

Project Number: 19111201



REEVES STREET, SOMERSBY ABORIGINAL CULTURAL HERITAGE ASSESSMENT REPORT

FINAL PUBLIC VERSION 12/9/2023

DARKINJUNG LOCAL ABORIGINAL LAND COUNCIL

168 Pacific Highway Watanobbi NSW 2259

Attn: Lee Shearer Email: lee.shearer@dlalc.org.au

HERITAGE NOW CONTACT

projects@heritagenow.com.au

0460 744 466

www.heritagenow.com.au

Document Notes

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Executive Summary

Heritage Now has been engaged by Darkinjung Aboriginal Land Council (the Proponent) to undertake an Aboriginal Cultural Heritage Assessment Report at Lot 481 DP1184693 – Reeves Street Somersby (the Project Area).

The Project Proposal is for rezoning. The rezoning proposal would include an environmental living (C4) rezoning along Reeves Street. The remainder of the Project Area would be designated as an Environmental Conservation Zone (C2).

The archaeological survey was completed on Thursday 27 February 2020. Tessa Boer-Mah and Crystal Phillips from Heritage Now, Tracey Howie from Walkaloo, Tori Leven from Awabakal Traditional Owners Corporation, and Barry Williams and Amanda Shields from Darkinjung Local Aboriginal Land Council participated in the archaeological survey. An additional survey was undertaken on 29 July 2020 by Heritage Now Principal Consultant Tessa Boer-Mah along with Paul Boyd of Didge Ngunawal Clan.

One previously recorded Aboriginal site, AHIMS# 45-3-0049, was identified as part of the field investigation in the Project Area. In addition sandstone sheets were identified in the Project Area but were not suitable for Aboriginal engraving or grinding grooves. It is possible that there are additional sandstone sheets suitable for Aboriginal use, but which were obscured by vegetation and may be uncovered during vegetation clearance works.

The Project Area contains Aboriginal cultural values as a resource gathering area, AHIMS#45-3-0049 is of high Aboriginal cultural significance. Archaeologically, AHIMS#45-3-0049 has high local significance and moderate regional significance.

A buffer zone for AHIMS#45-3-0049 is to be established following rezoning and as part of the future development application and are to be clearly marked on all relevant construction drawings, along with buffers and fencing, as relevant. If additional engravings are identified due to higher visibility of sandstone sheets, then the significance of the area would need to be re-assessed and appropriate mitigation measures developed which may include greater buffer zones for avoiding additional site/s.

A Heritage Management Plan is to be developed for the management of Aboriginal sites during construction, as well as ongoing protection. This Plan is to include contingency protocols if sandstone is uncovered during clearing, as it will need to be inspected to verify its Aboriginal cultural and archaeological values, as it may contain evidence of Aboriginal cultural practices.

All on-site personnel are to be made aware of their obligations under the National Parks and Wildlife Act 1974, this includes protection of Aboriginal sites and the reporting of any new Aboriginal, or suspected Aboriginal, heritage sites. This may be done through an onsite Aboriginal cultural heritage induction or other suitable format.

Recommendation 1

A buffer zone for AHIMS#45-3-0049 is to be established following rezoning and as part of the future development application. A buffer zone of at least 20 metres is to be placed around the sandstone sheet associated with AHIM# 45-3-0049. The buffer zones to be clearly marked on all relevant construction drawings, along with buffers and fencing, as relevant. If additional engravings are

identified due to higher visibility of sandstone sheets, then the significance of the area would need to be re-assessed and appropriate mitigation measures developed which may include greater buffer zones for avoiding additional site/s.

Recommendation 2

Following rezoning, a Heritage Management Plan is to be developed for the management of AHIMS#45-3-0049 during construction, as well as ongoing protection. This Plan is also to include contingency protocols for the identification of sandstone sheets during construction.

Recommendation 3

All on-site personnel are to be made aware of their obligations under the National Parks and Wildlife Act 1974, this includes protection of Aboriginal sites and the reporting of any new Aboriginal, or suspected Aboriginal, heritage sites. This may be done through an onsite induction or other suitable format.

Acronyms, Terms and Definitions

| Acronym | Definition |
|---------|--|
| AHD | Australian Height Datum |
| AHIMS | Aboriginal Heritage Information Management System |
| AHIP | Aboriginal Heritage Impact Permit |
| BCD | Biodiversity Conservation Division |
| DECCW | Department of Environment, Climate Change and Water; became the Office of Environment and Heritage in 2011 |
| DLALC | Darkinjung Local Aboriginal Land Council |
| DP | Deposited Plan |
| DPiE | Department of Planning Industry and Environment |
| EP&A | Environmental Planning and Assessment |
| EPRG | Environment Protection and Regulation Group |
| LEP | Local Environmental Plan |
| LGA | Local Government Area |
| NSW | New South Wales |
| OEHS | Office of Environment and Heritage |
| PAD | Potential Archaeological Deposit |
| SEPP | State Environmental Planning Policy |

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1 Introduction

Heritage Now has been engaged by Darkinjung Aboriginal Land Council (the Proponent) to undertake an Aboriginal Cultural Heritage Assessment (ACHA) Report at Lot 481 DP1184693 – Reeves Street Somersby (the Project Area) to inform the development delivery plan under the Aboriginal Lands provisions of the State Environmental Planning Policy (SEPP).

The aim of the ACHA is to identify Aboriginal cultural heritage values through consultation with Registered Aboriginal Parties (RAPs). The ACHA enables those values to be respected throughout the process through the identification of appropriate mitigation measures to avoid and/or minimise harm to Aboriginal cultural heritage and values.

1.1 Project Area

The Project Area is located four kilometres north west of Gosford. It is comprised Lot 481 DP1184693, Reeves Street Somersby (Figure 1). The Project Area is located within the Central Coast Local Government Area (LGA) and within the Darkinjung Local Aboriginal Land Council (DLALC) Boundaries. The Project Area extent is approximately 2230 metres east – west and 1400m north – south, however, only the north portion of the lot is planned to be developed. The Project Area is currently vegetated with native bushland with some dirt tracks.

1.2 Project Proposal

The Project Proposal is for rezoning (Figure 2). The rezoning proposal would include an environmental living (C4) rezoning along Reeves Street. The remainder of the Project Area would be designated as an Environmental Conservation Zone (C2).

1.3 Project Methodology

This ACHA report has been prepared in accordance with, but not limited to, the National Parks and Wildlife Act 1974, the National Parks and Wildlife Regulations 2009, the Environmental Planning and Assessment Act 1979, Central Coast Local Environmental Plan 2022 and the State Environmental Planning Policies. The following guidelines and codes of practice have been used in preparing this ACHA report:

- Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH 2011).
- Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (BCD-DPIE, 2010c)
- Aboriginal Cultural Heritage Consultation Requirements for Proponents (BCD-DPIE, 2010b)

In accordance with the guidelines this report has outlined the:

- The Project Area and proposed activity (project proposal) (Section 1.2 and Section 6.1),
- the Aboriginal consultation process (Section 3 and Appendix 1),
- provided relevant background information (Section 4.1 and Section 4.2),
- undertaken an assessment of cultural heritage values (Section 5),
- undertaken an impact assessment, including consideration of avoidance and/or mitigating harm (Section 6), and

- provided recommendations (Section 7).

1.4 Authorship

This report was written by Crystal Phillips, Heritage Consultant at Heritage Now and Tessa Boer-Mah, Principal Heritage Consultant at Heritage Now.

