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A U S T R A L
A R C H A E O L O G Y

MEADOW VIEWS, CALDERWOOD, NSW

ABORIGINAL CULTURAL HERITAGE ASSESSMENT AND
ARCHAEOLOGICAL REPORT

FINAL REPORT

INDESCO on behalf of Illawarra Land Corp Pty Ltd

18 November 2020

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Client:	INDESCO on behalf of Illawarra Land Corp Pty Ltd
Prepared by:	Alexander Beben, Ricardo Servin and Pauline Ramsey
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EXECUTIVE SUMMARY

This report has been prepared for INDESCO on behalf of Illawarra Land Corp Pty Ltd and details the Aboriginal archaeological and cultural heritage assessment of Meadow Views, Calderwood New South Wales (NSW) [the study area], within the Shellharbour City Council and Wollongong City Council Local Government Areas (LGAs), and the parish of Calderwood in the county of Camden.

The study area is defined by the boundary of Lot 2 DP651377 and the adjacent Lot A DP 382471. The study area is located in the suburb of Calderwood, located 13 kilometres south-east of Shellharbour Central Business District. Running through the middle of the study area on an east to west alignment is Marshall Mount Creek.

This Aboriginal Cultural Heritage Assessment (ACHA) was undertaken to assess the archaeological potential for Aboriginal material as part of a Planning Proposal being prepared under Part 4 of the *Environmental Planning and Assessment Act 1979*, for the proposed rezoning of Meadow Views (the study area). The ACHA has been undertaken in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (Department of Environment Climate Change and Water NSW 2010), the *Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW* (Office of Environment and Heritage 2011) and the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (Department of Environment Climate Change and Water NSW 2010) [Consultation Requirements].

The decision to prepare an ACHA was made based on the presence of a registered site WDRAX_37 (AHIMS # 52-5-0493), located in the northern portion of the study area, in addition to a significant Aboriginal artefact scatter YTOF_AS_9 (AHIMS #52-5-0848), located in the eastern adjacent Lot 3 DP24143. These sites were identified during a search of the Aboriginal Heritage Information Management System (AHIMS) on 1 April 2020 [Client service ID: 494864].

The archaeological survey, undertaken as part of this assessment identified an isolated find, located on the upper slope associated with YTOF_AS_9 (AHIMS # 52-5-0848), which is likely to represent a continuation of the surface representation of this site. The survey relocated WDRAX_37 (AHIMS # 52-5-0493); however, as this was an isolated artefact located as part of a test excavation, as such, no additional cultural material was identified. The archaeological survey also identified four areas of high archaeological potential associated with flat elevated terraces overlooking Marshall Mount Creek.

To establish the presence of Aboriginal objects in these areas of potential, a testing program was undertaken; this identified a total of 146 artefacts recovered from 133 test pits. A total of four artefact scatters were identified; these are referred to within this report as Calderwood Area 1, 2, 3 and 4 (AHIMS # 52-5-0967, 52-5-0966, 52-5-0965 and 52-5-0964).

The Aboriginal sites identified during this ACHAR are described, along with their significance in the table below, together with the registered sites located previously by AMBS:

Site name / AHIMS No.	Values	Significance
WDRAX_37 / 52-5-0493	WDRAX_37 (AHIMS # 52-5-0493) is an isolated find, a silicified wood core, originally identified by AMBS (2006) as part of their landform testing for the WDRAX study.	Moderate
YTOF_AS_9 / 52-5-0848	Site YTOF_AS_9 (AHIMS # 52-5-0848) is an isolated artefact located on the upper slope of an alluvial terrace associated with a larger site complex. The site is considered to be representative of the surface exposure of the broader site.	Moderate
Calderwood Area 1 / 52-5-0967	Calderwood Area 1 (AHIMS # 52-5-0967) comprises a moderate density artefact scatter across a large flat crest and upper. It is located immediately adjacent to YTOF_AS_9 (AHIMS # 52-5-0848) and demonstrates a number of similarities with this site in terms of the composition of the assemblage and soil profiles. The assemblage retrieved during sub-surface testing included 44 artefacts, mostly chert (n=90), the assemblage was dominated by complete flakes (n=25) and	Moderate

Site name / AHIMS No.	Values	Significance
	tools (n=24). Tool types within the assemblage included geometric microliths (n=8), backed artefacts (n=4) and backed points (n=4). Based on these findings, the site may have additional research value, should an additional investigation take place. This may yield an assemblage that could analysed in tandem with YTOF_AS_9 (AHIMS # 52-5-0848).	
Calderwood Area 2 / 52-5-0966	Calderwood Area 2 (AHIMS # 52-5-0966) comprises a low density artefact scatter within the upper slope of an alluvial terrace. . The assemblage retrieved during sub-surface testing included two artefacts, a complete flake and debitage, both silcrete. Based on these findings, the site is considered to be representative of background scatter and an example of a common site type in the region.	Little
Calderwood Area 3 / 52-5-0965	Calderwood Area 3 (AHIMS # 52-5-0965) comprises a low density artefact scatter across a large flat crest and upper slope within a disturbed homogenous soil profile, indicative of disturbances from clearing and agricultural practices. The assemblage retrieved during sub-surface testing included 24 artefacts, mostly chert (n=12), the assemblage was dominated by tools (n=6), these consisted of geometric microliths (n=3), a backed artefact, backed point, and steep edged scraper (n=1). The assemblage also included cores (n=3) and a unifacial coroid axe (n=1). Based on these findings, the site is considered to be representative of background scatter and an example of a common site type in the region.	Little
Calderwood Area 4 / 52-5-0964	Calderwood Area 4 (AHIMS # 52-5-0964) comprises a low density artefact scatter across a large flat crest and upper slope within a disturbed homogenous soil profile, indicative of disturbances from clearing and agricultural practices. The assemblage retrieved during sub-surface testing included 22 artefacts, mostly chert (n=18), the assemblage mainly consists of complete flakes (n=8) and tools (n=4). Tools within the assemblage consist of backed artefacts (n=2), a backed point (n=1) and a piercer (n=1). Based on these findings, the site is considered to be representative of background scatter and an example of a common site type in the region.	Little

ABORIGINAL COMMUNITY CONSULTATION

Consultation with Aboriginal stakeholders has been completed in accordance with the Consultation Requirements (DECCW 2010a). A summary of this process is included below.

Stage	Component	Commenced	Completed
Stage 1	Letters to agencies	01/04/2020	N/A
	Registration of stakeholders	08/04/2020	22/04/2020
Stage 2	Project information	01/05/2020	N/A
Stage 3	Review of project methodology	01/05/2020	29/05/2020
Stage 4	Review of ACHA by Aboriginal stakeholders	22/09/2020	21/10/2020

Further information on the consultation completed for the project can be found in Section 2.

RECOMMENDATIONS

The following recommendations are derived from the test excavation results and refer to the findings described in this ACHA. The recommendations have been developed after considering the archaeological context, environmental information, consultation with the local Aboriginal community, and the findings of the test excavation and the predicted impact of the planning proposal on archaeological resources. They have also been discussed in preliminary terms in a meeting with Heritage NSW on 21 July 2020.

It is recommended that:

1. No further archaeological investigation is required for YTOF_AS_9 (AHIMS # 52-5-0848), WDRA_AX_37 (AHIMS #52-5-0493), Calderwood Area 2 (AHIMS # 52-5-0966), Calderwood Area 3 (AHIMS # 52-5-0965), and Calderwood Area 4 (AHIMS # 52-5-0964) as part of any subsequent Development Applications.
2. Calderwood Area 1 (AHIMS # 52-5-0967) should be preserved within an open space. The open space associated with Calderwood Area 1 (AHIMS # 52-5-0967), should include interpretive media that identifies the Aboriginal cultural values related to the landscape, including by not limited to Marshall Mount Creek, Calderwood Area 1, and YTOF_AS_9 (AHIMS # 52-5-0848).
3. Care should be taken to ensure that development plans avoid disturbances to Calderwood Area 1 (AHIMS # 52-5-0967). Examples where unintended impacts may transpire include excavation associated with drainage works and electrical cable trenching for lighting purposes.
4. Should ground disturbance be required within Calderwood Area 1 (AHIMS # 52-5-0967) additional archaeological testing and/or salvage excavation may be necessary. Additional testing would be needed for works that would have the potential to significantly impact upon the sub-surface archaeological deposits (i.e. extensive landscaping, bulk earthworks, planting and infrastructure). As the nature of the site has been quantified to a certain degree, additional testing may not be required where minimal works are proposed that are considered to have a minimal impact to sub-surface archaeological deposits (i.e. spreading topsoil, minor services and infrastructure).The extent of any salvage excavation, if required, would need to be determined based on the extent of proposed harm to sub-surface archaeological deposits.
5. Development of an Aboriginal Cultural Heritage Management Plan (ACHMP) will be commenced at the Planning Proposal stage, and will consider measures to ensure artefacts are preserved as part of the construction phase of the development and in the longer term once the residential development is complete. Refer further to minutes of meeting and post-meeting actions documented in the minutes of meeting with Heritage NSW on 21 July 2020 (see Appendix B).
6. The consultation outlined as part of this ACHA is valid for six months and must be maintained by the proponent for it to remain continuous. If a gap of more than six months occurs, then the consultation will not be suitable to support an AHIP for the project.
7. Before any works occurring, the proponent should apply for an AHIP in accordance with Section 90 of the National Parks and Wildlife Act 1974.
8. A copy of this report should be forwarded to all Aboriginal stakeholder groups who have registered an interest in the project.

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1. INTRODUCTION

Austral Archaeology Pty Ltd (Austral) has been commissioned by INDESCO on behalf of Illawarra Land Corp Pty Ltd (the Proponent) to undertake an Aboriginal Cultural Heritage Assessment (ACHA) and Archaeological Report (AR) for Meadow Views, Calderwood, New South Wales (NSW).

The study area consists of the entirety of Lot 2 DP651377 and Lot A DP 382471, located approximately 1.5 kilometres from the township of Albion Park, within the Shellharbour City Council and Wollongong City Council Local Government Areas (LGA), and the parish of Calderwood in the county of Camden. It is also within the boundaries of the Illawarra Local Aboriginal Council (ILALC). It is bounded to the north by Lot 5 DP24143, to the east by Lot 3 DP24143, to the south by Calderwood Road and to the west Lot 111 DP851153, Lot 112 DP851153, Lot 1 DP1044038 and Lot 8 DP626078.

The location of the study area is shown in Figure 1.1, Figure 1.2 and Figure 1.3.

1.1 PROJECT DESCRIPTION

ACHA was undertaken to assess the archaeological potential for Aboriginal cultural material as part of a Planning Proposal under Part 4 of the *Environmental Planning and Assessment Act 1979*, before the proposed rezoning of Lot 2 DP651377 for residential purposes. An ACHA was prepared due to the presence of a registered site WDRA AX 37 (AHIMS # 52-5-0493) within the boundaries of the study area as well as a significant artefact scatter YTOF_AS_9 (AHIMS # 52-5-0848), located in the easterly adjacent Lot 3 DP24143.

Austral has completed a review of the local and regional archaeological surveys conducted within the study area as well as its vicinity, studied its environmental context and conducted a pedestrian survey as well as testing excavations to fully understand the Aboriginal archaeological context and significance of the study area.

1.2 ASSESSMENT OBJECTIVES

The scope of this ACHA report is based on the legal requirements, guidelines and policies of the Heritage NSW, formerly the Office of Environment and Heritage (OEH) and before that the Department of Environment, Climate Change and Water (DECCW).

The guiding document for this assessment is the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011) [Guide], the *Code of Practice for the Investigation of Aboriginal objects in NSW* (DECCW 2010b) [Code of Practice] and the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010a) [Consultation Requirements].

Information provided in this assessment includes, but is not limited to:

- The results of archaeological test excavation and surveys.
- An assessment of archaeological significance and management recommendations.
- A literary review of available data, including previous studies/investigations from within and adjacent to the study area.
- Documentation of necessary consultation with relevant Government Agencies and key local Aboriginal stakeholders.
- Adequate documentation to accompany an Aboriginal Heritage Impact Permit (AHIP) application.

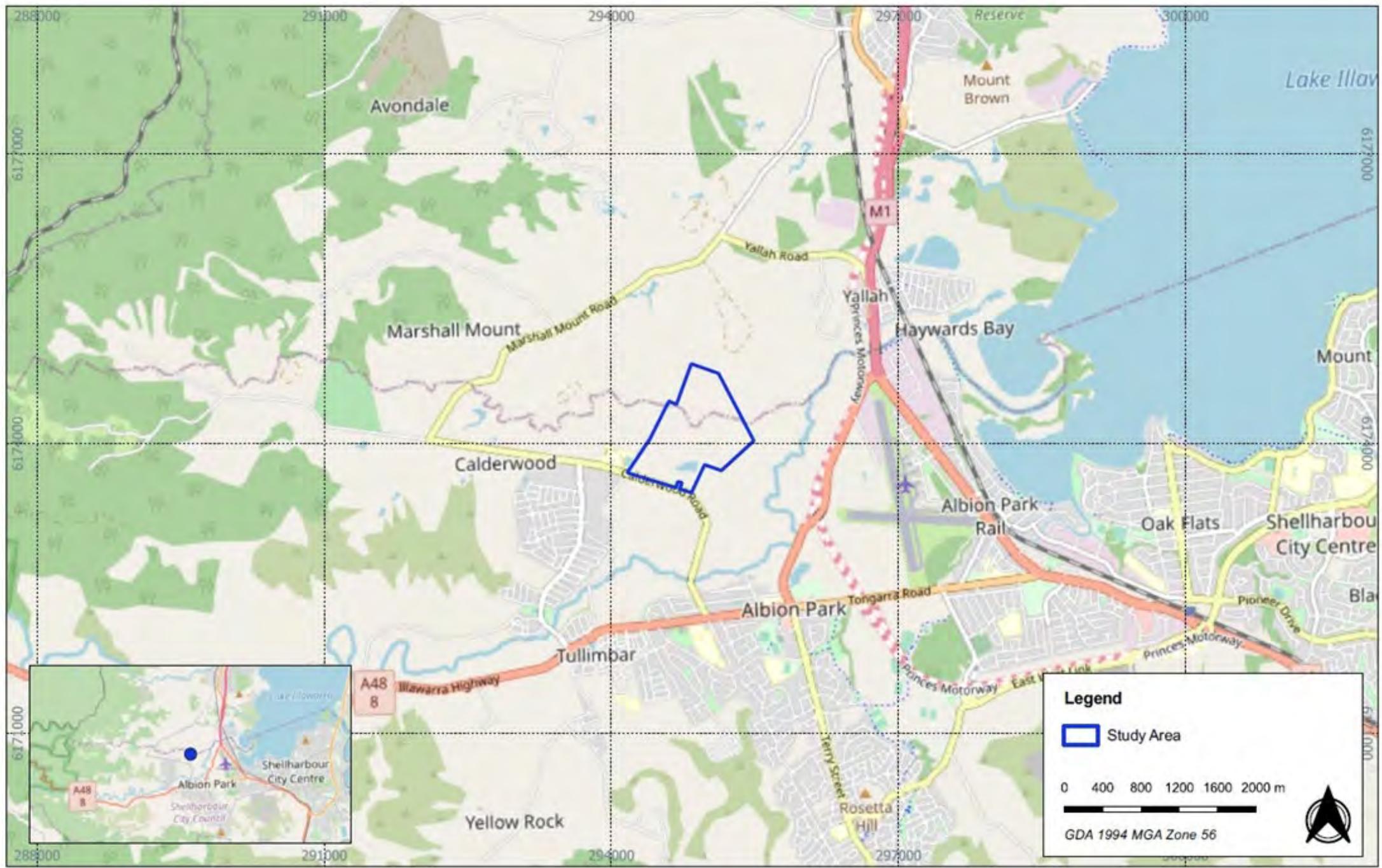


Figure 1.1 Location of the study area

Meadow Views, Calderwood, NSW

Source: OSM

Drawn by: WA Date: 2020-08-25



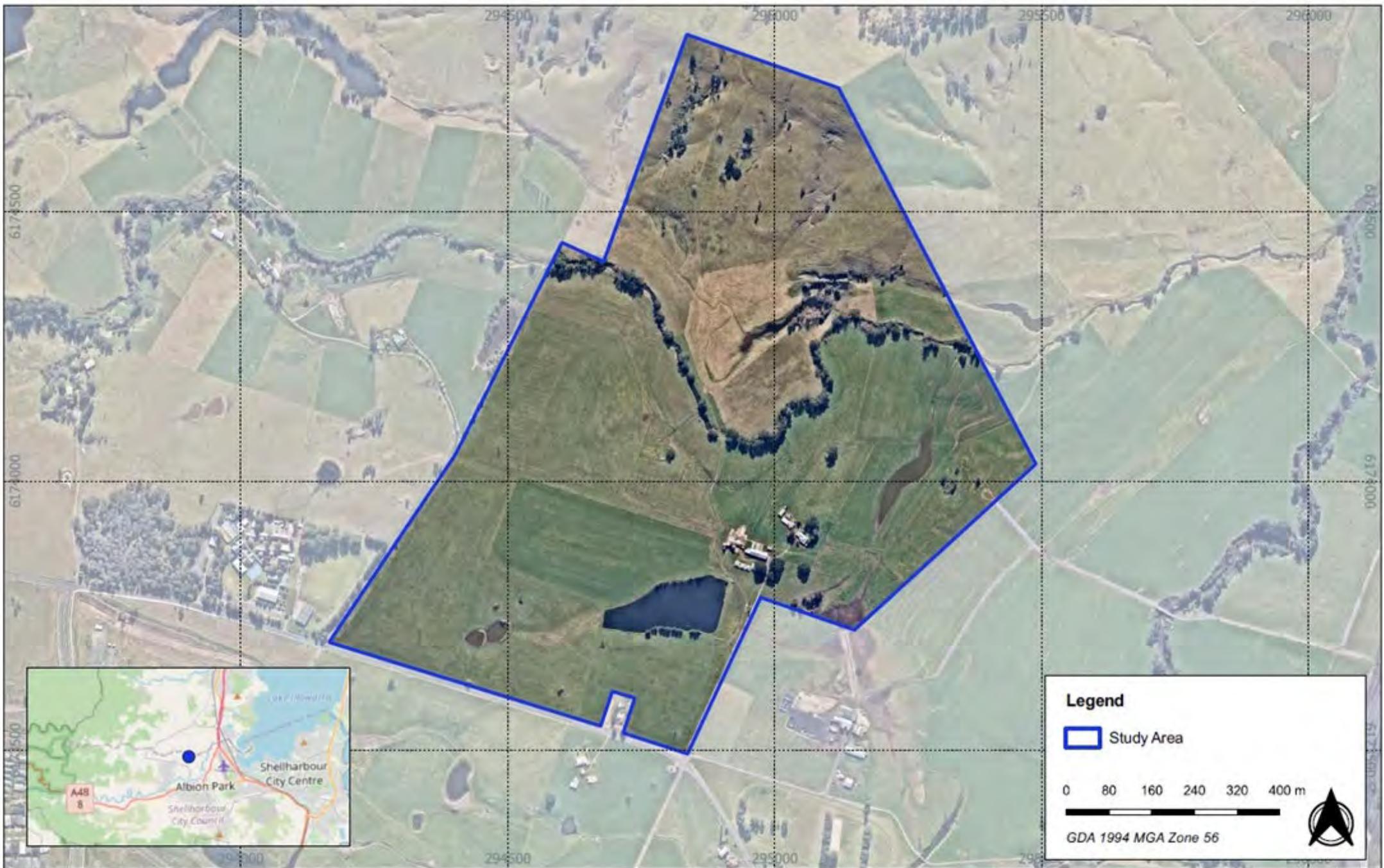


Figure 1.2 Detailed aerial imagery of the study area

Meadow Views, Calderwood, NSW

Source: OSM, Nearmap

Drawn by: WA Date: 2020-08-25



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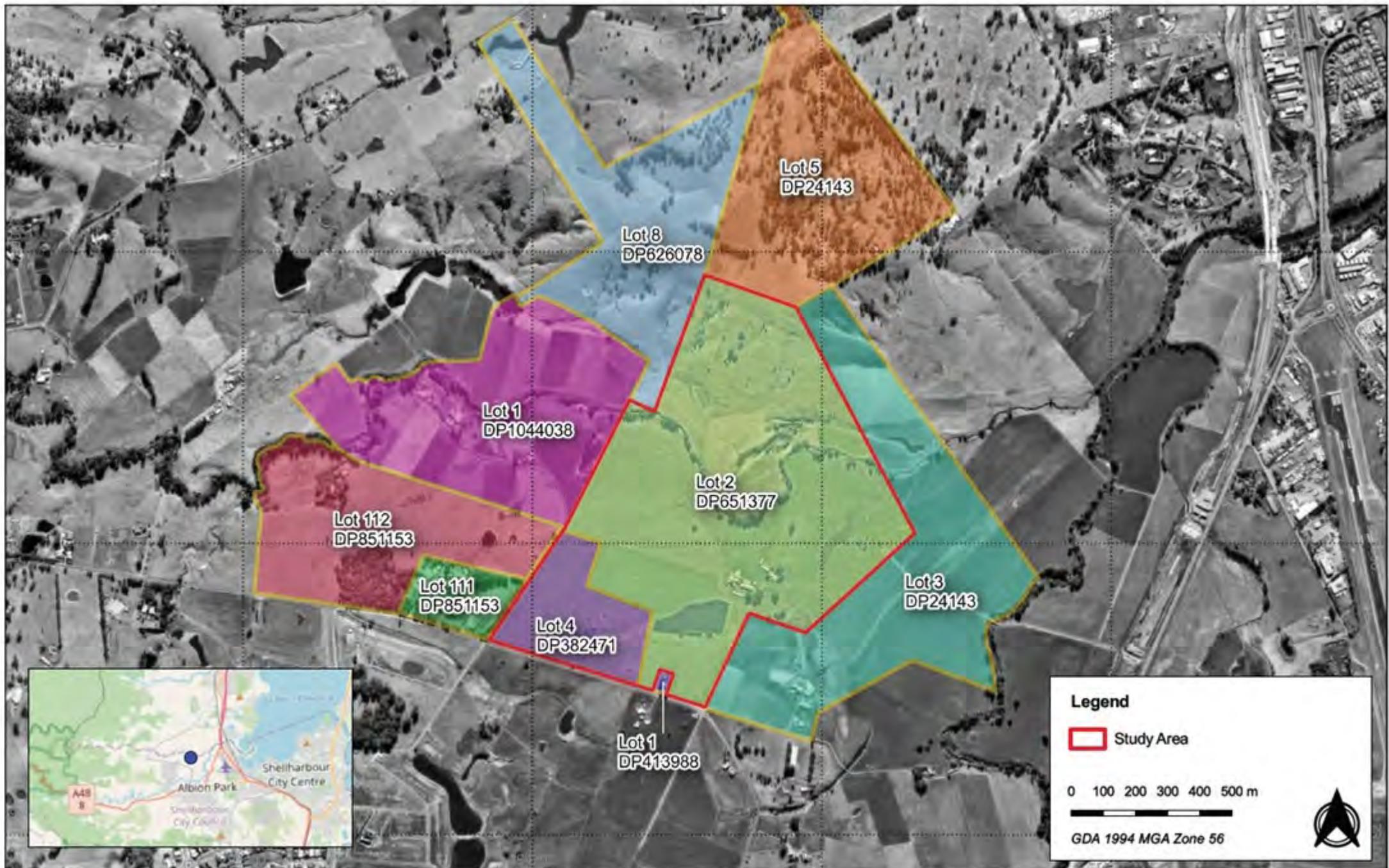


Figure 1.3 Cadastral boundaries related to the study area

Meadow Views, Calderwood, NSW

Source: OSM, Nearmap, NSW DFSI DCDB

Drawn by: WA Date: 2020-07-23



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1.3 SUMMARY OF LEGISLATIVE PROCESS

Aboriginal archaeological and cultural heritage assessments in NSW are carried out under the auspices of a range of State and Federal Acts, Regulations and Guidelines. The Acts and Regulations allow for the management and protection of Aboriginal places and objects, and the Guidelines set out best practice for community consultation in accordance with the requirements of the Acts.

This section outlines the Australian acts and guidelines that are applicable or have the potential to be triggered with regards to the proposed development are detailed in Tables 1.1 to 1.4.

Table 1.1 Federal Acts

Federal Acts:	Applicability and implications
<i>Environment Protection and Biodiversity Conservation Act 1999</i>	This act has not been triggered and so does not apply, as: <ul style="list-style-type: none"> No sites listed on the National Heritage List (NHL) are present or in close proximity to the study area. No sites listed on the Commonwealth Heritage List (CHL) are present or in close proximity to the study area.
<i>Aboriginal and Torres Strait Islander Heritage Protection Amendment Act 1987</i>	Applies, due to: <ul style="list-style-type: none"> This Act provides blanket protection for Aboriginal heritage in circumstances where such protection is not available at the state level. This Act may also override state and territory provisions.

Table 1.2 State Acts

State Acts:	Applicability and implications
<i>National Parks and Wildlife Act 1974 (NP&W Act 1974)</i>	Applies, due to: <ul style="list-style-type: none"> Section 86 – Prohibits both knowingly and unknowingly, causing harm or desecration to any Aboriginal object or place without either an AHIP or other suitable defence from the Act. Section 87 – Allows for activities carried out under an AHIP or following due diligence to be a defence against the harm of an Aboriginal object. Section 89A – Requires that the Heritage NSW must be notified of any Aboriginal objects discovered, within a reasonable time. Section 90 – Requires an application for an AHIP in the case of destruction of a site through development or relocation.
<i>National Parks and Wildlife Regulations 2009 (NP&W Regulation 2009)</i>	Applies, due to: <ul style="list-style-type: none"> Section 80A – States minimum standards of due diligence to have been carried out Section 80C – Requires Aboriginal community consultation process to be undertaken before applying for an AHIP. Section 80D – Requires production of a cultural heritage assessment report to accompany AHIP applications.
<i>The Environmental Planning and Assessment Act 1979 (EP&A Act 1979)</i>	Applies, due to: <ul style="list-style-type: none"> This project is being assessed under Part 4 of the EP&A Act 1979. Sections 86, 87, 89A and 90 of the NP&W Act 1974 will apply. The Part 5 Guidelines will not apply.
<i>NSW Heritage Act 1977</i>	There are no sites listed on the State Heritage Register associated with the study area, and therefore Section 57 of this act does not apply.

Table 1.3 State and Local Planning Instruments

Planning Instruments	Applicability and implications
Local Environmental Plans (LEP)	The following LEP is applicable: <ul style="list-style-type: none"> • Shellharbour LEP 2013
Development Control Plans (DCP)	The following DCP is applicable: <ul style="list-style-type: none"> • Shellharbour LEP 2013

Table 1.4 Aboriginal Community Consultation Guidelines

Guidelines	Applicability and implications
Consultation Requirements	The development is to be conducted in accordance with Part 4 of the EP&A Act. <ul style="list-style-type: none"> • As the project is to be assessed under Part 6 of the NP&W Act, approvals under Section 90 of the NP&W Act 1974 as amended 2010 will be required, S89A of the Act will apply, and the Part 4 Guidelines will apply.

1.4 PROJECT TEAM AND QUALIFICATIONS

The following personnel have been involved in the preparation of this ACHA.

ALEXANDER BEBEN (B.A (HONS.), ARCHAEOLOGY, MA. ARCHAEOLOGY)

Alexander Beben is the Director of Austral Archaeology. He has 15 years' experience and has completed over 500 projects. Alexander maintains excellent relationships with local Aboriginal stakeholders and local agencies that are of significant benefit to Austral's clients. Alexander has an unrivalled level of experience in the Illawarra having completed more than 100 projects in the region including archaeological assessments for some of Wollongong's largest, high-profile projects. Alexander is based locally to the study area and has completed numerous projects within the Illawarra and South Coast area.

Alexander reviewed the report for quality assurance and technical adequacy and has had input into the analysis and discussion, assessment of significance, impact assessment and management recommendations.

RICARDO SERVIN (B.A. ARCHAEOLOGY)

Ricardo Servin is an archaeologist with six years' experience in Aboriginal cultural heritage and historical heritage projects across NSW, Victoria and Tasmania. Ricardo has managed sites of State significance and led teams of over 10 archaeologists on both historical and Aboriginal archaeological sites. As a heritage consultant Ricardo has written several assessment reports as the main author and been a contributor to large scale reports. Ricardo has ample experience in lithic artefact analysis with experience in functional analysis.

Ricardo completed the analysis of the lithics assemblage and authored the results section of this report.

PAULINE RAMSEY (B.A. ANTHROPOLOGY)

Pauline Ramsey is a recent graduate from McGill University in Montreal, Canada within the department of Anthropology. After graduating in June 2018 and before joining Austral Archaeology, she started her career as a field archaeologist in Quebec working on prehistoric Amerindian sites and 18th-century historical sites. Since coming to Australia at the beginning of 2019, her experience has only grown. She has been on surveys in the Pilbara and excavations in Sydney. Pauline joined Austral in November 2019 and had since spent her time learning how to write various reports and participating in excavations on the South Coast.

Pauline completed the background research for the ACHA and authored the landscape and archaeological context sections of this report. She also drafted the methodology and results sections of this report.

WILLIAM ANDREWS (BACHELOR OF ENGINEERING (HONS) (SURVEYING))

William Andrews is an archaeologist and GIS operator with Austral. William has a degree in Engineering (Surveying) and he chose to transition his career path towards archaeology, completing a degree in Archaeology in 2019. Prior to his career change, William had worked as a land surveyor which has given him the skills to specialise in spatial data collection techniques which are of significant benefit to Austral's projects and clients. This includes photogrammetry, laser scanning, GIS and in-field documentation methods.

William completed all of the mapping tasks completed with the production of this ACHA.

1.5 ABBREVIATIONS

Common abbreviations that are used within this report are outlined in Table 1.5.

Table 1.5 Abbreviations

AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
AMBS	Australian Museum Business Services
Artefact	Artefact Heritage Pty Ltd
Austral	Austral Archaeology Pty Ltd
Biosis	Biosis Pty Ltd
BP	Before Present
Burra Charter	Burra Charter: Australia ICOMOS Charter for Places of Cultural Significance 2013
CHL	Commonwealth Heritage List
Comber	Comber Consultants Pty Ltd
DCP	Development Control Plan
DEC	Department of Environment and Conservation (now Heritage NSW)
DECCW	Department of Environment, Climate Change and Water (now Heritage NSW)
DEWHA	Department of the Environment, Water, Heritage and the Arts (now Department of Agriculture, Water and the Environment)
EPA Act	Environmental Planning and Assessment Act 1979
EPBC Act	Environmental Protection and Biodiversity Act 1999
EPI	Environmental Planning Instrument
Eco Logical	Eco Logical Australia Pty Ltd
ESD	Ecologically Sustainable Development
The Guide	Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage
HLA	HLA-Envirosciences Pty Ltd
ICOMOS	International Council on Monuments and Sites
ILALC	Illawarra Local Aboriginal Land Council
Kayandel	Kayandel Archaeological Services
KNC	Kelleher Nightingale Consulting Pty Ltd
LEP	Local Environmental Plan

LGA	Local Government Area
MNI	Minimum number of individuals
Navin Officer	Navin Officer Heritage Consultants
NHL	National Heritage List
NPW Act	National Parks and Wildlife Act 1974
NPWS	National Parks and Wildlife Services
NSW	New South Wales
OEH	Office of Environment and Heritage (now Heritage NSW)
PAD	Potential Archaeological Deposit
The Proponent	INDESCO on behalf of Illawarra Land Corp Pty Ltd
Study Area	Lot 2 DP651377 and Lot A DP 382471, Calderwood, NSW
Waters	Waters Consultancy Pty Ltd
WDRA	West Dapto Release Area

Refer also to the document Heritage Terms and Abbreviations, published by the Heritage Office and available on the website: <http://www.environment.nsw.gov.au/heritage/index.htm>.

2. CONSULTATION PROCESS

This section outlines the consultation process that has been followed as part of the preparation of this ACHA.

2.1 INTRODUCTION

Stakeholder consultation for this project commenced in line with the Consultation Requirements (DECCW 2010a). Heritage NSW (2010, iii) recognises that:

- Aboriginal people should have the right to maintain their culture.
- Aboriginal people should have the right to participate in matters that may affect their heritage directly; and
- Aboriginal people are the primary determinants of the cultural significance of their heritage.

The Consultation Requirements outline a four-stage consultation process which includes:

- Stage 1 – Notification of the project proposal and registration of interest.
- Stage 2 – Presentation of information about the proposed project.
- Stage 3 – Gathering information about cultural significance; and
- Stage 4 – Review of the draft cultural heritage assessment report.

Appendix 1 contains a consultation log and evidence of all correspondences that were sent and received as part of the consultation process.

2.2 STAGE 1: NOTIFICATION AND REGISTRATION OF INTEREST

The following section outlines the tasks that were undertaken as part of Stage 1 of the Consultation Requirements.

2.2.1 IDENTIFICATION OF RELEVANT ABORIGINAL STAKEHOLDERS

To commence the consultation process, letters were written to the relevant agencies suggested in Section 4.1.2 of the Consultation Requirements (DECCW 2010a) on 1 April 2020 and a search was made of the Native Title Tribunal on the same day. The following bodies were notified as part of the project proposal:

- Heritage NSW
- The ILALC
- The Shellharbour City Council
- NTSCORP
- The Office of the Registrar
- The Southern Rivers Catchment Management Authority
- The National Native Title Tribunal

Responses were received from the following agencies

- Heritage NSW replied with a list of stakeholders who may have an interest in the proposed development.
- The ILALC were interested in registering for the project.
- The Southern Rivers Catchment Management Authority replied that they had no list of stakeholders who may have an interest in the proposed development.
- The Shellharbour City Council replied that they had no list of stakeholders who may have an interest in the proposed development.

- The National Native Title Tribunal replied that they had no list of stakeholders who may have an interest in the proposed development.

A copy of these letters are included in Appendix A.

2.2.2 PUBLIC NOTICE

An advert was placed in the *Illawarra Mercury Newspaper*, to run on 2 April 2020, requesting the registration of cultural knowledge holders relevant to the project area. A copy of this advert is included in Appendix A of this report.

2.2.3 INVITATION TO REGISTER

Letters were also written to the relevant agencies suggested in Section 4.1.2 of the Consultation Requirements (DECCW 2010b) on 1 April 2020 and a search was made of the Native Title Tribunal on the same day. With a small amount of registration occurring during the registration period, Pauline Ramsey called all listed stakeholders individually to confirm receipt of notification on 22 April 2020. During these phone calls it was discovered that several stakeholders were not receiving notifications due to troubles accessing email servers in the circumstances created by the COVID19 pandemic. Several registrations were received verbally over the phone in this way and a forwarded copy of the notification email was then resent to all listed stakeholders on 23 April 2020. As a result of this extensive procedure, Austral extended registrations for the project by an additional week.

As a result of the consultation procedure, the following groups shown in Table 2.1 registered as Aboriginal stakeholders with an interest in this project:

Table 2.1 Registered Aboriginal Stakeholders

Organisation	Contact Person
Badu (Murrin Clan/Peoples)	Karia Lee Bond
Barraby Cultural Services (BCS)	Lee Field
Biamanga (Murrin Clan/Peoples)	Seli Storer
Coomaditchie United Aboriginal Corporation	Lorraine Brown
Cullendulla (Murrin Clan/Peoples)	Corey Smith
Duncan Falk Consultancy	Duncan Falk
Freeman&marx Pty Ltd	Clive Freeman
Garrara Aboriginal Corporation	Raymond Ingrey
Goobah Development PTY LTD (Murrin Clan/Peoples)	Basil Smith
Badu (Murrin Clan/Peoples)	Karia Lea Bond
Barraby Cultural Services	Lee Fields
Biamanga (Murrin Clan/Peoples)	Seli Storer
Cullendulla (Murrin Clan/Peoples)	Corey Smith
Duncan Falk Consultancy	Duncan Falk
Goobah Development PTY LTD (Murrin Clan/Peoples)	Basil Smith
Gumaraa	Lisa Bazano
Gundungurra Tribal Technical Services	Sam Wickman
Guunamaa Sites and Surveying	Raymond Ingrey
Guunamaa Dreamin Sites and Surveying	Richard Campbell
Illawarra Local Aboriginal Land Council	Paul Knight
Individual	Leanne Tungai
Individual	Clive Freeman

Organisation	Contact Person
Minnamunnung	Aaron Broad
Murra Bidgee Mullangari Aboriginal Corporation	Ryan Johnson
Murra Bidgee Mullangari Aboriginal Corporation	Darleen Johnson
Murramarang (Murrin Clan/Peoples)	Roxanne Smith
Muragadi	Jesse Carrol Johnston
Murrumbul (Murrin Clan/Peoples)	Mark Henry
South Coast NSW Aboriginal Elders	Owen Carriage
Thoorga Nura	John Carriage
Tungai Tonghi	Troy Tungai
Walbunja (Murrin Clan/Peoples)	Hika Te Kowhai
Warra Bingi Nunda Gurri	Nathanial Kennedy
Wodi Wodi Traditional Owner	James Davis
Woronora Plateau Gundungara Elders Council	Kayla Williamson
Yerramurra (Murrin Clan/Peoples)	Blaan Davis
Yurrandaali Cultural Services	Bo Field

2.3 STAGE 2: PRESENTATION OF INFORMATION

All registered Aboriginal stakeholders were provided with information outlining the proposed works, including information relating to proposed impacts on 1 May 2020. A positive response was received from Blaan Davis, Bo Field, Clive Freeman, Jesse Carrol Johnston, Leanne Tungai, Raymond Ingrey, Ryan Johnson and Troy Tungai. Copies of all correspondence relating to the description of the project from registered Aboriginal stakeholders are included in Appendix A of this report.

2.4 STAGE 3: GATHERING INFORMATION ABOUT CULTURAL SIGNIFICANCE

Stage 3 was conducted concurrently with Stage 2, with all registered Aboriginal stakeholders provided with information outlining the proposed methodology for the project, including testing excavations on 1 May 2020. A positive response was received from Blaan Davis, Bo Field, Clive Freeman, Jesse Carrol Johnston, Leanne Tungai, Raymond Ingrey, Ryan Johnson and Troy Tungai. These responses did not offer any specific clarifications on the methodology, beyond, broad approval. Copies of all correspondence relating to the methodology of the project from registered Aboriginal stakeholders are included in Appendix A of this report.

2.5 STAGE 4: REVIEW OF DRAFT ACHA REPORT

All registered Aboriginal stakeholders received all relevant information regarding the assessment of the study area and the results of the archaeological assessment. Copies of all correspondence relating to the stage 4 consultation process with registered Aboriginal stakeholders are included in Appendix A of this report. No responses were received from registered Aboriginal stakeholders during stage 4 consultation.

3. ARCHAEOLOGICAL CONTEXT

The range of environments and landscapes within the Illawarra region had a profound influence on the lives of the Aboriginal people who lived there. As hunters and gatherers, Aboriginal people were reliant on their surroundings to provide food. Their transitory lifestyle affected population size, social interactions and degree of mobility, which can be confirmed in the archaeological record.

The pre-European context of the Illawarra region is one of small bands of Aboriginal people living a mobile hunting and gathering lifestyle. The Wodi Wodi people were the traditional owners of the area around Calderwood. Population estimations at the time of contact are difficult to estimate due to disease decimating populations. The social structure of pre-European groups was slightly stratified with elders of clans holding decision-making capabilities. Subsistence activities were sexually dimorphic, and the spirituality of groups is detailed and explained through an oral tradition of Dreamtime. Material culture, such as tools, was made of a variety of materials such as bark, resin, shell, bone and reeds. Hardstone raw material that was made into stone tools is the main element of this tool kit to remain in the archaeological record.

The pre-European environment of the Illawarra region provided an extensive resource base associated with a multitude of water sources. These water sources include lakes (Lake Illawarra) and freshwater creeks (including Marshall Mount Creek) and the Macquarie Rivulet. Habitats associated with these water systems would have supported a wide range of animals, fish, birds and mammals, all of which would be rich in proteins and would have been in abundant supply. The pre-European Illawarra Coastal Plains landscape would have been the setting for a variety of human activity. This human activity would have included camping, hunting, gathering, cooking, ceremonies, and other cultural activities associated with semi-permanent settlement sites in the region.

3.1 POPULATION AND CONTACT HISTORY

The Dharawal-speaking Wodi Wodi group are the Aboriginal custodians of the Illawarra region (Department of Environment and Conservation 2005, p.6) [DEC]. The range of the Dharawal speakers is described as the country from Botany Bay in the north and Campbelltown in the west, south through the Nepean, Wollondilly, Georges River and Cataract River water catchments down to the Shoalhaven River and Jervis Bay. Alternatively, Dharawal land has also been described as spreading from Sydney in the north, the Blue Mountains and Goulburn in the west, and as far south as Bega (DEC 2005, Organ & Speechley 1997, p.1). Dharawal people are often sub-divided into several smaller categories referred to as freshwater, bitter water or saltwater people depending on whether they occupied the coastal regions, the swamps or the plateaus and inland river valleys (DEC 2005, p.6).

Neighbouring Aboriginal groups included the Gundungurra, Darug, Dhurga, Awabakal and Wiradjuri people, and movement in adjacent territories was permissible under certain circumstances. Favoured north to south travel routes included the current Princes Highway Route, Meryla Pass, and the Kangaroo River Route, while Bulli Pass, the Bong Bong Route and the Cordeaux River were used for travel east to west (DEC 2005, p.8). A close connection existed between the Illawarra Dharawal speakers and the Gameygal (Botany Bay) Dharawal speakers who traded together, shared ceremonies and intermarried (DEC 2005, p.27). During the 1800s, Aboriginal people, including Illawarra Dharawal speakers, were known to have moved from the Tablelands down to Lake Illawarra, for both food gathering and inter-tribal activities (Sefton 1981, p.15).

Population estimations at the time of contact are notoriously problematic as Aboriginal groups avoided the early settlers and were highly mobile. Another factor which complicates an accurate estimate is the effect of European diseases such as influenza and smallpox, which decimated Aboriginal populations soon after contact. It is also unlikely that early European settlers were able to successfully grasp the traditional population size. The Illawarra region was probably one of the most densely populated parts of Australia with between two to four people present per kilometre² (Organ & Speechley 1997, p.1). It has been estimated that in 1820 there were 3,000 Aboriginal people in the Illawarra area, spread as far south as the Shoalhaven River. By 1843, while

passing through Lake Illawarra, James Backhouse notes that “[t]he Blacks in this district are not numerous...many of whom were afflicted with sores” (Backhouse 1843:423). This number had reduced to just 98 at Wollongong by 1846 (Organ & Speechley 1997, p.10). Late corroborees were recorded in Wollongong in the New Year of 1839-40 (Organ & Speechley 1997, p.11) and Unanderra in the 1870s (DEC 2005, p.31).

Areas of significance for Aboriginal peoples are numerous and varied throughout the Illawarra. In particular, the Macquarie Rivulet continues to hold great cultural significance for past and present Aboriginal communities. The Macquarie Rivulet was rich in subsistence resources, a travelling corridor to the west and to the north but also a place where ceremonial and cultural activities would occur (Waters Consultancy Pty Ltd 2015, 15) [Waters]. Likely, a series of formal networks connecting the lake to the coastal plain and beyond would have existed, which would have included the Rivulet. Networks such as these would have been put in place to facilitate the movement of people throughout the landscape. Movement for a wide range of reasons including, trading, seasonal or ceremonial reasons or to collect Government rations can be garnered from the archaeological and ethnohistoric record (Waters 2015, 13).

A comprehensive cultural values assessment, that included a detailed assessment of the significance of the Macquarie Rivulet undertaken by Waters Consultancy Pty Ltd (Waters) within the framework of the Albion Park Rail Bypass project in 2015 (Waters 2015, 29). This identified that tangible evidence of the Macquarie Rivulet's past traditional use can be seen in various places along its route, including evidence of resource gathering, cultural activities and economic exchange. Resource gathering has been identified through the archaeological traces of shell middens that have been recorded along its banks. Cultural sites, including a birthing site, were identified, as well meeting places (Waters 2015, 32). Evidence of trading has been identified through a hatchet head made from fine-grained basaltic rock, identified as originating from the bed of the Macquarie Rivulet at Albion Park, was found at the Kurnell Peninsula in Sydney, some 75 kilometres north (Waters 2015, 13). This discovery is indicative of the vast networks which connected Aboriginal groups and allowed items to be traded over great distances All of this evidence reinforces contemporary Aboriginal communities' feeling of belonging to the land their ancestors inhabited. Furthermore, present Aboriginal communities continue to use the Macquarie Rivulet to access resources; providing a sense of traditional continuity between past and present (Waters 2015, 28).

After land grants were issued to settlers in the Illawarra in 1816, Aboriginal food supplies were destroyed. Land use was forever altered through the introduction of European livestock, exotic plants and crops, tree-felling, hunting, the fencing off of lands and the enforcement of European rules about “trespassing” (Organ & Speechley 1997, p.11). All land grants fronted onto freshwater which would have had a hugely detrimental impact on traditional Aboriginal land use (DEC 2005, p.15). From the 1850s onwards, reports indicate that Aboriginal camping and hunting became concentrated along the coast as a result of being pushed to the fringes of their own country by European settlement and farming (DEC 2005, p.25).

There was no record of large-scale armed resistance from the Aboriginal people of the Illawarra against the European settlers, but small-scale resistance including homicide, intimidation and the sabotage of European farms that took place in an attempt to drive off the colonial settlers. Further thefts occurred in attempts to obtain food once traditional hunting and plant collecting practices had been disrupted by farming (DEC 2005, p.18). An example of this was recorded in the Sydney Gazette of 14 June 1822 regarding the taking of corn from fields in the Five Islands region, and an early settler to the Illawarra refers to Aboriginal people taking maize and pumpkins from his father's farm, probably before 1826 (Organ 1993). The solution employed by the farmer was to:

“let loose a small monkey, which they [the Aboriginal people] believed to be the incarnation of an evil spirit, to ensure their flight, and even more simple means sufficed, for a pumpkin, in which were holes cut to roughly represent a face, and within which a candle was burning, served to keep them out of the plantation at night” (Illawarra Mercury, 16 December 1897, pg 2)

Pressure from the environmental and social impacts of European settlement led to conflict between Aboriginal groups such as that recorded between Illawarra and Bong Bong Dharawal speakers, which resulted in the Battle of Fairy Meadow in 1830. Skirmishes are also recorded as

occurring along the banks of Marshall Mount Creek (Kass 2010, p.13), and further outbreaks of violence occurred between disenfranchised Aboriginal groups of the Illawarra Dharawal and “the Broughton Creek Tribe” in 1842 (DEC 2005, p.17).

As vacant land disappeared, forced interaction between European settlers and Aboriginal people become more frequent, resulting in campsites being established near established European settlements with a variety of responses from the residents. The Osborne family, who settled in Marshall Mount in 1831, showed kindness to the Aboriginal people who camped opposite the old village school and provided supplies of meat and fruit each Christmas (AMBS 2006a, p.38, Biosis Pty Ltd 2010, p.45, Kass 2010, p.13, DEC 2005).

More detailed information on the post-contact period is available as the result of the Aboriginal Cultural Resources Study (Sefton 1981), the historical research of Organ and Speechley (1997) and the IRAHS (DEC 2005). Aboriginal placenames for significant areas within the Illawarra are known within the current study area and are listed in Table 3.1.

Table 3.1 Relevant Aboriginal place names from the study area and surrounding landscape after (AMBS 2006b, pp.40–41, Organ 1993).

Current Place Name	Aboriginal Place Name	Meaning
Albion Park	Tumpa, Lupnea, Teeparia, Tupnia	-
Illawarra	Ellojera or Eloura	A pleasant Place
	Illawarra	“Home of the bubbling waters”, “Water far away” or “High place near sea”
	Illa Warra	“White Clay Hill”
Illawarra Escarpment	Merrigong	Unknown
Lake Illawarra	Alowrie	Locality around Lake Illawarra, exact translation unknown
	Jubborsay	Unknown
Marshall Mount Creek	Yarra Yarra	-
Pur Pur Point	Purpur	“A <i>bora</i> ground where initiation rites are performed”
Tongarra Creek	Tongarra	“The place of the cabbage trees”; also translated as “Tame man killed the wild man” or “a Medicine Man”
Macquarie’s Pass	Tongarra Pass	-
Warilla	Warilla	A locality, exact translation unknown
Bong Bong Pass	Bong Bong	Blind, a watercourse lost in swamp, many watercourses or many frogs

3.2 REGIONAL ARCHAEOLOGICAL CONTEXT

Several recent development-driven excavations and council-driven heritage studies have been undertaken in the foothills of the escarpment and the hinterland of Lake Illawarra. These studies have led to an improvement in our knowledge of settlement patterns of the Lake Illawarra region. These include Navin Officer Heritage Consultants [Navin Officer] (2000), Navin Officer (2004), AMBS (2006), AMBS (2010) and Austral (2010).

In 2000, Navin Officer prepared a predictive model for a site location within the boundaries of the Shellharbour City Council LGA, which can be adapted for use in the current study area. As a result of a heritage study, Navin Officer formulated the following predictive statements for Aboriginal site location:

- Sites can occur in all types of landscape as long as the necessary requirements are present of well-drained, relatively level ground without rock outcrops, views of surrounding areas and proximity to freshwater sources.
- Sites increase in frequency along the boundaries of differing ecotones.
- Stone artefacts, either isolated or recorded as a scatter, are the most common site type.
- Ridgelines and spurs offer movement pathways through the landscape and generally contain larger and more significant sites.

In 2004, Navin Officer then produced another comprehensive study of archaeological sites, in anticipation of future rural developments, within the Dunmore Valley and Albion Park areas on behalf of the Shellharbour City Council. Within the landscape zone of the Illawarra “Coastal Plain Slopes and Low to Mid Valley Slopes Fringing the Coastal Plains”, which is associated with the study area, was concluded to only contain certain areas with higher archaeological potential. These were generally understood as level ground on ridges and spur lines, crests and benches and in particular if adjacent to freshwater. Navin Officer further concluded that the most likely site type to occur within these landforms were artefact sites. In areas of denser forestry and where outcrops of sandstone occur, closer to the foothills of the Escarpment, occurrences of scarred trees as well as grinding grooves and shelters were determined as being likely to occur. Within the “Valley Floor Alluvium and Estuarine Infill Deposits”, such as those encountered in association with the Marshall Mount Creek running through the study area, Navin Officer predicted that areas of archaeological potential could occur on elevated, generally level landforms including terrace edges, spur line crests, remnant dunes, the banks of drainage lines and wetland basins (Navin Officer 2004, p.19).

As part of the West Dapto Release Area (WDRA) study, AMBS identified 24 archaeological sites, including 13 open campsites, six isolated finds and five scarred tree locations (with eight scarred trees in total). Sites were positioned on all landforms – six on creek lines, three on alluvial flats, three spanning creeks and alluvial flats, eight on hill slopes and four on spur crests. A total of 198 artefacts were recorded. The subsequent subsurface testing program showed that all inland landforms contained potentially artefact-bearing deposits. The shallowest potential artefact-bearing sediments (30 to 500 millimetres) were noted on ridges and hill slopes; the deepest (1 metre) were noted on Holocene terraces. Foot slopes contained deposits of intermediate-depth (150 to 550 millimetres) [AMBS 2006a, p.VI].

Based on the results of the landform survey and subsurface testing program, AMBS provided a synthesis of Aboriginal heritage values for the area around West Dapto. Areas of high archaeological potential included all major creek lines, adjacent alluvial flats and foot slopes, plus the pre-contact wetland areas of Mullet, Duck and Marshall Mount creeks. In summary, the conclusions drawn by AMBS were that:

- Sites may be located on all landforms, although at varying levels of site density, artefact density and archaeological and cultural significance.
- Sites may be found in contexts that cross landform boundaries, most commonly extending away from the banks of creeks, across terraces and in some cases onto adjoining foot slopes.
- The majority of artefacts occurred as subsurface deposits, with 480 artefacts from 52 site locations, as opposed to 189 artefacts from 20 surface site locations.
- Highest archaeological potential is accorded to landforms that provided opportunities for camping sites, or those that function as travel routes and that are associated with a range of resources. These include lower tributaries of major creeks, spur crests extending from the Escarpment and benched foot slopes in the Escarpment foothills. These areas are likely to have a higher frequency of sites, and sites are likely to have higher artefact numbers/densities.

- Other landforms were also likely to contain archaeological sites, but the frequency of sites (and artefact numbers/densities) is likely to be lower.
- Stands of mature vegetation on hill slopes may contain scarred trees. Scarred trees may be considered to be of higher archaeological significance due to their rarity at both regional and local levels.
- Large open campsites are also considered to be of higher archaeological potential due to the rarity of large open campsites on landforms of the Illawarra coastal plain.
- The conservation value of small, low-density artefact scatters is recognised, as their numbers have been reduced due to extensive development of the Illawarra coastal plain.
- Small, low-density artefact scatters (being less than five artefacts per square metre) dominate the archaeological resource (summarised from AMBS 2006, p. VII-VIII).

In 2010, AMBS prepared a preliminary Aboriginal and historic heritage assessment within the WDRA. Within this area, a total of 309 previously recorded sites, with 31 square kilometres, or approximately 12% of the WDRA, was assessed as having high archaeological significance (AMBS 2010, p.iii). Within this study, AMBS predicts that the most likely sites to be present are:

- Artefact scatters and isolated finds: generally interpreted as being a part of a campsite, these sites occur within 200 metres from a watercourse. They can be associated with a Potential Archaeological Deposit (PAD).
- Shell middens: are only likely to occur within the shores of Lake Illawarra or the coastline.
- PADs: moderate to high potential for these sites to still be present within the WDRA.
- Modified trees: potential where native strands of old-growth vegetation still grow.
- Aboriginal ceremonial sites: have been mostly recorded with the start of the NSW Aboriginal Site Register, and the likelihood that others will be recorded is slim.
- Burials: potential within the WDRA both dating from the historic period to before the advent of colonisation (AMBS 2010, pp.40–41).

Austral was commissioned by Eco Logical Australia Pty Ltd (Eco Logical) on behalf of Delfin Lend Lease to undertake an Aboriginal archaeological and cultural heritage assessment within the proposed Calderwood Urban Development Project in 2010. As a result, 34 new Aboriginal archaeological sites and 189 surface artefacts were identified during the field assessment, of which 18 were isolated finds, 11 were open artefact scatters, four were open artefact scatters with associated PADs, and one was a PAD with no surface material. Austral formulated the following predictive statements as part of the study:

- Sites may be found on all landforms within the study area.
- Landforms with high archaeological potential were crests, ridges and possibly the upper slopes of Johnston's Spur and Mount Johnston within the study area, and stream channels, terraces and terrace flats surrounding waterways.
- Second-order and higher streams were given a rating of high archaeological potential; first-order streams were given a rating of moderate potential.
- Artificial wetlands, such as dams, were also considered to be of high potential.
- Landforms with low to moderate archaeological potential were the cleared plains, valley flats, flats and hill slopes of the study area.
- Landforms with very low potential were those landforms impacted by the development of dwellings, farm buildings, infrastructure and other works.
- Site types were likely to consist of open artefact scatters, and possibly grinding grooves where suitable geology is present.
- There was no geology suitable for quarry sites or stone shelters with deposit or art within the study area.
- Ridge crests may have contained low-density artefact scatters associated with repeated use over a long period of time related to use of the ridges as access tracks and vantage

points. Repeated use of ridge lines may have been reflected through increased artefact density.

- Scarred trees would have been unlikely except in areas where trees of at least 150 + years of age have survived. Scarred trees with steel axe marks could still be Aboriginal in origin – the age of the tree, and the size, shape and placing of the scar must also be taken into account.
- Mythological sites may have been identified by the local Aboriginal community during consultation. These may or may not have contained Aboriginal archaeological artefacts.
- Contact period sites may have also survived. These could have been any of the site types predicted for this area (open artefact scatters, grinding grooves and scarred trees) and be distinguished from pre-contact sites by the presence of European material (such as modified glass or ceramics) or signs of the use of European tools (such as the use of metal axes to remove bark from trees). Contact period sites may also leave no archaeological trace but could be recorded in Aboriginal and European local histories.
- PADs may have been identified in areas with suitable landform feature but no surface artefacts, if there is considered to be undisturbed deposit and a chance of finding subsurface archaeological material. PADs may also be identified when it is deemed to be likely that surface archaeological material (such as an open artefact scatter or isolated find) is expected to also continue below the surface.

3.3 HERITAGE DATABASE SEARCH

A search of the Heritage NSW AHIMS database was undertaken on April 1 2020 (Client Service ID 494864). The results from the AHIMS search identified 109 previously recorded sites within a three-kilometre radius of the study area. The search indicates that artefact sites are the predominant site type with over 80.73% of known sites belonging to this category (Table 3.2 and Table 3.3). A review of the AHIMS listings indicates that five artefact sites, located around Wollongurry Creek and have duplicates within this record (Figure 3.1). The high density of sites within the Calderwood suburb and its surroundings is not surprising, given the large number of land releases and residential development projects. One of these is located within the boundaries of the study area. It is isolated find WDRA AX 37 (AHIMS # 52-5-0493), found in the north-west section of the study area, previously recorded by AMBS in 2006 (Figure 3.2).

The vast majority of sites are located close to various tributaries. These include the Duck Creek sites, as well as those along the Macquarie Rivulet and Frasers Creek. Known sites are also present on flat, elevated landforms along the various creeks and rivers flowing from the top of the Illawarra Escarpment and into Lake Illawarra. These watercourses include the Marshall Mount Creek and the Macquarie Rivulet. These creeks, along with their associated ridgelines would have been used by Aboriginal communities as travelling routes as they moved between the escarpment and the coast. Some of these preferred routes were recorded during the 19th century by colonial settlers and include the Bulli Pass, Bong Bong Pass and Macquarie Pass. The closest travel route up the escarpment is called the Macquarie Pass but and was previously known as “Tongarra” by local Aboriginal People (KNC 2019, p.10) [KNC]. The presence of sites near and overlooking these water courses is therefore likely to be associated with this route.

It should be noted that the site WDRA_AX_37 (AHIMS # 52-5-0493) listed in the AHIMS search have coordinates provided in the GDA datum. Plotting a site in the wrong coordinate system results in the site being incorrectly located approximately 200 metres north-east or south-west of its correct location, dependant on the coordinate system. For the purpose of Figure 3.1 and Figure 3.2, it is assumed that the correct coordinate system has been registered for each site.

Table 3.2 Summary of sites recorded within the study area and adjacent

Name	AHIMS No.	Type	Location Landform	Cadastral Boundary
WDRA_AX_37	52-5-0493	Artefact	Elevated landform above Marshall Mount Creek	Lot 2 DP65377
WDRA_A_38	52-5-0494	Artefact	Lower slopes above Marshall Mount Creek	Lot 5 DP24143 (immediately adjacent to the north of the study area)
YTOF_AS_9	52-5-0848	Artefact and PAD	Elevated crest adjacent to the Macquarie Rivulet and overlooking Marshall Mount Creek	Lot 3 DP24143 (immediately adjacent to the east of the study area)

Table 3.3 Summary of sites recorded within a 3 kilometres radius of the study area

Feature Type	Total	%
Artefact	88	80.73
Artefact and PAD	2	1.85
Artefact and shell	4	3.67
Modified Tree (Carved or Scarred)	1	0.91
PAD	8	7.35
Shell	6	5.50
TOTAL	109	100%

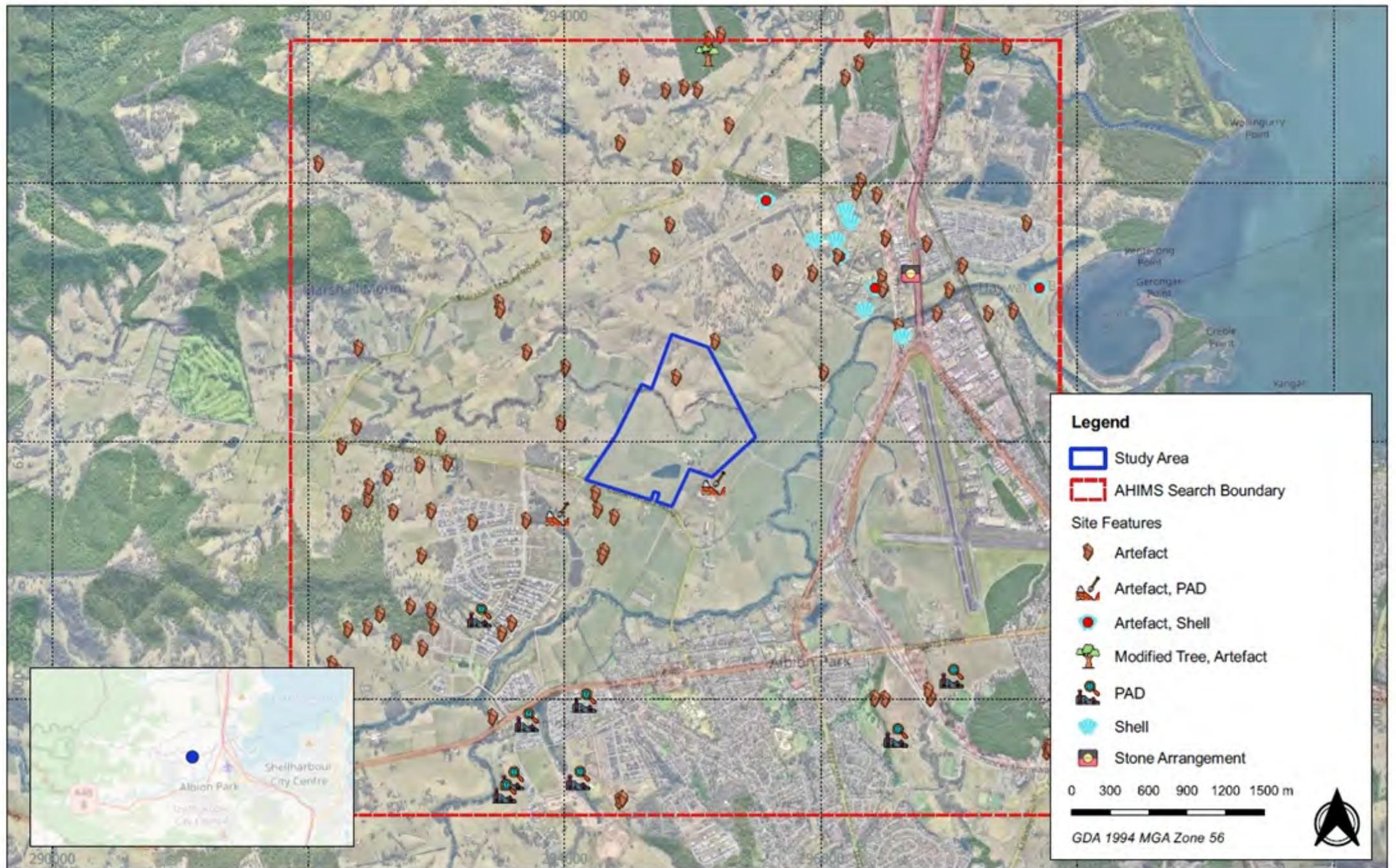


Figure 3.1 AHIMS Sites within 3 kilometres of the study area

Meadow Views, Calderwood, NSW

Source: OSM, Nearmap, AHIMS

Drawn by: WA Date: 2020-07-23



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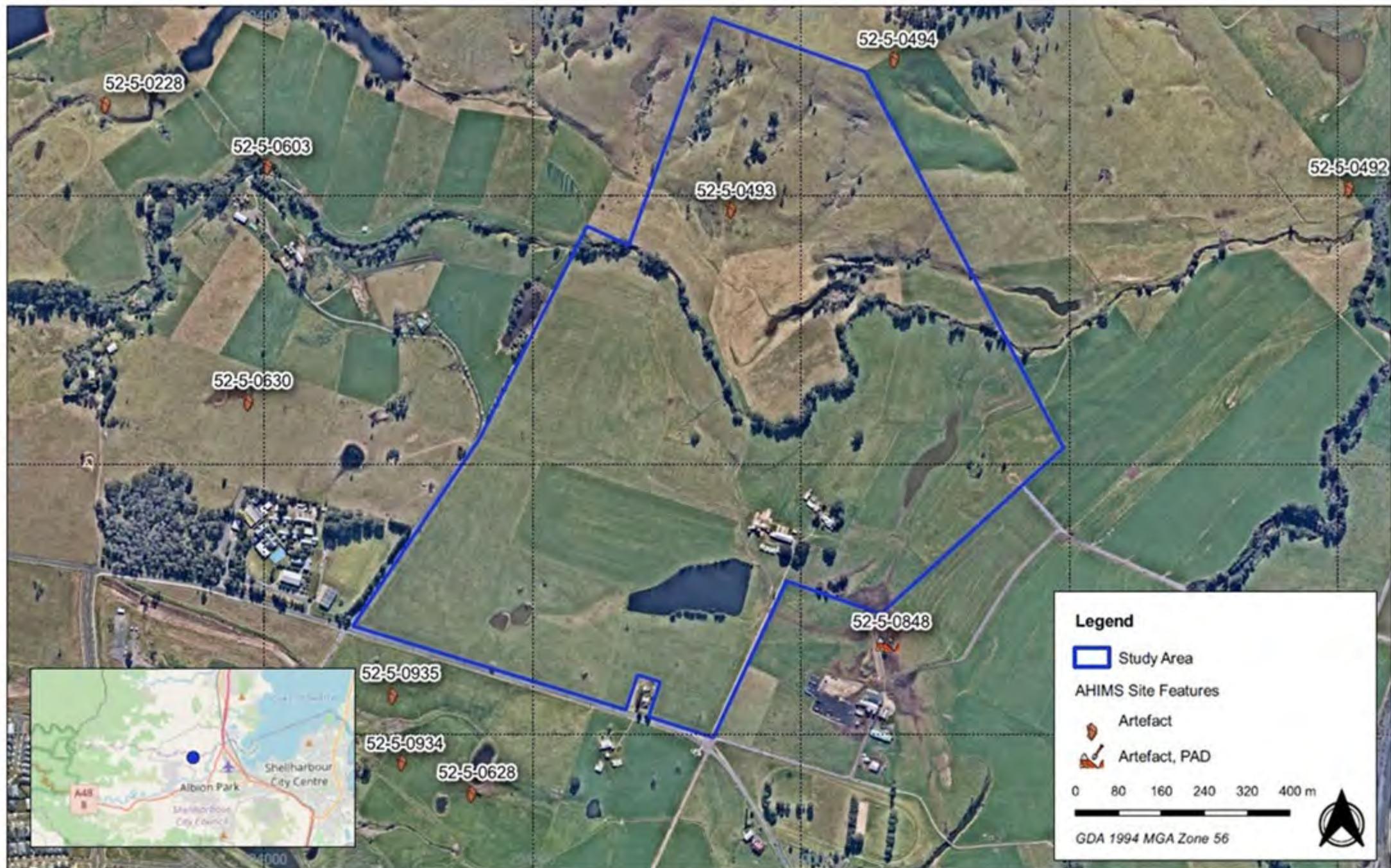


Figure 3.2 AHIMS Sites in close proximity to the study area

Meadow Views, Calderwood, NSW

Source: OSM, Nearmap, AHIMS

Drawn by: WA Date: 2020-08-25



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3.4 LOCAL ARCHAEOLOGICAL CONTEXT

Archaeological investigations of the Illawarra, and in particular the suburb of Calderwood, have been conducted in response to the spread of urban development as well as within the framework of academic enquiries. The limited ethnographic accounts of early settlers and explorers were once considered the primary source for archaeological enquiry. However, with the recent spread of urban development within the Albion Park environs, archaeological investigations have undergone a corresponding increase.

The major studies which have contributed to our understanding of the Illawarra, and those with direct relevance to the study area, are outlined in Table 3.4. Reference is made to the main trends garnered from these investigations which serve to provide a broad framework in which to base the current study.

Table 3.4 Summary of past reports within the vicinity of the study area

Reference	Location / date	Results
Carroll Sefton	Yallah 1980 Approximately four kilometres northeast from the study area	Mrs Caryll Sefton was commissioned by the Electricity Commission of NSW to undertake an archaeological survey of the proposed transmission line routes between West Dapto and the Yallah area. The report notes the discovery of two campsites with surface artefacts. The first was a flake of fossilised wood; located on a level area three metres from the Duck Creek tributary: Yallah Site 1 (AHIMS # 52-5-0123). The other site was a scatter of seven artefacts made of chert, jasper and rhyolite; located on a gradual slope elevated above Lake Illawarra named Yallah Site 2 (AHIMS # 52-5-0124).
Susan McIntyre-Tamwoy	Huntley Colliery to Tallawarra power station 1984 Approximately four kilometres northeast from the study area	Susan McIntyre-Tamwoy was commissioned by the Electricity Commission of NSW to undertake an archaeological survey within the proposed transport route from Huntley Colliery to the Tallawarra Power Station. The report noted the identification of two open campsites: Duck Creek 2 (AHIMS # 52-5-0001), Duck Creek 1 (AHIMS #52-5-0147), as well as two scar trees with an associated artefact, scatter named Duck Creek 3 (AHIMS # 52-5-0056). All these findings are located near Duck Creek and its tributaries. The research concluded that the area holds archaeological potential for further scar trees and possible sub-surface artefacts.
Navin Officer	Wollingurry Creek 1996 Approximately three kilometres northeast from the study area	Kerry Navin & Kelvin Officer collected artefacts from site Wollingurry 1 (AHIMS # 52-2-1810) that was recorded previously by Caryll Sefton in 1994 as a stone artefact scatter located on the upper slopes of a crest on the gradually sloping terminal end of a spur line. A total of 13 artefacts were salvaged. Sites Wollingurry Creek 2 and 3 (AHIMS # 52-2-1809) and (AHIMS # 52-2-1802), recorded as two isolated stone artefacts, also recorded previously by Caryll Sefton, were not able to be located during the salvage.
Navin Officer	Tullimbar Village 2002 Approximately four kilometres south-west from the study area	Navin Officer was commissioned by Miltonbrook Group to complete an archaeological assessment of the Tullimbar Village Development Area. The research noted the discovery of two Aboriginal sites: HC1 (AHIMS # 52-5-0522) and HC2 as well as five PADs: Tullimbah Village PAD1 (AHIMS # 52-5-0434), Tullimbah Village PAD2 (AHIMS # 52-50439), Tullimbah Village PAD3 (AHIMS #52-5-0431), Tullimbah Village PAD4 (AHIMS # 52-5-0440) and Tullimbah Village PAD5 (AHIMS # 52-5-0842). It was recommended that each be systematically excavated to determine their true nature, extent and significance.

Reference	Location / date	Results
Navin Officer	Tullimbar Village 2005 Approximately four kilometres south-west from the study area	Navin Officer was commissioned by Miltonbrook Group to undertake an Aboriginal subsurface archaeological testing program within the western section of the previously identified Tullimbah Village PAD3 (AHIMS # 52-5-0431) site. The assessment noted a total of 11 artefacts were recovered from five of the 14 test pits, with an additional artefact found at the surface of the PAD. It was concluded that this western section held little significance.
AMBS	Larkins Lane, Yallah 2006 Approximately two kilometres northeast from the study area	AMBS was commissioned by Wollongong City Council to prepare a cultural heritage assessment within the proposed subdivision at Larkins Lane in Yallah. The assessment noted the identification of two previously recorded archaeological sites: WDRA_AS_09 (AHIMS # 52-5-0484 same as 52-5-0512) and WDRA_AS_10 (AHIMS # 52-5-0483 same as 52-5-0513). The first is an open campsite located on the Marshall Mount spur crest and is comprised of 89 stone artefacts. The second is a single isolated stone artefact, located on a hill slope south of the Marshall Mount spur crest. The research also identifies eight isolated stone artefacts and ten low-density shell remains, with on average four fragments found per location. The stone artefacts were in elevated areas including ridge crest and middle hillslopes. Their materials comprised mostly of chert and quartz. These sites were: Larkins Lane Site (LLS) 6 (AHIMS # 52-5-0478), LLS10 (AHIMS # 52-5-0480), LLS1 (AHIMS # 52-5-0473), LLS8 (AHIMS # 52-5-0481), LLS7 (AHIMS # 52-5-0482), LLS9 (AHIMS # 52-5-0479), LLS2 (AHIMS # 52-5-0474), LLS3 (AHIMS # 52-5-0475), LLS4 (AHIMS # 52-5-0476) and LLS5 (AHIMS # 52-5-0477). The shell material was located in alluvial flats, lower slopes, ridges and hillslopes.
KNC	Tallawarra Lands 2006 Approximately four kilometres north east from the study area.	KNC was commissioned by Willana Associates to undertake an Aboriginal cultural heritage assessment within the proposed Tallawarra Lands Part 3A Concept Plan. The assessment identified four PADs. PAD 1-T1 which was located on a long level spur and saddle formation on the eastern portion of the ridge heading from Mt Brown to Elizabeth Point. PAD 2-T2 was located in a small creek channel leading into Pithungnar Bay. PAD 3-T3, was situated on a raised terrace formation above an ephemeral drainage channel leading into Duck Creek. And finally, PAD 4-T4 was located on a flat spur. It was interpreted as a cultural site associated with camping, birthing and a meeting place. The assessment concludes that each of these PADs holds a high likelihood of archaeological potential and was of important Aboriginal cultural value.
Biosis Pty Ltd (Biosis)	Johnston's Ridge, Calderwood 2006 Approximately three kilometres to the west of the study area	Biosis was commissioned by Daly International on behalf of Telstra to undertake an Aboriginal archaeological assessment within the proposed Calderwood Telecommunications tower compound and its access road. The assessment notes, during a pedestrian survey of this study area, the identification of one stone flaked artefact on a dry, level, elevated and exposed area between two dry creek beds. A PAD called Calderwood PAD 1 (AHIMS # 52-5-0515) was also identified on the flat crest of Johnston's Ridge. Further subsurface investigations were recommended, as predictive modelling for the area indicated a high likelihood for low density, dispersed artefacts within the landform.
Biosis	Johnston's Ridge, Calderwood 2007 Approximately threekilometres to the west of the study area	Following the archaeological assessment conducted in 2006 within the proposed Calderwood telecommunications tower compound and its access road, further testing was recommended for Calderwood PAD 1 (AHIMS # 52-5-0515). The excavation indicated that seven broken flaked stone artefacts from three of the six test pits, with an additional seven stone artefacts were identified from two of the test pits.

Reference	Location / date	Results
Biosis	Tallawarra Pipelines, Yallah 2007 Approximately five kilometres northeast from the study area.	Biosis was commissioned by TRUenergy to complete an archaeological testing program along the proposed gas pipeline route in Yallah near the Tallawarra Power Station. The excavation located 136 artefacts in previously recorded PADs called Tallawarra Pipeline 1 (AHIMS # 52-5-0471) and Tallawarra Pipeline 2 (AHIMS # 52-5-0472). The first had a 7% excavated assemblage with a total of nine artefacts. The second had a 93% excavated assemblage with a total of 127 artefacts found. The location of these artefacts was centred around local elevated topographic zones, near the aggregated Duck Creek channel. These types of site were concluded to be background scatter due to their distribution within the study areas.
Biosis	Huntley Eco Park 2007 Approximately four kilometres north from the study area	Biosis was commissioned to undertake an Aboriginal archaeological assessment within the proposed redevelopment of the Huntley Eco-Park. The assessment notes the discovery of two artefact scatters Avondale 1 and Avondale 2 and their associated PADs, Avondale 1 was found within Area A on an exposed area of a cattle track and at the base of a ridgeline, approximately 20 metres from the confluence of Mullet Creek and a tributary. It consists of one chert flake, one rhyolite flake and one manuport. Avondale 2 was found on a track near a pool fed by spring found next to a tributary of Mullet Creek. A total of three artefacts were recovered including broken and complete silcrete flakes and a basalt flake. Area B, D and F were determined to be PADs. Area B was found on top of a ridge that leads down to Mullet Creek and overlooks the coast. Area D was found on a ridgeline where a large cobble flake was identified along one of the tracks exposing the area. Area F was found in a cleared and relatively flat landform previously known as Chinese Market Gardens. A non-diagnostic silcrete fragment was identified along its tracks. Furthermore, a potential birthing place was also identified by one of the stakeholders during the survey, associated with two fig trees sporting small scars on some of the branches.
HLA-Envirosciences Pty Ltd (HLA)	78 Tongarra Road, Albion Park 2007 Approximately three kilometres south east from the study area	HLA was commissioned by Delmo Albion Park Pty Ltd to undertake an Aboriginal and historical heritage assessment of the proposed Illawarra Regional Business Park. The assessment notes the identification of one isolated silcrete flake on the bank associated with a bend in Frasers Creek.
Kayandel Archaeological Services (Kayandel)	Tullimbar Village 2008 Approximately four kilometres south west from the study area	Kayandel Archaeological Services was commissioned by the Miltonbrook Group to conduct sub-surface archaeological testing within the proposed Tullimbar Village Development. The excavation notes the finding of 33 stone artefacts within three identified PADs: Tullimbah Village PAD1 (AHIMS # 52-5-0434), Tullimbah Village PAD2 (AHIMS # 52-5-0439) and Tullimbah Village PAD4 (AHIMS # 52-5-). These PADs were assessed as holding low archaeological potential, and no further investigation was recommended.

Reference	Location / date	Results
Austral	Calderwood Urban Development Project 2010 Adjacent to the study area, to the west	Austral was commissioned by Eco-Logical on behalf of Delfin Lend Lease to complete an Aboriginal archaeological and Cultural Heritage Assessment within the proposed Calderwood Urban Development Project. The assessment identified 34 new Aboriginal archaeological sites; 18 isolated finds, 11 open artefact scatters, four open artefact scatters with associated PADs and one PAD with no associated surface material. The dominant raw material was silcrete, followed by chert, mudstone, FGS, petrified wood, quartz, basalt and river cobble. Flakes or flake fragments were the most common artefact types, followed by cores, flaked pieces, and a single instance each of a hand axe, a milling stone or pestle, and a possible broken hammer stone. Of these sites, the closest to the study area were isolated find CP-IF-18 (AHIMS #52-5-0603) found on a flat, creek terrace associated with Marshall Mount Creek as well as artefact scatters CP-S-04 (AHIMS # 52-5-0630) found flat or levee directly to the west of the western most crest above Marshall Mount Creek within the study area, and CP-S-02 (AHIMS # 52-5-0628) also found on a flat or levee to the south-west of the southernmost crest within the study area.
Biosis	Tallawarra Lands 2010 Approximately four kilometres north east from the study area.	Biosis was commissioned by TRUenergy to complete an Aboriginal archaeological and cultural heritage assessment within the proposed Tallawarra Lands Part 3A Concept Plan. The assessment notes the identification of eight new Aboriginal archaeological sites; four isolated finds and four camp sites. TLPD AFT 1 (AHIMS# 52-5-0610) was located on the eastern tip of a spur previously identified by KNC as PAD 1-T1; one stone artefact was located. Camp site TLPD AFT-5 (AHIMS # 52-5-0611), was located on the eastern side of a first order drainage line running into Pithungnar Bay; a total of three stone artefacts and one small ball of ochre were recovered. Site TLPD AFT-6 (AHIMS # 52-5-0612) was located on the eastern edge of the significant Yallah Gully; two chert flakes were recovered. Site TLPD AFT-7 (AHIMS # 52-5-0613) was located on the eastern edge of a large gully; one chert flake was recovered. Camp site TLPD AFT-8 (AHIMS # 52-5-0614) was located on the western edge of a large gully; two chert flakes were recovered. Site TLPD AFT-9 (AHIMS # 52-5-0615), was located on a low spur line; one stone artefact was recovered. Site TLPD Site-10a was located 200 metres south of Duck Creek on disturbed terrain; six stone artefacts were recovered. Artefacts recovered from this site were added to the boundary of previously recorded site Ash Pond 1 (AHIMS # 52-5-0249), recorded in 2010 by AMBS. It consists of nine artefacts in low densities, made of quartz and silcrete. Site TLPD AFT-10b (AHIMS # 52-5-0615), is located south of Duck Creek on an alluvial flat; one quartzite flake was recovered. Camp site TLPD AFT-10c (AHIMS # 52-5-0617) is also located south of Duck Creek between Yallah Bay Road and the former Tallawarra Ash Ponds. A total of six stone artefacts, one made of siltstone and the rest of quartz, were recovered. Previously identified KNC PAD PAD 2-T2, PAD 3-T3 as well as PAD 4-T4 were excavated with no results.

Reference	Location / date	Results
Comber Consultants Pty Ltd (Comber)	Larkins Lane 2010 Approximately two kilometres north east from the study area	Comber was commissioned by the Wollongong City Council to undertake a program of Aboriginal archaeological testing and salvage within the proposed Larkins Lane subdivision. The assessment implemented the recommendations put forward by AMBS (2006) during their regional study of the WDRA to complete a detailed Aboriginal heritage assessment of the previously identified, high-density open campsite, WDRA_AS_09 (AHIMS # 52-5-0484), recorded in the crest of Marshall Mount. A total of 89 surface artefacts were recovered during this preliminary investigation. The excavation further notes the salvage of 119 artefacts from the 21 of the 31 trenches excavated. The source materials used throughout this assemblage includes 52.1% chert, 32.77% quartz and 15.13% silcrete as the dominant materials. As well, a majority of flaked artefacts were uncovered.
Artefact Heritage Pty Ltd (Artefact)	Albion Park Rail Bypass 2013 Approximately one kilometre east of the study area	Artefact was commissioned by Roads and the Maritime Services (RMS) to undertake an Aboriginal archaeological survey and assessment within stage 2 of the proposed road corridor linking Yallah and Oaks Flats. The assessment notes the location of two previously recorded sites by AMBS in 2006 during their regional investigation of the WDRA, WDRA_AS_09 (AHIMS # 52-5-0484) and Macquarie Rivulet 1; (AHIMS # 52-5-0227). WDRA_AS_09 was assessed as having a moderate archaeological potential and unknown significance. This surface scatter was located on an access road along a spur crest and was comprised of 89 stone artefacts. On the other hand, Macquarie Rivulet 1; was found to have low archaeological significance resulting in no further investigations required. This midden/artefact scatter was comprised of beach pebble flakes, fossilised wood, Anadara shell fragments and stone artefacts. It was located on an alluvial deposit. Furthermore, a new PAD YTOF PAD 1 (AHIMS # 52-5-0757), was identified on a very gentle southwest facing slope above a flat that extends to Frasers Creek.
Artefact	Albion Park Rail Bypass 2014 Approximately one kilometre east of the study area	Artefact was commissioned by RMS to undertake an Aboriginal archaeological survey and assessment within stage 2 of the proposed road corridor linking Yallah and Oaks Flats. This addendum was conducted to add results from previously inaccessible areas as well as the incorporation of the Croom Regional Sporting Complex. During the survey four sites were recorded: midden site AHUGC001 (AHIMS # 52-5-0766) found on a modified terrace, isolated find YTOF IF1 (AHIMS #52-5-0757), located on an unformed vehicle track on the eastern bank of Fraser Creek, as well as two PADs: YTOF PAD 2 located on an elevated, level terrace adjacent to the eastern bank of Frasers Creek and finally YTOF PAD 3 (AHIMS # 52-5-0824) located on the elevated west-facing slope that rises up to the east of a tributary. Furthermore, the boundaries of YTOF PAD 1 (AHIMS # 52-5-0757) were extended. In summary all three PADs were deemed to hold high archaeological potential.

Reference	Location / date	Results
Artefact	Albion Park Rail Bypass 2014 Approximately one kilometre east of the study area	Artefact was commissioned by Hyder Cardno Joint Venture on behalf of the RMS to draft a second addendum within the context of the PACHCI Stage 2 archaeological survey report for the Albion Park Rail Bypass project for additional areas. The assessment notes the identification of one previously recorded site the small artefact scatter Larkins Lane site 1 (LLS1) (AHIMS # 52-5-0473). A house has since been erected atop of it. The boundary of the previously recorded PAD YTOF PAD 1 was extended during this survey. A total of nine new sites were recorded. Two artefact scatters: YTOF AS 1 was found on a flat and YTOF AS 2 (AHIMS # 52-5-0763) found on an exposed section of a terrace besides a driveway. Two isolated finds: YTOF IF 2 (AHIMS # 52-5-0764) found on a flat and YTOF IF 3 (AHIMS # 52-5-0765) found on a slope of a small, modified drainage channel. Four PADs, YTOF PAD 4 found on a lower slope which gently slopes towards a tributary of the Macquarie Rivulet, YTOF PAD 5 located on a terrace and lower slope at the confluence of two small ephemeral creeks, YTOF PAD 6 found on a terrace and YTOF PAD7 on a flat to gently undulating plain. Finally, one cultural site YTOF CS 1 located on a slope, which encompasses an old growth fig tree identified during the Waters study.
Artefact	Albion Park Rail Bypass 2014 Approximately one kilometre east of the study area	Artefact was commissioned by Hyder Cardno Joint Venture on behalf of the RMS to draft a third addendum within the context of the PACHCI Stage 2 archaeological survey report for the Albion Park Rail Bypass project. This addendum was drafter to encompass additional areas that have since been identified as preferred options for the project. Within these areas, the research notes the identification of two PADs YTOF PAD 8 (AHIMS # 52-5-08222) and YTOF PAD 9 (AHIMS # 52-5-0822). YTOF PAD 8 (AHIMS # encompasses a lower slope that extends towards a tributary of Duck Creek. YTOF PAD 9 encompassed a raised terrace east of Fraser Creek. As well as a scarred tree, located outside the study area on a slope, called YTOF ST 1.
Artefact	Albion Park Rail Bypass 2015 Approximately one kilometre east of the study area	Artefact was commissioned by Hyder Cardno Joint Venture on behalf of the RMS to undertake an Aboriginal Cultural Heritage Assessment within Stage 3 of the proposed Albion Park Rail Bypass project. Out of all the 21 identified sites from the previous addendums and archaeological survey report, only 13 would be impacted by the proposed works and of these, seven were subject to test excavations. The assessment notes site artefact scatter YTOF AS 3 (AHIMS # 52-5-0787), originally recorded as YTOF PAD 1, consisted of a low-density subsurface scatter. YTOF AS 4 (AHIMS # 52-5-0788), previously recorded as YTOF PAD 2, consisted of a moderate density subsurface artefact deposit, composed of a variety of materials and including some specialized tool production. YTOF AS 5 (AHIMS # 52-5-0789), originally recorded as YTOF PAD 4, consisted of a moderately dense subsurface artefact deposit, hosting a variety of materials and many specialized tools. YTOF AS 7 (AHIMS # 52-5-0791), previously recorded as YTOF PAD 6, consisted of a low-density artefact scatter. YTOF AS 8 (AHIMS # 52-5-0793), previously identified as YTOF PAD 1, included of a small and discrete subsurface artefact scatter. YTOF IF 4 (AHIMS # 52-5-0790), previously recorded as part of YTOF PAD 4, consisting of a discrete but separate isolated find located on the banks of Frasers Creek.

