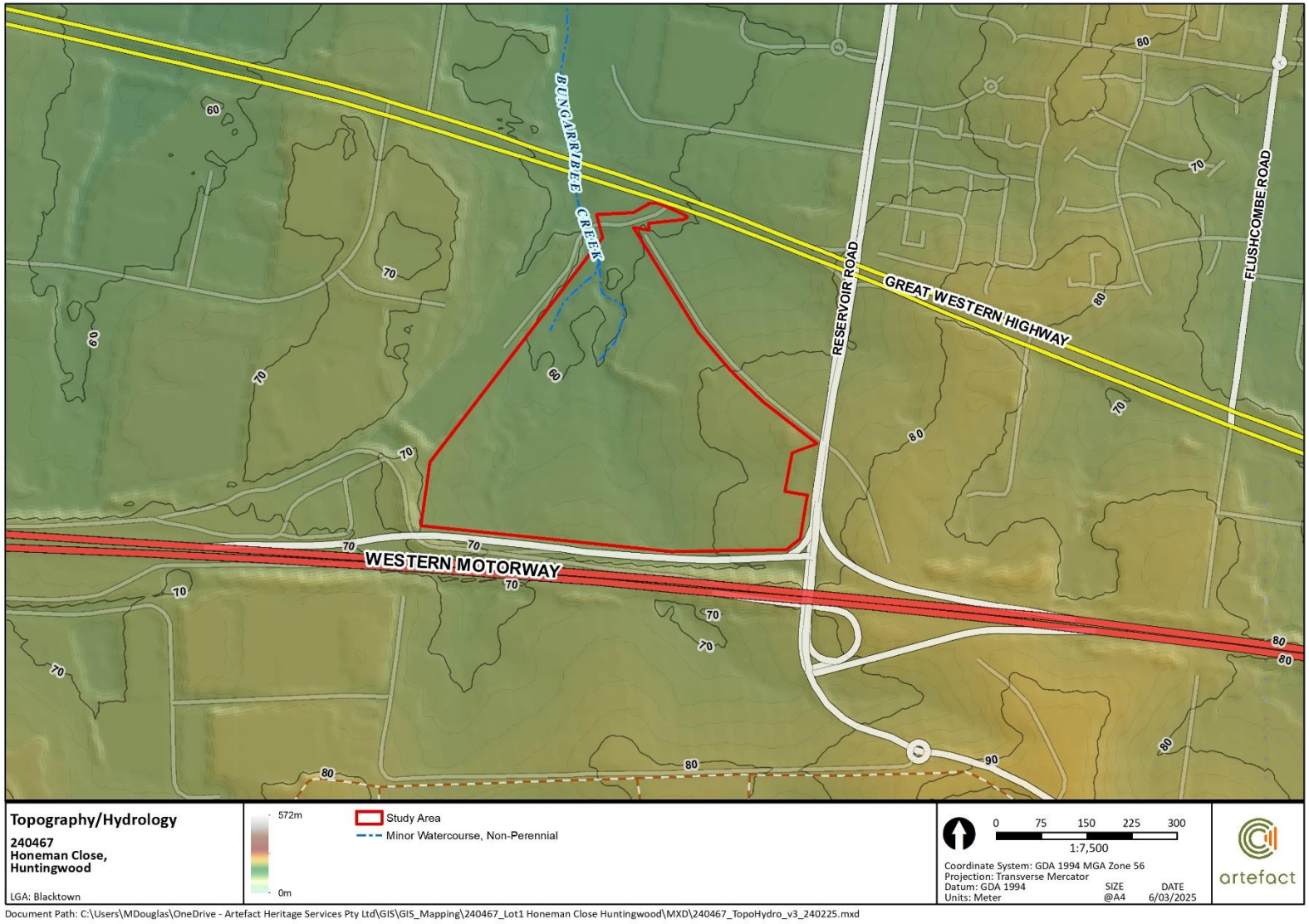


Figure 5: 1943 historic aerial

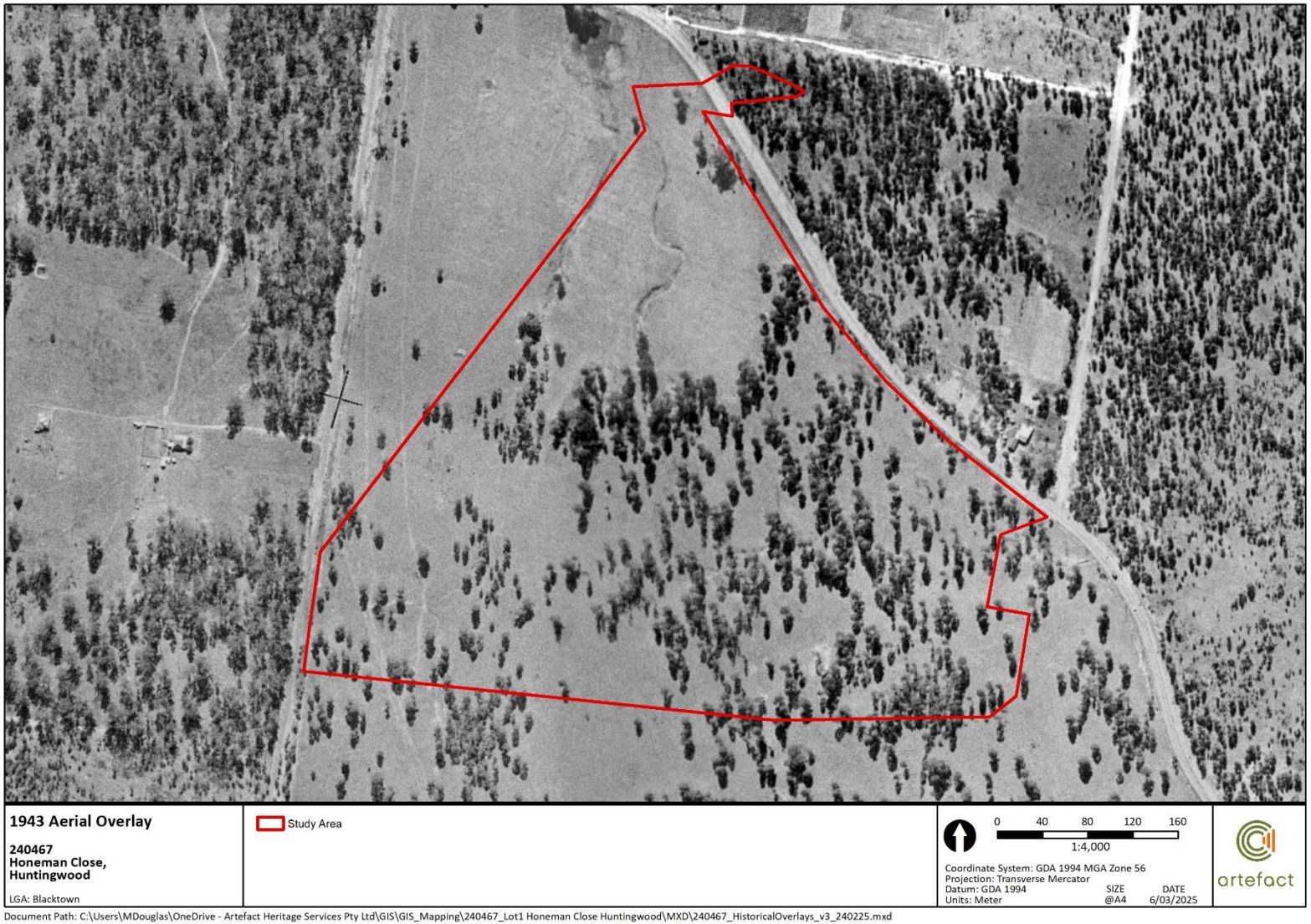


Figure 6: 1965 historic aerial

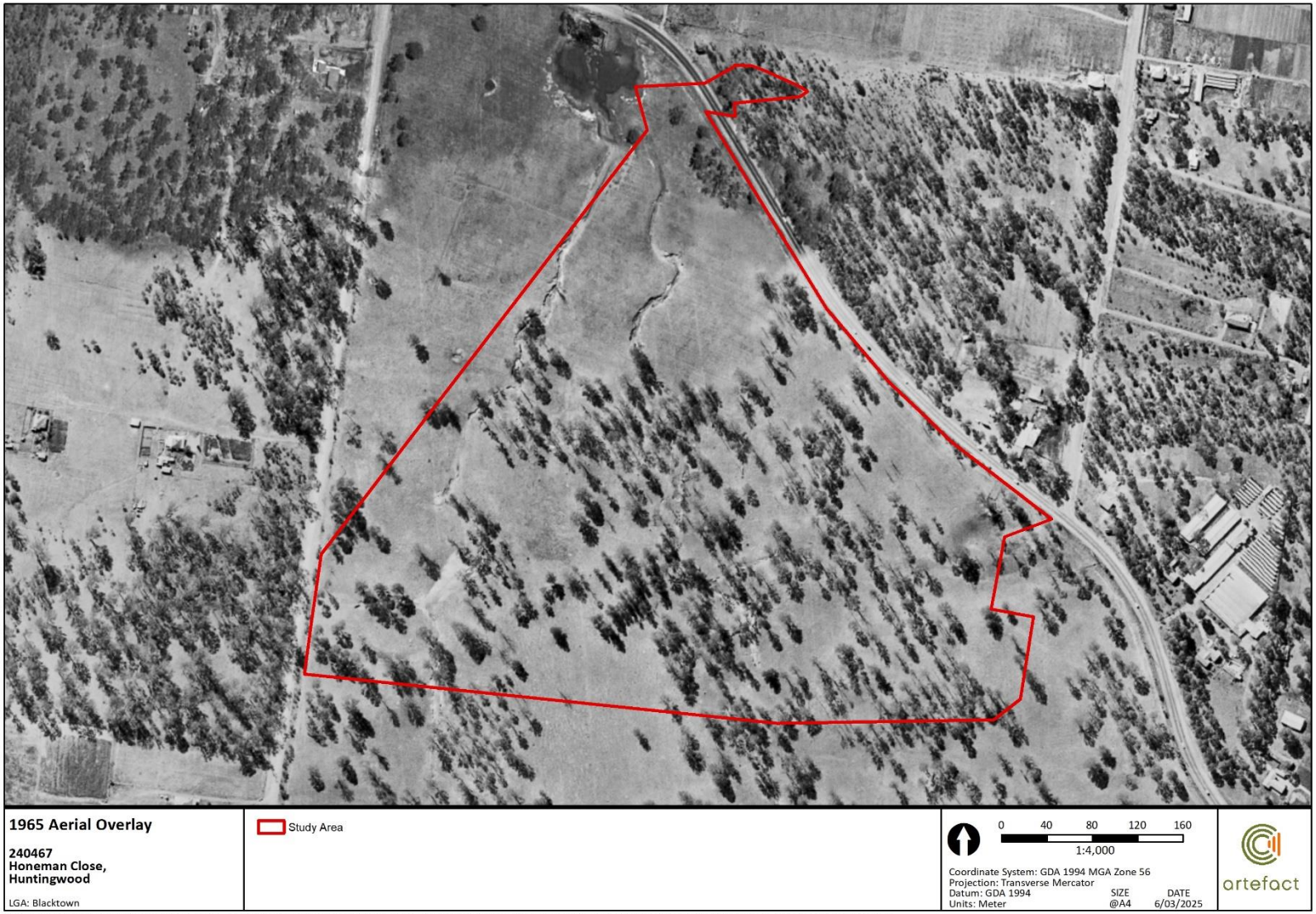


Figure 7: 1984 historic aerial

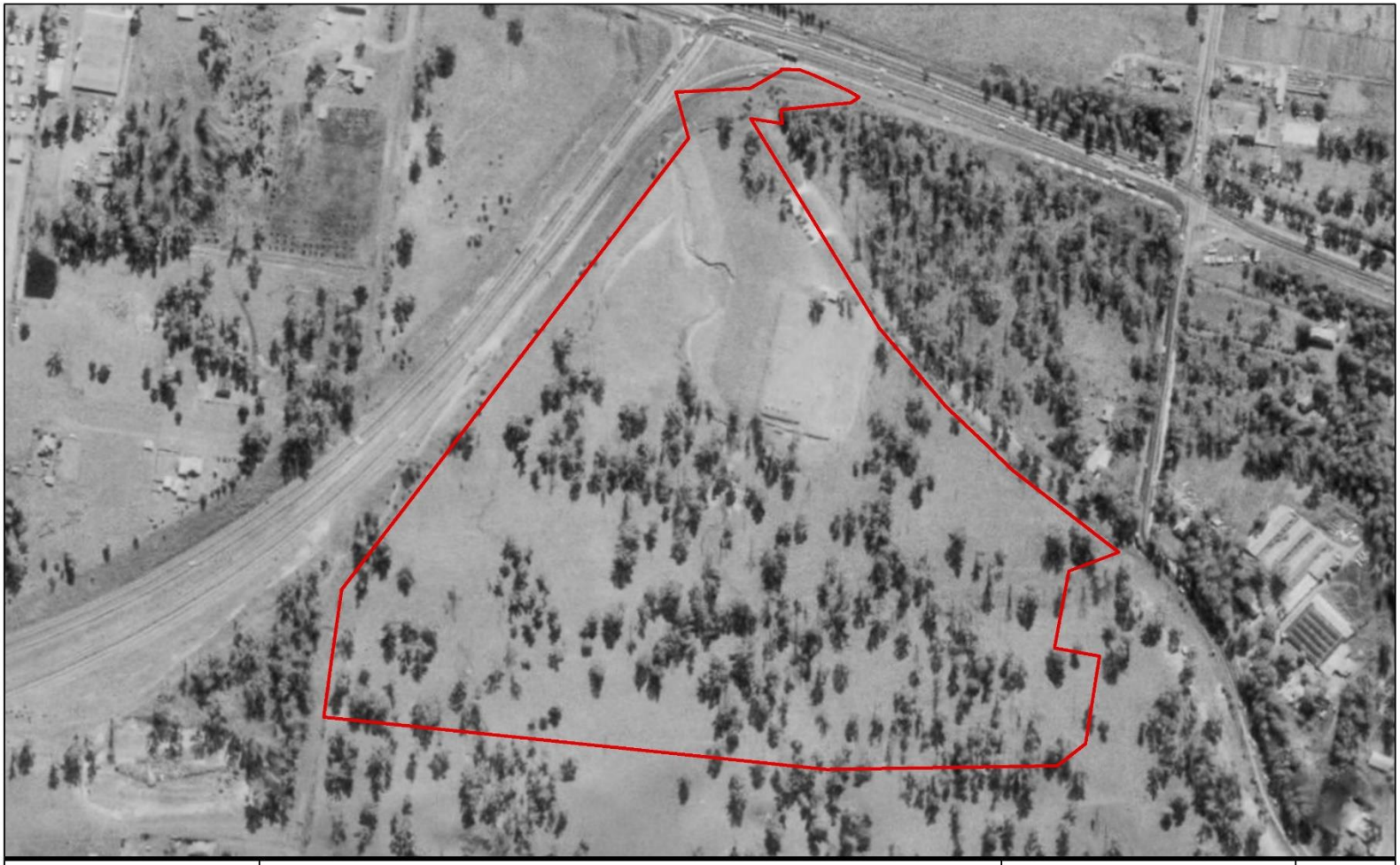


Figure 8: 1991 historic aerial

5.0 SUMMARY AND PREDICTIONS

5.1 Regional and local archaeological character

Archaeological investigation across the Cumberland Plain over the past 30 years has been comprehensive, including survey, excavation and desktop analysis studies. This varied and intensive investigation has led to the development and continual refinement of a predictive model for Aboriginal occupation within the region.

The reason for such extensive studies in the Cumberland Plain is due to increasing population growth and demand in the Sydney area. Regional studies have been conducted on the large Growth Centres of the northwest and southwest of the Cumberland Plain, west of Sydney Basin. White and McDonald have contributed to the debate over site prediction by discussing the nature of Aboriginal site distribution, interpreted through lithic analysis of excavated sites in the Rouse Hill Development Area. The Rouse Hill Development Area is located about 15 km north of the current study area. The study gave rise to the commonly referred Stream Order Model which provides a basis for archaeological investigations in the Cumberland Plain. The paper provides a spatial and distributive analysis of Aboriginal objects in relation to freshwater resources and along varying landform units. The findings of this study highlighted the relationship between landscape and proximity to freshwater in predicting the presence archaeological evidence of Aboriginal occupation.

The study found that artefact densities were most likely to be greatest on terraces and lower slopes within 100 m of freshwater resources. The predictive model identified that ridgelines and crests located between drainage lines and locations further than 200m from higher order watercourses are likely to contain archaeological evidence though usually represented by a background scatter.