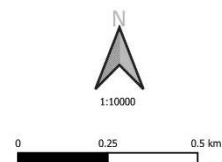


Figure 1: Project Area

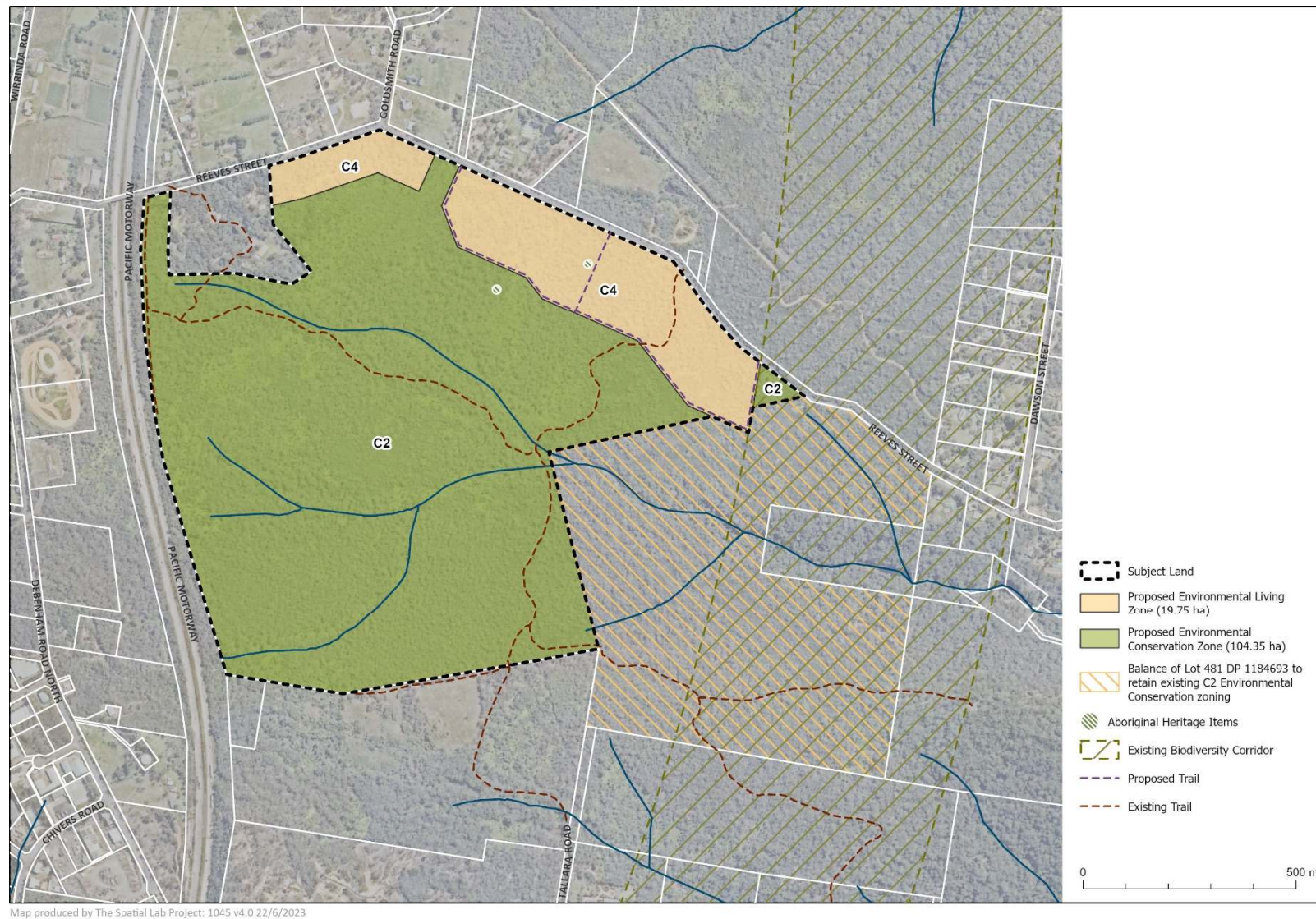


Figure 2: Project Proposal

2 Legislative Context

This section provides an outline of the Acts, Regulations and guidelines under which this assessment has been undertaken. It is for information purposes only and should not be taken as legal advice.

2.1 National Parks and Wildlife Act 1974

This Act contains the provisions for protecting Aboriginal objects in NSW. Aboriginal objects are protected regardless of whether they are in their original context (location) or not and it is an offence to harm an Aboriginal object regardless of whether you know it is an Aboriginal object or not. Protection under Section 86 of the Act is as follows:

- s86(1) A person must not harm or desecrate an object that the person knows is an Aboriginal object.
- s86(2) A person must not harm an Aboriginal object.
- s86(3) A person must not harm or desecrate an Aboriginal place.

Penalties for harming Aboriginal objects or Places range from \$80,000-\$800,000 for individuals and \$330,000-\$1,650,000 for corporations and may also include imprisonment. Under Section 87 there are certain defences from prosecution, these include that harm was authorised under an Aboriginal Heritage Impact Permit (AHIP) and actions were in accordance with the AHIP, that due diligence was exercised in relation to Aboriginal object/s and/or the activity was classified as low impact.

Under Section 89A Aboriginal object/s must be reported to the Biodiversity and Conservation Division of the Department of Planning Industry and Environment (BCD-DPIE) within a reasonable timeframe, unless it has previously been recorded and submitted to the Aboriginal Heritage Information Management System (AHIMS). Penalties for failure to report an Aboriginal object range from \$16,500 for individuals and \$33,000 for corporations.

2.2 National Parks and Wildlife Regulation 2019

This Regulation provides a framework for exercising due diligence and outlines codes of practice in respect to Aboriginal objects (Section 57), as well as defences for carrying out certain low-impact activities (Section 58). The Regulation also outlines requirements for Aboriginal consultation (Section 60), particularly in relation to an Aboriginal Heritage Impact Permit. Under the Regulation, the following codes of practice are recognised, amongst others:

- Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW (DECCW 2010b),
- NSW Minerals Industry Due Diligence Code of Practice for the Protection of Aboriginal Objects (NSW Minerals Council 2010), and
- Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (DECCW 2010a).

2.3 Aboriginal Land Rights Act 1983

This Act provides land rights to Aboriginal people through the Local Aboriginal Land Councils. It outlines a process for claiming unused Crown Land in NSW and for creating land use. It also allows for agreements to permit traditional hunting, fishing and gathering.

2.4 Environmental Planning and Assessment Act 1979

The Environmental Planning and Assessment (EP&A) Act provides triggers for undertaking environmental and heritage assessments as part of the wider land use planning framework. This Act has three main parts of direct relevance to Aboriginal cultural heritage. Namely, Part 3 which governs the preparation of planning instruments, Part 4 which relates to development assessment proves for local government (consent) authorities and Part 5 which relates to activity approvals by governing (determining) authorities. Planning decisions within Local Government Areas (LGAs) are guided by Local Environmental Plans (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 the NPW Act.

The Project Area is located within the Central Coast LGA and falls under the Central Coast LEP.

2.5 Central Coast Local Environmental Plan (LEP) 2022

The Central Coast LEP 2022 requires development consent to demolish, disturb, excavate or develop land on which an Aboriginal object is located or that is within an Aboriginal place of significance. Council must consider the effect of a proposal on an Aboriginal Place and any Aboriginal object located within an area of works. Council must inform the local Aboriginal community about the application where impacts to Aboriginal cultural heritage may occur. Protected heritage under the LEP is listed in Schedule 5.

There are no Aboriginal sites listed in Schedule 5 of the Central Coast LEP.