Reference	Location / date	Results
Waters	Macquarie Rivulet 2015 Approximately 533 metres (closest point) east from the study area	Waters was commissioned by the RMS to undertake an Aboriginal cultural assessment within the proposed Albion Park Rail Bypass project. The research notes the identification of three cultural sites: one associated with the entirety of the Macquarie Rivulet, the stones its bed, and an old-growth fig tree. The Macquarie Rivulet holds high cultural significance for traditional owners as a place associated with movement, camping, ritual practices and resource use for both past and present Aboriginal Peoples. The stone of the creek bed are thought to hold the spirits of ancestors and for this reason have been avoided for generations. The old-growth fig tree is associated with a woman's birthing site.
Artefact	140-142 Calderwood Road, Albion Park 2017 Adjacent to the study area, to the south-east	Artefact was commissioned by C & P Tate Pty Ltd to undertake an Aboriginal cultural heritage assessment within the proposed development of a new dairy farm facility. The assessment notes the identification of one previously recorded artefact and PAD site YTOF_AS_9 (AHIMS # 52-5-0848), located during a pedestrian survey on the crest of the raised area bordering the Macquarie Rivulet Floodplain. It consisted of four artefact concentrations and an extended area of potential within the raised landform. During the subsequent testing, a total of 182 stone artefacts, a majority made of quartzite, across 30 test pits targeting the site, were identified. This site is also located in the south-eastern adjacent lot, and its crest overlooks the Marshall Mount tributary which runs to the north, in the eastern section of the study area, as well as the crest with the current farming and homestead and the southernmost crest.
Navin Officer	Tullimbar 2016 Approximately four kilometres south-west from the study area	Navin officer was commissioned by Balmoral Parade Pty Ltd to undertake an Aboriginal Cultural Heritage Assessment for the proposed residential subdivision in Tullimbar. The assessment notes the identification of artefact and associated PAD HC2 and PAD3 (AHIMS # 52-5-0441), with a total of 106 stone artefacts recovered from sub surface testing. As well as site HC3 and PAD5 which recovered 16 stone artefacts from testing.
Navin Officer	Tullimbar Village 2017 Approximately four kilometres south-west from the study area	Navin Officer was commissioned by Macquarie Bank to undertake an Aboriginal archaeological assessment within the Tullimbar Village Development. The assessment notes the previously identified site HC2 and PAD3 (AHIMS #52-5-0441) a surface scatter, recorded by Navin Officer in 2002, which comprised five stone artefacts located in a series of erosion scurs to the east of Hazelton Creek. No new sites were identified.
Biosis	Tullimbar 2019 Approximately four kilometres south-west from the study area	Biosis was commissioned by Cardno to undertake an Aboriginal due diligence assessment for the proposed Tullimbar high voltage overhead relocation and portable water lead in works. The assessment notes the identification of previously recorded PADs; Tullimbar Village PAD 4 (AHIMS # 52-5-0440), Tullimbar Village PAD 1 and Tullimbar Village PAD 2 (AHIMS # 52-5-0522). Despite overall disturbances to the area, it was concluded that Tullimbar Village PAD 1 and Tullimbar Village PAD 2 were located in areas of minor disturbance and in favourable landforms. Tullimbar Village PAD 1 was located on a raised terrace at the junction of Hazelton Creek alluvial flats and a hillslope. Tullimbar Village PAD 2 was found on a creek terrace to the east of Hazelton Creek, above its alluvial flats. Further archaeological investigations were recommended.

Reference	Location / date	Results
KNC	140-142 Calderwood Road, Albion Park 2019 Adjacent to the study area, to the south east	KNC was commissioned by C & P Tate Pty Ltd to undertake a salvage excavation within the proposed new dairy facilities development. The salvage has revealed 14,723 artefacts from the previously recorded artefact and PAD site YTOF_AS_9 (AHIMS # 52-5-0848), with an additional 28 artefacts recovered during community collection of surface finds. Of these, a wide variety of stone materials were present within the assemblage, with a majority of chert. The highest density of artefacts was found within the raised crest: within open air one (7,620 artefacts) closest to the eastern boundary of the study area and three (6,237 artefacts) closest to the dairy farm. Charcoal samples were collected from open air one, associated with a stone cache, which revealed dates of 4,008 +/- 17 years before present (BP) at the bottom of the feature and 2,559 +/- 36 years BP at the top of it. A map which showcases these results more clearly, in association with the study area can be seen in Figure 3.3. It was concluded that this site presents with the typical characteristics of an open artefact scatter, located on a raised landform and in proximity of a water source. However, the density and variety of lithics present are a typical of the region.
Navin Officer	Tullimbar 2019 Approximately four kilometres south- west from the study area	Navin Officer was commissioned by Balmoral Parade Pty Ltd to undertake an archaeological and Aboriginal cultural heritage assessment within stage 8 of the proposed residential subdivision of Tullimbar. The assessment notes, the identification of three previously recorded sites; Aboriginal site HC2, and two PADs PAD3 and PAD5. HC2 and PAD3 were identified in 2002, while PAD5 was a more recent addition from 2015. Testing of PAD3 recovered 106 artefacts and 16 from PAD5. HC2 and PAD3 were combined into one site, HC2 and PAD3 (AHIMS # 52-5-0441), after it was discovered that their boundaries majorly overlapped. Whilst the artefacts from PAD5 are indicative of a site, so it was renamed HC3.
Austral	Tullimbar 2020 Approximately four kilometres south- west from the study area	Austral was commissioned by Cardno to undertake a sub-surface testing investigation of the previously identified Tullimbar Village PAD 1 (AHIMS # 52-5-0434) and Tullimbar Village PAD 2 (AHIMS # 52-5-0439) by Biosis in 2016, as well as Tullimbar Village PAD 4. Within PAD 1, a total of two silcrete artefacts were recovered. Within PAD 2, a total of 13 artefacts were recovered; 10 of which were silcrete. No artefacts were recovered from the boundaries of PAD 4.

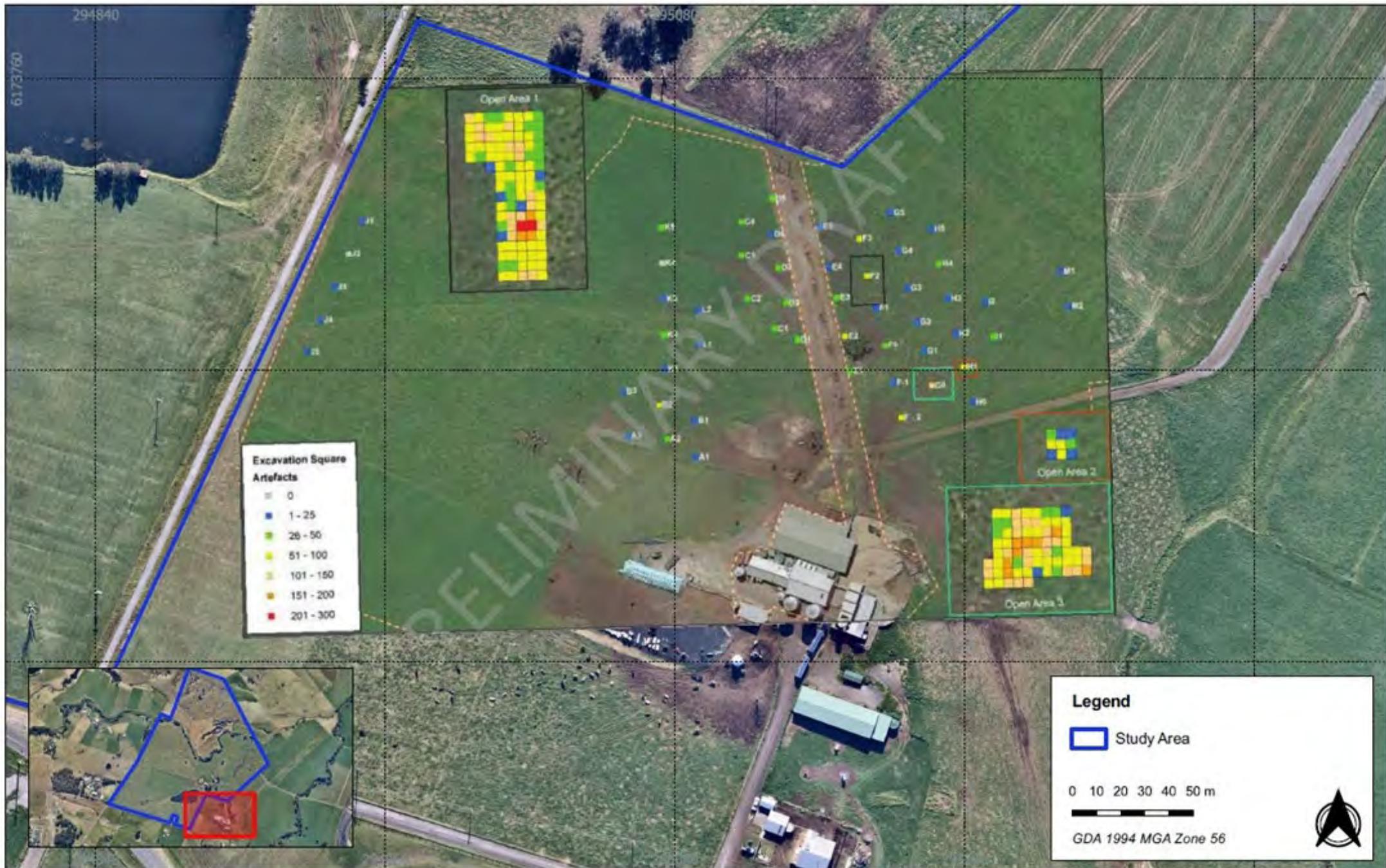


Figure 3.3 Site "YTOF_AS_9" salvage results (after KNC 2019)

Meadow Views, Calderwood, NSW

Source: OSM, Nearmap, KNC 2019

Drawn by: WA Date: 2020-08-26



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4. LANDSCAPE CONTEXT

The study area's environmental context is defined by its place within the Illawarra coastal plains region. It is bounded to the west by the Escarpment and to the west by Lake Illawarra and the Pacific Ocean. It is characterized by gently sloping and generally wide floodplains bounded by low terrace remnants which are made up of fine sediments while their beds consist of cobbles and coarse gravel (Young & Nanson 1982, p.212). The local area surrounding the study area includes new residential areas to the west and the creeping urbanization of Wollongong to the north as well as to the south with Albion Park. The study area itself is made up of large tracts of land which have been cleared for dairy farming purposes. Running on an east to west alignment within the northern section of the study area is the Marshall Mount Creek. The Macquarie Rivulet runs on a north to south alignment approximately 892 metres east. These two important watercourses have their confluence just one kilometre north east from the study area (Figure 1.1 and Figure 1.2).

The following sections give an overview of the key environmental factors which in the past would have influenced Aboriginal use and occupation of the landscape of which the study area is a part of. These factors include our limited knowledge of early contact history between the first European settlers and local Aboriginal groups as well as more recent academic and development pushed archaeological studies.

4.1 TOPOGRAPHY AND LANDFORM

The study area is located within the coastal plains of the Illawarra region. This zone is characterized by its linking processes connecting the foothills of the Illawarra Escarpment, approximately five kilometres to the west of the study area, to the shores of Lake Illawarra, approximately two kilometres to the east of the study area. The Illawarra coastal plain hosts a mosaic of multiple landforms such as foothills, ridges, spurs, hillocks and floodplains as well as varying slopes; from gentle, inclined to steep with the occasional low cliff (Mitchell 2002, p.115). The study area is located within the flood plains tile of this mosaic, as it is associated with the Macquarie Rivulet and Marshall Mount Creek. There are four landforms present within the study area: ridgelines, terraces, an open drainage depression and crests. The northern section of the study area is made up of a series of waning slopes which forms minor gullies located at relatively intermittent intervals, which is associated to a narrow ridge lining the northern boundary of the study area. The gentle waning lower slopes of this series of hills, located to the south, overlooks the elevated terraces associated with the open drainage depression of Marshall Mount Creek, as well as its associated alluvial flats. The Creek itself runs from west to east across the mid-section of the study area. Overlooking it to the south are two elevated crests; one to the east and one to the west where the current homestead and farming infrastructure is built. A paleochannels runs along this western crest from the Marshall Mount Creek and into the dam on the upper slopes of the gently sloping alluvial plains encompassing the southern section of the study area. These landforms can be seen in Figure 4.1.

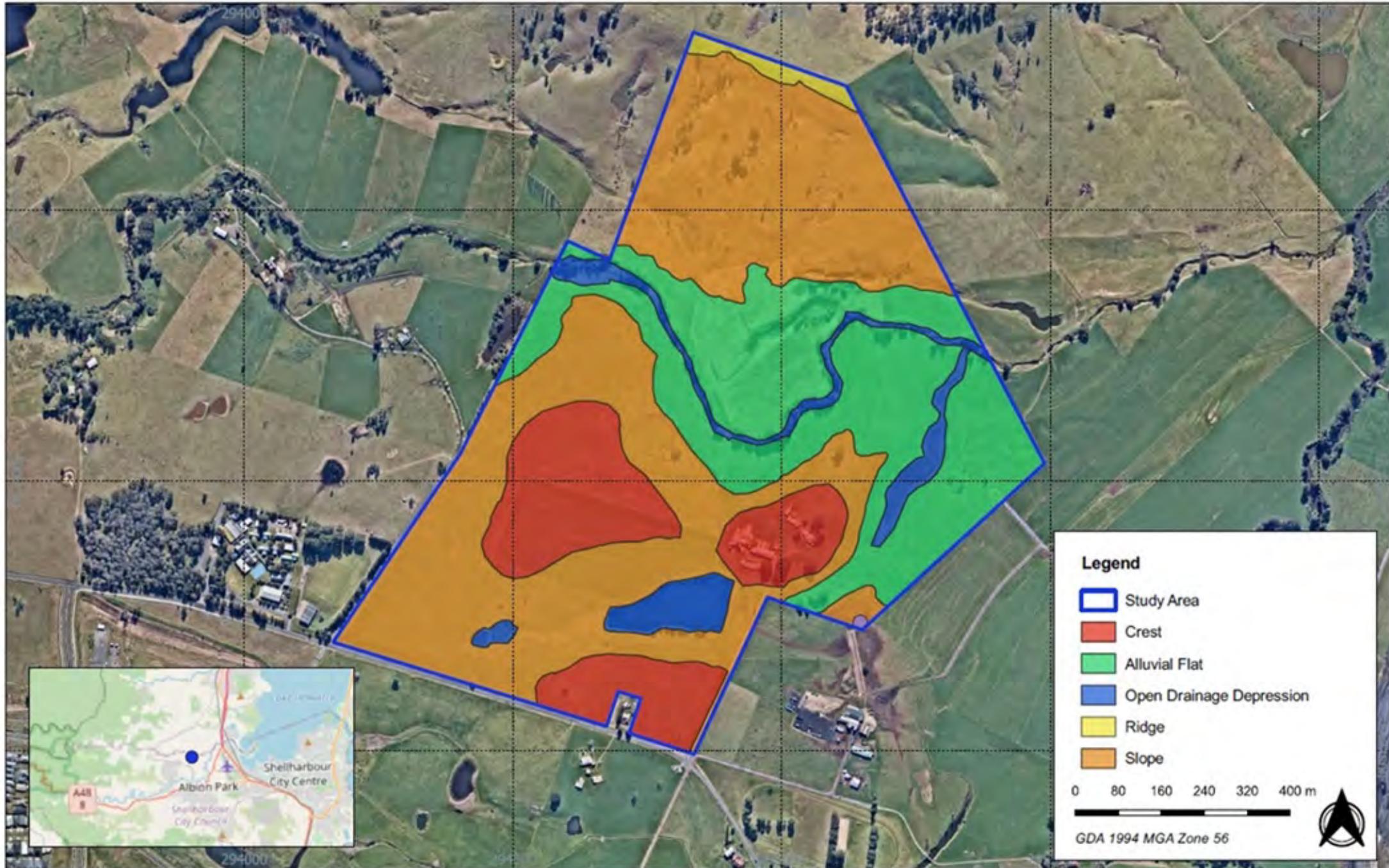


Figure 4.1 Landforms present within the study area

Meadow Views, Calderwood, NSW

Source: OSM, Nearmap

Drawn by: WA Date: 2020-08-25



4.2 LOCAL GEOLOGY

The location of different site-types such as rock-shelters, middens, open campsites, axe-grinding grooves, engravings are strongly influenced by the nature of soils, the composition of vegetation cover and the climatic characteristics of any given region. Equally important is the range of other associated characteristics which are specific to different land systems and their geology. In turn, this affects resource availability of, for example, fresh drinking water, plant and animal foods, raw materials for stone tools, wood and vegetable fibre used for tool production and maintenance. Therefore, examining the geological context of an area is essential in accurately assessing potential past Aboriginal land-use practices and/or predicting site types and distribution patterns within any given landscape, cultural or not. The information that is outlined below is applicable for the assessment of site potential of the current study area.

The Illawarra was formed by the gently sloping sedimentary and volcanic rocks of the southern Sydney Basin; which is the parent material for most of the soil found in the study area and its region (Young & Nanson 1982, p.212). The Sydney Basin constitutes of near-horizontal sandstones and shale of Permian and Triassic age over basement rocks from the older Lachlan Fold Belt. More locally specific, the Illawarra region is characterized by Permian Siltstones such as sandstones, shales and interbedded volcanic on and below the coastal escarpment (Biosis 2007b, p.16). Outcrops of sandstone are not found within the study area. This make it unlikely that sites which utilise this material as shelter, grinding grooves or to depict art, will occur within the study area. Due to highly ergonomic nature of the hydrology within the study area, it is possible to note that some of these parent materials will accumulate in the beds of the Marshall Mount Creek and its first order tributary. These materials are then more likely to be utilised by Aboriginal groups travelling along the landscape, creating artefact scatters around these resources, isolated finds and potentially artefact manufacturing sites.

4.3 SOIL LANDSCAPES

Two-thirds of the soil-landscape present in this study area is Fairy Meadows (**fa**). It is a swamp landscape that is present in the alluvial plains, floodplains, valley flats and terraces below the Illawarra Escarpment. Generally, the topography of the Fairy Meadow soil landscape is flat, with slopes being less than 10 metres in height and inclined at less than 5%. Fairy Meadow soils consist of moderately deep (500 millimetres to 1 metre) alluvial loams and siliceous sands on terraces. Prairie soils and yellow podzolic soils are present on drainage plains. The landscape is almost completely cleared, except for a few isolated strands of woodland or open forest (Hazelton & Tille 1990, p.45). Flood hazard, low wet-bearing strength, high permeable topsoils and high-water tables are all characteristics of the Fairy Meadow soil landscape (Hazelton & Tille 1990, p.97). Despite this landscape's susceptibility to flooding, aggravated by modern developments, its relatively flat terrain and association to creeks and rivers make it suitable for at the very least, short-term, temporary occupations. As well, its moderately deep soil makes it more likely to find subsurface artefacts, than in shallower profiles.

To the north of Fairy Meadows, lies the Wattamalla Road (**wt**) soil landscape. It is a depositional landscape that is usually found in the long, gently to moderately inclined sideslopes and undulating to rolling hills on sandstone of Kangaroo Valley. Generally, the topography of this soil landscape consists of gentle to moderately inclined slopes with a gradient between five to ten % with isolated steeper slopes at over 40%. On its upper slopes, the soil consists of moderately deep, between 50 and 100 centimetres, Red Podzolic Soils and on it's mid and lower slopes; Yellow Podzolic Soils. The parent material for this landscape is red, brown and grey volcanic lithic sandstone; Budgong Sandstone. The landscape is almost completely cleared, except for a few isolated strands of woodland or open forest (Hazelton & Tille 1990, p.85). The soils are generally shallow throughout this landscape. Furthermore, the steepness of the slopes and the minor gullying observed within the study area, has made it highly susceptible to erosion for non-concentrated flows of water. This phenomenon would greatly impact the likelihood of Aboriginal material remaining within their primary contexts.

Along the northern boundary of the study area lies a narrow band of the Shellharbour (**sh**) soil landscape. It is an erosional landscape that is located on the Rolling low hills with long sideslopes and broad drainage plains which occur on the Coastal Plain. The topography of this soil landscape consists of hill height between 20 to 50 metres and a slope gradient no more pronounced than 20%. On its crests and upper slopes, the soil consists of deep, more than 150

centimetres, Prairie Soils. On the midslopes are brown Krasnozems and on the lower slopes and drainage plains are red Podzolic and Prairie Soils. The parent material for this landscape is red, brown and grey volcanic lithic sandstone; Budgong Sandstone. The landscape has been extensively cleared for dairying, horse agistment and urban subdivision, with stands of tall open forest and closed-forest in sheltered locations (Hazelton & Tille 1990, p.58). Due to extensive land clearing since the advent of European colonization, as well as the highly erodible nature of the soil it is unlikely that many Aboriginal materials will be found within this landscape.

The location of these soil landscapes in relation to the study area is outlined in Figure 4.2.

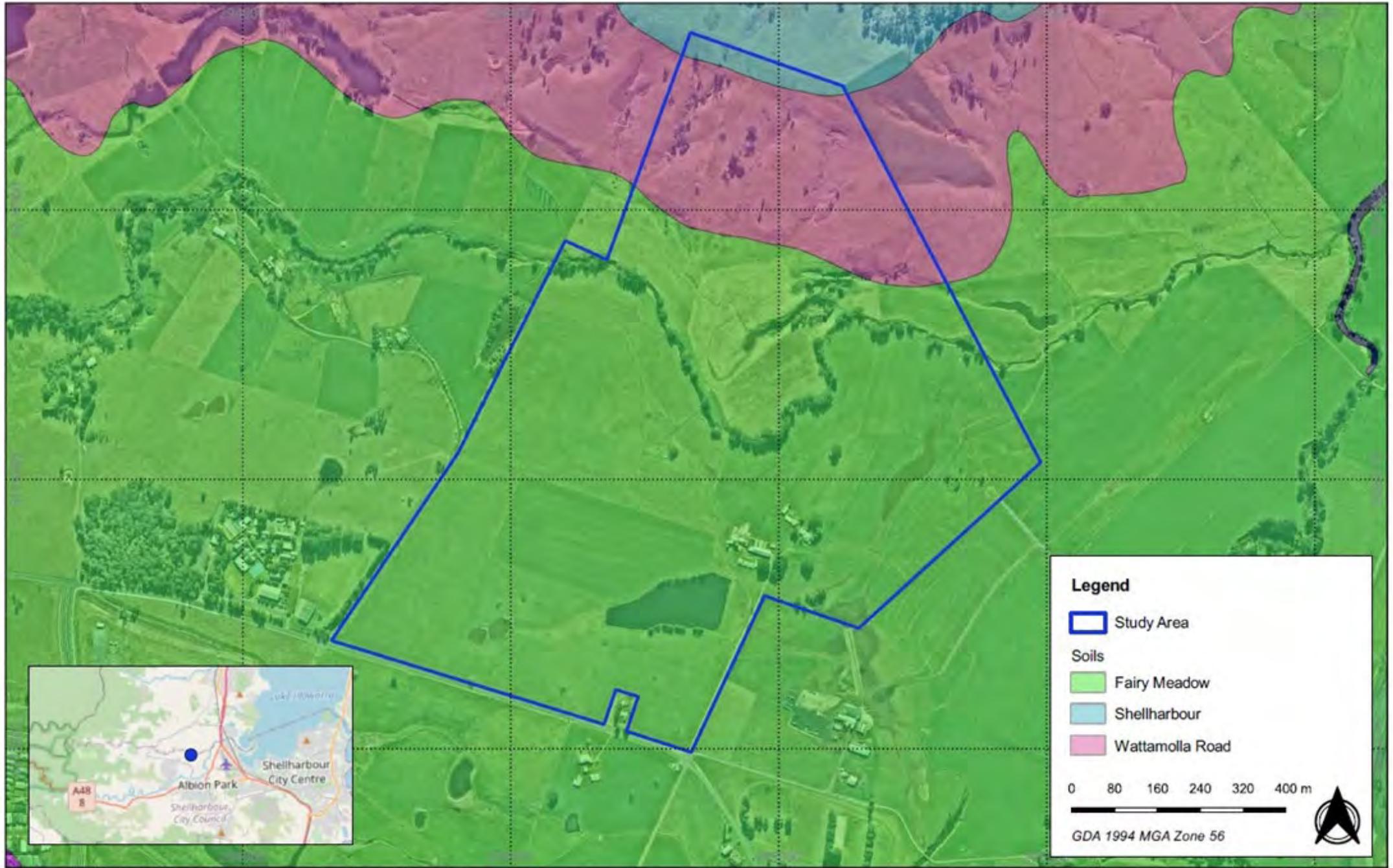


Figure 4.2 Soil landscapes present within the study area

Meadow Views, Calderwood, NSW

Source: OSM, Nearmap, NSW Soil Landscapes

Drawn by: WA Date: 2020-08-25



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4.4 HYDROLOGY

The study area is associated with two important permanent creeks: Marshall Mount Creek which runs through its northern section and the Macquarie Rivulet located approximately 800 metres east. Marshall Mount Creek is a major tributary of the Macquarie Rivulet and the confluence of these watercourses is located only one kilometre northeast from the study area (Figure 4.3). The Macquarie Rivulet is the main artery within the Macquarie Catchment which drains an area of 110 kilometres squared, over the entirety of the Illawarra Coastal Plain. The suburb of Calderwood is drained through the efforts of Marshall Mount Creek (Waters 2015, p.1). This freshwater and estuarine wetland has, however, been heavily modified as a result of historical land management practices, such as altering the course of the rivulet for pastoral activities as well as drainage and infilling practices (Waters 2015, p.13).

The Illawarra region, in particular, has a dynamic set of interactions within its hydrology due to its geographic factors, its high annual mean rainfall and the creeping urbanisation occurring within the region and its surroundings. These interactions can have a substantial impact on the placement of Aboriginal materials within the study area.

The Coastal Plains of the Illawarra, in which the study area is located, consists of a low gradient and energy landscape which receives a high magnitude of rainfall from the coastal escarpment and its steep, high energy channels. These higher energy escarpment channels drain the smaller catchments onto the Coastal Plain. This results in well-developed macro-channels and a rapid and dense vegetation growth along their banks (Reinfields & Nanson 2004, p.42). The width of the channels running across the Illawarra narrow as they move downstream, this is counter to the agreed hydro geomorphological consensus, in which a channel will become wider downstream to accommodate a growing runoff (Nanson 1981, p.1). Due to the landscape of the Coastal Plains, in which a dramatic reduction in slope as the streams emerge from the foothills of the Escarpment, as well as its extensive floodplains, which carry water over larger distances results in this narrowing (Nanson & Young 1981, p.239). The consequences of this morphological change include a reduction in channel capacity of up to between 80 and 90%, and a frequent overbank flow and sediment deposition (Young & Nanson 1982, p.214). Increased sediment movements as a result of flooding would have the potential to impact on the preservation of Aboriginal sites within flood plains and areas of frequent inundation.

The mean annual rainfall discharge within this landscape is on average 1100 millimetres at the coast, 1600 millimetres and 1800 millimetres on prominent spurs and escarpment high points (Reinfields & Nanson 2004, p.240). This has resulted in large flash flooding events occurring at an exceptionally frequent rate and causing the streams to be in a constant state of flux (Reinfields & Nanson 2004, p.241). An added reason why this is phenomenon is happening at an increasing rate is due to creeping urbanisation. In a study conducted by Ivars Reinfields and Gerald Nanson, the urbanisation of the rural watersheds has increased the frequency and magnitude of water discharge and rates of downstream sedimentation. Consequently, channels have started to enlarge through erosion. Urbanisation is responsible in the Illawarra for a two to three time channel size increase and an erosion calculated at 23,000 to 25,000 m³ km⁻¹ during the second half of the 20th century (Reinfields & Nanson 2004, pp.238–239).

In light of this information, a closer look at flooding data for the Macquarie Rivulet and its tributary Marshall Mount Creek was inspected to gain a better understanding of which areas would be most affected by flooding. This has indicated that large portions of the study area are subject to frequent flooding and may have lower levels of archaeological potential as Aboriginal objects within these areas are likely to have been displaced during frequent rainfall events. The study area contains a number of elevated terraces and landforms that are more likely to contain intact Aboriginal archaeological potential. An analysis of the flooding data for the study area can be seen in Figure 4.4.

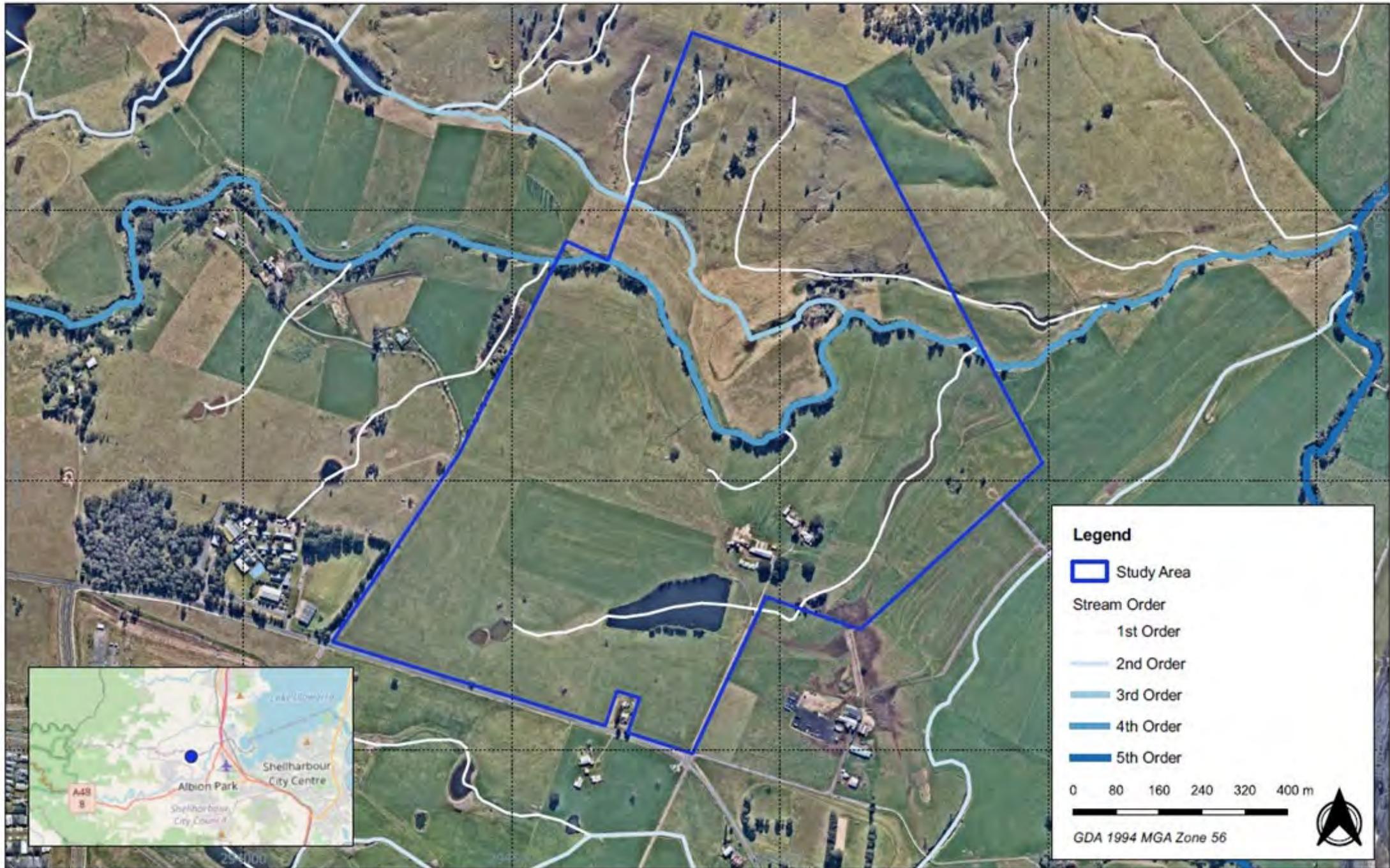


Figure 4.3 Outline of stream order hydrology within the study area

Meadow Views, Calderwood, NSW

Source: OSM, Nearmap, NSW DCDB

Drawn by: WA Date: 2020-08-25

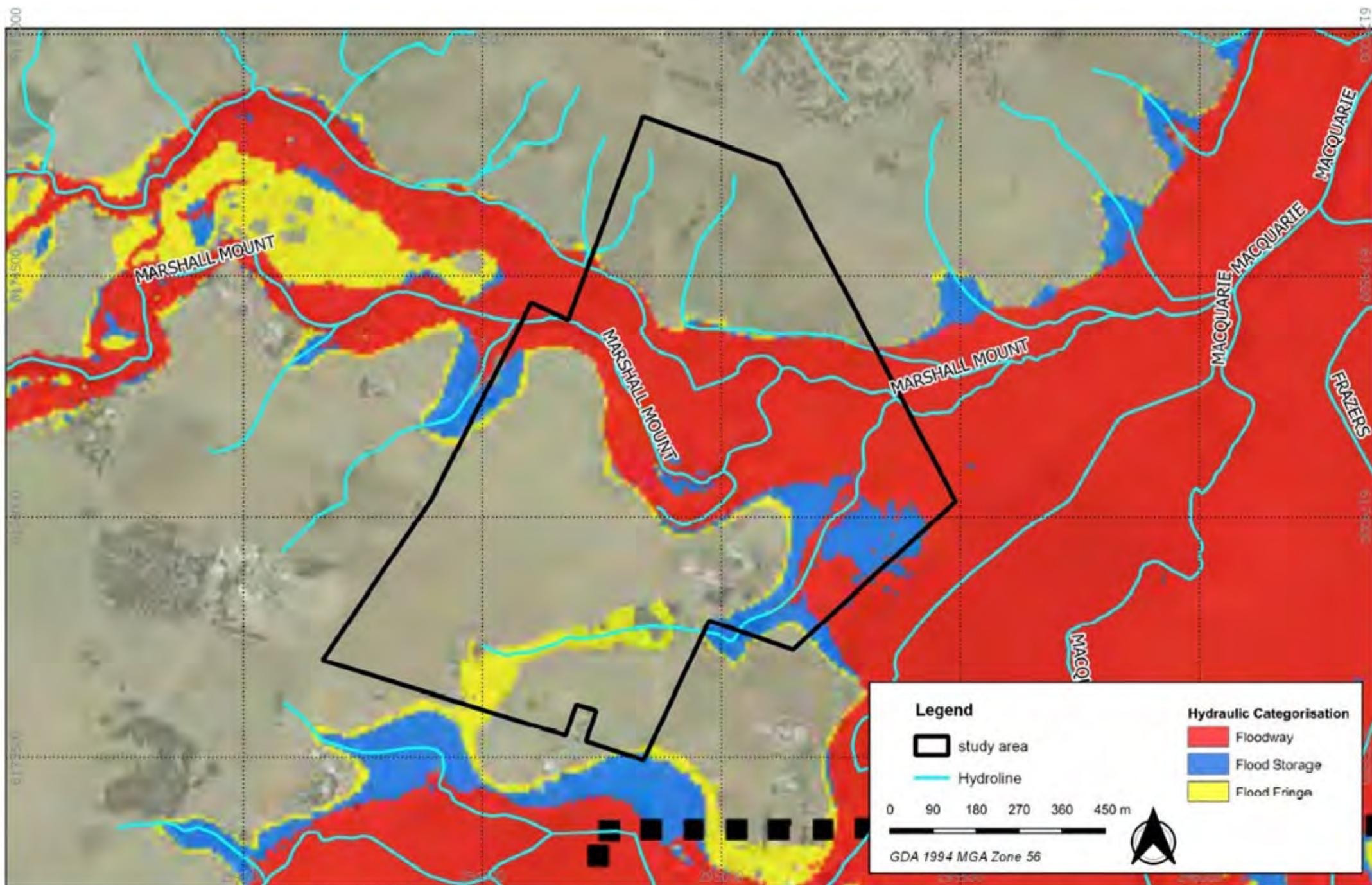


Figure 4.4 Flood mapping of the Macquarie Rivulet and its tributaries

Meadow Views, Calderwood, NSW

Source: WMA Water (2017)

Drawn by: PR Date: 2020-08-04



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4.5 CLIMATE

The climate within the study area is influenced by temperate conditions characteristic of an inland and maritime landscape. Summers are generally warm, and winters mild. In the summer and autumn conditions will be humid, and temperatures will range between moderate and high. Onshore winds and peak rainfall will temperate these conditions. During the winter months, a third of the mean annual rainfall will fall. Winds during this season are predominantly westerly which produces a drier and cooler climate (Biosis 2007b, p.19). Stream discharge is high compared with most places in New South Wales, as rainfall discharge can accumulate between 1,200 to 1,600 mm⁴ annually (Young & Nanson 1982, p.212). This moderate climate would have allowed Aboriginal people to use the study area to move between the Illawarra Escarpment, the coastline and Lake Illawarra.

4.6 FLORA AND FAUNA

The study area lies in a landscape rich in biological and ecological diversity. The landscape of the Illawarra coastal plain includes a range of vegetation communities including Eucalyptus forests, woodlands, subtropical rainforests, swamps, grasslands and scrubs (Waters 2015, p.13). The study area lies within the lowland alluvial range. However, before European land clearing took place, the landscape would have been covered in dense timber forest made up mostly of soft woods including cedars, sassafras, figs, stinging nettles, beefwoods, lillipillis, cherries, pines, plums and flame trees. As well, there would have been a great abundance of tree ferns, staghorn ferns and cabbage palm, a plant with important recoded significance for the Dharawal (Cousins 1948, p.8). The density of the vegetation was thick, leaving no room for sunlight to penetrate the foliage and enable grass to grow. It did, however, grow various fruits which was enjoyed by a wide range of birds such as pheasants, lyre bird and brush turkeys (Cousins 1948, p.30). In this landscape, Aboriginal groups would have thrived in the area by exploiting the resources made available in abundance in this forest as well in the nearby permanent creeks and rolling hills. Among which are bird species such as the Black-faced Cuckoo Shrike and Eastern Rosella, as well as large mammals such as the Swamp Wallaby, platypus, Water Rat and Short-Beaked Echidna (NSW National Parks and Wildlife Service 2003, p.43)[NPWS]. Water resources exploited in these wetlands would have included various freshwater fish, lizards, eels, and shellfish (Waters 2015, p.13). Evidence for shell middens has been gathered both verbally and archaeologically along the banks of the Macquarie Rivulet (Waters 2015, p.28). As well, the usual variety of marsupials such as the Grey Eastern Kangaroo and Wombats.

The Illawarra Coastal plains and these abundant and easily accessible resources would have attracted Aboriginal groups of the past along its waterways and alluvial terraces. Table 4.1 outlines the predominant plant species of the Illawarra Coastal Plains as well as their uses to everyday life.

Table 4.1 Available resources within the Illawarra Coastal Plains (DEC 2005, pp.40–56)

Plant Species	Part Used	Notes
Apple Berry (<i>Billardiera scandens</i>)	Fruits, stem, fibre	Used for food, strong, medicine, indicator for diamond python
Illawarra Flame Tree (<i>Brachychiton acerifolius</i>)	Wood, bark	Used for nets and fishing lines
Kurrajong (<i>Brachychiton populneus</i>)	Bark, seed, root, fruit, wood	Used for string, cooking fire, food, clothing, animal indicator
Pig Face (<i>Carpobrotus glaucescens</i>)	Fruit, leaf	Used for medicine, indicator for tailor
Red Bloodwood (<i>Corymbia gummifera</i>)	Gum, sap and flower	Used for tannin for fishing nets, medicine, stain paint, bird attraction
Dianella, Snake Whistle (<i>Dianella caerulea and Revoluta</i>)	Fruit, leaf, flower	Used for dye, decoration, whistle, food, string, weaving of baskets and mats, medicine, indicator for flathead and flounder

Plant Species	Part Used	Notes
Grey Ironbark (<i>Eucalyptus paniculate</i>)	Bark, wood	Used for tanning, artifacts and fibre
Coat Tea Tree (<i>Leptospermum laevigatum</i>)	stems, leaves, seed capsule, flower, timber	Used for shelter, insect repellent, medicine, brooms, artefacts, food, indicator for shellfish including pippis
Cabbage Tree Palm (<i>Livistona australis</i>)	leaf, heart, gum, bark, stem fibre	Used for brooms, baskets, food, rope, fishing line, patching material
Spiny Headed Mat-Rush (<i>Lomandra longifolia</i>)	flower, stem, fibre, seed	Used for food, eel traps, bags, baskets, mats, string, jewellery, medicine, indicator for small marsupials and reptiles
Black Apple (<i>Planchonella australis</i>)	Fruit	Used for food
Illawarra Plum, Plum Pine, Brown Pine (<i>Podocarpus elatus</i>)	Fruit, wood	Used for food, wood, medicine, indicator for birds, reptiles and small marsupials.
Banksia (<i>Banksia sp.</i>)	Flower	Used for sweet drink
Brush Cherry (<i>Syzigium austral</i>)	Fruit, seed, inner bark	Used for medicine, food, string, indicator for hunting parrots and small marsupials

4.7 PAST LAND USE PRACTICES

Modification of the natural landscape has been occurring in the Illawarra since the arrival of colonial settlers in the first half of the 19th century. Large scale modifications such as land clearing, earthworks, excavations, alterations of the hydrology of Lake Illawarra and streams as well as residential and industrial developments have all taken place within the region (AMBS 2006, 49). In Calderwood in particular, the land was cleared at first for the cedar industry and eventually to make way for meadows and pastures suitable for dairying activities. As early as 1810, were settlers venturing into the Illawarra undertaking passage through the mouth of the Shoalhaven, despite its dangers, to find and clear this precious resource. In many ways, they paved the way for cattleman, as they were inextricably linked to the earliest exploration of the region (Cousins 1948, p.26). Not long after in 1817, Governor Macquarie granted the first five land grants in the Illawarra (Dowd 1977). The parish of Calderwood would eventually get its name from the grant on which it sits, gifted to Charles Throsby Smith in 1829 by Governor Darling. This grant lies between George Johnston's "Macquarie's Gift" and the less fertile lands closer to the foothills of the escarpment (Lindsay 1994, p.36). The study area however, lies within George Johnston's "Macquarie's Gift", a grant of 1500 acres granted to George Johnston senior by Governor Macquarie on 24 January 1817. Figure 4.5 outlines the location of the study area within a historical parrish map dated to 1947. In the subsequent decades, between the 1840's and 1850's, land clearing to prepare the land for farming was undertaken by the new settlers of the Illawarra. All of their attention was thus turned to dairying (Cousins 1948, 107). The task was hard, as it was necessary to plant artificial grasses such as clover, rye, couch grasses and prairie grasses to make the land suitable for cattle grazing (Cousins 1948, p.108). However, the endeavour proved successful that by the mid-1880s, practically all the butter for NSW was produced in these farms (Cousins 1948, p.112).

During the late 19th century the industrialisation of the Shellharbour area began with the extension of the rail line into Dapto, Albion Park Rail through to Bombo (KNC 2019, p.9). Since this development, trading opportunities and urbanisation through the practice of subdivision population has increased over the centuries in the Illawarra (AMBS 2006a, p.47).

A review of historic aerials indicates that the study area has been free of native trees since at least 1948 (Figure 4.6). They also show that cattle grazing took place in the east, while crop growing was located in the southern and western sections of the study area (KNC 2019, p.9).

The dairy farm and associated homestead, has been in operation since at least 1948, according to historical aerials. This has resulted in various impacts on the land of the study area, most notably the creation of an artificial dam in the southern section of the study area. The gradual growth of this dam can be observed between the 1961, 1977 and 2006 historical aerials seen in Figure 4.7, Figure 4.8 and Figure 4.10. There is also a remarked increase in water accumulation within the connecting first order tributary stream of the Marshall Mount Creek, most likely deviated to fill the dam.

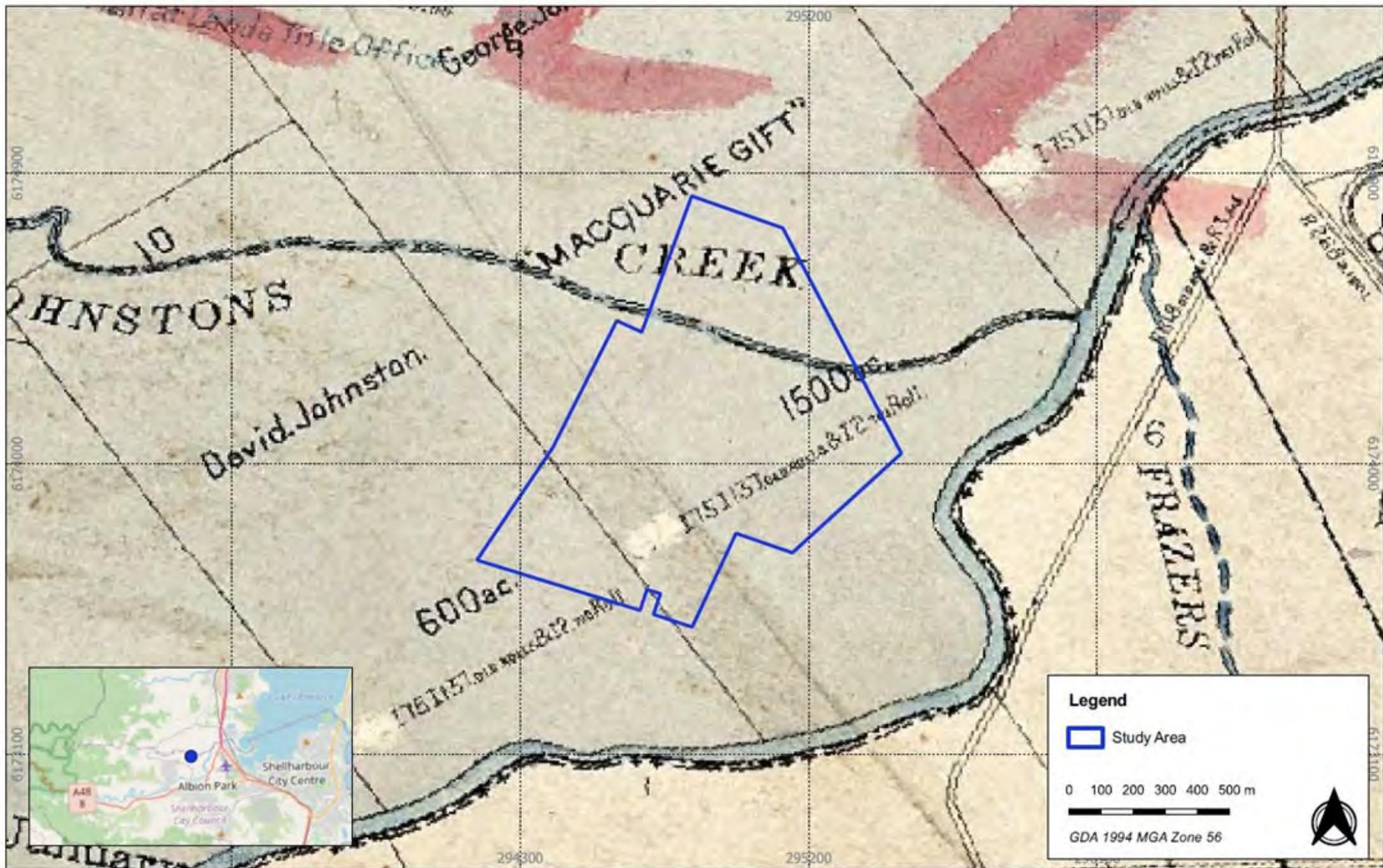


Figure 4.5 1895 Parrish map of George Johnston's "Macquarie's Gift" with study area

Meadow Views, Calderwood, NSW

Source: OSM, Nearmap, NSW LRSHLRV

Drawn by: WA Date: 2020-08-25



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Figure 4.6 1948 Historic aerial imagery

Meadow Views, Calderwood, NSW

Source: OSM, Nearmap, Aadastra

Drawn by: WA Date: 2020-08-25



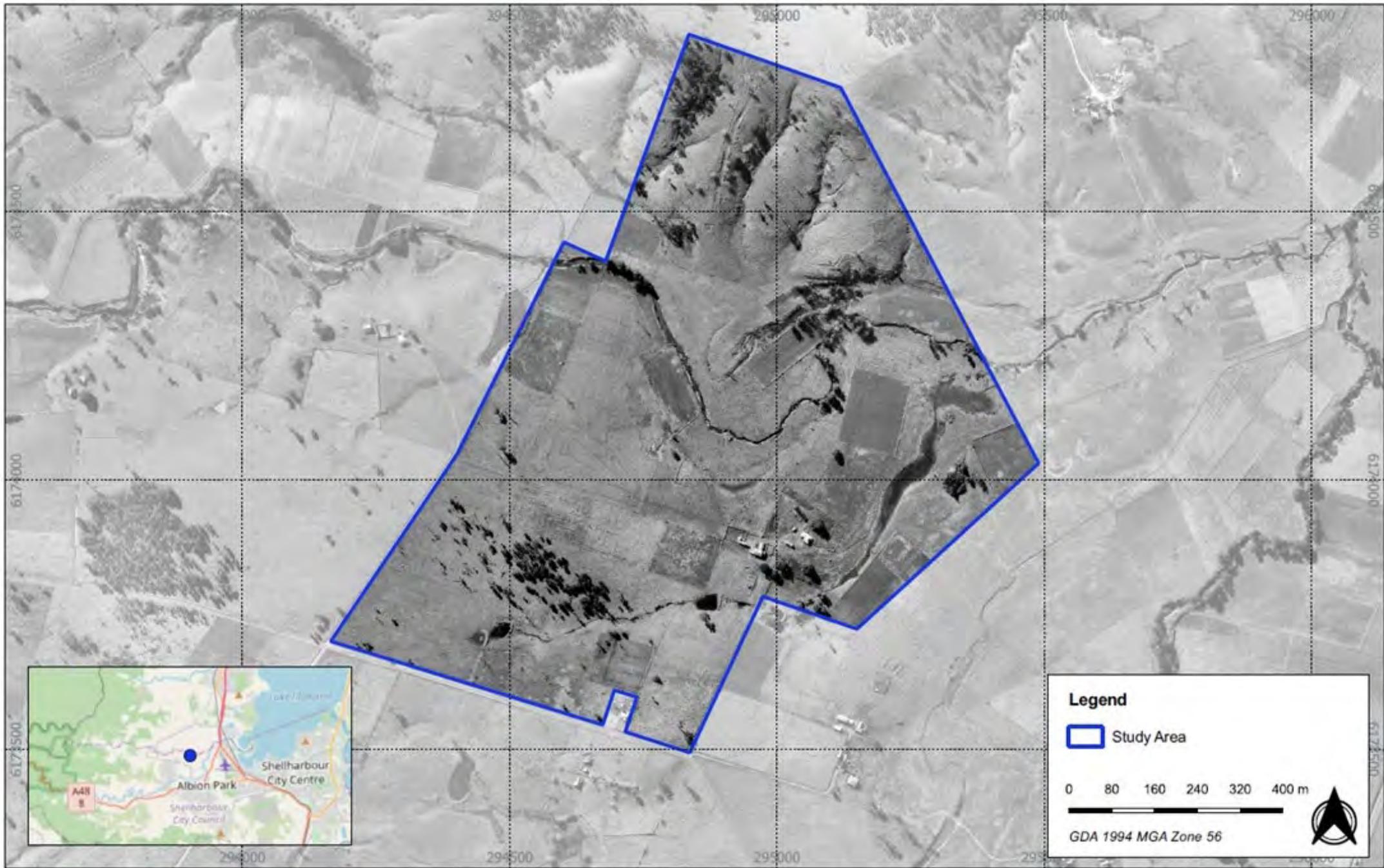


Figure 4.7 1961 historical aerial of the study area

Meadow Views, Calderwood, NSW

Source: OSM, Nearmap, Lands

Drawn by: WA Date: 2020-08-25



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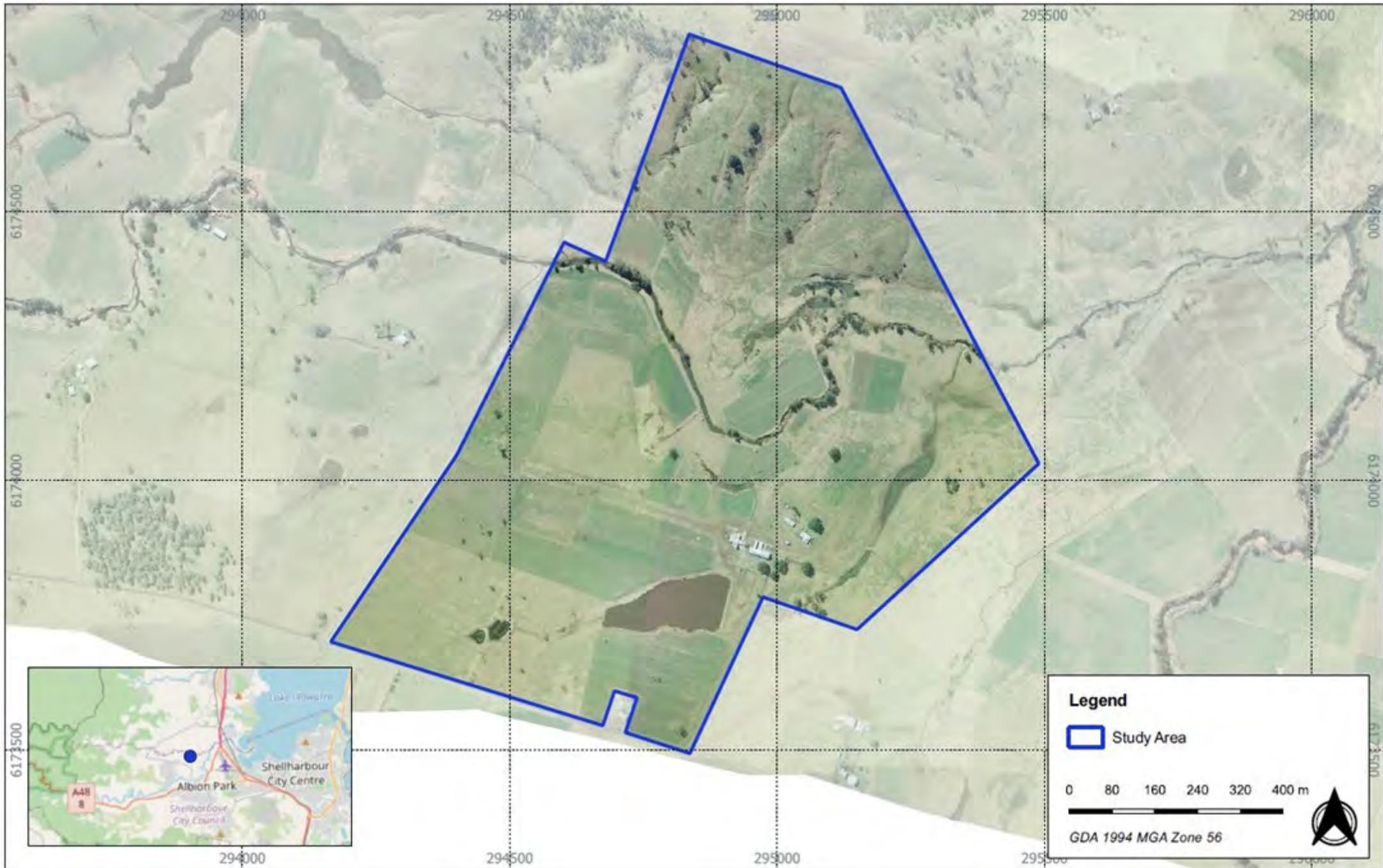


Figure 4.8 1977 historical aerial of the study area

Meadow Views, Calderwood, NSW

Source: OSM, Nearmap, BHP Air

Drawn by: WA Date: 2020-08-25



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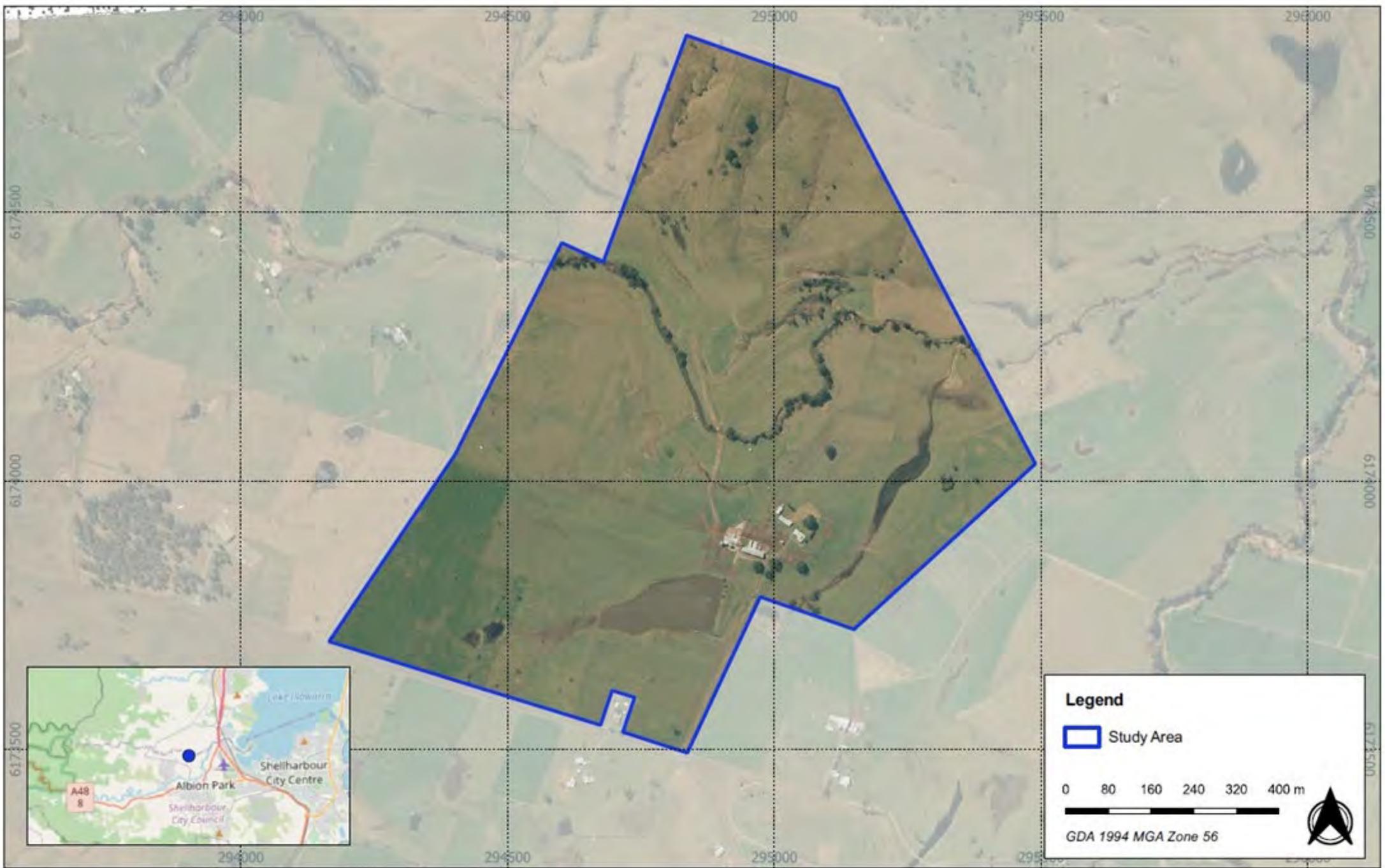


Figure 4.9 1993 historical aerial of the study area

Meadow Views, Calderwood, NSW

Source: OSM, Nearmap, BHP Air

Drawn by: WA Date: 2020-08-25



Figure 4.10 2006 recent aerial of the study area

Meadow Views, Calderwood, NSW

Source: OSM, Nearmap, AAMHatch

Drawn by: WA Date: 2020-08-25

5. PREDICTIVE STATEMENT

In general, an archaeological predictive statement for any study area draws on surrounding environmental data, previous archaeological research and predictive models for Aboriginal occupation. Another essential aspect to predicting the archaeological integrity of a site and something that must be considered is previous land uses of the study area and degree of disturbance.

The moderate climate of the Illawarra Coastal Plain region and the proximity of the confluence of the Macquarie Rivulet and Marshall Mount Creek has been shown to be conducive to Aboriginal occupation in the past. The study area lies within an extensive resource base associated with a multitude of water sources. Habitats associated with these water systems would have supported a wide range of animals, fish, birds and mammals.

Due to the ideal environmental setting, the Illawarra Coastal Plain would have been subject to a variety of human activities. This primarily would have been due to the presence of good resource availability, directly linked to the proximity of major water sources in the immediate area. Activities would have included camping, hunting, gathering, cooking, ceremonies, and other cultural activities associated with semi-permanent settlement sites in the region. Some of these activities, mainly stone tool knapping, are seen in the archaeological record.

In predicting site types within the study area, the most common occurrence would be isolated artefacts and scatters on the ground surface of sensitive landforms, scarred trees in areas of remnant native vegetation, grinding grooves on sandstone rock surfaces and platforms and rock art on sandstone rock surfaces and overhangs where available. Locations of likely site recordings predictably may occur in areas of high ground visibility such as around dams, the base of trees, tracks and around the disturbances of building constructions. Surface sites will probably not be visible in the vast majority of the study area as it is currently the site of a dairy farm in which native vegetation has been cleared to make way for paddocks.

If stone tools are recorded, they are likely to conform to other known sites in the region. This means that tools are likely to be from a late Holocene occupation with stone technologies attributed to the Bondian phase of the Eastern Regional Sequence. If stone tools are present on-site, they will predictably be made from chert, or quartz sourced from local quarries. These sites may be the results of activities attributed to the Dharawal-speaking Wodi Wodi group.

In summary, the main trends broadly seen across eastern NSW are that:

- Archaeological sites occur on most landforms.
- Site frequency and density are dependent on their location in the landscape.
- There is a dominance of low-density surface open artefact scatters and isolated finds.
- There is a noted paucity of scarred trees due to land clearance.
- Artefact scatters are commonly located in close proximity to permanent water sources along creek banks, alluvial flats and low slopes, largely concentrated within the first 100 metres of a creekline. More complex sites are usually located close to water sources with major confluences being key locations for occupation sites.
- Archaeological material is also present beyond the immediate creek surrounds in decreasing artefact densities.
- There may be concentrations of sites occurring on ridge tops and crests that are associated with pathways through the landscape.
- Subsurface archaeological deposits are often recovered in areas where no visible surface archaeological remains are evident.
- The dominant raw material used in artefact manufacture is silcrete and fine grained silicious material with smaller quantities of chert, quartz and volcanic stone seen.

- Artefact assemblages usually comprise a small proportion of formal tool types with the majority of assemblages dominated by flakes and debitage.
- While surface artefact scatters may indicate the presence of subsurface archaeological deposits, surface artefact distribution and density may not accurately reflect those of subsurface archaeological deposits.
- Aboriginal scarred trees may be present in areas where remnant old growth vegetation exists; and

While these statements provide an adaptable framework for applying a predictive model to the study area, based on the previous models it is possible to further expound on the generalisations made above. The general studies of Illawarra region, the specific investigations surrounding the study area and the search of the AHIMS database have helped to predict what certain site types can be expected during the test excavations for this assessment. These are:

- Sites are likely to be found across broad topographic zones at varying densities, however this can be influenced by micro-topographic variables such as relatively level ground without significant exposed geology, freshwater accessibility and well drained, elevated ground.
- Sites are most likely to occur at or close to ecotones, i.e. where different environments meet.
- Low lying wetland areas subject to constant inundation will be unlikely to contain Aboriginal occupation.
- Ridgelines following the stream of major water courses such as the Marshall Mount Creek and the Macquarie Rivulet are most likely to have been used frequently as travelling corridors to and from the Illawarra escarpment and the coast.
- Surface open camp sites or isolated finds of durable material of flaked or ground stone that have been discarded across the landscape are likely to be present due to the general presence of such material found specifically in the eastern adjacent lot within site "YTOF_AS_9".
- Scarred trees are unlikely to be present, as areas of old-growth native vegetation are not present in the study area due to land clearance.
- Grinding grooves are highly unlikely to be present due to a lack of appropriate sandstone outcropping within the study area.
- Artefact type sites, being the most commonly occurring site in the region, are therefore likely to occur within the landforms of the study area. An isolated find "WDRA AX 37" was found within the hill slopes of the study area. They can occur on any landform in proximity to high potential areas and around established sites as part of background scatter.
- PADs have been previously recorded in the region across a wide range of landforms. PADs are likely to be present within areas that are on high points, such as crest or ridges associated with alluvial landforms such as flats, terraces and open drainage depressions.
- Rock shelters are highly unlikely to occur due to a lack of appropriate sandstone outcropping within the study area.
- Stone arrangements are unlikely to occur in the study area due to their general rarity, although examples are known to occur across in the Illawarra.

As a result of these statements, it is reasoned that undisturbed areas within the study area are considered archaeological and culturally sensitive with frequent Aboriginal sites in the vicinity.

6. FIELD METHODS

6.1 SURVEY METHODOLOGY

The specific survey methodology developed for this assessment was guided by the survey requirements as set out in Requirement 5 to 10 of the Code of Practice (DECCW 2010c) and based upon consideration of the overall landform pattern within the study area (Illawarra Coastal Plains), known landform elements (after Speight 2009) and the location of the previously identified sites. The survey methodology was designed to optimise the investigation of areas where archaeological materials may be present and visible, as well as investigation of the broader archaeological potential of all landform elements present within the study area, which included:

- Crests
- Slopes
- Open drainage depressions
- Alluvial terraces

On the basis of the predictive statement, archaeological site distribution is linked with *proximity to creeklines and flat, gently sloping topography*. The field inspection of the study area, therefore, paid close attention to areas of favourable landform conditions as well the location for previously recorded site WDRA_AX_37 (AHIMS # 52-5-0493) and YTOF_AS_9 (AHIMS #52-5-0848).

The key survey variables are ground visibility, which considers the amount of ground surface which is visible and not covered by any vegetation; and exposure, which defines areas where dispersed surface soils and vegetative matter afford a clear assessment of the ground, were assessed across the study area and within each landform element. Overall survey coverage and calculated survey effectiveness was recorded. Note that the effectiveness of the field survey was largely dependent on the degree of ground surface visibility. Where surface visibility was restricted by dense vegetation cover, the potential for PADs was assessed, particularly in association with those landforms identified within the predictive model as more likely to contain Aboriginal archaeological sites. The potential of these areas and all landform elements within the study area was considered against available evidence of land disturbance.

The study area falls within five distinct landform elements present within the Illawarra Coastal Plains, and as such was investigated individually and systematically via pedestrian coverage. Coverage was informed by the four landform elements present within this unit as discussed below. Areas of higher surface visibility and inherent archaeological potential were subject to proportionately closer inspection. In areas of very low surface visibility and low archaeological likelihood due to landform or disturbance levels, transects were walked at intervals of approximately 20 metres distance. Hillslopes with a gradient greater than 10%, were not surveyed beyond a cursory examination due to these areas having very low surface visibility, acknowledged unsuitability for occupation (AMBS 2006b, Jo McDonald Cultural Heritage Management Pty Ltd 2003) and poor soil retention as a result of surface erosion.

Photographs were taken of all survey units and landforms as well as representative surface visibility, and where present, surface exposures, soil profiles and disturbances relevant to the interpretation of the stratigraphic conditions and archaeological potential within each survey unit.

6.2 TEST EXCAVATION METHODOLOGY

The test excavation program was undertaken to determine whether any subsurface archaeological material denoting archaeologically sensitive landforms occur within the study area. The testing aimed to determine the nature and extent of any intact archaeological deposit as well as its archaeological significance, primarily through the examination of density and nature of any stone artefacts discovered. Moreover, the character of the stratigraphic profile and any existing land disturbance across the study area was to be determined as well as the effect any such disturbance may have had on any archaeological deposit present.

6.2.1 FIELD PERSONEL

The Archaeological test excavation was directed by Alexander Beben (Director, Austral) with assistance from James McGuinness (Senior Archaeologist, Austral). The excavation team was also completed by a team of archaeologists including Pauline Ramsey (Archaeologist, Austral), Courtney Buchanan (Archaeologist, Austral), Benjamin Stapleton (Archaeologist, Austral), Angelique Riou (Archaeologist, Austral) and Sophie O'Connor (Archaeologist, Austral). Tracy Henry a representative of the ILALC, James Davis a Wodi Wodi Traditional Owner, Kayla Williamson a representative of the Woronora Plateau Gundungara Elders Council as well as Troy Tungai a representative of Tungai Tonghi, all assisted with the excavation.

6.2.2 TESTING EXCAVATION SAMPLING STRATEGY

The test excavation programme was undertaken according to the prescribed methodology of Requirement 14 to 20 and 23 to 26 of the Code of Practice (DECCW 2010c). Specifically, Requirement 15b of the Code of Practice, stipulates that a sampling strategy must be developed for all test excavations which take place prior to work commencing (DECCW 2010c, p.25). In summary, test pits must be placed on a systematic grid designed to target both areas likely to contain PADs and the location of proposed impacts. Test pits must be located a minimum of 5 metres apart.

The test excavation program was undertaken according to the prescribed methodology of the Code of Practice (DECCW 2010c). The sampling strategy was based around a methodology which sought to test all the landforms within the study area deemed to hold higher archaeological potential based on the predictive statement. This was done by creating three testing areas surrounding the elevated crests deemed to hold high archaeological potential. Calderwood Area 1 was centred around the eastern crest, surrounding the farming and homestead infrastructures, Calderwood Area 2 was centred on the western crest and Calderwood Area 3 was centred on the southern crest. The original methodology provided to the registered Aboriginal stakeholders proposed the excavation of a minimum of 91 test pits distributed along 14 transects, with provision to add test pits where warranted by the presence of artefacts. The need for additional test pits was decided through consultation with stakeholders following at the end of this initial testing period. Each test pit was located 20 metres apart within each established transect and numbered sequentially. The first four transects are located around the house, with transect 1 in the north. Transect 5 was placed to the south of the house and farming infrastructure in close proximity to the dam in the southern portion of the study area. Transects six through 10 were placed across the raised crest landform in the west of the study area and associated with the Marshall Mount Creek. Finally, transects 11 through 14 were placed within the southern half of the study area on the raised crest landform in proximity to site YTOF_AS_9 (AHIMS # 52-5-0848), located in the eastern adjacent lot).

Each test pit was excavated following Requirement 16a of the Code of Practice using mattocks, shovels and trowels (DECCW 2010c, p.26). Sample units measured 500 millimetres², with the first test pit excavated in 50 millimetre spits to act as a geomorphologic example and the remaining test pits were excavated in 100 millimetre spits. Excavation was undertaken until the B-horizon was reached and then continued for another 100 millimetres to confirm that the following spit was culturally sterile. In general, the decision to stop excavating was made, when the top of the C horizon; when a higher percentage of clay was evident or coffee rock was encountered.

Once the initial 91 test pits were completed an additional 44 additional test pits were excavated surrounding those pits with more than five artefacts. Only test pit 125, in the north east corner of Calderwood Area 1 was expanded into a one by one metre square. In this instance, test pit 125 served as the south western corner of the one by one followed by 131 in the north west, 133 in the north east and 130 in the south east corners. As well, test pits 101 to 104 were added 155 metres north of transect 6t located in Calderwood Area 2, on the alluvial terrace lining the Marshall Mount Creek after consultation with the Aboriginal stakeholders on site, to test the alluvial terrace associated with Marshall Mount Creek. This methodology allowed for the distribution and density of the subsurface artefacts to be gauged and sufficient information obtained to "adequately characterise the objects present with regard to their nature and significance" (DECCW 2010c, p.28).

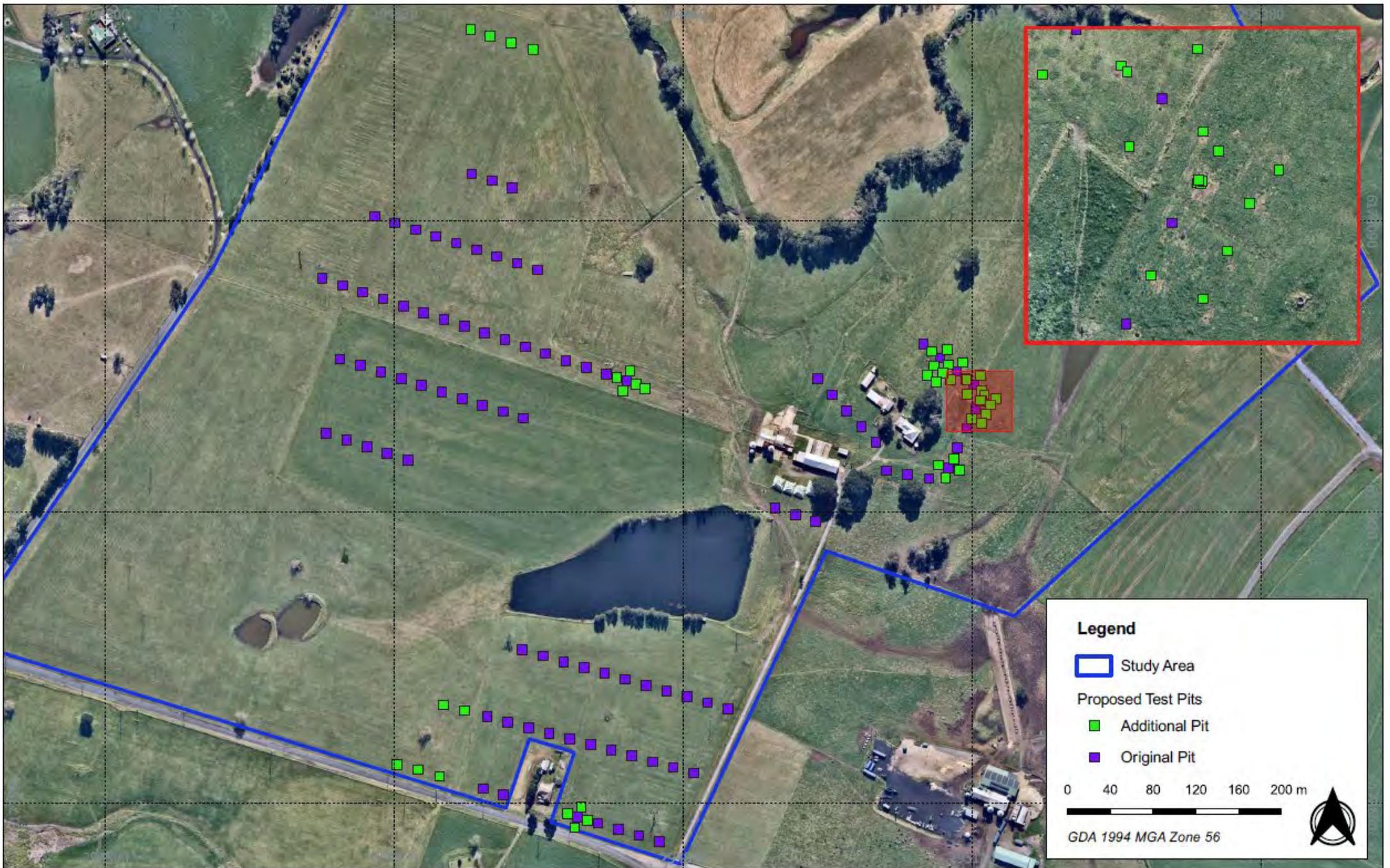


Figure 6.1 Location of original and additional test pits within the study area

144 Calderwood Road, Calderwood NSW

Source: OSM, Nearmap

Drawn by: WA Date: 2020-08-25



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6.2.3 *SIEVING*

On site processing of excavated soils and artefact retrieval was undertaken via a combination of dry sieving through both a 5-millimetre and 3-millimetre nested sieve or solely through a 3-millimetre sieve, dependent on the nature of the material. Artefacts were collected from the sieves and placed in bags according to test pit provenance. Buckets containing material from the same spit were kept together and separate from other spits. All test pits were backfilled with the available material retrieved from the sieving location upon completion of the recording.

6.2.4 *RECORDING*

Detailed recording of all pits was undertaken, requiring the completion of an excavation recording form for each spit excavated. The form necessitated detailed descriptions of the soil profile, any evidence of disturbance and/or features, as well as depth of excavation and the number of artefacts and inclusions present. For each artefact a separate plastic bag was annotated with the project name, transect number, test pits number, spit number, date and recorder's initials (i.e. 2013 Calderwood, TR 1, TP 1, Spit 1, 01/06/2020, PR).

Photographic recording occurred at the completion of each pit or when an archaeological feature was uncovered. A photographic record was taken of at least one wall section in each test pit. Together with a section drawing and stratigraphic photogrammetry from each pit, the photographs allowed for a detailed record of the strata present at the site.

6.2.5 *ANALYSIS OF EXCAVATED MATERIAL*

A lithic analysis was conducted by Ricardo Servin (Austral). The lithics analysis was aimed at primarily identifying the presence of culturally modified lithic material within the archaeological record, with a secondary goal of identifying material, tool types and any indicators of *in situ* reduction that informs depositional integrity. All of the artefacts recovered were taken to temporary storage at the Austral Archaeology office in Liverpool (NSW) and are to be reburied within the study area. Aboriginal stakeholders are to be consulted as to an appropriate area to relocate these artefacts. A new AHIMS site card for the location where the artefacts are to be relocated is to be created and lodged with the AHIMS registrar.

7. ARCHAEOLOGICAL RESULTS

The following section outlines the results of the archaeological investigations conducted within the study area.

7.1 ARCHAEOLOGICAL SURVEY RESULTS

7.1.1 VISIBILITY

In most archaeological reports and guidelines visibility refers to GSV, and is usually a percentage estimate of the ground surface that is visible and allowing for the detection of (usually stone) artefacts that may be present on the ground surface (DECCW 2010c). GSV within the study area was low at 5%. Areas of improved visibility were restricted to the vehicle track which ran north to south, connecting Calderwood Road to the farming and homestead infrastructures (Figure 7.1), as well as patches of erosion in the south-east corner of the study area (Figure 7.2) and on the foothills overlooking Marshall Mount Creek to the north, associated with the construction of a series of wells (Figure 7.3). Grass cover was high as the rest of the study area functions as paddock for the dairy farming activities (Figure 7.4).



Figure 7.1 View north along central vehicle track



Figure 7.2 View west of eroded patch in south eastern corner of study area



Figure 7.3 View south of eroded patches associated with water wells



Figure 7.4 View south-east across lower paddock

7.1.2 EXPOSURE

Disturbances in the study area are associated predominately with pastoral activities. The study area has evidently undergone historical land clearing works for the purpose of pastoral land use (Figure 7.4). Evidence of recent grazing activities are present with cow pugged soils present, suggesting that topsoils have been partially disturbed and eroded as a result. The effects of land clearing has likely disturbed topsoils and subsurface deposits, which may result in poor preservation of archaeological material.

7.1.3 DISCUSSION OF RESULTS

The archaeological survey consisted of a total of three transects which were walked across the study area by Alexander Beben (Director, Austral), Pauline Ramsay (Archaeological, Austral) and Tracey Henry (ILALC Site Officer) spaced two metres apart. This method of survey is outlined in Burke and Smith (2004, p.65) and states that a single person can only effectively visually survey an area of two linear metres. Given the low visibility within the study area, Austral targeted areas of high visibility including the vehicle track, the erosion patches as well as the banks of the Marshall Mount Creek and its first order tributary. GSV was overall greatly reduced throughout most of the study area, due to past land clearing and farming practices which are still in operation today. The total percentage of visible surface area was thus approximately less than 5%, as seen in Figure 7.4.

One stone artefact was identified throughout this survey, located in the eroded patch to the south-east of the study area. The artefact was determined to be a complete chert flake. It measured 50 millimetres at its longest, 30 millimetres at its widest and 18 millimetres at its thickest. Its platform measured 21 millimetres and its termination was missing. Upon closer inspection it was determined that there was evidence of platform preparation and negative scarring (Figure 7.5). The location of this artefact within the south east corner of the study was located on the upper slope of the crest associated with "YTOF_AS_9" (AHIMS # 52-5-0848) identified first by AMBS (2006b) and excavated by Artefact (2017) and KNC (2019). An outline of this location can be seen in Figure 7.6. It is therefore likely that this artefact is a continuation of this site. The location of previously recoded site "WDRA_AX_37" (AHIMS # 52-5-0493) was

surveyed and consisted of a small spur situated within the upper slope of a ridgeline above Marshall Mount Creek. The coordinates saved in the AHIMS database were investigated (Figure 7.7) but no traces of the isolated find were identified. No other Aboriginal material was recovered, as high levels of ground cover, within the paddocks and small areas of exposure throughout the study area, affected the surveyors' ability to identify more sites that may have been present upon the ground surface.



Figure 7.5 Ventral and dorsal surfaces of isolated find



Figure 7.6 View towards the north-west of where isolated find was located



Figure 7.7 View south from recorded location of WDRA_AX_37 (AHIMS # 52-5-0493)

The most significant disturbance in the study area, is the farming and homestead infrastructure located on the eastern most elevated crest. The vehicle track has been found to hold moderate disturbance and the rest of the study area is of low disturbance due to the recent pastoral activities.

There are four landforms present within the study area: ridgelines, alluvial terraces and flats, open drainage depressions and crests. The northern section of the study area is made up of a series of waning slopes which forms minor gullies located at relatively intermittent intervals, which is associated to a narrow ridge lining the northern boundary of the study area. The gentle waning lower slopes of this series of hills, located to the south, overlooks the elevated terraces associated to the open drainage depression of Marshall Mount Creek, as well as its associated alluvial flats. The Creek itself runs from west to east across the mid-section of the study area. Overlooking it to the south are two elevated crests; one to the east and one to the west where the current homestead and farming infrastructure is built. A paleochannels runs along this western crest from the Marshall Mount Creek and into the dam on the upper slopes of the gently sloping alluvial plains encompassing the southern section of the study area. A description of these results, as they relate to the observed landforms within the study area can be seen in Table 7.1.

Table 7.1 Survey results of landform elements within the study area

Landform Element	Landform Area	Visibility %	Exposure %	Effective Coverage Area (m ²)	% of landform effectively surveyed (area effectively surveyed / surveyed landform X 100)
Ridgelines	21052 m ²	5		1052.6 m ²	5 %

Landform Element	Landform Area	Visibility %	Exposure %	Effective Coverage Area (m ²)	% of landform effectively surveyed (area effectively surveyed / surveyed landform X 100)
Terraces	78874 m ²	5	1	3943.7 m ²	50 %
Open drainage depression	78209 m ²	0	0	0 m ²	0 %
Crests	156236 m ²	5	0	7811.8 m ²	5 %

Based on these results, the archaeological survey identified areas of high and moderate archaeological potential within the study area. Areas of high potential were limited to the three elevated crest landforms associated with the Marshall Mount Creek and its first order tributary. The southernmost crest, found in the lower paddocks, referred to as Calderwood Area 3, is a continuation of a crest associated with artefact scatter YTOF_AS_9 (AHIMS # 52-5-0848) identified first by AMBS (2006b), later excavated by Artefact ((2017) and salvaged by KNC (2019). A map showcasing the proximity of these results to the study area is outlined in Figure 3.1. The eastern crest, referred to as Calderwood Area 1, was characterised with high potential, surrounding the farming and homestead infrastructures due to its key location within the landscape; overlooking the Marshall Mount Creek and its first order tributary. Finally, the western crest, referred to as Calderwood Area 2, overlooks the Marshall Mount Creek running to its north as well as Calderwood Area 1. Areas of moderate potential were identified as the associated slopes of these three crests, with the rest of the study area being characterised with low archaeological potential. This included the hydrological features of the study area, the areas of high disturbance, the flooding extents of the Marshall Mount Creek as well as the series of waning slopes located in the northern section of the study area.

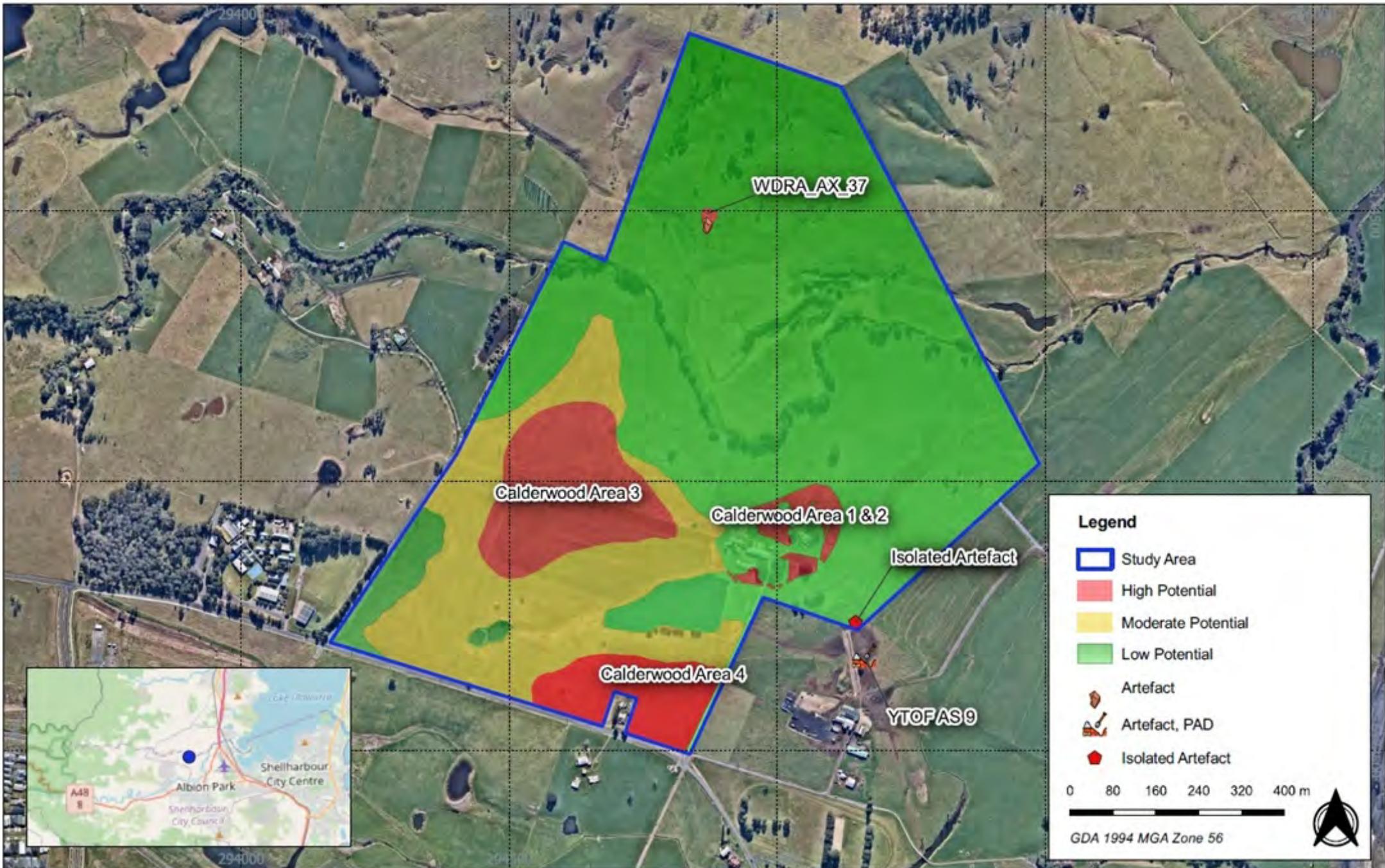


Figure 7.8 Archaeological potential and location of surface find

Meadow Views, Calderwood, NSW

Source: OSM, Nearmap, AHIMS

Drawn by: WA Date: 2020-08-25



A U S T R A L
A R C H A E O L O G Y

7.2 TEST EXCAVATION RESULTS

Based upon the results of the archaeological survey, Austral completed archaeological test excavations within the study area within the areas of high archaeological potential. This consisted of three archaeological testing locations. The results from these areas are summarised within this section.