5.2 Predictive model

The predictive model comprises a series of statements regarding the nature and distribution of evidence of Aboriginal land use that is expected in the study area. Based on a synthesis of information from the results of desktop research, landscape context and previous archaeological assessments inside and surrounding the study area, the following predictive statements are made:

- As a first order stream, the Bungaribbee Creek would have been utilised only seasonally, not representing a permanent occupation site.
- Historical disturbance has greatly impacted parts of the study area reducing the likelihood for Aboriginal objects and *in-situ* soil deposits to be present.
- Land with the least amount of historical ground disturbance, such as the areas of sensitivity mapped within the KNC (2023) report would have the greatest potential for artefact bearing deposits.
- There is potential for post-contact objects to be present within the study area
- Native vegetation is still present within the study area, meaning culturally modified trees (CMT) may still be present. One CMT has been registered on AHIMS (AHIMS ID 45-5-2364).

6.0 METHODOLOGY

6.1 Aims

The aims of archaeological survey are to:

- test the predictive model by ground truthing the findings of the desktop assessment
- identify and record all Aboriginal objects visible within the study area
- identify and define areas of PAD (as defined by the predictive model)
- gather enough information to assess scientific values of identified Aboriginal objects

6.2 Constraints and limitations

Visibility was found to be very low throughout the study area during archaeological survey due to extensive grass coverage and heavy vegetation. Surface visibility was generally restricted to exposures in the northern portion of the study area, across the Bungaribbee Creek, and in areas of disturbance. Due to the heavy vegetation constraint, only a sample survey of the study area could be undertaken.

6.3 Survey personnel

An archaeological survey was completed on 3 February 2025. In attendance was Kieran Murray (Heritage Consultant, Artefact Heritage), Rebecca Bryant (Senior Heritage Consultant, Artefact Heritage), Amanda Bie Wojcik (Graduate Heritage Consultant, Artefact Heritage), and Tremayne Yale (Deerubbin LALC).

6.4 Sample strategy

A pedestrian sample survey was completed due to dense, impenetrable vegetation which restricted access. The study area was characterised by a single survey unit due to the identified homogenous nature of the landform.

6.5 Survey procedure

Archaeological survey was conducted in accordance with the Code of Practice. All ground exposures within the survey route were examined for Aboriginal objects and old growth trees were examined for signs of cultural scarring and marking. A handheld GPS was used to track the path of the survey team and record coordinates of any identified Aboriginal objects where encountered. The coordinate system projection used for all recording was GDA94 MGA 56. A map of the survey route is provided in Figure 9. A photographic record was kept during the survey and scales were used for photographs where appropriate.

Figure 9: Survey route within the study area

7.0 RESULTS

7.1 Description of survey units

The survey commenced at the northern section of Lot 1 at Honeman Close, following an access track. The ground surface in this area was disturbed due to the track (Figure 10) and rubbish dumping (Figure 11). The survey progressed south towards the AHIMS registered site NBP1 (AHIMS ID 45-5-3309), where a red silcrete flake was relocated (Figure 12). NBP1 is located within an exposed clay subsoil on a roughly 5m x 30m exposure, sloping down towards Bungarribbee Creek to the north (Figure 13). While the site card documents five silcrete artefacts, as well as a piece of possibly worked glass and worked ceramic, only one red silcrete artefact was identified during the survey.

Continuing southeast, the survey followed exposed vehicle tracks on a gentle uphill slope towards an area dominated by overgrown Lantana and dense tree cover. Subsequent regrowth of wild Lantana significantly reduced visibility (Figure 14). The survey team attempted to reach AHIMS site EC(5) (AHIMS ID 45-5-2363) and AHIMS site NBP2 (AHIMS ID 45-5-3310), but dense vegetation prevented access.

Upon exiting the heavily vegetated area, the survey team proceeded northwest across a levelled field which had previously been used as an archery range. A protective berm or levee, likely constructed from fill material that once covered the field, now separates a disturbed surface to the north and northeast, from an overgrown woodland to the west and south. The banks of the Bungarribbee Creek within the study area were inspected, but no areas of archaeological sensitivity were identified (Figure 15). Exposed areas were examined for Aboriginal objects, but none were found.

An attempt was made to relocate registered AHIMS site EC4(5) (AHIMS ID 45-5-2364), but it was not relocated. The KNC (2023) report suggests the site is approximately 80 metres south of its registered location, although access by the Artefact survey team was obstructed by dense Lantana. A large tree was noted in the area by the Artefact survey team, but further inspection for scarring was not possible due to the thick vegetation cover (Figure 16). A scatter of basalt rocks, approximately 100–200mm in size covering a 2m by 3m area between the Bungarribbee Creek and one of its tributaries within the study area was observed (Figure 17). However, these were determined to be a modern rubbish deposit.

The survey team then crossed Bungarribbee Creek to relocate AHIMS site EC2(5) (AHIMS ID 45-5-2362) but was unsuccessful. The northern boundary of the study area was overgrown with grass and offered limited exposures (Figure 18 & Figure 19). Areas that were accessible were inspected but yielded no artefacts. Significant land disturbance was noted to the north, just outside the study area, where a levee has been constructed for flood mitigation.

The survey as a whole faced substantial limitations due to poor visibility caused by overgrown Lantana and dense tree cover. The artefact scatter at NBP1 (AHIMS ID 45-5-3309) was relocated; however, the other registered sites within the study area could not be accessed or identified due to vegetation constraints. Ground surface impacts were observed throughout the study area, resulting from land clearing, earthworks, and the previous use of the study area as an archery range. No previously unrecorded Aboriginal objects, nor areas of archaeological potential were identified.