3 Aboriginal Consultation

This section documents the Aboriginal Consultation that has been undertaken for the project in accordance with the Consultation Requirements (DECCW 2010b). Heritage NSW acknowledges that Aboriginal people are the primary determinants of the significance of their heritage. Best practice Aboriginal cultural heritage management centres around active consultation with Aboriginal stakeholders, as early in the planning process as possible. Consultation is particularly important in determining appropriate management and conservation measures for Aboriginal heritage and the way in which Aboriginal cultural information (particularly sensitive information) is used.

The Consultation Requirements outlines a four stage Aboriginal consultation process and mandate specific timeframes for each stage. The four stages are summarised below. All consultation documentation for each stage is included in Appendix 1.

3.1 Stage 1 – Notification of project proposal and registration of interest

Stage 1 of the Consultation Requirements requires that Aboriginal people who hold cultural information are identified, notified and invited to register an expression of interest in the assessment. This identification process should draw on reasonable sources of information including: the relevant BCD Environment Protection and Regulation Group (EPRG) regional office, the relevant Local Aboriginal Land Council(s) (LALC), the Register of Aboriginal Owners, the Native Title Tribunal, Native Title Services Corporation, local Council(s) and the relevant Local Land Services, as well as placing an advertisement in a local newspaper circulating in the general location of the activity. Aboriginal organisations and/or individuals identified should be notified of the activity and invited to register an expression of interest for Aboriginal consultation.

In accordance with Stage 1, step 4.1.2 requests for information were sent to the following agencies:

- Hunter and Central Coast BCD-DPIE office,
- Darkinjung Local Aboriginal Land Council,
- Registrar of Aboriginal Owners,
- Native Title Services,
- Central Coast Council
- Greater Sydney office of Local Land Services.

In accordance with Stage 1, step 4.1.3 a public notice was placed in the Coast News local newspaper on 20 December 2019. Also in accordance with Stage 1, step 4.1.3, Aboriginal people or organisations identified at step 4.1.2 were invited to register for the project.

At the completion of Stage 1 a total of nine Aboriginal representatives nominated to become Registered Aboriginal Parties (RAPs) for the Project (Table 2). One registrant requested that their registration remain confidential.

In accordance with Stage 1, step 4.1.6, the names and details of all RAPs for the project were forwarded to DLALC and Heritage NSW on 30 January 2020, unless RAPs had specified they did not want their details released.

Table 1: Registered Aboriginal Parties

| Organisation/Individual | Representative Name/s |
|--|---------------------------|
| A1 Indigenous Services | Carolyn Hickey |
| Awabakal & Guringai Pty Ltd | Tracey Howie |
| Awabakal Traditional Owners Aboriginal Corporation | Kerrie Brauer |
| Confidential Registration | |
| Darkinjung Local Aboriginal Land Council | Amanda Shields |
| Didge Ngunawal Clan | Paul Boyd & Lilly Carroll |
| Walkaloo | Tracey Howie |
| Widescope Indigenous Group | Steven Hickey |
| Individual Registration | Trudy Smith |

3.2 Stages 2 and 3 – Presentation of project proposal information and gathering of cultural information

The aim of stage 2 is to provide registered Aboriginal parties identified during stage 1 information about the scope of the proposal and the proposed heritage assessment process. Stage 3 provides the opportunity for registered Aboriginal stakeholders to recommend culturally appropriate research methodologies for the cultural heritage assessment. At this stage registered stakeholders are invited to provide input to determine the cultural significance of Aboriginal objects and/or places within the Project Area. In turn they are also given the opportunity to have an input into the development of any cultural heritage management options.

In accordance with Stages 2 and 3 details of the Project Proposal and the ACHA methodology were provided to the RAPs. All RAPs were invited to provide feedback and commentary on both documents. Opportunities for feedback were also provided during the fieldwork component of the assessment. All comments received are summarised in Table 2 and Appendix 1.

Table 2: Responses to Assessment Methodology by Registered Aboriginal Parties

| Organisation/Individual | Representative Name/s | Response summary (full response in Appendix 1) |
|--|-----------------------|--|
| A1 Indigenous | Carolyn Hickey | Agrees with methodology |
| Awabakal & Guringai | Tracey Howie | Agrees with methodology |
| Awabakal Traditional Owners Aboriginal Corporation | Kerrie Brauer | Agrees with methodology, but would like to ensure that only people who can demonstrate an association with country be selected for fieldwork |
| Walkaloo | Tracey Howie | Agrees with methodology |
| Widescope Indigenous Group | Steven Hickey | Agrees with methodology |
| Confidential | | Agrees with methodology |

3.3 Stage 4

In accordance with the Consultation Requirements, the RAPs were provided 28 days to comment on the draft report. The five RAPs who responded to the draft report agreed with the recommendations (Table 3). Wording changes requested by one of the RAPs was incorporated into the Environmental Heritage Context. No other changes were requested.

Table 3: Responses to Draft Report by Registered Aboriginal Parties

| Organisation/Individual | Representative Name/s | Response summary (full response in Appendix 1) |
|--|-----------------------|---|
| Widescope Indigenous Group | Steven Hickey | Agrees with recommendations |
| Didge Ngunawal Clan | Paul Boyd | Agrees with recommendations |
| Darkinjung Local Aboriginal Land Council | Amanda Shields | Agrees with recommendations |
| Individual | Trudy Smith | Asked for wording to be changed in Environmental and Heritage Context |
| Confidential RAP | | Agrees with recommendations |

An updated version of the report was sent to the RAPs with 28 days provided for comment. These comments are summarised in Table 4.

Table 4: Responses to Updated Final Report by Registered Aboriginal Parties

| Organisation/Individual | Representative Name/s | Response summary (full response in Appendix 1) |
|-------------------------|-----------------------|---|
| Walkaloo | Tracey Howie | Agreed with recommendations; provided information to be added on the cultural values and significance of the Somersby plateau |

3.4 Summary

As a result of the Aboriginal consultation process 9 Registered Aboriginal Parties were identified. Feedback from the Aboriginal consultation has been incorporated into the assessment of significance and the development of heritage management and mitigation strategies for the Project. The RAPs agree with the report recommendations.

4 Archaeological Assessment

The archaeological assessment outlines the environmental and heritage context for the Project Area. It also reports on the archaeological survey.

4.1 Environmental Context

This section provides the environmental context for the assessment of past Aboriginal occupation in the Project Area.

4.1.1 Bioregion

The Project Area is located in the Wyong subregion of the Sydney Basin. The landforms of the subregion are characterised by rolling hills and sandstone plateau outliers as well as beach, dune and lagoons of coastal barriers interspersed with coastal cliffs and rock platforms (National Parks and Wildlife Service, 2003).

4.1.2 Geology and Soils

The Project Area lies within the Hawkesbury sandstone geological zone, formed in the Middle Triassic Period. This zone is categorised by medium to very coarse-grained sandstone, minor laminated mudstone and siltstone lenses

The soils in the Project Area are made up of several A and B Horizons. The A1 is a coarse red sand from 0-0.2 metres below ground surface. The A2 is a yellowish red coarse loamy sand from 0.2-0.4 metres. The A horizon continues from 0.4 -0.6 metres as a coarse loamy sand, but gradually becomes a pale olive colour. The B1 Horizon is a yellowish brown coarse sandy loam at depths 0.6-0.8m. The B2 Horizon is a brownish yellow sandy loam. The depth of this horizon continues below 1 metre. All layers have a gradual irregular boundary. If subsurface artefacts are present, they would be limited to the A horizons, up to 0.4 metres below ground surface.