7.2.1 CALDERWOOD AREA 1 AND 2

Testing within Calderwood Area 1 and Calderwood Area 2 consisted of 47 test pits distributed 20 metres apart on five transects surrounding the homestead complex. Figure 7.10 shows the distribution of these test pits.

LANDFORM

The landform on which Calderwood Area 1 and Calderwood Area 2 sits occupies a prominent role within the landscape. It is an elevated crest in the eastern section of the study area overlooking Marshall Mount Creek to the north, its first order tributary to the east and site YTOF_AS_9 (AHIMS # 52-5-0848) to the south. It slopes gradually in every cardinal direction. Figure 7.9 depicts a view towards the north from the landform in which the tributary and Marshall Mount Creek are visible.



Figure 7.9 View towards the north from test pit 144 (Calderwood Area 1)



Figure 7.10 Location of area 1 & 2 test pits and their artefact distribution

Meadow Views, Calderwood, NSW

Source: OSM, Nearmap

Drawn by: WA Date: 2020-08-25



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SOILS, DISTURBANCE AND FEATURES

Soils across Calderwood Area 1 and Calderwood Area 2 were generally comprised of a clay loam layer, transitioning gradually into a sandy clay layer that overlay a compact clay layer. Instances, where the B Horizon consisted of sandy deposits, can be seen in test pits located in the northeastern corner of Calderwood Area 1. The Average test pit depth was 500 millimetres. Soil disturbance was observed minimally in the A1 horizons of this area, and the A2 horizons of Test Pits 13 and 14, along the northern boundary of the study area. The deposits encountered in Calderwood Area 1 and 2 appear to reflect the deposits recorded as part of the salvage excavations at YTOF_AS_9 (AHIMS # 52-5-0848) (KNC 2019).

A summary of soil characteristics across CA1 is provided in Table 7.2 and Figure 7.11.

Table 7.2 Summary of soil characters within the Calderwood Area 1 and 2

Soil Horizon	Soil Characteristics
A1 Horizon	Depth: 0-400 mm Munsell: 7.5YR 5/1 – 10YR 5/1 Description: Dark grey-brown, soft, clay loam humic layer, with 20% subangular pebble inclusions and 10% sub-circular pebble inclusions. A diffuse transition occurring between 100 to 200 mm into Horizon A2.
A2 Horizon	Depth: 150-450 mm Munsell: 10YR 5/2 - 10YR 6/2 Description: Mid brown, soft, sandy – clay with 10% rounded pebble inclusions. Clear transition with B-Horizon.
B Horizon	150 - 800- mm Munsell: 7.5YTR 5/4 – 10Y 7/5 Description: Compact clay



Figure 7.11 North section of test pit 125 showing soil profile within Calderwood Area 1 and 2

ARTEFACT ASSEMBLAGE

Based on the distribution of artefacts, it was concluded that two artefact scatter sites were present within Calderwood Area 1. The first surrounded the house closely and incorporated transects 1 to 4 and was renamed Calderwood Area 1. Calderwood Area 2 consisted of transect 5, located on the southern boundary of the crest.

Calderwood Area 1 consisted of a total assemblage of 98 artefacts making up 67% of the total assemblage for the study area. There were eight raw material types present of which chert comprised 62% (n=60), silcrete 11% (n=11), jasper 10% (n=10), quart 7% (n=7) with the remaining 10% being quartzite, hornfels, chalcedony and basalt. The presence of some cortex (n=7) suggest this area was utilised in the early stages of reduction, however, with only two of these pieces having 50% cortex, this is likely to be stage two reduction. The relatively high frequency of tools at 16% (n=24) strongly suggests that stage three and four of the reduction also occurred at this site. A total of 50 flakes (51%) were in this assemblage with a minimum number of individuals (MNI) of 35. Debitage, 20% (n=19) and three cores (3%) completed the assemblage.

7.2.2 CALDERWOOD AREA 3

Calderwood Area 3 consisted of 48 test pits, distributed along five parallel transects spaced 20 metres apart and aligned on an east to west alignment. Figure 7.12 outlines the location of these test pits and their artefact distribution.

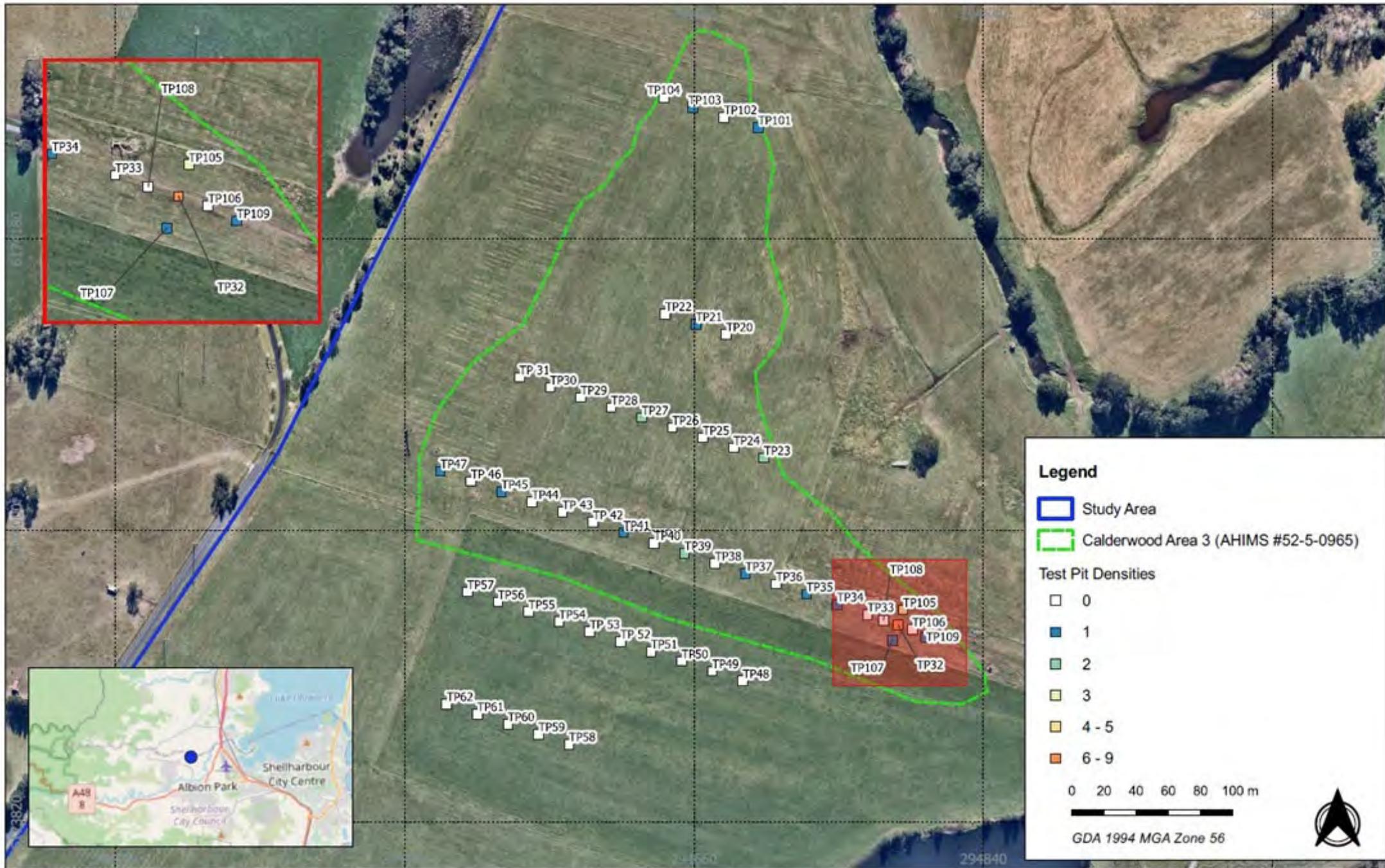


Figure 7.12 Location of area 3 test pits and their densities

Meadow Views, Calderwood, NSW

Source: OSM, Nearmap

Drawn by: WA Date: 2020-08-25



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LANDFORM

Calderwood Area 3 is located on the high potential western crest as well as on the southern alluvial flat associated with Marshall Mount Creek. This lower area was initially found to hold a moderate archaeological potential due to its propensity for flooding. However, in consultation with the RAPs participating in the excavation, additional pits were excavated in this landform, where the crest overlooks Marshall Mount Creek. This landform can be seen in Figure 7.13.



Figure 7.13 View towards the north from western crest

SOIL, DISTURBANCE AND FEATURES

Soils across Calderwood Area 3 were generally comprised of a clay loam layer (Munsell 10Y 5/2), overlaying clay silt layer (Munsell 10Y 5/3) and overlaying a clay layer (Munsell 10Y 6/2). The average test pit depth across this area was 500 millimetres. Soil disturbance was observed within the top sections of the A1 Horizon due in large part to cattle trampling throughout the area. A summary of soil characteristics across Calderwood Area 3 is provided in Table 7.3, and a cross-section drawing of these characteristics is outlined in Figure 7.14.

Table 7.3 Summary of Soil Characteristics within Calderwood Area 3

Soil Horizon	Soil Characteristics
A1 Horizon	Depth: 0-500 mm Munsell: 10YR 5/2 Description: Dark brown, soft, clay loam, with evidence of bioturbation throughout the layer. 20% subangular and 10% sub-circular pebbles are also present. Transition onto A2 Horizon is gradual and occurs over 100 to 1500 mm.
A2 Horizon	Depth: 350-700 mm Munsell: 10YR 5/3 - 10YR 6/2 Description: Greyish brown, soft, silty clay with less evidence of

Soil Horizon	Soil Characteristics
	bioturbation throughout the layer.
B Horizon	300-800 mm Munsell: 10YR 6/2 Description: Dark brownish - grey compact clay.



Figure 7.14 North section of test pit 51 showing soil profile of Calderwood Area 3

ARTEFACT ASSEMBLAGE

Calderwood Area 3 accounted for 24 artefacts comprising of eight separate raw material types, chert made up 50% (n=12), basalt and hornfels were 12.5% (n=6) each with dolerite jasper, quartz quartzite and silcrete making up the remaining 25%. Flakes (n=10) with an MNI of six made up 42% of this assemblage; tools comprised 25% (n=4) of this assemblage, of these three were geometric microliths, a single backed point, a steep edge scraper and a basalt axe. There were four cores (17%), two of which were basalt, one of chert and one of hornfels, three pieces of debitage were also present. A single dolerite hammerstone completed the assemblage.

This assemblage had no cortex present strongly indicating this area was utilised for stage 3 reduction, the presence of curated tools, such as the geometric microliths, further suggests stage four reduction was taking place. Having the hammerstone and four cores present further supports this theory. The basalt axe is indicative of a site which may have been frequently used.

7.2.3 CALDERWOOD AREA 4

Calderwood Area 4 consisted of 38 test pits, on eight, parallel transects encompassing the southernmost crest of the study area. Figure 7.15 outlines the location and artefact distribution of Calderwood Area 4.



Figure 7.15 Location of area 4 test pits and their densities

Meadow Views, Calderwood, NSW

Source: OSM, Nearmap

Drawn by: WA Date: 2020-08-25



LANDFORM

Calderwood Area 4 is located on the southernmost crest of the study area which overlooks site YTOF_AS_9 (AHIMS # 52-5-08480) to the east and a dam to the north, supplied by the first-order tributary to the northeast. It was identified as possessing high archaeological potential due to being located within the same landform as YTOF_AS_9 (AHIMS # 52-5-08480). The landform is illustrated in Figure 7.16.



Figure 7.16 View towards the west of test pit 72

SOIL, DISTURBANCE AND FEATURES

Soils across Calderwood Area 4 were generally comprised of a top layer of clayish silt (Munsell 2.5Y 1) transitioning gradually onto a silty clay layer (Munsell 10YR 6/1) overlaying onto a more compact and clayish layer. Small charcoal inclusions were typically present within the gradual transition from the A1 onto the A2 Horizon. Soil disturbance was observed in the top sections of the A1 Horizon due in large part to cattle trampling throughout the area. Some test pits in the south-western section of the landform presented with a deep sandy loam disturbance layer within the B Horizon. This unusual layer could reach a depth between 500 to 800 millimetres. The average test pit depth was at 600 millimetres. A summary of soil characteristics across Calderwood Area 4 is provided in Table 7.4.

Table 7.4 Summary of Soil Characteristics within Calderwood Area 4

Soil Horizon	Soil Characteristics
A1 Horizon	Depth: 0-100 mm Munsell: 2.5Y 1 – 2.5Y 2 Description: Dark brown, soft clayish silt. Bioturbation evident throughout the layer. 20% sub angular and 10% sub circular pebbles also present throughout. Gradual transition occurring between

Soil Horizon	Soil Characteristics
A2 Horizon	Depth: 100-350 mm Munsell: 10YR 7/6 10YR 4/4 Description: Light brown, semi compact, silty clay layer, with pebble sized charcoal inclusions.
B Horizon	250-700 mm Munsell: 7.5YTR 5/4 – 10Y 7/5 Description: Yellowish grey, Compact clay layer.

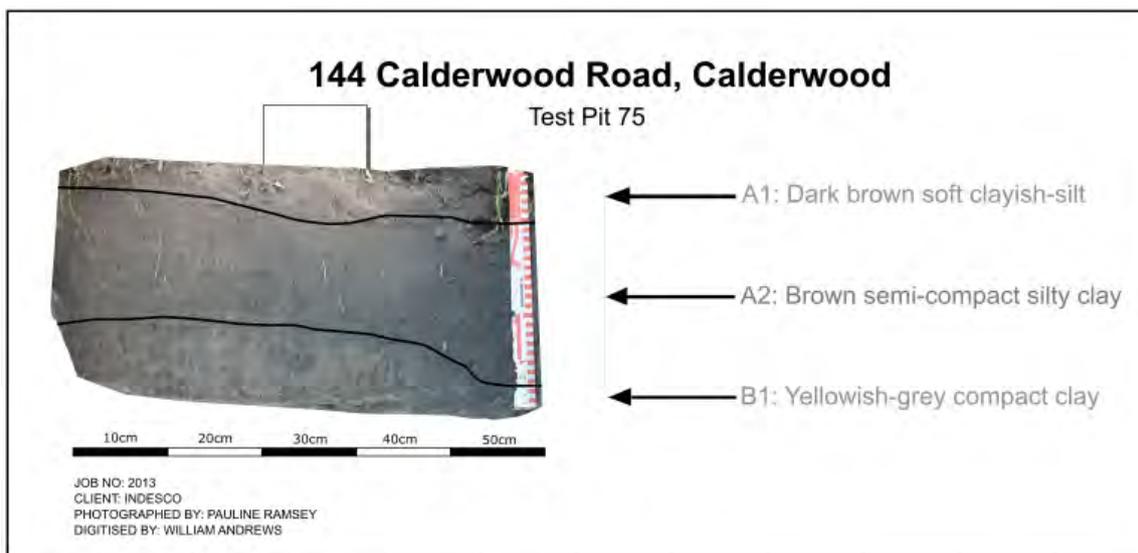


Figure 7.17 North section of test pit 75 showing soil profile for Calderwood Area 4

ARTEFACT ASSEMBLAGE

Based on the gathered results, Calderwood Area 4 was comprised of 22 artefacts in total or 15% of the total assemblage, of these 77% (n = 17) were chert, 9% (n=2) hornfels, and mudstone, quartzite and silcrete each made up 4.5% (n=1) individually. There were eight (36%) complete flakes and four (18%) longitudinally split flakes at this site, with a minimum number (MNI) of individual flakes present being 12 (55%), four tools made up a further 18% of these artefacts, and they all exhibited backing. Debitage comprised 18% of the assemblage with two cores making up the remaining 9%.

The absence of cortex on any of the flakes, the large percentage of complete flakes, tools and longitudinally split flakes is highly indicative of late-stage reduction. Although no refitting of cores and flakes occurred the presence of cores of the same material as flakes further suggest this was utilised as an area of curation rather than stage one or two of reduction. The presence of two core rejuvenation flakes indicates that the cores were already curated before arriving at this location and were then rejuvenated on-site for further reduction.

7.3 LITHICS ANALYSIS

This lithic analysis aims to provide details of the stone material identified during the test excavation using standard terminology for artefact analysis taken from Holdaway & Stern (2013) and McCarthy (1976). Detailed artefact analysis entailed recording several characteristics for each artefact. Stone artefact raw materials were examined through a hand lens (x 10 magnification). Each artefact was recorded in database form, suitable for comparative analysis on a local and regional basis. The terminology used in the analysis is defined in Table 7.5.

Table 7.5 Terminology used in the identification of stone tools

Analytical Terms	Definition
Angular fragment / Debitage	A piece of debris exhibiting evidence of knapping but lacking key diagnostic traits (e.g. platform, termination, bulb of percussion)
Backing	Abrupt retouch normally found on one lateral margin of a tool and opposite the working edge.
Bladelet	A small (generally 8-12mm in width) example of a blade; a cutting or scraping tool that is prepared through retouch of an initial flake (blade blank) at least twice as long as it is wide.
Core	A nodule or block of siliceous rock from which sharp-edged slivers of stone are struck (generally with a hammerstone).
Cortex	The weathered outer layer of rock, differing in chemical and optical properties to the unweathered interior.
Distal flake	The termination end of a partial (broken) flake.
Dorsal surface	Outer surface of a flake (former surface of the core) characterised by cortex and/or negative concavities (flake scars) and ridges denoting prior removal of flakes.
Flake	A sliver of stone struck from a core exhibiting characteristic traits of force fracture.
Knapping	The process of fracturing flakes of stone from a core
Lateral margin	Left and right edges of a flake (platform oriented upward when viewing the ventral surface and distal end oriented upward for the dorsal surface).
Platform	Planar surface marking the location from which the flake was struck from the core.
Primary flake	Initial flake struck from a weathered cobble with a dorsal surface covered in cortex and lacking prior flake scars.
Proximal flake	The platform end of a partial (broken) flake.
Retouch	Alteration of the cutting edges of a flake or tool to refine sharpness, shape, angle or strength.
Termination	End of a flake opposite the platform denoting the place the force applied by the hammerstone exited the core.
Tertiary flake	Flake lacking dorsal or platform cortex indicating a high degree of prior reduction of the core from which it was knapped.
Ventral surface	Inner surface of a flake originally attached to a core exhibiting one or more traits of conchoidal fracture including a bulb of percussion, bulbar scar and ripple marks.

7.3.1 RESULTS OF THE ANALYSIS

The artefacts recovered during the test excavation program within the study area underwent a detailed lithics analysis by Ricardo Servin (Austral Archaeology). The distribution of artefacts within the test pits is presented in Table 7.6.

Table 7.6 Distribution of artefacts within test pits

Pit No.	Number of artefacts	Percentage of the total assemblage
2	8	5.47%
3	7	4.79%
4	3	2.05%
5	4	2.73%

Pit No.	Number of artefacts	Percentage of the total assemblage
7	4	2.73%
8	6	4.10%
11	2	1.36%
14	2	1.36%
17	1	0.68%
19	1	0.68%
21	1	0.68%
23	2	1.36%
27	2	1.36%
32	6	4.10%
34	1	0.68%
35	1	0.68%
37	1	0.68%
39	2	1.36%
41	1	0.68%
45	1	0.68%
47	1	0.68%
64	1	0.68%
76	2	1.36%
78	1	0.68%
80	3	2.05%
87	4	2.73%
88	2	1.36%
89	3	2.05%
90	1	0.68%
91	1	0.68%
101	1	0.68%
103	1	0.68%
105	3	2.05%
107	1	0.68%
109	1	0.68%
113	1	0.68%
114	2	1.36%
115	4	2.73%
116	1	0.68%
117	1	0.68%
118	1	0.68%
119	2	1.36%

Pit No.	Number of artefacts	Percentage of the total assemblage
120	2	1.36%
124	5	3.42%
125	20	13.69%
128	4	2.73%
129	3	2.05%
131	9	6.16%
132	1	0.68%
133	3	2.05%
134	2	1.36%
135	1	0.68%
138	1	0.68%

A total of 146 artefacts were recovered during the test excavation program from a total of 133 test pits, measuring 0.5 metres by 0.5 metres in size. Of these 146 artefacts, 35 (23.97%) were identified as tool types, consisting of 11 (7.53%) geometric microlithics, seven (4.79%) backed points, six (4.10%) artefacts with backing on one or two lateral margins, five (3.42%) scrapers, two (1.36%) bondi points, two (1.36%) piercers, one (0.68%) quartzite unifacial chopper, and one (0.68%) basalt unifacial coroid axe (Figure 7.18, Figure 7.19, Figure 7.20 and Figure 7.21).

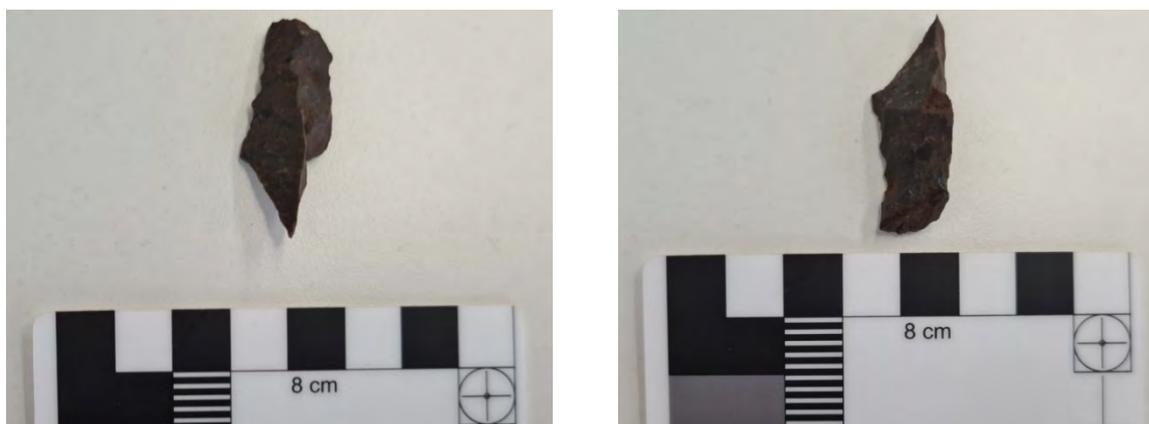


Figure 7.18 Quartzite piercer recovered from Test Pit 138, Spit 1



Figure 7.19 Quartzite Unifacial flaked chopper recovered from Test Pit 115, Spit 2

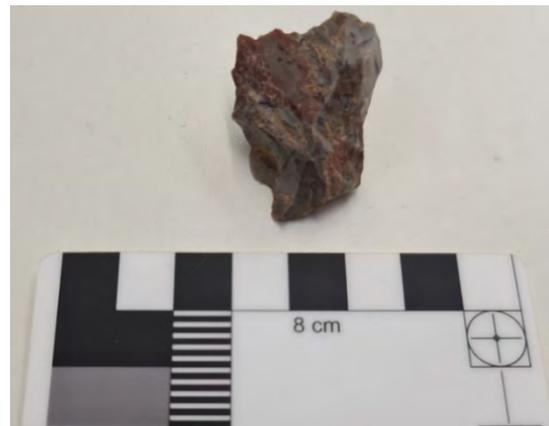


Figure 7.20 Chert steep-edge Scraper recovered from Test Pit 8, Spit 4



Figure 7.21 Chalcedony bondi point recovered from Test Pit 3, Spit 2

A total of eight (5.47%) cores were also identified within the assemblage. Six (4.10%) of the cores identified were determined as multidirectional cores presenting two or more platforms, 1 (0.68%) single platform core and one (0.68%) burin blade core with a bladelet negative scar (Figure 7.22).

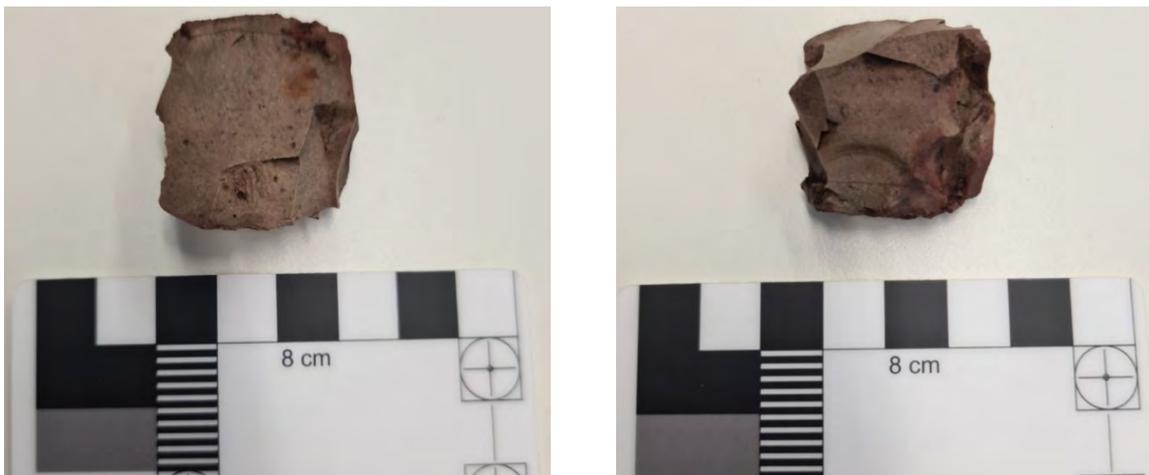


Figure 7.22 Chert Flaked Core recovered from Test Pit 78 Spit 1

Chert was the predominant raw material used for these tools; however, silcrete, quartz, quartzite, jasper, and chalcedony were also used for tool production. A summary of the different tool types recovered during this testing program can be seen in Figure 7.23.

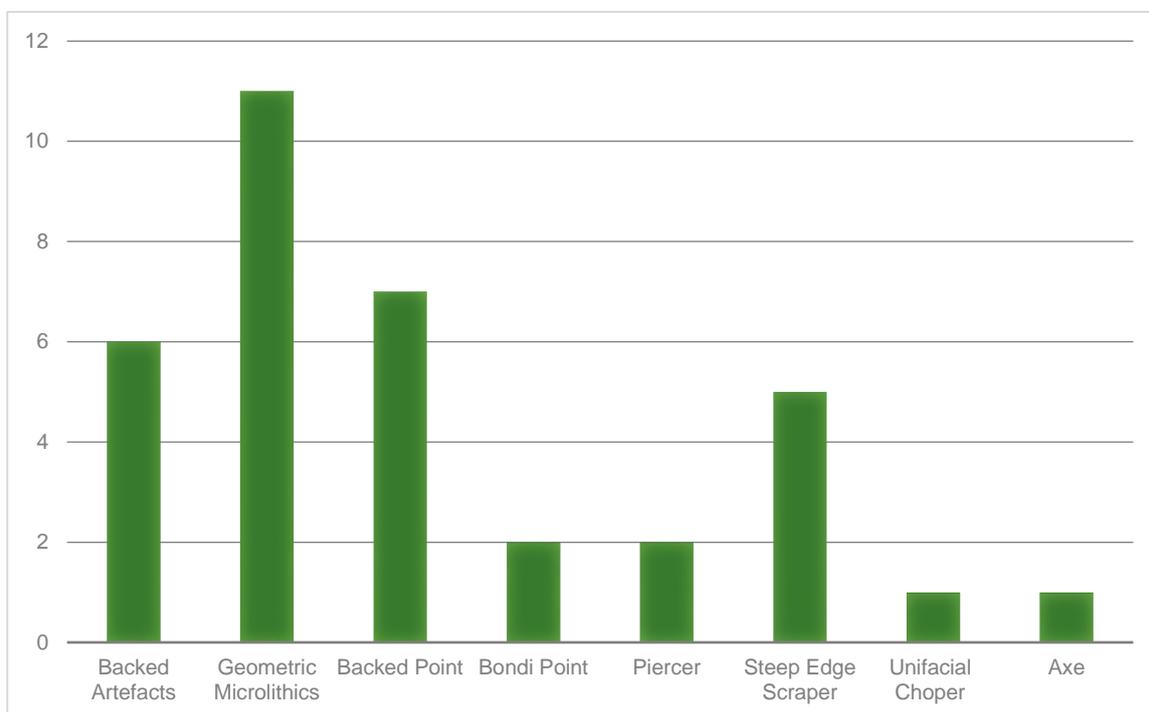


Figure 7.23 Tool types that comprise the assemblage

Within the assemblage, 37 (25.34%) complete flakes with no evidence of use-wear or retouch were identified, two (1.36%) of these flakes were likely produced during core rejuvenation with no evident functional purpose. 37 (25.34%) fragmented artefacts were also identified within the assemblage, consisting of proximal, distal and medial flakes as well as longitudinal splits.

There was also one dolerite hammerstone with potential pecking/pounding use-wear on one end that was recovered from Test Pit 39 Spit 1. The remaining artefacts within the assemblage consisted of angular fragments that represent reduction debris or broken flake fragments (also referred to as 'debitage'). A summary of artefact types found within this assemblage is outlined in Figure 7.24.

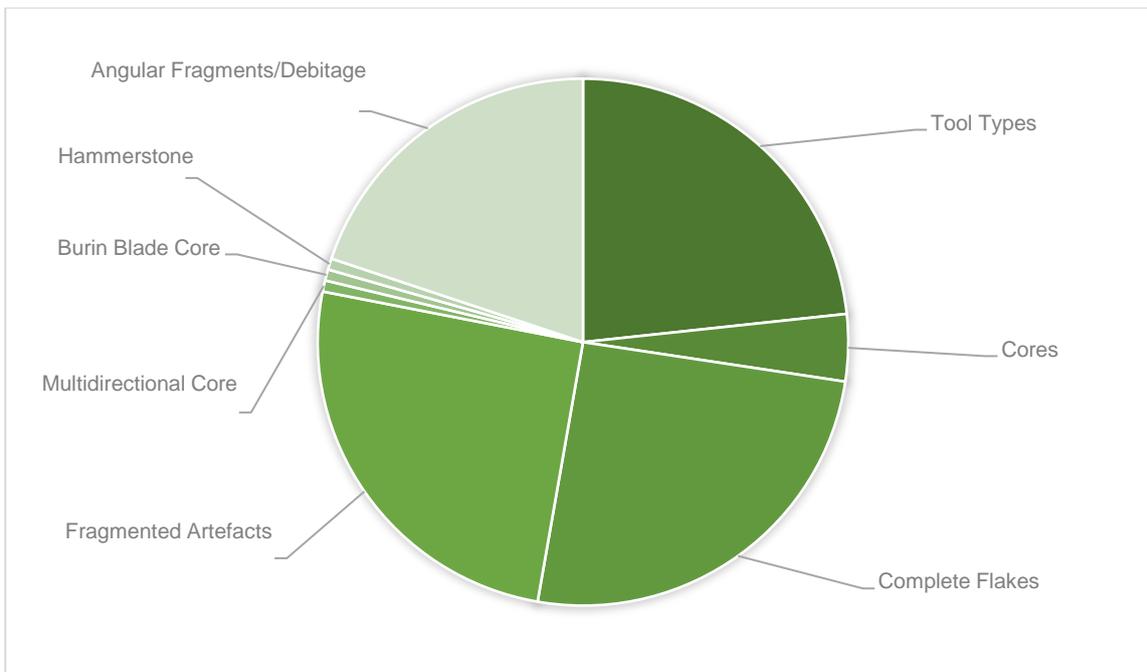


Figure 7.24 Percentage artefact types that comprise the assemblage

Chert was the most abundant material type, comprising 61.64% of the assemblage while silcrete (10.27%), jasper (7.53%) and quartz (5.47%) were also common. Other material types within the assemblage consisted of hornfel, quartzite, basalt, chalcedony, dolerite and mudstone in low numbers (Figure 7.25). Density and material types are consistent with that of the assemblage recovered from YTOF AS 9 (AHIMS # 45-5-0848) that borders the study area and other material encountered in the Illawarra Coastal Plain (KNC, 2019 p.60).

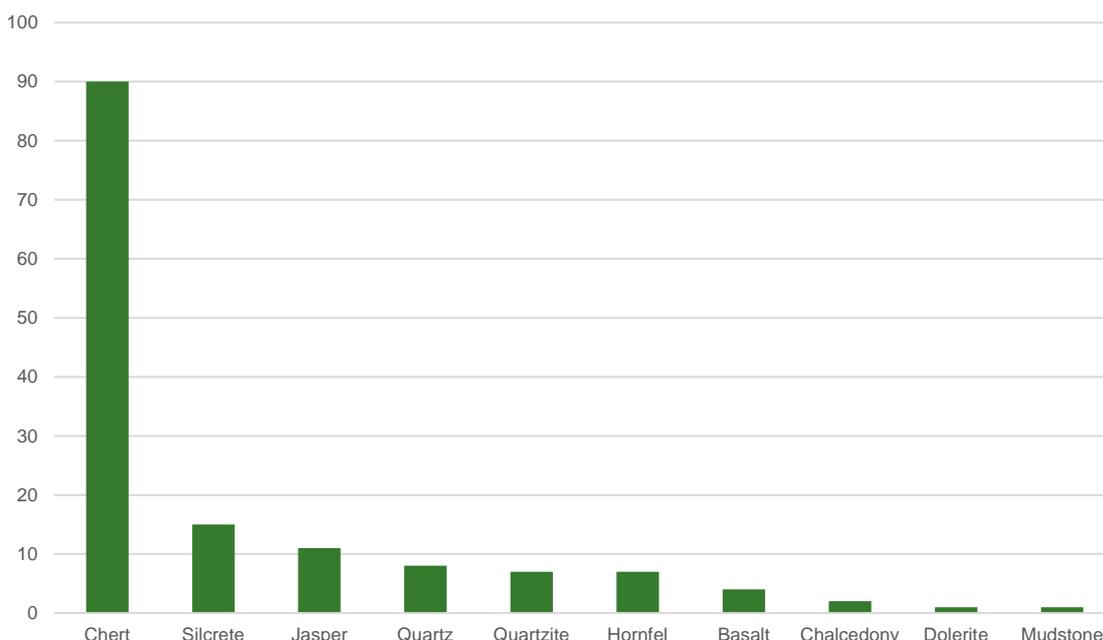


Figure 7.25 Percentage of raw material types that comprise the assemblage

Test pit 125 yielded by far the highest density of artefacts with 20 (13.69%) artefacts of the whole assemblage retrieved; 10 artefacts recovered from spit 4, four from spit 6, three from spit 3, one from spit 5 and two and one recovered from clean up. Of the artefacts retrieved from Test Pit 125, seven tools and one multidirectional core were identified. Given the relatively high density of

artefacts retrieved during the test excavation program from test pit 125, the test pit was extended from 0.5 metres to 1-metre combining test pits 125, 130, 131 and 133 to further assess the presence and density of archaeological deposits. Test Pit 131 contained the second-highest number of artefacts within the test excavation program with nine artefacts recovered within the test pit. However, artefacts numbers drop significantly from the extension of test pit 125, with three artefacts recovered from test pit 133 and no artefacts were identified within test pit 130.

In total, artefacts were recovered from 53 (39.84%) test pits out of the 133 test pits excavated during the testing program, providing a mean value of 2.75 artefacts per Test Pit. Artefacts were retrieved from spits 1 to 7; however, the artefacts were predominantly derived from spits 2, 3 and 4 of the test pits from the A2-Horizon. All the artefacts identified during the testing program were recovered from the areas of high archaeological potential assessed during the survey program. Formal tool types identified were recovered from 29 (21.80%) test pits out of the 53 test pits from which artefacts were retrieved. Most of the tool types identified were recovered from spits 2 and 3. The highest density of tool types were located within test pit 125 spit 4 and 3.

A comparison between the areas subjected to test excavations may reveal unanticipated relationships. To accomplish this, Calderwood Area 2 (AHIMS # 52-5-0966) will be excluded as only two artefacts were recovered. Calderwood Area 1 (AHIMS # 52-5-0967) (67%) comprised the bulk of the assemblage and stage 2, 3 and 4 reduction occurred here. Calderwood Areas 3 and 4 (AHIMS # 52-5-0965 and 52-5-0964) comprised the remaining 33% of the assemblage virtually equally and only constituted stages three and four. Given these ratios, it is difficult to draw firm conclusions about whether the activity area as a whole an area of curation was only, however, the general paucity of cortex across the entire assemblage suggests this may be correct. The high number of tools 32 (22%) compared to debitage 28 (19%) confirms that curation of flakes rather than the manufacture of flakes was practised across the entire area.

7.4 IDENTIFIED ABORIGINAL SITES

A total of three test areas were excavated during the test excavation programme. Aboriginal objects were identified within all of these areas. Based on the artefacts recovered from the test excavation four new artefact scatters have been identified across the study area, in addition, site YTOF_AS_9 (AHIMS # 52-5-0848) has been refined to include a subsurface component discovered during the pedestrian survey. During the pedestrian survey, previously recorded isolated find WDRA_AX_37 (AHIMS # 52-5-0493) located on an elevated landform above Marshall Mount Creek, was not relocated. Table 7.7 lists identified subsurface artefact scatters and whether these are an extension of previously recorded sites or whether they are new.

Table 7.7 Test areas and identified sites

Testing area / Survey Unit	Landform	Feature	Newly identified site	Previously identified site
CTA1	Crest / Upper Slope	Artefact Scatter	Calderwood Area 1 (AHIMS # 52-5-0967)	-
CTA1	Crest / Upper Slope	Artefact Scatter	Calderwood Area 2 (AHIMS # 52-5-0966)	-
CTA2	Crest / Upper Slope	Artefact Scatter	Calderwood Area 3 (AHIMS # 52-5-0965)	-
CTA3	Crest / Upper Slope	Artefact Scatter	Calderwood Area 4 (AHIMS # 52-5-0964)	-
-	Spur / Upper Slope	Isolated Find	-	WDRA_AX_37 (AHIMS # 52-5-0493)
-	Upper Slope	Isolated Find	-	YTOF_AS_9 (AHIMS # 52-5-0848)

CALDERWOOD AREA 1 (AHIMS # 52-5-0967)

Site type	Artefact Scatter
Centroid	GDA 94 Zone 56 295052 m E and 6173915 m N
Site Extent	140 m X 160 m

Calderwood Area 1 (AHIMS # 52-5-0967) surrounds the farming and homestead infrastructure and is situated on an elevated crest in the eastern section of the study area overlooking Marshall Mount Creek to the north, its first order tributary to the east and site YTOF_AS_9 (AHIMS # 52-5-0848) to the south. Ninety-six subsurface artefacts were retrieved over 23 test pits (0.5 m X 0.5 m). The assemblage consisted of chert 2% (n=60), silcrete 11% (n=11), jasper 10% (n=10), quartz 7% (n=7) with the remaining 10% being quartzite, hornfels, chalcedony and basalt. These included a total of 16% (n=24) tool artefacts of which 7% were cortex (n=7) and 3% (n=3) were cores. 51% (n=50) of the assemblage were flakes, with 20% (n=19) were of debitage. Cultural material was retrieved from the upper 0.6 metres.

CALDERWOOD AREA 2 (AHIMS # 52-5-0966)

Site type	Artefact Scatter
Centroid	GDA 94 Zone 56 294945 m E and 6173817 m N
Site Extent	40 m X 20 m

Calderwood Area 2 (AHIMS # 52-5-0966) is also situated on the elevated crest in the eastern section of the study area. It encompasses the south-facing section of this crest overlooking the man-made dam, which is supplied by the first order Marshall Mount Creek tributary running along the eastern boundary of the study area, as well as Calderwood Area 4 further to the south. The assemblage consisted of only two artefacts making up 1% of the total assemblage, from two test pits. A single complete silcrete flake and a single piece of silcrete debitage was recovered. It is not possible to draw any conclusions about this site with such a small assemblage. Cultural material was retrieved between 0.3-0.4 metres.

CALDERWOOD AREA 3 (AHIMS # 52-5-0965)

Site type	Artefact Scatter
Centroid	GDA 94 Zone 56 264643 m E and 6174076 m N
Site Extent	265 m X 320 m

Calderwood Area 3 (AHIMS # 52-5-0965) is situated on the western elevated crest as well as the alluvial terrace on the southern bank of Marshall Mount Creek. It overlooks the Creek to the north, Calderwood Area 1 and 2 to the east and Calderwood Area 4 to the south. Twenty-four subsurface artefacts were retrieved from 16 test pits (0.5 m X 0.5 m). The assemblage consisted of eight separate raw material types; chert made up 50% (n=12), basalt and hornfels were 12.5% (n=6) each with dolerite jasper, quartz quartzite and silcrete making up the remaining 25%. Flakes (n=10) with an MNI of 6 made up 42% of this assemblage; tools comprised 25% (n=4), of these three, were geometric microliths, a single backed point, a steep edge scraper and a basalt axe. There were four cores (17%), two of which were basalt, one of chert and one of hornfels, three pieces of debitage were also present. A single dolerite hammerstone completed the assemblage. Cultural material was retrieved between 0 and 0.3 metres.

CALDERWOOD AREA 4 (AHIMS # 52-5-0964)

Site type	Artefact Scatter
Centroid	GDA 94 Zone 56 294795 m E and 6173595 m N
Site Extent	200 m X 170 m

Calderwood Area 4 (AHIMS # 52-5-0964) is situated on the southern crest of the study area. It overlooks the man-made dam to the north and artefact scatter site "YTOF_AS_9" (AHIMS # 52-5-08480) to the east. This landform is a continuation of a crest which is associated with the

elevated landform on which YTOF_AS_9 (AHIMS # 52-2-0493) is located. Twenty-two subsurface artefacts were retrieved from 11 test pits. The assemblage consisted of 77% (n = 17) were chert, 9% (n=2) hornfels, and mudstone, quartzite and silcrete each made up 4.5% (n=1) individually. There were eight (36%) complete flakes and four (18%) longitudinally split flakes at this site, with a minimum number (MNI) of individual flakes present being 12 (55%), four tools made up a further 18% of these artefacts, and they all exhibited backing. Debitage comprised 18% of the assemblage with two cores making up the remaining 9%. Cultural material retrieved between 0.3 metres.

WDRA_AX_9 (AHIMS # 52-5-0493)

Site type	Isolated Find
Centroid	AMG 94 Zone 56 294765 m E and 6174305 m N
Site Extent	1 m X 1 m

WDRA_AX_37 (AHIMS # 52-5-0493) is an isolated find first identified by AMBS in 2006 during their regional survey of the West Dapto Release Area. It is located on an elevated landform overlooking Marshall Mount Creek to its north. It consists of a silicified wood core recovered from a 1 metre by 1-metre excavation pit. It was found within spit 3 at a depth between 200 to 300 millimetres. The sediment of this spit consisted of dark brown, clay loam, with some rocky content and stone granules

SITE YTOF_AS_9 (AHIMS # 52-5-0848)

Site type	Artefact Scatter
Centroid	GDA 94 Zone 56 295082 m E and 6173605 m N
Site Extent	160 m X 130 m

Site YTOF_AS_9 (AHIMS # 52-5-0848) is an artefact scatter site first identified by AMBS (2006b), later excavated by Artefact ((2017) and salvaged by KNC (2019). It is located approximately 30 metres south from the study area's south-eastern corner. The isolated find located during the pedestrian survey within an eroded upper slope in the southeast corner of the study area and is believed to be part of the surface representation of the broader site. The artefact was determined to be a complete chert flake. It measured 50 millimetres at its longest, 30 millimetres at its widest and 18 millimetres at its thickest. Its platform measured 21 millimetres and its termination was missing. Upon closer inspection it was determined that there was evidence of platform preparation and negative scarring. The location of identified sites and their extent is outlined in Figure 7.26.

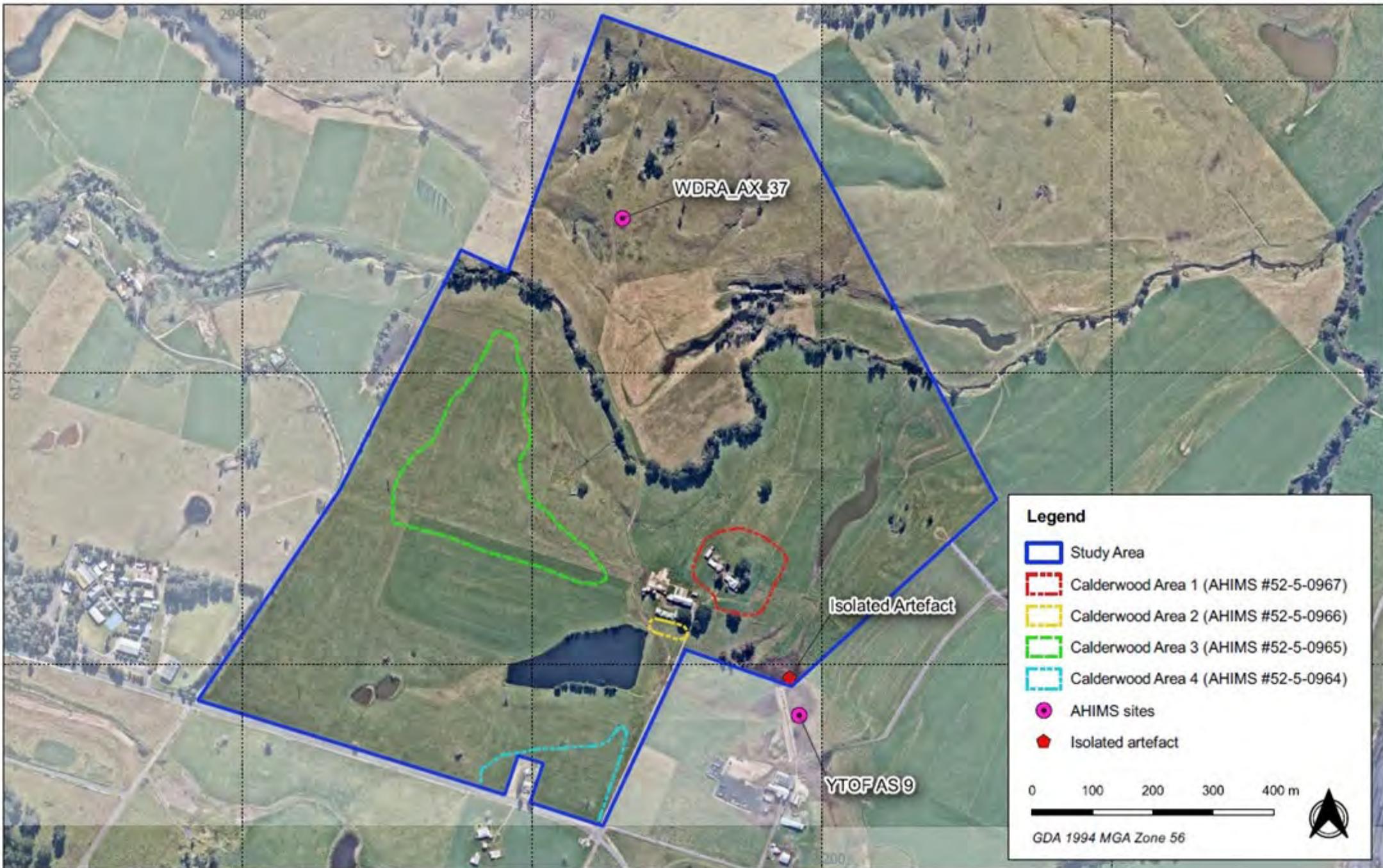


Figure 7.26 Locations of identified sites and their site extents

Meadow Views, Calderwood, NSW

Source: OSM, Nearmap, AHIMS

Drawn by: AJB Date: 2020-08-27



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8. ANALYSIS AND DISCUSSION

The following section presents an analysis and discussion of the results of the archaeological investigation, with an emphasis on the archaeological testing program.

8.1 SITE INTEGRITY AND EXTENT

Depth of deposit and soil stratigraphy varied across the study area. Calderwood Areas 1 and 2 (AHIMS # 52-5-0967 and 52-5-0966) consisted of an A1 silty-clay humic topsoil overlaying an A2 deposit that consisted of a soft sandy – clay deposit that terminated on a compact clay deposit. Pits ranged from 0.5 to 0.8 metres in depth, with deeper deposits encountered on the upper slopes, indicating that deposits on the crest had been truncated or deposits had migrated downslope. The majority of Aboriginal objects were retrieved from between 200 and 400 millimetres in-depth, with artefact throughout the encountered deposits. Calderwood Areas 3 and 4 (AHIMS # 52-5-0965 and 52-5-0964) possessing a consistent homogenous silty-clay topsoil that displayed evidence of disturbance through clearing and agricultural use. Within Calderwood Areas 3 and 4 the majority of the Aboriginal cultural material was retrieved from the first three spits (0 – 300 millimetres). In general, the soils within these areas were shallow (< 0.4 metres) in depth. An analysis of artefact density per spit is outlined in Table 8.1.

Table 8.1 Analysis of artefacts per site by spit

Site / AHIMS No.	Spit Number								Total
	1	2	3	4	5	6	7	N/A	
Calderwood Area 1 / 52-5-0967	6	29	24	19	6	6	2	5	97
Calderwood Area 2 / 52-5-0966	-	-	1	1	-	-	-	-	2
Calderwood Area 3 / 52-5-0965	3	17	4	-	-	-	-	-	24
Calderwood Area 4 / 52-5-0966	5	7	7	2	2	-	-	-	23
Total	14	53	36	22	8	6	2	5	146

The historical land use analysis indicates that the study area has been utilised for grazing and operated as a dairy for much of its history. Whilst this was not visible during test excavations, minor levels of historic rubbish were noted in several test pits, including small fragments of plastic and unidentified metal objects. Test excavation demonstrated a variable density of subsurface artefact distribution across the test area and appears to be reflected by the soil conditions present, with higher densities encountered within the deeper, sandy-clay deposits associated with Calderwood Area 1 and 2 (AHIMS # 52-5-0967 and 52-5-0966). This distinction may represent depositional processes, disturbance or reflect patterns of land-use.

8.2 THE ARTEFACT ASSEMBLAGE

The test excavation recovered 146 stone artefacts across 65 metres² excavated across 133 test pits. This included 127 0.5 x 0.5 metre test pits, one 1 x 1 metre test pit and one 1 x 0.5 metre test pit. The assemblage was comprised of a diverse variety of raw stone materials which have been identified during the investigation of other sites in the vicinity of the study area.

The current assemblage is dominated by chert, accounting for 61.64% of the total assemblage. The raw materials encountered as part of the investigation of each site are detailed in Table 8.2. The variability in stone materials across the assemblage shows the use of a wide variety of materials, suggesting that extraction and/or trading of these materials was an important component of Aboriginal land-use practices in the region.

Table 8.2 Analysis of raw material types per site

Site / AHIMS No.	Raw material										Total
	Basalt	Chal.	Chert	Dolerite	Hornfel	Jasper	Mud.	Qtz	Qtzite	Silcrete	
Calderwood Area 1 / 52-5-0967	1	2	60	-	2	10	-	7	4	11	97
Calderwood Area 2 / 52-5-0966	-	-	-	-	-	-	-	-	-	2	2
Calderwood Area 3 / 52-5-0965	3		12	1	3	1		1	2	1	24
Calderwood Area 4 / 52-5-0966	-	-	18	-	2	-	1	-	1	1	23
Total	4	2	90	1	7	11	1	8	7	15	146

The comparative frequency of raw material recovered from the study area and the next closest excavations undertaken as part of the YTOF_AS_9 (AHIMS # 52-5-0848) salvage indicate that chert is the dominant raw material used across both sites, almost identical proportion of frequency (KNC 2019, p.60). This is followed by significantly lower volumes of silcrete, jasper, hornfell, quartz and quartzite, a pattern that is broadly reflected in the YTOF_AS_9 (AHIMS # 52-5-0848) assemblage. In terms of artefact types, the assemblage from across the study area was dominated by complete flakes (n=37) and tools (n=34), with similar distributions of artefacts types across all for site areas, this is outlined in Table 8.3.

Table 8.3 Analysis of artefact type by site

Artefact type	Site				Total
	Calderwood Area 1	Calderwood Area 2	Calderwood Area 3	Calderwood Area 4	
Complete flake	25	1	3	8	37
Tool	24	-	6	4	34
Debitage	19	1	3	5	29
Longitudinal Split Flake	10	-	3	4	17
Distal Flake	8	-	2	-	10
Proximal Flake	5	-	1	-	6
Core	1	-	3	1	5
Flaked core	1	-	1	1	3
Medial Flake	2	-	-	-	2
Distal tool	1	-	-	-	1
Flake core	1	-	-	-	1
Hammerstone	-	-	1	-	1
Proximal Flake Split	-	-	1	-	1
Total	97	2	24	22	146

In terms of tool types, a total of 53 were identified, with the majority being identified in the Calderwood Area 1 (AHIMS # 52-5-0967) assemblage. The study area assemblage is largely dominated by geometric microliths (n=11), followed by backed artefacts (n=6) and backed points (n=6), which is similar to the assemblage retrieved at YTOF_AS_9 (AHIMS # 52-5-0848), which contained 30.7% geometric microliths, the second-highest tool type in the assemblage after non-formal. Given the small sample size of the assemblage, other comparisons with the YTOF_AS_9

(AHIMS # 52-5-0848) are not possible. However, both assemblages contain similar tool types in similar densities (KNC 2019, p.38).

The mean density of Aboriginal objects recovered during the test excavation is significantly lower than that retrieved from YTOF_AS_9 (AHIMS # 52-5-0848). The mean density across the entire study area was 2.25 artefacts per metre². A breakdown of artefact density with maximum artefacts within each area is outlined in Table 8.4.

Table 8.4 Artefact density per site

Site / AHIMS No.	Total artefacts	Total area (m ²)	Highest No. artefacts per pit	Highest No. artefacts per m ²	Artefacts density (per m ²)
Calderwood Area 1 / 52-5-0967	97	22	20	36	4.41
Calderwood Area 2 / 52-5-0966	2	1.5	1	4	1.33
Calderwood Area 3 / 52-5-0965	24	24	6	24	1.00
Calderwood Area 4 / 52-5-0966	23	19	4	16	1.21

In comparison, the mean density within YTOF_AS_9 (AHIMS # 52-5-0848), was much higher as part of the salvage program, the average artefact densities encountered as part of the excavation programs are summarised in

Table 8.5 Comparative artefact density between the study area and YTOF_AS_9 (AHIMS # 52-5-0848) as summarised in KNC (2019, p. 58)

Excavation sample	Total No. artefacts	Total area (m ²)	Artefact density (per m ²)
Test (Artefact)	812	30	27.1
Stage 1 (KNC)	546	24	22.8
OA1	7,620	100	76.2
OA2	320	8	40
OA3	6,237	69	90.9
Total	15,537	231	67.3

This disparity in density may be attributed to landform features associated with the respective study areas, with lower densities identified in the shallow, homogenous deposits identified in Calderwood Areas 3 and 4 (AHIMS # 52-5-0965 and 54-5-0964). Calderwood Area 1 and 2 (AHIMS # AHIMS # 52-5-0967 and 54-5-0966) share similar soil profiles to YTOF_AS_9 (AHIMS # 52-5-0848), with a comparable assemblage being retrieved from Calderwood Area 1 (AHIMS # 52-5-0848). In terms of densities, whilst Calderwood Area 1 (AHIMS # 52-5-0967) has a considerably lower average artefact density, the more productive pits (n=36) are equal to the average encountered during the Artefact and KNC Stage 1 investigations (Artefact 2017, KNC 2019). KNC (2019, p.58) noted that artefact densities varied across YTOF_AS_9 (AHIMS # 52-5-0848), with the dispersed testing and Stage 1 programs yielding a lower average density than the open areas. This was attributed to the dispersed excavation programs identifying high and moderate densities in the crest and upper slope landforms with low densities or no artefacts located at the border of the site. The open area investigations were able to target these locations and identify higher densities and areas of isolated activity. Based on the above, it is reasonable to assume that further investigation of Calderwood Area 1 (AHIMS # 52-5-0967) may yield similar areas of isolated activity that may contain moderate to high densities of artefacts.

8.3 ARCHAEOLOGICAL SENSITIVITY

Based on the results of the test excavation, the following statements can be made about the areas of archaeological sensitivity identified during the archaeological survey:

- Crests and upper slopes are likely to contain archaeological material in low to moderate densities. These landforms are still considered to possess moderate archaeological potential.
- Areas of moderate sensitivity including mid and lower slopes are now considered to have low archaeological potential.
- Areas associated with deeper sandy-clay soils have the potential to recover higher densities of artefacts in stratified deposits and is therefore of high sensitivity.
- Areas that were considered to have low archaeological potential remain unchanged.

A reassessment of archaeological sensitivity is outlined in Table 8.1.

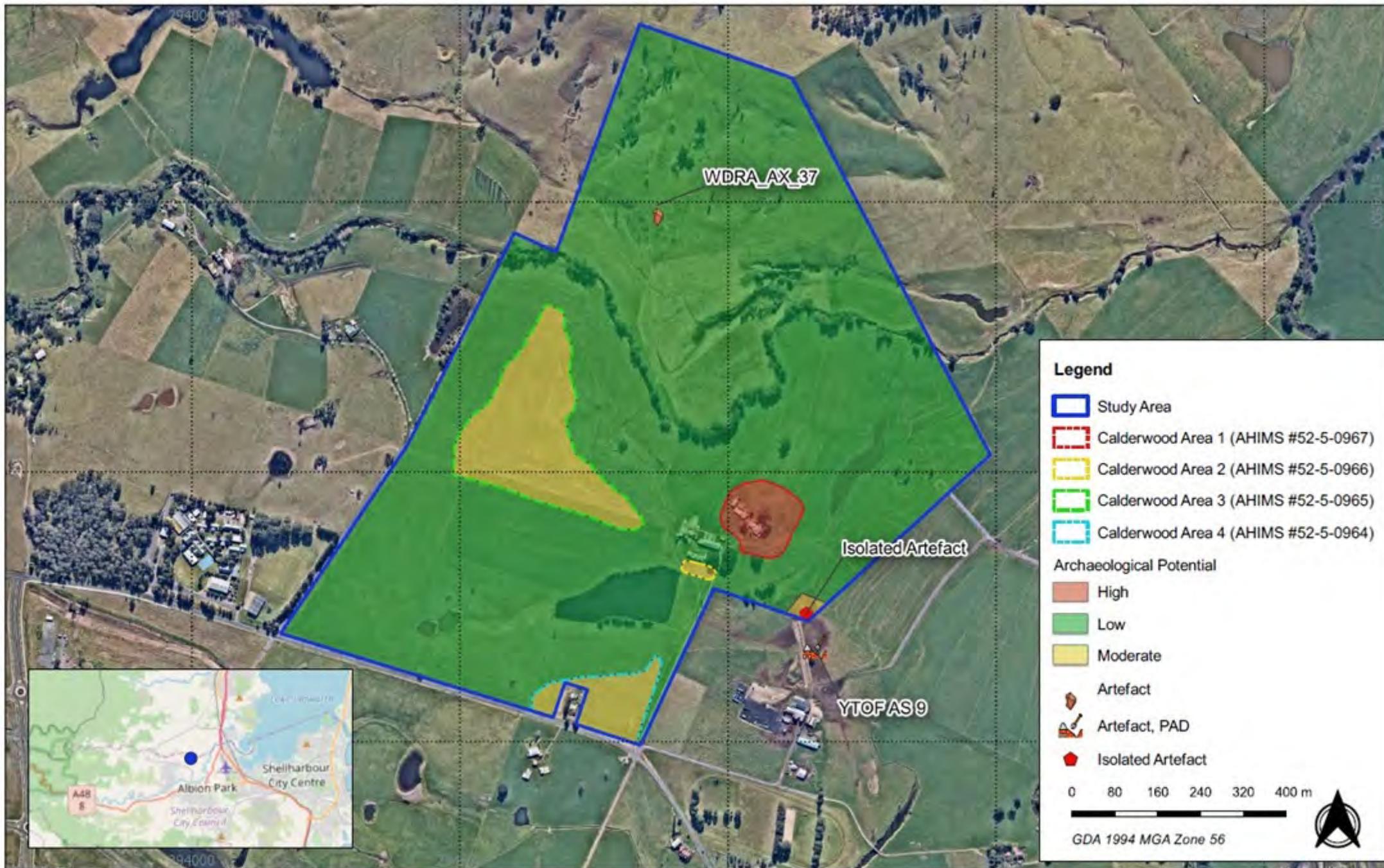


Figure 8.1 Revised archaeological sensitivity mapping

Meadow Views, Calderwood, NSW

Source: OSM, Nearmap, AHIMS

Drawn by: WA Date: 2020-08-25



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9. CULTURAL HERITAGE VALUES

An assessment of significance seeks to determine and establish the importance or value that a place, site or item may have to the community at large. The concept of cultural significance is intrinsically connected to the physical fabric of the item or place, its location, setting and relationship with other items in its surrounds. The assessment of cultural significance is ideally a holistic approach that draws upon the response these factors evoke from the community.

9.1 BASIS FOR THE ASSESSMENT

The significance values provided in the Australia ICOMOS *Charter for the Conservation of Places of Cultural Significance* (the Burra Charter) are considered to be the best practice heritage management guidelines in Australia (Australia ICOMOS 2013a). The Burra Charter defines cultural significance as:

“...aesthetic, historic, scientific, social or spiritual value for past, present or future generations. Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects. Places may have a range of values for different individuals or groups.” (Australia ICOMOS 2013a, p.2)

The Burra Charter significance values outlined in Table 9.1; these are frequently adopted by cultural heritage managers and government agencies as a framework for a more holistic assessment of significance.

Table 9.1 Definitions of Burra Charter significance values (Australia ICOMOS 2013b)

Value	Definition
Aesthetic	Refers to the sensory and perceptual experience of a place. That is how a person responds to visual and non-visual aspects such as sounds, smells and other factors having a strong impact on human thoughts, feelings and attitudes. Aesthetic qualities may include the concept of beauty and formal aesthetic ideals. Expressions of aesthetics are culturally influenced.
Historic	Refers to all aspects of history. For example, the history of aesthetics, art and architecture, science, spirituality and society. It therefore often underlies other values. A place may have historic value because it has influenced, or has been influenced by, an historic event, phase, movement or activity, person or group of people. It may be the site of an important event. For any place the significance will be greater where the evidence of the association or event survives at the place, or where the setting is substantially intact, than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains significance regardless of such change or absence of evidence.
Scientific	Refers to the information content of a place and its ability to reveal more about an aspect of the past through examination or investigation of the place, including the use of archaeological techniques. The relative scientific value of a place is likely to depend on the importance of the information or data involved, on its rarity, quality or representativeness, and its potential to contribute further important information about the place itself or a type or class of place or to address important research questions.
Social	Refers to the associations that a place has for a particular community or cultural group and the social or cultural meanings that it holds for them.

Value	Definition
Spiritual	<p>Refers to the intangible values and meanings embodied in or evoked by a place which give it importance in the spiritual identity, or the traditional knowledge, art and practices of a cultural group. Spiritual value may also be reflected in the intensity of aesthetic and emotional responses or community associations, and be expressed through cultural practices and related places.</p> <p>The qualities of the place may inspire a strong and/or spontaneous emotional or metaphysical response in people, expanding their understanding of their place, purpose and obligations in the world, particularly in relation to the spiritual realm.</p> <p>The term spiritual value was recognised as a separate value in the Burra Charter, 1999. It is still included in the definition of social value in the Commonwealth and most state jurisdictions. Spiritual values may be interdependent on the social values and physical properties of a place.</p>

In addition to the Burra Charter significance values, other criteria's and guidelines have been formulated by other government agencies and bodies in NSW to assess the significance of heritage places in NSW. Of particular relevance to this assessment are the guidelines prepared by the Australian Heritage Council and the Department of the Environment, Water, Heritage and the Arts (DEWHA), and Heritage NSW (Australian Heritage Council & DEWHA 2009, DECCW 2010c, OEH 2011, NSW Heritage Office 2001).

The Guide (OEH 2011, p.10) states that the following criteria from the NSW Heritage Office (2001, p.9) should be considered:

- **Social value:** Does the subject area have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons?
- **Historic value:** Is the subject area important to the cultural or natural history of the local area and/or region and/or state?
- **Scientific value:** Does the subject area have potential to yield information that will contribute to an understanding of the cultural or natural history of the local area and/or region and/or state?
- **Aesthetic value:** Is the subject area important in demonstrating aesthetic characteristics in the local area and/or region and/or state?

OEH (2011, p.10) states that when considering the Burra Charter criteria, a grading system must be employed. Austral will use the following grading system to assess the cultural values of the study area and its constituent features. These are outlined in Table 9.2.

Table 9.2 Gradings used to assess the cultural values of the study area

Grading	Definition
Exceptional	The study area is considered to have rare or outstanding significance values against this criterion. The significance values are likely to be relevant at a state or national level.
High	The study area is considered to possess considerable significant values against this criterion. The significance values are likely to be very important at a local or state level.
Moderate	The study area is considered to have significance values against this criterion; these are likely to have limited heritage value but may contribute to broader significance values at a local or State level.
Little	The study area is considered to have little or no significance values against this criterion.

9.2 ASSESSMENT OF SIGNIFICANCE

The following section addresses the Burra Charter significance values with reference to the overall study area.

9.2.1 AESTHETIC SIGNIFICANCE VALUES

The concept of aesthetic significance deals with the response that people have to a particular place and refers to sensory, scenic, architectural and creative aspects of the place. These values may be related to the landscape and are often closely associated with social and cultural values. This criterion differs from the other two in that it is not so readily quantifiable but takes into account a subjective or emotive response to a place as opposed to providing comment upon a tangible item (such as an Aboriginal artefact) or an issue of research relevance (such as an area of PAD).

The study area is located within a significant part of the Illawarra Coastal Plain and is a good example of the landscape through its elevated and relatively level landform features are conducive to an impressive panorama in every cardinal direction. The northern vista of the study area is comprised of the rich alluvial resources of the Marshall Mount Creek and moderately inclined gullies. To the west the full stature of the Illawarra Escarpment can be gaged in the distance. To the north and east, undulating and rolling hills of cleared pastoral land dominate the view. Small homesteads and herds of dairy cattle and sheep can be observed in surrounding paddocks.

Based on this assessment, the study area is considered to have **high** aesthetic significance values.

9.2.2 HISTORIC SIGNIFICANCE VALUES

The assessment of historic values refers to associations with particular places associated with Aboriginal history. Historic values may not be limited to physical values but may relate to intangible elements that relate to memories, stories or experiences.

The ethnographic record suggests that the locality around the study area is significant through its association with the Macquarie Rivulet. The associated ridgelines and spurs that surround the study area would formed travel routes between the escarpment and the coast, with defined occupation sites lining the major creek lines, in particular, Marshall Mount Creek. This is evidenced through the volume of known sites, including those within the study area, that are present in close proximity to Marshall Mount Creek.

Based on this assessment, the study area is considered to have **moderate** historic significance values.

9.2.3 SCIENTIFIC SIGNIFICANCE VALUES

Scientific significance generally relates to the ability of archaeological objects or sites to answer research questions that are important to the understanding of the past life-ways of Aboriginal people. Australia ICOMOS (2013b, p.5) suggests that to appreciate scientific value, that the following question is asked: "*Would further investigation of the place have the potential to reveal substantial new information and new understandings about people, places, processes or practices which are not available from other sources?*".

In addition to the above criteria, The Guide (OEH 2011, p.10) also suggests that consideration is given to the Australian Heritage Council and DEWHA (2009) criteria, which are particularly useful when considering scientific potential:

- **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?

An assessment of the scientific significance of the Aboriginal sites located within the study area is outlined in Table 9.3.

Table 9.3 Scientific significance of Aboriginal sites in the study area

Site name / AHIMS No.	Assessment of significance	Grading
WDRA_AX_37 / 52-5-0493	WDRA_AX_37 (AHIMS # 52-5-0493) is an isolated find, originally identified by AMBS (2006) as part of their landform testing for the WDRA study. The isolated artefact, a silicified wood core, was recovered from the A1 horizon within a test pit located within a small spur on a ridgeline overlooking Marshall Mount Creek. Based on these findings, the site is considered to be representative of background scatter and an example of a common site type in the region. The site is not considered to be rare or offer significant education or research values.	Little
YTOF_AS_9 / 52-5-0848	YTOF_AS_9, within the study area, consists of an isolated artefact surface artefact located within the upper slopes of the same of an elevated landform associated with Marshall Mount Creek. The crest associated with this site is known to possess high significance due to the size, composition and density of the artefacts recovered during test and salvage excavations. Whilst, this and any other objects that may be present within the study area may contribute to the site's overall significance, on its own it is considered to have limited significance. A moderate grading has been provided due to its close spatial association with a larger site complex.	Moderate
Calderwood Area 1 / 52-5-0967	Calderwood Area 1 (AHIMS # 52-5-0967) is comprised of a moderate density subsurface artefact scatter across the crest and upper slopes of a terrace associated with Marshall Mount Creek. It is located immediately adjacent to YTOF_AS_9 (AHIMS # 52-5-0848) and demonstrates a number of similarities with this site in terms of the composition of the assemblage and soil profiles. The assemblage retrieved during sub-surface testing included 44 artefacts, mostly chert (n=90), the assemblage was dominated by complete flakes (n=25) and tools (n=24). Tool types within the assemblage included geometric microliths (n=8), backed artefacts (n=4) and backed points (n=4). Based on these findings, the site may have additional research value, should an additional investigation take place. This may yield an assemblage that could analysed in tandem with YTOF_AS_9 (AHIMS # 52-5-0848). Calderwood Area 1 (AHIMS # 52-5-0967) is not rare as it is a common site type, but it may have the potential to yield educational values, particularly as a site vantage point for interpreting adjacent sites and cultural landscapes.	Moderate
Calderwood Area 2 / 52-5-0966	Calderwood Area 2 (AHIMS # 52-5-0966) is comprised of a small low-density subsurface artefact scatter across the crest and upper slopes of a terrace associated with Marshall Mount Creek. The assemblage retrieved during sub-surface testing included two artefacts, a complete flake and debitage, both silcrete. Based on these findings, the site is considered to be representative of background scatter and an example of a common site type in the region. The site is not considered to be rare or offer significant education or research values.	Little
Calderwood Area 3 / 52-5-0965	Calderwood Area 3 (AHIMS # 52-5-0965) is comprised of a large low-density subsurface artefact scatter across the crest and upper slopes of a terrace associated with Marshall Mount Creek. The assemblage retrieved during sub-surface testing included 24 artefacts, mostly chert (n=12), the assemblage was dominated by tools (n=6), these consisted of geometric microliths (n=3), a backed artefact, backed point, and steep edged scraper (n=1). The assemblage also included cores (n=3) and a unifacial coroid axe (n=1). Based on these findings, the site is considered to be representative of background scatter and an example of a common site type in the region. The site is not considered to be rare or offer significant education or research values.	Little

Site name / AHIMS No.	Assessment of significance	Grading
Calderwood Area 4 / 52-5-0966	Calderwood Area 4 (AHIMS # 52-5-0964) is comprised of a large low-density subsurface artefact scatter across the crest and upper slopes of a terrace associated with Marshall Mount Creek. The assemblage retrieved during sub-surface testing included 22 artefacts, mostly chert (n=18), the assemblage mainly consists of complete flakes (n=8) and tools (n=4). Tools within the assemblage consist of backed artefacts (n=2), a backed point (n=1) and a piercer (n=1). Based on these findings, the site is considered to be representative of background scatter and an example of a common site type in the region. The site is not considered to be rare or offer significant education or research values.	Little

9.2.4 SOCIAL AND SPIRITUAL SIGNIFICANCE VALUES

As social and spiritual significance are interdependent, Austral has undertaken a combined assessment of these values. The Consultation Requirements specify that the social or cultural values of a place can only be identified through consultation with Aboriginal people.

The following submissions were received from RAPs during the completion of the project:

Throughout the first few stages of consultation as well as during the course of the fieldwork, RAPs were asked when appropriate, for feedback on cultural significance and knowledge pertaining to the study area. James Davis of the Wodi Wodi Traditional Owner organisation, had worked on the previously salvaged YTOF_AS_9 (AHIMS # 52-5-0848) similarity between that site and Calderwood Area 1 (AHIMS # 52-5-0967). In particular he noted the significance of our findings within transects one and two and the importance in preserving those areas. Paul Cummins, a member of the Woronora Plateau Gundungugara Elders Council, also added that the streams present within the study area would have been a significant resource for past Aboriginal groups, as they would have been teeming with ducks, fresh water mussels and plenty of fish.

Further comments are expected on the completion of Stage 4 of the Consultation Requirements.

Based on this assessment, the study area is considered to have **high** social and spiritual significance values.

9.3 STATEMENT OF SIGNIFICANCE

Statements of significance for identified Aboriginal sites within the study area are presented in Table 9.4. The statements of significance have been formulated using the Burra Charter significance values and relevant NSW guidelines (DECCW 2010c, OEH 2011, Australia ICOMOS 2013a).

Table 9.4 Statements of significance for Aboriginal sites in the study area

Site name / AHIMS No.	Statement of significance
WDRA_AX_37 / 52-5-0493	WDRA_AX_37 (AHIMS # 52-5-0493) is an isolated find, originally identified by AMBS (2006) as part of their landform testing for the WDRA study. These results are considered indicative of the results that would be associated with the wider landform and subsequently, the site is considered to be an example of a common site type in the region. The site has no direct historical or aesthetic associations and has moderate scientific potential. The site is not considered to be rare or offer significant education or research values and holds little significance.
YTOF_AS_9 / 52-5-0848	Site YTOF_AS_9 (AHIMS # 52-5-0848) is an isolated artefact located on the upper slope of an alluvial terrace associated with a larger site complex. The site is considered to be representative of the surface exposure of the broader site. The site has no direct historical or aesthetic associations and has moderate scientific potential. The significance of the has been assessed as moderate through its broader associations.
Calderwood Area 1 / 52-5-0967	Calderwood Area 3 (AHIMS # 52-5-0965) comprises a moderate density artefact scatter across a large flat crest and upper. The test excavations identified artefact densities of up to 20 artefacts per m ² with an assemblage

Site name / AHIMS No.	Statement of significance
	and soil conditions that were comparable to YTOF_AS_9 (AHIMS # 52-5-0848). Whilst the site is considered to be an example of a common site type in the region, it may possess additional research and educational potential. The site has no direct historical or aesthetic associations and has moderate scientific potential.
Calderwood Area 2 / 52-5-0966	Calderwood Area 2 (AHIMS # 52-5-0966) comprises a low density artefact scatter within the upper slope of an alluvial terrace. Disturbances were noted, that are likely to be associated with clearing and agricultural practices. These results are considered indicative of the results that would be associated with the wider landform and subsequently, the site is considered to be an example of a common site type in the region. The site has no direct historical or aesthetic associations and has moderate scientific potential. The site is not considered to be rare or offer significant education or research values and holds little significance.
Calderwood Area 3 / 52-5-0965	Calderwood Area 3 (AHIMS # 52-5-0965) comprises a low density artefact scatter across a large flat crest and upper slope within a disturbed homogenous soil profile, indicative of disturbances from clearing and agricultural practices. These results are considered indicative of the results that would be associated with the wider landform and subsequently, the site is considered to be an example of a common site type in the region. The site has no direct historical or aesthetic associations and has moderate scientific potential. The site is not considered to be rare or offer significant education or research values and holds little significance.
Calderwood Area 4 / 52-5-0966	Calderwood Area 4 (AHIMS # 52-5-0964) comprises a low density artefact scatter across a large flat crest and upper slope within a disturbed homogenous soil profile, indicative of disturbances from clearing and agricultural practices. These results are considered indicative of the results that would be associated with the wider landform and subsequently, the site is considered to be an example of a common site type in the region. The site has no direct historical or aesthetic associations and has moderate scientific potential. The site is not considered to be rare or offer significant education or research values and holds little significance.

Heritage NSW specifies the importance of considering cultural landscapes when determining and assessing Aboriginal cultural values. The principle behind this is that *'For Aboriginal people, the significance of individual features is derived from their inter-relatedness within the cultural landscape. This means features cannot be assessed in isolation and any assessment must consider the feature and its associations in a holistic manner'* (DECCW 2010d).

The majority of Aboriginal sites recorded in the study area are low-density artefact scatters or isolated finds located within disturbed landforms. These sites are assessed to be of little archaeological significance. One site, located within the study area, is evaluated to be of moderate archaeological significance: Calderwood Area 1.

The Aboriginal cultural value of the landscape that surrounds the study area, rather than Aboriginal objects it contains, is considered to be of higher cultural heritage value. The landscape and the objects which are encompassed within it are a material testament to the lives of peoples' ancestors and the focus of their current identity, concerns and aspirations. Generally, the RAPs consulted as part of the project consider all Aboriginal objects, irrespective of distribution density or their nature, to be significant.

10.IMPACT ASSESSMENT

This section outlines, according to Heritage NSW guidelines, the potential harm that the proposed activity may have on identified Aboriginal objects and places within the study area (OEH 2011, DECCW 2010c).

10.1 LAND-USE HISTORY

The study area has been previously cleared of vegetation, likely during the days of early European settlement when logging and clearance for agricultural activities was undertaken. Vegetation clearance has occurred throughout most of the study area, which has resulted in erosion along the slopes and creek banks within the study area.

The main impacts relate to past agricultural practices, extensive land clearance, animal grazing, the construction of buildings, fences and vehicle tracks, tree harvesting, installation of overhead power lines and ongoing encroachment of residential development surrounding the study area. These activities would have contributed to the removal of the original native vegetation as the study area is now covered in dense native and introduced grasses with regrowth of native vegetation and intrusive weeds along the creeks and gullies.

Land clearance would have resulted in soil disturbance and topsoil movement and loss that, coupled with erosion on slopes across the majority of the study area, accounts for widespread artefact displacement rather than the complete destruction of Aboriginal sites and the limited archaeological potential across this disturbance zone is more likely to reflect the inherent unsuitability of much of the terrain than the prior loss of the potential resource.

Furthermore, as previously mentioned, the Macquarie Rivulet is known to have changed course naturally and artificially over the years. Naturally, due to varying discharge levels during the seasonal cycle of the Illawarra Coastal Plains and exacerbated in recent decades by human disturbances linked to agriculture and land clearance practices (Neller 1980). This historical disturbance is most evident within the historical aerials depicting the study area from 1948 until 1971. In these, a minor tributary of Marshall Mount Creek has been created starting from the north-east section of the study area and running southwards along the east side of the main house stead. This watercourse has been modified through the construction of two damns, the first adjacent to Calderwood Areas 3 and 4 (AHIMS # 52-5-0965 and 54-5-0964) and the second, adjacent to Calderwood Area 1 (AHIMS # 52-5-0967) (Figure 4.6, Figure 4.7 and Figure 4.8).

Table 10.1 Summary of past land uses within the study area and the potential impacts on archaeological resources

Past Land Uses	Potential Impacts on Archaeological Resources
Historic land clearance	Loss of native trees, shrubs and grasses and livestock grazing would lead to the potential loss of scarred trees, increased erosion and potential dispersal or disturbance of surface and subsurface artefacts across the predominantly sloping terrain of the study area.
Agriculture	Ploughing and harrowing as well as livestock movement and grazing would have exacerbated topsoil disturbance and erosion across the sloping terrain over much of the study area
Construction of buildings and houses associated with farming activities, access tracks and fencing	Moderate levels of earth disturbance leading to the potential disturbance and dispersal of artefacts from their stratigraphic context.
Modification of the Macquarie Rivulet and Marshall Mount Creek	Moderate levels of earth disturbance leading to the potential disturbance and dispersal of artefacts from their stratigraphic context.

This long-lasting disturbance has impacted the study area in various ways, as seen within the results of this recent testing investigation. However, these disturbances remained in the higher horizons of the soil profile, and only minor impacts were seen in lower deposits.

10.2 PROPOSED ACTIVITY

The proposed activity at this stage consists of a planning proposal to rezone the study area from a rural zone (RU1) to a residential (R2) zoning. Whilst the planning proposal will not result in immediate impacts on the identified Aboriginal heritage values, the rezoning intends to facilitate the residential development of the study area. As such, Austral has assessed the impact of the planning proposal based on intended development using the concept design that will be submitted as part of the planning proposal. The concept design and its relationship to the identified Aboriginal heritage values is discussed further in Section 10.4. The proposed development in relation to identified Aboriginal sites is shown in Figure 10.1.

10.3 ASSESSING HARM

This section outlines the assessment process for addressing potential harm to Aboriginal objects and/or places within the study area, as outlined by Heritage NSW (OEH 2011, p.12).

10.3.1 ECOLOGICALLY SUSTAINABLE DEVELOPMENT

An objective of the NPW Act, under Section 2A(1)(b)(i) is to conserve “*places, objects and features of significance to Aboriginal people*” through applying the principles of ecologically sustainable development (ESD) (Section 2A (2)). ESD is defined in Section 6(2) of the *Protection of the Environment Administration Act 1991* (NSW) as “...*the effective integration of social, economic and environmental considerations in decision-making processes*”. ESD can be achieved with regards to Aboriginal cultural heritage, by applying the principle of intergenerational equity, and the precautionary principle to the nature of the proposed activity, with the aim of achieving beneficial outcomes for both the development and Aboriginal cultural heritage.

INTERGENERATIONAL EQUITY

The principle of intergenerational equity is where the present generation ensures the health, diversity and productivity of the environment for the benefit of future generations. The Department of Environment and Climate Change (DECC), now Heritage NSW, states that in terms of Aboriginal cultural heritage “*intergenerational equity can be considered in terms of the cumulative impacts to Aboriginal objects and places in a region. If few Aboriginal objects and places remain in a region (for example, because of impacts under previous AHIPs), fewer opportunities remain for future generations of Aboriginal people to enjoy the cultural benefits of those Aboriginal objects and places.*” (DECC 2009, p.26).

The assessment of intergenerational equity and understanding of cumulative impacts should consider information about the integrity, rarity or representativeness of the Aboriginal objects and/or places that may be harmed and how they illustrate the occupation and use of the land by Aboriginal people across the locality (DECC 2009, p.26).

Where there is uncertainty over whether the principle of intergenerational equity can be followed, the precautionary principle should be applied.

PRECAUTIONARY PRINCIPLE

Heritage NSW defines the Precautionary Principle as “*if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing cost-effective measures to prevent environmental degradation*” (DECC 2009, p.26).

The application of the precautionary principle should be guided through:

- A careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment.
- An assessment of the risk-weighted consequences of various options.

DECC (2009, p.26) states that the precautionary principle is relevant to the consideration of potential impacts on Aboriginal cultural heritage, where:

- The proposal involves a risk of severe or irreversible damage to Aboriginal objects and/or places or the value of those objects and/or places.
- There is uncertainty about the Aboriginal cultural heritage values, scientific, or archaeological values, including in relation to the integrity, rarity or representativeness of the Aboriginal objects or places proposed to be impacted.

Where either of the above is likely, a precautionary approach should be taken and all effective measures implemented to prevent or reduce harm to Aboriginal cultural heritage values.

10.3.2 TYPES OF HARM

When considering the nature of harm to Aboriginal objects and/or places, it is necessary to quantify direct and indirect harm. The types of harm, as defined in the Guide (OEH 2011, p.12), and are summarised in Table 10.2. These definitions will be used to quantify the nature of harm to identified Aboriginal objects and/or places that have been identified as part of this assessment. The Code states that the degree of harm can be either total or partial (DECCW 2010b, p.21).

Table 10.2 Definition of types of harm

Type of harm	Definition
Direct harm	May occur as the result of any activity which disturbs the ground including, but not limited to, site preparation activities, installation of services and infrastructure, roadworks, excavating detention ponds and other drainage or flood mitigation measures, and changes in water flows affecting the value of a cultural site.
Indirect harm	May affect sites or features located immediately beyond, or within, the area of the proposed activity. Examples of indirect impacts include, but are not limited to, increased impact on art in a shelter site from increased visitation, destruction from increased erosion and changes in access to wild food resources.

10.4 IMPACT ASSESSMENT

This ACHA has included a programme of investigations that have characterised the nature, extent and significance of Aboriginal sites within the study area.

A review of AHIMS identified the presence of a previously recorded site, WDRA_AX_37 (AHIMS # 52-5-0493) within the study area. WDRA_AX_37 is located outside of the proposed residential subdivision footprint and will not be harmed as part of the development. The archaeological survey identified an isolated artefact within the upper to mid-slope of the crest associated with YTOF_AS_9YTOF_AS_9 (AHIMS # 52-5-0848). This artefact is likely to represent a continuation of the surface artefact assemblage related to this site encountered as part of prior assessments (KNC 2019, pp.17–18). The artefact and the landform associated with YTOF_AS_9YTOF_AS_9 (AHIMS # 52-5-0848) is located outside the proposed subdivision footprint and is unlikely to be impacted by the project.