Figure 10: Lot 1 access track (facing northeast)

Figure 11: Modern rubbish dumbing within Lot 1

Figure 12: Relocated silcrete flake (AHIMS ID 45-5-3309)

Figure 13: Ground exposure in location of AHIMS ID 45-5-3309 (facing south)

Figure 14: Thick lantana growth dominant in the centre of the study area

Figure 15: Bungarribee Creek within the study area (facing southeast)

Figure 16: Thick vegetation preventing access to old growth trees (facing northeast)

Figure 17: Basalt deposit (facing south)

Figure 18: Area north of the Bungarribee Creek in location of AHIMS ID 45-5-2362 (facing southwest)

Figure 19: Area north of the Bungarribee Creek in location of AHIMS ID 45-5-2362 (facing northeast)

7.2 Analysis of survey coverage and effectiveness

The Code of Practice (DECCW, 2010) specifies that survey coverage should be assessed to the nearest 10%, and provides the following definitions:

Visibility:

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

Exposure:

> *is different to visibility because it estimates the area with a likelihood of revealing buried artefacts or deposits rather than just being an observation of the amount of bare ground. It is the percentage of land for which erosion and exposure was*

sufficient to reveal archaeological evidence on the surface of the ground. Put another way, exposure refers to 'what reveals'

Effective survey coverage is outlined in Table 3, and landform survey coverage is outlined in Table 4. In accordance with the requirements contained within the Code of Practice (DECCW, 2010), exposure levels within the study area have been rounded to zero due to the observed level being <5%.

Effective survey coverage is outlined in Table 3, and landform survey coverage is outlined in Table 4.

Table 3: Effective survey coverage

Survey Unit	Landform	Survey unit area (m^2)	Visibility (%)	Exposure (%)	Effective Survey Coverage (m^2)	Effective Coverage (%)
1	Disturbed waning mid-slope	209,307	0	0	0	0

Table 4: Landform survey coverage

Landform	Landform area (m^2)	Area effectively surveyed (m^2)	% of landform effectively surveyed	Number of sites
Disturbed waning mid-slope	209,307	0	0	5

7.3 Results of other specialist field investigations

On 17 March 2025, the project ecologist (Kat Duchatel, écologique) identified the location of AHIMS ID 45-5-2364 – EC 4 (5) and provided accurate co-ordinates (GDA2020, MGA Zone 56, 304841.30 E / 6258037.31 N). These co-ordinates match the corrected site location provided in the KNC Due Diligence report (2023). Therefore, the AHIMS database will be updated with the corrected site co-ordinates.

7.4 Aboriginal sites

The location of AHIMS ID 45-5-2362 - EC 2 (5) was inspected, but no artefacts could be relocated. It is considered likely that the site is still valid, but not visible due to dense vegetation. As a result, the status of the site is unchanged.

AHIMS ID 45-5-2363 – EC3 (5) and AHIMS ID 45-5-3310 – NBP2 could not be accessed due to dense vegetation. The overgrowth of vegetation would stabilise the ground and protect the site from taphonomic processes that may result in the natural of the sites. Therefore, the sites are considered to be valid and unchanged.

The possible scarred tree registered as AHIMS ID 45-5-2364 – EC 4 (5) could not be located due to the mapping error on the AHIMS database and dense impenetrable vegetation. The site was relocated by the project ecologist on 17 March 2025. The site is confirmed to be valid.

One stone artefact was relocated at AHIMS ID 45-5-3309 – NBP1. No glass and ceramic Aboriginal objects were identified. However, historic rubbish was identified to the north of the site. It is likely that this material was identified as the potential worked glass and ceramic during the initial recording of the site. As a result, the site is considered unlikely to contain contact archaeology.

Table 5: Archaeological survey results

Site number	Feature(s)	Survey unit	Landform
EC 2(5) (AHIMS ID 45-5-2362)	Artefact Scatter	1	Disturbed waning mid-slope
EC 3(5) AHIMS ID 45-5-2363	Artefact Scatter	1	Disturbed waning mid-slope
EC 4(5) AHIMS ID 45-5-2364	Culturally Modified Tree (Carved or Scarred)	1	Disturbed waning mid-slope
NBP1 AHIMS ID 45-5-3309	Artefact Scatter	1	Disturbed waning mid-slope
NBP2 AHIMS ID 45-5-3310	Artefact	1	Disturbed waning mid-slope

8.0 DISCUSSION AND ANALYSIS

The study area exhibited significant landscape modification, likely removing the potential for Aboriginal objects to be concealed beneath the ground. The central portion of the study area had been cleared for the construction of an archery range, with levees built to manage floodwaters from Bungarribee Creek. Additional disturbances, including natural erosion of the soil landscape were observed at the location of NBP1 (AHIMS ID 45-5-3309), which was relocated. No evidence of contact archaeology was identified. As a consequence of historic land disturbance, it is considered unlikely that sediment deposits are present within the study area that would conceal Aboriginal objects. Therefore, the study area contains no areas of PAD. See Table 6 for a summary of responses to the predictive model.