4.1.3 Topography and Hydrology

There is a gradual incline in the Project Area from 140m above sea level in the east to 260m above sea level in the west. Fountain Creek runs down this slope in an east to south easterly direction. It begins as a first order stream and becomes a second order stream as the slope increases in the eastern part of the project area. This creek flows into the Narara Creek which is a fourth order stream (Six Maps).

4.1.4 Flora and Fauna

This section is intended to give a general overview of the flora and fauna that may have been used by Aboriginal people in the past. The information has been supplied for understanding the past Aboriginal use of the landscape and is not intended for ecological assessment purposes.

Past Aboriginal people are likely to have encountered the Sydney Coastal Dry Sclerophyll Forests and Sydney Coastal Heaths in the Project Area. Sydney Coastal Dry Sclerophyll Forests are comprised of open eucalypt forests and woodlands 10-25 m tall with prominent and diverse sclerophyll shrub understorey and open groundcover of sclerophyll sedges. Most commonly associated with these forests are Sydney red gum and red bloodwood, which form the canopies of the forest. Other trees include Sydney peppermint, brown stringybark, broad-leaved scribbly gum, narrow-leaved scribbly gum and silvertop ash. Old man banksia and Christmas bush may also be present as small trees.

Shrubs include several species of wattle including flax-leaved wattle and sunshine wattle, hairpin banksia, wallum heath, waxflower, grey spider-flower, pink spider flower, broad-leaved hakea, broad-leaved drumsticks, mountain devil, flaky-barked teatree, prickly broom-heath, broad-leaved geebung, pine-leaved geebung and grass trees. The grassy layers include bushy clubmoss and leafy purple flag.

Sydney Coastal Heaths are dominated by emergent mallees up to 4 m tall and shrubs up 1.5 m tall with a semi-continuous graminoid groundcover. Trees present would normally include mallee forms of red bloodwood, heart-leaved stringy-bark, yellow-top ash and Port Jackson mallee, while shrubs include scrub she-oak, dwarf apple, heath banksia, old man banksia, cone-seeds, egg and bacon pea, coral heath, dagger hakea, broad-leaved drumsticks, pink tea-tree, flaky-barked teatree, small-leaved white beard, lance-leaved geebung and grass-trees.

Some of these species would have been used as raw materials for implements and weaving, as well as food and medicine. Geebung, for instance, has known antiseptic properties and some varieties produce edible fruit (Robinson, 1991, p. 100). Sydney Peppermint has also been noted to help with upset stomachs.

These forests and heaths provide the habitat for wallabies, kangaroos, potoroos, possums, bats, and quolls. These fauna were an important source of food to the local Aboriginal people and their hides were also a resource to make clothing. Possum skin and hair was one of the more frequently chosen sources of clothing (Australian Walkabout Wildlife Park, 2018).

4.1.5 Land Use

Currently the land is undeveloped and covered in native vegetation, with the exception of some access tracks.

4.1.6 Synthesis

The geology indicates that there was Hawkesbury sandstone present, suitable outcrops may have been used in the past by Aboriginal people for shelter and grinding stones as well as art. The local geology contains mudstone which may have been used as a raw material for stone tools. The second order stream could have provided a water source, although the near by Narara Creek, which is both a larger water source and on flatter land, would be a more advantageous position. The flora could have provided some food sources as well as building materials. Overall, the locality is suitable for Aboriginal campsite occupation.

4.2 Heritage Context

A review of the archaeological, ethno-historical and post-contact history of an area provides contextual information for Aboriginal sites within the local and regional landscape. Previous archaeological research undertaken in the region as well as a review of environmental factors can inform predictive models for the locations of Aboriginal sites. Predictive models can be further refined by the consideration of the post-contact land use of the area which may identify potential sources of post-depositional disturbances that may have occurred.

4.2.1 Aboriginal Occupation of the Central Coast – Archaeological Background

Aboriginal occupation in the area has been dated to 11,000 years before present which precedes the rise of sea levels around 6000 years before present (Attenbrow, 2006, p. 8). This date comes from a rockshelter site in Mangrove Creek, 20 km North West of Gosford. Due to the limitations in dating techniques, this figure may be even older.

There are a variety of site types in the Somersby and surrounding areas, including grinding grooves, art sites, artefacts, middens, scarred trees and water holes. Within the Darkinjung Local Aboriginal Land Council boundaries 2,985 registered Aboriginal sites have been located. This includes several Aboriginal Places protected by the state.

Sandstone sites

Two Aboriginal places within the DLALC boundary are The Bulgandry Art Site and Kariong Sacred Land. Both places contain impressive rock engraving sites and are known ceremonial sites. The Bulgandry Art site is used today as a ‘bush schoolroom’ to help educate Aboriginal youth about their traditional lands and culture (DPIE, 2015).

Art sites often take the form of rock engravings in the Central Coast Region. These engravings were usually made on flat sandstone sheets and represented hundreds of spiritual figures including ancestral beings (sky heroes) and a wide range of animals and objects and normal-sized human beings. There are very little historical accounts of their use, as it appears they were mainly used for ceremonial activities and thus under Aboriginal custom their use was not openly discussed. The oldest of these art sites in the region has been dated to 4000 years old (Taçon, et al., 2007).

Although less common than engraving sites, art may also take the form of pigment drawings. These are found on sandstone formations. Warre Warren Aboriginal Place contains a high density of unique Aboriginal art pigment sites, rare for the Sydney Basin (DPIE, 2019).

Another nearby significant site is the Calga Aboriginal Cultural Landscape. The site contains a natural sandstone amphitheatre formed around a gully. The semicircular topography of the amphitheatre provides natural resources, amenity and seclusion for cultural practise and its shape is recognised by Aboriginal women to represent a womb (DPIE, 2019). This sacred women’s site contains a high density of a variety of site types including shelters, engraved and pigment art, stone arrangements, artefact scatters, middens and archaeological deposits. This reflects that a variety of site types may be found together or in association with one another and the significance of sandstone geological formations to local Aboriginal culture.

Sandstone was also important to stone tool maintenance and food preparation. Grinding grooves are commonly found in sandstone sheets associated with creeks and water holes. Water was needed to be able to sharpen stone tools on the sandstone. They can also be found alongside art sites.

Shields, tools, and weapons

Shields were often made from the buttress of the giant nettle tree (*Dendrocnide excelsa*) or fig tree (*figus spp*). Usually about 1 m long and 0.5 m wide, with a handle on the inner side and soft paperbark padding. Bark was also removed to make vessels for food. Hardwood Eucalypt species were important for hunting sticks, throwing sticks, digging sticks, boomerangs and clubs. Although these types of artefacts are unlikely to survive due the nature of the organic material, the modifications made to trees for their creation can survive as they often left a distinctive scar on the tree.

Middens

Middens can also be found in the Central Coast Region. They provide evidence for the types of food consumed by Aboriginal people. Middens are often located near waterways as they were a prime location for food resources.

4.2.2 Aboriginal Heritage Information Management System (AHIMS)

The original AHIMS database search was on 4 December 2019. The search was based on the following coordinates: Latitude -33.4179-33.3784, Longitude 151.289 to 151.3341, and returned a result of 97 Aboriginal sites. The location of these AHIMS sites were plotted based on the latitude and longitude coordinates provided by the AHIMS extensive search.

Based on the 2019 result there were two sites are located within the study area AHIMS #45-3-0049 and AHIMS #45-3-0042. An updated AHIMS search in 2023 was not able to search the same coordinates, due to an increased number of sites that had been recorded within the previous coordinates. The 2023 search was for Latitude -33.4179 to -33.3784, Longitude 151.289 to 151.3200 and returned 92 Aboriginal sites. This search showed that AHIMS #45-3-0042 is not in the Project Area with a correction having been made to the site card which locates the site to the south. The update site card with the more recent recording is contained in Appendix 2. The site card update for AHIMS #45-3-0042 indicates it is a duplicate recording of AHIMS #45-3-3661 and is listed under that number in the most current search.