The test excavation programme identified four new sites, Calderwood Area 1 (AHIMS # 52-5-0967), Calderwood Area 2 (AHIMS # 52-5-0966), Calderwood Area 3 (AHIMS # 52-5-0965) and Calderwood Area 4 (AHIMS # 52-5-0964). Calderwood Area 2 to Calderwood Area 4 (AHIMS # 52-5-0966, 52-5-0965, and 54-5-0964) were identified as consisting of low-density artefact scatters, present within sub-surface profiles of moderate to shallow depth that were likely to have been displaced through the clearance and agricultural use of the study area. Further investigation of these sites is not required as part of any subsequent approvals.

Calderwood Area 1 (AHIMS # 52-5-0967) yielded test pits with a similar stratigraphic profile to YTOF_AS_9YTOF_AS_9 (AHIMS # 52-5-0848). The assemblage associated with Calderwood Area 1 (AHIMS # 52-5-0967) is similar in terms of raw material and composition to YTOF_AS_9 (AHIMS # 52-5-0848) and yielding one test pit with an artefact density of 20 per m², which is similar to the average densities encountered as part of the test excavations (27.1 per m²) and Stage 1 salvage excavations (22.8 per m²) (KNC 2019, p.58). This suggests that higher volumes of testing and / or salvage, such as those completed at YTOF_AS_9 (AHIMS # 52-5-0848) may

identify activity patterns within Calderwood Area 1 (AHIMS # 52-5-0967). Based on these results, Calderwood Area 1 (AHIMS # 52-5-0967) has been assessed as possessing moderate significance at this stage; however, this may need to be revised should further investigations take place. The proponent has altered the proposed subdivision layout to preserve the majority of Calderwood Area 1 (AHIMS # 52-5-0967) within an open space and reduce impacts to this site. This open space would provide public access to the site and has the potential to feature interpretive media. This would allow the general public and Aboriginal people to interpret the cultural values associated with Calderwood Area 1 (AHIMS # 52-5-0967), YTOF_AS_9 (AHIMS # 52-5-0848) and the broader landscape values associated with Marshall Mount Creek. Further investigation of Calderwood Area 1 (AHIMS # 52-5-0967) may be required, if landscaping works or infrastructure (i.e. pathways, roads, services) are proposed, however, this would be dependent on the extent of proposed impacts. Should significant impacts be proposed (i.e. development) within Calderwood Area 1 (AHIMS # 52-5-0967) then a more comprehensive testing program and / or salvage program may be required.

An evaluation of harm to the Aboriginal sites identified as part of the ACHA is summarised in Table 10.3.

Table 10.3 Assessment of harm to identified Aboriginal sites

Site name / AHIMS No.	Type of harm	Degree of harm	Consequence of harm
WDRA_AX_37 / 52-5-0493	None	None	None
YTOF_AS_9 / 52-5-0848	None	None	None
Calderwood Area 1 / 52-5-0967	None	None	None
Calderwood Area 2 / 52-5-0966	Direct	Whole	Total loss of value
Calderwood Area 3 / 52-5-0965	Direct	Whole	Total loss of value
Calderwood Area 4 / 52-5-0966	Direct	Whole	Total loss of value

The planning proposal would likely facilitate a residential development that could harm identified Aboriginal sites; however, these impacts would be restricted to sites that have been assessed as possessing little significance. The incorporation of an open space that will preserve Calderwood Area 1 (AHIMS # 52-5-0967), an area of moderate significance, and allow for access and interpretation of this site and broader Aboriginal heritage values is a positive outcome. This outcome is consistent with the principals of ESD, in particular intergenerational equity and the precautionary principle. Details of the proposed activity and their relationship to identified Aboriginal sites is outlined in Figure 10.1.

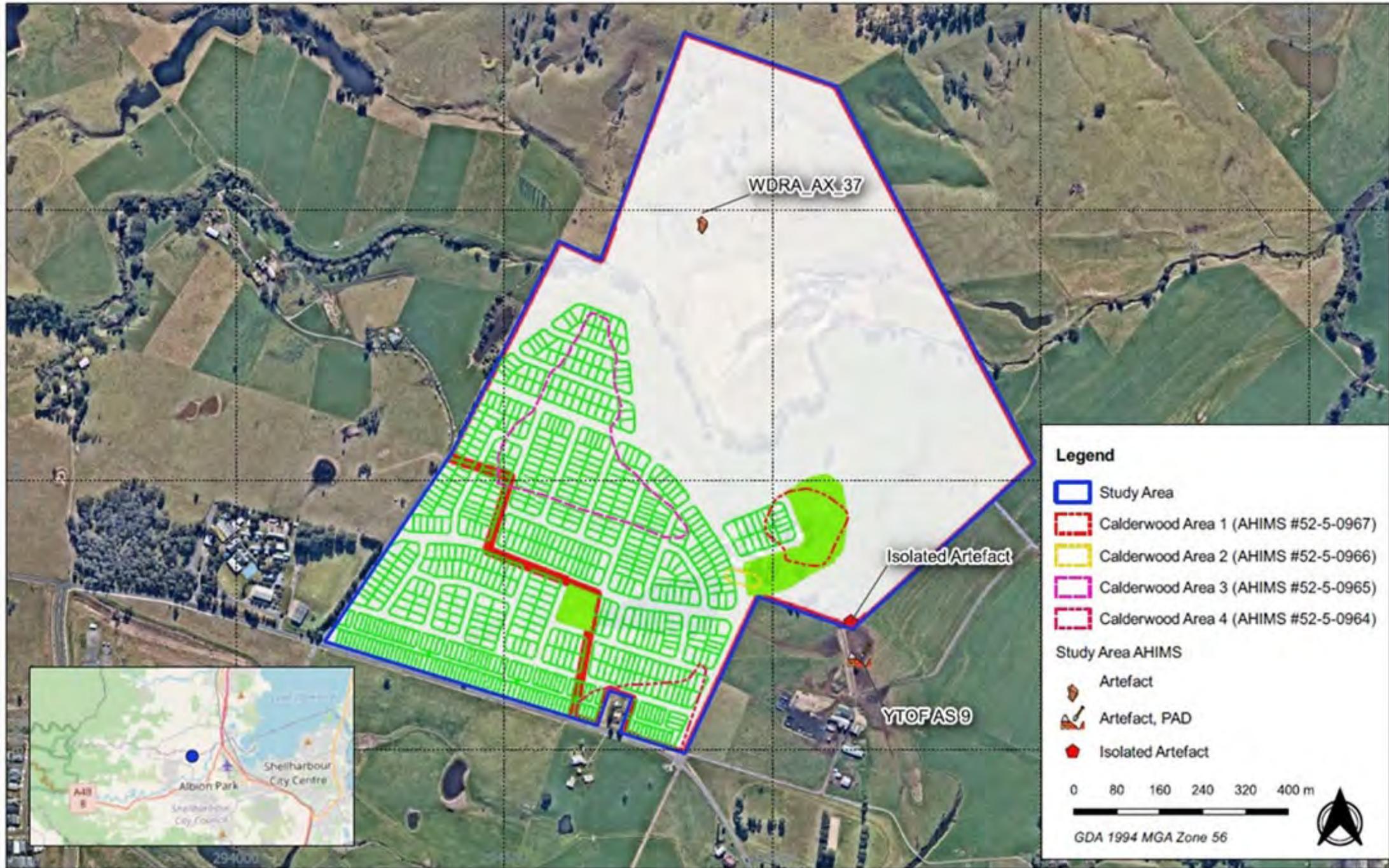


Figure 10.1 Proposed development in relation to identified Aboriginal Sites

Meadow Views, Calderwood, NSW

Source: OSM, Nearmap, INDESCO

Drawn by: WA Date: 2020-08-26

11. RECOMMENDATIONS

The following recommendations are derived from the test excavation results and refer to the findings described in this ACHA. The recommendations have been developed after considering the archaeological context, environmental information, consultation with the local Aboriginal community, and the findings of the test excavation and the predicted impact of the planning proposal on archaeological resources. They have also been discussed in preliminary terms in a meeting with Heritage NSW on 21 July 2020.

It is recommended that:

9. No further archaeological investigation is required for YTOF_AS_9 (AHIMS # 52-5-0848), WDRA_AX_37 (AHIMS #52-5-0493), Calderwood Area 2 (AHIMS # 52-5-0966), Calderwood Area 3 (AHIMS # 52-5-0965), and Calderwood Area 4 (AHIMS # 52-5-0964) as part of any subsequent Development Applications.
10. Calderwood Area 1 (AHIMS # 52-5-0967) should be preserved within an open space. The open space associated with Calderwood Area 1 (AHIMS # 52-5-0967), should include interpretive media that identifies the Aboriginal cultural values related to the landscape, including by not limited to Marshall Mount Creek, Calderwood Area 1, and YTOF_AS_9 (AHIMS # 52-5-0848).
11. Care should be taken to ensure that development plans avoid disturbances to Calderwood Area 1 (AHIMS # 52-5-0967). Examples where unintended impacts may transpire include excavation associated with drainage works and electrical cable trenching for lighting purposes.
12. Should ground disturbance be required within Calderwood Area 1 (AHIMS # 52-5-0967) additional archaeological testing and/or salvage excavation may be necessary. Additional testing would be needed for works that would have the potential to significantly impact upon the sub-surface archaeological deposits (i.e. extensive landscaping, bulk earthworks, planting and infrastructure). As the nature of the site has been quantified to a certain degree, additional testing may not be required where minimal works are proposed that are considered to have a minimal impact to sub-surface archaeological deposits (i.e. spreading topsoil, minor services and infrastructure). The extent of any salvage excavation, if required, would need to be determined based on the extent of proposed harm to sub-surface archaeological deposits.
13. Development of an Aboriginal Cultural Heritage Management Plan (ACHMP) will be commenced at the Planning Proposal stage, and will consider measures to ensure artefacts are preserved as part of the construction phase of the development and in the longer term once the residential development is complete. Refer further to minutes of meeting and post-meeting actions documented in the minutes of meeting with Heritage NSW on 21 July 2020 (see Appendix B).
14. The consultation outlined as part of this ACHA is valid for six months and must be maintained by the proponent for it to remain continuous. If a gap of more than six months occurs, then the consultation will not be suitable to support an AHIP for the project.
15. Before any works occurring, the proponent should apply for an AHIP in accordance with Section 90 of the National Parks and Wildlife Act 1974.
16. A copy of this report should be forwarded to all Aboriginal stakeholder groups who have registered an interest in the project.

12. REFERENCES

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13.APPENDICES

APPENDIX A – CONSULTATION

APPENDIX A.1 CONSULTATION LOG

Date	Method	From	To	Notes
01/04//2020	Email	Pauline Ramsey (Austral)	Govt. and Aboriginal Bodies	Sent all initial notification letters
01/04/2020	Newspaper Advert	<i>South Coast Register</i>	Shellharbour City Council LGA	Advert providing information relating to the project and inviting Aboriginal stakeholders to register an interest.
08/04/2020	Email	DPIE	Pauline Ramsey (Austral)	Aboriginal stakeholder list received
08/04/2020	Email	Pauline Ramsey (Austral)	Colin Davis	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Aaron Broad	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Andrew Bond	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Blaan Davis	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Gundagurra	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Clive Freeman	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Cullendulla	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Murra Bidgee Mullangari	Letter providing information on the project and invitation to register an interest on the project

Date	Method	From	To	Notes
08/04/2020	Email	Pauline Ramsey (Austral)	Gayle Watts	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Gordon Campbell	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	James Davis	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Jerringong	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Jodie Edwards	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Thoora Nura	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Karrial Johnson	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Munyunga	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Kayla Williamson	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Badu CHTS	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Kim Moran	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Gunyuu	Letter providing information on the project and invitation to register an interest on the project

Date	Method	From	To	Notes
08/04/2020	Email	Pauline Ramsey (Austral)	Leanne Tungai	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Barraby	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Wullung	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Leonard Wright	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Gumaraa	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Coomaditchie	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Murrumbul	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Warrabingi	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Nundagurri	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Noel Webster	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Owen Carriage	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Illawarra LALC	Letter providing information on the project and invitation to register an interest on the project

Date	Method	From	To	Notes
08/04/2020	Email	Pauline Ramsey (Austral)	Gundagurra	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Raymond Bariyu	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Richard Campbell	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Walgalu	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Murramurrang	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Biamanga	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Bilinga	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Troy Tungai	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Darug Land Observations	Letter providing information on the project and invitation to register an interest on the project
08/04/2020	Email	Pauline Ramsey (Austral)	Pemulwuy	Letter providing information on the project and invitation to register an interest on the project
22/04/2020	Email	Basil Smith	Pauline Ramsey (Austral)	Wishes to register an interest in the project
22/04/2020	Email	James Davies	Pauline Ramsey (Austral)	Wishes to register an interest in the project
22/04/2020	Email	Duncan Falk	Pauline Ramsey (Austral)	Wishes to register an interest in the project
23/04/2020	Email	Darleen Johnson	Pauline Ramsey	Wishes to register an interest in

Date	Method	From	To	Notes
			(Austral)	the project
23/04/2020	Email	Jesse Carroll Johnson	Pauline Ramsey (Austral)	Wishes to register an interest in the project
23/04/2020	Email	Lee Field	Pauline Ramsey (Austral)	Wishes to register an interest in the project
23/04/2020	Email	Corey Smith	Pauline Ramsey (Austral)	Wishes to register an interest in the project
23/04/2020	Email	Roxanne Smith	Pauline Ramsey (Austral)	Wishes to register an interest in the project
23/04/2020	Email	Richard Campbell	Pauline Ramsey (Austral)	Wishes to register an interest in the project
23/04/2020	Email	Hika Te	Pauline Ramsey (Austral)	Wishes to register an interest in the project
23/04/2020	Email	Badu	Pauline Ramsey (Austral)	Wishes to register an interest in the project
23/04/2020	Email	Thoorga Nura	Pauline Ramsey (Austral)	Wishes to register an interest in the project
23/04/2020	Email	Murrumbul	Pauline Ramsey (Austral)	Wishes to register an interest in the project
24/04/2020	Email	Leanne Tungai	Pauline Ramsey (Austral)	Wishes to register an interest in the project
27/04/2020	Email	Clive Freeman	Pauline Ramsey (Austral)	Wishes to register an interest in the project
27/04/2020	Email	Gumaraa	Pauline Ramsey (Austral)	Wishes to register an interest in the project
27/04/2020	Email	Illawarra LALC	Pauline Ramsey (Austral)	Wishes to register an interest in the project
27/04/2020	Email	Blaan Davis	Pauline Ramsey (Austral)	Wishes to register an interest in the project
24/04/2020	Email	Gary Caines	Pauline Ramsey (Austral)	Wishes to register an interest in the project
24/04/2020	Email	Troy Tungai	Pauline Ramsey (Austral)	Wishes to register an interest in the project
24/04/2020	Email	Munyunga	Pauline Ramsey (Austral)	Wishes to register an interest in the project
01/05/2020	Email	Pauline Ramsey (Austral)	Basil Smith	Letter sent providing detailed information regarding the development of the project and the nature of the archaeological investigations required for the ACHA in accordance with Stage 2 of the consultation

Date	Method	From	To	Notes
				requirements. Letter also provided detailed information on the assessment methodology for the project in accordance with stage 3 of the consultation requirements.
01/05/2020	Email	Pauline Ramsey (Austral)	James Davies	Letter sent providing detailed information regarding the development of the project and the nature of the archaeological investigations required for the ACHA in accordance with Stage 2 of the consultation requirements. Letter also provided detailed information on the assessment methodology for the project in accordance with stage 3 of the consultation requirements.
01/05/2020	Email	Pauline Ramsey (Austral)	Duncan Falk	Letter sent providing detailed information regarding the development of the project and the nature of the archaeological investigations required for the ACHA in accordance with Stage 2 of the consultation requirements. Letter also provided detailed information on the assessment methodology for the project in accordance with stage 3 of the consultation requirements.
01/05/2020	Email	Pauline Ramsey (Austral)	Darleen Johnson	Letter sent providing detailed information regarding the development of the project and the nature of the archaeological investigations required for the ACHA in accordance with Stage 2 of the consultation requirements. Letter also provided detailed information on the assessment methodology for the project in accordance with stage 3 of the consultation requirements.
01/05/2020	Email	Pauline Ramsey (Austral)	Jesse Carroll Johnson	Letter sent providing detailed information regarding the development of the project and the nature of the archaeological investigations required for the ACHA in accordance with Stage 2 of the consultation requirements. Letter also provided detailed information on the assessment methodology for the project in accordance with stage 3 of the consultation requirements.

Date	Method	From	To	Notes
01/05/2020	Email	Pauline Ramsey (Austral)	Lee Field	Letter sent providing detailed information regarding the development of the project and the nature of the archaeological investigations required for the ACHA in accordance with Stage 2 of the consultation requirements. Letter also provided detailed information on the assessment methodology for the project in accordance with stage 3 of the consultation requirements.
01/05/2020	Email	Pauline Ramsey (Austral)	Corey Smith	Letter sent providing detailed information regarding the development of the project and the nature of the archaeological investigations required for the ACHA in accordance with Stage 2 of the consultation requirements. Letter also provided detailed information on the assessment methodology for the project in accordance with stage 3 of the consultation requirements.
01/05/2020	Email	Pauline Ramsey (Austral)	Roxanne Smith	Letter sent providing detailed information regarding the development of the project and the nature of the archaeological investigations required for the ACHA in accordance with Stage 2 of the consultation requirements. Letter also provided detailed information on the assessment methodology for the project in accordance with stage 3 of the consultation requirements.
01/05/2020	Email	Pauline Ramsey (Austral)	Richard Campbell	Letter sent providing detailed information regarding the development of the project and the nature of the archaeological investigations required for the ACHA in accordance with Stage 2 of the consultation requirements. Letter also provided detailed information on the assessment methodology for the project in accordance with stage 3 of the consultation requirements.
01/05/2020	Email	Pauline Ramsey (Austral)	Hika Te	Letter sent providing detailed information regarding the development of the project and the nature of the archaeological investigations required for the ACHA in accordance with Stage

Date	Method	From	To	Notes
				2 of the consultation requirements. Letter also provided detailed information on the assessment methodology for the project in accordance with stage 3 of the consultation requirements.
01/05/2020	Email	Pauline Ramsey (Austral)	Badu	Letter sent providing detailed information regarding the development of the project and the nature of the archaeological investigations required for the ACHA in accordance with Stage 2 of the consultation requirements. Letter also provided detailed information on the assessment methodology for the project in accordance with stage 3 of the consultation requirements.
01/05/2020	Email	Pauline Ramsey (Austral)	Thoorga Nura	Letter sent providing detailed information regarding the development of the project and the nature of the archaeological investigations required for the ACHA in accordance with Stage 2 of the consultation requirements. Letter also provided detailed information on the assessment methodology for the project in accordance with stage 3 of the consultation requirements.
01/05/2020	Email	Pauline Ramsey (Austral)	Murrumbul	Letter sent providing detailed information regarding the development of the project and the nature of the archaeological investigations required for the ACHA in accordance with Stage 2 of the consultation requirements. Letter also provided detailed information on the assessment methodology for the project in accordance with stage 3 of the consultation requirements.
01/05/2020	Email	Pauline Ramsey (Austral)	Leanne Tungai	Letter sent providing detailed information regarding the development of the project and the nature of the archaeological investigations required for the ACHA in accordance with Stage 2 of the consultation requirements. Letter also provided detailed information on the assessment methodology for the project in accordance with stage 3 of the consultation

Date	Method	From	To	Notes
				requirements.
01/05/2020	Email	Pauline Ramsey (Austral)	Clive Freeman	Letter sent providing detailed information regarding the development of the project and the nature of the archaeological investigations required for the ACHA in accordance with Stage 2 of the consultation requirements. Letter also provided detailed information on the assessment methodology for the project in accordance with stage 3 of the consultation requirements.
01/05/2020	Email	Pauline Ramsey (Austral)	Gumaraa	Letter sent providing detailed information regarding the development of the project and the nature of the archaeological investigations required for the ACHA in accordance with Stage 2 of the consultation requirements. Letter also provided detailed information on the assessment methodology for the project in accordance with stage 3 of the consultation requirements.
01/05/2020	Email	Pauline Ramsey (Austral)	Illawarra LALC	Letter sent providing detailed information regarding the development of the project and the nature of the archaeological investigations required for the ACHA in accordance with Stage 2 of the consultation requirements. Letter also provided detailed information on the assessment methodology for the project in accordance with stage 3 of the consultation requirements.
01/05/2020	Email	Pauline Ramsey (Austral)	Blaan Davis	Letter sent providing detailed information regarding the development of the project and the nature of the archaeological investigations required for the ACHA in accordance with Stage 2 of the consultation requirements. Letter also provided detailed information on the assessment methodology for the project in accordance with stage 3 of the consultation requirements.
01/05/2020	Email	Pauline Ramsey (Austral)	Gary Caines	Letter sent providing detailed information regarding the development of the project and the nature of the archaeological

Date	Method	From	To	Notes
				investigations required for the ACHA in accordance with Stage 2 of the consultation requirements. Letter also provided detailed information on the assessment methodology for the project in accordance with stage 3 of the consultation requirements.
01/05/2020	Email	Pauline Ramsey (Austral)	Troy Tungai	Letter sent providing detailed information regarding the development of the project and the nature of the archaeological investigations required for the ACHA in accordance with Stage 2 of the consultation requirements. Letter also provided detailed information on the assessment methodology for the project in accordance with stage 3 of the consultation requirements.
01/05/2020	Email	Pauline Ramsey (Austral)	Munyunga	Letter sent providing detailed information regarding the development of the project and the nature of the archaeological investigations required for the ACHA in accordance with Stage 2 of the consultation requirements. Letter also provided detailed information on the assessment methodology for the project in accordance with stage 3 of the consultation requirements.
01/05/2020	Email	Blaan Davies	Pauline Ramsey (Austral)	Letter stating that he would like to be engaged with any further development of the project.
01/05/2020	Email	Muragadi	Pauline Ramsey (Austral)	Letter stating that they would like to register for the work.
02/05/2020	Email	Troy Tungai	Pauline Ramsey (Austral)	Agrees with the methodology for the project.
11/05/2020	Email	Murra Bidgee Mullangari	Pauline Ramsey (Austral)	Agrees with the methodology for the project.
12/05/2020	Email	Bo Field	Pauline Ramsey (Austral)	Agrees with the methodology for the project.
12/05/2020	Email	Muragadi	Pauline Ramsey (Austral)	Agrees with the methodology for the project.
22/09/2020	Email	Miles Robson (Austral)	Raymond Bariyu	Draft ACHA and AAR sent for review as part of stage 4 consultation

Date	Method	From	To	Notes
22/09/2020	Email	Miles Robson (Austral)	Aaron Broad	Draft ACHA and AAR sent for review as part of stage 4 consultation
22/09/2020	Email	Miles Robson (Austral)	Badu	Draft ACHA and AAR sent for review as part of stage 4 consultation
22/09/2020	Email	Miles Robson (Austral)	Basil Smith	Draft ACHA and AAR sent for review as part of stage 4 consultation
22/09/2020	Email	Miles Robson (Austral)	Colin Davis	Draft ACHA and AAR sent for review as part of stage 4 consultation
22/09/2020	Email	Miles Robson (Austral)	Biamanga	Draft ACHA and AAR sent for review as part of stage 4 consultation
22/09/2020	Email	Miles Robson (Austral)	Bilinga	Draft ACHA and AAR sent for review as part of stage 4 consultation
22/09/2020	Email	Miles Robson (Austral)	Blaan Davies	Draft ACHA and AAR sent for review as part of stage 4 consultation
22/09/2020	Email	Miles Robson (Austral)	Bo Field	Draft ACHA and AAR sent for review as part of stage 4 consultation
22/09/2020	Email	Miles Robson (Austral)	Clive Freeman	Draft ACHA and AAR sent for review as part of stage 4 consultation
22/09/2020	Email	Miles Robson (Austral)	Coomaditchie	Draft ACHA and AAR sent for review as part of stage 4 consultation
22/09/2020	Email	Miles Robson (Austral)	Cullendulla	Draft ACHA and AAR sent for review as part of stage 4 consultation
22/09/2020	Email	Miles Robson (Austral)	Darryl Caines	Draft ACHA and AAR sent for review as part of stage 4 consultation
22/09/2020	Email	Miles Robson (Austral)	Dharug	Draft ACHA and AAR sent for review as part of stage 4 consultation
22/09/2020	Email	Miles Robson (Austral)	Darug Land Observations	Draft ACHA and AAR sent for review as part of stage 4 consultation
22/09/2020	Email	Miles Robson (Austral)	Duncan Falk	Draft ACHA and AAR sent for review as part of stage 4 consultation

Date	Method	From	To	Notes
22/09/2020	Email	Miles (Austral) Robson	Gayle White	Draft ACHA and AAR sent for review as part of stage 4 consultation
22/09/2020	Email	Miles (Austral) Robson	Gordon Campbell	Draft ACHA and AAR sent for review as part of stage 4 consultation
22/09/2020	Email	Miles (Austral) Robson	Gundungurra	Draft ACHA and AAR sent for review as part of stage 4 consultation
22/09/2020	Email	Miles (Austral) Robson	Illawarra LALC	Draft ACHA and AAR sent for review as part of stage 4 consultation
22/09/2020	Email	Miles (Austral) Robson	Jerringong	Draft ACHA and AAR sent for review as part of stage 4 consultation
22/09/2020	Email	Miles (Austral) Robson	Karrial	Draft ACHA and AAR sent for review as part of stage 4 consultation
22/09/2020	Email	Miles (Austral) Robson	Lee Field	Draft ACHA and AAR sent for review as part of stage 4 consultation
22/09/2020	Email	Miles (Austral) Robson	Murrumurang	Draft ACHA and AAR sent for review as part of stage 4 consultation
22/09/2020	Email	Miles (Austral) Robson	Murrumbul	Draft ACHA and AAR sent for review as part of stage 4 consultation
22/09/2020	Email	Miles (Austral) Robson	Noel Webster	Draft ACHA and AAR sent for review as part of stage 4 consultation
22/09/2020	Email	Miles (Austral) Robson	Nundagurri	Draft ACHA and AAR sent for review as part of stage 4 consultation
22/09/2020	Email	Miles (Austral) Robson	Owen Carriage	Draft ACHA and AAR sent for review as part of stage 4 consultation
22/09/2020	Email	Miles (Austral) Robson	Pemulwuy	Draft ACHA and AAR sent for review as part of stage 4 consultation
22/09/2020	Email	Miles (Austral) Robson	Richard Campbell	Draft ACHA and AAR sent for review as part of stage 4 consultation
22/09/2020	Email	Miles (Austral) Robson	Ryan Johnson	Draft ACHA and AAR sent for review as part of stage 4 consultation

Date	Method	From	To	Notes
22/09/2020	Email	Miles Robson (Austral)	Thoora Nura	Draft ACHA and AAR sent for review as part of stage 4 consultation
22/09/2020	Email	Miles Robson (Austral)	Troy Tungai	Draft ACHA and AAR sent for review as part of stage 4 consultation
22/09/2020	Email	Miles Robson (Austral)	Walbunja	Draft ACHA and AAR sent for review as part of stage 4 consultation
22/09/2020	Email	Miles Robson (Austral)	James Davis	Draft ACHA and AAR sent for review as part of stage 4 consultation
22/09/2020	Email	Miles Robson (Austral)	Walgalu	Draft ACHA and AAR sent for review as part of stage 4 consultation

APPENDIX A.2 STAGE 1 CONSULTATION DOCUMENTATION



South East Branch
Office of Environment and Heritage
Planning and Aboriginal Heritage Section
PO Box 513
Wollongong NSW 2520
Rose.O'Sullivan@environment.nsw.gov.au

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

To Rose,

I am writing to advise you that INDESCO has commissioned Austral Archaeology to undertake an Aboriginal cultural heritage assessment in regard to the rezoning of 144 Calderwood Road (Lot 2 DP651377), Calderwood New South Wales. The proposed works are being undertaken as part of a Review of Environmental Factors under Part 5 of the *Environmental Planning and Assessment Act 1979*. The study area is situated within the Shoalhaven City Council Local Government Area (LGA) and is located within the boundaries of the Illawarra Local Aboriginal Land Council.

This project will include individuals from the Illawarra Local Aboriginal Land Council and other local Aboriginal community representatives who register their interest. Aboriginal stakeholders will also be invited to register their interest through a public notice to be published in a local newspaper in accordance with the OEH's *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*. Registration of interest will close 14 days after the advert appears in the newspaper. Aboriginal stakeholders may still register their interest after this date however formal consultation may commence from this time.

Placement of these public notices and advisement of the project's commencement to local councils, Catchment Management Authorities and the Registrar is a requirement under the OEH's *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*. Austral Archaeology welcomes any advice and assistance your organisation may provide in identifying Aboriginal owners in the Illawarra region. In particular, are you able to provide contact details for any established Aboriginal reference groups within your region?

Please do not hesitate to contact me for further information.

Yours faithfully,



Pauline Ramsey
Archaeologist
Austral Archaeology
46 Railway Street, Liverpool, 2170
M 0419 264 344
E pauliner@australarch.com.au

AUSTRAL ARCHAEOLOGY PTY LTD, 46 RAILWAY STREET, LIVERPOOL NSW 2170
Website: www.australarchaeology.com.au
ABN 55 629 800875

Letter sent to Heritage NSW providing information on the project and requesting any information on Aboriginal stakeholders that may wish to register an interest in the project.

Paul Knight
Illawarra Local Aboriginal Land Council
3 Ellen Street
Wollongong
NSW 2500
heritage@ilalc.org.au

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

To Mr. Knight,

I am writing to advise you that INDESCO has commissioned Austral Archaeology to undertake an Aboriginal cultural heritage assessment in regard to the rezoning of 144 Calderwood Road (Lot 2 DP651377), Calderwood New South Wales. The proposed works are being undertaken as part of a Review of Environmental Factors under Part 5 of the *Environmental Planning and Assessment Act 1979*. The study area is situated within the Shoalhaven City Council Local Government Area (LGA) and is located within the boundaries of the Illawarra Local Aboriginal Land Council.

This project will include individuals from the Illawarra Local Aboriginal Land Council and other local Aboriginal community representatives who register their interest. Aboriginal stakeholders will also be invited to register their interest through a public notice to be published in a local newspaper in accordance with the OEH's *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*. Registration of interest will close 14 days after the advert appears in the newspaper. Aboriginal stakeholders may still register their interest after this date however formal consultation may commence from this time.

Placement of these public notices and advisement of the project's commencement to local councils, Catchment Management Authorities and the Registrar is a requirement under the OEH's *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*. Austral Archaeology welcomes any advice and assistance your organisation may provide in identifying Aboriginal owners in the Illawarra region. In particular, are you able to provide contact details for any established Aboriginal reference groups within your region?

Please do not hesitate to contact me for further information.

Yours faithfully,



Pauline Ramsey
Archaeologist
Austral Archaeology
46 Railway Street, Liverpool, 2170
M 0419 264 344
E pauliner@australarch.com.au

Letter sent to Illawarra LALC providing information on the project and requesting any information on Aboriginal stakeholders that may wish to register an interest in the project.



The General Manager
Shellharbour City Council
Locked Bag 155
Shellharbour City Centre NSW 2529
council@shellharbour.nsw.gov.au

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

To whom it may concern,

I am writing to advise you that INDESCO has commissioned Austral Archaeology to undertake an Aboriginal cultural heritage assessment in regard to the rezoning of 144 Calderwood Road (Lot 2 DP651377), Calderwood New South Wales. The proposed works are being undertaken as part of a Review of Environmental Factors under Part 5 of the *Environmental Planning and Assessment Act 1979*. The study area is situated within the Shoalhaven City Council Local Government Area (LGA) and is located within the boundaries of the Illawarra Local Aboriginal Land Council.

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Please do not hesitate to contact me for further information.

Yours faithfully,



Pauline Ramsey
Archaeologist
Austral Archaeology
46 Railway Street, Liverpool, 2170
M 0419 264 344
E pauliner@australarch.com.au

Letter sent to Shellharbour Council providing information on the project and requesting any information on Aboriginal stakeholders that may wish to register an interest in the project.



National Native Title Tribunal
GPO Box 9973
Sydney NSW 2001
enquires@nntt.gov.au

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

To whom it may concern,

I am writing to advise you that INDESCO has commissioned Austral Archaeology to undertake an Aboriginal cultural heritage assessment in regard to the rezoning of 144 Calderwood Road (Lot 2 DP651377), Calderwood New South Wales. The proposed works are being undertaken as part of a Review of Environmental Factors under Part 5 of the *Environmental Planning and Assessment Act 1979*. The study area is situated within the Shoalhaven City Council Local Government Area (LGA) and is located within the boundaries of the Illawarra Local Aboriginal Land Council.

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Please do not hesitate to contact me for further information.

Yours faithfully,



Pauline Ramsey
Archaeologist
Austral Archaeology
46 Railway Street, Liverpool, 2170
M 0419 264 344
E pauliner@australarch.com.au

Letter sent to NNTT providing information on the project and requesting any information on Aboriginal stakeholders that may wish to register an interest in the project.



Our Reference: 2013
1 April 2020

NTSCORP
PO Box 2105
Strawberry Hills NSW 2012
information@ntscorp.com.au

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

To whom it may concern,

I am writing to advise you that INDESCO has commissioned Austral Archaeology to undertake an Aboriginal cultural heritage assessment in regard to the rezoning of 144 Calderwood Road (Lot 2 DP651377), Calderwood New South Wales. The proposed works are being undertaken as part of a Review of Environmental Factors under Part 5 of the *Environmental Planning and Assessment Act 1979*. The study area is situated within the Shoalhaven City Council Local Government Area (LGA) and is located within the boundaries of the Illawarra Local Aboriginal Land Council.

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Please do not hesitate to contact me for further information.

Yours faithfully,



Pauline Ramsey
Archaeologist
Austral Archaeology
46 Railway Street, Liverpool, 2170
M 0419 264 344
E pauliner@australarch.com.au

AUSTRAL ARCHAEOLOGY PTY LTD, 46 RAILWAY STREET, LIVERPOOL NSW 2170
Website: www.australarchaeology.com.au
ABN 55 629 880975

Letter sent to NTSCORP providing information on the project and requesting any information on Aboriginal stakeholders that may wish to register an interest in the project.

Registrar of Aboriginal Land Rights
PO Box 5068
Parramatta NSW 2124
adminofficer@oralra.nsw.gov.au

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

To Rose,

I am writing to advise you that INDESCO has commissioned Austral Archaeology to undertake an Aboriginal cultural heritage assessment in regard to the rezoning of 144 Calderwood Road (Lot 2 DP651377), Calderwood New South Wales. The proposed works are being undertaken as part of a Review of Environmental Factors under Part 5 of the *Environmental Planning and Assessment Act 1979*. The study area is situated within the Shoalhaven City Council Local Government Area (LGA) and is located within the boundaries of the Illawarra Local Aboriginal Land Council.

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Please do not hesitate to contact me for further information.

Yours faithfully,



Pauline Ramsey
Archaeologist
Austral Archaeology
46 Railway Street, Liverpool, 2170
M 0419 264 344
E pauliner@australarch.com.au

Letter sent to Registrar of Aboriginal Land Rights providing information on the project and requesting any information on Aboriginal stakeholders that may wish to register an interest in the project.



Southern Rivers Catchment Management Authority
PO Box 3095
Level 1, 84 Crown Street, Wollongong
Wollongong East NSW 2500
enquiry.southeast@lls.nsw.gov.au

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

To whom it may concern,

I am writing to advise you that INDESCO has commissioned Austral Archaeology to undertake an Aboriginal cultural heritage assessment in regard to the rezoning of 144 Calderwood Road (Lot 2 DP651377), Calderwood New South Wales. The proposed works are being undertaken as part of a Review of Environmental Factors under Part 5 of the *Environmental Planning and Assessment Act 1979*. The study area is situated within the Shoalhaven City Council Local Government Area (LGA) and is located within the boundaries of the Illawarra Local Aboriginal Land Council.

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Please do not hesitate to contact me for further information.

Yours faithfully,



Pauline Ramsey
Archaeologist
Austral Archaeology
46 Railway Street, Liverpool, 2170
M 0419 264 344
E pauliner@australarch.com.au

Letter sent to Southern Rivers Catchment Management Authority providing information on the project and requesting any information on Aboriginal stakeholders that may wish to register an interest in the project.



8 April 2020

Pauline Ramsey
Austral Archaeology
46 Railway Street
Liverpool, NSW 2170

By email: pauliner@australarch.com.au

Dear Pauline

**REQUEST FOR INFORMATION ABOUT POTENTIAL ABORIGINAL STAKEHOLDERS AS
REQUIRED UNDER OEH ABORIGINAL CULTURAL HERITAGE CONSULTATION
REQUIREMENTS FOR PROPONENTS 2010**

RE: 144 Calderwood Road, Calderwood

Thank you for your request of 1 April 2020 regarding the above matter. Attached is a list of known Aboriginal parties for the Shellharbour Local Government Area. OEH believes these groups and individuals are likely to have an interest in the project.

The consultation process involves getting the views of, and information from, Aboriginal people and reporting on these. It is not to be confused with other field assessment processes involved in preparing a proposal and a permit application. Consultation does not include the employment of Aboriginal people to assist in field assessment and/or site monitoring. Aboriginal people may provide services to proponents through a contractual arrangement, however, this is separate from consultation. The proponent is not obliged to employ those Aboriginal people registered for consultation. Consultation as per the requirements will continue irrespective of potential or actual employment opportunities for Aboriginal people.

This list is not necessarily an exhaustive list of all interested Aboriginal parties and does not remove the requirement of a proponent or consultant to advertise in local print media and contact other groups in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (April 2010).

The contact details in the attached list are provided solely for the purpose of contacting people about this project. The contact details must remain private and must not be reproduced in publicly available reports or other documents.

Under Section 4.1.6 of the Consultation Requirements you must also provide a copy of the names of each Aboriginal person who registered an interest to the relevant OEH regional office and Local Aboriginal Land Council (LALC) within 28 days of the closing date for registering an interest.

Please note that the contact details in the list provided by OEH may be out of date as the list relies on Aboriginal parties advising OEH when their details need changing. If you are aware of any incorrect

PO Box 513 Wollongong NSW 2520
84 Crown Street, Wollongong NSW 2500
Email: rog.ilawarra@environment.nsw.gov.au

Page 2

contact details on the list please contact OEH. AHIP applicants should make a note of any group they are unable to contact as part of their consultation record.

If you wish to discuss any of the above matters further please contact Rose O'Sullivan on 4224 4177.

Yours sincerely



Chris Page
Senior Team Leader Planning
Regional Operations Group
Office of Environment and Heritage

Enclosure: Attachment 1: Shellharbour LGA

Response from Heritage NSW providing a list of stakeholders that may wish to register an interest in the project.

22/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey
Wed 22/04/2020 5:14 PM
bblalc@bigpond.com



144 Calderwood Stage 1.pdf
1 MB

Dear Colin Davis,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

Thank you for your understanding and if you have any questions please do not hesitate to contact me.

Sincerely,

Pauline Ramsey
Archaeologist
BA. Anth. & IDS

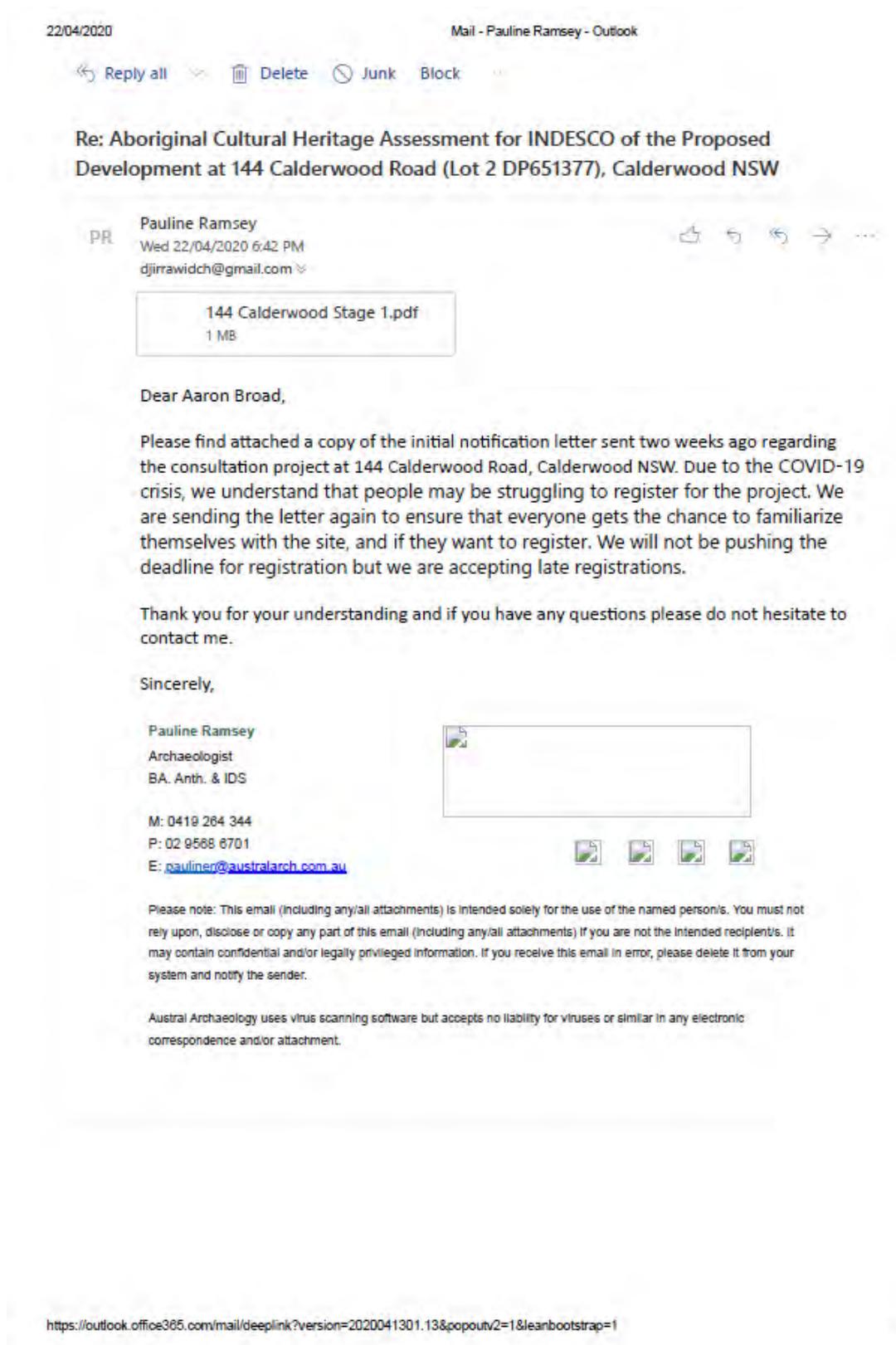
M: 0419 264 344
P: 02 9568 8701
E: pauliner@australarch.com.au



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Letter sent to Colin Davis providing an invitation to register an interest for the project.



Letter sent to Aaron Broad providing an invitation to register an interest for the project.

22/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey
Wed 22/04/2020 5:38 PM
dharugchts@gmail.com



144 Calderwood Stage 1.pdf
1 MB

Dear Andrew Bond,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

Thank you for your understanding and if you have any questions please do not hesitate to contact me.

Sincerely,

Pauline Ramsey
Archaeologist
BA. Anth. & IDS

M: 0419 284 344
P: 02 9568 8701

E: pauliner@australarch.com.au



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1/1

Letter sent to Andrew Bond providing an invitation to register an interest for the project.

23/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR: Pauline Ramsey
Wed 22/04/2020 7:41 PM
bd875@uow.edu.au



144 Calderwood Stage 1.pdf
1 MB

Dear Blaen Davis,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

Thank you for your understanding and if you have any questions please do not hesitate to contact me.

Sincerely,

Pauline Ramsey
Archaeologist
BA, Anth. & IDS

M: 0410 284 344
P: 02 9588 6701

E: pauliner@australarch.com.au



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1/1

Letter sent to Blaen Davis providing an invitation to register an interest for the project.

22/04/2020 Mail - Pauline Ramsey - Outlook

[Reply all](#) [Delete](#) [Junk](#) [Block](#)

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR **Pauline Ramsey**
Wed 22/04/2020 6:24 PM
gundungurratectribseices@gmail.com ✉

144 Calderwood Stage 1.pdf
1 MB

Dear Christopher Payne,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. As a follow up to our earlier phone conversation, I have registered you and your group for this project.

Thank you for your understanding and if you have any questions please do not hesitate to contact me.

Sincerely,

Pauline Ramsey
Archaeologist
BA. Anth. & IDS

M: 0419 284 344
P: 02 9588 6701
E: pauliner@australarch.com.au




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<https://outlook.office365.com/mail/deeplink?version=2020041301.13&popoutv2=1&leanbootstrap=1> 1/1

Letter sent to Gundagarra providing an invitation to register an interest for the project.

23/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey
Wed 22/04/2020 7:48 PM
clive.freeman@y7mail.com



144 Calderwood Stage 1.pdf
1 MB

Dear Clive Freeman,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

Thank you for your understanding and if you have any questions please do not hesitate to contact me.

Sincerely,

Pauline Ramsey
Archaeologist
BA, Anth. & IDS

M: 0410 264 344
P: 02 9568 6701
E: pauliner@australarch.com.au



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1/1

Letter sent to Clive Freeman providing an invitation to register an interest for the project.

22/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey
Wed 22/04/2020 5:34 PM
cullendullachts@gmail.com



144 Calderwood Stage 1.pdf
1 MB

Dear Corey Smith,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

Thank you for your understanding and if you have any questions please do not hesitate to contact me.

Sincerely,

Pauline Ramsey
Archaeologist
BA. Anth. & IDS



M: 0419 264 344
P: 02 9568 6701
E: pauliner@australarch.com.au



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1/1

Letter sent to Cullendulla providing an invitation to register an interest for the project.

22/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey
Wed 22/04/2020 7:26 PM
murrabidgeemullangari@yahoo.com.au

144 Calderwood Stage 1.pdf
1 MB

Dear Darleen Johnson,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

Thank you for your understanding and if you have any questions please do not hesitate to contact me.

Sincerely,

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Archaeologist
BA, Anth. & IDS

M: 0410 264 344
P: 02 9568 6701
E: pauliner@australarch.com.au



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Letter sent to Murra Bidgee Mullangari providing an invitation to register an interest for the project.

22/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey
Wed 22/04/2020 5:59 PM
gundungurratectribsevice@gmail.com

144 Calderwood Stage 1.pdf
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Dear David Bell,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

Thank you for your understanding and if you have any questions please do not hesitate to contact me.

Sincerely,

Pauline Ramsey
Archaeologist
BA, Anth. & IDS

M: 0419 264 344
P: 02 9568 6701
E: pauliner@australarch.com.au



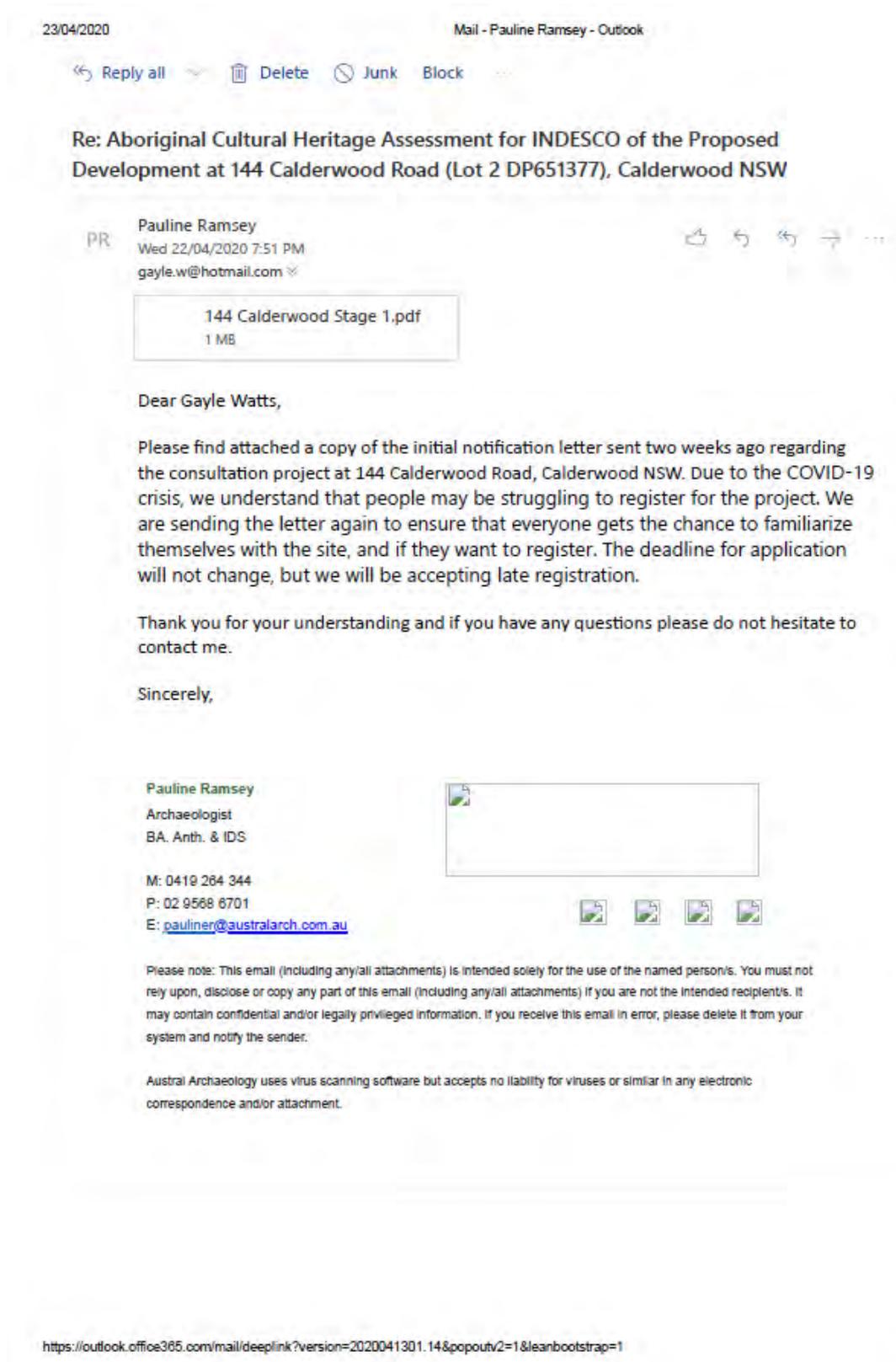
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Letter sent to David Bell providing an invitation to register an interest for the project.



Letter sent to Gayle Watts providing an invitation to register an interest for the project.

22/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey
Wed 22/04/2020 5:40 PM
gordy2540@hotmail.com



144 Calderwood Stage 1.pdf
1 MB

Dear Gordon Campbell,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

Thank you for your understanding and if you have any questions please do not hesitate to contact me.

Sincerely,

Pauline Ramsey
Archaeologist
BA. Anth. & IDS

M: 0419 284 344
P: 02 9568 8701

E: pauliner@australarch.com.au



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Letter sent to Gordon Campbell providing an invitation to register an interest for the project.

23/04/2020

Mail - Pauline Ramsey - Outlook

Reply all ✓ Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey
Wed 22/04/2020 7:48 PM
jvdcorp@hotmail.com ✉



144 Calderwood Stage 1.pdf
1 MB

Dear James Davis,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

Thank you for your understanding and if you have any questions please do not hesitate to contact me.

Sincerely,

Pauline Ramsey
Archaeologist
BA, Anth. & IDS

M: 0419 264 344
P: 02 9568 8701

E: pauliner@australarch.com.au



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1/1

Letter sent to James Davis providing an invitation to register an interest for the project.

22/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey
Wed 22/04/2020 6:38 PM
jerringong@gmail.com



144 Calderwood Stage 1.pdf
1 MB

Dear Jodie Anne Stewart,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. We will not be pushing the deadline for registration but we are accepting late registrations.

Thank you for your understanding and if you have any questions please do not hesitate to contact me.

Sincerely,

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1/1

Letter sent to Jodie Stewart providing an invitation to register an interest for the project.

22/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR

Pauline Ramsey
Wed 22/04/2020 6:03 PM
oldmanwisdomgumaraa@gmail.com



144 Calderwood Stage 1.pdf
1 MB

Dear Jodie Edwards,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

Thank you for your understanding and if you have any questions please do not hesitate to contact me.

Sincerely,

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1/1

Letter sent to Jodie Edwards providing an invitation to register an interest for the project.

23/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey
Wed 22/04/2020 7:33 PM
thoorganura@gmail.com



144 Calderwood Stage 1.pdf
1 MB

Dear John Carriage,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

Thank you for your understanding and if you have any questions please do not hesitate to contact me.

Sincerely,

Pauline Ramsey
Archaeologist
BA, Anth. & IDS

M: 0419 264 344
P: 02 9568 6701

E: pauliner@australarch.com.au



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1/1

Letter sent to John Carriage providing an invitation to register an interest for the project.

22/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey
Wed 22/04/2020 6:40 PM
karrialchts@gmail.com



144 Calderwood Stage 1.pdf
1 MB

Dear Karrial Johnson,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. We will not be pushing the deadline for registration but we are accepting late registrations.

Thank you for your understanding and if you have any questions please do not hesitate to contact me.

Sincerely,

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BA. Anth. & IDS

M: 0419 264 344
P: 02 9588 8701
E: pauliner@australarch.com.au



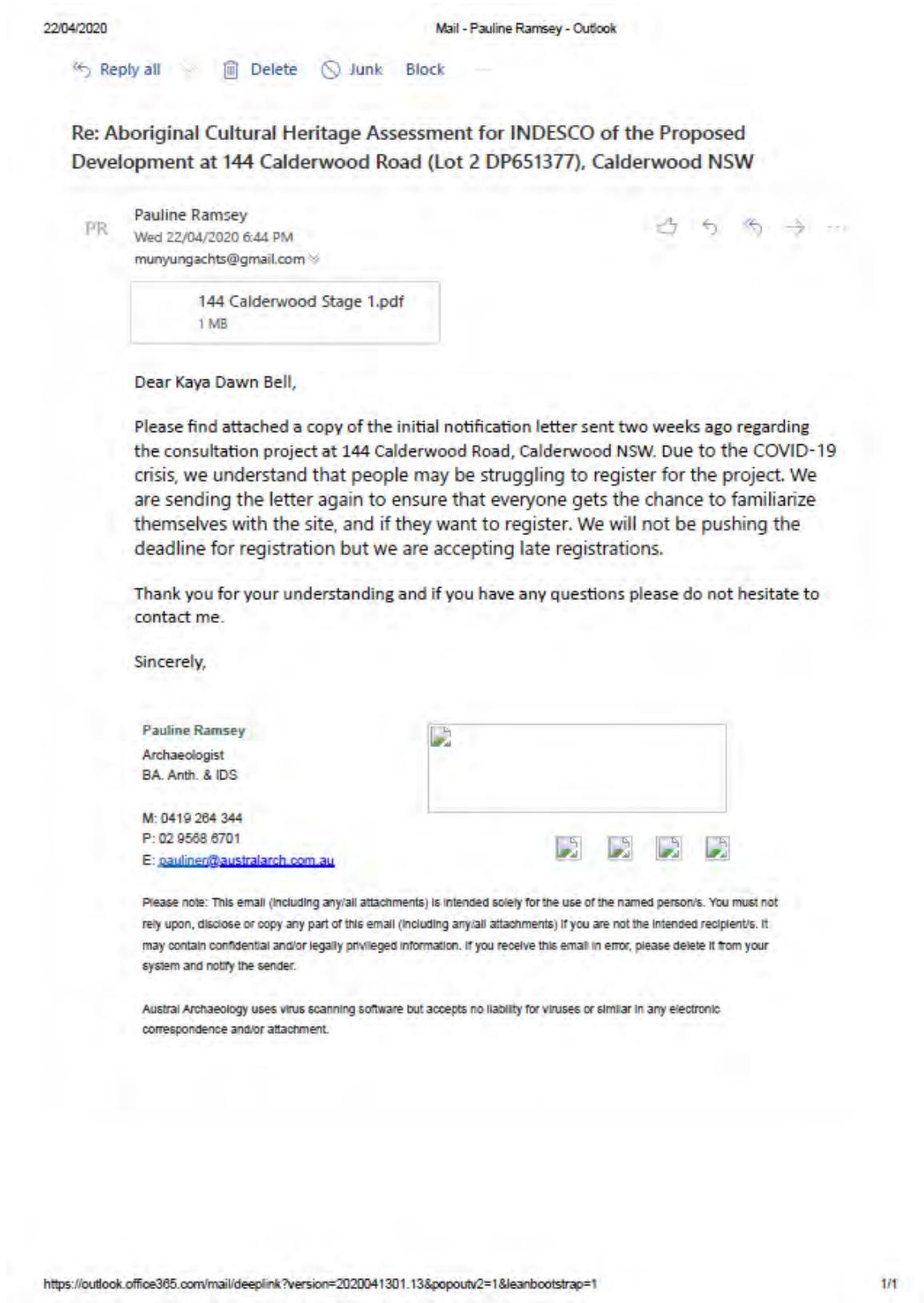
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1/1

Letter sent to Karria Johnson providing an invitation to register an interest for the project.



Letter sent to Kayla Bell providing an invitation to register an interest for the project.

23/04/2020 Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey 📧 🔄 ⏪ ⏩ ⋮
Wed 22/04/2020 7:39 PM
Kayla Williamson <Kayla_87@hotmail.com> ✉

144 Calderwood Stage 1.pdf
1 MB

Dear Kayla Williamson,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

Thank you for your understanding and if you have any questions please do not hesitate to contact me.

Sincerely,

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Letter sent to Kayla Williamson providing an invitation to register an interest for the project.

22/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

FWD: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey
Wed 22/04/2020 5:07 PM
baduchts@gmail.com



144 Calderwood Stage 1.pdf
1 MB

Dear Karia Lee Bond,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

Thank you for your understanding and if you have any questions please do not hesitate to contact me.

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Archaeologist
BA, Anth. & IDS



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E: pauliner@australarch.com.au



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Letter sent to Keira Bond providing an invitation to register an interest for the project.

22/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey
Wed 22/04/2020 5:16 PM
kimmoran@hotmail.com



144 Calderwood Stage 1.pdf
1 MB

Dear Kim Moran,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

Thank you for your understanding and if you have any questions please do not hesitate to contact me.

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1/1

Letter sent to Kim Moran providing an invitation to register an interest for the project.

22/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey
Wed 22/04/2020 6:29 PM
gunyuuchts@gmail.com



144 Calderwood Stage 1.pdf
1 MB

Dear Kylie Ann Bell,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. As a follow up to our earlier phone conversation, I have registered you and your group for this project.

Thank you for your understanding and if you have any questions please do not hesitate to contact me.

Sincerely,

Pauline Ramsey
Archaeologist
BA. Anth. & IDS

M: 0419 264 344
P: 02 9568 8701
E: pauliner@australarch.com.au



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1/1

Letter sent to Kylie Ann Bell providing an invitation to register an interest for the project.

23/04/2020

Mail - Pauline Ramsey - Outlook

Reply all ✓ Delete Junk Block ...

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey
Wed 22/04/2020 7:49 PM
leannecaroltungai@gmail.com ✉



144 Calderwood Stage 1.pdf
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Dear Leanne Tungai,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

Thank you for your understanding and if you have any questions please do not hesitate to contact me.

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1/1

Letter sent to Leanne Tungai providing an invitation to register an interest for the project.

22/04/2020

Mail - Pauline Ramsey - Outlook

Reply all ✓ Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey
Wed 22/04/2020 5:11 PM
barrabyculturalservices@gmail.com

144 Calderwood Stage 1.pdf
1 MB

Dear Lee Field,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

Thank you for your understanding and if you have any questions please do not hesitate to contact me.

Sincerely,

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Archaeologist
BA, Anth. & IDS



M: 0419 264 344
P: 02 9568 6701
E: pauliner@australarch.com.au



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Letter sent to Lee Field providing an invitation to register an interest for the project.

23/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey
Wed 22/04/2020 7:40 PM
wullunglb@gmail.com



144 Calderwood Stage 1.pdf
1 MB

Dear Lee-Roy James Boota,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

Thank you for your understanding and if you have any questions please do not hesitate to contact me.

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P: 02 9588 8701
E: pauliner@australarch.com.au



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1/1

Letter sent to Lee-Roy James Boota providing an invitation to register an interest for the project.

23/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey
Wed 22/04/2020 7:34 PM
lbjwright1977@hotmail.com



144 Calderwood Stage 1.pdf
1 MB

Dear Leonard Wright,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

Thank you for your understanding and if you have any questions please do not hesitate to contact me.

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E: pauliner@australarch.com.au



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1/1

Letter sent to Leonard Wright providing an invitation to register an interest for the project.

22/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey
Wed 22/04/2020 6:05 PM
oldmanwisdomgumaraa@gmail.com

144 Calderwood Stage 1.pdf
1 MB

Dear Lisa Bazzano,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

Thank you for your understanding and if you have any questions please do not hesitate to contact me.

Sincerely,

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Archaeologist
BA. Anth. & IDS

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P: 02 9568 6701
E: pauliner@australarch.com.au



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1/1

Letter sent to Lisa Bazzano providing an invitation to register an interest for the project.

22/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey
Wed 22/04/2020 5:32 PM
coomaditchie@gmail.com



144 Calderwood Stage 1.pdf
1 MB

Dear Lorraine Brown,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

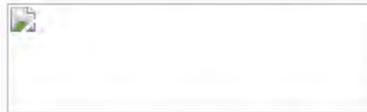
Thank you for your understanding and if you have any questions please do not hesitate to contact me.

Sincerely,

Pauline Ramsey
Archaeologist
BA, Anth. & IDS

M: 0419 284 344
P: 02 9568 6701

E: pauliner@australarch.com.au



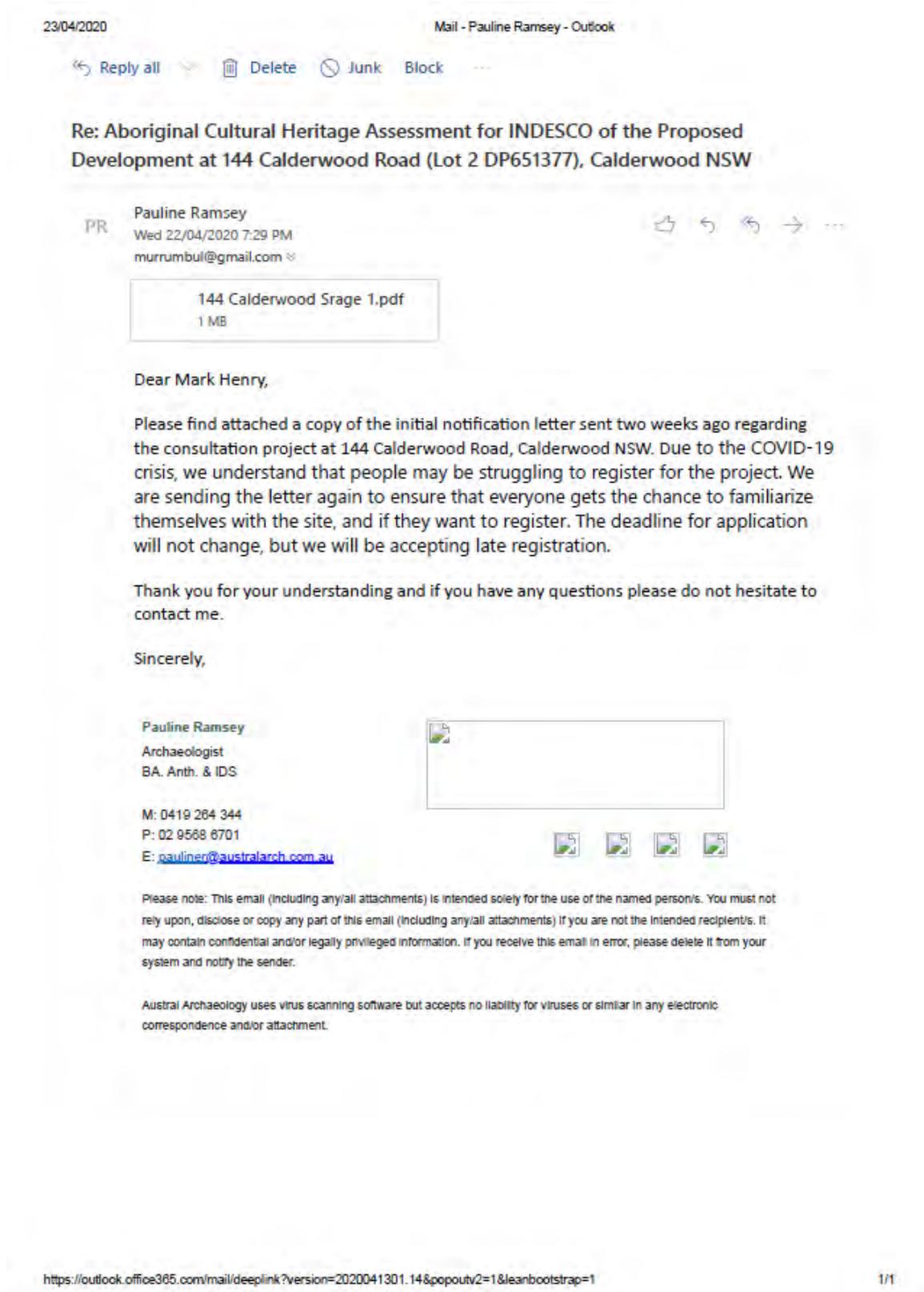
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1/1

Letter sent to Coomaditchie providing an invitation to register an interest for the project.



Letter sent to Murrumbul providing an invitation to register an interest for the project.

23/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey
Wed 22/04/2020 7:38 PM
warrabingi@gmail.com



144 Calderwood Stage 1.pdf
1 MB

Dear Nathaniel Kennedy,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

Thank you for your understanding and if you have any questions please do not hesitate to contact me.

Sincerely,

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1/1

Letter sent to Warrabingi providing an invitation to register an interest for the project.

23/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR

Pauline Ramsey
Wed 22/04/2020 7:29 PM
nundagurri@gmail.com



144 Calderwood Stage 1.pdf
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Dear Newton Carriage,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

Thank you for your understanding and if you have any questions please do not hesitate to contact me.

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E: pauliner@australarch.com.au



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1/1

Letter sent to Nundagurra providing an invitation to register an interest for the project.

23/04/2020

Mail - Pauline Ramsey - Outlook

 Reply all  Delete  Junk  Block ...

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey
Wed 22/04/2020 7:52 PM
noelwebster2@bigpond.com

    ...

144 Calderwood Stage 1.pdf
1 MB

Dear Noel Webster,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

Thank you for your understanding and if you have any questions please do not hesitate to contact me.

Sincerely,

Pauline Ramsey
Archaeologist
BA, Anth. & IDS

M: 0419 264 344
P: 02 9568 6701
E: pauliner@australarch.com.au



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1/1

Letter sent to Noel Webster providing an invitation to register an interest for the project.

23/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR

Pauline Ramsey
Wed 22/04/2020 7:32 PM
owen.fpf@gmail.com



144 Calderwood Stage 1.pdf
1 MB

Dear Owen Carriage,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

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1/1

Letter sent to Owen Carriage providing an invitation to register an interest for the project.

22/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey
Wed 22/04/2020 6:35 PM
ceo@ilalc.org.au



144 Calderwood Stage 1.pdf
1 MB

Paul Knight,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. As a follow up to our earlier phone conversation, I have registered you and your group for this project.

Thank you for your understanding and if you have any questions please do not hesitate to contact me.

Sincerely,

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1/1

Letter sent to Illawarra LALC providing an invitation to register an interest for the project.

22/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey
Wed 22/04/2020 6:18 PM
gundungurratectribseices@gmail.com

144 Calderwood Stage 1.pdf
1 MB

Dear Peter Foster,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

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E: pauliner@australarch.com.au



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1/1

Letter sent to Gundagurra providing an invitation to register an interest for the project.

22/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey
Wed 22/04/2020 6:16 PM
gundungurratribseivices@gmail.com



144 Calderwood Stage 1.pdf
1 MB

Dear Pimy Johnson Bell,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

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1/1

Letter sent to Gundagurra providing an invitation to register an interest for the project.

22/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey
Wed 22/04/2020 5:42 PM
raymond@bariyu.org.au

Reply icons

144 Calderwood Stage 1.pdf
1 MB

Dear Raymond Ingrey,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

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E: pauliner@australarch.com.au



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Letter sent to Raymond Bariyu providing an invitation to register an interest for the project.

22/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR

Pauline Ramsey
Wed 22/04/2020 6:32 PM
richardcampbell123@outlook.com



144 Calderwood Stage 1.pdf
1 MB

Dear Richard Campbell,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. As a follow up to our earlier phone conversation I have registered you and your organisation.

Thank you for your understanding and if you have any questions please do not hesitate to contact me.

Sincerely,

Pauline Ramsey
Archaeologist
BA, Anth. & IDS

M: 0410 264 344
P: 02 9568 6701
E: pauliner@australarch.com.au



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Letter sent to Richard Campbell providing an invitation to register an interest for the project.

23/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey
Wed 22/04/2020 7:37 PM
walgaluchts@gmail.com



144 Calderwood Stage 1.pdf
1 MB

Dear Ronald Stewart,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

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Letter sent to Ronald Stewart providing an invitation to register an interest for the project.

22/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey
Wed 22/04/2020 7:07 PM
murramarangchts@gmail.com



144 Calderwood Stage 1.pdf
1 MB

Dear Roxanne Smith,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. We will not be pushing the deadline for registration but we are accepting late registrations.

Thank you for your understanding and if you have any questions please do not hesitate to contact me.

Sincerely,

Pauline Ramsey
Archaeologist
BA. Anth. & IDS

M: 0419 264 344
P: 02 9568 8701
E: pauliner@australarch.com.au



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Letter sent to Murramarang providing an invitation to register an interest for the project.

22/04/2020

Mail - Pauline Ramsey - Outlook

Reply all ✓ Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey
Wed 22/04/2020 6:27 PM
gundungurratectribsevices@gmail.com ✉



144 Calderwood Stage 1.pdf
1 MB

Dear Sam Wickman,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. As a follow up to our earlier phone conversation, I have registered you and your group for this project.

Thank you for your understanding and if you have any questions please do not hesitate to contact me.

Sincerely,

Pauline Ramsey
Archaeologist
BA, Anth. & IDS

M: 0419 264 344
P: 02 9568 8701

E: pauliner@australarch.com.au



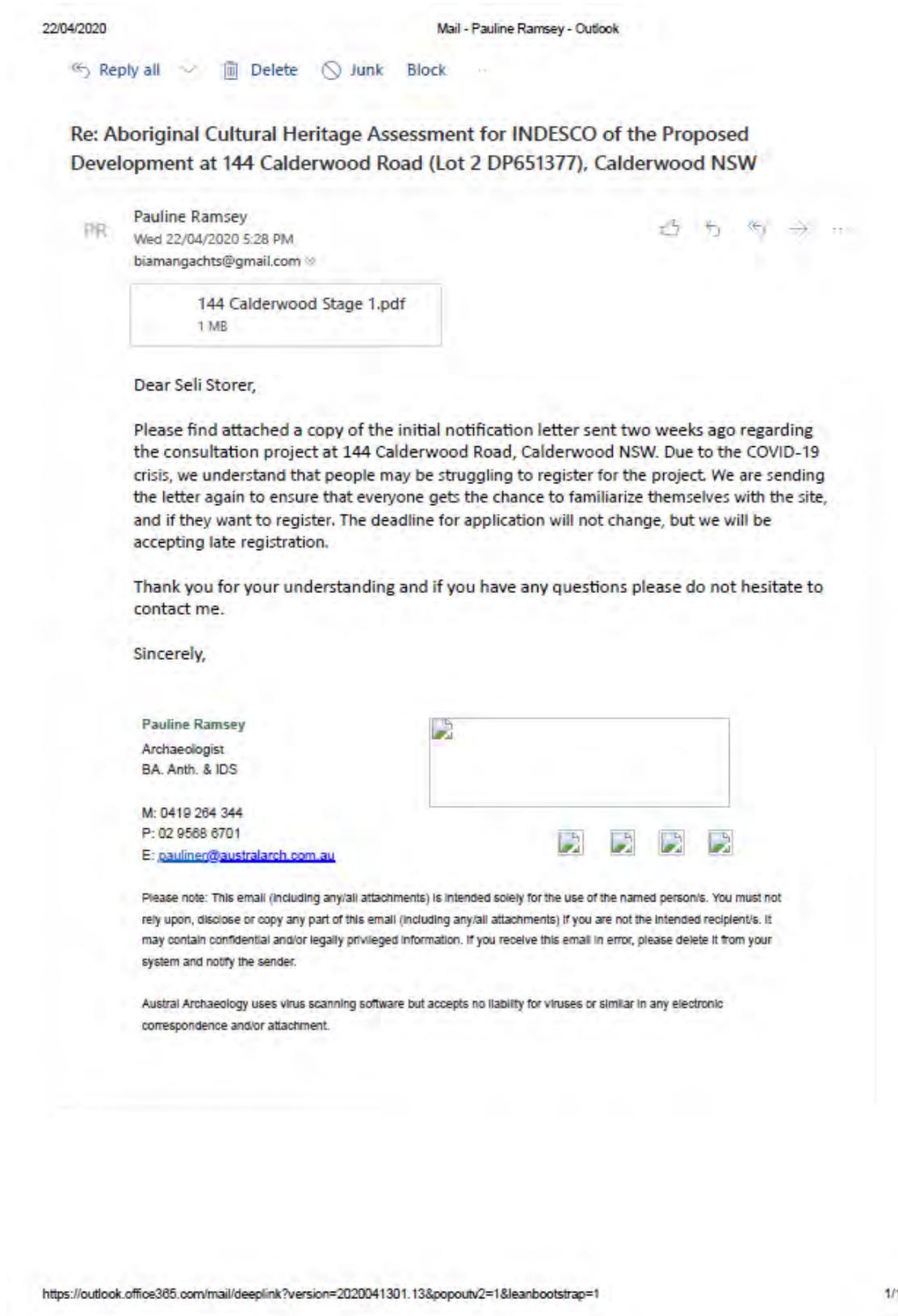
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1/1

Letter sent to Sam Wickman providing an invitation to register an interest for the project.



Letter sent to Seli Storer providing an invitation to register an interest for the project.

22/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey
Wed 22/04/2020 5:30 PM
billingachts@gmail.com



144 Calderwood Stage 1.pdf
1 MB

Dear Simaline Carriage,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

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P: 02 9568 6701
E: pauliner@australarch.com.au



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Letter sent to Simaline Carriage providing an invitation to register an interest for the project.

22/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR

Pauline Ramsey
Wed 22/04/2020 6:20 PM
gundungurratribseices@gmail.com



144 Calderwood Stage 1.pdf
1 MB

Dear Teangi Mereki,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

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E: pauliner@australarch.com.au



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1/1

Letter sent to Teangi Mereki providing an invitation to register an interest for the project.

23/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey
Wed 22/04/2020 7:35 PM
troytungai72@outlook.com

144 Calderwood Stage 1.pdf
1 MB

Dear Troy Tungai,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

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1/1

Letter sent to Troy Tungai providing an invitation to register an interest for the project.

22/04/2020 Mail - Pauline Ramsey - Outlook

[Reply all](#) [Delete](#) [Junk](#) [Block](#)

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey     ...
Wed 22/04/2020 5:36 PM
daruglandobservations@gmail.com

144 Calderwood Stage 1.pdf
1 MB

Dear Ana O'Hara,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

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E: pauliner@australarch.com.au




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Letter sent to Ana O'Hara providing an invitation to register an interest for the project.

23/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

PR Pauline Ramsey
Wed 22/04/2020 7:31 PM
pemulwuyd@gmail.com



144 Calderwood Stage 1.pdf
1 MB

Dear Premulwuy Johnson,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

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1/1

Letter sent to Pemulwuy Johnson providing an invitation to register an interest for the project.

Pauline Ramsey

From: Pauline Ramsey
Sent: Monday, 27 April 2020 9:03 AM
To: bunjilsmith@gmail.com
Subject: 144 Calderwood Road, Calderwood NSW Stage 1 Consultation



Basil Smith
86 Grantham Road
Batehaven NSW 2536
NSW

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

Dear Basil,

In my last correspondence a mistake was made in the writing of this letter, specifically in the naming of the group you represent. I apologize for this and have since revised my original letter to contain accurate information regarding your organization. Please see revised letter below.

I am writing to advise you that INDESCO has commissioned Austral Archaeology to undertake an Aboriginal cultural heritage assessment in regard to the rezoning of 144 Calderwood Road (Lot 2 DP651377), Calderwood New South Wales. The proposed works are being undertaken as part of a Review of Environmental Factors under Part 5 of the *Environmental Planning and Assessment Act 1979*. The study area is situated within the Shoalhaven City Council Local Government Area (LGA) and is located within the boundaries of the Illawarra Local Aboriginal Land Council.

This project welcomes the involvement of the Goobah Development PTY LTD (Murrin Clan/Peoples). In accordance with the DECCW's *Aboriginal cultural heritage consultation requirements for proponents 2010* this project has been advertised in the *Illawarra Mercury* on the 2nd of April. Interested parties will be able to register their interest until the 22nd of April.

Austral Archaeology will actively seek to involve stakeholders in decisions regarding Aboriginal cultural heritage issues arising from this project. Additional information will be made available to all registered Aboriginal stakeholders as the project progresses.

Please do not hesitate to contact me for further information.

Yours faithfully,



Pauline Ramsey
Archaeologist
Austral Archaeology
46 Railway Street, Liverpool, 2170
M 0419 264 344
E pauliner@australarch.com.au

Letter sent to Basil Smith providing an invitation to register an interest for the project.

Pauline Ramsey

From: Pauline Ramsey
Sent: Monday, 27 April 2020 9:04 AM
To: yurraandaali_cs@outlook.com
Subject: 144 Calderwood Road, Calderwood NSW Stage 1 Consultation



Bo Field
3 Sheeran Street
Old Erawal Bay NSW 2540
NSW

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

Dear Bo,

In my last correspondence a mistake was made in the writing of this letter, specifically in the naming of the group you represent. I apologize for this and have since revised my original letter to contain accurate information regarding your organization. Please see revised letter below.

I am writing to advise you that INDESCO has commissioned Austral Archaeology to undertake an Aboriginal cultural heritage assessment in regard to the rezoning of 144 Calderwood Road (Lot 2 DP651377), Calderwood New South Wales. The proposed works are being undertaken as part of a Review of Environmental Factors under Part 5 of the *Environmental Planning and Assessment Act 1979*. The study area is situated within the Shoalhaven City Council Local Government Area (LGA) and is located within the boundaries of the Illawarra Local Aboriginal Land Council.

This project welcomes the involvement of the Yurraandaali Cultural Services. In accordance with the DECCW's *Aboriginal cultural heritage consultation requirements for proponents 2010* this project has been advertised in the *Illawarra Mercury* on the 2nd of April. Interested parties will be able to register their interest until the 22nd of April.

Austral Archaeology will actively seek to involve stakeholders in decisions regarding Aboriginal cultural heritage issues arising from this project. Additional information will be made available to all registered Aboriginal stakeholders as the project progresses.

Please do not hesitate to contact me for further information.

Yours faithfully,



Pauline Ramsey
Archaeologist
Austral Archaeology
46 Railway Street, Liverpool, 2170
M 0419 264 344
E pauliner@australarch.com.au

Letter sent to Bo Field providing an invitation to register an interest for the project.

Pauline Ramsey

From: Pauline Ramsey
Sent: Monday, 27 April 2020 9:01 AM
To: DuncanFalk@hotmail.com
Subject: 144 Calderwood Road, Calderwood NSW Stage 1 Consultation



Duncan Falk
34 Robinia Drive
Bowral NSW 2576
NSW

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

Dear Duncan,

I am writing to advise you that INDESCO has commissioned Austral Archaeology to undertake an Aboriginal cultural heritage assessment in regard to the rezoning of 144 Calderwood Road (Lot 2 DP651377), Calderwood New South Wales. The proposed works are being undertaken as part of a Review of Environmental Factors under Part 5 of the *Environmental Planning and Assessment Act 1979*. The study area is situated within the Shoalhaven City Council Local Government Area (LGA) and is located within the boundaries of the Illawarra Local Aboriginal Land Council.

This project welcomes the involvement of the Illawarra Local Aboriginal Land Council. In accordance with the DECCW's *Aboriginal cultural heritage consultation requirements for proponents 2010* this project has been advertised in the *Illawarra Mercury* on the 2nd of April. Interested parties will be able to register their interest until the 22nd of April.

Austral Archaeology will actively seek to involve stakeholders in decisions regarding Aboriginal cultural heritage issues arising from this project. Additional information will be made available to all registered Aboriginal stakeholders as the project progresses.

Please do not hesitate to contact me for further information.

Yours faithfully,



Pauline Ramsey
Archaeologist
Austral Archaeology
46 Railway Street, Liverpool, 2170
M 0419 264 344
E pauliner@australarch.com.au

Letter sent to Duncan Falk providing an invitation to register an interest for the project.

Pauline Ramsey

From: Pauline Ramsey
Sent: Monday, 27 April 2020 9:02 AM
To: Walbunja@gmail.com
Subject: 144 Calderwood Road, Calderwood NSW Stage 1 Consultation



Hika Te Kowhai
15 Renee Crescent
Moruya Heads NSW 2537
NSW

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

Dear Hika Te,

I am writing to advise you that INDESCO has commissioned Austral Archaeology to undertake an Aboriginal cultural heritage assessment in regard to the rezoning of 144 Calderwood Road (Lot 2 DP651377), Calderwood New South Wales. The proposed works are being undertaken as part of a Review of Environmental Factors under Part 5 of the *Environmental Planning and Assessment Act 1979*. The study area is situated within the Shoalhaven City Council Local Government Area (LGA) and is located within the boundaries of the Illawarra Local Aboriginal Land Council.

This project welcomes the involvement of the Illawarra Local Aboriginal Land Council. In accordance with the DECCW's *Aboriginal cultural heritage consultation requirements for proponents 2010* this project has been advertised in the *Illawarra Mercury* on the 2nd of April. Interested parties will be able to register their interest until the 22nd of April.

Austral Archaeology will actively seek to involve stakeholders in decisions regarding Aboriginal cultural heritage issues arising from this project. Additional information will be made available to all registered Aboriginal stakeholders as the project progresses.

Please do not hesitate to contact me for further information.

Yours faithfully,



Pauline Ramsey
Archaeologist
Austral Archaeology
46 Railway Street, Liverpool, 2170
M 0419 264 344
E pauliner@australarch.com.au

Letter sent to Hika Te providing an invitation to register an interest for the project.

Pauline Ramsey

From: Pauline Ramsey
Sent: Monday, 27 April 2020 9:02 AM
To: gundungurratectribsevice@gmail.com
Subject: 144 Calderwood Road, Calderwood NSW Stage 1 Consultation



Larry Hoskins
2/3 Colville Place
ROSEMEADOW NSW
NSW

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

Dear Larry,

I am writing to advise you that INDESCO has commissioned Austral Archaeology to undertake an Aboriginal cultural heritage assessment in regard to the rezoning of 144 Calderwood Road (Lot 2 DP651377), Calderwood New South Wales. The proposed works are being undertaken as part of a Review of Environmental Factors under Part 5 of the *Environmental Planning and Assessment Act 1979*. The study area is situated within the Shoalhaven City Council Local Government Area (LGA) and is located within the boundaries of the Illawarra Local Aboriginal Land Council.

This project welcomes the involvement of the Illawarra Local Aboriginal Land Council. In accordance with the DECCW's *Aboriginal cultural heritage consultation requirements for proponents 2010* this project has been advertised in the *Illawarra Mercury* on the 2nd of April. Interested parties will be able to register their interest until the 22nd of April.

Austral Archaeology will actively seek to involve stakeholders in decisions regarding Aboriginal cultural heritage issues arising from this project. Additional information will be made available to all registered Aboriginal stakeholders as the project progresses.

Please do not hesitate to contact me for further information.

Yours faithfully,



Pauline Ramsey
Archaeologist
Austral Archaeology
46 Railway Street, Liverpool, 2170
M 0419 264 344
E pauliner@australarch.com.au

Letter sent to Larry Hoskins providing an invitation to register an interest for the project.

Pauline Ramsey

From: Pauline Ramsey
Sent: Monday, 27 April 2020 9:02 AM
To: pemulwuyd@gmail.com
Subject: 144 Calderwood Road, Calderwood NSW Stage 1 Consultation



Pemulwuy Johnson

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

Dear Pemulwuy,

I am writing to advise you that INDESCO has commissioned Austral Archaeology to undertake an Aboriginal cultural heritage assessment in regard to the rezoning of 144 Calderwood Road (Lot 2 DP651377), Calderwood New South Wales. The proposed works are being undertaken as part of a Review of Environmental Factors under Part 5 of the *Environmental Planning and Assessment Act 1979*. The study area is situated within the Shoalhaven City Council Local Government Area (LGA) and is located within the boundaries of the Illawarra Local Aboriginal Land Council.

This project welcomes the involvement of the Illawarra Local Aboriginal Land Council. In accordance with the DECCW's *Aboriginal cultural heritage consultation requirements for proponents 2010* this project has been advertised in the *Illawarra Mercury* on the 2nd of April. Interested parties will be able to register their interest until the 22nd of April.

Austral Archaeology will actively seek to involve stakeholders in decisions regarding Aboriginal cultural heritage issues arising from this project. Additional information will be made available to all registered Aboriginal stakeholders as the project progresses.

Please do not hesitate to contact me for further information.

Yours faithfully,



Pauline Ramsey
Archaeologist
Austral Archaeology
46 Railway Street, Liverpool, 2170
M 0419 264 344
E pauliner@australarch.com.au

Letter sent to Pemulwuy Johnson providing an invitation to register an interest for the project.

Rhonda Cruse
NSW

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

Dear Rhonda,

I am writing to advise you that INDESCO has commissioned Austral Archaeology to undertake an Aboriginal cultural heritage assessment in regard to the rezoning of 144 Calderwood Road (Lot 2 DP651377), Calderwood New South Wales. The proposed works are being undertaken as part of a Review of Environmental Factors under Part 5 of the *Environmental Planning and Assessment Act 1979*. The study area is situated within the Shoalhaven City Council Local Government Area (LGA) and is located within the boundaries of the Illawarra Local Aboriginal Land Council.