Table 6: Responses to the predictive statements

Predictive statement	Outcome of survey
As a first order stream, the Bungaribbee Creek would have been utilised only seasonally, not representing a permanent occupation site.	The study area exhibited evidence of extensive landscape modification. While Aboriginal objects were confirmed the be present within the study area, these objects are out of context. Therefore, this statement cannot be tested.
Historical disturbance has greatly impacted parts of the study area reducing the likelihood for Aboriginal objects and in-situ soil deposits to be present.	Historic disturbance and natural erosion were identified across the study area. Therefore, it is considered unlikely that sediment deposits are present within the study area that would conceal Aboriginal objects.
Land with the least amount of historical ground disturbance, such as the areas of sensitivity mapped within the KNC (2023) report would have the greatest potential for artefact bearing deposits.	Historic disturbance and natural erosion were identified across the study area. Therefore, it is considered unlikely that sediment deposits are present within the study area that would conceal Aboriginal objects.
There is potential for post-contact objects to be present within the study area	No evidence of post-contact objects was identified within the study area. The only evidence of post-contact archaeology was documented in the site card for AHIMS ID 45-5-3309 – NBP1 which noted the potential for identified pieces of glass and ceramic to have been worked by Aboriginal people. The proximity of the site to the Former Great Western Highway indicates that it is possible for contact archaeology to be present. However, as no contact archaeology has been identified and the study area has been subject to extensive historic disturbance, it is unlikely that evidence of contact is present within the study area.
Native vegetation is still present within the study area, meaning culturally modified trees (CMT) may still be present. One CMT has been registered on AHIMS (AHIMS ID 45-5-2364).	No additional scarred or cultural modified trees were identified. The location of AHIMS ID 45-5-2364 – EC 4 (5) could not be verified during the archaeological survey due to dense vegetation. Subsequently, the tree was relocated during field investigations completed by the project Ecologist. The co-ordinates of the tree will be updated on AHIMS.

9.0 SIGNIFICANCE ASSESSMENT

9.1 Significance assessment criteria

In accordance with the Code of Practice, an assessment of the scientific value of an Aboriginal object is required in order to form the basis of its management. The Guide provides the following criteria for the assessment of scientific value:

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

It is important to note that heritage significance is a dynamic value.

9.2 Statement of scientific value

AHIMS ID 45-5-2362 - EC 2 (5), AHIMS ID 45-5-2363 – EC3 (5), 45-5-3309 – NBP1, and AHIMS ID 45-5-3310 – NBP2 are surface artefact sites consisting of flaked pieces of silcrete, quartz, and sedimentary stone. Artefact sites of this nature make up 84.8% of all sites registered within 4km of the study area and are therefore of low representative value. No formal tools or objects indicative of the post-contact period were identified. The objects were all located in disturbed contexts and cannot be interpretated as being the result of any distinctive way of life, custom, process, land-use, function or design. As a result, these sites are considered to be of low rarity and research value. The lack of archaeological integrity and the location of the objects within an open, dynamic environment, means that there are limited opportunities for research to address questions related to site utilisation and chronologies. The recorded artefacts bear no evidence of use and are not suitable for usewear or residue analysis to confirm function. Therefore, these sites are considered to be of low research value. The study area holds limited educational value due to historic modification which has altered the landform context in which these objects were made and used. Information on the purpose and function of the identified Aboriginal objects has been lost along with the archaeological integrity, therefore, these sites have no specific educational value. Overall, AHIMS ID 45-5-2362 - EC 2 (5), AHIMS ID 45-5-2363 – EC3 (5), and AHIMS ID 45-5-3310 – NBP2 are considered to be of low scientific significance.

AHIMS ID 45-5-2364 – EC 4 (5) is a culturally modified tree, of which there are only two other examples (possibly one as noted in Section 3.1 above) within 4km of the study area. Therefore, the site is considered to be of high representative value. The site is noted to feature toeholds. Watkin Tench noted the skill in cutting toeholds in trees to swiftly climb to hunt possums. (Tench 1793: 82, 230; Kohen 1985: 9; Attenbrow, 2010: 41). As the site demonstrates a distinct process that is at risk of loss, it is considered to be of moderate rarity. The tree has the potential to address questions regarding the timing and nature of past land use within the local area and is therefore of moderate research value. While the landform has been subject to historic modification which has disrupted

setting in which past Aboriginal activity occurred, the secure integrity of the site and means that it is of moderate educational value. This site is therefore considered to be of moderate scientific significance.

A summary of the archaeological significance of sites identified is presented in Table 7.

Table 7: Significance assessment

Site name (AHIMS ID)	Research potential	Representativeness	Rarity	Education potential	Overall significance assessment
EC 2(5) (AHIMS ID 45-5-2362)	Low	Low	Low	Low	Low
EC 3(5) AHIMS ID 45-5-2363	Low	Low	Low	Low	Low
EC 4(5) AHIMS ID 45-5-2364	High	Moderate	Moderate	Moderate	Moderate
NBP1 AHIMS ID 45-5-3309	Low	Low	Low	Low	Low
NBP2 AHIMS ID 45-5-3310	Low	Low	Low	Low	Low

10.0 IMPACT ASSESSMENT

10.1 Description of likely impacts

This application seeks approval for the construction, operation, use and fit-out approval of two warehouses spanning 52,935 sqm Gross Leasable Area (GLA) and associated infrastructure and lead-in works. Approval is sought for 24/7 operation of the proposed Warehouse and Distribution use. The development is proposed to be constructed in one stage and will generally consist of the following scope:

- Infrastructure and Lead-in Works
    - Estate wide infrastructure and preparation works including vegetation clearing, bulk earthworks and remediation, watercourse realignment, retaining walls, internal services reticulation;
    - Lead in services including stormwater, sewer, potable water, electrical and communications
    - New Left in, Left out intersection at Great Western Highway / new proposed estate road including services relocation and eventual dedication;
- Warehouse with ancillary office development;
    - Construction, operation, fit-out and use of two warehouses, totalling 52,935 sqm GLA of warehouse, including ancillary office spaces, access and hardstand, guardhouses, loading bays, landscaping, car parking, electric vehicle charging, solar panels and signage;
    - Warehouse proposed height limit of 15m
    - 24/7 operation
    - Warehouse and distribution use with generic racking layout

10.2 Potential impacts to Aboriginal heritage

Based on the configuration of the proposed development outlined in the masterplan and the registered location of AHIMS sites (Figure 20), it is understood that AHIMS ID 45-5-2363 – EC 3(5), AHIMS ID 45-5-3309 – NBP1, AHIMS ID 45-5-2364 – EC 4(5), and AHIMS ID 45-5-3310 – NBP2 will be subject to direct harm to the total extent of each site, resulting in a total loss of value.