AHIMS #45-3-0049 is described as a rock engraving of a kangaroo and is valid site within the Project Area with its co-ordinates having been recently updated and the site was also verified in this report. The site card is in Appendix 2.

Majority of the sites identified by the AHIMS database are associated with sandstone formations (n=80, 82%). Of these sites, 80% feature either art, grinding grooves, or both. Overall grinding grooves are the most common site type.

Sites are mostly clustered along the waterways, particularly the grinding grooves. This is predicted due to the geological patterning of sandstone sheets and the need for water in grinding groove use as previously outlined.

Table 5: AHIMS search summary

| Site types corrected | Number | Percentage |
|---|--------|------------|
| Rock Engraving | 31 | 33.70% |
| Grinding Groove | 28 | 30.43% |
| Grinding Groove / Engraving | 10 | 10.87% |
| Rockshelter with Art | 5 | 5.43% |
| Rockshelter with Art / Grinding Groove | 4 | 4.35% |
| Modified Tree | 2 | 2.17% |
| Grinding Groove / Engraving / Waterhole | 1 | 1.09% |
| Engraving / Waterhole | 1 | 1.09% |
| Rockshelter with shell | 1 | 1.09% |
| Stone arrangement / Grinding Groove / Art | 1 | 1.09% |
| Rockshelter with Art / Engraving | 1 | 1.09% |
| Waterhole | 1 | 1.09% |
| Rockshelter with Art / Shell | 1 | 1.09% |
| PAD | 1 | 1.09% |
| Grinding Groove / Waterhole | 1 | 1.09% |
| Artefact and Art | 1 | 1.09% |
| Art | 1 | 1.09% |
| Open Site with Artefact/s | 1 | 1.09% |
| Grand Total | 92 | 100.00% |

Figure 3: AHIMS sites

4.2.3 Heritage Report Summaries

Heritage reports relevant to the Project Area have been summarised in this section to provide an understanding of the previous assessments that have been undertaken and the implications for Aboriginal site patterning.

Koettig and McDonald (1983) Survey for archaeological sites in the Mt Penang – Somersby

Koettig and McDonald (1983) and McDonald surveyed an area of 170 ha in the Somersby/Mt Penang area approximately 2 km south of the current Project Area. The survey recorded 11 sites comprising of; four engraving sites, one axe grinding groove site, five sites that were a combination of grinding grooves and engravings, and one rock shelter with potential archaeological deposit (PAD) (Koettig & McDonald, 1983, p. 16). Engravings included depictions of kangaroos, fish and anthropomorphs. All sites recorded were associated with sandstone platforms. The highest concentration of sites was in the south eastern corner of the survey area, suggesting that the edge of the escarpment is an area of high sensitivity (Koettig & McDonald, 1983, p. 17). It was recommended for sites to be protected and that the potential archaeological deposit within the rock shelter be sealed. Preservation of the area of archaeological sensitivity was also recommended.

Lough and Associates (1980) Archaeology Survey – F3 Mount White to Ourimbah

An archaeological survey was conducted in 1980 from Mt White to Ourimbah for the development of the Freeway No.3, now known as the M1. This survey documented over 150 sites. This included a variety of site types; rock engravings, grinding grooves, middens, artefact scatters and modified trees. The survey was broken into three sections; Mt White to Calga, Calga to Kariong, and Kariong to Ourimbah. The section most relevant to this report is the Kariong to Ourimbah section, approximately 1.5 km from the current Project Area. 10 rock engraving sites and 12 grinding groove sites were found between Kariong and Ourimbah. Some motifs depicted include anthropomorphs, kangaroos, koalas, fish and birds. A barred motif was found only on five sites, all within the Somersby area and was thought to related to an ancestral spirit specifically associated with the small area. One of the sites with this type of engraving was noted to be impacted by proposed development and it was advised that the centreline of the road development be altered to protect it. The report advised that impacts to any engraving sites should be avoided. Impacts to three grinding groove sites were considered unavoidable as any alterations to the centreline in the area would result in impacts to other sites considered to be of greater archaeological significance.

Silcox (1996) Test Excavations at Proposed Sand Quarry, Somersby

An archaeological test excavation program was undertaken at Hunter Range, near the junction of Wisemans Ferry Road and Peats Ridge Road in 1996. An archaeological survey has previously been completed for the area which identified a PAD associated with the eastern end of the study area on an undisturbed ridgeline.

The western half of the site had been heavily disturbed by previous quarrying and was excluded from the excavation programme. The test excavation programme was comprised 75 test pits measuring 25 cm by 25 cm excavated along 45 m transects across the PAD. Pits were extended if artefacts were identified.

A low-density artefact scatter of 10 stone artefacts were uncovered during excavations. A cluster of nine artefacts was identified in pit A19 and one artefact was recovered in isolation in B17. The assemblage comprised five indurated mudstone, four quartz and one silcrete (Silcox, 1996, p. 11). All

artefacts were amorphous forms such as flakes or flaked pieces. The site was assessed to be of low significance.

It was recommended that the buffer zone on the eastern boundary of the quarry be extended from 20m to 30m to preserve the location of where the main cluster of artefacts found, and a larger section of the potential site area (Silcox, 1996, p. 13).

Heritage Concepts (2007) Aboriginal Archaeological and Cultural Heritage Assessment – Reeves Road Somersby

Heritage Concepts prepared an ACHA for the area located directly north of the current Project Area. A series of four transects were completed across the survey area. One site was identified in transect 2, within Lot 423 in the south eastern corner of the survey area. The site (AHIMS #45-3-3334) contained a small grinding groove and engraving located on an exposed sandstone platform, however the exact details of the engraving were obscured by lichen growth. Consultation with Aboriginal community groups revealed that a traditional Aboriginal walking track runs along the external edge of the northern boundary of the study area, before turning south along the eastern boundary (Heritage Concepts, 2007, p. 45). It was recommended that this area be conserved to retain the visual and spatial connection between surrounding sites and AHIMS #45-3-3334 (Heritage Concepts, 2007, p. 51).

McCardle Cultural Heritage (2012) Archaeology Survey – Somersby Industrial Park

McCardle Cultural Heritage were engaged by Geolink Environmental Management and Design to prepare an Indigenous archaeological assessment for proposed expansions to the Somersby Industrial Park. The assessment area is located approximately 2 km south to south west from the current Project Area. The site survey did not identify any Aboriginal sites across the four survey units. It was suggested that this was likely due to being 500 m or more away from a reliable water source (McCardle Cultural Heritage, 2012, p. 40).

McCardle considered it likely that land use within the area would have been transitory and ephemeral in nature. Any sites identified in the area would be reflective of travel or short-term camping sites while gathering resources represented by low density background scatter and isolated finds. A sandstone platform with several water holes was identified in Lot 31 DP 81669, on the west side of Debenham Road. No rock engravings were identified in the sandstone, however it was advised that the area would require further investigation before ground disturbance took place.

4.2.4 Predictive Model

The most common Aboriginal archaeological sites are predicted to be those associated with sandstone outcrops. They account for over 75% of sites identified in the area on the AHIMS database.

Grinding grooves are the most common site type, followed by art sites (this includes pigment and rock engravings) and sites that contain both art and grinding grooves.