This project welcomes the involvement of the Illawarra Aboriginal Corporation. In accordance with the DECCW's *Aboriginal cultural heritage consultation requirements for proponents 2010* this project has been advertised in the *Illawarra Mercury* on the 2nd of April. Interested parties will be able to register their interest until the 22nd of April.

Austral Archaeology will actively seek to involve stakeholders in decisions regarding Aboriginal cultural heritage issues arising from this project. Additional information will be made available to all registered Aboriginal stakeholders as the project progresses.

Please do not hesitate to contact me for further information.

Yours faithfully,

Pauline Ramsey
Archaeologist
Austral Archaeology
46 Railway Street, Liverpool, 2170
M 0419 264 344
E pauliner@australarch.com.au

Letter sent to Rhonda Cruse providing an invitation to register an interest for the project.

23/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

BS Basil Smith <bunjil.smith@gmail.com>     ...

Wed 22/04/2020 8:37 PM
Pauline Ramsey ✓

THANK YOU AND KEEP ME IN THE LOOP OF THE ABOVE PROJET PLEASE

On Wed, Apr 22, 2020 at 5:47 PM Pauline Ramsey <pauliner@australarch.com.au> wrote:

Dear Basil Smith,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. As per our phone call earlier today, I have already registered you and your organization.

Thank you for your understanding and if you have any questions please do not hesitate to contact me.

Sincerely,

Pauline Ramsey
Archaeologist
BA. Anth. & IDS

M: 04 19 264 344
P: 02 9568 8701
E: pauliner@australarch.com.au



Please note: This email (including any/all attachments) is intended solely for the use of the named person/s. You must not rely upon, disclose or copy any part of this email (including any/all attachments) if you are not the intended recipient/s. It may contain confidential and/or legally privileged information. If you receive this email in error, please delete it from your system and notify the sender.

Austral Archaeology uses virus scanning software but accepts no liability for viruses or similar in any electronic correspondence and/or attachment.

<https://outlook.office365.com/mail/deeplink?version=2020041301.14&popoutv=1&leanbootstrap=1>

1/1

Response letter from Basil Smith requesting to register an interest in the project.

23/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

B **Biamanga** <biamangachts@gmail.com>

Wed 22/04/2020 8:39 PM

Pauline Ramsey



Please keep me informed of any further developments

On Wed, Apr 22, 2020 at 5:28 PM Pauline Ramsey <pauliner@australarch.com.au> wrote:

Dear Seli Storer,

Please find attached a copy of the initial notification letter sent two weeks ago regarding the consultation project at 144 Calderwood Road, Calderwood NSW. Due to the COVID-19 crisis, we understand that people may be struggling to register for the project. We are sending the letter again to ensure that everyone gets the chance to familiarize themselves with the site, and if they want to register. The deadline for application will not change, but we will be accepting late registration.

Thank you for your understanding and if you have any questions please do not hesitate to contact me.

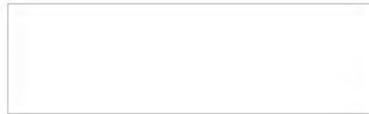
Sincerely,

Pauline Ramsey
Archaeologist
BA. Anth. & IDS

M: 0419 264 344

P: 02 9568 6701

E: pauliner@australarch.com.au



Response letter from Biamanga requesting to register an interest in the project.

Pauline Ramsey

From: Blaan Davies <blaan.davies@my.jcu.edu.au>
Sent: Monday, 27 April 2020 6:11 PM
To: Pauline Ramsey
Subject: Re: 144 Calderwood Road, Calderwood NSW Stage 1 Consultation

Hi Pauline, thank you for advising me of this proposed development.

I would like to express my interest, for the development of this project.

Kind regards,

Blaan Davies

From: Pauline Ramsey <pauliner@australarch.com.au>
Sent: Monday, April 27, 2020 9:03 AM
To: Blaan Davies <blaan.davies@my.jcu.edu.au>
Subject: 144 Calderwood Road, Calderwood NSW Stage 1 Consultation

Response letter from Blaan Davies requesting to register an interest in the project.

Pauline Ramsey

From: Clive Freeman <clive.freeman@y7mail.com>
Sent: Sunday, 26 April 2020 12:24 AM
To: Pauline Ramsey
Subject: Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

Hi I would like to register my interest in the project. If you require anything further please let me know.

Kind regards

Peter and Clive

Freeman&marx pty Ltd

Sent from my iPhone

Response letter from Clive Freeman requesting to register an interest in the project.

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

C [Cullendulla <cullendullachts@gmail.com>](mailto:cullendullachts@gmail.com)     

Wed 22/04/2020 8:41 PM
Pauline Ramsey 

I support the above project and wash to be kept informed of any further developments.

Response letter from Cullendulla requesting to register an interest in the project.

23/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

RJ [Ryan Johnson <murrabidgeemullangari@yahoo.com.au>](mailto:murrabidgeemullangari@yahoo.com.au)     ...

Wed 22/04/2020 7:36 PM
Pauline Ramsey

Hi Pauline
We did not receive this invitation but would like to register our interest and to be involved in all aspects of the project i.e. mapping, surveying, excavation, reports and sieving.
Kind regards
Darleen Johnson
0490051102
Or
Ryan johnson
0475565517

Response letter from Murra Bidgee Mullangari requesting to register an interest in the project.

22/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block ...

Re: 144 Calderwood Road, Calderwood NSW: Consultation Stage 1

DF

Duncan Falk <DuncanFalk@hotmail.com>

Wed 22/04/2020 3:00 PM

Pauline Ramsey ✓

Hi Pauline,

Thank you for the email, I have gone through and can not find an email previously for this project so there may have been an issue there.

Also thank you for adding me as a registered stakeholder for this project.

Regards,

Duncan

Duncan Falk

Manager

Duncan Falk Consultancy



Duncan Falk Consultancy

T +61 406 610 644

duncanfalk@hotmail.com

Response letter from Duncan Falk requesting to register an interest in the project.

Pauline Ramsey

From: gary caines <garycaines87@gmail.com>
Sent: Tuesday, 28 April 2020 3:42 PM
To: Pauline Ramsey
Subject: Reference: 2013 (6Apr'20): 144 Calderwood Road, Calderwood NSW Stage 1 Consultation
Attachments: image002.png

Dear Pauline,

The study area appears to not be in the ShoalhavenCityCncl LGA, and your communique had requested RAPs due engagements by 22Apr'20 last Tuesday :o

Am i invited to attend to this REF across the ACHA report's purview?

Regards garyC

Response letter from Gary Caines requesting to register an interest in the project.

23/04/2020

Mail - Pauline Ramsey - Outlook

⏪ Reply all ▾ 🗑 Delete 🚫 Junk 🚫 Block ⋮

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

W **WALBUNJA <walbunja@gmail.com>** 👍 ↶ ⏪ → ⋮
Thu 23/04/2020 1:11 AM
Pauline Ramsey ▾
And thank you for your consideration.

Response letter from Walbunja requesting to register an interest in the project.

From: James Davis <jvdcorp@hotmail.com>
Sent: Monday, 13 April 2020 12:59 PM
To: Pauline Ramsey <pauliner@australarch.com.au>
Subject: Registration for Aboriginal Cultural Heritage Assessment (ACHA) for 144 Calderwood, Calderwood, NSW Lot 2 DP 651377.

Good afternoon Pauline,

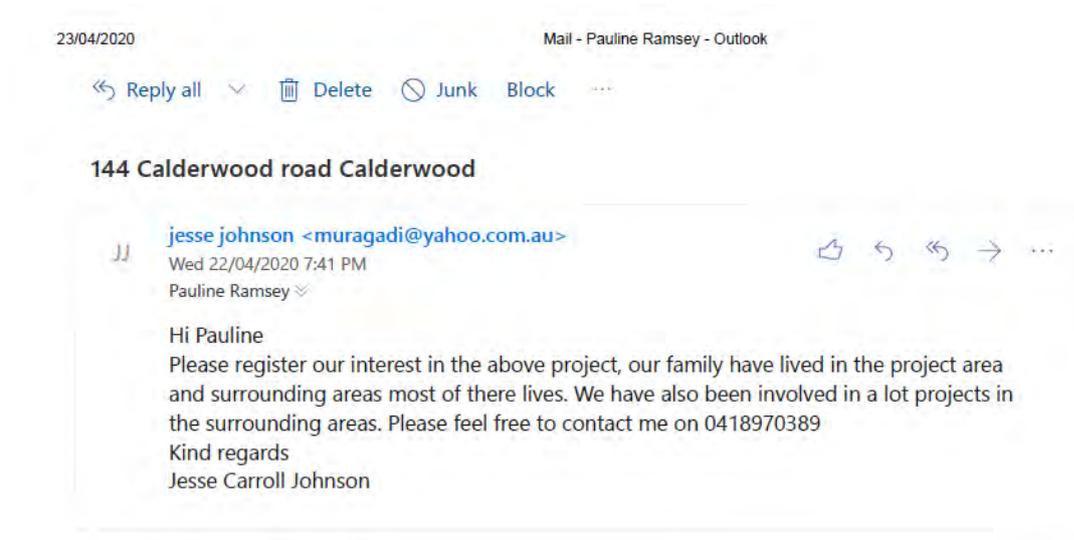
Could you please register me for upcoming ACHA at 144 Calderwood, Calderwood, NSW Lot 2 DP 651377.

If you require any further information please do not hesitate to contact me on 0423 715 395.

Kind regards,

James Davis
Wodi Wodi Traditional Owner

Response letter from James Davis requesting to register an interest in the project.



Response letter from Muragadi requesting to register an interest in the project.

23/04/2020

Mail - Pauline Ramsey - Outlook

⏪ Reply all ⌵ 🗑 Delete 🚫 Junk 🚫 Block ⋮

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

TT **Thoorga Thoorga** <thoorganura@gmail.com> Thu 23/04/2020 12:21 PM
Pauline Ramsey ⌵
Register Thoorga Nura please for consultation for this project.

Response letter from Thoorga Nura requesting to register an interest in the project.

23/04/2020

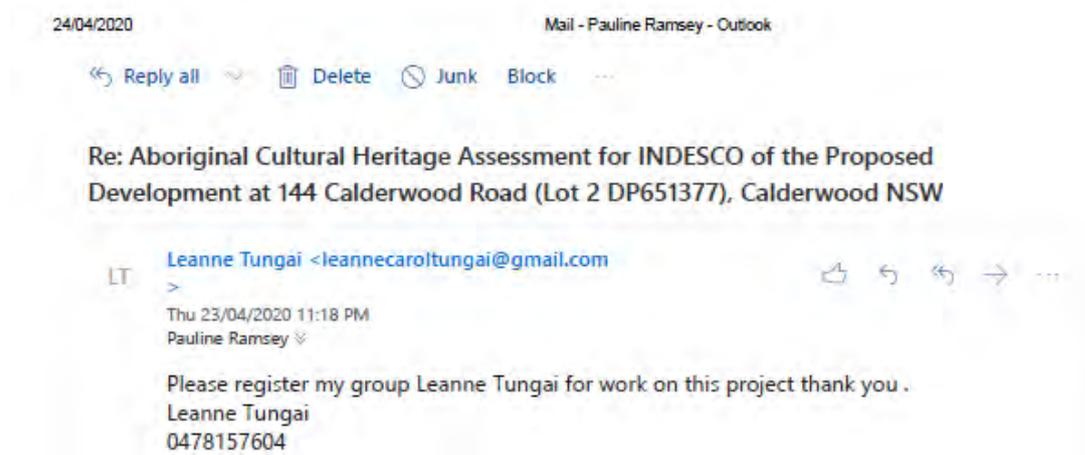
Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

B [BADU <baduchts@gmail.com>](mailto:baduchts@gmail.com) Thu 23/04/2020 12:20 PM
Pauline Ramsey
Hello, can you register BADU for this project please sorry for my lateness.

Response letter from Badu requesting to register an interest in the project.



Response letter from Leanne Tungai requesting to register an interest in the project.

Reply all Delete Junk Block ...

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

Y yurraandaali_cs@outlook.com Wed 22/04/2020 8:19 PM
Pauline Ramsey ✉

Hi Pauline

Yurraandaali Pty Ltd would like to register for this project

Thanks
Lee Field

Response letter from Yurraandaali requesting to register an interest in the project.

Pauline Ramsey

From: Richard campbell <oldmanwisdomgumaraa@gmail.com>
Sent: Monday, 27 April 2020 9:31 AM
To: Pauline Ramsey
Subject: Re: 144 Calderwood Road, Calderwood NSW Stage 1 Consultation
Attachments: image003.jpg

Hi Pauline thankyu for the email Gumaraa is looking forward to working with you on this project we will see you on the project once sites work is starting.

kindest regards

Lisa & Jodi

Response letter from Richard Campbell requesting to register an interest in the project.

23/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block ...

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

MM MURRUMBUL MURRUMBUL <murrumbul@gmail.com> Thu 23/04/2020 12:23 PM Pauline Ramsey

Murrumbul registers an interest in this project

On Thu, 23 Apr 2020 at 12:22 pm, MURRUMBUL MURRUMBUL <murrumbul@gmail.com> wrote:
Minnamunnung registers an interest in this project and development for Aboriginal Cultural Heritage Consultation requirements for proponents.

Response letter from Murrumbul requesting to register an interest in the project.

23/04/2020

Mail - Pauline Ramsey - Outlook

⏪ Reply all ▾ 🗑 Delete 🗑 Junk 🚫 Block ⋮

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

RC **Richard campbell** <oldmanwisdomgumaraa@gmail.com>     ⋮

Thu 23/04/2020 4:27 PM
Pauline Ramsey ▾

Hi guys we gumaraaa would like to be invovled with all aspects of this project as we believe that there is artefacts of our people in the vicinity of the proposed area.

kindest regards

Richard

Response letter from Gumaraa requesting to register an interest in the project.

23/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Re: Aboriginal Cultural Heritage Assessment for INDESCO of the Proposed Development at 144 Calderwood Road (Lot 2 DP651377), Calderwood NSW

M [Murramarang <murramarangchts@gmail.com>](mailto:murramarangchts@gmail.com)

Wed 22/04/2020 8:43 PM

Pauline Ramsey

Like Reply Reply all Forward ...

Dear Pauline I support the project and want to be kept informed of any further developments please.

Response letter from Murramarang requesting to register an interest in the project.

Pauline Ramsey

From: Troy Tungai <Troytungai72@outlook.com>
Sent: Wednesday, 29 April 2020 12:06 PM
To: Pauline Ramsey
Subject: Re: 144 Calderwood Road, Calderwood NSW Stage 1 Consultation

Hi Pauline
Thanks for your email yes I would like to put my expression of interest for this project as I have a lot of cultural knowledge and also a traditional owner thanks troytungai

Sent from [Outlook](#)

Response letter from Troy Tungai requesting to register an interest in the project.

22/04/2020

Mail - Pauline Ramsey - Outlook

Reply all Delete Junk Block

Calderwood rezoning

You forwarded this message on Wed 8/04/2020 2:04 PM

KW

Kayla Williamson <Kayla_87_@hotmail.com>

Wed 8/04/2020 1:58 PM

Pauline Ramsey

Hi Pauline

Woronora Plateau Gundangara Elders Council would like to register for consultation for the rezoning of 144 Calderwood road Calderwood 2527.

Please send all correspondence to:

11 Garnett Grove
Flinders NSW 2529

Or

Kayla_87_@hotmail.com.au

We conducted testing and salvage excavation with Eco Logical and Kelleher and Nightingale Consulting for Calderwood which is also ongoing. There are a lot of groups that register that are not local people or have any local knowledge. We are traditional owners of the Illawarra from the Wodi Wodi tribe.

Regards
Kayla Williamson

Response letter from Kayla Williamson requesting to register an interest in the project.

APPENDIX A.3 STAGE 2 AND 3 CONSULTATION DOCUMENTATION

NOT INCLUDED FOR PRIVACY PURPOSES. INFORMATION CAN BE SUPPLIED ON REQUEST. TO BE INSERTED IN THE FINAL REPORT

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:21 PM
To: jvdcorp@hotmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Wodi Wodi Traditional Owner
 James Davis

Dear James,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

I am writing to you as a Registered Aboriginal Party (RAP) for the proposed subdivision at 144 Calderwood, Calderwood, New South Wales (NSW). This letter provides project information and a methodology for the preparation of an Aboriginal Cultural Heritage Assessment (ACHA) for the study area. This information is being requested in accordance with Stages 2 and 3 of the *Aboriginal cultural heritage consultation requirements for proponents 2010* (Department of Environment, Climate Change and Water NSW 2010) [DECCW].

1. PROJECT DETAILS

Austral Archaeology Pty Ltd (Austral) has undertaken the task of completing an ACHA report with consultation with Aboriginal stakeholders in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (Department of Environment, Climate Change and Water NSW 2010) [Consultation Requirements]. The ACHA will also meet the requirements of the *Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW* (Office of Environment and Heritage 2011).

In order to properly gauge the extent of the Aboriginal archaeological and cultural significance of the study area, Austral is proposing to undertake an archaeological survey as well as additional test excavations as part of the project. Archaeological testing will be completed in accordance with Requirement 16 of the *Code of Practice for the archaeological investigation of Aboriginal objects in NSW* (Department of Environment, Climate Change and Water 2010).

2. PROJECT BACKGROUND

The study area has been previously subject to archaeological investigations by Australian Museum Business Services (AMBS) in 2005 as part of the West Dapto Release Area Aboriginal Heritage Management Plan and by Artefact Heritage Pty Ltd (Artefact) in 2017 during a survey at 140 – 142 Calderwood Road. Within Lot 2 DP651377, AMBS identified two sites; isolated find "WDRA_AX_37" (AHIMS #52-5-0493), located along the southern elevated banks of the main Marshall Mount Creek and an artefact scatter "WDRA_AX_38" (AHIMS #52-5-0494), located mid slope of the hill range located to the north. The latest AMBS report concludes by stating that site AHIMS #52-5-0493 has an overall low archaeological sensitivity to future development and site AHIMS #52-5-0494 has a higher sensitivity (AMBS 2010: 82, 86).

Within Lot 3 DP24143, Artefact identified a cluster of four artefact sites within an area of potential archaeological deposit (PAD) called "YTOF_AS_9" AHIMS #52-5-0848. This site was located on the crest of the raised area between a tributary of the Marshall Mount Creek to its north and the Macquarie Rivulet to its south. The Artefact report concludes by stating that:

"YTOF AS 9 (AHIMS ID 52-2-0848) is located within a unique aspect of the landscape as the first raised area above the Macquarie Rivulet flood plain. The artefact density and variety of lithologies suggest the site was intensively occupied over multiple occupation phases. The site is considered to be rare within the local context" (Artefact 2017: 43). Artefact further concludes that the obtaining of an Aboriginal Heritage Impact Permit (AHIP) will be necessary if further works are to impact this site and that archaeological salvage operations should also be undertaken following the issuance (Artefact 2017: 1)."

[The study area contains a number of landforms, specifically, raised terraces overlooking drainage lines that are similar to or associated with the landform that contain YTOF_AS_9 (AHIMS #52-5-0848[A1]). Given this, as well as the study

area’s key location within the Macquarie Rivulet catchment, testing of other raised terraces will play a big role in our better understanding of the Aboriginal archaeological and cultural significance of this area.

3. PREDICTIVE MODEL

The following model has been developed to try and predict the nature and extent of Aboriginal cultural heritage within the study area:

Using the study area’s environmental context and previous archaeological investigations within the local area, Austral has determined that there are three areas of high archaeological potential and one large area of moderate potential surrounding the high. Each of these areas were chosen based on their landform element, their proximity to water and their reduced likelihood for inundation during periods of heavy rainfall, as well as their overall similarities with other, previously investigated sites. Based on these criteria, it is predicted that open artefact scatters and associated PADs will most likely occur in these areas highlighted in Map 2 attached to this letter.

4. ABORIGINAL CULTURAL HERITAGE CONSULTATION

The Aboriginal people of Australia are part of the oldest and continuous living cultures in human history. Aboriginal people’s cultural heritage is recognised and valued as a unique and essential component of the identity of all Australian people.

Aboriginal cultural heritage provides the essential links between the past and the present – it is an essential part of Aboriginal people’s cultural identity, connection and sense of belonging to Country.

The objective of community consultation is to ensure Aboriginal people have the opportunity to improve assessment outcomes by:

- Providing relevant information about the cultural significance and values of the Aboriginal objects and/or place
- Influencing the design of the method to assess cultural and scientific significance of Aboriginal objects and places.
- Actively contributing to the development of cultural heritage management options and recommendations for any Aboriginal objects and/or places within the proposed project area
- Commenting on draft assessment reports before they are submitted by the proponent to DPIE.

To meet these objectives Department of Planning, Industry and Environment (DPIE) [formally OEH & DECCW] have developed four stages of consultation which must be met for each cultural heritage assessment. There are a number of mandatory timeframes associated with the Consultation Requirements, these are summarised in Table 1.

Table 1: Statutory timeframes for consultation.

Stage	Timeframe
Stage 1: Notification of project proposal and registration of interest	14 days
Stage 2: Presentation of information about the propose project	28 days
Stage 3: Gathering information about cultural significance.	28 days
Stage 4: Review of draft cultural heritage assessment report.	28 days

**Note: Stage 2 and 3 are combined in this document and one 28 day period applies.*

As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, Section 3.4 on page 9 states that “Consultation should not be confused with employment”. The proponent is therefore not obliged to employ any registered stakeholders for the fieldwork component of this project. However, all registered Aboriginal parties will be fully consulted as per the guidelines.

The following section outlines the expected feedback required from Aboriginal people for each Stage of the consultation process.

Stage 1: Notification of project proposal and registration of interest,

Input required: Register your interest in the project by email, phone or letter. This stage is complete

Stage 2: Presentation of information about the proposed project.

Input required: Feedback on the project proposal including the nature, scope and methodology. Raise any concerns about cultural perspectives or assessment requirements.

Stage 3: Gathering information about cultural significance.

Input required: Contribute to culturally appropriate information gathering and the research methodology. Provide information that will enable the cultural significance of Aboriginal objects and/or places within the proposed project area. Have input into the development of any cultural heritage management options.

Stage 4: Review of draft cultural heritage assessment report.

Input required: Provide feedback on any aspect of the draft ACHA report.

5. EXCAVATION STRATEGY

In order to fully assess the nature and extent of the archaeological deposit, Austral Archaeology have developed an archaeological testing methodology which follows the requirements of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (the *CoP*) (DECCW 2010).

Our test excavation methodology is based on the *CoP* which states that all "test excavations must be excavated using hand tools only" and "the first excavation [pit] must be excavated in 5 cm spits at each area – either PAD or site – being investigated. Based on the evidence of the first excavation [pit], 10 cm spits or sediment profile/stratigraphic excavation (whichever is smaller) may then be implemented" (2010, p.26). The *CoP* is also clear on how many test pits should be excavated and their placement.

It is estimated that a sample of at most 60 test pits will be excavated during the testing phase. We have determined that, based upon the size of PAD 1 and PAD 2 and the study area's overall potential, this would be completed by a team of 2 archaeologists and 2 Aboriginal stakeholders, during the course of 8 days.

The following excavation methodology will be employed for the test excavations:

- The hand excavation of 500 x 500 millimetre test pits across a series of transects located at a maximum spacing of 20 metres apart in areas considered to have high and moderate sensitivity.
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Please do not hesitate to contact me on 0419 264 344 if you wish to discuss any aspect of this submission.

Yours sincerely,



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7. REFERENCES

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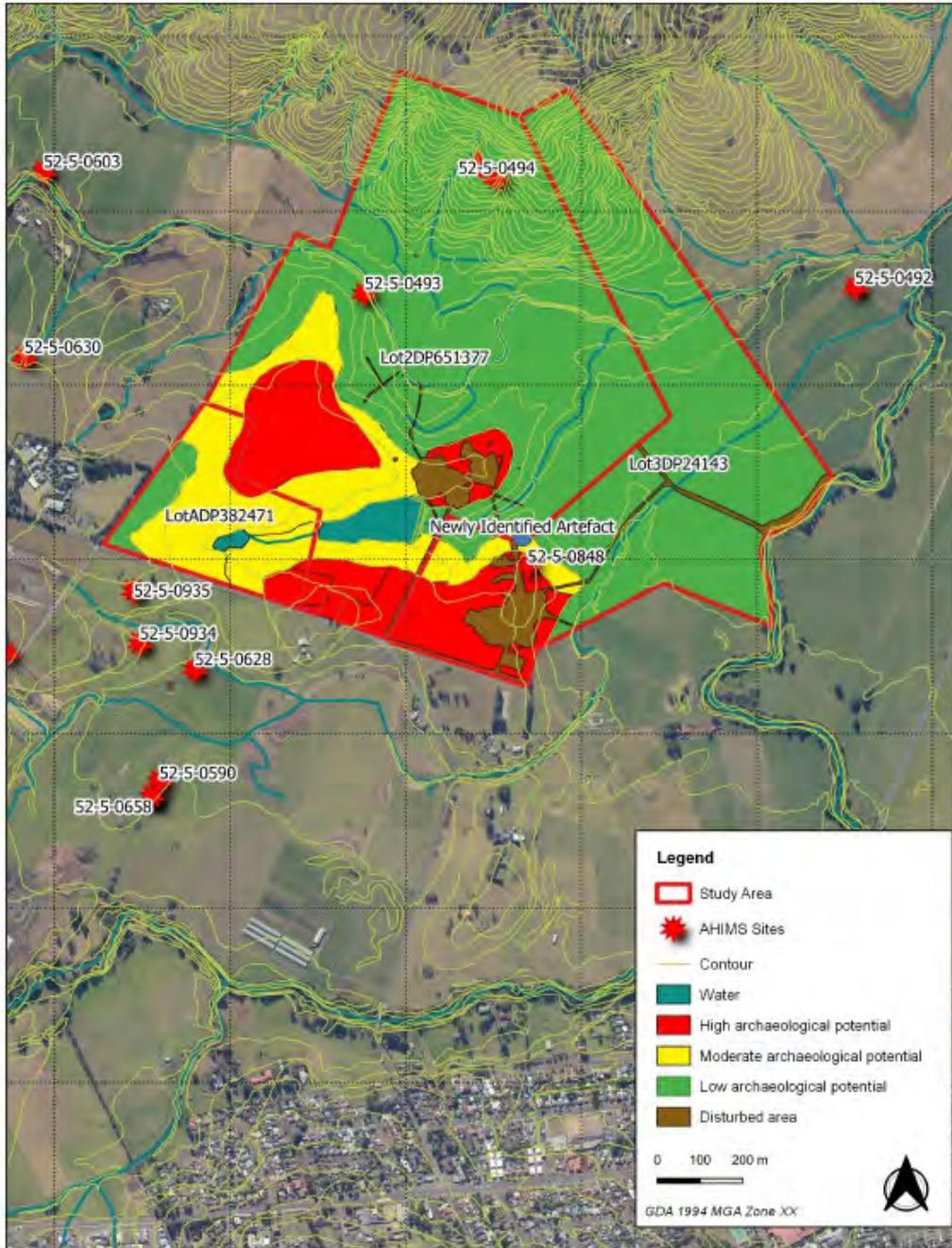


Figure 1.2 Aerial map of the study area in relation to surrounding suburbs

144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:21 PM
To: muragadi@yahoo.com.au
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Muragadi
 Jesse Carrol Johnson

Dear Jesse Carrol,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

I am writing to you as a Registered Aboriginal Party (RAP) for the proposed subdivision at 144 Calderwood, Calderwood, New South Wales (NSW). This letter provides project information and a methodology for the preparation of an Aboriginal Cultural Heritage Assessment (ACHA) for the study area. This information is being requested in accordance with Stages 2 and 3 of the *Aboriginal cultural heritage consultation requirements for proponents 2010* (Department of Environment, Climate Change and Water NSW 2010) [DECCW].

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In order to properly gauge the extent of the Aboriginal archaeological and cultural significance of the study area, Austral is proposing to undertake an archaeological survey as well as additional test excavations as part of the project. Archaeological testing will be completed in accordance with Requirement 16 of the *Code of Practice for the archaeological investigation of Aboriginal objects in NSW* (Department of Environment, Climate Change and Water 2010).

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The study area has been previously subject to archaeological investigations by Australian Museum Business Services (AMBS) in 2005 as part of the West Dapto Release Area Aboriginal Heritage Management Plan and by Artefact Heritage Pty Ltd (Artefact) in 2017 during a survey at 140 – 142 Calderwood Road. Within Lot 2 DP651377, AMBS identified two sites; isolated find "WDRA_AX_37" (AHIMS #52-5-0493), located along the southern elevated banks of the main Marshall Mount Creek and an artefact scatter "WDRA_AX_38" (AHIMS #52-5-0494), located mid slope of the hill range located to the north. The latest AMBS report concludes by stating that site AHIMS #52-5-0493 has an overall low archaeological sensitivity to future development and site AHIMS #52-5-0494 has a higher sensitivity (AMBS 2010: 82, 86).

Within Lot 3 DP24143, Artefact identified a cluster of four artefact sites within an area of potential archaeological deposit (PAD) called "YTOF_AS_9" AHIMS #52-5-0848. This site was located on the crest of the raised area between a tributary of the Marshall Mount Creek to its north and the Macquarie Rivulet to its south. The Artefact report concludes by stating that:

"YTOF AS 9 (AHIMS ID 52-2-0848) is located within a unique aspect of the landscape as the first raised area above the Macquarie Rivulet flood plain. The artefact density and variety of lithologies suggest the site was intensively occupied over multiple occupation phases. The site is considered to be rare within the local context" (Artefact 2017: 43). Artefact further concludes that the obtaining of an Aboriginal Heritage Impact Permit (AHIP) will be necessary if further works are to impact this site and that archaeological salvage operations should also be undertaken following the issuance (Artefact 2017: 1)."

[The study area contains a number of landforms, specifically, raised terraces overlooking drainage lines that are similar to or associated with the landform that contain YTOF_AS_9 (AHIMS #52-5-0848[A1]). Given this, as well as the study

area's key location within the Macquarie Rivulet catchment, testing of other raised terraces will play a big role in our better understanding of the Aboriginal archaeological and cultural significance of this area.

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The following model has been developed to try and predict the nature and extent of Aboriginal cultural heritage within the study area:

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4. ABORIGINAL CULTURAL HERITAGE CONSULTATION

The Aboriginal people of Australia are part of the oldest and continuous living cultures in human history. Aboriginal people's cultural heritage is recognised and valued as a unique and essential component of the identity of all Australian people.

Aboriginal cultural heritage provides the essential links between the past and the present – it is an essential part of Aboriginal people's cultural identity, connection and sense of belonging to Country.

The objective of community consultation is to ensure Aboriginal people have the opportunity to improve assessment outcomes by:

- Providing relevant information about the cultural significance and values of the Aboriginal objects and/or place
- Influencing the design of the method to assess cultural and scientific significance of Aboriginal objects and places.
- Actively contributing to the development of cultural heritage management options and recommendations for any Aboriginal objects and/or places within the proposed project area
- Commenting on draft assessment reports before they are submitted by the proponent to DPIE.

To meet these objectives Department of Planning, Industry and Environment (DPIE) [formally OEH & DECCW] have developed four stages of consultation which must be met for each cultural heritage assessment. There are a number of mandatory timeframes associated with the Consultation Requirements, these are summarised in Table 1.

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Input required: Contribute to culturally appropriate information gathering and the research methodology. Provide information that will enable the cultural significance of Aboriginal objects and/or places within the proposed project area. Have input into the development of any cultural heritage management options.

Stage 4: Review of draft cultural heritage assessment report.

Input required: Provide feedback on any aspect of the draft ACHA report.

5. EXCAVATION STRATEGY

In order to fully assess the nature and extent of the archaeological deposit, Austral Archaeology have developed an archaeological testing methodology which follows the requirements of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (the *CoP*) (DECCW 2010).

Our test excavation methodology is based on the *CoP* which states that all "test excavations must be excavated using hand tools only" and "the first excavation [pit] must be excavated in 5 cm spits at each area – either PAD or site – being investigated. Based on the evidence of the first excavation [pit], 10 cm spits or sediment profile/stratigraphic excavation (whichever is smaller) may then be implemented" (2010, p.26). The *CoP* is also clear on how many test pits should be excavated and their placement.

It is estimated that a sample of at most 60 test pits will be excavated during the testing phase. We have determined that, based upon the size of PAD 1 and PAD 2 and the study area's overall potential, this would be completed by a team of 2 archaeologists and 2 Aboriginal stakeholders, during the course of 8 days.

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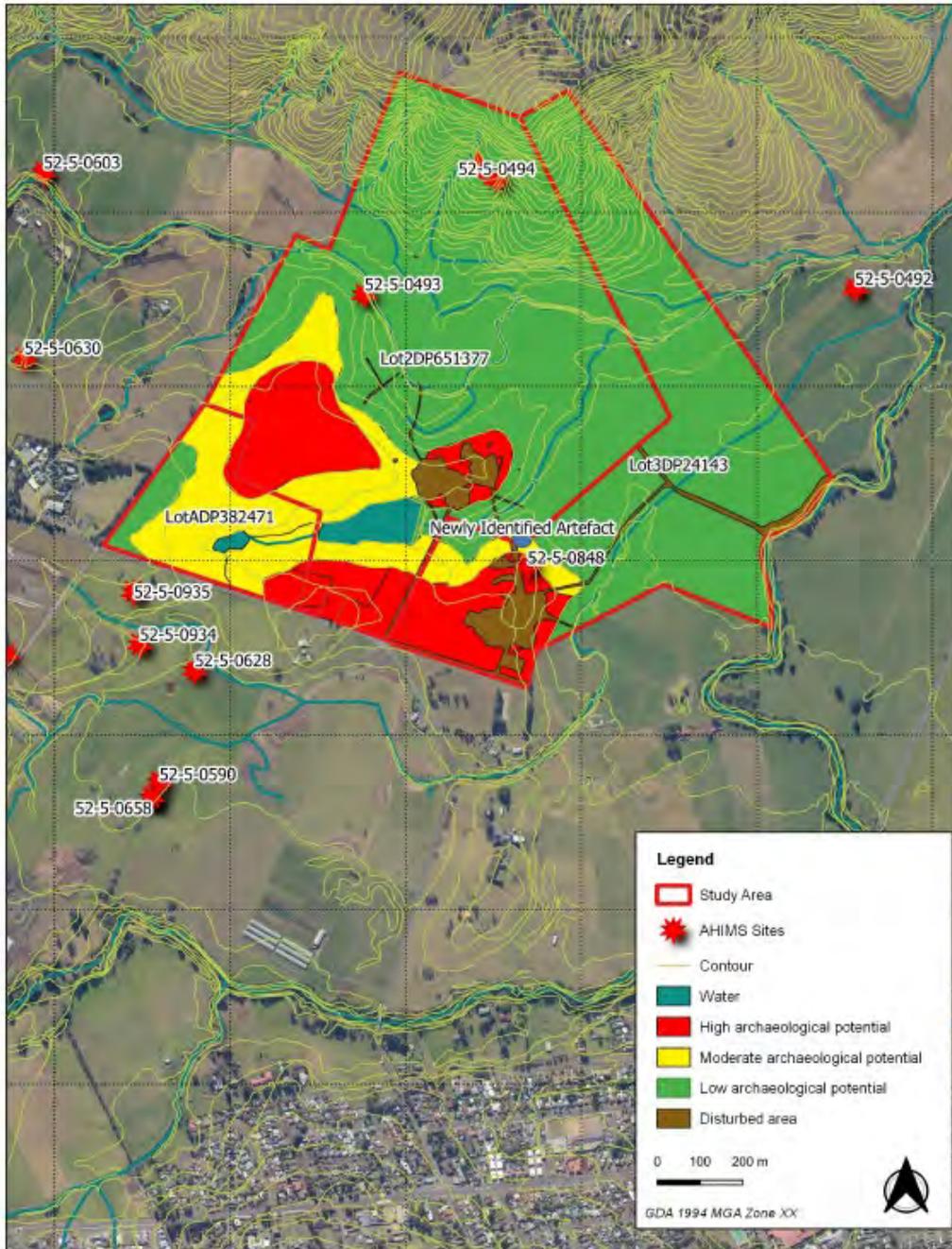


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144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



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144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:17 PM
To: munyungachts@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Munyunga (Murrin Clan/Peoples)
 Kaya Dawn Bell

Dear Kaya Dawn,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

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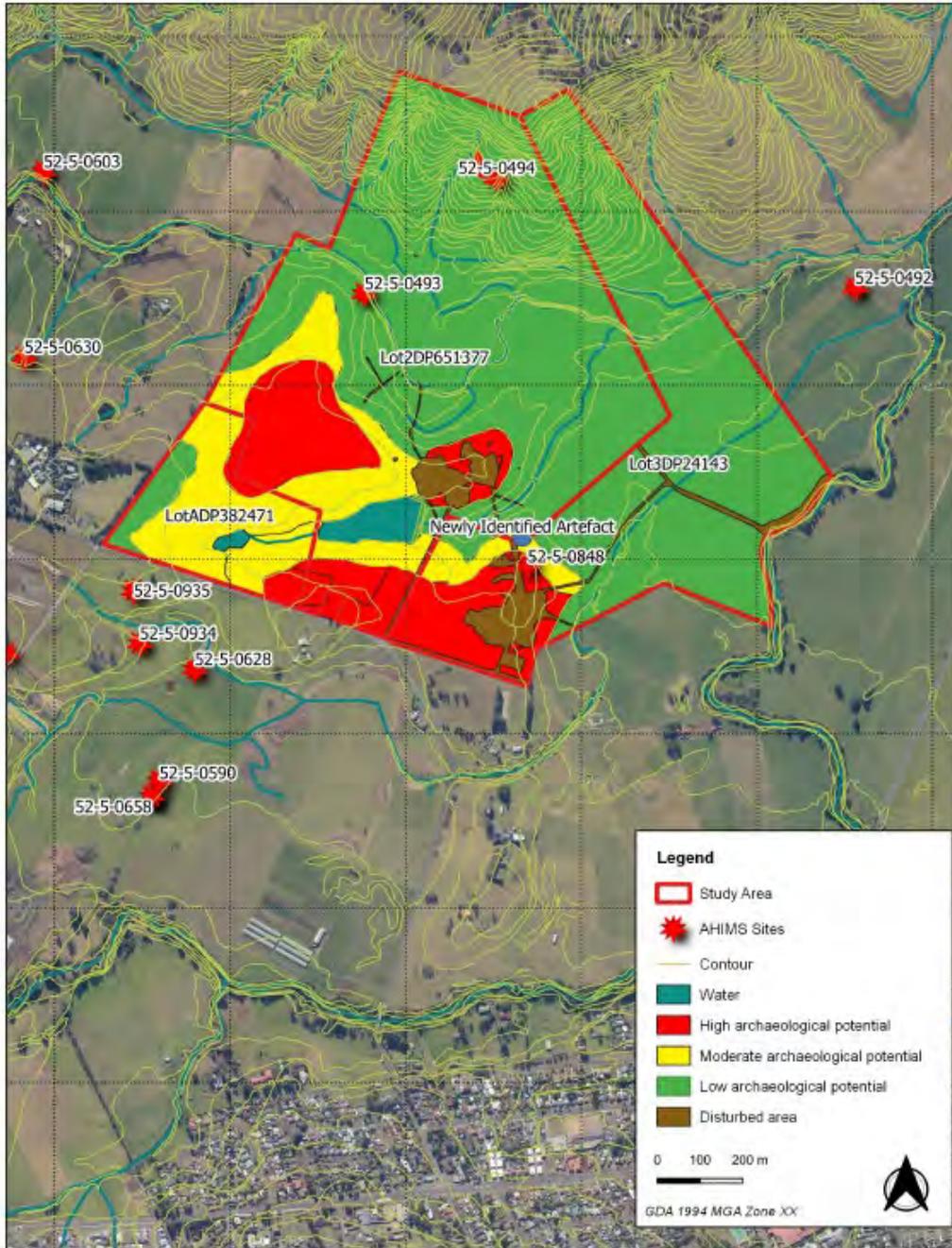


Figure 1.2 Aerial map of the study area in relation to surrounding suburbs

144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:17 PM
To: kayla_87@hotmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Woronora Plateau Gundungara Elders Council
 Kayla Williamson
 11 Garnet Grove NSW
 FLINDERS

Dear Kayla,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

I am writing to you as a Registered Aboriginal Party (RAP) for the proposed subdivision at 144 Calderwood, Calderwood, New South Wales (NSW). This letter provides project information and a methodology for the preparation of an Aboriginal Cultural Heritage Assessment (ACHA) for the study area. This information is being requested in accordance with Stages 2 and 3 of the *Aboriginal cultural heritage consultation requirements for proponents 2010* (Department of Environment, Climate Change and Water NSW 2010) [DECCW].

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Within Lot 3 DP24143, Artefact identified a cluster of four artefact sites within an area of potential archaeological deposit (PAD) called "YTOF_AS_9" AHIMS #52-5-0848. This site was located on the crest of the raised area between a tributary of the Marshall Mount Creek to its north and the Macquarie Rivulet to its south. The Artefact report concludes by stating that:

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area's key location within the Macquarie Rivulet catchment, testing of other raised terraces will play a big role in our better understanding of the Aboriginal archaeological and cultural significance of this area.

3. PREDICTIVE MODEL

The following model has been developed to try and predict the nature and extent of Aboriginal cultural heritage within the study area:

Using the study area's environmental context and previous archaeological investigations within the local area, Austral has determined that there are three areas of high archaeological potential and one large area of moderate potential surrounding the high. Each of these areas were chosen based on their landform element, their proximity to water and their reduced likelihood for inundation during periods of heavy rainfall, as well as their overall similarities with other, previously investigated sites. Based on these criteria, it is predicted that open artefact scatters and associated PADs will most likely occur in these areas highlighted in Map 2 attached to this letter.

4. ABORIGINAL CULTURAL HERITAGE CONSULTATION

The Aboriginal people of Australia are part of the oldest and continuous living cultures in human history. Aboriginal people's cultural heritage is recognised and valued as a unique and essential component of the identity of all Australian people.

Aboriginal cultural heritage provides the essential links between the past and the present – it is an essential part of Aboriginal people's cultural identity, connection and sense of belonging to Country.

The objective of community consultation is to ensure Aboriginal people have the opportunity to improve assessment outcomes by:

- Providing relevant information about the cultural significance and values of the Aboriginal objects and/or place
- Influencing the design of the method to assess cultural and scientific significance of Aboriginal objects and places.
- Actively contributing to the development of cultural heritage management options and recommendations for any Aboriginal objects and/or places within the proposed project area
- Commenting on draft assessment reports before they are submitted by the proponent to DPIE.

To meet these objectives Department of Planning, Industry and Environment (DPIE) [formally OEH & DECCW] have developed four stages of consultation which must be met for each cultural heritage assessment. There are a number of mandatory timeframes associated with the Consultation Requirements, these are summarised in Table 1.

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Input required: Feedback on the project proposal including the nature, scope and methodology. Raise any concerns about cultural perspectives or assessment requirements.

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Input required: Contribute to culturally appropriate information gathering and the research methodology. Provide information that will enable the cultural significance of Aboriginal objects and/or places within the proposed project area. Have input into the development of any cultural heritage management options.

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Input required: Provide feedback on any aspect of the draft ACHA report.

5. EXCAVATION STRATEGY

In order to fully assess the nature and extent of the archaeological deposit, Austral Archaeology have developed an archaeological testing methodology which follows the requirements of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (the *CoP*) (DECCW 2010).

Our test excavation methodology is based on the *CoP* which states that all "test excavations must be excavated using hand tools only" and "the first excavation [pit] must be excavated in 5 cm spits at each area – either PAD or site – being investigated. Based on the evidence of the first excavation [pit], 10 cm spits or sediment profile/stratigraphic excavation (whichever is smaller) may then be implemented" (2010, p.26). The *CoP* is also clear on how many test pits should be excavated and their placement.

It is estimated that a sample of at most 60 test pits will be excavated during the testing phase. We have determined that, based upon the size of PAD 1 and PAD 2 and the study area's overall potential, this would be completed by a team of 2 archaeologists and 2 Aboriginal stakeholders, during the course of 8 days.

The following excavation methodology will be employed for the test excavations:

- The hand excavation of 500 x 500 millimetre test pits across a series of transects located at a maximum spacing of 20 metres apart in areas considered to have high and moderate sensitivity.
- All excavation will be conducted by hand, and the excavation of initial test pits will proceed in 50 millimetres spits. Based on the results of the initial test pits, subsequent test pits will be excavated either in 100 millimetre spits or by stratigraphic unit, dependant on which unit is smaller.
- Recording of each test pit will be conducted during excavation using either printed *pro forma* or with *digital pro forma* stored on an electronic tablet.
- 100% of excavated potential artefact bearing deposit will be sieved. Austral has allowed for dry sieving as part of the excavation program. Dependant on the soils encountered and site conditions, material may need to be wet sieved. Water for the sieving station would be provided by a water tanker and pump.
- Artefacts will be collected from the sieves and bagged according to excavation pit provenance. Each test pit will be backfilled to the best of our ability with the sieved material excavated from the pits at the conclusion of the testing program.
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Collection and salvage of all artefacts will be undertaken according to the following methodology. Austral has allowed for the analysis of a maximum of 100 artefacts as part of the testing program.

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- The landowner on whose property this area may be located is to be approached for consent to return the Aboriginal archaeological material to site. If the site where the artefacts are to be returned is situated upon Crown Land then the appropriate authority managing the Local Government Area is to be approached and informed.
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Should it be necessary to move these artefacts at a later date, it is a requirement that a Care and Control agreement be completed as part of any AHIP application. This will require the identified Aboriginal stakeholders and the OEH to be consulted over a suitable relocation site. This new site will also require GPS co-ordinates and all necessary details to be recorded with the OEH AHIMS.

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An ACHAR will be prepared that documents the assessment Aboriginal cultural heritage values, potential harm to these values as part of the project and strategies to manage any impacts. The ACHAR will be prepared in accordance with the Consultation Requirements, Code of Practice and *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (2010, 2010, Office of Environment and Heritage 2011).

The ACHAR will include at a minimum the following content:

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Please note that the final decision on the employment of individuals to assist with the project rests with the Proponent.

Please take the time to read this letter and the associated report, and please feel free to contact me on any of the numbers provided below should you wish to raise any concerns or if you require additional information.

Please ensure that your reply reaches this office no later than 29/05/2020 and thank you for your help with this matter.

Please do not hesitate to contact me on 0419 264 344 if you wish to discuss any aspect of this submission.

Yours sincerely,



Pauline Ramsey
Archaeologist
Austral Archaeology
46 Railway Street, Liverpool, 2170
M 0419 264 344
E pauliner@australarch.com.au

7. REFERENCES

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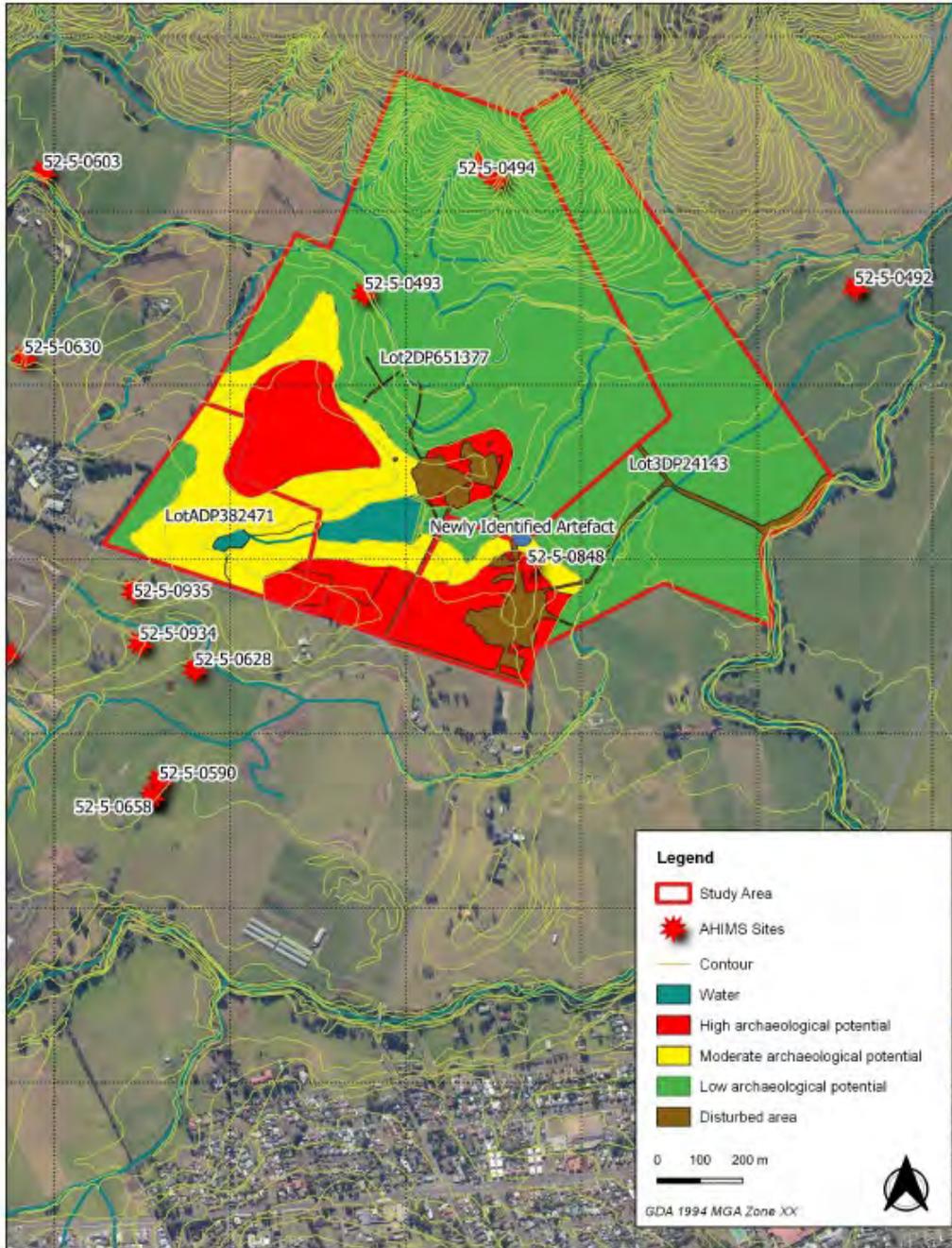


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Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



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144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:18 PM
To: kimmoran@hotmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Bellambi Indigenous Corporation Gandagarra Traditional Owners
 Kim Moran

Dear Kim,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

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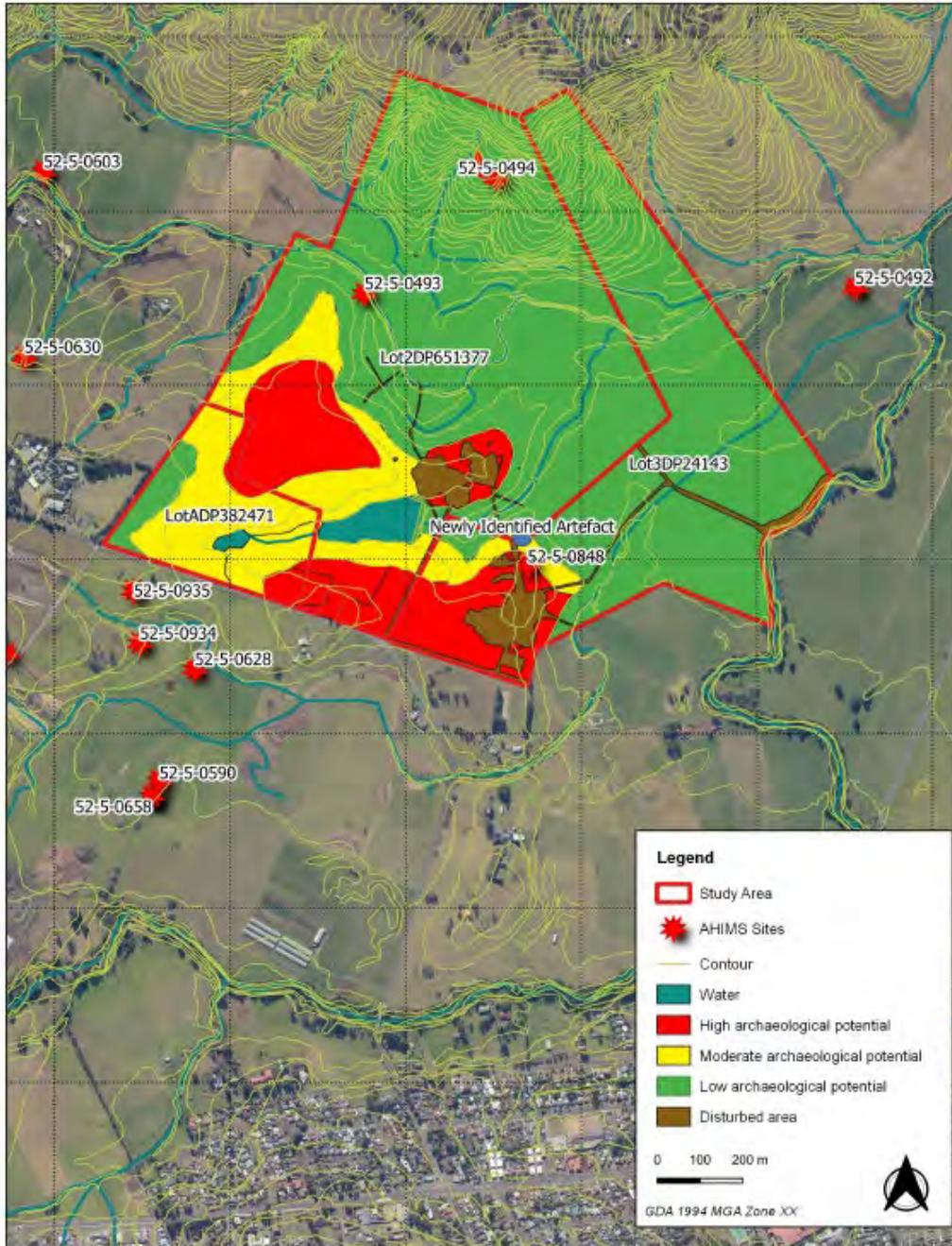


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Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:18 PM
To: gunyuuchts@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Gunyu (Murrin Clan/Peoples)
 Kylie Ann Bell

Dear Kylie Ann,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

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Please note that the final decision on the employment of individuals to assist with the project rests with the Proponent.

Please take the time to read this letter and the associated report, and please feel free to contact me on any of the numbers provided below should you wish to raise any concerns or if you require additional information.

Please ensure that your reply reaches this office no later than 29/05/2020 and thank you for your help with this matter.

Please do not hesitate to contact me on 0419 264 344 if you wish to discuss any aspect of this submission.

Yours sincerely,



Pauline Ramsey
Archaeologist
Austral Archaeology
46 Railway Street, Liverpool, 2170
M 0419 264 344
E pauliner@australarch.com.au

7. REFERENCES

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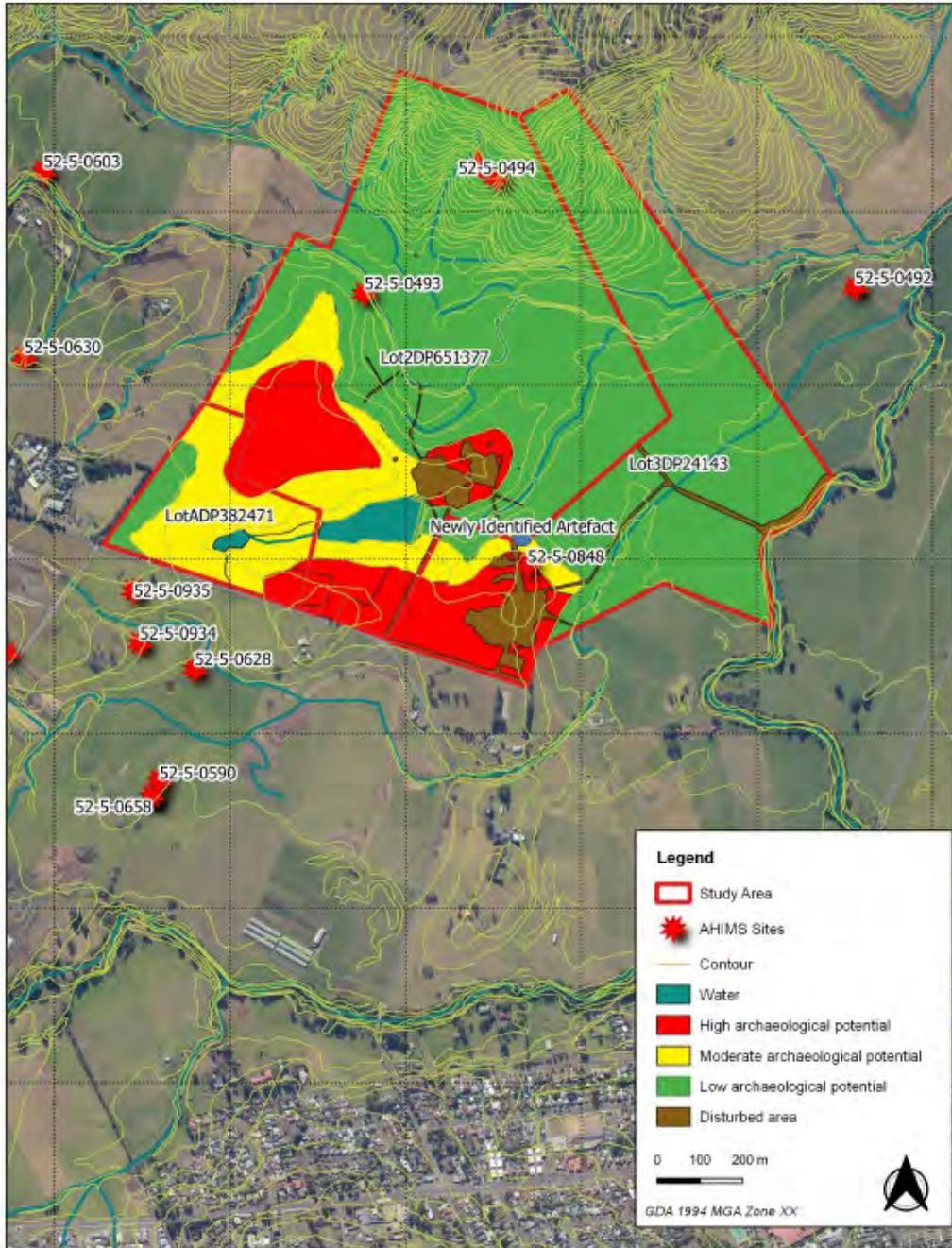


Figure 1.2 Aerial map of the study area in relation to surrounding suburbs

144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:18 PM
To: gundungurratectribseices@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Gundungurra Tribal Technical Services
 Larry Hoskins
 2/3 Colville Place NSW
 ROSEMEADOW

Dear Larry,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

I am writing to you as a Registered Aboriginal Party (RAP) for the proposed subdivision at 144 Calderwood, Calderwood, New South Wales (NSW). This letter provides project information and a methodology for the preparation of an Aboriginal Cultural Heritage Assessment (ACHA) for the study area. This information is being requested in accordance with Stages 2 and 3 of the *Aboriginal cultural heritage consultation requirements for proponents 2010* (Department of Environment, Climate Change and Water NSW 2010) [DECCW].

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The study area has been previously subject to archaeological investigations by Australian Museum Business Services (AMBS) in 2005 as part of the West Dapto Release Area Aboriginal Heritage Management Plan and by Artefact Heritage Pty Ltd (Artefact) in 2017 during a survey at 140 – 142 Calderwood Road. Within Lot 2 DP651377, AMBS identified two sites; isolated find "WDRA_AX_37" (AHIMS #52-5-0493), located along the southern elevated banks of the main Marshall Mount Creek and an artefact scatter "WDRA_AX_38" (AHIMS #52-5-0494), located mid slope of the hill range located to the north. The latest AMBS report concludes by stating that site AHIMS #52-5-0493 has an overall low archaeological sensitivity to future development and site AHIMS #52-5-0494 has a higher sensitivity (AMBS 2010: 82, 86).

Within Lot 3 DP24143, Artefact identified a cluster of four artefact sites within an area of potential archaeological deposit (PAD) called "YTOF_AS_9" AHIMS #52-5-0848. This site was located on the crest of the raised area between a tributary of the Marshall Mount Creek to its north and the Macquarie Rivulet to its south. The Artefact report concludes by stating that:

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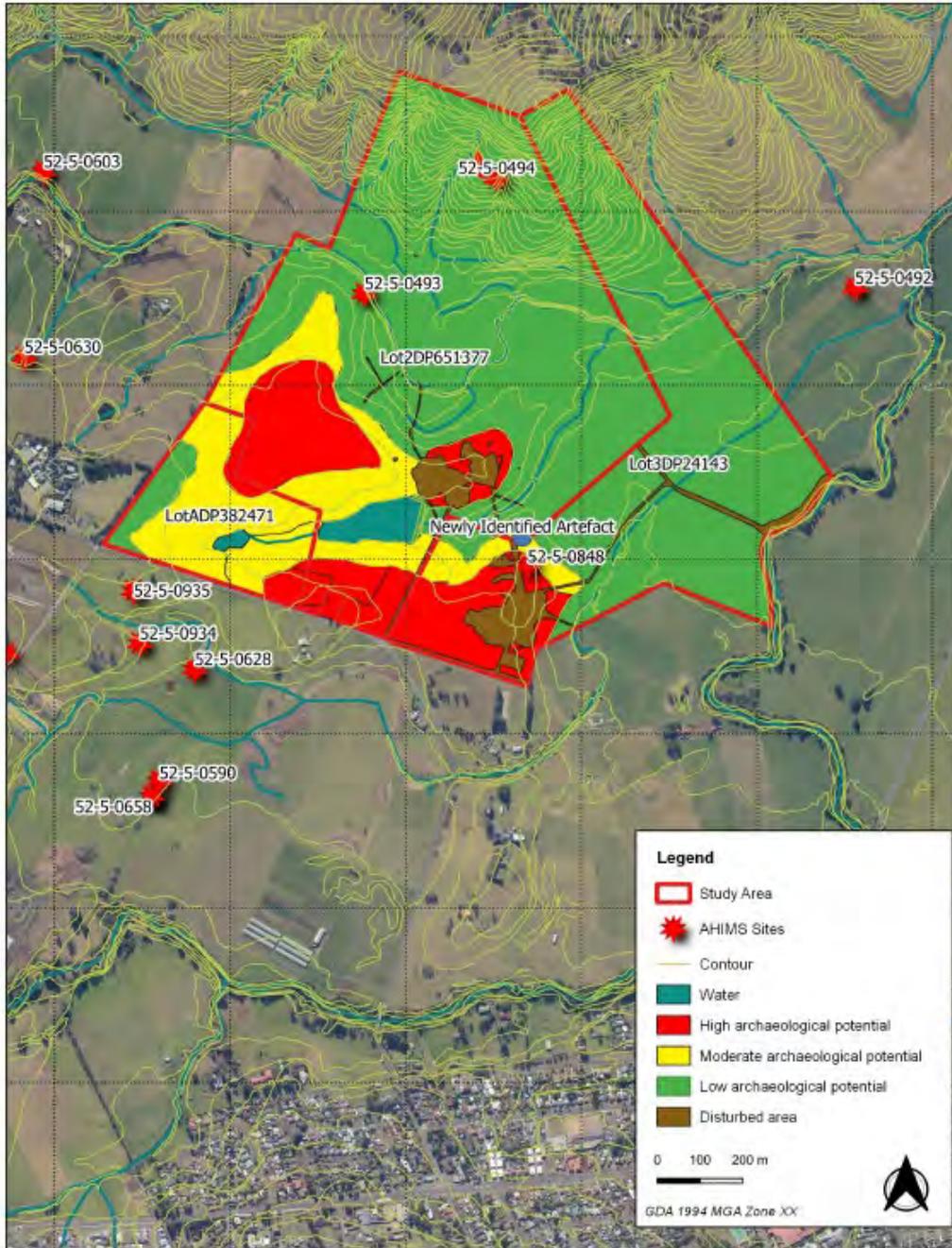


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Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:18 PM
To: 'leannecaroltungai@gmail.com'
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Leanne Tungai

Dear Leanne,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

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The study area contains a number of landforms, specifically, raised terraces overlooking drainage lines that are similar to or associated with the landform that contain YTOF_AS_9 (AHIMS #52-5-0848[A1]). Given this, as well as the study area's key location within the Macquarie Rivulet catchment, testing of other raised terraces will play a big role in our better understanding of the Aboriginal archaeological and cultural significance of this area.

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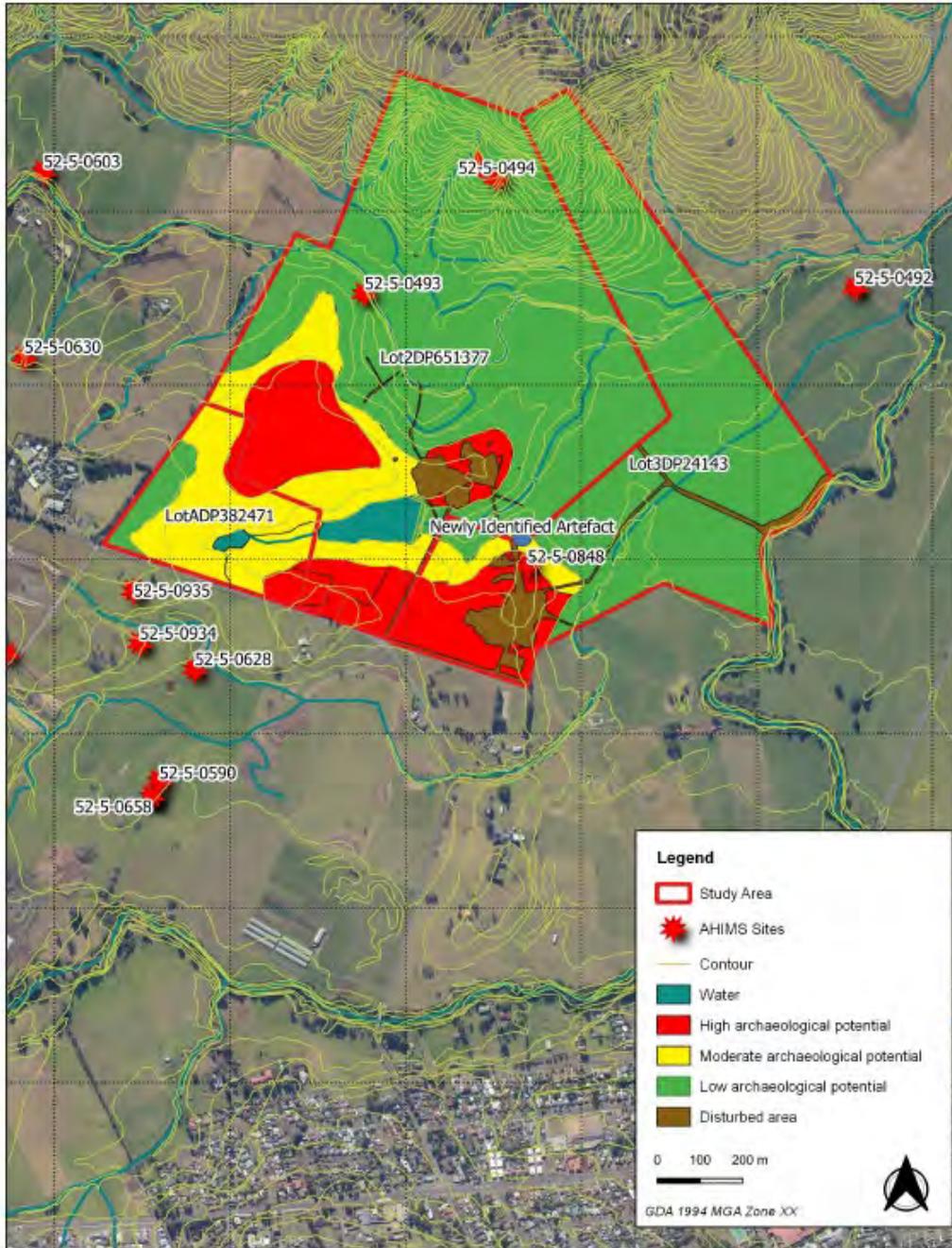


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144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:18 PM
To: barrabyculturalservices@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Barraby Cultural Services
 Lee Field
 6 Macgibbon Parade NSW
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RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

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Within Lot 3 DP24143, Artefact identified a cluster of four artefact sites within an area of potential archaeological deposit (PAD) called "YTOF_AS_9" AHIMS #52-5-0848. This site was located on the crest of the raised area between a tributary of the Marshall Mount Creek to its north and the Macquarie Rivulet to its south. The Artefact report concludes by stating that:

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The Aboriginal people of Australia are part of the oldest and continuous living cultures in human history. Aboriginal people’s cultural heritage is recognised and valued as a unique and essential component of the identity of all Australian people.

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In order to fully assess the nature and extent of the archaeological deposit, Austral Archaeology have developed an archaeological testing methodology which follows the requirements of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (the *CoP*) (DECCW 2010).

Our test excavation methodology is based on the *CoP* which states that all "test excavations must be excavated using hand tools only" and "the first excavation [pit] must be excavated in 5 cm spits at each area – either PAD or site – being investigated. Based on the evidence of the first excavation [pit], 10 cm spits or sediment profile/stratigraphic excavation (whichever is smaller) may then be implemented" (2010, p.26). The *CoP* is also clear on how many test pits should be excavated and their placement.

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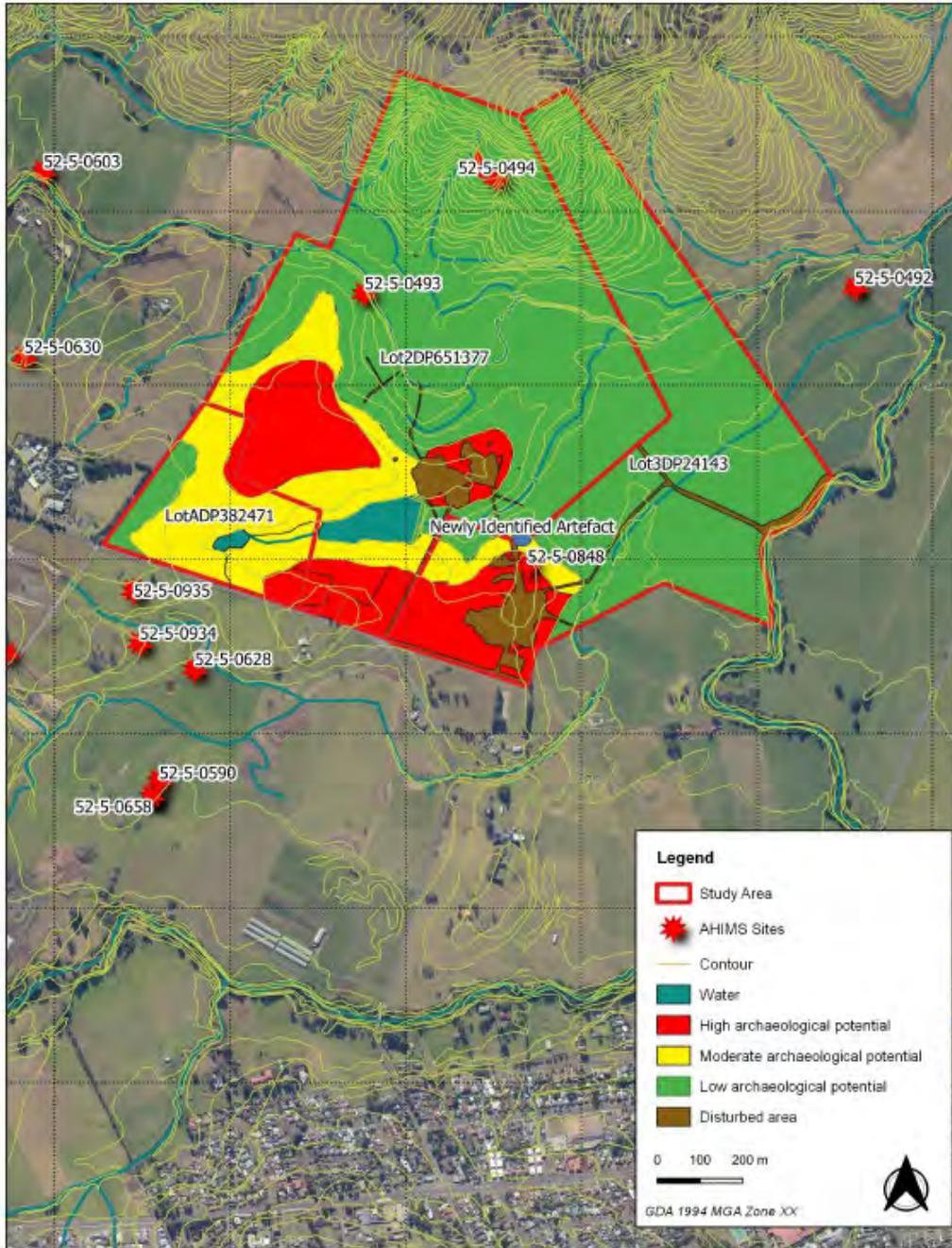


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Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



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Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:18 PM
To: wullunglb@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Wullung (Murrin Clan/Peoples)
 Lee-Roy James Boota
 54 Blackwood Street NSW
 Gerringong

Dear Lee-Roy James,

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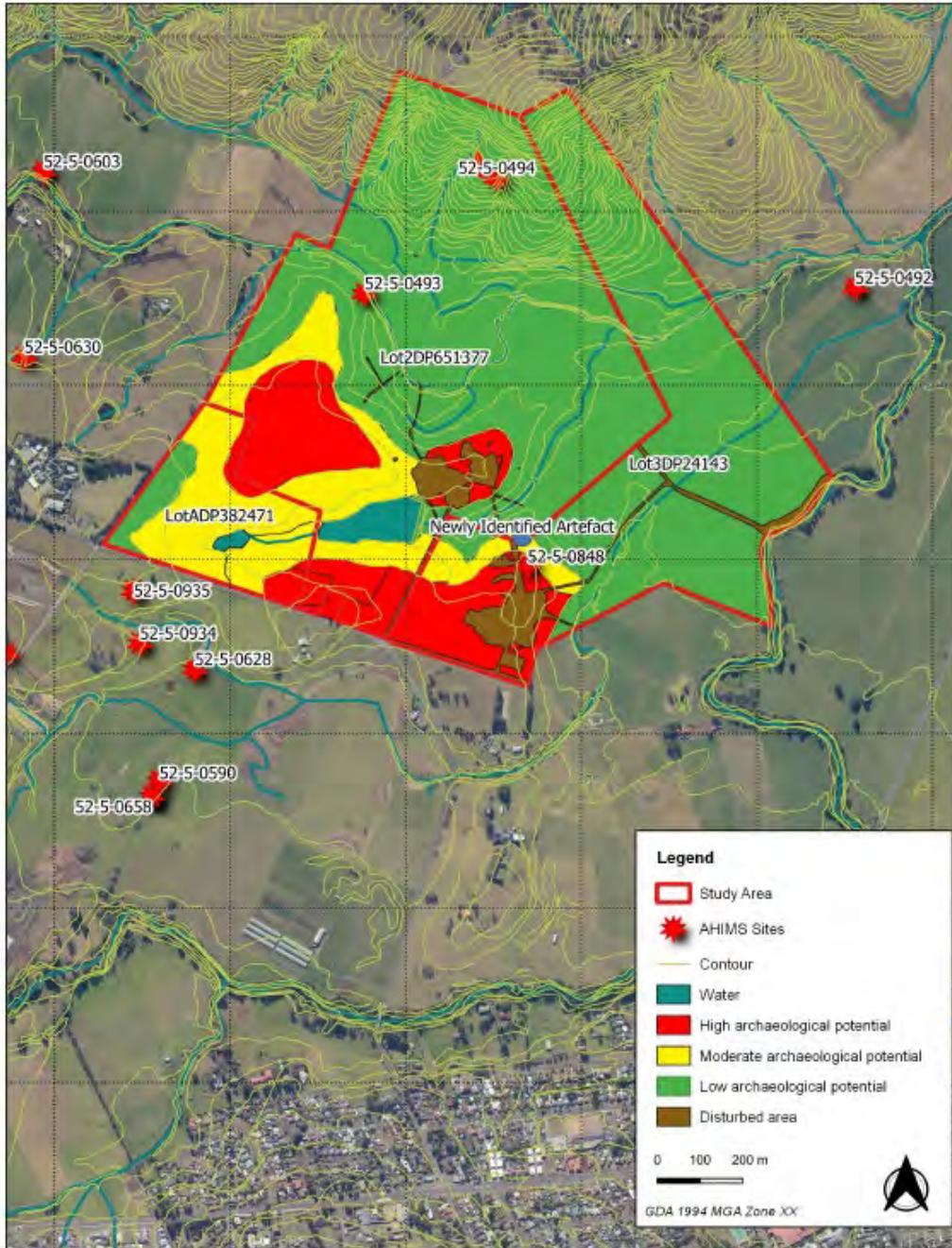


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From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:18 PM
To: 'ljbwright1977@hotmail.com'
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Three Ducks Dreaming Surveying and Consulting
 Leonard Wright
 40 Tuggerah Circuit NSW
 FLINDERS

Dear Leonard,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

I am writing to you as a Registered Aboriginal Party (RAP) for the proposed subdivision at 144 Calderwood, Calderwood, New South Wales (NSW). This letter provides project information and a methodology for the preparation of an Aboriginal Cultural Heritage Assessment (ACHA) for the study area. This information is being requested in accordance with Stages 2 and 3 of the *Aboriginal cultural heritage consultation requirements for proponents 2010* (Department of Environment, Climate Change and Water NSW 2010) [DECCW].

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The Aboriginal people of Australia are part of the oldest and continuous living cultures in human history. Aboriginal people’s cultural heritage is recognised and valued as a unique and essential component of the identity of all Australian people.

Aboriginal cultural heritage provides the essential links between the past and the present – it is an essential part of Aboriginal people’s cultural identity, connection and sense of belonging to Country.

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- Actively contributing to the development of cultural heritage management options and recommendations for any Aboriginal objects and/or places within the proposed project area
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To meet these objectives Department of Planning, Industry and Environment (DPIE) [formally OEH & DECCW] have developed four stages of consultation which must be met for each cultural heritage assessment. There are a number of mandatory timeframes associated with the Consultation Requirements, these are summarised in Table 1.

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Input required: Contribute to culturally appropriate information gathering and the research methodology. Provide information that will enable the cultural significance of Aboriginal objects and/or places within the proposed project area. Have input into the development of any cultural heritage management options.

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In order to fully assess the nature and extent of the archaeological deposit, Austral Archaeology have developed an archaeological testing methodology which follows the requirements of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (the *CoP*) (DECCW 2010).

Our test excavation methodology is based on the *CoP* which states that all "test excavations must be excavated using hand tools only" and "the first excavation [pit] must be excavated in 5 cm spits at each area – either PAD or site – being investigated. Based on the evidence of the first excavation [pit], 10 cm spits or sediment profile/stratigraphic excavation (whichever is smaller) may then be implemented" (2010, p.26). The *CoP* is also clear on how many test pits should be excavated and their placement.

It is estimated that a sample of at most 60 test pits will be excavated during the testing phase. We have determined that, based upon the size of PAD 1 and PAD 2 and the study area's overall potential, this would be completed by a team of 2 archaeologists and 2 Aboriginal stakeholders, during the course of 8 days.

The following excavation methodology will be employed for the test excavations:

- The hand excavation of 500 x 500 millimetre test pits across a series of transects located at a maximum spacing of 20 metres apart in areas considered to have high and moderate sensitivity.
- All excavation will be conducted by hand, and the excavation of initial test pits will proceed in 50 millimetres spits. Based on the results of the initial test pits, subsequent test pits will be excavated either in 100 millimetre spits or by stratigraphic unit, dependant on which unit is smaller.
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- Artefacts will be collected from the sieves and bagged according to excavation pit provenance. Each test pit will be backfilled to the best of our ability with the sieved material excavated from the pits at the conclusion of the testing program.
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Collection and salvage of all artefacts will be undertaken according to the following methodology. Austral has allowed for the analysis of a maximum of 100 artefacts as part of the testing program.

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- The landowner on whose property this area may be located is to be approached for consent to return the Aboriginal archaeological material to site. If the site where the artefacts are to be returned is situated upon Crown Land then the appropriate authority managing the Local Government Area is to be approached and informed.
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Should it be necessary to move these artefacts at a later date, it is a requirement that a Care and Control agreement be completed as part of any AHIP application. This will require the identified Aboriginal stakeholders and the OEH to be consulted over a suitable relocation site. This new site will also require GPS co-ordinates and all necessary details to be recorded with the OEH AHIMS.

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Please note that the final decision on the employment of individuals to assist with the project rests with the Proponent.

Please take the time to read this letter and the associated report, and please feel free to contact me on any of the numbers provided below should you wish to raise any concerns or if you require additional information.

Please ensure that your reply reaches this office no later than 29/05/2020 and thank you for your help with this matter.

Please do not hesitate to contact me on 0419 264 344 if you wish to discuss any aspect of this submission.

Yours sincerely,



Pauline Ramsey
Archaeologist
Austral Archaeology
46 Railway Street, Liverpool, 2170
M 0419 264 344
E pauliner@australarch.com.au

7. REFERENCES

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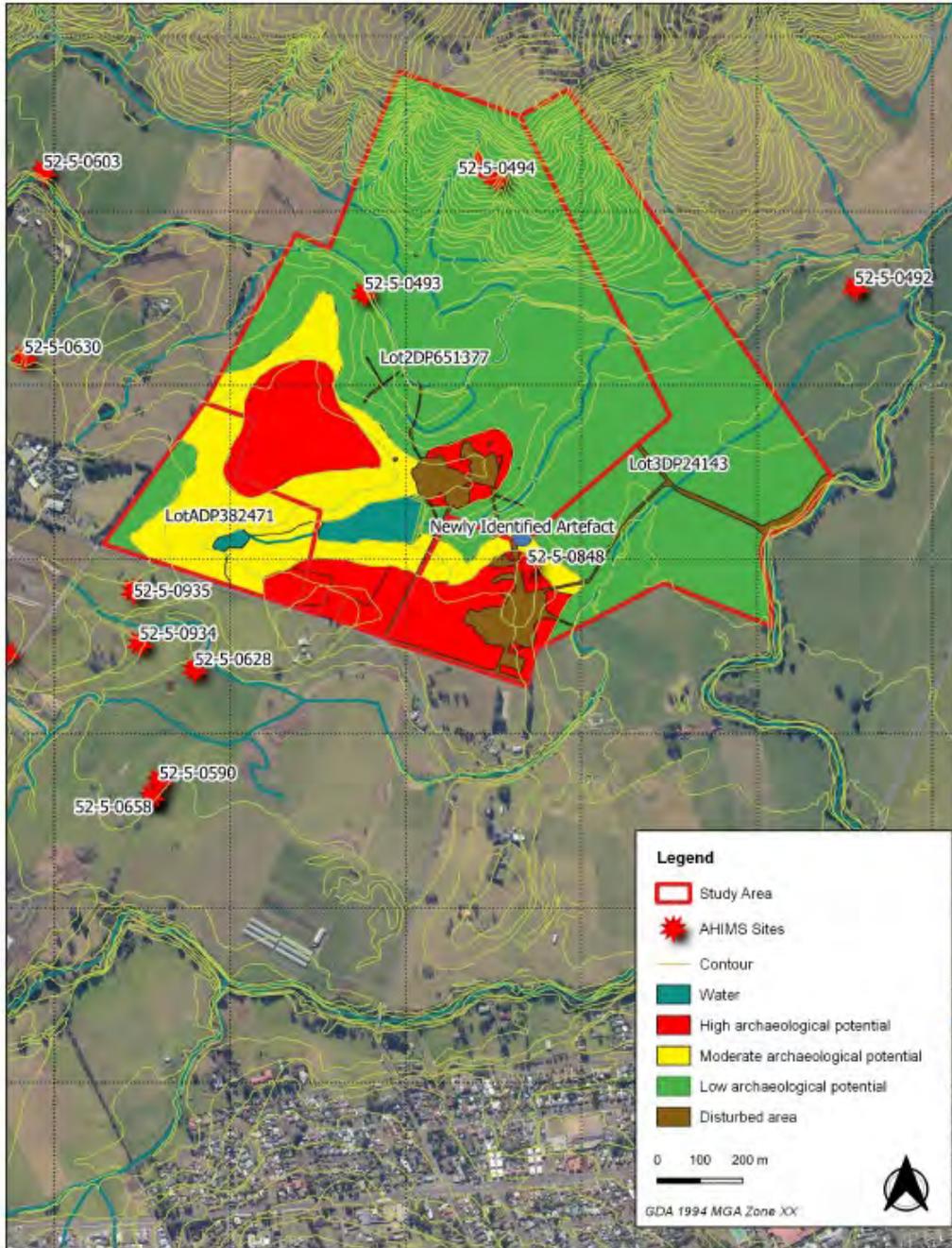


Figure 1.2 Aerial map of the study area in relation to surrounding suburbs

144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020


Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:19 PM
To: oldmanwisdomgumaraa@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
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Gumaraa
 Lisa Bazzano

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The study area contains a number of landforms, specifically, raised terraces overlooking drainage lines that are similar to or associated with the landform that contain YTOF_AS_9 (AHIMS #52-5-0848[A1]). Given this, as well as the study

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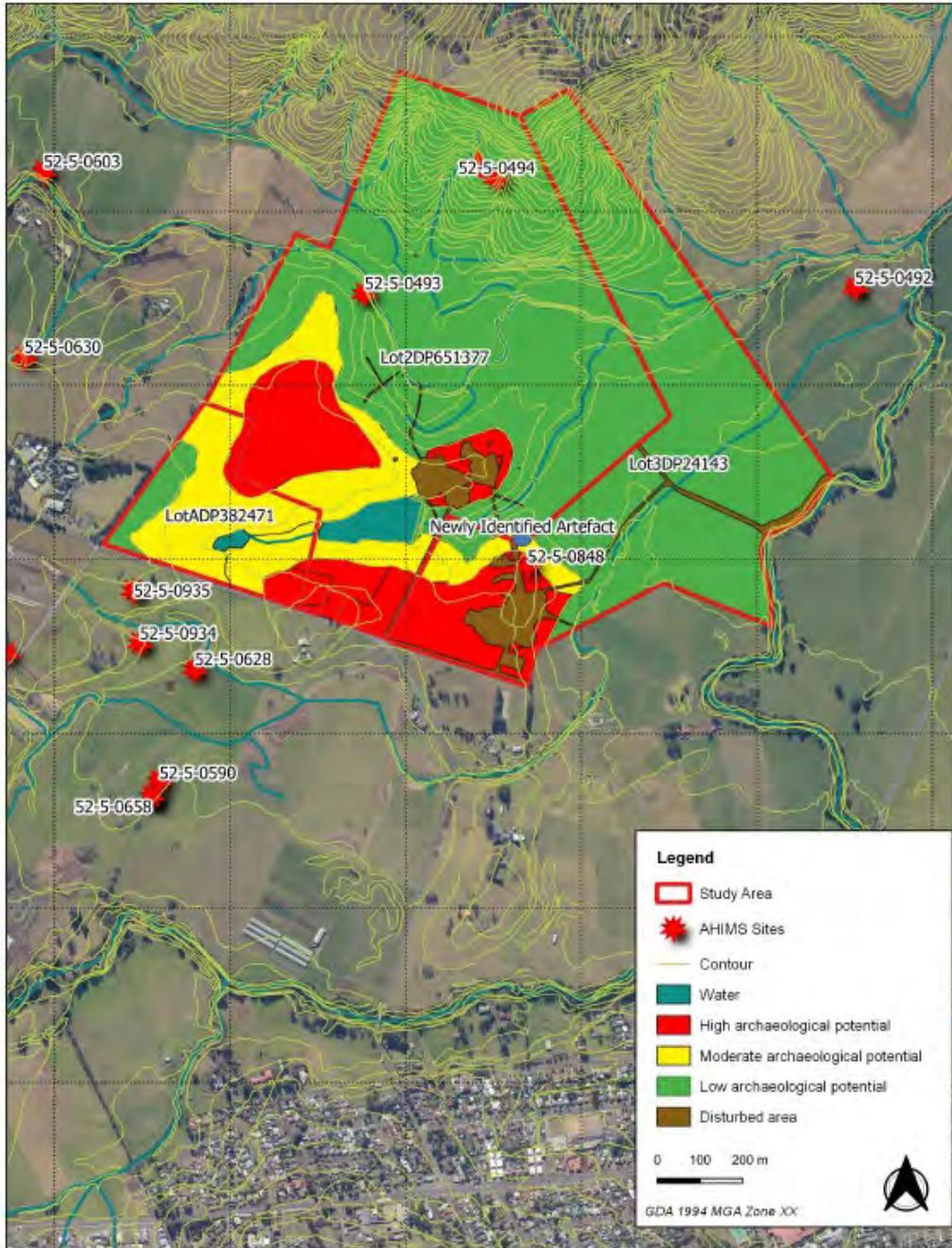


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144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



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Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:19 PM
To: coomaditchie@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
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Coomaditchie United Aboriginal Corporation
 Lorraine Brown
 PO Box 160 NSW
 Warrawong

Dear Lorraine,

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Please note that the final decision on the employment of individuals to assist with the project rests with the Proponent.