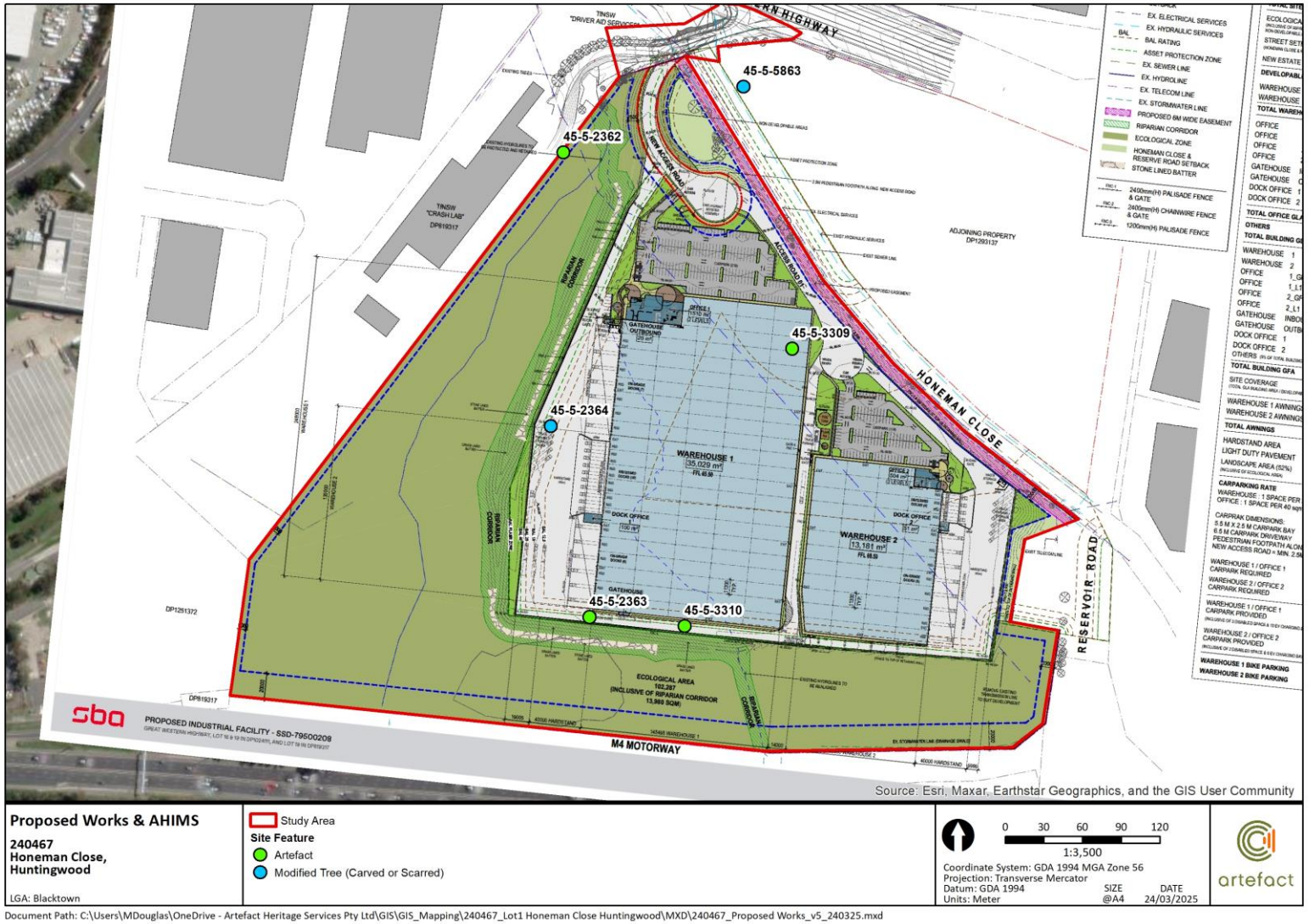
AHIMS ID 45-5-2362 – EC 2(5) is not located within the works footprint and unlikely to be harmed by the proposed works. A summary of the impacts is provided in Table 8.

Table 8: Impact assessment

Site name (AHIMS ID)	Type of harm	Degree of harm	Consequence of harm
EC 2(5) (AHIMS ID 45-5-2362)	None	None	No loss of value
EC 3(5) AHIMS ID 45-5-2363	Direct	Total	Total loss of value

Site name (AHIMS ID)	Type of harm	Degree of harm	Consequence of harm
EC 4(5) AHIMS ID 45-5-2364	Direct	Total	Total loss of value
NBP1 AHIMS ID 45-5-3309	Direct	Total	Complete loss of value
NBP2 AHIMS ID 45-5-3310	Direct	Total	Total loss of value

Figure 20: Impacts to assessed locations of Aboriginal objects (Plans provided 21 March 2025)



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11.0 MANAGEMENT AND MITIGATION MEASURES

11.1 Guiding principles

The overall guiding principle for cultural heritage management is that where possible Aboriginal sites should be conserved.

Where unavoidable impacts occur then measures to mitigate and manage impacts are proposed. Mitigation measures primarily concern preserving the heritage values of sites beyond the physical existence of the site. The most common methods involve detailed recording of Aboriginal objects, archaeological test and salvage excavations, artefact analysis and, where appropriate, reburial of Aboriginal objects in a location determined by the RAPs.