Based on the results of the AHIMS search, most grinding groove sites occur within 200 m of a water source, and at heights of 100 m AHD and above. There is one outlier to this pattern, AHIMS #45-3-3656, which is only four m AHD. This site is also a water hole, located near a tributary of Brisbane Waters and is a rare site.

Art sites are found in similar locations to grinding grooves, given that they generally rely on the same sandstone source material. Art and grinding groove sites are frequently found to be together. Art sites not found in association with grooves can be found further away from water resources, up to 500 m.

Another site type likely to be identified within the Project Area are artefact scatters and isolated finds. Many artefacts have been found along Piles Creek, south west of the Project Area but this may be a reflection of the location of archaeological investigations associated with development rather than Aboriginal land use patterns.

Modified trees may be identified in a variety of locations. The Project Area is situated within remnant bushland containing species such as stringy bark and red gum, which Aboriginal people have known to modify to create items such as canoes, coolamons and shields. Therefore, there is also potential of finding modified trees in the Project Area.

4.2.5 Synthesis

On the basis of environmental and heritage information, the most common Aboriginal archaeological sites predicted to be in the Project Area are grinding grooves and art sites. They are most likely to occur along the creek lines or at short distances from the creek lines.

4.3 Archaeological Survey

The archaeological survey was completed on Thursday 27 February 2020. Tessa Boer-Mah and Crystal Phillips from Heritage Now, Tracey Howie from Walkaloo, Tori Leven from Awabakal Traditional Owners Corporation, and Barry Williams and Amanda Shields from Darkinjung Local Aboriginal Land Council participated in the archaeological survey. An additional survey was undertaken on 29 July 2020 by Heritage Now Principal Consultant Tessa Boer-Mah along with Paul Boyd of Didge Ngunawal Clan.

4.3.1 Survey Units

The Project Area was surveyed in two survey units.

Survey Unit 1

Survey Unit 1 is located to the east of the access track (Plate 1) that runs through the centre of the Project Area. Visibility was good along the track, however the rest of the survey unit contained very thick vegetation, with banksia trees, scribbly gum and hakea (Plate 2). There were also large amounts of leaf litter making ground visibility very low (Plate 3). AHIMS #45-3-0049 is plotted as being in this survey unit, but it was not found at the recorded location, rather it was identified in Survey Unit 2. Overall ground exposure was 5% and visibility was 10%.

Survey Unit 2

Survey Unit 2 is located west of the main access track and contained a similar densely vegetated landscape (Plate 4). Densely vegetated ferns, reeds, and gymea lily were present closer to the creek and drainage lines (Plate 5 and Plate 5). A sandstone sheet was identified in the western part of the Project Area, which sits at a higher elevation than the east. However, this sandstone was of poor quality and would not have been used for grinding (Plate 6 and Plate 7).

AHIMS#45-3-0049 was identified in Survey Unit 2, approximately 400 metres north west of its recorded AHIMS location and is described below.

Overall ground exposure was 5% and visibility was 10%.

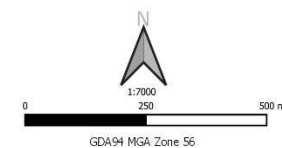
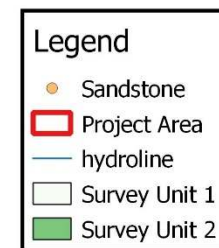
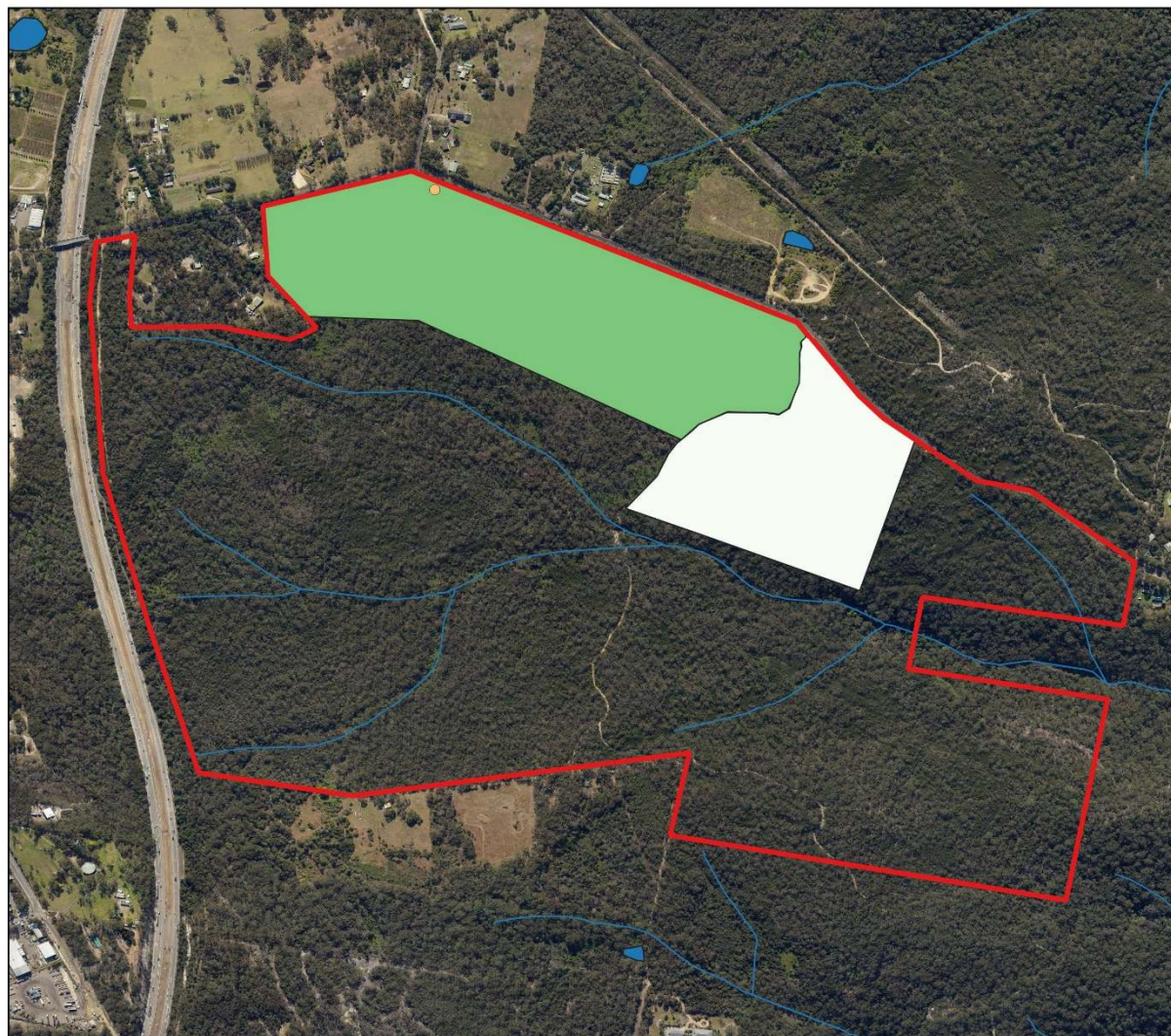


Figure 4: Somersby Survey Units

4.3.2 Aboriginal Sites Identified

One previously recorded Aboriginal site, AHIMS# 45-3-0049, was identified as part of the field investigations (Plate 8 - Plate 10). This kangaroo engraving was identified on a sandstone sheet

4.3.3 Potential Additional Sandstone Sheets

Sandstone sheets were identified in the Project Area, but were not suitable for Aboriginal engraving or grinding grooves. It is possible that there are additional sandstone sheets suitable for Aboriginal use, but which were obscured by vegetation and may be uncovered during vegetation clearance works.