Please take the time to read this letter and the associated report, and please feel free to contact me on any of the numbers provided below should you wish to raise any concerns or if you require additional information.

Please ensure that your reply reaches this office no later than 29/05/2020 and thank you for your help with this matter.

Please do not hesitate to contact me on 0419 264 344 if you wish to discuss any aspect of this submission.

Yours sincerely,



Pauline Ramsey
Archaeologist
Austral Archaeology
46 Railway Street, Liverpool, 2170
M 0419 264 344
E pauliner@australarch.com.au

7. REFERENCES

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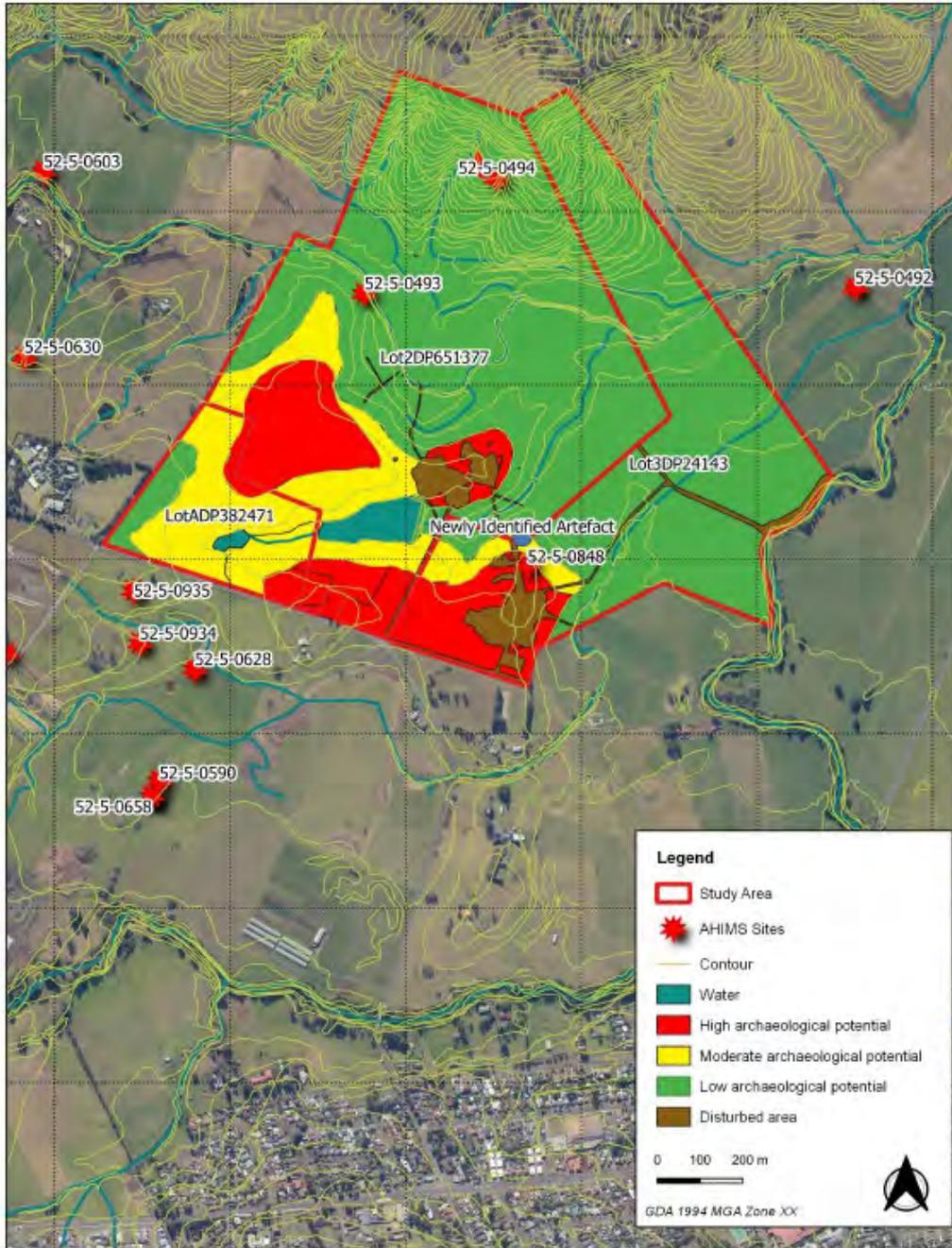


Figure 1.2 Aerial map of the study area in relation to surrounding suburbs

144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:14 PM
To: daruglandobservations@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Darug Land Observations
 Anna O'Hara
 PO Box 2006 NSW
 Bendelong

Dear Anna,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

I am writing to you as a Registered Aboriginal Party (RAP) for the proposed subdivision at 144 Calderwood, Calderwood, New South Wales (NSW). This letter provides project information and a methodology for the preparation of an Aboriginal Cultural Heritage Assessment (ACHA) for the study area. This information is being requested in accordance with Stages 2 and 3 of the *Aboriginal cultural heritage consultation requirements for proponents 2010* (Department of Environment, Climate Change and Water NSW 2010) [DECCW].

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In order to properly gauge the extent of the Aboriginal archaeological and cultural significance of the study area, Austral is proposing to undertake an archaeological survey as well as additional test excavations as part of the project. Archaeological testing will be completed in accordance with Requirement 16 of the *Code of Practice for the archaeological investigation of Aboriginal objects in NSW* (Department of Environment, Climate Change and Water 2010).

2. PROJECT BACKGROUND

The study area has been previously subject to archaeological investigations by Australian Museum Business Services (AMBS) in 2005 as part of the West Dapto Release Area Aboriginal Heritage Management Plan and by Artefact Heritage Pty Ltd (Artefact) in 2017 during a survey at 140 – 142 Calderwood Road. Within Lot 2 DP651377, AMBS identified two sites; isolated find "WDRA_AX_37" (AHIMS #52-5-0493), located along the southern elevated banks of the main Marshall Mount Creek and an artefact scatter "WDRA_AX_38" (AHIMS #52-5-0494), located mid slope of the hill range located to the north. The latest AMBS report concludes by stating that site AHIMS #52-5-0493 has an overall low archaeological sensitivity to future development and site AHIMS #52-5-0494 has a higher sensitivity (AMBS 2010: 82, 86).

Within Lot 3 DP24143, Artefact identified a cluster of four artefact sites within an area of potential archaeological deposit (PAD) called "YTOF_AS_9" AHIMS #52-5-0848. This site was located on the crest of the raised area between a tributary of the Marshall Mount Creek to its north and the Macquarie Rivulet to its south. The Artefact report concludes by stating that:

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area's key location within the Macquarie Rivulet catchment, testing of other raised terraces will play a big role in our better understanding of the Aboriginal archaeological and cultural significance of this area.

3. PREDICTIVE MODEL

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4. ABORIGINAL CULTURAL HERITAGE CONSULTATION

The Aboriginal people of Australia are part of the oldest and continuous living cultures in human history. Aboriginal people's cultural heritage is recognised and valued as a unique and essential component of the identity of all Australian people.

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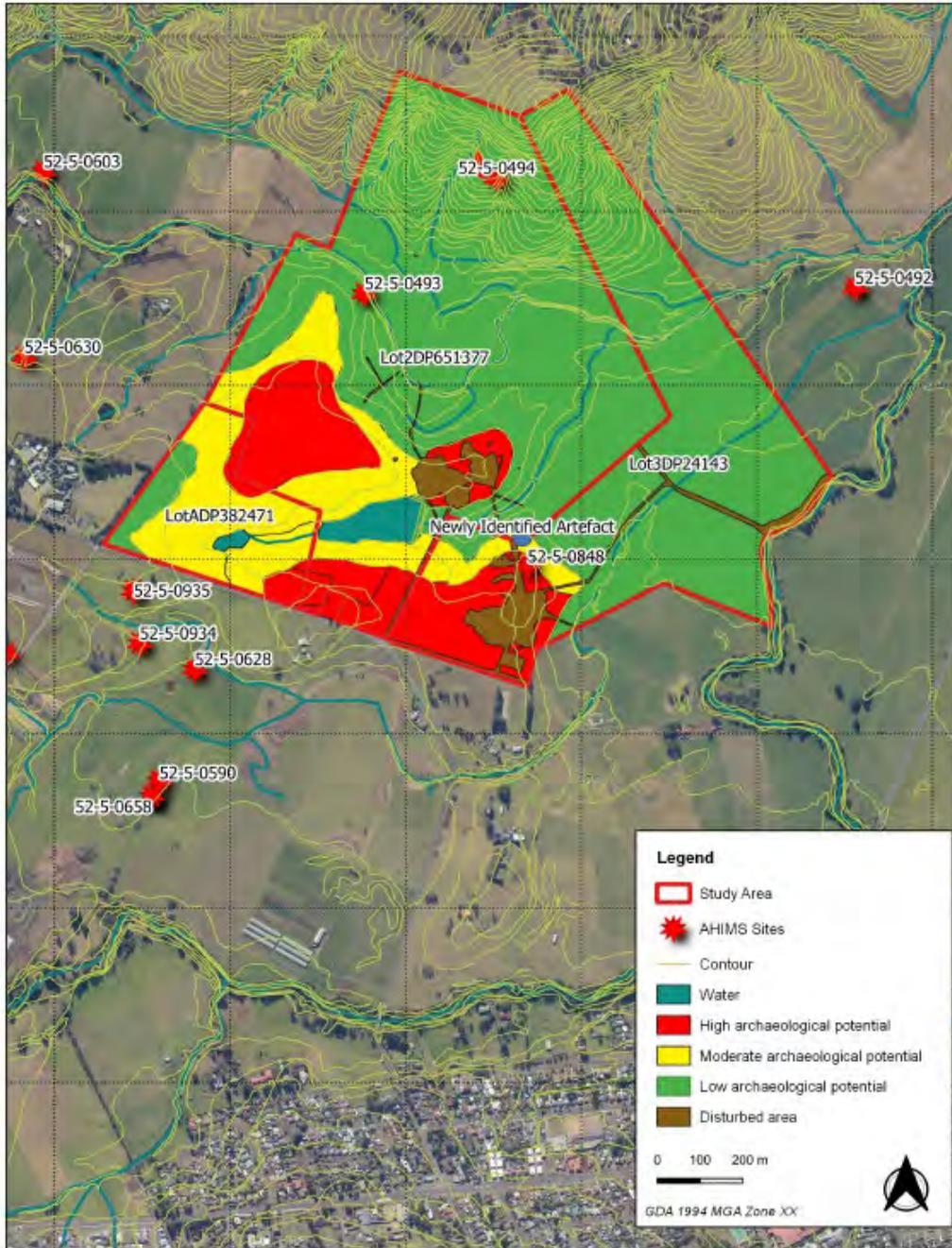


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Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



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144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:14 PM
To: bunjilsmith@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Goobah Development PTY LTD (Murrin Clan/Peoples)
 Basil Smith
 66 Grantham Road NSW
 Batehaven

Dear Basil,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

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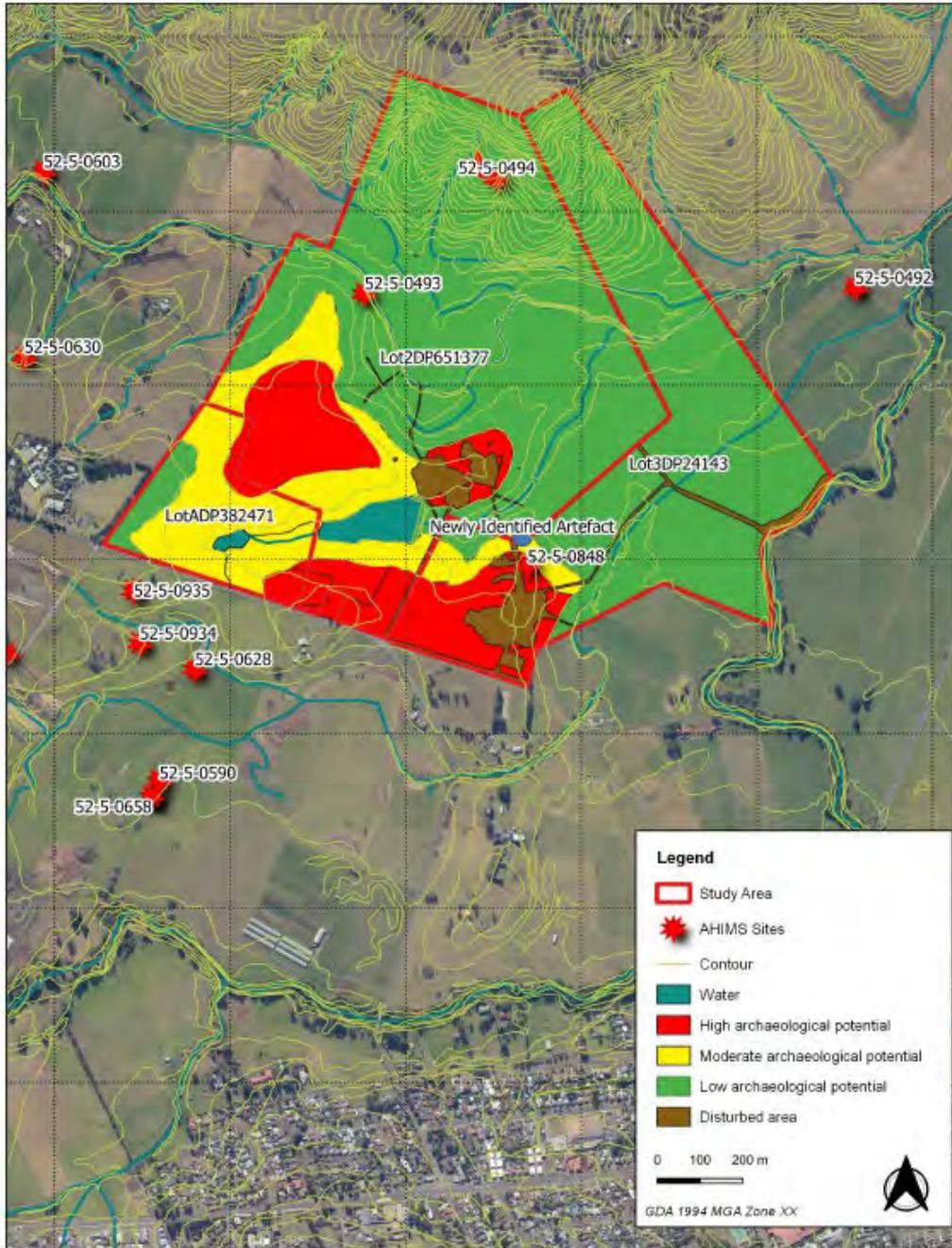


Figure 1.2 Aerial map of the study area in relation to surrounding suburbs

144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:14 PM
To: bd875@uow.edu.au
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Yerramurra (Murrin Clan/Peoples)
 Blaen Davis

Dear Blaen,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

I am writing to you as a Registered Aboriginal Party (RAP) for the proposed subdivision at 144 Calderwood, Calderwood, New South Wales (NSW). This letter provides project information and a methodology for the preparation of an Aboriginal Cultural Heritage Assessment (ACHA) for the study area. This information is being requested in accordance with Stages 2 and 3 of the *Aboriginal cultural heritage consultation requirements for proponents 2010* (Department of Environment, Climate Change and Water NSW 2010) [DECCW].

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Within Lot 3 DP24143, Artefact identified a cluster of four artefact sites within an area of potential archaeological deposit (PAD) called "YTOF_AS_9" AHIMS #52-5-0848. This site was located on the crest of the raised area between a tributary of the Marshall Mount Creek to its north and the Macquarie Rivulet to its south. The Artefact report concludes by stating that:

"YTOF AS 9 (AHIMS ID 52-2-0848) is located within a unique aspect of the landscape as the first raised area above the Macquarie Rivulet flood plain. The artefact density and variety of lithologies suggest the site was intensively occupied over multiple occupation phases. The site is considered to be rare within the local context" (Artefact 2017: 43). Artefact further concludes that the obtaining of an Aboriginal Heritage Impact Permit (AHIP) will be necessary if further works are to impact this site and that archaeological salvage operations should also be undertaken following the issuance (Artefact 2017: 1)."

The study area contains a number of landforms, specifically, raised terraces overlooking drainage lines that are similar to or associated with the landform that contain YTOF_AS_9 (AHIMS #52-5-0848[A1]). Given this, as well as the study

area's key location within the Macquarie Rivulet catchment, testing of other raised terraces will play a big role in our better understanding of the Aboriginal archaeological and cultural significance of this area.

3. PREDICTIVE MODEL

The following model has been developed to try and predict the nature and extent of Aboriginal cultural heritage within the study area:

Using the study area's environmental context and previous archaeological investigations within the local area, Austral has determined that there are three areas of high archaeological potential and one large area of moderate potential surrounding the high. Each of these areas were chosen based on their landform element, their proximity to water and their reduced likelihood for inundation during periods of heavy rainfall, as well as their overall similarities with other, previously investigated sites. Based on these criteria, it is predicted that open artefact scatters and associated PADs will most likely occur in these areas highlighted in Map 2 attached to this letter.

4. ABORIGINAL CULTURAL HERITAGE CONSULTATION

The Aboriginal people of Australia are part of the oldest and continuous living cultures in human history. Aboriginal people's cultural heritage is recognised and valued as a unique and essential component of the identity of all Australian people.

Aboriginal cultural heritage provides the essential links between the past and the present – it is an essential part of Aboriginal people's cultural identity, connection and sense of belonging to Country.

The objective of community consultation is to ensure Aboriginal people have the opportunity to improve assessment outcomes by:

- Providing relevant information about the cultural significance and values of the Aboriginal objects and/or place
- Influencing the design of the method to assess cultural and scientific significance of Aboriginal objects and places.
- Actively contributing to the development of cultural heritage management options and recommendations for any Aboriginal objects and/or places within the proposed project area
- Commenting on draft assessment reports before they are submitted by the proponent to DPIE.

To meet these objectives Department of Planning, Industry and Environment (DPIE) [formally OEH & DECCW] have developed four stages of consultation which must be met for each cultural heritage assessment. There are a number of mandatory timeframes associated with the Consultation Requirements, these are summarised in Table 1.

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Input required: Feedback on the project proposal including the nature, scope and methodology. Raise any concerns about cultural perspectives or assessment requirements.

Stage 3: Gathering information about cultural significance.

Input required: Contribute to culturally appropriate information gathering and the research methodology. Provide information that will enable the cultural significance of Aboriginal objects and/or places within the proposed project area. Have input into the development of any cultural heritage management options.

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Input required: Provide feedback on any aspect of the draft ACHA report.

5. EXCAVATION STRATEGY

In order to fully assess the nature and extent of the archaeological deposit, Austral Archaeology have developed an archaeological testing methodology which follows the requirements of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (the *CoP*) (DECCW 2010).

Our test excavation methodology is based on the *CoP* which states that all "test excavations must be excavated using hand tools only" and "the first excavation [pit] must be excavated in 5 cm spits at each area – either PAD or site – being investigated. Based on the evidence of the first excavation [pit], 10 cm spits or sediment profile/stratigraphic excavation (whichever is smaller) may then be implemented" (2010, p.26). The *CoP* is also clear on how many test pits should be excavated and their placement.

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Collection and salvage of all artefacts will be undertaken according to the following methodology. Austral has allowed for the analysis of a maximum of 100 artefacts as part of the testing program.

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- The landowner on whose property this area may be located is to be approached for consent to return the Aboriginal archaeological material to site. If the site where the artefacts are to be returned is situated upon Crown Land then the appropriate authority managing the Local Government Area is to be approached and informed.
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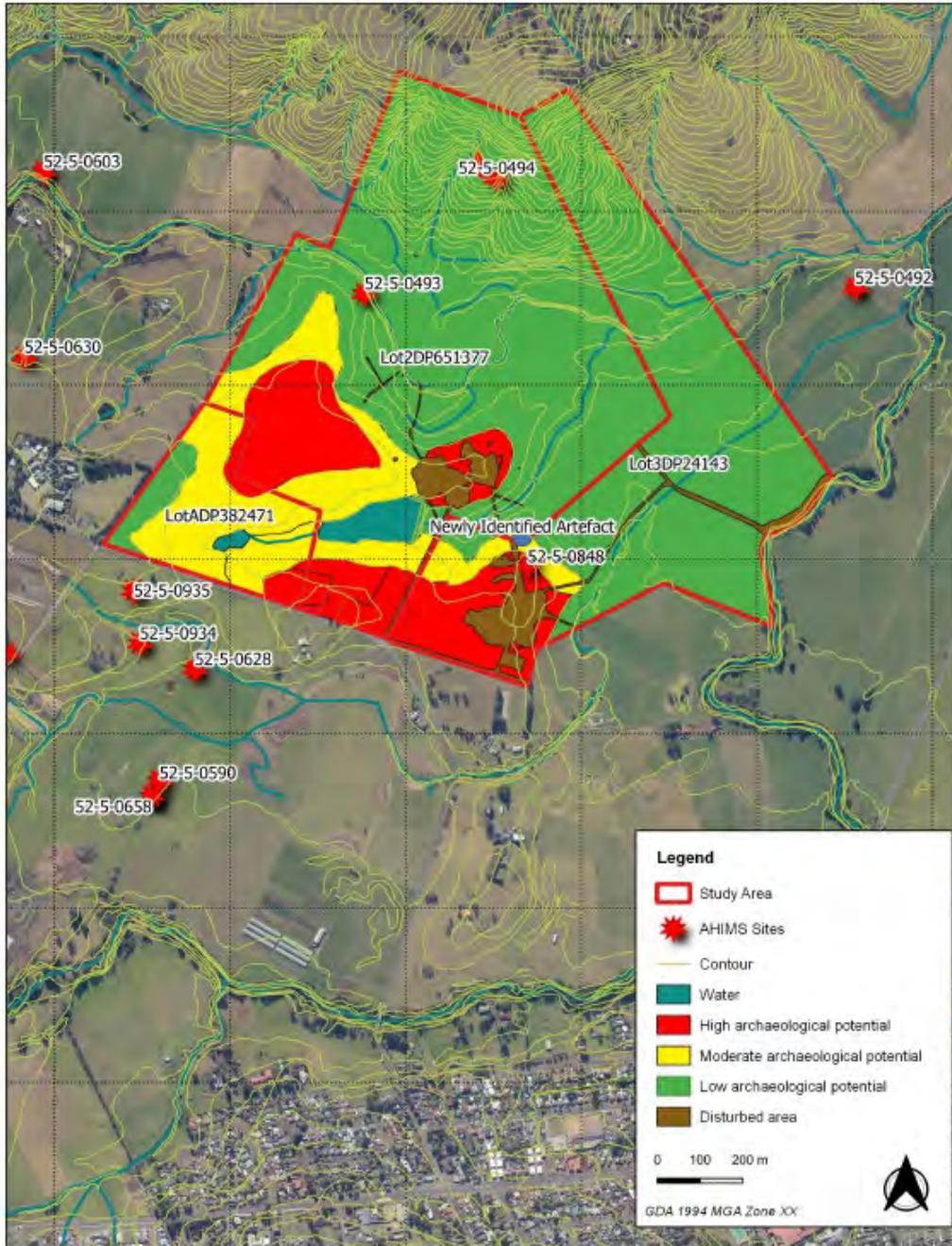


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Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:14 PM
To: yurraandaali_cs@outlook.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Yurraandaali Cultural Services
 Bo Field
 3 Sheeran Street NSW
 Old Errowal Bay

Dear Bo,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

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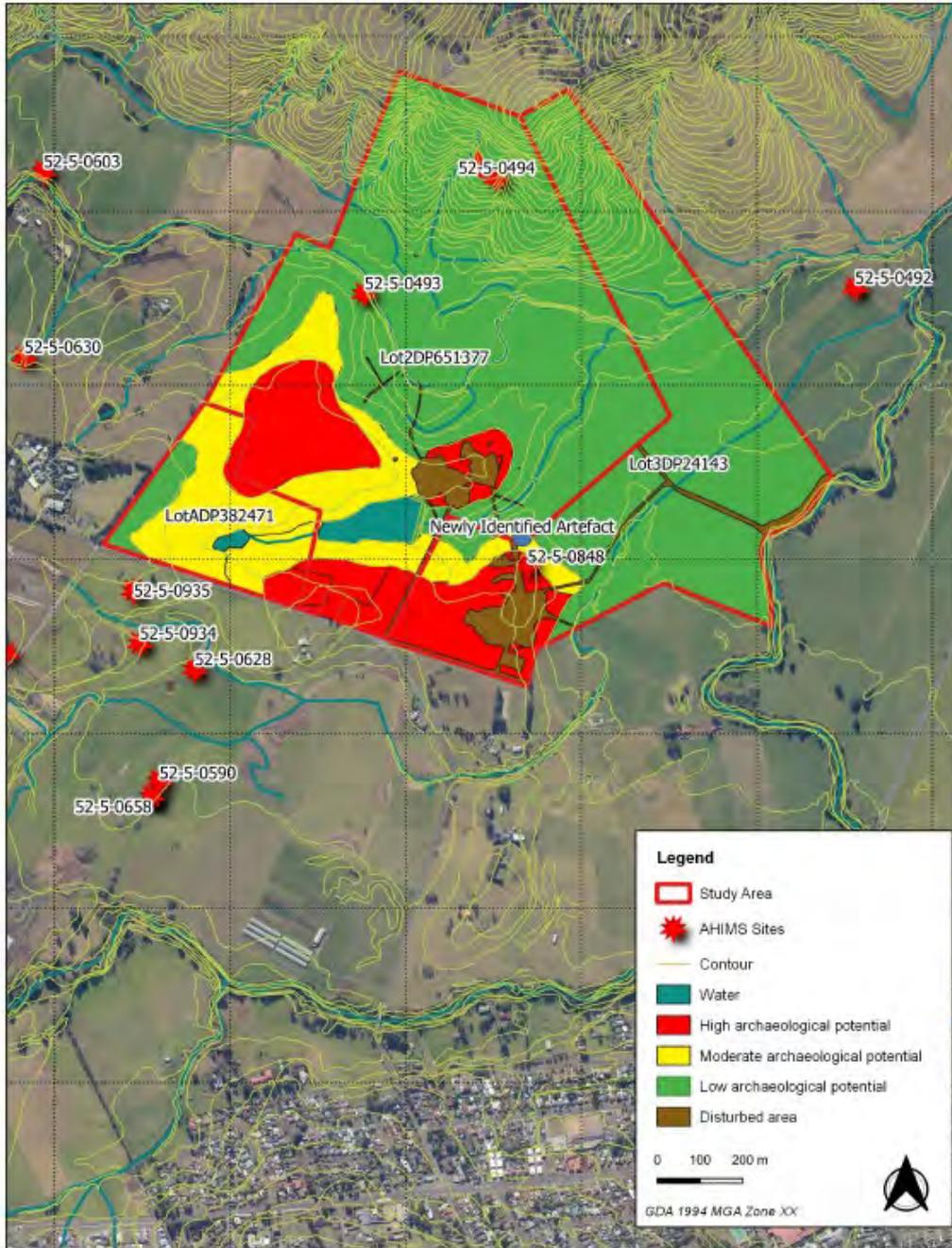


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Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:14 PM
To: gundungurratectribsevice@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Gundungurra Tribal Technical Services
 Christopher Payne
 9/15-22 Burns Road NSW
 LEUMEAH

Dear Christopher,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

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Please note that the final decision on the employment of individuals to assist with the project rests with the Proponent.

Please take the time to read this letter and the associated report, and please feel free to contact me on any of the numbers provided below should you wish to raise any concerns or if you require additional information.

Please ensure that your reply reaches this office no later than 29/05/2020 and thank you for your help with this matter.

Please do not hesitate to contact me on 0419 264 344 if you wish to discuss any aspect of this submission.

Yours sincerely,



Pauline Ramsey
Archaeologist
Austral Archaeology
46 Railway Street, Liverpool, 2170
M 0419 264 344
E pauliner@australarch.com.au

7. REFERENCES

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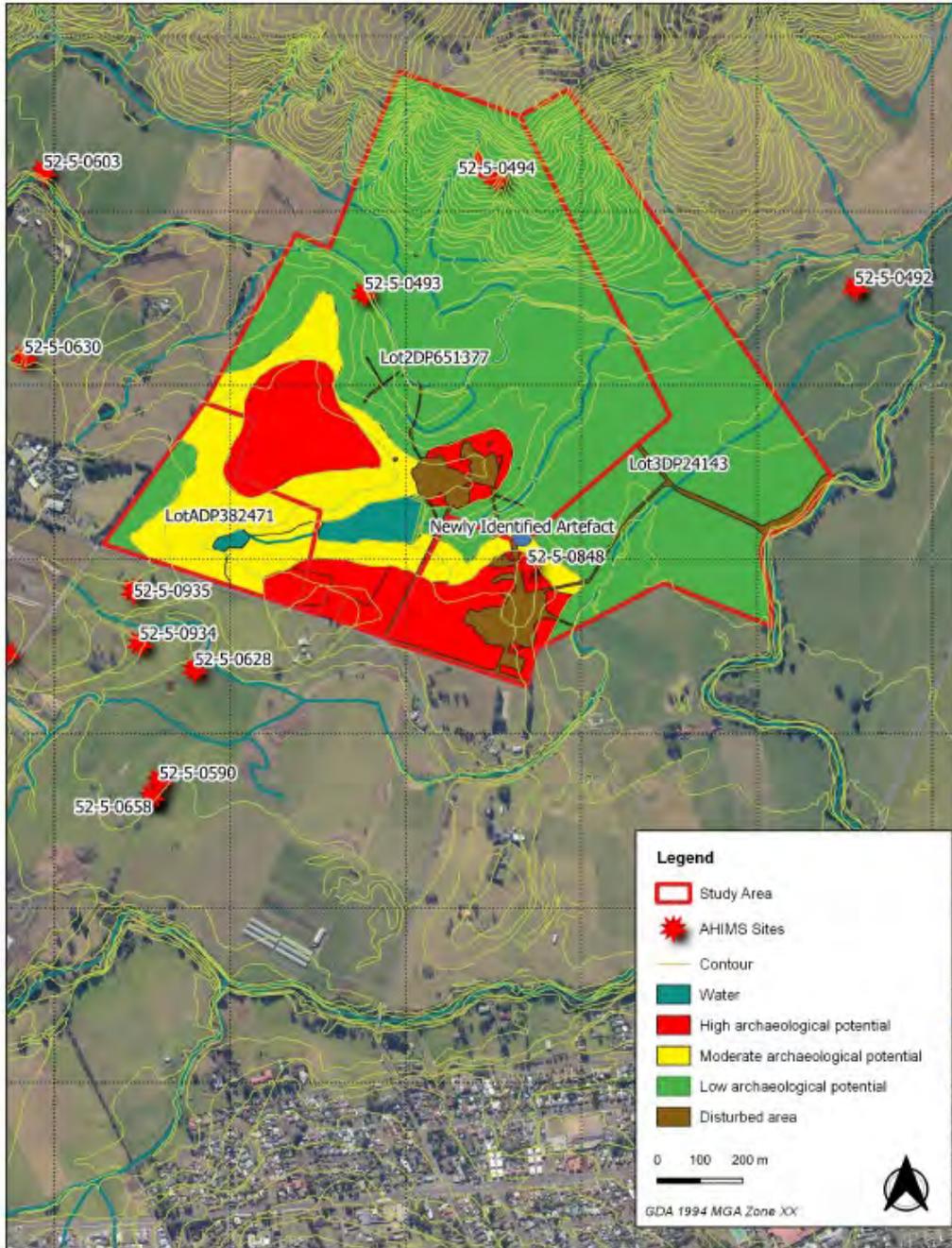


Figure 1.2 Aerial map of the study area in relation to surrounding suburbs

144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:14 PM
To: clive.freeman@y7mail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Clive Freeman
 6 Dhugan Close, Wreck Bay Aboriginal Community NSW
 Jervis Bay

Dear Clive,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

I am writing to you as a Registered Aboriginal Party (RAP) for the proposed subdivision at 144 Calderwood, Calderwood, New South Wales (NSW). This letter provides project information and a methodology for the preparation of an Aboriginal Cultural Heritage Assessment (ACHA) for the study area. This information is being requested in accordance with Stages 2 and 3 of the *Aboriginal cultural heritage consultation requirements for proponents 2010* (Department of Environment, Climate Change and Water NSW 2010) [DECCW].

1. PROJECT DETAILS

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The study area contains a number of landforms, specifically, raised terraces overlooking drainage lines that are similar to or associated with the landform that contain YTOF_AS_9 (AHIMS #52-5-0848[A1]). Given this, as well as the study

area's key location within the Macquarie Rivulet catchment, testing of other raised terraces will play a big role in our better understanding of the Aboriginal archaeological and cultural significance of this area.

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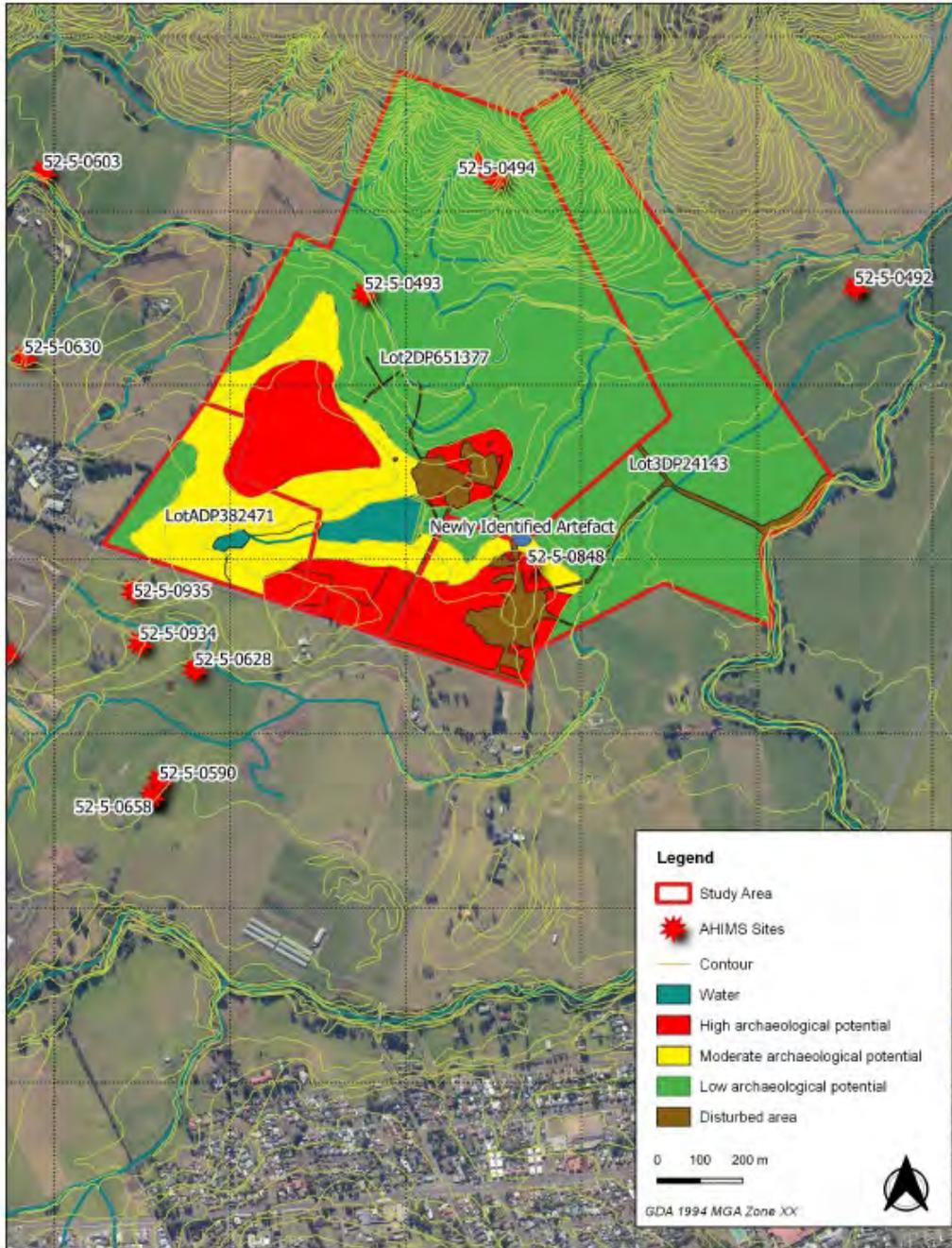


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144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:13 PM
To: djirrawidch@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Minnamunnung
 Aaron Broad
 1 Waratah Avenue NSW
 ALBION PARK RAIL

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Please note that the final decision on the employment of individuals to assist with the project rests with the Proponent.

Please take the time to read this letter and the associated report, and please feel free to contact me on any of the numbers provided below should you wish to raise any concerns or if you require additional information.

Please ensure that your reply reaches this office no later than 29/05/2020 and thank you for your help with this matter.

Please do not hesitate to contact me on 0419 264 344 if you wish to discuss any aspect of this submission.

Yours sincerely,



Pauline Ramsey
Archaeologist
Austral Archaeology
46 Railway Street, Liverpool, 2170
M 0419 264 344
E pauliner@australarch.com.au

7. REFERENCES

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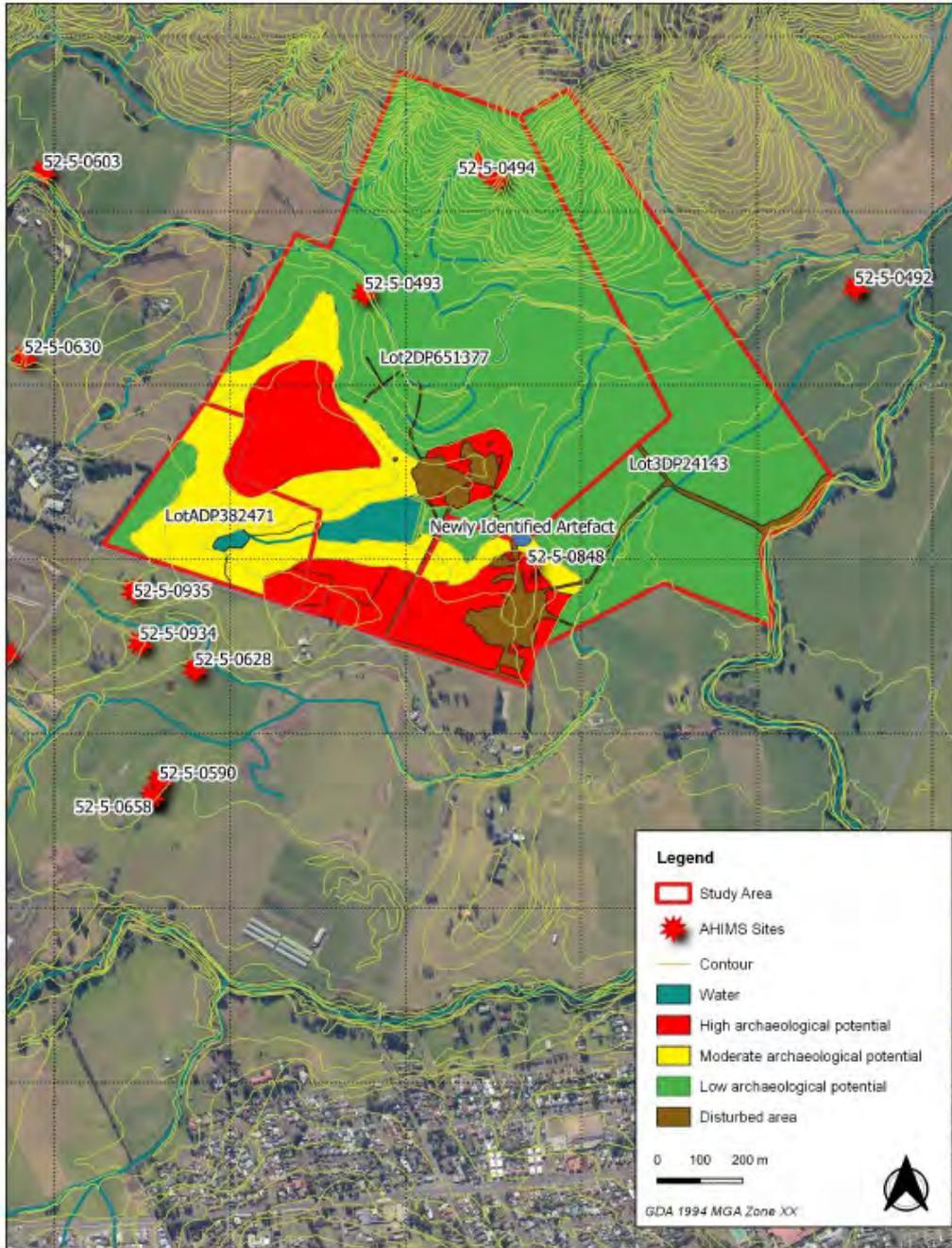


Figure 1.2 Aerial map of the study area in relation to surrounding suburbs

144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:13 PM
To: dharugchts@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
1 May 2020

Dharug (Murrin Clan/Peoples)
 Andrew Bond

Dear Andrew,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

I am writing to you as a Registered Aboriginal Party (RAP) for the proposed subdivision at 144 Calderwood, Calderwood, New South Wales (NSW). This letter provides project information and a methodology for the preparation of an Aboriginal Cultural Heritage Assessment (ACHA) for the study area. This information is being requested in accordance with Stages 2 and 3 of the *Aboriginal cultural heritage consultation requirements for proponents 2010* (Department of Environment, Climate Change and Water NSW 2010) [DECCW].

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In order to properly gauge the extent of the Aboriginal archaeological and cultural significance of the study area, Austral is proposing to undertake an archaeological survey as well as additional test excavations as part of the project. Archaeological testing will be completed in accordance with Requirement 16 of the *Code of Practice for the archaeological investigation of Aboriginal objects in NSW* (Department of Environment, Climate Change and Water 2010).

2. PROJECT BACKGROUND

The study area has been previously subject to archaeological investigations by Australian Museum Business Services (AMBS) in 2005 as part of the West Dapto Release Area Aboriginal Heritage Management Plan and by Artefact Heritage Pty Ltd (Artefact) in 2017 during a survey at 140 – 142 Calderwood Road. Within Lot 2 DP651377, AMBS identified two sites; isolated find "WDRA_AX_37" (AHIMS #52-5-0493), located along the southern elevated banks of the main Marshall Mount Creek and an artefact scatter "WDRA_AX_38" (AHIMS #52-5-0494), located mid slope of the hill range located to the north. The latest AMBS report concludes by stating that site AHIMS #52-5-0493 has an overall low archaeological sensitivity to future development and site AHIMS #52-5-0494 has a higher sensitivity (AMBS 2010: 82, 86).

Within Lot 3 DP24143, Artefact identified a cluster of four artefact sites within an area of potential archaeological deposit (PAD) called "YTOF_AS_9" AHIMS #52-5-0848. This site was located on the crest of the raised area between a tributary of the Marshall Mount Creek to its north and the Macquarie Rivulet to its south. The Artefact report concludes by stating that:

"YTOF AS 9 (AHIMS ID 52-2-0848) is located within a unique aspect of the landscape as the first raised area above the Macquarie Rivulet flood plain. The artefact density and variety of lithologies suggest the site was intensively occupied over multiple occupation phases. The site is considered to be rare within the local context" (Artefact 2017: 43). Artefact further concludes that the obtaining of an Aboriginal Heritage Impact Permit (AHIP) will be necessary if further works are to impact this site and that archaeological salvage operations should also be undertaken following the issuance (Artefact 2017: 1)."

[The study area contains a number of landforms, specifically, raised terraces overlooking drainage lines that are similar to or associated with the landform that contain YTOF_AS_9 (AHIMS #52-5-0848[A1]). Given this, as well as the study

area’s key location within the Macquarie Rivulet catchment, testing of other raised terraces will play a big role in our better understanding of the Aboriginal archaeological and cultural significance of this area.

3. PREDICTIVE MODEL

The following model has been developed to try and predict the nature and extent of Aboriginal cultural heritage within the study area:

Using the study area’s environmental context and previous archaeological investigations within the local area, Austral has determined that there are three areas of high archaeological potential and one large area of moderate potential surrounding the high. Each of these areas were chosen based on their landform element, their proximity to water and their reduced likelihood for inundation during periods of heavy rainfall, as well as their overall similarities with other, previously investigated sites. Based on these criteria, it is predicted that open artefact scatters and associated PADs will most likely occur in these areas highlighted in Map 2 attached to this letter.

4. ABORIGINAL CULTURAL HERITAGE CONSULTATION

The Aboriginal people of Australia are part of the oldest and continuous living cultures in human history. Aboriginal people’s cultural heritage is recognised and valued as a unique and essential component of the identity of all Australian people.

Aboriginal cultural heritage provides the essential links between the past and the present – it is an essential part of Aboriginal people’s cultural identity, connection and sense of belonging to Country.

The objective of community consultation is to ensure Aboriginal people have the opportunity to improve assessment outcomes by:

- Providing relevant information about the cultural significance and values of the Aboriginal objects and/or place
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To meet these objectives Department of Planning, Industry and Environment (DPIE) [formally OEH & DECCW] have developed four stages of consultation which must be met for each cultural heritage assessment. There are a number of mandatory timeframes associated with the Consultation Requirements, these are summarised in Table 1.

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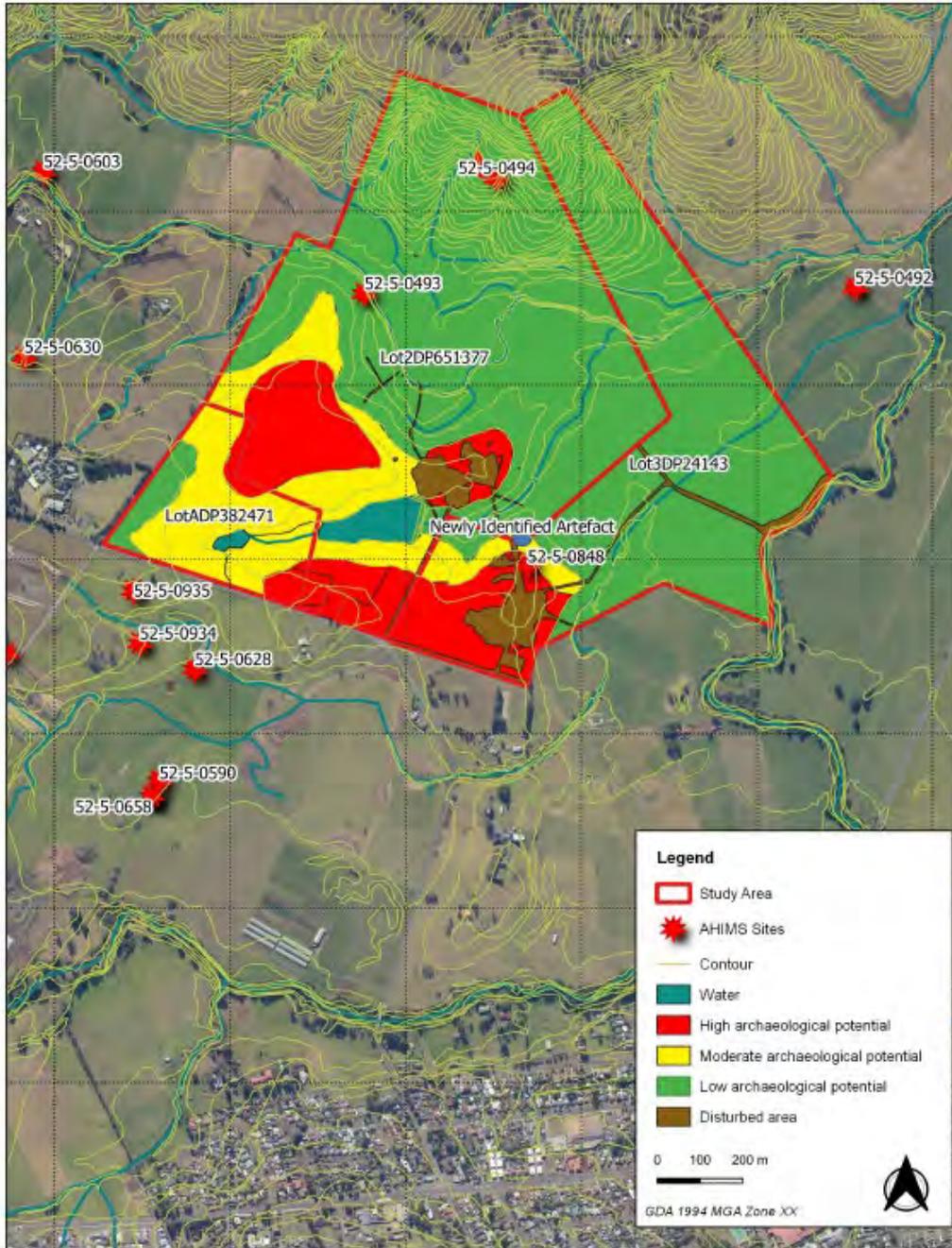


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144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:17 PM
To: karrialchts@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Karrial (Murrin Clan/Peoples)
 Karrial Johnson

Dear Karrial,

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Please ensure that your reply reaches this office no later than 29/05/2020 and thank you for your help with this matter.

Please do not hesitate to contact me on 0419 264 344 if you wish to discuss any aspect of this submission.

Yours sincerely,



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Austral Archaeology
46 Railway Street, Liverpool, 2170
M 0419 264 344
E pauliner@australarch.com.au

7. REFERENCES

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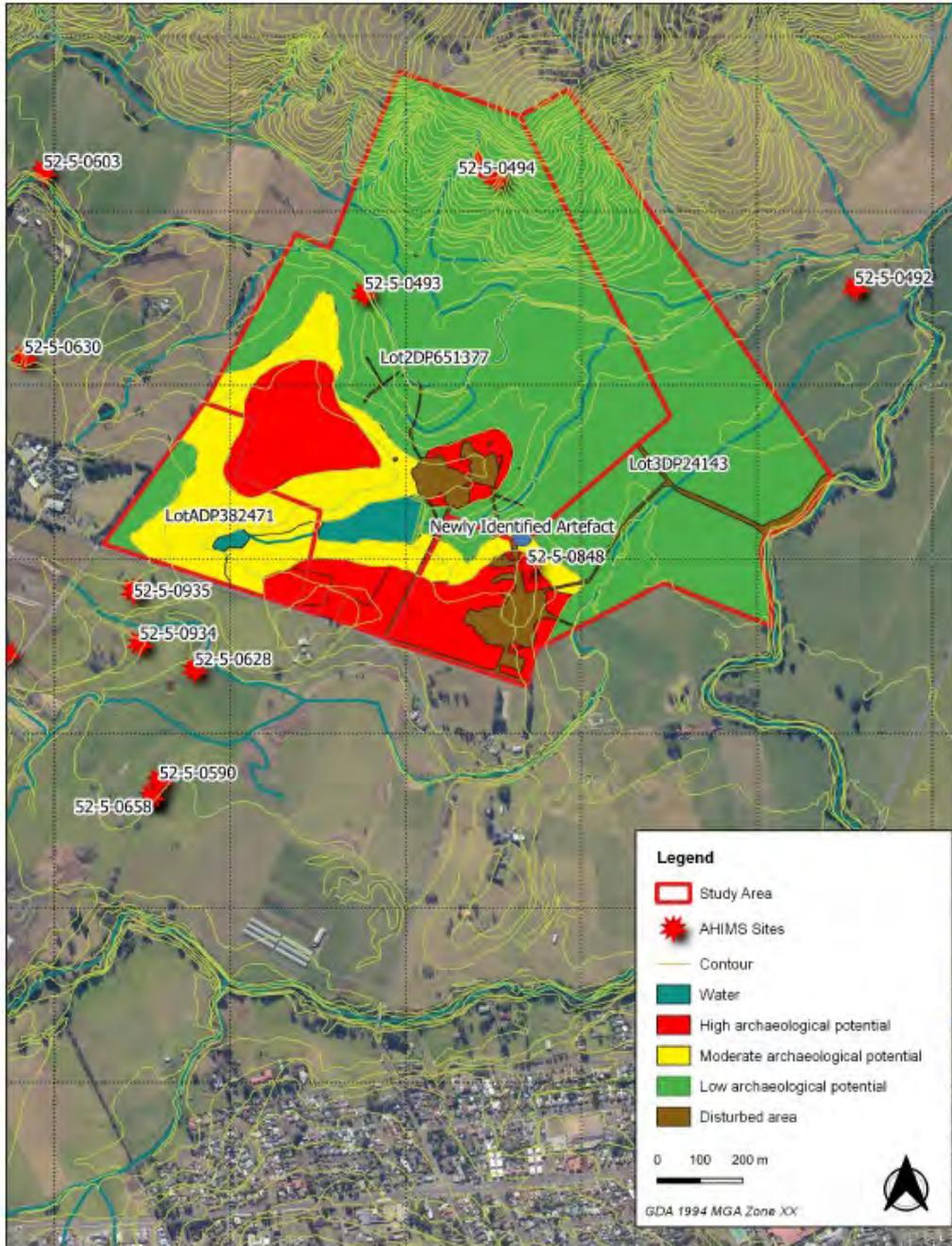


Figure 1.2 Aerial map of the study area in relation to surrounding suburbs

144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:14 PM
To: daruglandobservations@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Darug Land Observations
 Anna O'Hara
 PO Box 2006 NSW
 Bendelong

Dear Anna,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

I am writing to you as a Registered Aboriginal Party (RAP) for the proposed subdivision at 144 Calderwood, Calderwood, New South Wales (NSW). This letter provides project information and a methodology for the preparation of an Aboriginal Cultural Heritage Assessment (ACHA) for the study area. This information is being requested in accordance with Stages 2 and 3 of the *Aboriginal cultural heritage consultation requirements for proponents 2010* (Department of Environment, Climate Change and Water NSW 2010) [DECCW].

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Within Lot 3 DP24143, Artefact identified a cluster of four artefact sites within an area of potential archaeological deposit (PAD) called "YTOF_AS_9" AHIMS #52-5-0848. This site was located on the crest of the raised area between a tributary of the Marshall Mount Creek to its north and the Macquarie Rivulet to its south. The Artefact report concludes by stating that:

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Using the study area’s environmental context and previous archaeological investigations within the local area, Austral has determined that there are three areas of high archaeological potential and one large area of moderate potential surrounding the high. Each of these areas were chosen based on their landform element, their proximity to water and their reduced likelihood for inundation during periods of heavy rainfall, as well as their overall similarities with other, previously investigated sites. Based on these criteria, it is predicted that open artefact scatters and associated PADs will most likely occur in these areas highlighted in Map 2 attached to this letter.

4. ABORIGINAL CULTURAL HERITAGE CONSULTATION

The Aboriginal people of Australia are part of the oldest and continuous living cultures in human history. Aboriginal people’s cultural heritage is recognised and valued as a unique and essential component of the identity of all Australian people.

Aboriginal cultural heritage provides the essential links between the past and the present – it is an essential part of Aboriginal people’s cultural identity, connection and sense of belonging to Country.

The objective of community consultation is to ensure Aboriginal people have the opportunity to improve assessment outcomes by:

- Providing relevant information about the cultural significance and values of the Aboriginal objects and/or place
- Influencing the design of the method to assess cultural and scientific significance of Aboriginal objects and places.
- Actively contributing to the development of cultural heritage management options and recommendations for any Aboriginal objects and/or places within the proposed project area
- Commenting on draft assessment reports before they are submitted by the proponent to DPIE.

To meet these objectives Department of Planning, Industry and Environment (DPIE) [formally OEH & DECCW] have developed four stages of consultation which must be met for each cultural heritage assessment. There are a number of mandatory timeframes associated with the Consultation Requirements, these are summarised in Table 1.

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Input required: Register your interest in the project by email, phone or letter. This stage is complete

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Input required: Feedback on the project proposal including the nature, scope and methodology. Raise any concerns about cultural perspectives or assessment requirements.

Stage 3: Gathering information about cultural significance.

Input required: Contribute to culturally appropriate information gathering and the research methodology. Provide information that will enable the cultural significance of Aboriginal objects and/or places within the proposed project area. Have input into the development of any cultural heritage management options.

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Input required: Provide feedback on any aspect of the draft ACHA report.

5. EXCAVATION STRATEGY

In order to fully assess the nature and extent of the archaeological deposit, Austral Archaeology have developed an archaeological testing methodology which follows the requirements of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (the *CoP*) (DECCW 2010).

Our test excavation methodology is based on the *CoP* which states that all "test excavations must be excavated using hand tools only" and "the first excavation [pit] must be excavated in 5 cm spits at each area – either PAD or site – being investigated. Based on the evidence of the first excavation [pit], 10 cm spits or sediment profile/stratigraphic excavation (whichever is smaller) may then be implemented" (2010, p.26). The *CoP* is also clear on how many test pits should be excavated and their placement.

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- The hand excavation of 500 x 500 millimetre test pits across a series of transects located at a maximum spacing of 20 metres apart in areas considered to have high and moderate sensitivity.
- All excavation will be conducted by hand, and the excavation of initial test pits will proceed in 50 millimetres spits. Based on the results of the initial test pits, subsequent test pits will be excavated either in 100 millimetre spits or by stratigraphic unit, dependant on which unit is smaller.
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- 100% of excavated potential artefact bearing deposit will be sieved. Austral has allowed for dry sieving as part of the excavation program. Dependant on the soils encountered and site conditions, material may need to be wet sieved. Water for the sieving station would be provided by a water tanker and pump.
- Artefacts will be collected from the sieves and bagged according to excavation pit provenance. Each test pit will be backfilled to the best of our ability with the sieved material excavated from the pits at the conclusion of the testing program.
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Artefact Collection and Storage

Collection and salvage of all artefacts will be undertaken according to the following methodology. Austral has allowed for the analysis of a maximum of 100 artefacts as part of the testing program.

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- The landowner on whose property this area may be located is to be approached for consent to return the Aboriginal archaeological material to site. If the site where the artefacts are to be returned is situated upon Crown Land then the appropriate authority managing the Local Government Area is to be approached and informed.
- A representative of all registered Aboriginal stakeholders and Cardno are to be invited to attend/participate in the return of artefacts to country.
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Should it be necessary to move these artefacts at a later date, it is a requirement that a Care and Control agreement be completed as part of any AHIP application. This will require the identified Aboriginal stakeholders and the OEH to be consulted over a suitable relocation site. This new site will also require GPS co-ordinates and all necessary details to be recorded with the OEH AHIMS.

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An ACHAR will be prepared that documents the assessment Aboriginal cultural heritage values, potential harm to these values as part of the project and strategies to manage any impacts. The ACHAR will be prepared in accordance with the Consultation Requirements, Code of Practice and *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (2010, 2010, Office of Environment and Heritage 2011).

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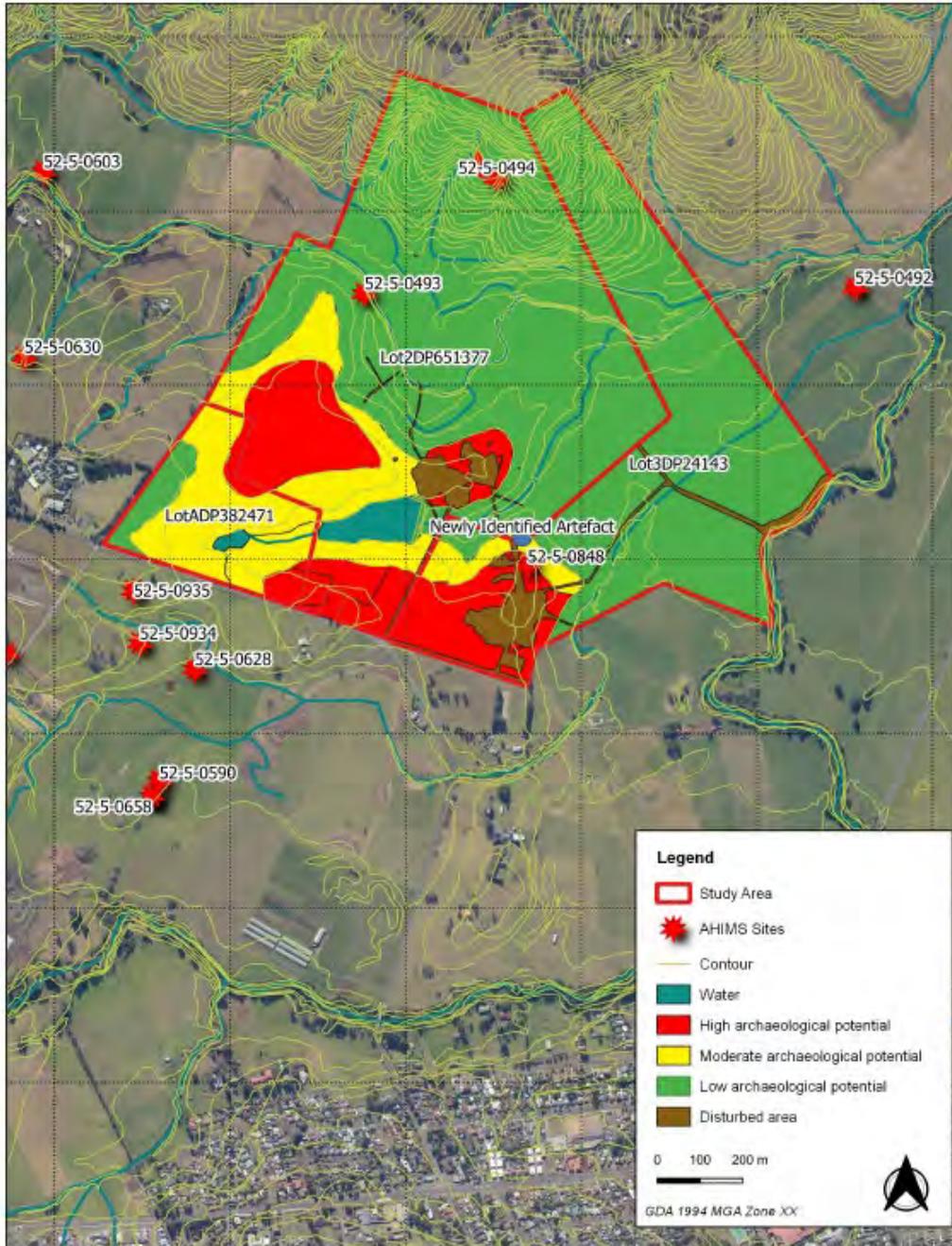


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Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:14 PM
To: bunjilsmith@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Goobah Development PTY LTD (Murrin Clan/Peoples)
 Basil Smith
 66 Grantham Road NSW
 Batehaven

Dear Basil,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

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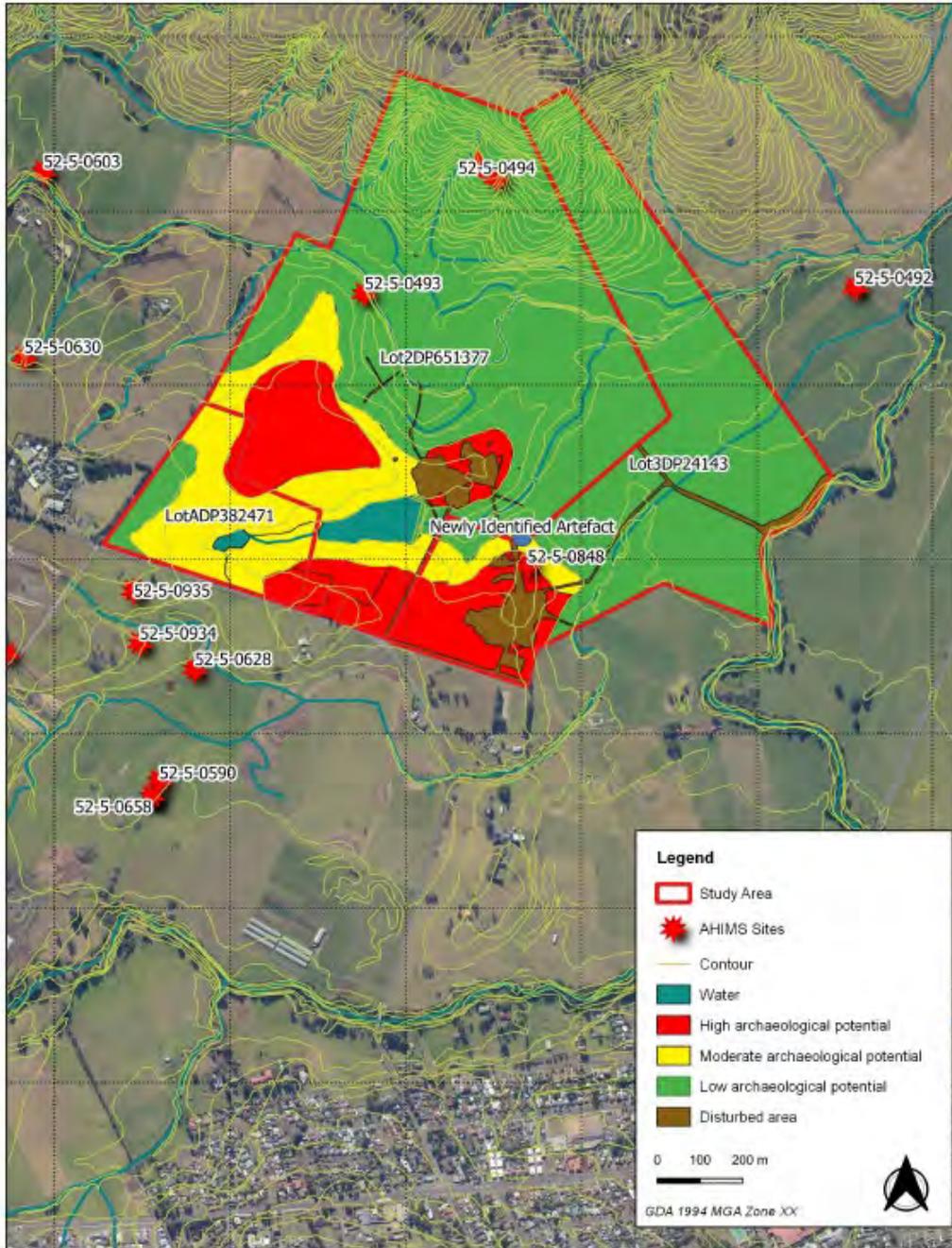


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Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:14 PM
To: gundungurratectribseivices@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Gundungurra Tribal Technical Services
 Christopher Payne
 9/15-22 Burns Road NSW
 LEUMEAH

Dear Christopher,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

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Please note that the final decision on the employment of individuals to assist with the project rests with the Proponent.

Please take the time to read this letter and the associated report, and please feel free to contact me on any of the numbers provided below should you wish to raise any concerns or if you require additional information.

Please ensure that your reply reaches this office no later than 29/05/2020 and thank you for your help with this matter.

Please do not hesitate to contact me on 0419 264 344 if you wish to discuss any aspect of this submission.

Yours sincerely,



Pauline Ramsey
Archaeologist
Austral Archaeology
46 Railway Street, Liverpool, 2170
M 0419 264 344
E pauliner@australarch.com.au

7. REFERENCES

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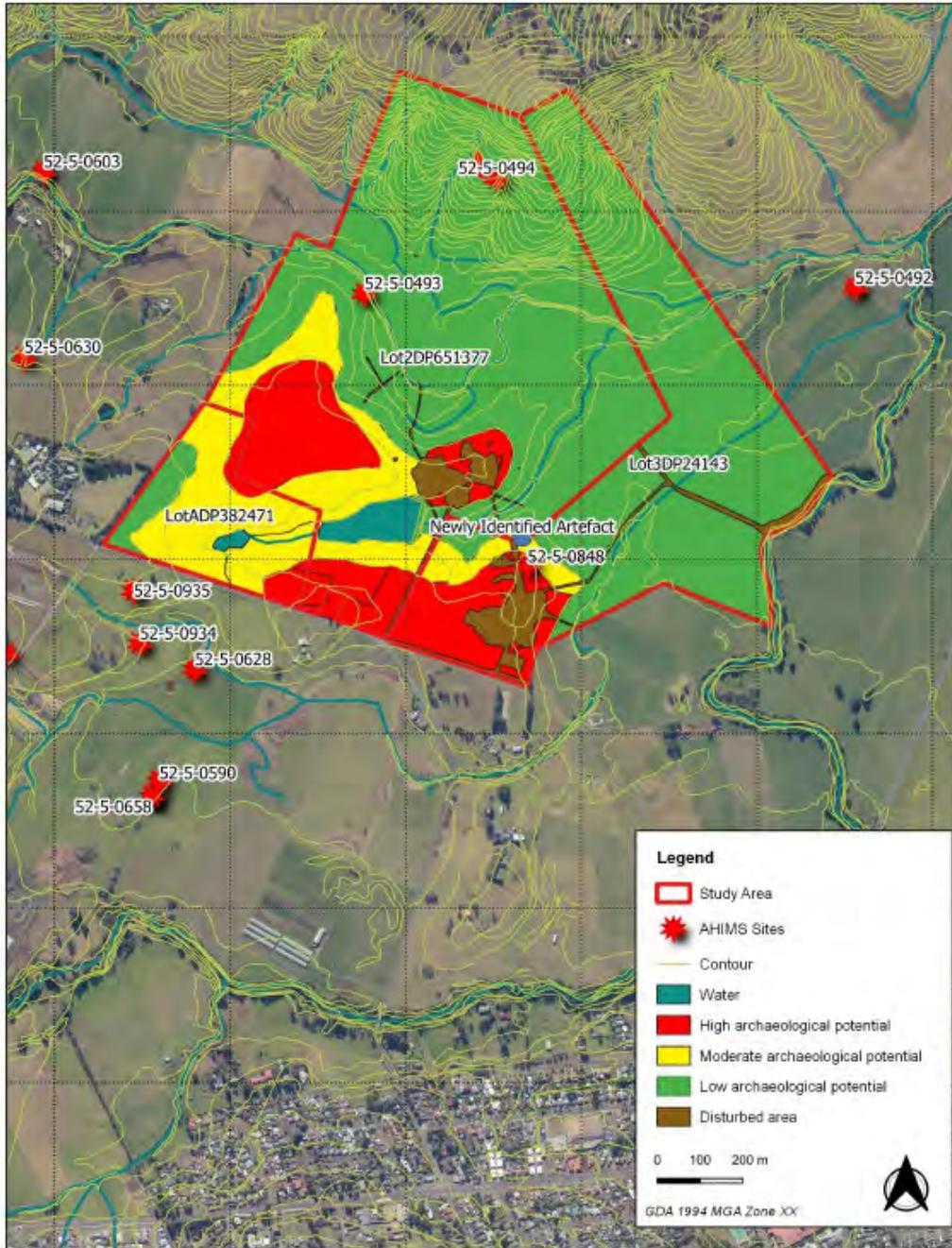


Figure 1.2 Aerial map of the study area in relation to surrounding suburbs

144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:15 PM
To: cullendullachts@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Cullendulla (Murrin Clan/Peoples)
 Corey Smith

Dear Corey,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

I am writing to you as a Registered Aboriginal Party (RAP) for the proposed subdivision at 144 Calderwood, Calderwood, New South Wales (NSW). This letter provides project information and a methodology for the preparation of an Aboriginal Cultural Heritage Assessment (ACHA) for the study area. This information is being requested in accordance with Stages 2 and 3 of the *Aboriginal cultural heritage consultation requirements for proponents 2010* (Department of Environment, Climate Change and Water NSW 2010) [DECCW].

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Austral Archaeology Pty Ltd (Austral) has undertaken the task of completing an ACHA report with consultation with Aboriginal stakeholders in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (Department of Environment, Climate Change and Water NSW 2010) [Consultation Requirements]. The ACHA will also meet the requirements of the *Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW* (Office of Environment and Heritage 2011).

In order to properly gauge the extent of the Aboriginal archaeological and cultural significance of the study area, Austral is proposing to undertake an archaeological survey as well as additional test excavations as part of the project. Archaeological testing will be completed in accordance with Requirement 16 of the *Code of Practice for the archaeological investigation of Aboriginal objects in NSW* (Department of Environment, Climate Change and Water 2010).

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[The study area contains a number of landforms, specifically, raised terraces overlooking drainage lines that are similar to or associated with the landform that contain YTOF_AS_9 (AHIMS #52-5-0848[A1]). Given this, as well as the study

area’s key location within the Macquarie Rivulet catchment, testing of other raised terraces will play a big role in our better understanding of the Aboriginal archaeological and cultural significance of this area.

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The following model has been developed to try and predict the nature and extent of Aboriginal cultural heritage within the study area:

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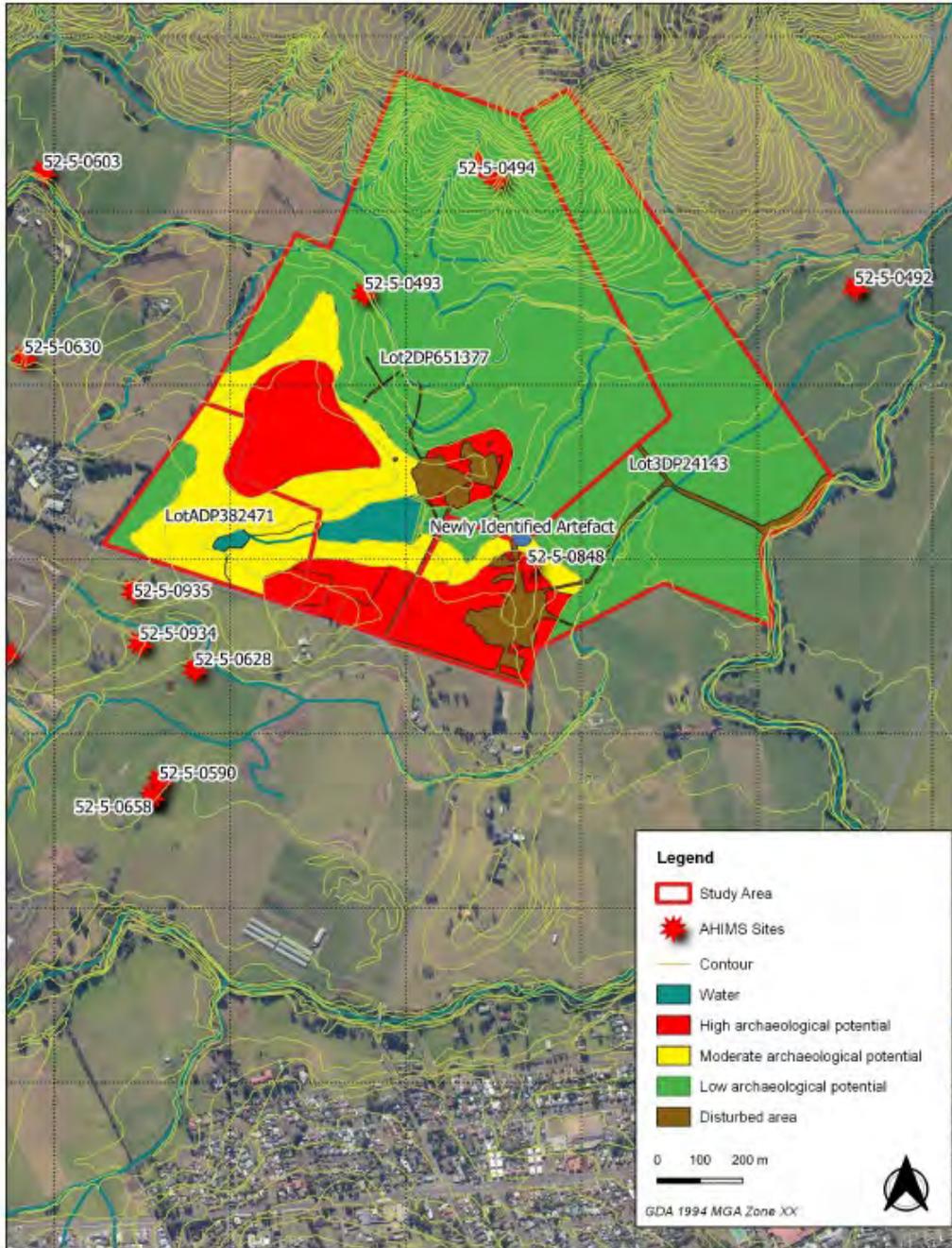


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Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:15 PM
To: bblalc@bigpond.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Batemans Bay Local Aboriginal Land Council
 Colin Davis
 PO Box 542 NSW
 Batemans Bay

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Please do not hesitate to contact me on 0419 264 344 if you wish to discuss any aspect of this submission.

Yours sincerely,



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E pauliner@australarch.com.au

7. REFERENCES

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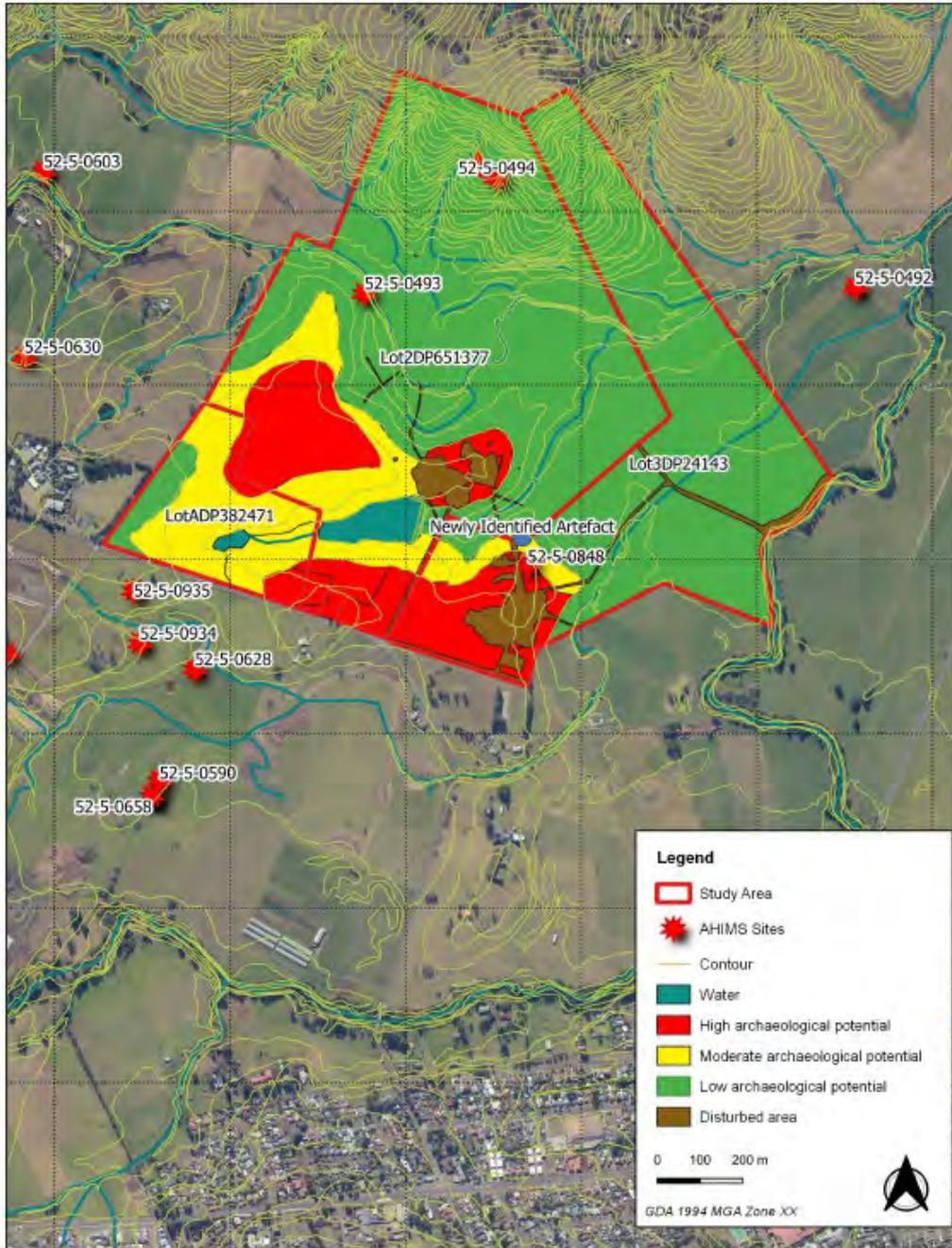


Figure 1.2 Aerial map of the study area in relation to surrounding suburbs

144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:15 PM
To: 'murrabidgeemullangari@yahoo.com.au'
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Murra Bidgee Mullangari Aboriginal Corporation
 Darleen Johnson

Dear Darleen,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

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In order to properly gauge the extent of the Aboriginal archaeological and cultural significance of the study area, Austral is proposing to undertake an archaeological survey as well as additional test excavations as part of the project. Archaeological testing will be completed in accordance with Requirement 16 of the *Code of Practice for the archaeological investigation of Aboriginal objects in NSW* (Department of Environment, Climate Change and Water 2010).

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The study area has been previously subject to archaeological investigations by Australian Museum Business Services (AMBS) in 2005 as part of the West Dapto Release Area Aboriginal Heritage Management Plan and by Artefact Heritage Pty Ltd (Artefact) in 2017 during a survey at 140 – 142 Calderwood Road. Within Lot 2 DP651377, AMBS identified two sites; isolated find "WDRA_AX_37" (AHIMS #52-5-0493), located along the southern elevated banks of the main Marshall Mount Creek and an artefact scatter "WDRA_AX_38" (AHIMS #52-5-0494), located mid slope of the hill range located to the north. The latest AMBS report concludes by stating that site AHIMS #52-5-0493 has an overall low archaeological sensitivity to future development and site AHIMS #52-5-0494 has a higher sensitivity (AMBS 2010: 82, 86).

Within Lot 3 DP24143, Artefact identified a cluster of four artefact sites within an area of potential archaeological deposit (PAD) called "YTOF_AS_9" AHIMS #52-5-0848. This site was located on the crest of the raised area between a tributary of the Marshall Mount Creek to its north and the Macquarie Rivulet to its south. The Artefact report concludes by stating that:

"YTOF AS 9 (AHIMS ID 52-2-0848) is located within a unique aspect of the landscape as the first raised area above the Macquarie Rivulet flood plain. The artefact density and variety of lithologies suggest the site was intensively occupied over multiple occupation phases. The site is considered to be rare within the local context" (Artefact 2017: 43). Artefact further concludes that the obtaining of an Aboriginal Heritage Impact Permit (AHIP) will be necessary if further works are to impact this site and that archaeological salvage operations should also be undertaken following the issuance (Artefact 2017: 1)."

The study area contains a number of landforms, specifically, raised terraces overlooking drainage lines that are similar to or associated with the landform that contain YTOF_AS_9 (AHIMS #52-5-0848[A1]). Given this, as well as the study

area's key location within the Macquarie Rivulet catchment, testing of other raised terraces will play a big role in our better understanding of the Aboriginal archaeological and cultural significance of this area.

3. PREDICTIVE MODEL

The following model has been developed to try and predict the nature and extent of Aboriginal cultural heritage within the study area:

Using the study area's environmental context and previous archaeological investigations within the local area, Austral has determined that there are three areas of high archaeological potential and one large area of moderate potential surrounding the high. Each of these areas were chosen based on their landform element, their proximity to water and their reduced likelihood for inundation during periods of heavy rainfall, as well as their overall similarities with other, previously investigated sites. Based on these criteria, it is predicted that open artefact scatters and associated PADs will most likely occur in these areas highlighted in Map 2 attached to this letter.

4. ABORIGINAL CULTURAL HERITAGE CONSULTATION

The Aboriginal people of Australia are part of the oldest and continuous living cultures in human history. Aboriginal people's cultural heritage is recognised and valued as a unique and essential component of the identity of all Australian people.

Aboriginal cultural heritage provides the essential links between the past and the present – it is an essential part of Aboriginal people's cultural identity, connection and sense of belonging to Country.