Mitigation measures vary depending on the assessment of archaeological significance of a particular Aboriginal site and are based on its research potential, rarity, representatives and educational value. In general, the significance of a site would influence the choice of preferred conservation outcomes and appropriate mitigation measures, usually on the following basis:

- Low archaeological significance – conservation where possible. SSD Conditions of Approval would be required to impact the site before work can commence.
- Moderate archaeological significance – conservation where possible. If conservation was not practicable, further archaeological investigation would be required such as salvage excavations or surface collection in accordance with the SSD Conditions of Approval.
- High archaeological significance – conservation as a priority. Where all other practical alternatives have been discounted mitigation measured such as comprehensive salvage excavations in accordance with the SSD Conditions of Approval would be required.

Sites of unknown scientific value should be conserved where possible. Where conservation is not practical further investigation under the Code of Practice will be required to confirm the presence of Aboriginal objects and gather enough information to assess significance. Test excavation is not a mitigation measure, it is an investigatory action required to gather enough information to inform the development of appropriate mitigation measures.

11.2 Proposed measures

Based on the designs provided, AHIMS ID 45-5-2363 – EC 3(5), AHIMS ID 45-5-3309 – NBP1, and AHIMS ID 45-5-3310 – NBP2 are likely to be harmed by the proposed works. As these sites are considered to be of low scientific significance, it is recommended that an opportunity is provided to the Aboriginal community to undertake a surface collection to conserve as many artefacts as possible. It is considered likely that the Aboriginal objects associated with these sites will move as a result of taphonomic processes. Therefore, surface collection should take place across the entire impact footprint following vegetation clearance under the SSD consent. The recovered artefacts would be buried within a portion of the study area not subject to any future works. The collection of these artefacts is considered to be harm under the *National Parks and Wildlife Act 1974* and would require the authorisation of the SSD consent. The methodology and requirements for long term management would be further developed in consultation with the RAPs during the preparation of the ACHAR.

AHIMS ID 45-5-2364 – EC 4(5) is a site of moderate significance and likely to be harmed by the proposed works. Therefore, it is recommended that an arborist assessment be completed to inform

the development of a methodology to salvage the tree. Long term management for the tree would be informed by the findings of the arborist report and consultation with the RAPs and advice from Heritage NSW.

AHIMS ID 45-5-2362 – EC 2(5) is unlikely to be harmed and it is recommended that steps are taken to ensure incidental harm is avoided. The location of the site should be marked on all site plans, all staff working on the project should complete a heritage induction and made aware of the location of sites and consequences to unauthorised harm.

11.3 Aboriginal cultural heritage assessment report

An ACHAR should be undertaken to fulfil the anticipated requirements of the SEARs. Preparation of the ACHAR should include Aboriginal community consultation. The ACHAR would include an assessment of the socio-cultural, historic and aesthetic significance of the identified Aboriginal objects and the study area. Through the consultation with the RAP, the proposed mitigation measures would be refined. The ACHAR would include a methodology for the surface collection, conservation of sites that won't be harmed and processes to the long term management of salvaged artefacts.

11.4 Changes to the project area

Advice provided within this report is based upon the most recent information provided by the proponent at the time of writing. Any changes made to the project should be assessed by an archaeologist in consultation with the RAPs. Any changes that may impact on Aboriginal sites not assessed as part of the project may warrant further investigation and result in changes to the recommended management and mitigation measures.

12.0 CONCLUSION

The following results are based on consideration of the requirements of Aboriginal heritage guidelines including:

- *The Code of Practice for Archaeological Investigations of Aboriginal Objects in New South Wales* (Department of Environment, Climate Change & Water 2010b)
- *Guide to investigating and assessing and reporting on Aboriginal Cultural Heritage in New South Wales* (DECCW 2011).
- *The Aboriginal Cultural Heritage consultation requirements for proponents 2010* (DECCW 2010b)
- The anticipated SEARs

The assessment found that the study area was highly disturbed and contained limited areas of archaeological potential based on the following:

- During the archaeological survey, only one previously recorded AHIMS registered site (AHIMS ID 45-5-3309) could be relocated. This site does not represent an *in-situ* deposit and exists within an eroded soil landscape. The site card noted that there is potential for contact archaeology to be present. No worked glass and ceramic could be identified. The site is located near an area of historic dumping, and this may be the source of the ceramic and glass noted in the site card.
- The location of EC2(5) (AHIMS ID 45-5-2362) was visited, however could not be relocated.
- All other AHIMS registered sites could not be surveyed, due to the dense vegetation cover throughout the study area.
- No previously unrecorded Aboriginal objects were identified within the study area during the site inspection, nor areas of archaeological potential.

Based on the above conclusions and the location of registered Aboriginal sites within the study area, the following recommendations are made:

- SSD consent should be obtained to authorise harm to AHIMS ID 45-5-2363 – EC 3(5), AHIMS ID 45-5-3309 – NBP1, AHIMS ID 45-5-2364 – EC 4(5), and AHIMS ID 45-5-3310 – NBP2.
    - An opportunity to complete a surface collection across the entire impact area should be provided to the Aboriginal community as a condition of the SSD consent. Any recovered artefacts should be buried within a portion of the study area not subject to future works.
    - An arborist assessment must be completed to inform the development of a methodology to salvage AHIMS ID 45-5-2364 – EC 4(5). Long term management for the tree would be informed by the findings of the arborist report and consultation with the RAPs and advice from Heritage NSW.

- AHIMS ID 45-5-2362 – EC 2(5) is unlikely to be harmed. However, the proponent should take action to ensure that these sites are not subject to incidental harm during construction works and should ensure all project staff are made aware of the location of the sites.
- An ACHAR with associated Aboriginal consultation be undertaken in accordance with the SEARs. The ACHAR would include an assessment of the socio-cultural, historic and aesthetic significance of the identified Aboriginal objects and the broader study area. The ACHAR would also include a detailed methodology for surface collection, site avoidance, and long term management of salvaged artefacts.

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APPENDIX A – AHIMS RECORDS

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