4.3.4 Aboriginal Consultation

The management of AHIMS #45-3-0049 was discussed on site with Paul Boyd of Didge Ngunawal Clan who was present during its most recent recording. It was agreed at a 20 metre buffer around the sandstone sheet should be applied and that other management measures may need to be developed depending upon the final lot layout.

4.3.5 Summary

One previously recorded Aboriginal site, AHIMS# 45-3-0049, was identified as part of the field investigation, but at coordinates that differ from those provided by AHIMS. The correct co-ordinates for this site as observed in the survey are: Sandstone sheets were identified in the Project Area but were not suitable for Aboriginal engraving or grinding grooves. It is possible that there are additional sandstone sheets suitable for Aboriginal use, but which were obscured by vegetation and may be uncovered during vegetation clearance works. Overall, ground surface exposure and visibility were low (Table 6).

Table 6 Survey Unit Summary

| Survey Unit | Landform | Survey Unit Area | Visibility % | Exposure % | Effective Coverage Area (m ²) | Sample Fraction (%) | Number of Sites Identified |
|-------------|-----------|------------------|--------------|------------|---|---------------------|----------------------------|
| 1 | Mid-slope | 163774 | 10% | 5% | 818.87 | 1% | 0 |
| 2 | Mid-slope | 329900 | 10% | 5% | 1649.5 | 1% | 0 |

5 Significance Assessment and Aboriginal Cultural Values

Cultural heritage refers to the tangible and intangible values that we choose to pass on to future generations. In order to identify the values worth passing on, a significance assessment needs to be undertaken. The significance assessment needs to: identify the range of values present across the Project Area and assess their importance.

5.1 Methodology

Identifying the Aboriginal cultural values is part of the significance assessment process and is guided by the Burra Charter and the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW*.

There are four recognised classes of values under the Burra Charter (Australia ICOMOS, 2013):

- Social,
- Historical,
- Aesthetic, and
- Scientific

Within this significance assessment, Aboriginal cultural values are captured within social, historical and aesthetic values. The archaeological values are contained within scientific values.

Social value refers to the spiritual, traditional, historical or contemporary associations that Aboriginal people have for place. Historical value refers to the associations of a place with a historically important person, event, phase or activity in the Aboriginal community. Aesthetic value refers to the sensory, scenic, architectural and creative aspects of the place.

Archaeological values refer to the importance of the landscape, area, place or object because of its rarity, representativeness and the extent to which it may inform our understanding of Aboriginal culture.

5.1.1 Aboriginal Cultural Values

Aboriginal cultural values are identified through the Aboriginal consultation process. Formal opportunities for the Aboriginal community to contribute to identifying cultural values are provided in the ACHA methodology review period, during fieldwork and during the draft report review period. In addition, RAPs are invited to provide feedback at any time through the consultation process, by phone or in writing (email or letter).

5.1.2 Archaeological (Scientific) Values

Archaeological (scientific) values relate to whether the Project Area can contribute to our understanding of Aboriginal culture. Under the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW*, archaeological values are to be considered within the below sub-categories:

- Representativeness,
- Rarity,

- Research potential, and
- Educational potential.

5.2 Aboriginal Cultural Values of the Project Area

The survey identified that the Project Area held cultural values as a site for resource gathering. The area surveyed was abundant in Aboriginal food resources including gymea lily, mountain devil and geebung. Plants with known medicinal and antiseptic qualities were also identified such as dagger hakea, geebung, and Gosford wattle. The density of sites in the surrounding area also supports that the area was likely used for hunting and gathering purposes.

AHIMS#45-3-0049 is of high cultural significance for representing Aboriginal cultural and ceremonial activities.

The following statement of cultural significance was provided by Tracey Howie from Walkaloo (12/11/2020), who attended the site survey:

The area known today as the Somersby plateau is abundant in cultural heritage. This cultural landscape is of extremely high significance to us and the sandstone formations and plateau have been described by the UNESCO Scientists as being unique and of World Heritage quality.

From certain locations along this ridge line, you have a direct line of sight to the Calga cultural landscape to the south and aspects all the way to the coastline to the east and Mount Yengo to the north west.

Highly significant engraving sites are located throughout this landscape, including those of highly important law men and those associated with initiation and ceremony.

Travelling along this ridge line and those that are linked, will assist your journey to the east, north, south and west.

Despite this, we agree that the proposed development will minimally impact on the cultural values of this area due to existing infrastructures and it's specific location.

5.3 Archaeological Values of the Project Area

AHIMS#45-3-0049 is highly representative of an engraving site in the local area and is rare locally, but this site type is represented elsewhere in the region. It has moderate research potential, as it only has a single motif. It has high education potential in the local region demonstrating the cultural and ceremonial activities in the local area. Overall, the site has high local significance and moderate regional significance. If additional engravings were it be identified in the area due higher exposure of sandstone sheets, then the archaeological values of the Project Area would need to be reassessed with this additional information.

5.4 Summary

The Project Area contains Aboriginal cultural values as a resource gathering area and its place in the wider cultural landscape of the Somersby plateau. AHIMS#45-3-0049 is of high Aboriginal cultural significance. Archaeologically, AHIMS#45-3-0049 has high local significance and moderate regional significance. If additional engravings were it be identified in the area due higher exposure of sandstone sheets, then the archaeological values of the Project Area would need to be reassessed with this additional information.

6 Impact Assessment and Mitigation

This section assesses the potential impact of the proposed works in relation to Aboriginal heritage values in the Project Area and provides options for mitigating loss of Aboriginal cultural values.

6.1 Proposed Works

The Project Proposal is for rezoning (Figure 2). The rezoning proposal would include an environmental living (C4) rezoning along Reeves Street. The remainder of the Project Area would be designated as an Environmental Conservation Zone (C2).

6.2 Impact Assessment

AHIMS#45-3-0049 is to be excluded from the development area with at least a 20 metre buffer placed around the sandstone sheet on which it is located (Figure 5).

Sandstone outcrops were identified but were not suitable for Aboriginal use. There is potential that more sandstone will be identified as land is cleared for the proposed residential development and vegetational buffer zone.

6.3 Mitigation

A buffer zone for AHIMS#45-3-0049 is to be established following rezoning and as part of the future development application. The buffer zones to be clearly marked on all relevant construction drawings, along with buffers and fencing, as relevant. If additional engravings are identified due to higher visibility of sandstone sheets, then the significance of the area would need to be re-assessed and appropriate mitigation measures developed which may include greater buffer zones for avoiding additional site/s.

A Heritage Management Plan is to be developed for the management of AHIMS#45-3-0049 during construction, as well as ongoing protection.

If sandstone is uncovered during clearing, it will need to be inspected to verify its Aboriginal cultural and archaeological values, as it may contain evidence of Aboriginal cultural practice.

All on-site personnel are to be made aware of their obligations under the National Parks and Wildlife Act 1974, this includes protection of Aboriginal sites and the reporting of any new Aboriginal, or suspected Aboriginal, heritage sites. This may be done through an onsite Aboriginal cultural heritage induction or other suitable format.

Figure 5 Aboriginal Sites and Proposed Development

6.4 Sustainable Development

Under the NSW *Protection of the Environmental Administration Act 1991* Ecologically sustainable development principles (ESD) are to be considered in the assessment of environmental impacts; and this includes impacts to heritage. The consideration of ESD principles is required under the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in New South Wales 2010*. In particular, the precautionary principle and the principle of inter-generational equity are to be considered where there are proposed impacts to the environment (which includes heritage).