The objective of community consultation is to ensure Aboriginal people have the opportunity to improve assessment outcomes by:

- Providing relevant information about the cultural significance and values of the Aboriginal objects and/or place
- Influencing the design of the method to assess cultural and scientific significance of Aboriginal objects and places.
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- Commenting on draft assessment reports before they are submitted by the proponent to DPIE.

To meet these objectives Department of Planning, Industry and Environment (DPIE) [formally OEH & DECCW] have developed four stages of consultation which must be met for each cultural heritage assessment. There are a number of mandatory timeframes associated with the Consultation Requirements, these are summarised in Table 1.

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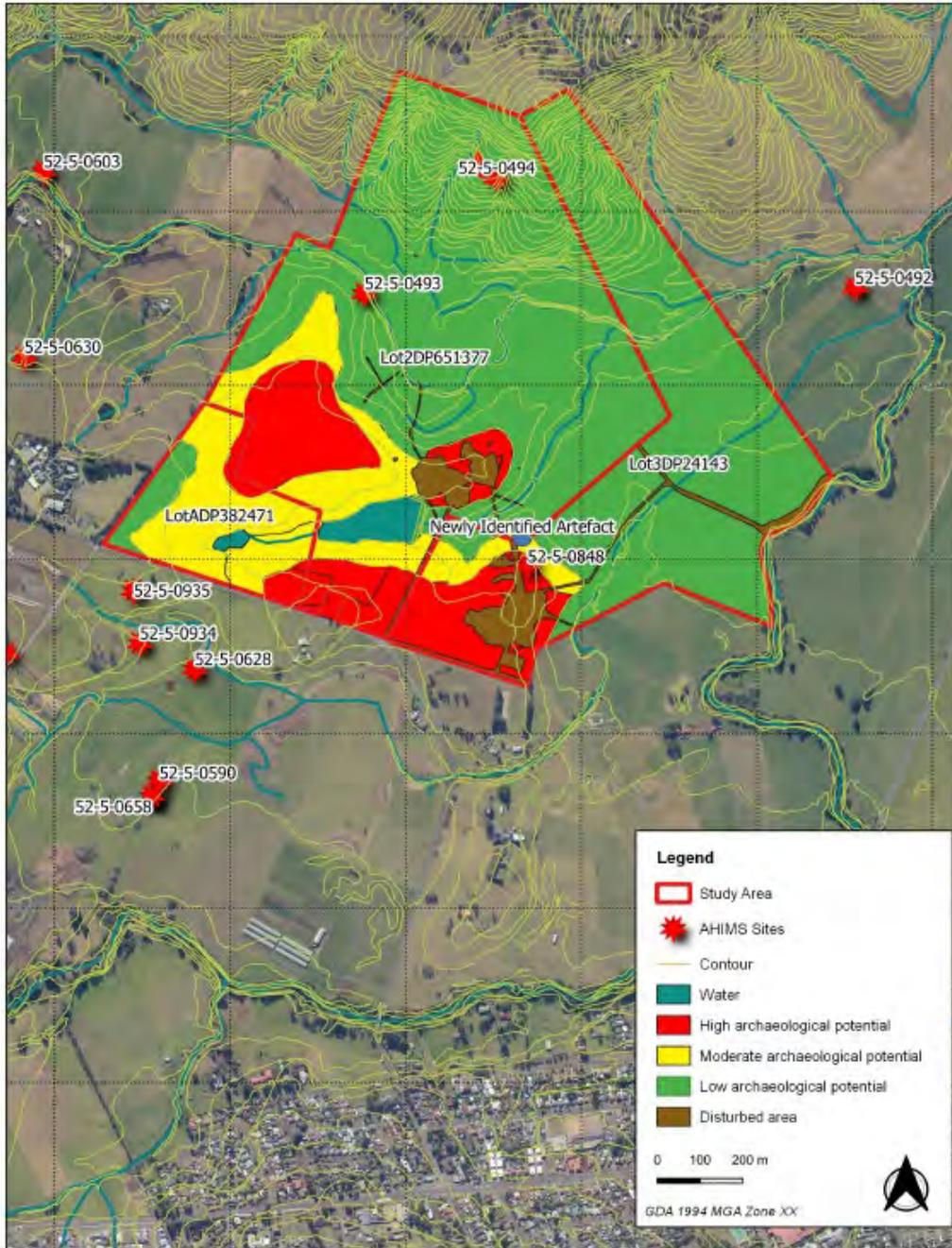


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Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



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Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:15 PM
To: cullendullachts@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Cullendulla (Murrin Clan/Peoples)
 Corey Smith

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Yours sincerely,



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M 0419 264 344
E pauliner@australarch.com.au

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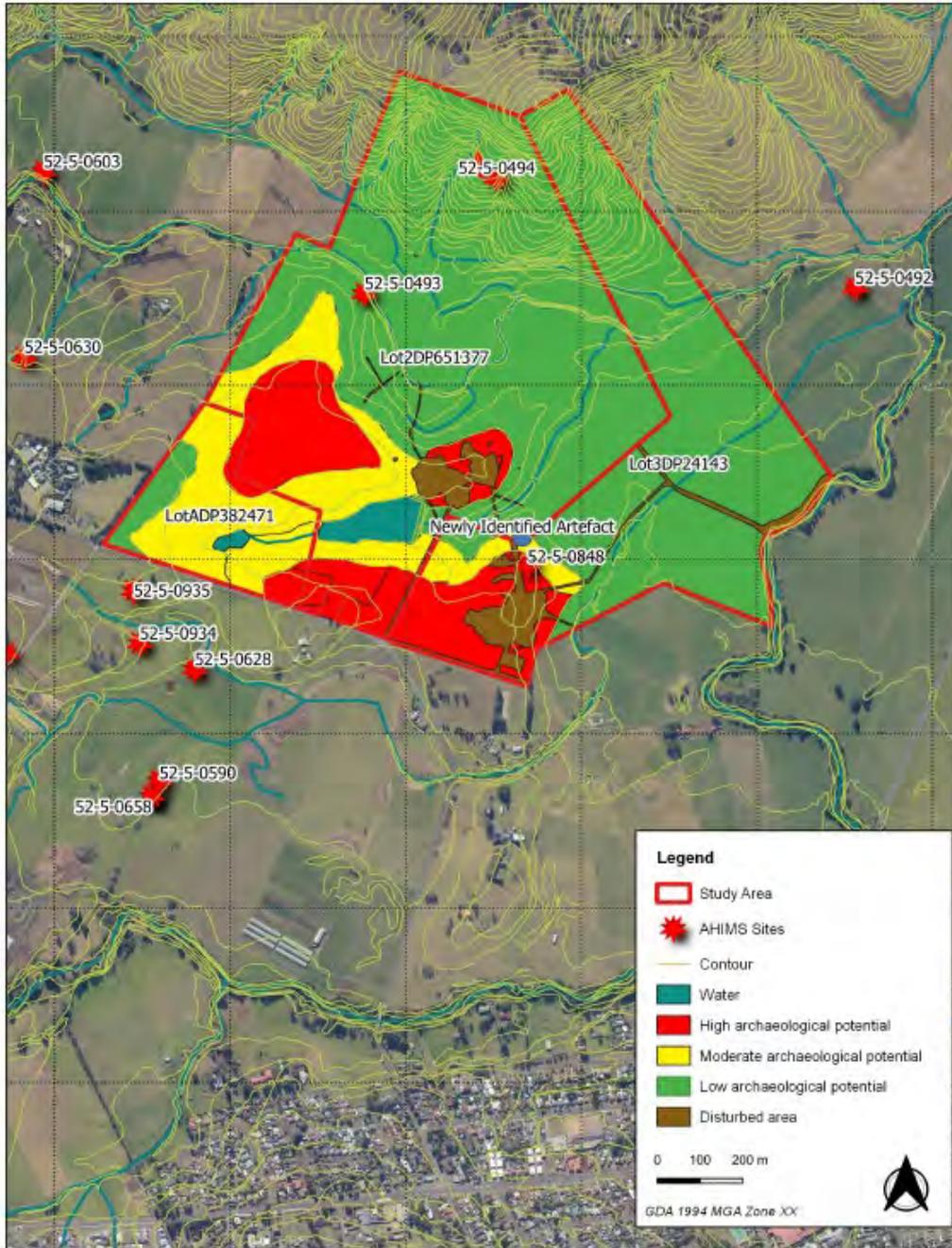


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144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:15 PM
To: darrylcaines8@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Daryl Cains
 11/17-19 Grove Circuit Lake Illawarra 2528

Dear Daryl,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

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The Aboriginal people of Australia are part of the oldest and continuous living cultures in human history. Aboriginal people’s cultural heritage is recognised and valued as a unique and essential component of the identity of all Australian people.

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- Actively contributing to the development of cultural heritage management options and recommendations for any Aboriginal objects and/or places within the proposed project area
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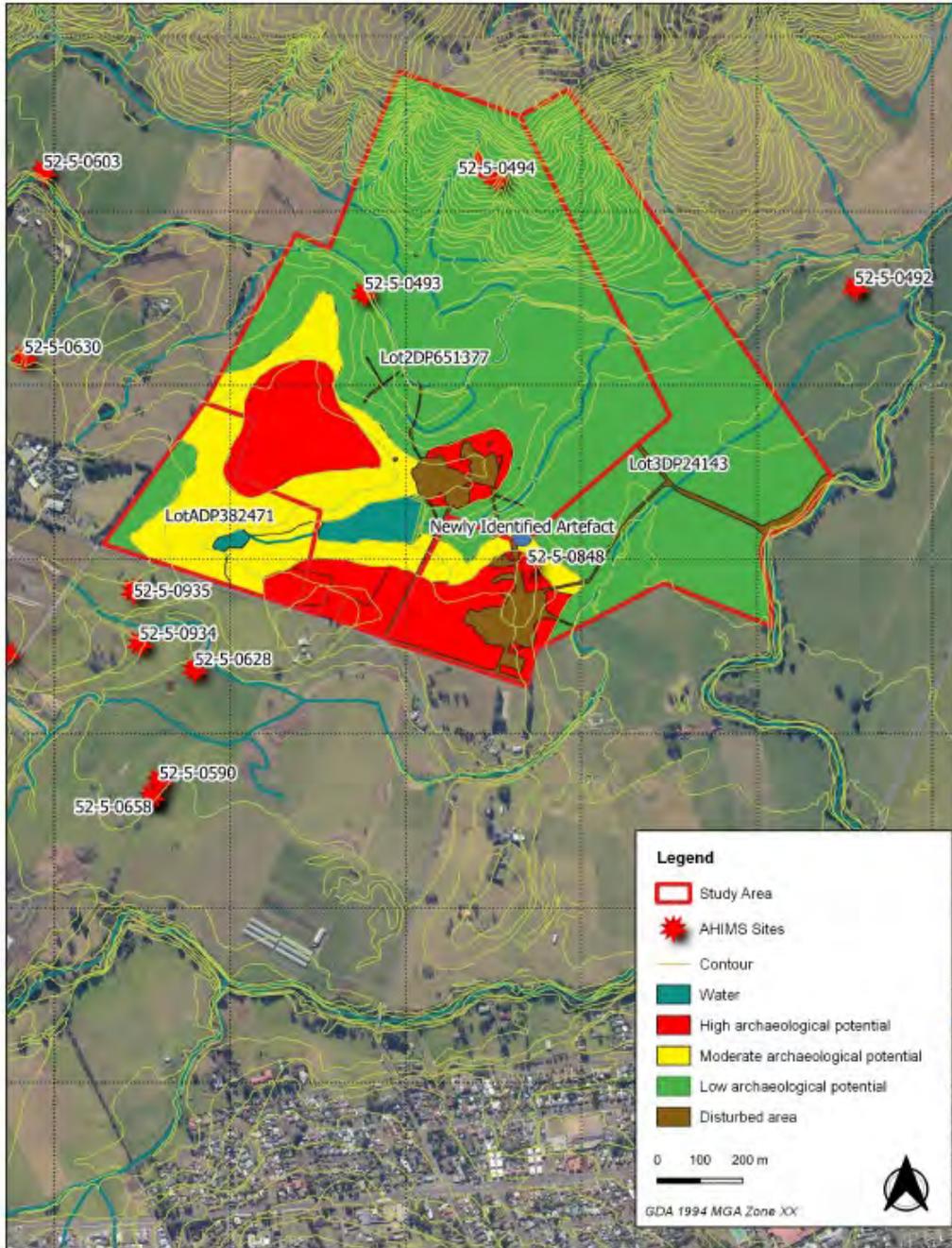


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Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



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Source: NSW Department of Land
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Drawn by: Pauline Ramsey Date:
20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:15 PM
To: gundungurratectribsevice@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Gundungurra Tribal Technical Services
 David Bell
 67 Dickens Road NSW
 AMBERVALE

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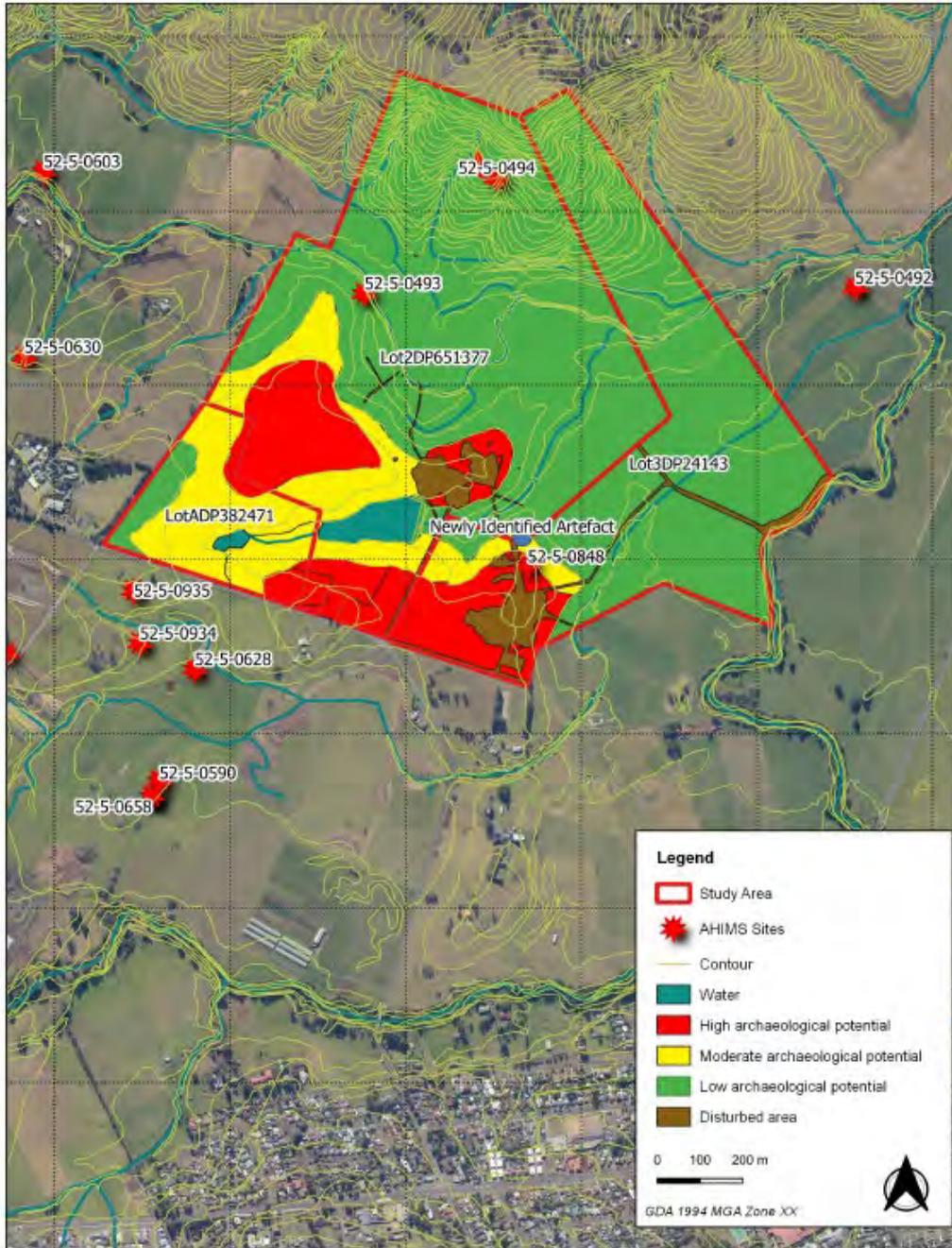


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Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



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Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:15 PM
To: DuncanFalk@hotmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Duncan Falk Consultancy
 Duncan Falk
 34 Robinia Drive NSW
 Bowral

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Please note that the final decision on the employment of individuals to assist with the project rests with the Proponent.

Please take the time to read this letter and the associated report, and please feel free to contact me on any of the numbers provided below should you wish to raise any concerns or if you require additional information.

Please ensure that your reply reaches this office no later than 29/05/2020 and thank you for your help with this matter.

Please do not hesitate to contact me on 0419 264 344 if you wish to discuss any aspect of this submission.

Yours sincerely,



Pauline Ramsey
Archaeologist
Austral Archaeology
46 Railway Street, Liverpool, 2170
M 0419 264 344
E pauliner@australarch.com.au

7. REFERENCES

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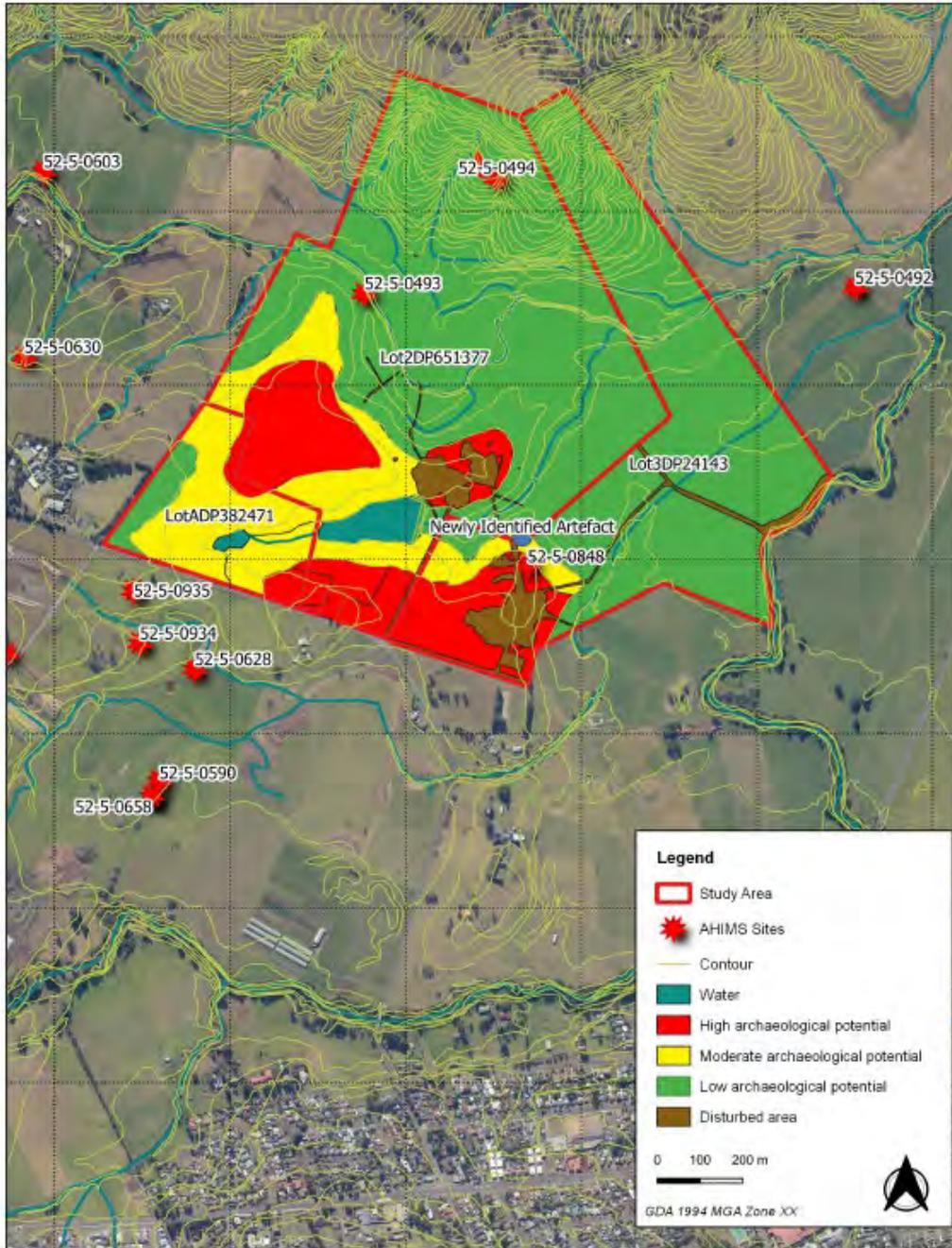


Figure 1.2 Aerial map of the study area in relation to surrounding suburbs

144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:15 PM
To: darrylcaines8@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Daryl Cains
 11/17-19 Grove Circuit Lake Illawarra 2528

Dear Daryl,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

I am writing to you as a Registered Aboriginal Party (RAP) for the proposed subdivision at 144 Calderwood, Calderwood, New South Wales (NSW). This letter provides project information and a methodology for the preparation of an Aboriginal Cultural Heritage Assessment (ACHA) for the study area. This information is being requested in accordance with Stages 2 and 3 of the *Aboriginal cultural heritage consultation requirements for proponents 2010* (Department of Environment, Climate Change and Water NSW 2010) [DECCW].

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Austral Archaeology Pty Ltd (Austral) has undertaken the task of completing an ACHA report with consultation with Aboriginal stakeholders in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (Department of Environment, Climate Change and Water NSW 2010) [Consultation Requirements]. The ACHA will also meet the requirements of the *Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW* (Office of Environment and Heritage 2011).

In order to properly gauge the extent of the Aboriginal archaeological and cultural significance of the study area, Austral is proposing to undertake an archaeological survey as well as additional test excavations as part of the project. Archaeological testing will be completed in accordance with Requirement 16 of the *Code of Practice for the archaeological investigation of Aboriginal objects in NSW* (Department of Environment, Climate Change and Water 2010).

2. PROJECT BACKGROUND

The study area has been previously subject to archaeological investigations by Australian Museum Business Services (AMBS) in 2005 as part of the West Dapto Release Area Aboriginal Heritage Management Plan and by Artefact Heritage Pty Ltd (Artefact) in 2017 during a survey at 140 – 142 Calderwood Road. Within Lot 2 DP651377, AMBS identified two sites; isolated find "WDRA_AX_37" (AHIMS #52-5-0493), located along the southern elevated banks of the main Marshall Mount Creek and an artefact scatter "WDRA_AX_38" (AHIMS #52-5-0494), located mid slope of the hill range located to the north. The latest AMBS report concludes by stating that site AHIMS #52-5-0493 has an overall low archaeological sensitivity to future development and site AHIMS #52-5-0494 has a higher sensitivity (AMBS 2010: 82, 86).

Within Lot 3 DP24143, Artefact identified a cluster of four artefact sites within an area of potential archaeological deposit (PAD) called "YTOF_AS_9" AHIMS #52-5-0848. This site was located on the crest of the raised area between a tributary of the Marshall Mount Creek to its north and the Macquarie Rivulet to its south. The Artefact report concludes by stating that:

"YTOF AS 9 (AHIMS ID 52-2-0848) is located within a unique aspect of the landscape as the first raised area above the Macquarie Rivulet flood plain. The artefact density and variety of lithologies suggest the site was intensively occupied over multiple occupation phases. The site is considered to be rare within the local context" (Artefact 2017: 43). Artefact further concludes that the obtaining of an Aboriginal Heritage Impact Permit (AHIP) will be necessary if further works are to impact this site and that archaeological salvage operations should also be undertaken following the issuance (Artefact 2017: 1)."

[The study area contains a number of landforms, specifically, raised terraces overlooking drainage lines that are similar to or associated with the landform that contain YTOF_AS_9 (AHIMS #52-5-0848[A1]). Given this, as well as the study

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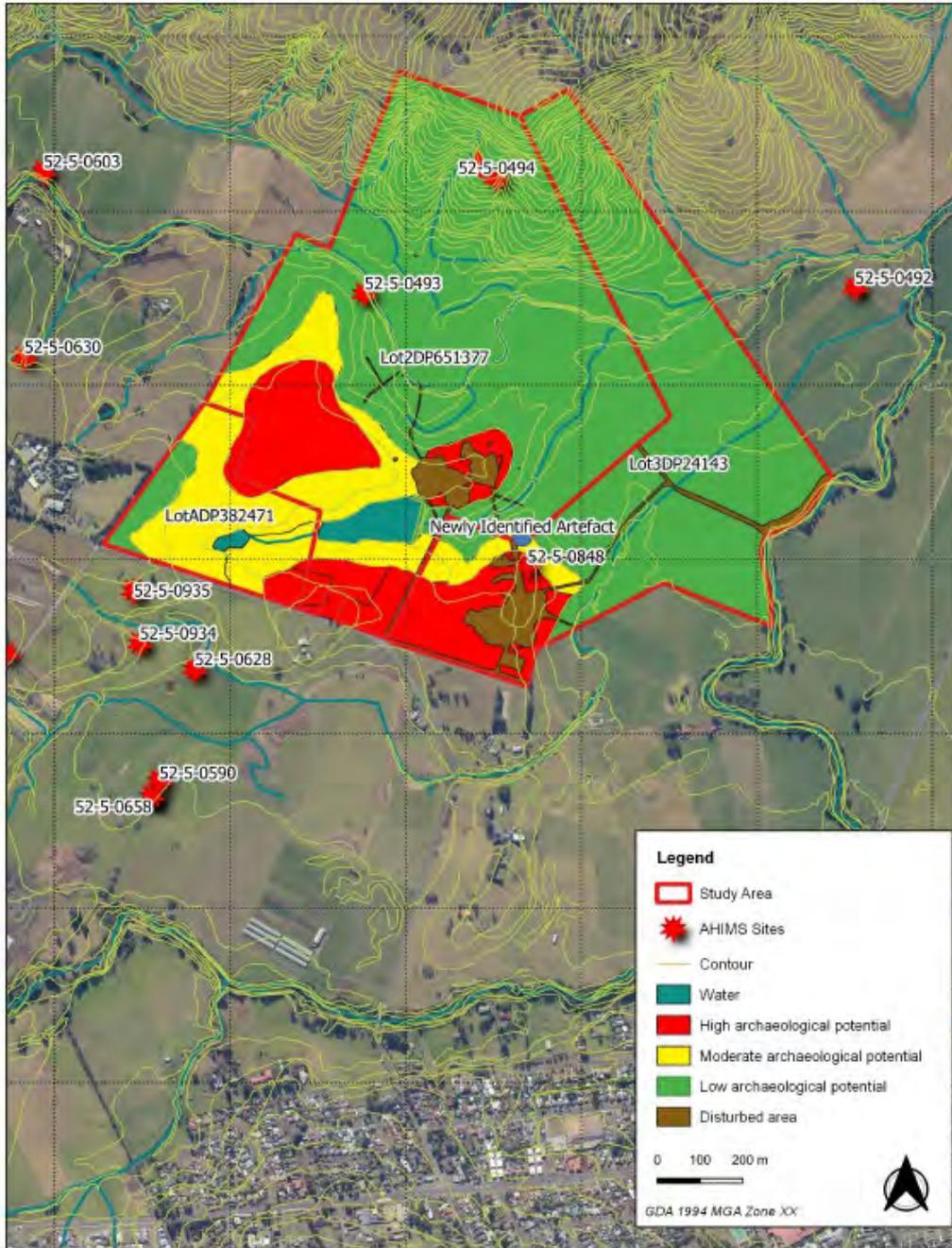


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144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:16 PM
To: gayle.w@hotmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Gayle Watts

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Please do not hesitate to contact me on 0419 264 344 if you wish to discuss any aspect of this submission.

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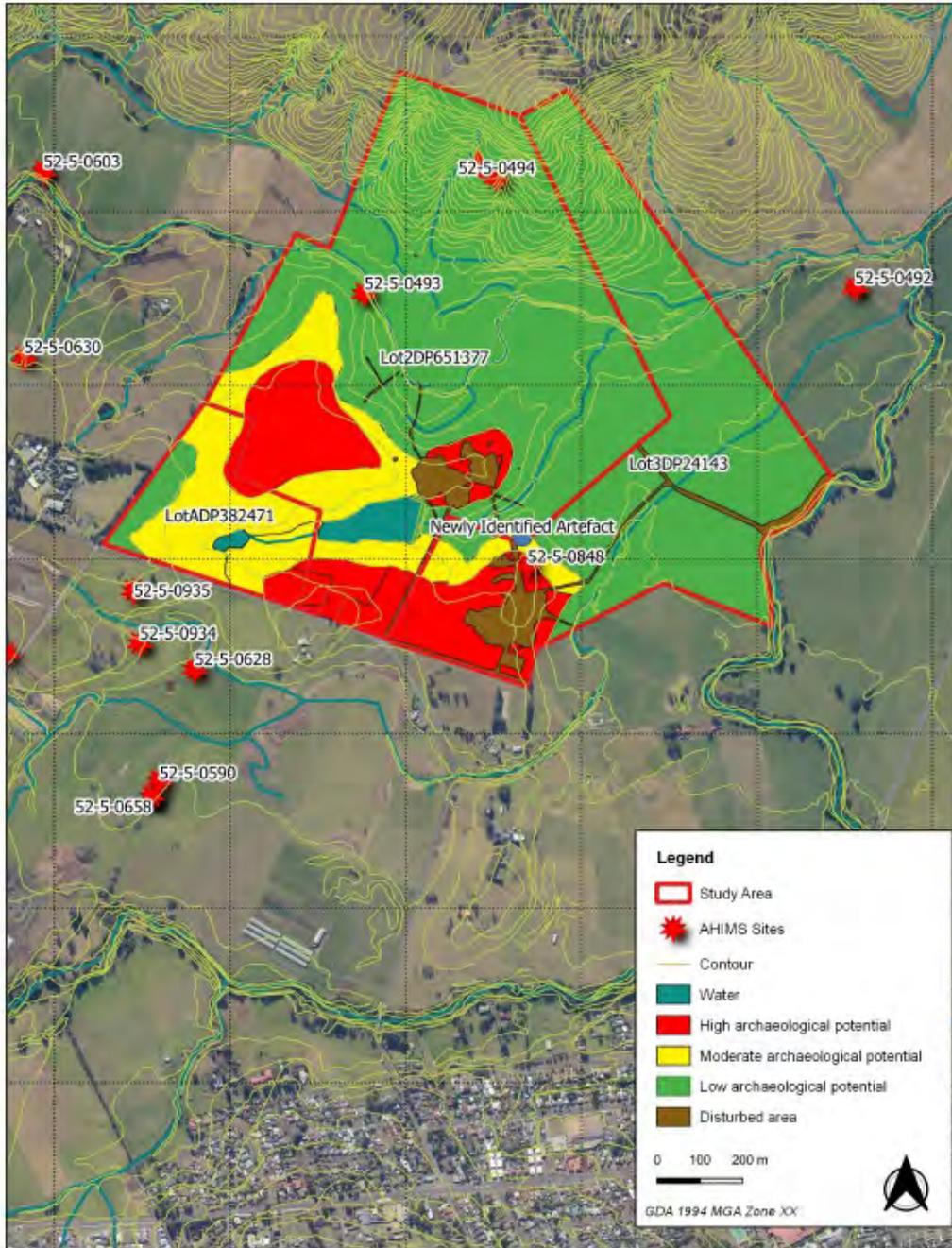


Figure 1.2 Aerial map of the study area in relation to surrounding suburbs

144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:16 PM
To: gordy2540@hotmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Gadhu Dreaming
 Gordon Campbell

Dear Gordon,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

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In order to properly gauge the extent of the Aboriginal archaeological and cultural significance of the study area, Austral is proposing to undertake an archaeological survey as well as additional test excavations as part of the project. Archaeological testing will be completed in accordance with Requirement 16 of the *Code of Practice for the archaeological investigation of Aboriginal objects in NSW* (Department of Environment, Climate Change and Water 2010).

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The study area has been previously subject to archaeological investigations by Australian Museum Business Services (AMBS) in 2005 as part of the West Dapto Release Area Aboriginal Heritage Management Plan and by Artefact Heritage Pty Ltd (Artefact) in 2017 during a survey at 140 – 142 Calderwood Road. Within Lot 2 DP651377, AMBS identified two sites; isolated find "WDRA_AX_37" (AHIMS #52-5-0493), located along the southern elevated banks of the main Marshall Mount Creek and an artefact scatter "WDRA_AX_38" (AHIMS #52-5-0494), located mid slope of the hill range located to the north. The latest AMBS report concludes by stating that site AHIMS #52-5-0493 has an overall low archaeological sensitivity to future development and site AHIMS #52-5-0494 has a higher sensitivity (AMBS 2010: 82, 86).

Within Lot 3 DP24143, Artefact identified a cluster of four artefact sites within an area of potential archaeological deposit (PAD) called "YTOF_AS_9" AHIMS #52-5-0848. This site was located on the crest of the raised area between a tributary of the Marshall Mount Creek to its north and the Macquarie Rivulet to its south. The Artefact report concludes by stating that:

"YTOF AS 9 (AHIMS ID 52-2-0848) is located within a unique aspect of the landscape as the first raised area above the Macquarie Rivulet flood plain. The artefact density and variety of lithologies suggest the site was intensively occupied over multiple occupation phases. The site is considered to be rare within the local context" (Artefact 2017: 43). Artefact further concludes that the obtaining of an Aboriginal Heritage Impact Permit (AHIP) will be necessary if further works are to impact this site and that archaeological salvage operations should also be undertaken following the issuance (Artefact 2017: 1)."

The study area contains a number of landforms, specifically, raised terraces overlooking drainage lines that are similar to or associated with the landform that contain YTOF_AS_9 (AHIMS #52-5-0848[A1]). Given this, as well as the study

area’s key location within the Macquarie Rivulet catchment, testing of other raised terraces will play a big role in our better understanding of the Aboriginal archaeological and cultural significance of this area.

3. PREDICTIVE MODEL

The following model has been developed to try and predict the nature and extent of Aboriginal cultural heritage within the study area:

Using the study area’s environmental context and previous archaeological investigations within the local area, Austral has determined that there are three areas of high archaeological potential and one large area of moderate potential surrounding the high. Each of these areas were chosen based on their landform element, their proximity to water and their reduced likelihood for inundation during periods of heavy rainfall, as well as their overall similarities with other, previously investigated sites. Based on these criteria, it is predicted that open artefact scatters and associated PADs will most likely occur in these areas highlighted in Map 2 attached to this letter.

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The Aboriginal people of Australia are part of the oldest and continuous living cultures in human history. Aboriginal people’s cultural heritage is recognised and valued as a unique and essential component of the identity of all Australian people.

Aboriginal cultural heritage provides the essential links between the past and the present – it is an essential part of Aboriginal people’s cultural identity, connection and sense of belonging to Country.

The objective of community consultation is to ensure Aboriginal people have the opportunity to improve assessment outcomes by:

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To meet these objectives Department of Planning, Industry and Environment (DPIE) [formally OEH & DECCW] have developed four stages of consultation which must be met for each cultural heritage assessment. There are a number of mandatory timeframes associated with the Consultation Requirements, these are summarised in Table 1.

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Input required: Contribute to culturally appropriate information gathering and the research methodology. Provide information that will enable the cultural significance of Aboriginal objects and/or places within the proposed project area. Have input into the development of any cultural heritage management options.

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Input required: Provide feedback on any aspect of the draft ACHA report.

5. EXCAVATION STRATEGY

In order to fully assess the nature and extent of the archaeological deposit, Austral Archaeology have developed an archaeological testing methodology which follows the requirements of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (the *CoP*) (DECCW 2010).

Our test excavation methodology is based on the *CoP* which states that all "test excavations must be excavated using hand tools only" and "the first excavation [pit] must be excavated in 5 cm spits at each area – either PAD or site – being investigated. Based on the evidence of the first excavation [pit], 10 cm spits or sediment profile/stratigraphic excavation (whichever is smaller) may then be implemented" (2010, p.26). The *CoP* is also clear on how many test pits should be excavated and their placement.

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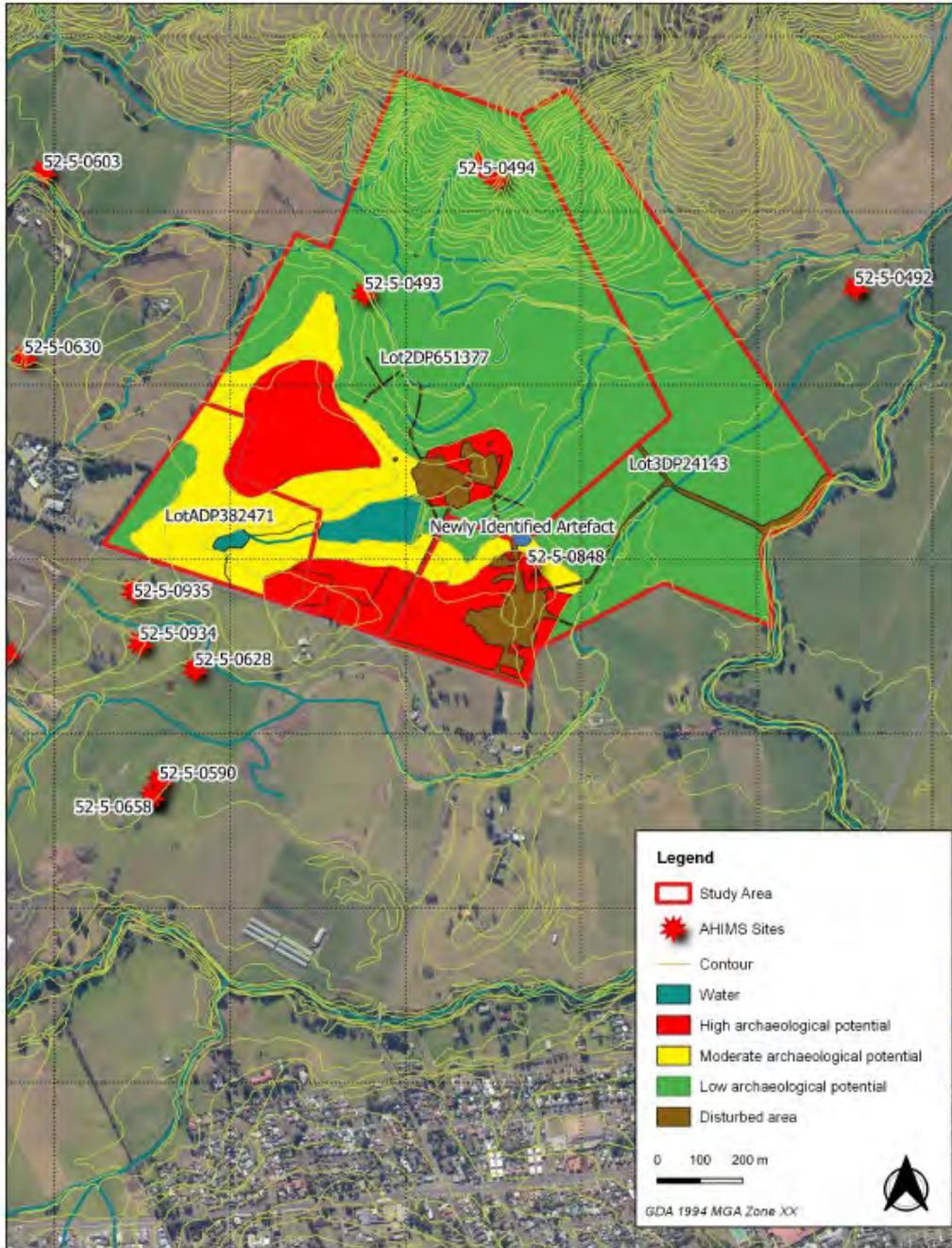


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Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



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144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:16 PM
To: Walbunja@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
1 May 2020

Walbunja (Murrin Clan/Peoples)
 Hika Te Kowhai
 15 Renee Crescent NSW
 Moruya Heads

Dear Hika Te,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

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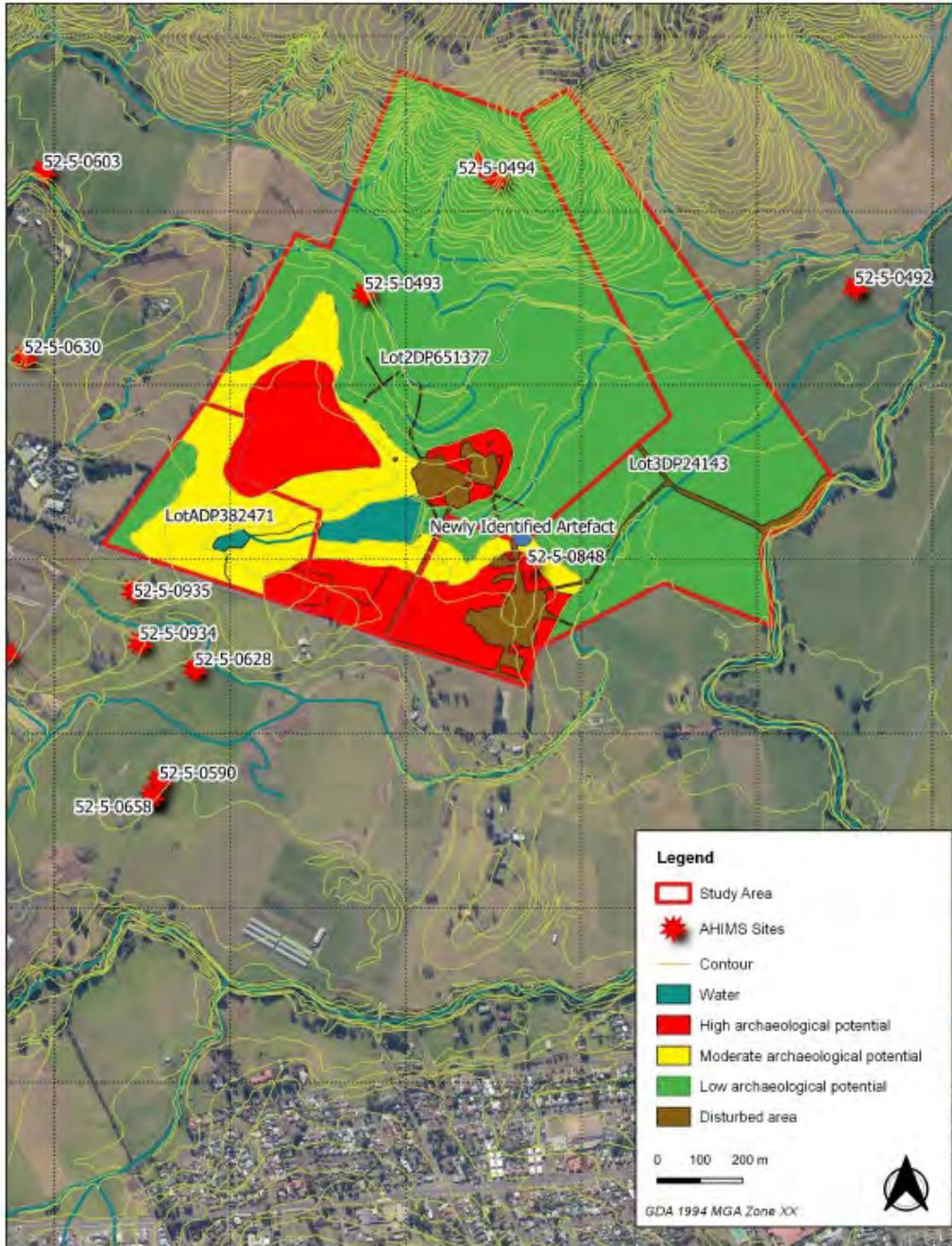


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144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:16 PM
To: 'jvdcorp@hotmail.com'
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

James Davis
 2 Poplar Avenue NSW
 Unanderra

Dear James,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

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The Aboriginal people of Australia are part of the oldest and continuous living cultures in human history. Aboriginal people’s cultural heritage is recognised and valued as a unique and essential component of the identity of all Australian people.

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Please note that the final decision on the employment of individuals to assist with the project rests with the Proponent.

Please take the time to read this letter and the associated report, and please feel free to contact me on any of the numbers provided below should you wish to raise any concerns or if you require additional information.

Please ensure that your reply reaches this office no later than 29/05/2020 and thank you for your help with this matter.

Please do not hesitate to contact me on 0419 264 344 if you wish to discuss any aspect of this submission.

Yours sincerely,



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Archaeologist
Austral Archaeology
46 Railway Street, Liverpool, 2170
M 0419 264 344
E pauliner@australarch.com.au

7. REFERENCES

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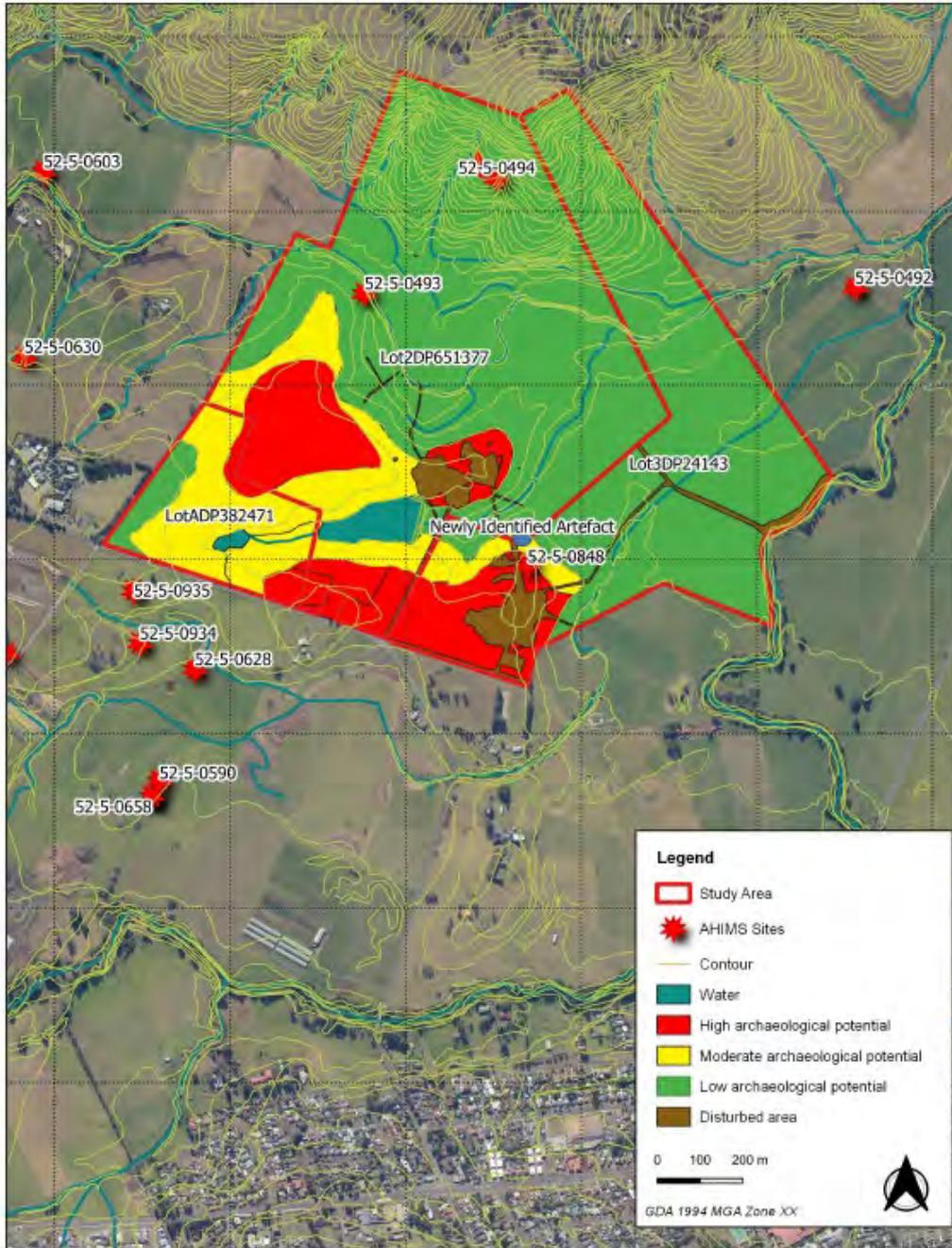


Figure 1.2 Aerial map of the study area in relation to surrounding suburbs

144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

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From: Pauline Ramsey
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To: jerringong@gmail.com
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Reference: 2013
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Jerringong (Murrin Clan/Peoples)
 Jodi Anne Stewart
 2/10 Burnett Avenue NSW
 Gerringong

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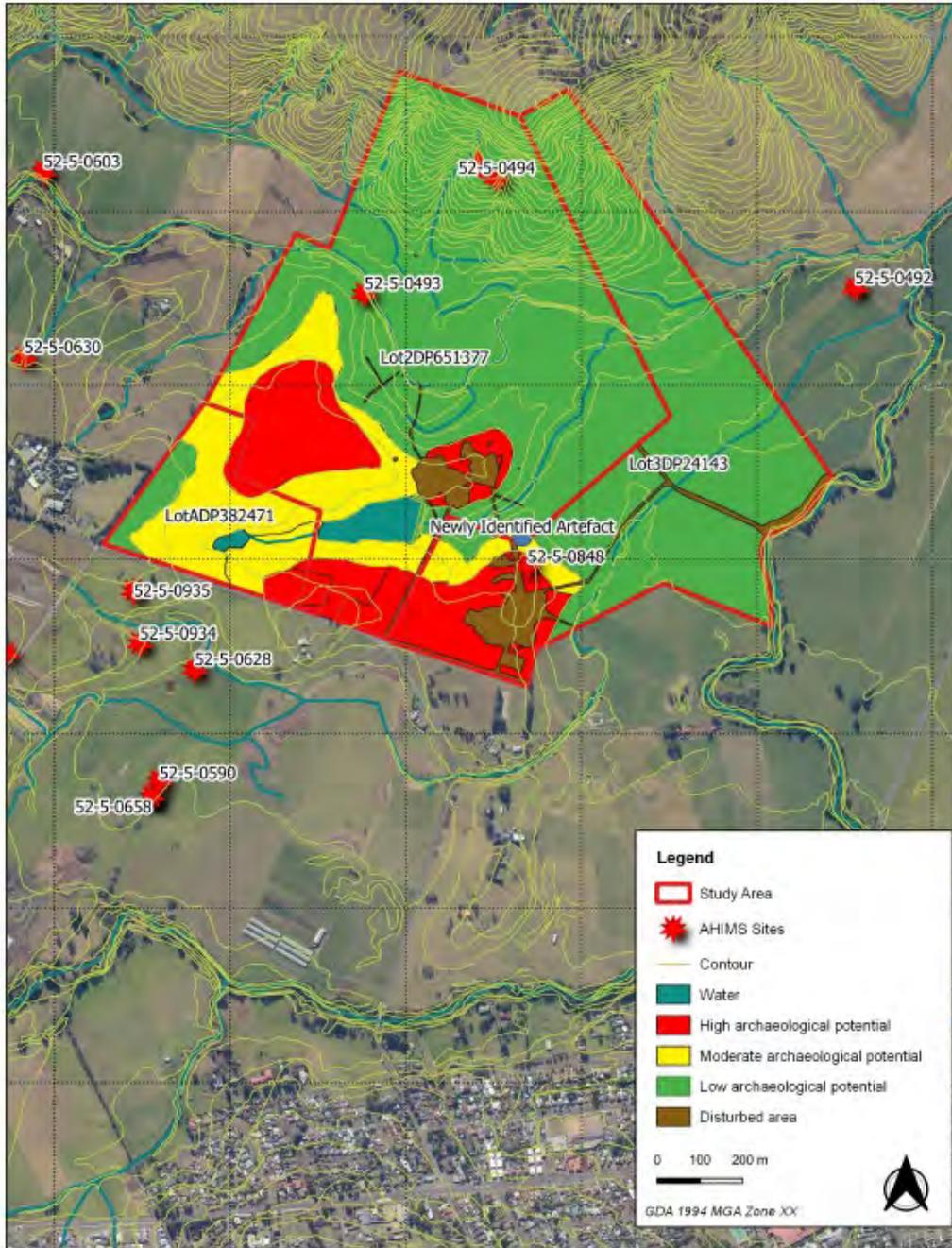


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To: oldmanwisdomgumaraa@gmail.com
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Gumaraa
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Please take the time to read this letter and the associated report, and please feel free to contact me on any of the numbers provided below should you wish to raise any concerns or if you require additional information.

Please ensure that your reply reaches this office no later than 29/05/2020 and thank you for your help with this matter.

Please do not hesitate to contact me on 0419 264 344 if you wish to discuss any aspect of this submission.

Yours sincerely,



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Austral Archaeology
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E pauliner@australarch.com.au

7. REFERENCES

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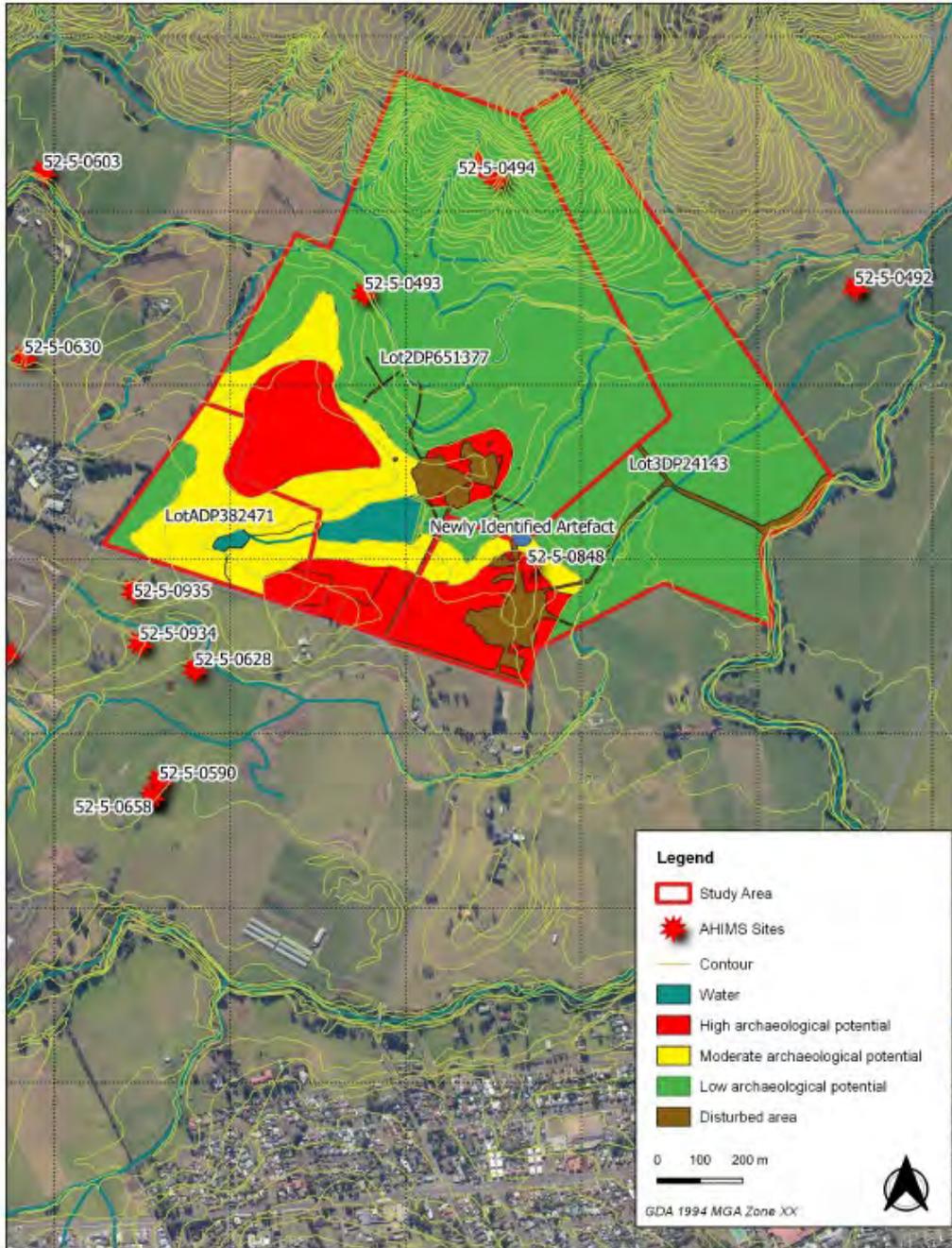


Figure 1.2 Aerial map of the study area in relation to surrounding suburbs

144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:17 PM
To: thoorganura@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Thoorga Nura
 John Carriage
 50B Hilltop Crescent NSW
 Surfbeach

Dear John,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

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In order to properly gauge the extent of the Aboriginal archaeological and cultural significance of the study area, Austral is proposing to undertake an archaeological survey as well as additional test excavations as part of the project. Archaeological testing will be completed in accordance with Requirement 16 of the *Code of Practice for the archaeological investigation of Aboriginal objects in NSW* (Department of Environment, Climate Change and Water 2010).

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The study area has been previously subject to archaeological investigations by Australian Museum Business Services (AMBS) in 2005 as part of the West Dapto Release Area Aboriginal Heritage Management Plan and by Artefact Heritage Pty Ltd (Artefact) in 2017 during a survey at 140 – 142 Calderwood Road. Within Lot 2 DP651377, AMBS identified two sites; isolated find "WDRA_AX_37" (AHIMS #52-5-0493), located along the southern elevated banks of the main Marshall Mount Creek and an artefact scatter "WDRA_AX_38" (AHIMS #52-5-0494), located mid slope of the hill range located to the north. The latest AMBS report concludes by stating that site AHIMS #52-5-0493 has an overall low archaeological sensitivity to future development and site AHIMS #52-5-0494 has a higher sensitivity (AMBS 2010: 82, 86).

Within Lot 3 DP24143, Artefact identified a cluster of four artefact sites within an area of potential archaeological deposit (PAD) called "YTOF_AS_9" AHIMS #52-5-0848. This site was located on the crest of the raised area between a tributary of the Marshall Mount Creek to its north and the Macquarie Rivulet to its south. The Artefact report concludes by stating that:

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4. ABORIGINAL CULTURAL HERITAGE CONSULTATION

The Aboriginal people of Australia are part of the oldest and continuous living cultures in human history. Aboriginal people’s cultural heritage is recognised and valued as a unique and essential component of the identity of all Australian people.

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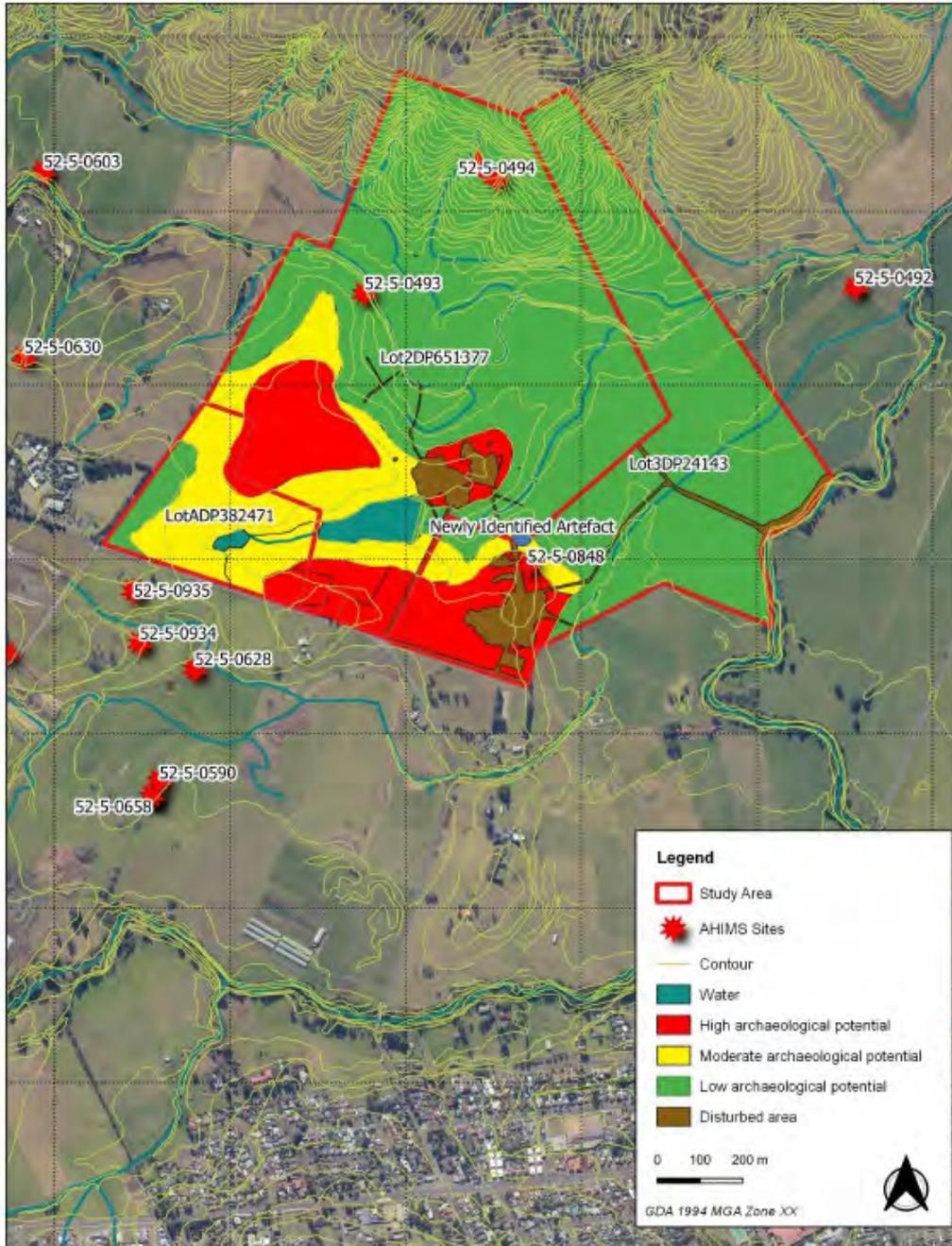


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Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



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Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:17 PM
To: baduchts@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Badu (Murrin Clan/Peoples)
 Karia Lea Bond
 11 Jeffery Place NSW
 Moruya

Dear Karia Lea,

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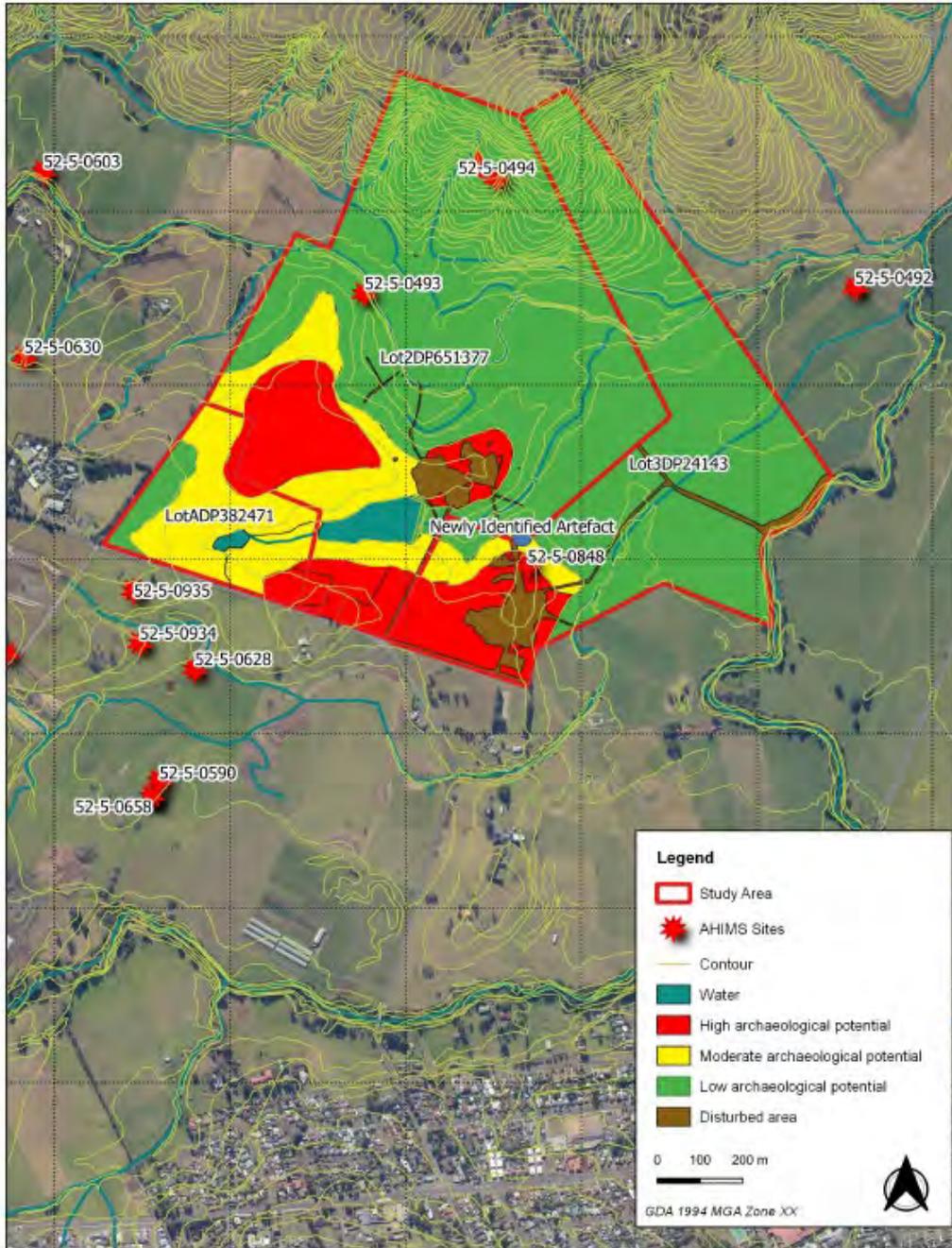


Figure 1.2 Aerial map of the study area in relation to surrounding suburbs

144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:19 PM
To: pemulwuyd@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Pemulwuy (Murrin Clan/Peoples)
 Pemulwuy Johnson

Dear Pemulwuy,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

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In order to properly gauge the extent of the Aboriginal archaeological and cultural significance of the study area, Austral is proposing to undertake an archaeological survey as well as additional test excavations as part of the project. Archaeological testing will be completed in accordance with Requirement 16 of the *Code of Practice for the archaeological investigation of Aboriginal objects in NSW* (Department of Environment, Climate Change and Water 2010).

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Within Lot 3 DP24143, Artefact identified a cluster of four artefact sites within an area of potential archaeological deposit (PAD) called "YTOF_AS_9" AHIMS #52-5-0848. This site was located on the crest of the raised area between a tributary of the Marshall Mount Creek to its north and the Macquarie Rivulet to its south. The Artefact report concludes by stating that:

"YTOF AS 9 (AHIMS ID 52-2-0848) is located within a unique aspect of the landscape as the first raised area above the Macquarie Rivulet flood plain. The artefact density and variety of lithologies suggest the site was intensively occupied over multiple occupation phases. The site is considered to be rare within the local context" (Artefact 2017: 43). Artefact further concludes that the obtaining of an Aboriginal Heritage Impact Permit (AHIP) will be necessary if further works are to impact this site and that archaeological salvage operations should also be undertaken following the issuance (Artefact 2017: 1)."

area’s key location within the Macquarie Rivulet catchment, testing of other raised terraces will play a big role in our better understanding of the Aboriginal archaeological and cultural significance of this area.

3. PREDICTIVE MODEL

The following model has been developed to try and predict the nature and extent of Aboriginal cultural heritage within the study area:

Using the study area’s environmental context and previous archaeological investigations within the local area, Austral has determined that there are three areas of high archaeological potential and one large area of moderate potential surrounding the high. Each of these areas were chosen based on their landform element, their proximity to water and their reduced likelihood for inundation during periods of heavy rainfall, as well as their overall similarities with other, previously investigated sites. Based on these criteria, it is predicted that open artefact scatters and associated PADs will most likely occur in these areas highlighted in Map 2 attached to this letter.

4. ABORIGINAL CULTURAL HERITAGE CONSULTATION

The Aboriginal people of Australia are part of the oldest and continuous living cultures in human history. Aboriginal people’s cultural heritage is recognised and valued as a unique and essential component of the identity of all Australian people.

Aboriginal cultural heritage provides the essential links between the past and the present – it is an essential part of Aboriginal people’s cultural identity, connection and sense of belonging to Country.

The objective of community consultation is to ensure Aboriginal people have the opportunity to improve assessment outcomes by:

- Providing relevant information about the cultural significance and values of the Aboriginal objects and/or place
- Influencing the design of the method to assess cultural and scientific significance of Aboriginal objects and places.
- Actively contributing to the development of cultural heritage management options and recommendations for any Aboriginal objects and/or places within the proposed project area
- Commenting on draft assessment reports before they are submitted by the proponent to DPIE.

To meet these objectives Department of Planning, Industry and Environment (DPIE) [formally OEH & DECCW] have developed four stages of consultation which must be met for each cultural heritage assessment. There are a number of mandatory timeframes associated with the Consultation Requirements, these are summarised in Table 1.

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Input required: Register your interest in the project by email, phone or letter. This stage is complete

Stage 2: Presentation of information about the proposed project.

Input required: Feedback on the project proposal including the nature, scope and methodology. Raise any concerns about cultural perspectives or assessment requirements.

Stage 3: Gathering information about cultural significance.

Input required: Contribute to culturally appropriate information gathering and the research methodology. Provide information that will enable the cultural significance of Aboriginal objects and/or places within the proposed project area. Have input into the development of any cultural heritage management options.

Stage 4: Review of draft cultural heritage assessment report.

Input required: Provide feedback on any aspect of the draft ACHA report.

5. EXCAVATION STRATEGY

In order to fully assess the nature and extent of the archaeological deposit, Austral Archaeology have developed an archaeological testing methodology which follows the requirements of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (the *CoP*) (DECCW 2010).

Our test excavation methodology is based on the *CoP* which states that all "test excavations must be excavated using hand tools only" and "the first excavation [pit] must be excavated in 5 cm spits at each area – either PAD or site – being investigated. Based on the evidence of the first excavation [pit], 10 cm spits or sediment profile/stratigraphic excavation (whichever is smaller) may then be implemented" (2010, p.26). The *CoP* is also clear on how many test pits should be excavated and their placement.

It is estimated that a sample of at most 60 test pits will be excavated during the testing phase. We have determined that, based upon the size of PAD 1 and PAD 2 and the study area's overall potential, this would be completed by a team of 2 archaeologists and 2 Aboriginal stakeholders, during the course of 8 days.

The following excavation methodology will be employed for the test excavations:

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- All excavation will be conducted by hand, and the excavation of initial test pits will proceed in 50 millimetres spits. Based on the results of the initial test pits, subsequent test pits will be excavated either in 100 millimetre spits or by stratigraphic unit, dependant on which unit is smaller.
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- Artefacts will be collected from the sieves and bagged according to excavation pit provenance. Each test pit will be backfilled to the best of our ability with the sieved material excavated from the pits at the conclusion of the testing program.
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Artefact Collection and Storage

Collection and salvage of all artefacts will be undertaken according to the following methodology. Austral has allowed for the analysis of a maximum of 100 artefacts as part of the testing program.

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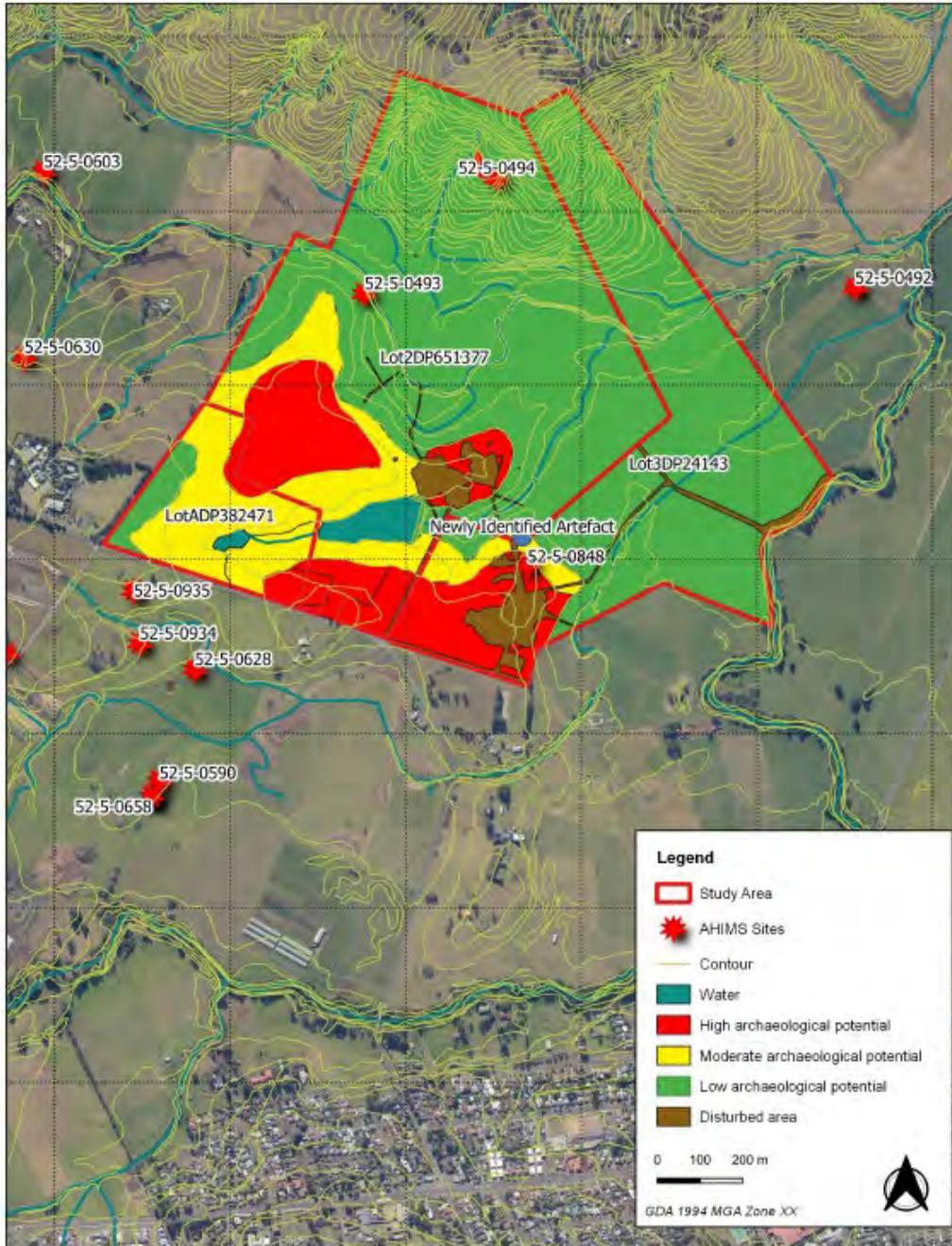


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144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:20 PM
To: walgaluchts@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Walgalu (Murrin Clan/Peoples)
 Ronald Stewart

Dear Ronald,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

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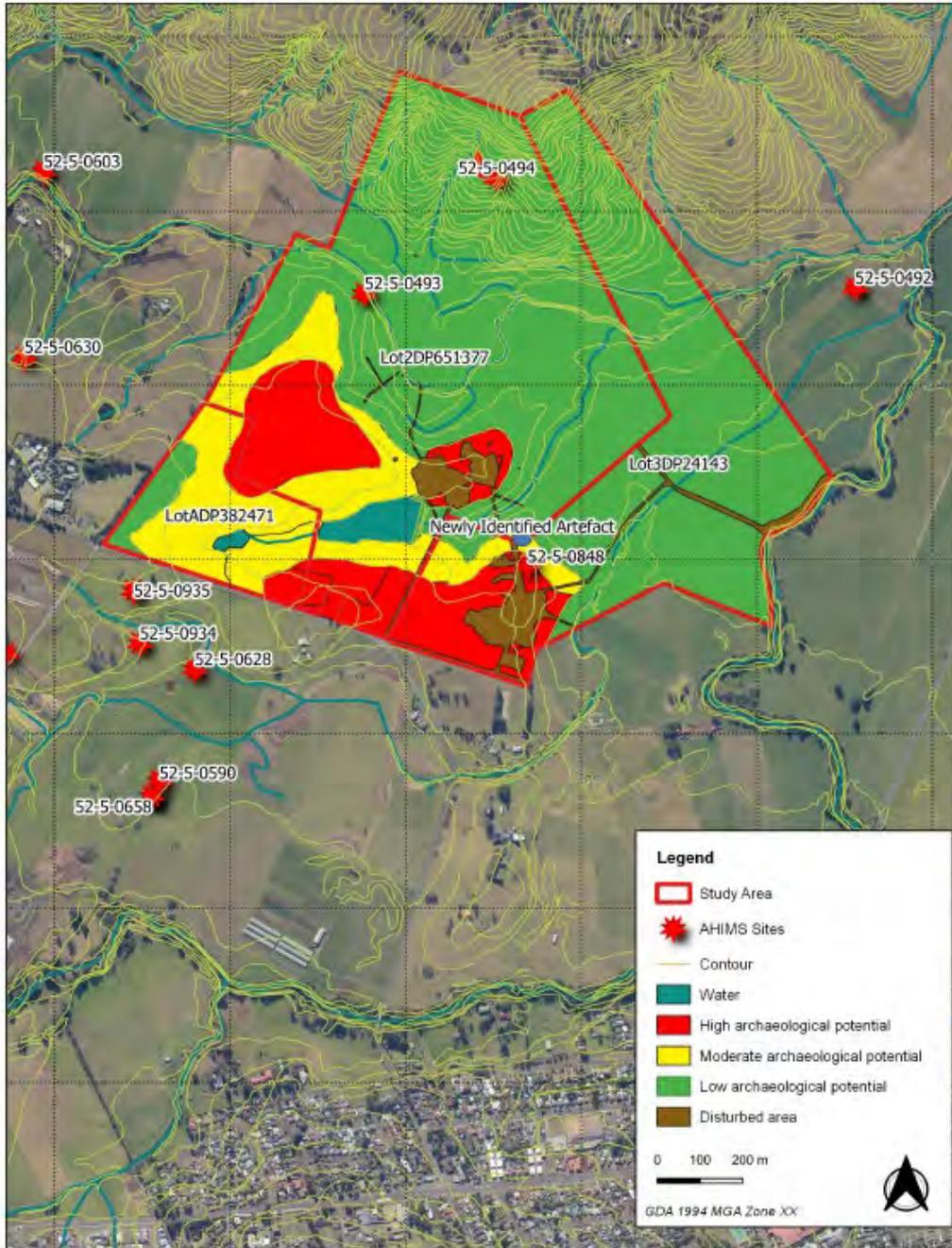


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Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:21 PM
To: troytungai72@outlook.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Tungai Tonghi
 Troy Tungai
 10 Paterson Place NSW
 Barrack Heights

Dear Troy,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

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- Impact Assessment
- Management Strategies

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Please note that the final decision on the employment of individuals to assist with the project rests with the Proponent.

Please take the time to read this letter and the associated report, and please feel free to contact me on any of the numbers provided below should you wish to raise any concerns or if you require additional information.

Please ensure that your reply reaches this office no later than 29/05/2020 and thank you for your help with this matter.

Please do not hesitate to contact me on 0419 264 344 if you wish to discuss any aspect of this submission.

Yours sincerely,



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Archaeologist
Austral Archaeology
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M 0419 264 344
E pauliner@australarch.com.au

7. REFERENCES

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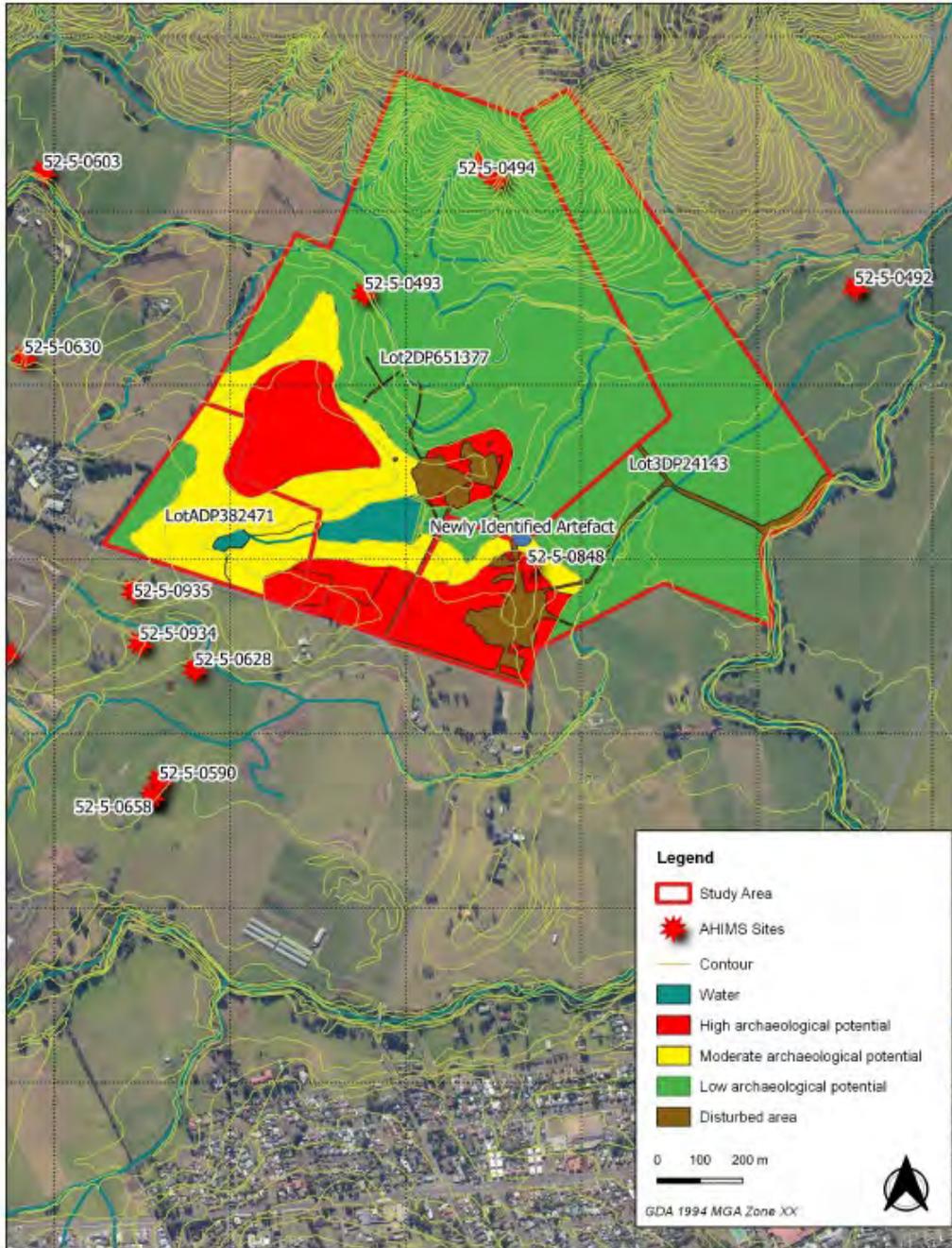


Figure 1.2 Aerial map of the study area in relation to surrounding suburbs

144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:15 PM
To: bblalc@bigpond.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Batemans Bay Local Aboriginal Land Council
 Colin Davis
 PO Box 542 NSW
 Batemans Bay

Dear Colin,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

I am writing to you as a Registered Aboriginal Party (RAP) for the proposed subdivision at 144 Calderwood, Calderwood, New South Wales (NSW). This letter provides project information and a methodology for the preparation of an Aboriginal Cultural Heritage Assessment (ACHA) for the study area. This information is being requested in accordance with Stages 2 and 3 of the *Aboriginal cultural heritage consultation requirements for proponents 2010* (Department of Environment, Climate Change and Water NSW 2010) [DECCW].

1. PROJECT DETAILS

Austral Archaeology Pty Ltd (Austral) has undertaken the task of completing an ACHA report with consultation with Aboriginal stakeholders in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (Department of Environment, Climate Change and Water NSW 2010) [Consultation Requirements]. The ACHA will also meet the requirements of the *Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW* (Office of Environment and Heritage 2011).

In order to properly gauge the extent of the Aboriginal archaeological and cultural significance of the study area, Austral is proposing to undertake an archaeological survey as well as additional test excavations as part of the project. Archaeological testing will be completed in accordance with Requirement 16 of the *Code of Practice for the archaeological investigation of Aboriginal objects in NSW* (Department of Environment, Climate Change and Water 2010).

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area’s key location within the Macquarie Rivulet catchment, testing of other raised terraces will play a big role in our better understanding of the Aboriginal archaeological and cultural significance of this area.