6.4.1 Precautionary Principal

The precautionary principle states that if there are threats of serious or irreversible damage to the environment, then a lack of full scientific certainty should not be used as a reason to postpone measures to prevent environmental degradation.

The proposed works do not pose a threat of serious or irreversible damage to the environment, AHIMS #45-3-0049 will be protected and the mitigation measures proposed provide acceptable conservation outcomes for the Aboriginal sites.

6.4.2 Inter-generational Equity

The principle of inter-generational equity states that the present generation should ensure the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.

The mitigation measures proposed will ensure that the Aboriginal sites are conserved in-situ and avoided and thus satisfies the principle of inter-generational equity.

7 Conclusions and Recommendations

One previously recorded Aboriginal site, AHIMS# 45-3-0049, was identified as part of the field investigation in the Project Area. In addition sandstone sheets were identified in the Project Area but were not suitable for Aboriginal engraving or grinding grooves. It is possible that there are additional sandstone sheets suitable for Aboriginal use, but which were obscured by vegetation and may be uncovered during vegetation clearance works.

The Project Area contains Aboriginal cultural values as a resource gathering area, AHIMS#45-3-0049 is of high Aboriginal cultural significance. Archaeologically, AHIMS#45-3-0049 has high local significance and moderate regional significance.

A buffer zone for AHIMS#45-3-0049 is to be established following rezoning and as part of the future development application and are to be clearly marked on all relevant construction drawings, along with buffers and fencing, as relevant.

A Heritage Management Plan is to be developed for the management of Aboriginal sites during construction, as well as ongoing protection. This Plan is to include contingency protocols if sandstone is uncovered during clearing, as it will need to be inspected to verify its Aboriginal cultural and archaeological values, as it may contain evidence of Aboriginal cultural practices.

All on-site personnel are to be made aware of their obligations under the National Parks and Wildlife Act 1974, this includes protection of Aboriginal sites and the reporting of any new Aboriginal, or suspected Aboriginal, heritage sites. This may be done through an onsite Aboriginal cultural heritage induction or other suitable format.

Recommendation 1

A buffer zone AHIMS#45-3-0049 is to be established following rezoning and as part of the future development application. A buffer zone of at least 20 metres is to be placed around the sandstone sheet associated with AHIM# 45-3-0049. The buffer zones to be clearly marked on all relevant construction drawings, along with buffers and fencing, as relevant. If additional engravings are identified due to higher visibility of sandstone sheets, then the significance of the area would need to be re-assessed and appropriate mitigation measures developed which may include greater buffer zones for avoiding additional site/s.

Recommendation 2

Following rezoning, a Heritage Management Plan is to be developed for the management of AHIMS#45-3-0049 during construction, as well as ongoing protection. This Plan is also to include contingency protocols for the identification of sandstone sheets during construction.

Recommendation 3

All on-site personnel are to be made aware of their obligations under the National Parks and Wildlife Act 1974, this includes protection of Aboriginal sites and the reporting of any new Aboriginal, or suspected Aboriginal, heritage sites. This may be done through an onsite induction or other suitable format.

8 References

- Attenbrow, V. (1979). *Archaeological Report on Mangrove Creek Environmental Impact Statement*.
- Attenbrow, V. (2006). *What's Changing: Population Size or Land-Use Patterns? The archaeology of Upper Mangrove Creek, Sydney Basin*. Canberra: Australian National University Press.
- Australia ICOMOS. (2013). *The Burra Charter*. Australia International Council on Monuments and Sites.
- Australian Walkabout Wildlife Park. (2018). *Original People, Traditional Lands*. Retrieved from <http://www.walkaboutpark.com.au/aboriginal-culture/guringai-darkinjung-people>
- BCD-DPIE. (2010a). *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW*. Sydney: Biodiversity and Conservation Division, Department of Planning Industry and Environment.
- BCD-DPIE. (2010b). *Aboriginal Cultural Heritage Consultation Requirements for Proponents*. Biodiversity and Conservation Division, Department of Planning Industry and Environment.
- BCD-DPIE. (2010c). *Code of Practice for Archaeological Investigation of Aboriginal objects in NSW*. Biodiversity and Cultural Division, Department of Planning Industry and Environment.
- Central Coast Council. (2018). *Brisbane Water*. Retrieved from Central Coast Council: <https://www.centralcoast.nsw.gov.au/environment/coastlines/estuaries-lagoons-and-wetlands/brisbane-water>
- Darkinjung Local Aboriginal Land Council. (n.d). *About Us*. Retrieved from Darkinjung Local Aboriginal Land Council: <http://www.darkinjung.com.au/2>
- DLALC. (n.d). *Culture & Heritage*. Retrieved from Darkinjung Local Aboriginal Land Council: <http://www.darkinjung.com.au/CultureHeritage>
- DPIE. (2015). *Bulgandry Art Site*. Retrieved from State Heritage Register: <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5062857>
- DPIE. (2019, October). *Calga Aboriginal Cultural Landscape*. Retrieved from State Heritage Register: <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5064142>
- DPIE. (2019). *Warre Warren Aboriginal Place*. Retrieved from State Heritage Register: <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5067049>
- Ford, G. E. (1939). *Darkinjung Recognition: An Analysis of the Historiography for the Aborigines from the Hawkesbury-Hunter Ranges to the Northwest of Sydney*. University of Sydney.
- Heritage Concepts. (2007). *Proposed Driver training Facility Lot 422 DP 0341*. Report to Gosford City Council.
- Koettig, M., & McDonald, J. (1983). *Report on a Survey for Archaeological Sites in the Mt Penang-Somersby Area*. Report to Lester Firth Associates.

- Lough, J. (1980). *Freeway No. 3 Mt White to Ourimbah Archaeological Survey*. Report to Department of Main Roads NSW.
- McCardle Cultural Heritage. (2012). *Somersby Industrial Park: Aboriginal Impact Assessment*. Report to Gosford City Council.
- National Parks and Wildlife Service. (2003). The Sydney Basin Bioregion. In *The Bioregions of New South Wales: their biodiversity, conservation and history*.
- Robinson, L. (1991). *Field Guide to the native plants of Sydney*. Pymble: Kangaroo Press.
- Silcox, R. (1996). *Test Excavations at a Proposed Sand Quarry, Somersby, NSW*. Report to PACRIM Environmental.
- SIX Maps. (n.d.). Retrieved from Spatial Information Exchange - NSW Spatial Services:
<https://maps.six.nsw.gov.au/>
- Taçon, P., Hooper, S. B., Brennan, W., King, G., Kelleher, M., Domicelj, J., & Merson, J. (2007). *Assessment of the Aboriginal Cultural Heritage Values of the Greater Blue Mountains World Heritage Area*. Blue Mountains World Heritage Institute & Griffith University.
- Tindale, N. (1974). *Tribal Boundaries in Aboriginal Australia*. South Australian Museum.

9 Plates



Plate 1 – Access Road running north-south through the Project Area



Plate 2 – Thick vegetation in Survey Unit 1



Plate 3 – Large amounts of leaf litter and low ground surface visibility



Plate 4 – Gynea Lilly found near the creek line in Survey Unit 2



Plate 5 – Creek flowing through Survey Unit 2



Plate 6 Poor quality sandstone identified in north western corner of Survey Unit 2



Plate 7 – Detail of sandstone in Survey Unit 2



Plate 8 – General context of AHIMS# 45-3-0049 view to east



Plate 9 – AHIMS# 45-3-0049 – with string



Plate 10 – AHIMS# 45-3-0049 – without string

Appendix 1 Aboriginal Consultation

Appendix 2 AHIMS Information