3. PREDICTIVE MODEL

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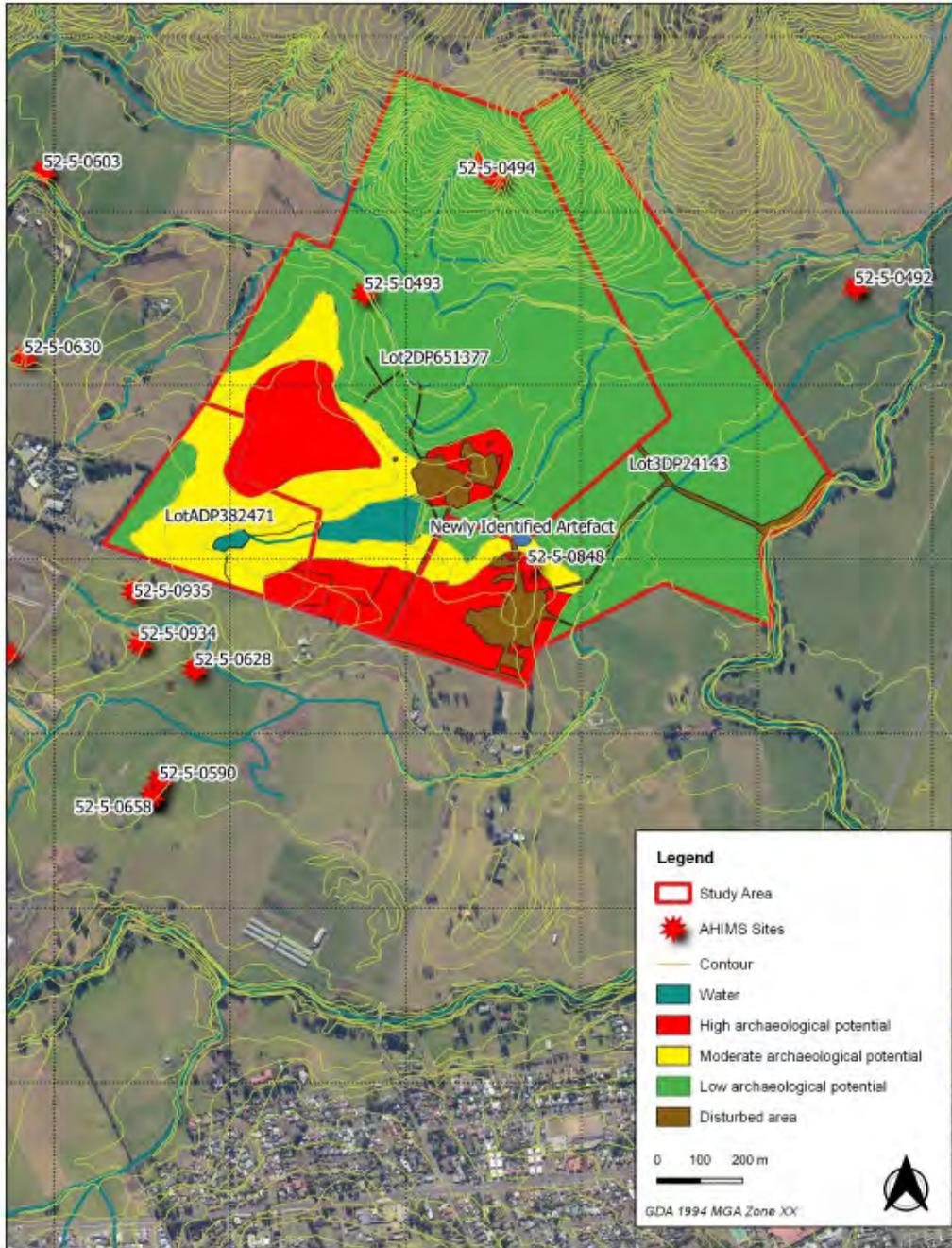


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Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



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Please do not hesitate to contact me on 0419 264 344 if you wish to discuss any aspect of this submission.

Yours sincerely,



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Archaeologist
Austral Archaeology
46 Railway Street, Liverpool, 2170
M 0419 264 344
E pauliner@australarch.com.au

7. REFERENCES

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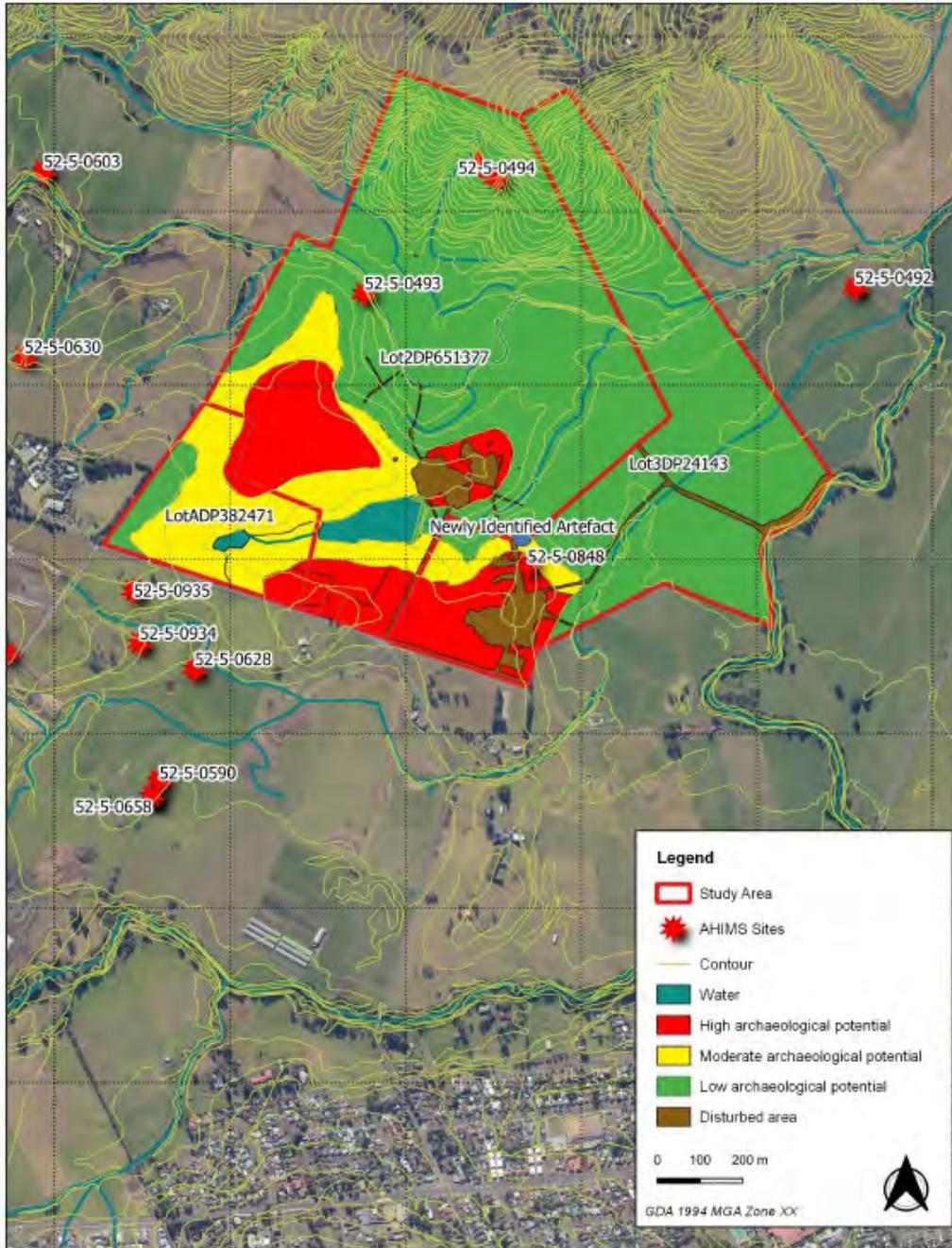


Figure 1.2 Aerial map of the study area in relation to surrounding suburbs

144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land
Aerials

Drawn by: Pauline Ramsey Date:
20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:19 PM
To: murrumbul@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
1 May 2020

Murrumbul (Murrin Clan/Peoples)
 Mark Henry

Dear Mark,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

I am writing to you as a Registered Aboriginal Party (RAP) for the proposed subdivision at 144 Calderwood, Calderwood, New South Wales (NSW). This letter provides project information and a methodology for the preparation of an Aboriginal Cultural Heritage Assessment (ACHA) for the study area. This information is being requested in accordance with Stages 2 and 3 of the *Aboriginal cultural heritage consultation requirements for proponents 2010* (Department of Environment, Climate Change and Water NSW 2010) [DECCW].

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In order to properly gauge the extent of the Aboriginal archaeological and cultural significance of the study area, Austral is proposing to undertake an archaeological survey as well as additional test excavations as part of the project. Archaeological testing will be completed in accordance with Requirement 16 of the *Code of Practice for the archaeological investigation of Aboriginal objects in NSW* (Department of Environment, Climate Change and Water 2010).

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The study area has been previously subject to archaeological investigations by Australian Museum Business Services (AMBS) in 2005 as part of the West Dapto Release Area Aboriginal Heritage Management Plan and by Artefact Heritage Pty Ltd (Artefact) in 2017 during a survey at 140 – 142 Calderwood Road. Within Lot 2 DP651377, AMBS identified two sites; isolated find "WDRA_AX_37" (AHIMS #52-5-0493), located along the southern elevated banks of the main Marshall Mount Creek and an artefact scatter "WDRA_AX_38" (AHIMS #52-5-0494), located mid slope of the hill range located to the north. The latest AMBS report concludes by stating that site AHIMS #52-5-0493 has an overall low archaeological sensitivity to future development and site AHIMS #52-5-0494 has a higher sensitivity (AMBS 2010: 82, 86).

Within Lot 3 DP24143, Artefact identified a cluster of four artefact sites within an area of potential archaeological deposit (PAD) called "YTOF_AS_9" AHIMS #52-5-0848. This site was located on the crest of the raised area between a tributary of the Marshall Mount Creek to its north and the Macquarie Rivulet to its south. The Artefact report concludes by stating that:

"YTOF AS 9 (AHIMS ID 52-2-0848) is located within a unique aspect of the landscape as the first raised area above the Macquarie Rivulet flood plain. The artefact density and variety of lithologies suggest the site was intensively occupied over multiple occupation phases. The site is considered to be rare within the local context" (Artefact 2017: 43). Artefact further concludes that the obtaining of an Aboriginal Heritage Impact Permit (AHIP) will be necessary if further works are to impact this site and that archaeological salvage operations should also be undertaken following the issuance (Artefact 2017: 1)."

[The study area contains a number of landforms, specifically, raised terraces overlooking drainage lines that are similar to or associated with the landform that contain YTOF_AS_9 (AHIMS #52-5-0848[A1]). Given this, as well as the study

area's key location within the Macquarie Rivulet catchment, testing of other raised terraces will play a big role in our better understanding of the Aboriginal archaeological and cultural significance of this area.

3. PREDICTIVE MODEL

The following model has been developed to try and predict the nature and extent of Aboriginal cultural heritage within the study area:

Using the study area's environmental context and previous archaeological investigations within the local area, Austral has determined that there are three areas of high archaeological potential and one large area of moderate potential surrounding the high. Each of these areas were chosen based on their landform element, their proximity to water and their reduced likelihood for inundation during periods of heavy rainfall, as well as their overall similarities with other, previously investigated sites. Based on these criteria, it is predicted that open artefact scatters and associated PADs will most likely occur in these areas highlighted in Map 2 attached to this letter.

4. ABORIGINAL CULTURAL HERITAGE CONSULTATION

The Aboriginal people of Australia are part of the oldest and continuous living cultures in human history. Aboriginal people's cultural heritage is recognised and valued as a unique and essential component of the identity of all Australian people.

Aboriginal cultural heritage provides the essential links between the past and the present – it is an essential part of Aboriginal people's cultural identity, connection and sense of belonging to Country.

The objective of community consultation is to ensure Aboriginal people have the opportunity to improve assessment outcomes by:

- Providing relevant information about the cultural significance and values of the Aboriginal objects and/or place
- Influencing the design of the method to assess cultural and scientific significance of Aboriginal objects and places.
- Actively contributing to the development of cultural heritage management options and recommendations for any Aboriginal objects and/or places within the proposed project area
- Commenting on draft assessment reports before they are submitted by the proponent to DPIE.

To meet these objectives Department of Planning, Industry and Environment (DPIE) [formally OEH & DECCW] have developed four stages of consultation which must be met for each cultural heritage assessment. There are a number of mandatory timeframes associated with the Consultation Requirements, these are summarised in Table 1.

Table 1: Statutory timeframes for consultation.

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**Note: Stage 2 and 3 are combined in this document and one 28 day period applies.*

As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, Section 3.4 on page 9 states that "Consultation should not be confused with employment". The proponent is therefore not obliged to employ any registered stakeholders for the fieldwork component of this project. However, all registered Aboriginal parties will be fully consulted as per the guidelines.

The following section outlines the expected feedback required from Aboriginal people for each Stage of the consultation process.

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Input required: Register your interest in the project by email, phone or letter. This stage is complete

Stage 2: Presentation of information about the proposed project.

Input required: Feedback on the project proposal including the nature, scope and methodology. Raise any concerns about cultural perspectives or assessment requirements.

Stage 3: Gathering information about cultural significance.

Input required: Contribute to culturally appropriate information gathering and the research methodology. Provide information that will enable the cultural significance of Aboriginal objects and/or places within the proposed project area. Have input into the development of any cultural heritage management options.

Stage 4: Review of draft cultural heritage assessment report.

Input required: Provide feedback on any aspect of the draft ACHA report.

5. EXCAVATION STRATEGY

In order to fully assess the nature and extent of the archaeological deposit, Austral Archaeology have developed an archaeological testing methodology which follows the requirements of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (the *CoP*) (DECCW 2010).

Our test excavation methodology is based on the *CoP* which states that all "test excavations must be excavated using hand tools only" and "the first excavation [pit] must be excavated in 5 cm spits at each area – either PAD or site – being investigated. Based on the evidence of the first excavation [pit], 10 cm spits or sediment profile/stratigraphic excavation (whichever is smaller) may then be implemented" (2010, p.26). The *CoP* is also clear on how many test pits should be excavated and their placement.

It is estimated that a sample of at most 60 test pits will be excavated during the testing phase. We have determined that, based upon the size of PAD 1 and PAD 2 and the study area's overall potential, this would be completed by a team of 2 archaeologists and 2 Aboriginal stakeholders, during the course of 8 days.

The following excavation methodology will be employed for the test excavations:

- The hand excavation of 500 x 500 millimetre test pits across a series of transects located at a maximum spacing of 20 metres apart in areas considered to have high and moderate sensitivity.
- All excavation will be conducted by hand, and the excavation of initial test pits will proceed in 50 millimetres spits. Based on the results of the initial test pits, subsequent test pits will be excavated either in 100 millimetre spits or by stratigraphic unit, dependant on which unit is smaller.
- Recording of each test pit will be conducted during excavation using either printed *pro forma* or with *digital pro forma* stored on an electronic tablet.
- 100% of excavated potential artefact bearing deposit will be sieved. Austral has allowed for dry sieving as part of the excavation program. Dependant on the soils encountered and site conditions, material may need to be wet sieved. Water for the sieving station would be provided by a water tanker and pump.
- Artefacts will be collected from the sieves and bagged according to excavation pit provenance. Each test pit will be backfilled to the best of our ability with the sieved material excavated from the pits at the conclusion of the testing program.
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Collection and salvage of all artefacts will be undertaken according to the following methodology. Austral has allowed for the analysis of a maximum of 100 artefacts as part of the testing program.

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- The landowner on whose property this area may be located is to be approached for consent to return the Aboriginal archaeological material to site. If the site where the artefacts are to be returned is situated upon Crown Land then the appropriate authority managing the Local Government Area is to be approached and informed.
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Please note that the final decision on the employment of individuals to assist with the project rests with the Proponent.

Please take the time to read this letter and the associated report, and please feel free to contact me on any of the numbers provided below should you wish to raise any concerns or if you require additional information.

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Please do not hesitate to contact me on 0419 264 344 if you wish to discuss any aspect of this submission.

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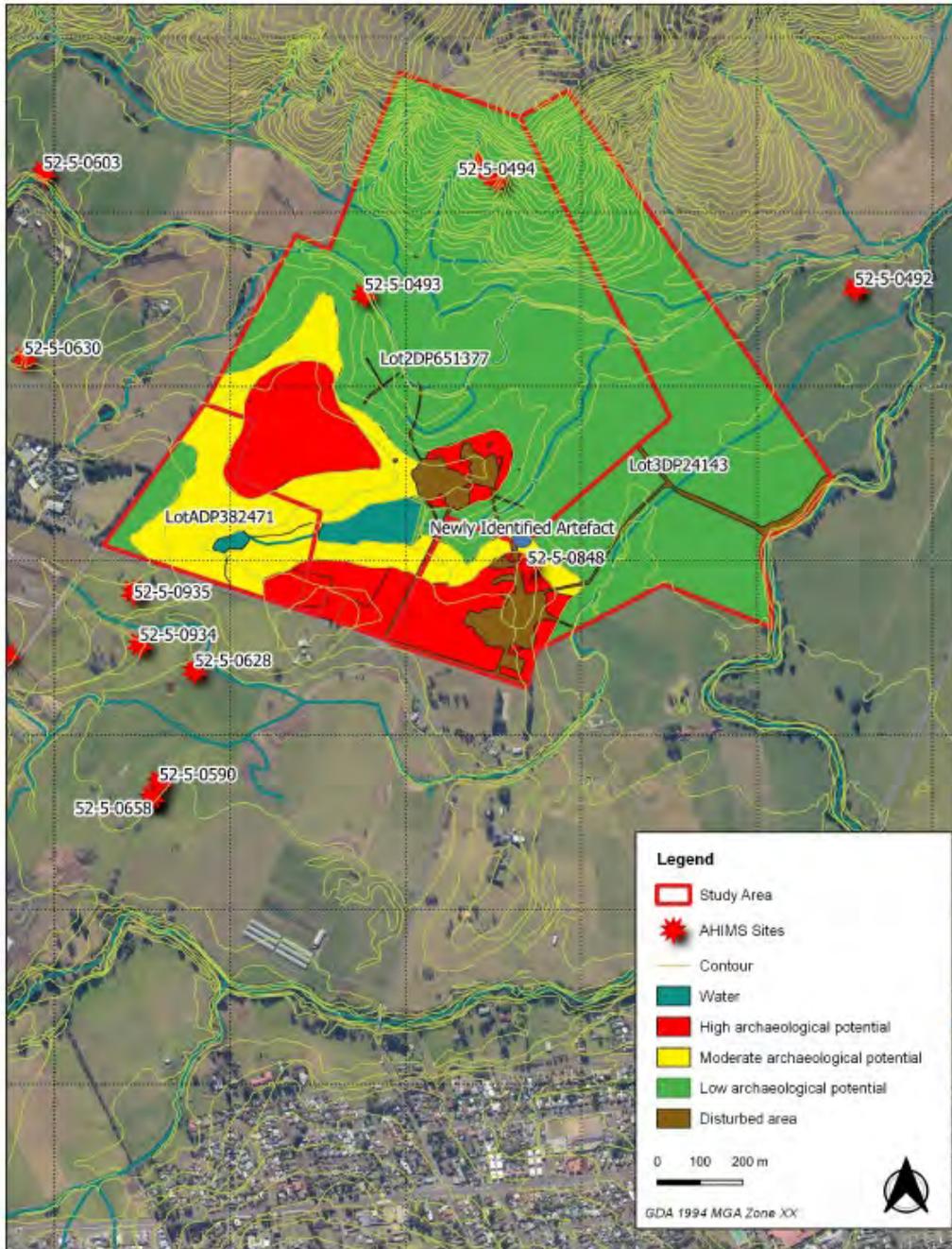


Figure 1.2 Aerial map of the study area in relation to surrounding suburbs

144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:19 PM
To: warrabingi@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Warra Bingi Nunda Gurri
 Nathaniel Kennedy

Dear Nathaniel,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

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Yours sincerely,



Pauline Ramsey
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E pauliner@australarch.com.au

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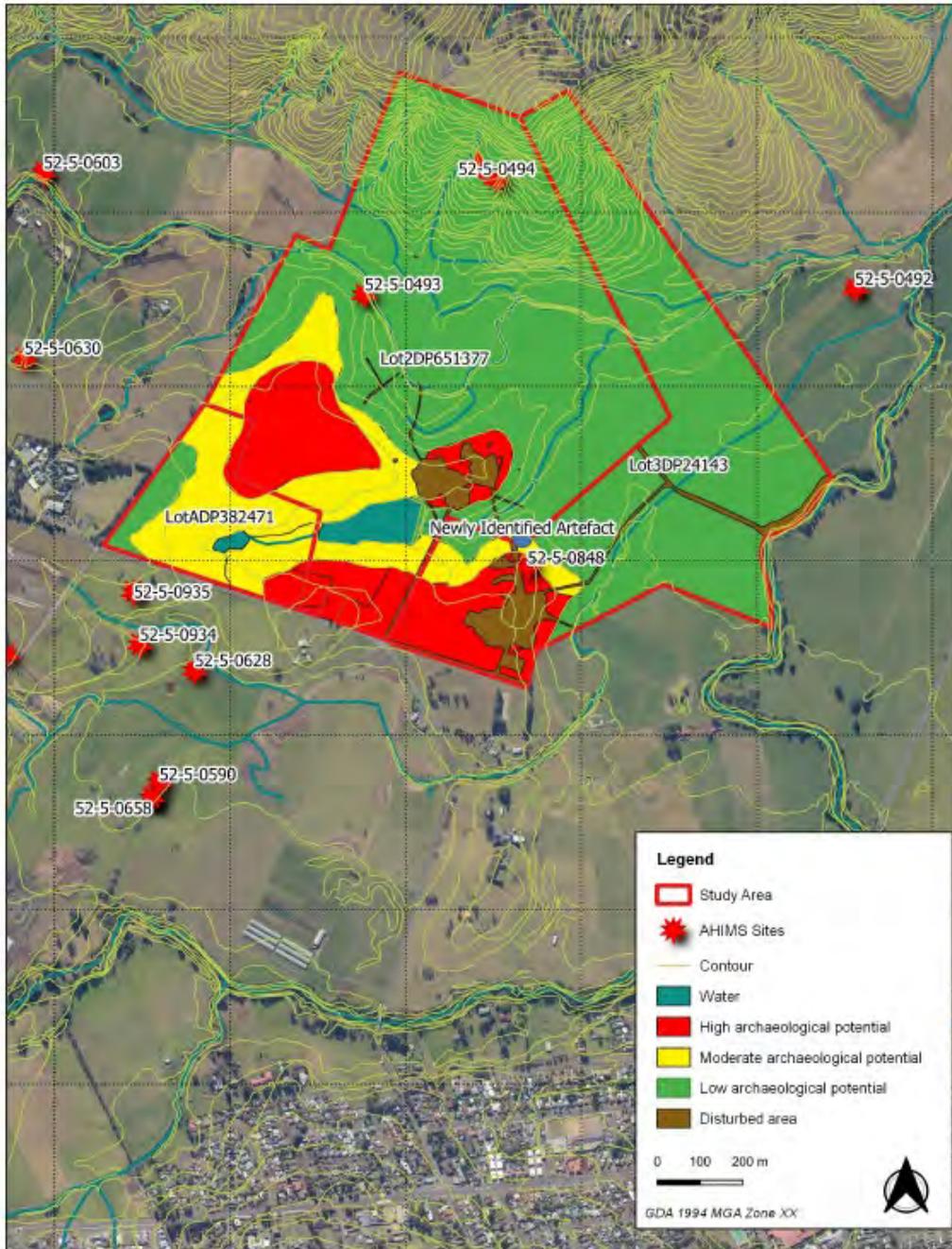


Figure 1.2 Aerial map of the study area in relation to surrounding suburbs

144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:19 PM
To: nundagurri@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Nundagurri (Murrin Clan/Peoples)
 Newton Carriage

Dear Newton,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

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Please note that the final decision on the employment of individuals to assist with the project rests with the Proponent.

Please take the time to read this letter and the associated report, and please feel free to contact me on any of the numbers provided below should you wish to raise any concerns or if you require additional information.

Please ensure that your reply reaches this office no later than 29/05/2020 and thank you for your help with this matter.

Please do not hesitate to contact me on 0419 264 344 if you wish to discuss any aspect of this submission.

Yours sincerely,



Pauline Ramsey
Archaeologist
Austral Archaeology
46 Railway Street, Liverpool, 2170
M 0419 264 344
E pauliner@australarch.com.au

7. REFERENCES

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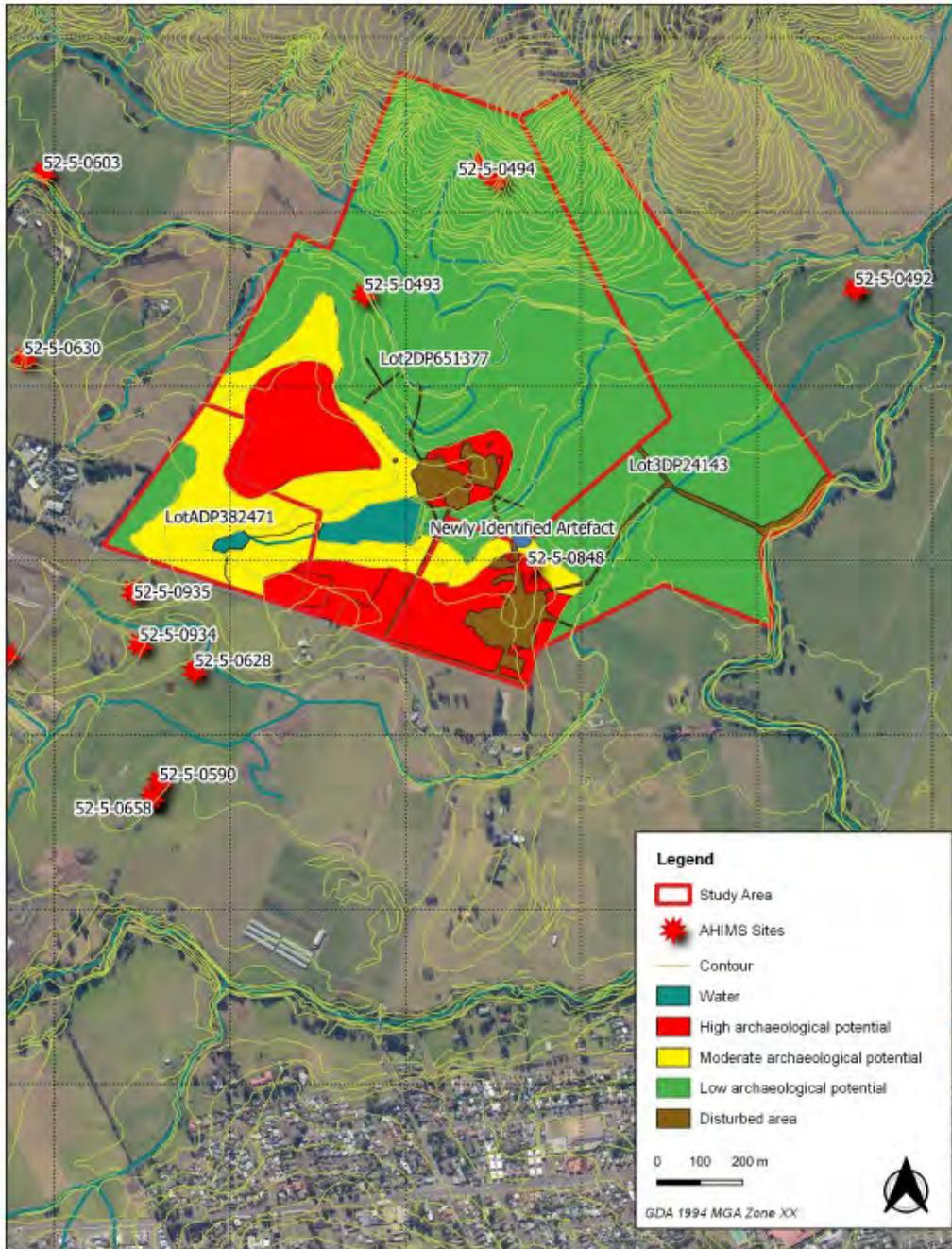


Figure 1.2 Aerial map of the study area in relation to surrounding suburbs

144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:19 PM
To: noelwebster2@bigpond.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Noel Webster
 20 Peacehaven Way NSW
 Sussex Inlet

Dear Noel,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

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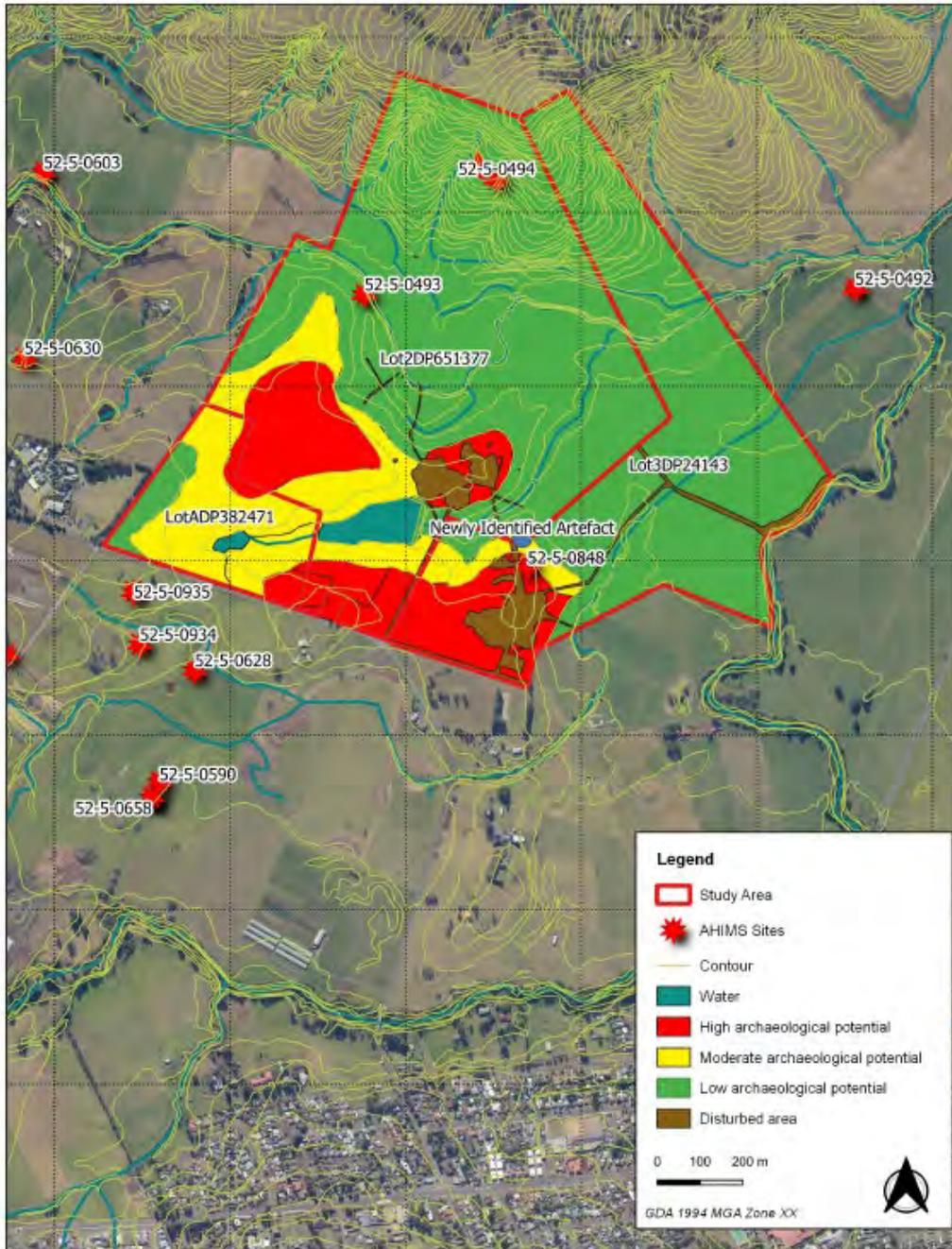


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Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



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Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:19 PM
To: 'owen.fpf@gmail.com'
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

South Coast NSW Aboriginal Elders
 Owen Carriage

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Please note that the final decision on the employment of individuals to assist with the project rests with the Proponent.

Please take the time to read this letter and the associated report, and please feel free to contact me on any of the numbers provided below should you wish to raise any concerns or if you require additional information.

Please ensure that your reply reaches this office no later than 29/05/2020 and thank you for your help with this matter.

Please do not hesitate to contact me on 0419 264 344 if you wish to discuss any aspect of this submission.

Yours sincerely,



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M 0419 264 344
E pauliner@australarch.com.au

7. REFERENCES

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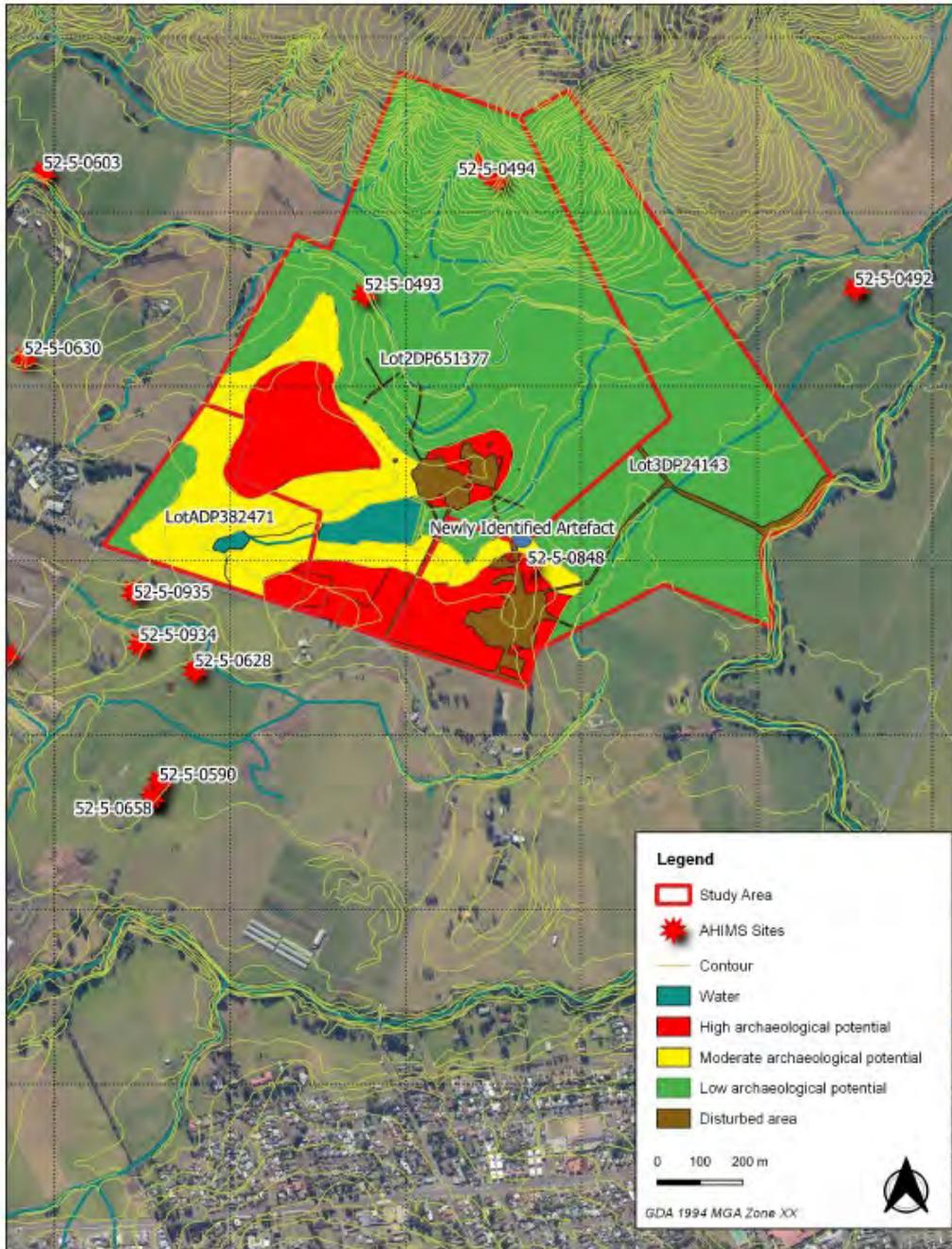


Figure 1.2 Aerial map of the study area in relation to surrounding suburbs

144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land
Aerials

Drawn by: Pauline Ramsey Date:
20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:19 PM
To: ceo@ilalc.org.au
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Illawarra Local Aboriginal Land Council
 Paul Knight
 3 Ellen Street NSW
 Wollongong

Dear Paul,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

I am writing to you as a Registered Aboriginal Party (RAP) for the proposed subdivision at 144 Calderwood, Calderwood, New South Wales (NSW). This letter provides project information and a methodology for the preparation of an Aboriginal Cultural Heritage Assessment (ACHA) for the study area. This information is being requested in accordance with Stages 2 and 3 of the *Aboriginal cultural heritage consultation requirements for proponents 2010* (Department of Environment, Climate Change and Water NSW 2010) [DECCW].

1. PROJECT DETAILS

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In order to properly gauge the extent of the Aboriginal archaeological and cultural significance of the study area, Austral is proposing to undertake an archaeological survey as well as additional test excavations as part of the project. Archaeological testing will be completed in accordance with Requirement 16 of the *Code of Practice for the archaeological investigation of Aboriginal objects in NSW* (Department of Environment, Climate Change and Water 2010).

2. PROJECT BACKGROUND

The study area has been previously subject to archaeological investigations by Australian Museum Business Services (AMBS) in 2005 as part of the West Dapto Release Area Aboriginal Heritage Management Plan and by Artefact Heritage Pty Ltd (Artefact) in 2017 during a survey at 140 – 142 Calderwood Road. Within Lot 2 DP651377, AMBS identified two sites; isolated find "WDRA_AX_37" (AHIMS #52-5-0493), located along the southern elevated banks of the main Marshall Mount Creek and an artefact scatter "WDRA_AX_38" (AHIMS #52-5-0494), located mid slope of the hill range located to the north. The latest AMBS report concludes by stating that site AHIMS #52-5-0493 has an overall low archaeological sensitivity to future development and site AHIMS #52-5-0494 has a higher sensitivity (AMBS 2010: 82, 86).

Within Lot 3 DP24143, Artefact identified a cluster of four artefact sites within an area of potential archaeological deposit (PAD) called "YTOF_AS_9" AHIMS #52-5-0848. This site was located on the crest of the raised area between a tributary of the Marshall Mount Creek to its north and the Macquarie Rivulet to its south. The Artefact report concludes by stating that:

"YTOF AS 9 (AHIMS ID 52-2-0848) is located within a unique aspect of the landscape as the first raised area above the Macquarie Rivulet flood plain. The artefact density and variety of lithologies suggest the site was intensively occupied over multiple occupation phases. The site is considered to be rare within the local context" (Artefact 2017: 43). Artefact further concludes that the obtaining of an Aboriginal Heritage Impact Permit (AHIP) will be necessary if further works are to impact this site and that archaeological salvage operations should also be undertaken following the issuance (Artefact 2017: 1)."

area’s key location within the Macquarie Rivulet catchment, testing of other raised terraces will play a big role in our better understanding of the Aboriginal archaeological and cultural significance of this area.

3. PREDICTIVE MODEL

The following model has been developed to try and predict the nature and extent of Aboriginal cultural heritage within the study area:

Using the study area’s environmental context and previous archaeological investigations within the local area, Austral has determined that there are three areas of high archaeological potential and one large area of moderate potential surrounding the high. Each of these areas were chosen based on their landform element, their proximity to water and their reduced likelihood for inundation during periods of heavy rainfall, as well as their overall similarities with other, previously investigated sites. Based on these criteria, it is predicted that open artefact scatters and associated PADs will most likely occur in these areas highlighted in Map 2 attached to this letter.

4. ABORIGINAL CULTURAL HERITAGE CONSULTATION

The Aboriginal people of Australia are part of the oldest and continuous living cultures in human history. Aboriginal people’s cultural heritage is recognised and valued as a unique and essential component of the identity of all Australian people.

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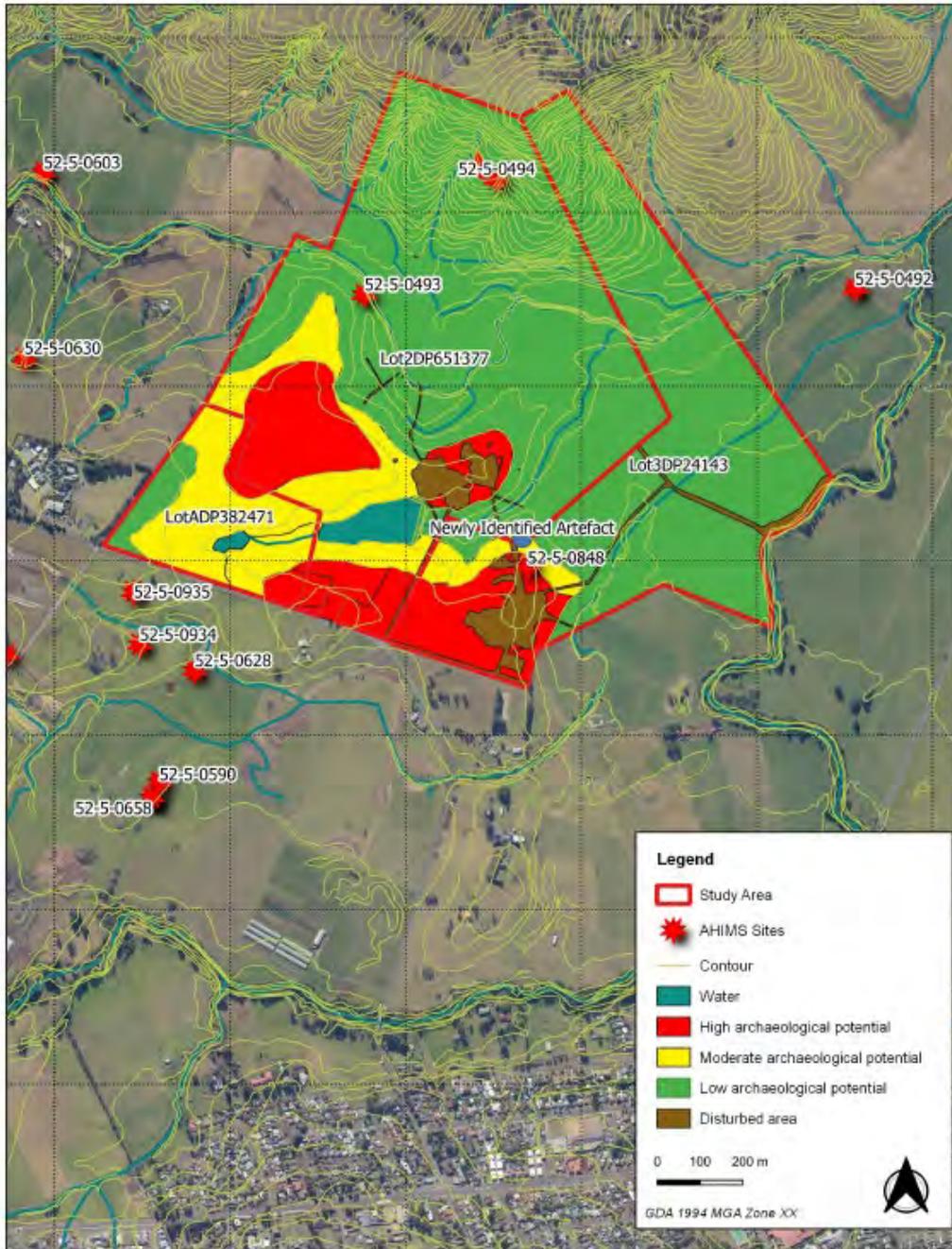


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Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



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144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:19 PM
To: pemulwuyd@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
1 May 2020

Pemulwuy (Murrin Clan/Peoples)
 Pemulwuy Johnson

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[The study area contains a number of landforms, specifically, raised terraces overlooking drainage lines that are similar to or associated with the landform that contain YTOF_AS_9 (AHIMS #52-5-0848[A1]). Given this, as well as the study

area's key location within the Macquarie Rivulet catchment, testing of other raised terraces will play a big role in our better understanding of the Aboriginal archaeological and cultural significance of this area.

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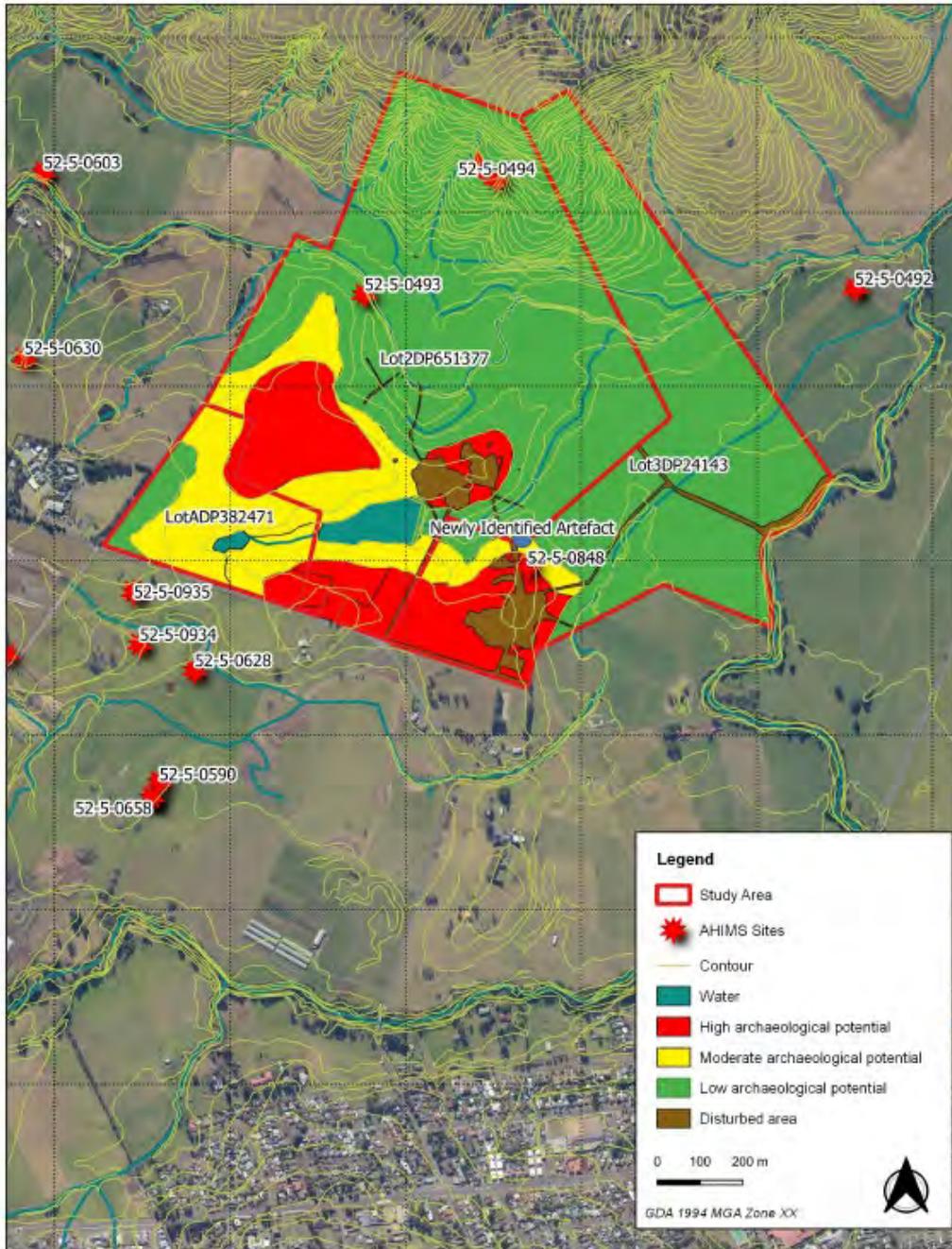


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144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:20 PM
To: gundungurratectribsevic@icloud.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Gundungurra Tribal Technical Services
 Peter Foster
 4 Tuppal Way NSW
 AIRDS

Dear Peter,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

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Within Lot 3 DP24143, Artefact identified a cluster of four artefact sites within an area of potential archaeological deposit (PAD) called "YTOF_AS_9" AHIMS #52-5-0848. This site was located on the crest of the raised area between a tributary of the Marshall Mount Creek to its north and the Macquarie Rivulet to its south. The Artefact report concludes by stating that:

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The Aboriginal people of Australia are part of the oldest and continuous living cultures in human history. Aboriginal people’s cultural heritage is recognised and valued as a unique and essential component of the identity of all Australian people.

Aboriginal cultural heritage provides the essential links between the past and the present – it is an essential part of Aboriginal people’s cultural identity, connection and sense of belonging to Country.

The objective of community consultation is to ensure Aboriginal people have the opportunity to improve assessment outcomes by:

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- Actively contributing to the development of cultural heritage management options and recommendations for any Aboriginal objects and/or places within the proposed project area
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To meet these objectives Department of Planning, Industry and Environment (DPIE) [formally OEH & DECCW] have developed four stages of consultation which must be met for each cultural heritage assessment. There are a number of mandatory timeframes associated with the Consultation Requirements, these are summarised in Table 1.

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Input required: Register your interest in the project by email, phone or letter. This stage is complete

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Input required: Feedback on the project proposal including the nature, scope and methodology. Raise any concerns about cultural perspectives or assessment requirements.

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Input required: Contribute to culturally appropriate information gathering and the research methodology. Provide information that will enable the cultural significance of Aboriginal objects and/or places within the proposed project area. Have input into the development of any cultural heritage management options.

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Input required: Provide feedback on any aspect of the draft ACHA report.

5. EXCAVATION STRATEGY

In order to fully assess the nature and extent of the archaeological deposit, Austral Archaeology have developed an archaeological testing methodology which follows the requirements of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (the *CoP*) (DECCW 2010).

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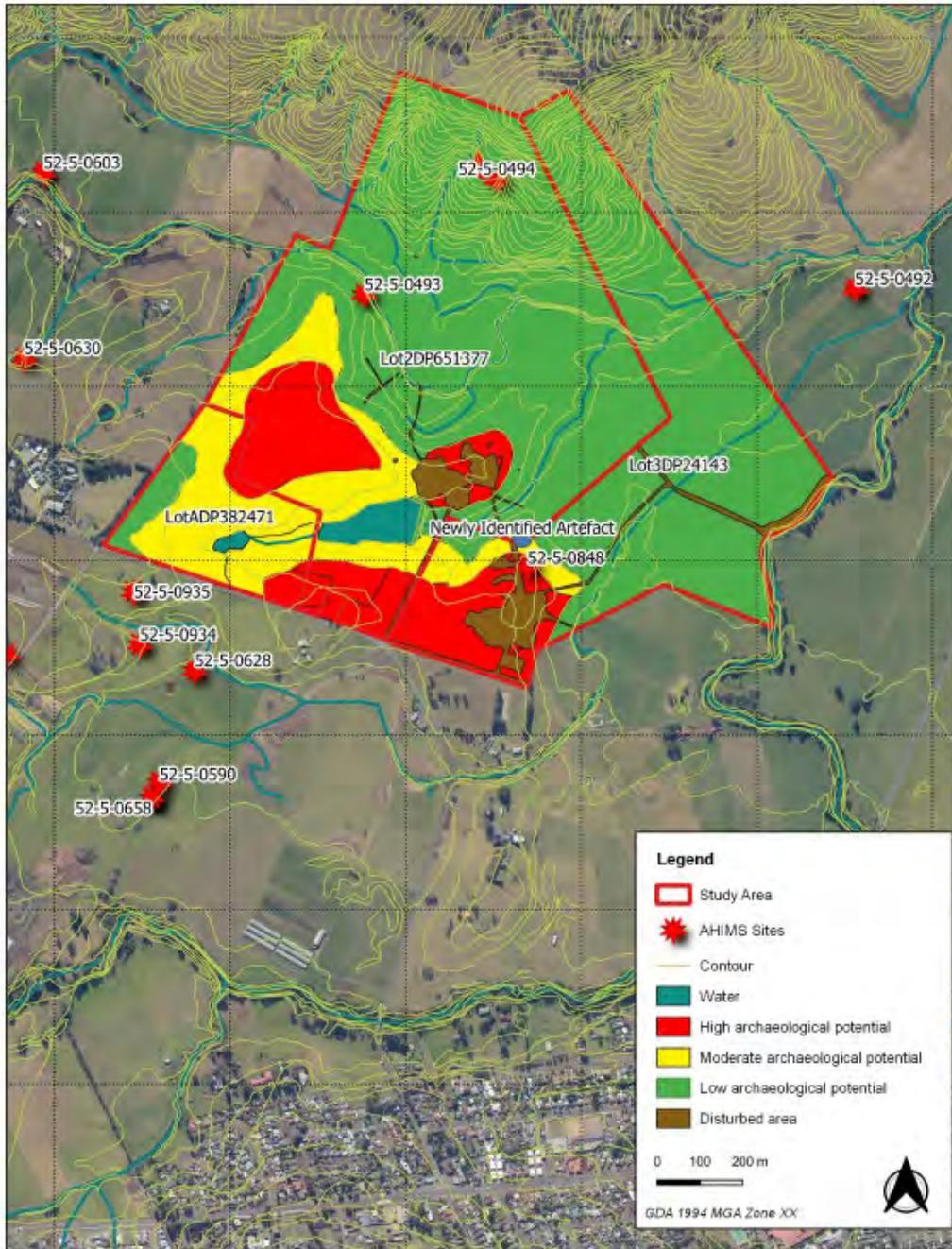


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Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



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Source: NSW Department of Land
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Drawn by: Pauline Ramsey Date:
20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:20 PM
To: gundungurratectribseices@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
1 May 2020

Gundungurra Tribal Technical Services
 Pimmy Johnson Bell
 67 Dickens Road NSW
 AMBERVALE

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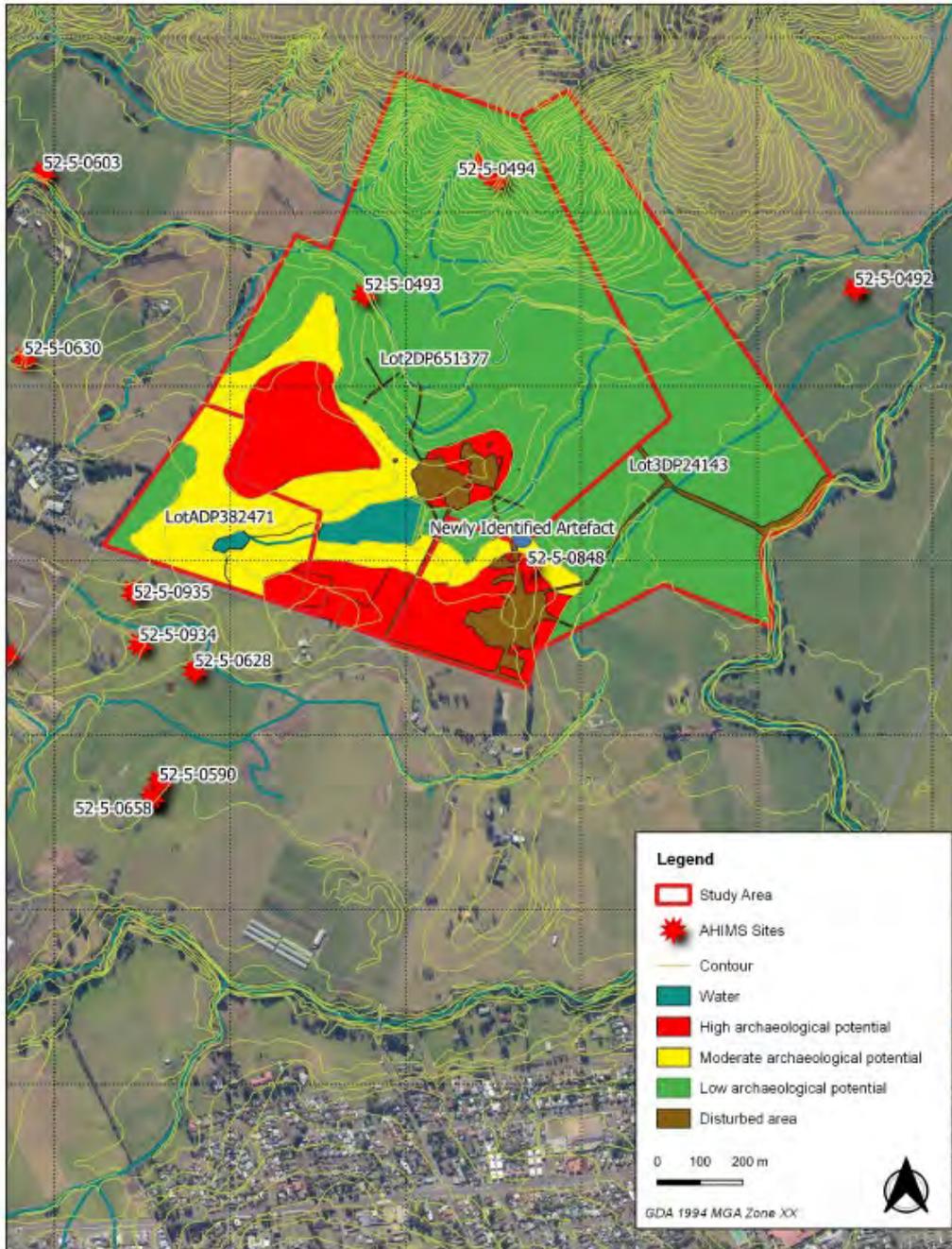


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144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:20 PM
To: 'raymond@bariyu.org.au'
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Garrara Aboriginal Corporation
 Raymond Ingrey

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RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

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- Impact Assessment
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Please note that the final decision on the employment of individuals to assist with the project rests with the Proponent.

Please take the time to read this letter and the associated report, and please feel free to contact me on any of the numbers provided below should you wish to raise any concerns or if you require additional information.

Please ensure that your reply reaches this office no later than 29/05/2020 and thank you for your help with this matter.

Please do not hesitate to contact me on 0419 264 344 if you wish to discuss any aspect of this submission.

Yours sincerely,



Pauline Ramsey
Archaeologist
Austral Archaeology
46 Railway Street, Liverpool, 2170
M 0419 264 344
E pauliner@australarch.com.au

7. REFERENCES

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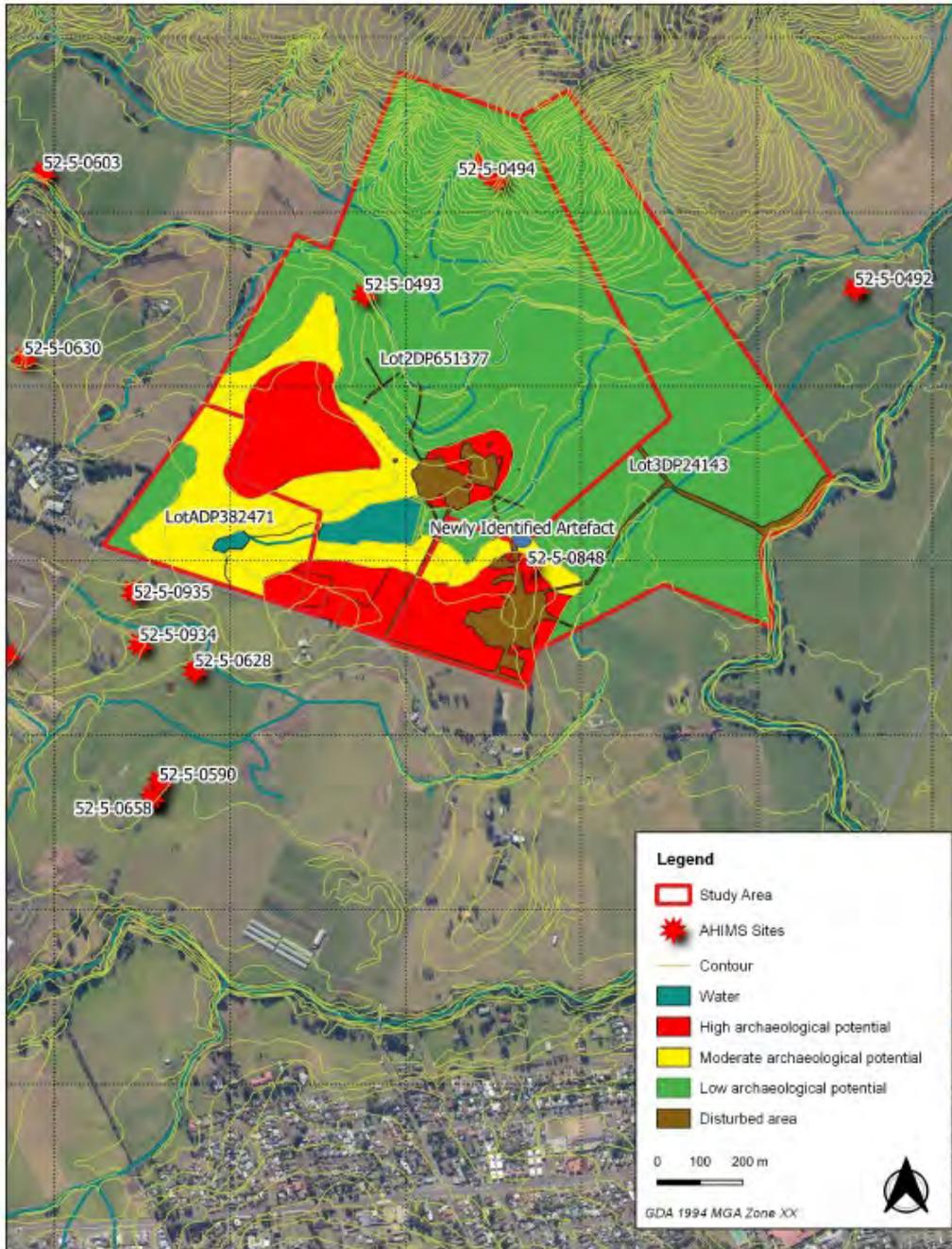


Figure 1.2 Aerial map of the study area in relation to surrounding suburbs

144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:20 PM
To: richardcampbell123@outlook.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Guunamaa Dreamin Sites and Surveying
 Richard Campbell
 2 Minda Crescent NSW
 Oak Flats

Dear Richard,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

I am writing to you as a Registered Aboriginal Party (RAP) for the proposed subdivision at 144 Calderwood, Calderwood, New South Wales (NSW). This letter provides project information and a methodology for the preparation of an Aboriginal Cultural Heritage Assessment (ACHA) for the study area. This information is being requested in accordance with Stages 2 and 3 of the *Aboriginal cultural heritage consultation requirements for proponents 2010* (Department of Environment, Climate Change and Water NSW 2010) [DECCW].

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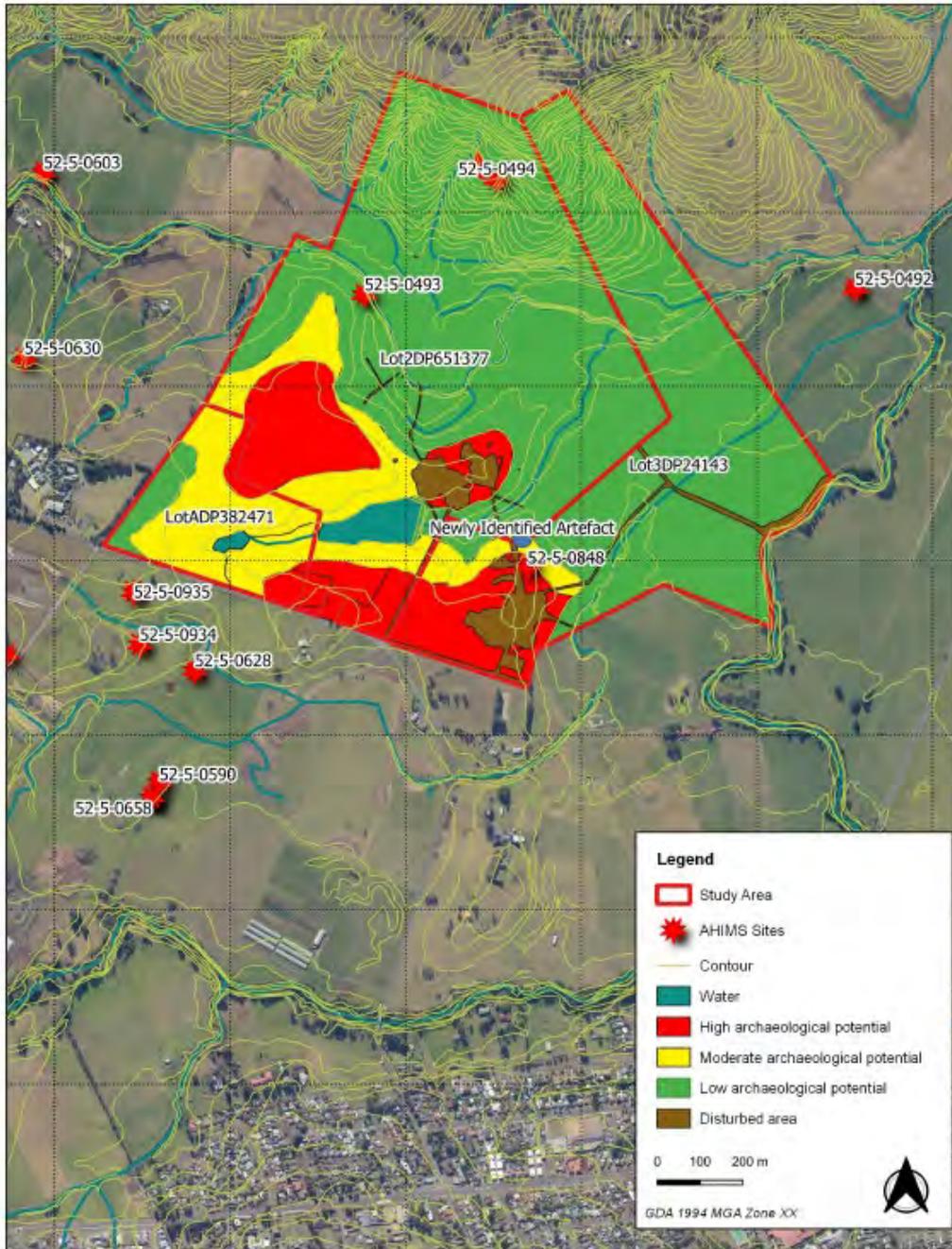


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Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



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Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:20 PM
To: walgaluchts@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Walgalu (Murrin Clan/Peoples)
 Ronald Stewart

Dear Ronald,

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Please ensure that your reply reaches this office no later than 29/05/2020 and thank you for your help with this matter.

Please do not hesitate to contact me on 0419 264 344 if you wish to discuss any aspect of this submission.

Yours sincerely,



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Archaeologist
Austral Archaeology
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E pauliner@australarch.com.au

7. REFERENCES

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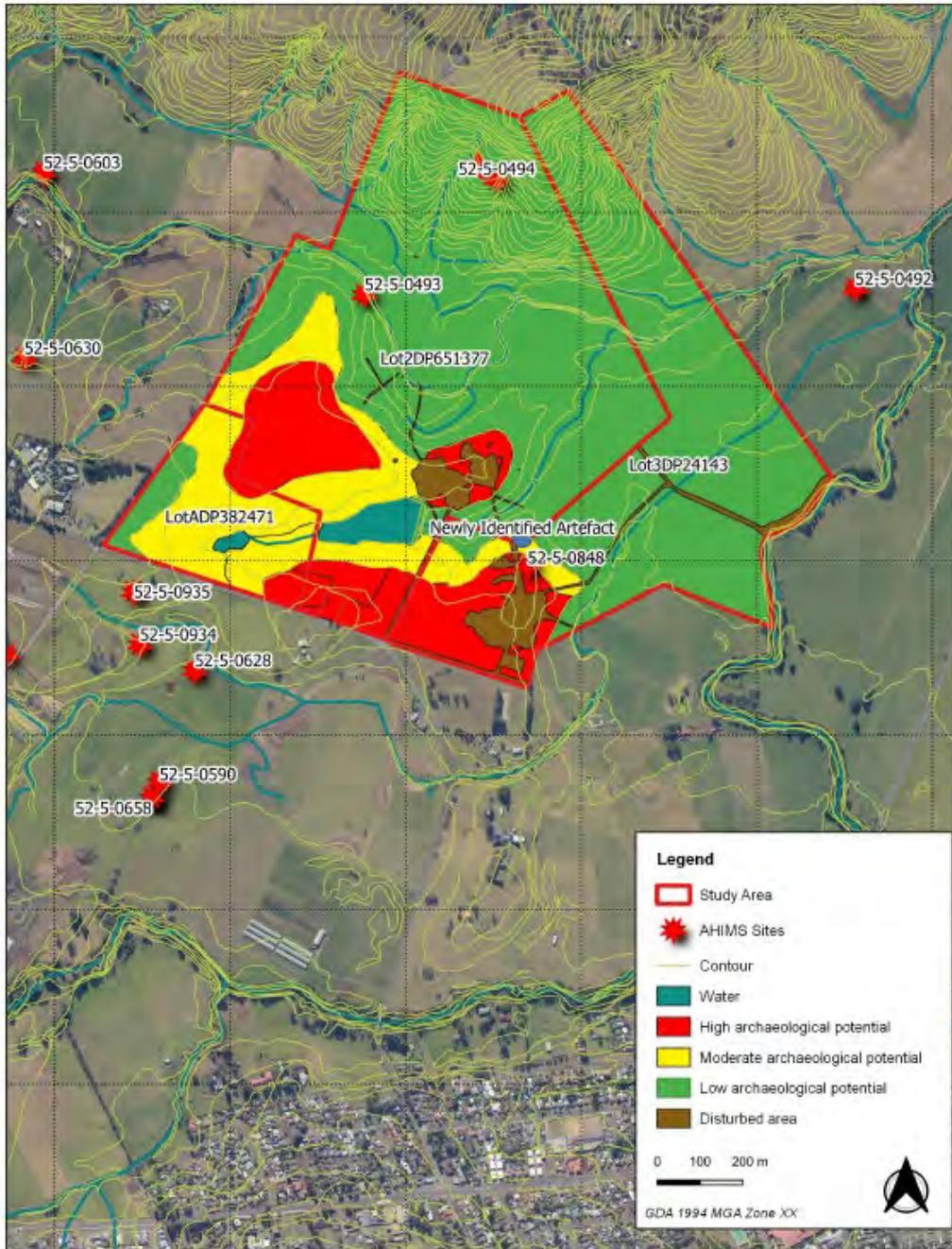


Figure 1.2 Aerial map of the study area in relation to surrounding suburbs

144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:20 PM
To: 'murramarangchts@gmail.com'
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Murramarang (Murrin Clan/Peoples)
 Roxanne Smith

Dear Roxanne,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

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In order to properly gauge the extent of the Aboriginal archaeological and cultural significance of the study area, Austral is proposing to undertake an archaeological survey as well as additional test excavations as part of the project. Archaeological testing will be completed in accordance with Requirement 16 of the *Code of Practice for the archaeological investigation of Aboriginal objects in NSW* (Department of Environment, Climate Change and Water 2010).

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The study area has been previously subject to archaeological investigations by Australian Museum Business Services (AMBS) in 2005 as part of the West Dapto Release Area Aboriginal Heritage Management Plan and by Artefact Heritage Pty Ltd (Artefact) in 2017 during a survey at 140 – 142 Calderwood Road. Within Lot 2 DP651377, AMBS identified two sites; isolated find "WDRA_AX_37" (AHIMS #52-5-0493), located along the southern elevated banks of the main Marshall Mount Creek and an artefact scatter "WDRA_AX_38" (AHIMS #52-5-0494), located mid slope of the hill range located to the north. The latest AMBS report concludes by stating that site AHIMS #52-5-0493 has an overall low archaeological sensitivity to future development and site AHIMS #52-5-0494 has a higher sensitivity (AMBS 2010: 82, 86).

Within Lot 3 DP24143, Artefact identified a cluster of four artefact sites within an area of potential archaeological deposit (PAD) called "YTOF_AS_9" AHIMS #52-5-0848. This site was located on the crest of the raised area between a tributary of the Marshall Mount Creek to its north and the Macquarie Rivulet to its south. The Artefact report concludes by stating that:

"YTOF AS 9 (AHIMS ID 52-2-0848) is located within a unique aspect of the landscape as the first raised area above the Macquarie Rivulet flood plain. The artefact density and variety of lithologies suggest the site was intensively occupied over multiple occupation phases. The site is considered to be rare within the local context" (Artefact 2017: 43). Artefact further concludes that the obtaining of an Aboriginal Heritage Impact Permit (AHIP) will be necessary if further works are to impact this site and that archaeological salvage operations should also be undertaken following the issuance (Artefact 2017: 1)."

The study area contains a number of landforms, specifically, raised terraces overlooking drainage lines that are similar to or associated with the landform that contain YTOF_AS_9 (AHIMS #52-5-0848[A1]). Given this, as well as the study

area’s key location within the Macquarie Rivulet catchment, testing of other raised terraces will play a big role in our better understanding of the Aboriginal archaeological and cultural significance of this area.

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The following model has been developed to try and predict the nature and extent of Aboriginal cultural heritage within the study area:

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The Aboriginal people of Australia are part of the oldest and continuous living cultures in human history. Aboriginal people’s cultural heritage is recognised and valued as a unique and essential component of the identity of all Australian people.

Aboriginal cultural heritage provides the essential links between the past and the present – it is an essential part of Aboriginal people’s cultural identity, connection and sense of belonging to Country.

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To meet these objectives Department of Planning, Industry and Environment (DPIE) [formally OEH & DECCW] have developed four stages of consultation which must be met for each cultural heritage assessment. There are a number of mandatory timeframes associated with the Consultation Requirements, these are summarised in Table 1.

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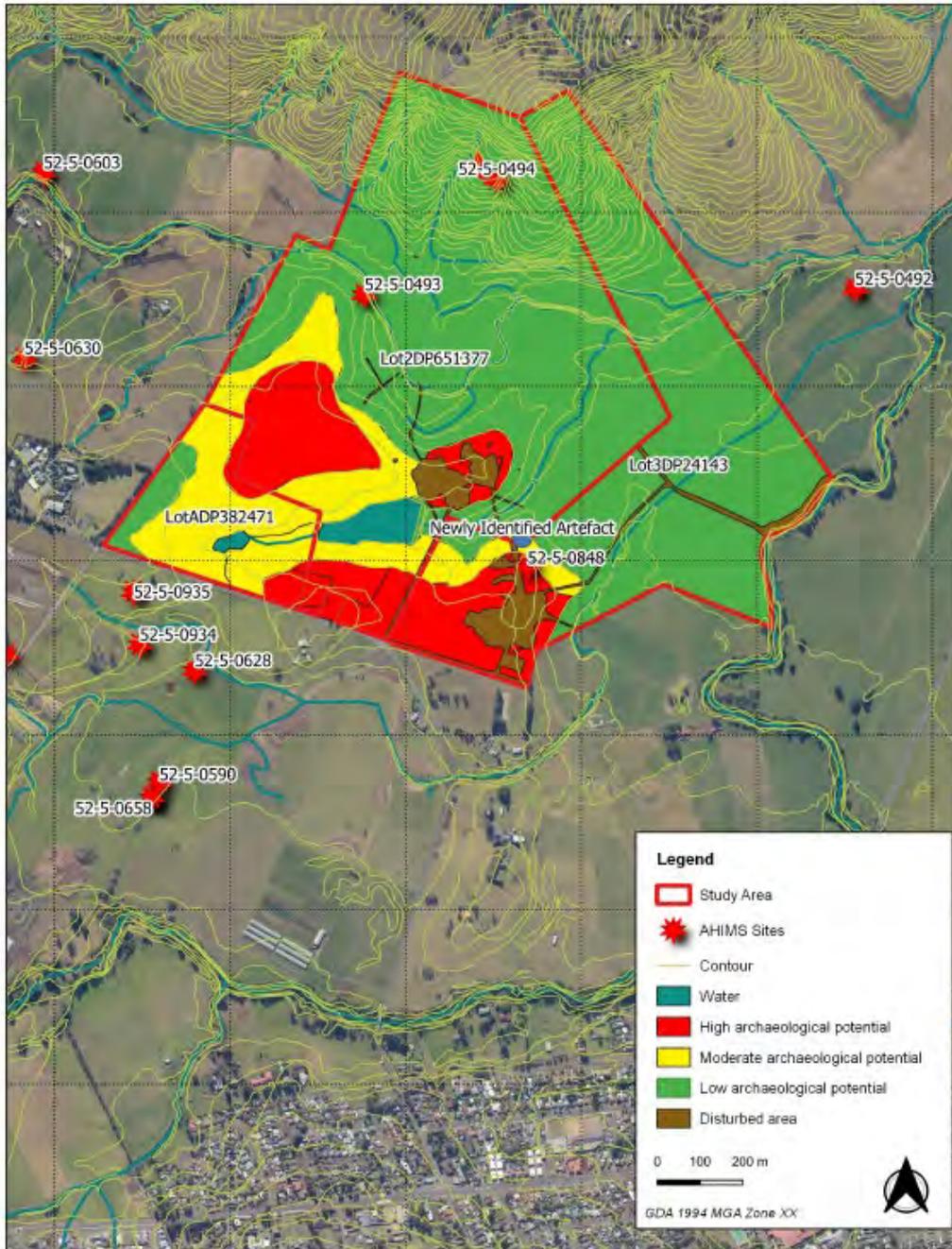


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Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



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Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:20 PM
To: murrabidgeemullangari@yahoo.com.au
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Murra Bidgee Mullangari Aboriginal Corporation
 Ryan Johnson

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Yours sincerely,



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Archaeologist
Austral Archaeology
46 Railway Street, Liverpool, 2170
M 0419 264 344
E pauliner@australarch.com.au

7. REFERENCES

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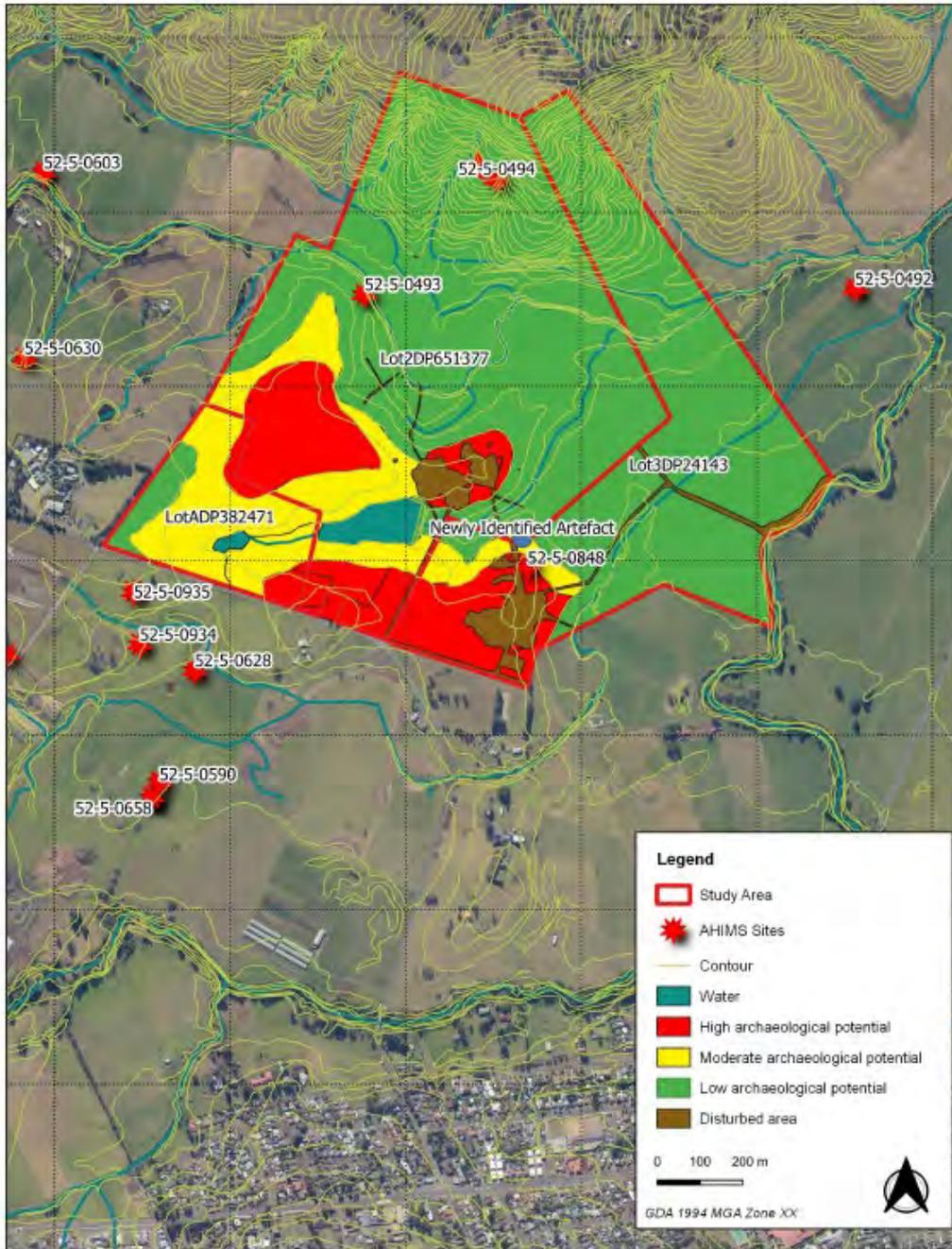


Figure 1.2 Aerial map of the study area in relation to surrounding suburbs

144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:20 PM
To: gundungurratectribsevice@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Gundungurra Tribal Technical Services
 Sam Wickman

Dear Sam,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

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Within Lot 3 DP24143, Artefact identified a cluster of four artefact sites within an area of potential archaeological deposit (PAD) called "YTOF_AS_9" AHIMS #52-5-0848. This site was located on the crest of the raised area between a tributary of the Marshall Mount Creek to its north and the Macquarie Rivulet to its south. The Artefact report concludes by stating that:

"YTOF AS 9 (AHIMS ID 52-2-0848) is located within a unique aspect of the landscape as the first raised area above the Macquarie Rivulet flood plain. The artefact density and variety of lithologies suggest the site was intensively occupied over multiple occupation phases. The site is considered to be rare within the local context" (Artefact 2017: 43). Artefact further concludes that the obtaining of an Aboriginal Heritage Impact Permit (AHIP) will be necessary if further works are to impact this site and that archaeological salvage operations should also be undertaken following the issuance (Artefact 2017: 1)."

The study area contains a number of landforms, specifically, raised terraces overlooking drainage lines that are similar to or associated with the landform that contain YTOF_AS_9 (AHIMS #52-5-0848[A1]). Given this, as well as the study

area's key location within the Macquarie Rivulet catchment, testing of other raised terraces will play a big role in our better understanding of the Aboriginal archaeological and cultural significance of this area.

3. PREDICTIVE MODEL

The following model has been developed to try and predict the nature and extent of Aboriginal cultural heritage within the study area:

Using the study area's environmental context and previous archaeological investigations within the local area, Austral has determined that there are three areas of high archaeological potential and one large area of moderate potential surrounding the high. Each of these areas were chosen based on their landform element, their proximity to water and their reduced likelihood for inundation during periods of heavy rainfall, as well as their overall similarities with other, previously investigated sites. Based on these criteria, it is predicted that open artefact scatters and associated PADs will most likely occur in these areas highlighted in Map 2 attached to this letter.

4. ABORIGINAL CULTURAL HERITAGE CONSULTATION

The Aboriginal people of Australia are part of the oldest and continuous living cultures in human history. Aboriginal people's cultural heritage is recognised and valued as a unique and essential component of the identity of all Australian people.

Aboriginal cultural heritage provides the essential links between the past and the present – it is an essential part of Aboriginal people's cultural identity, connection and sense of belonging to Country.

The objective of community consultation is to ensure Aboriginal people have the opportunity to improve assessment outcomes by:

- Providing relevant information about the cultural significance and values of the Aboriginal objects and/or place
- Influencing the design of the method to assess cultural and scientific significance of Aboriginal objects and places.
- Actively contributing to the development of cultural heritage management options and recommendations for any Aboriginal objects and/or places within the proposed project area
- Commenting on draft assessment reports before they are submitted by the proponent to DPIE.

To meet these objectives Department of Planning, Industry and Environment (DPIE) [formally OEH & DECCW] have developed four stages of consultation which must be met for each cultural heritage assessment. There are a number of mandatory timeframes associated with the Consultation Requirements, these are summarised in Table 1.

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Input required: Feedback on the project proposal including the nature, scope and methodology. Raise any concerns about cultural perspectives or assessment requirements.

Stage 3: Gathering information about cultural significance.

Input required: Contribute to culturally appropriate information gathering and the research methodology. Provide information that will enable the cultural significance of Aboriginal objects and/or places within the proposed project area. Have input into the development of any cultural heritage management options.

Stage 4: Review of draft cultural heritage assessment report.

Input required: Provide feedback on any aspect of the draft ACHA report.

5. EXCAVATION STRATEGY

In order to fully assess the nature and extent of the archaeological deposit, Austral Archaeology have developed an archaeological testing methodology which follows the requirements of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (the *CoP*) (DECCW 2010).

Our test excavation methodology is based on the *CoP* which states that all "test excavations must be excavated using hand tools only" and "the first excavation [pit] must be excavated in 5 cm spits at each area – either PAD or site – being investigated. Based on the evidence of the first excavation [pit], 10 cm spits or sediment profile/stratigraphic excavation (whichever is smaller) may then be implemented" (2010, p.26). The *CoP* is also clear on how many test pits should be excavated and their placement.

It is estimated that a sample of at most 60 test pits will be excavated during the testing phase. We have determined that, based upon the size of PAD 1 and PAD 2 and the study area's overall potential, this would be completed by a team of 2 archaeologists and 2 Aboriginal stakeholders, during the course of 8 days.

The following excavation methodology will be employed for the test excavations:

- The hand excavation of 500 x 500 millimetre test pits across a series of transects located at a maximum spacing of 20 metres apart in areas considered to have high and moderate sensitivity.
- All excavation will be conducted by hand, and the excavation of initial test pits will proceed in 50 millimetres spits. Based on the results of the initial test pits, subsequent test pits will be excavated either in 100 millimetre spits or by stratigraphic unit, dependant on which unit is smaller.
- Recording of each test pit will be conducted during excavation using either printed *pro forma* or with *digital pro forma* stored on an electronic tablet.
- 100% of excavated potential artefact bearing deposit will be sieved. Austral has allowed for dry sieving as part of the excavation program. Dependant on the soils encountered and site conditions, material may need to be wet sieved. Water for the sieving station would be provided by a water tanker and pump.
- Artefacts will be collected from the sieves and bagged according to excavation pit provenance. Each test pit will be backfilled to the best of our ability with the sieved material excavated from the pits at the conclusion of the testing program.
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Artefact Collection and Storage

Collection and salvage of all artefacts will be undertaken according to the following methodology. Austral has allowed for the analysis of a maximum of 100 artefacts as part of the testing program.

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- The landowner on whose property this area may be located is to be approached for consent to return the Aboriginal archaeological material to site. If the site where the artefacts are to be returned is situated upon Crown Land then the appropriate authority managing the Local Government Area is to be approached and informed.
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Should it be necessary to move these artefacts at a later date, it is a requirement that a Care and Control agreement be completed as part of any AHIP application. This will require the identified Aboriginal stakeholders and the OEH to be consulted over a suitable relocation site. This new site will also require GPS co-ordinates and all necessary details to be recorded with the OEH AHIMS.

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An ACHAR will be prepared that documents the assessment Aboriginal cultural heritage values, potential harm to these values as part of the project and strategies to manage any impacts. The ACHAR will be prepared in accordance with the Consultation Requirements, Code of Practice and *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (2010, 2010, Office of Environment and Heritage 2011).

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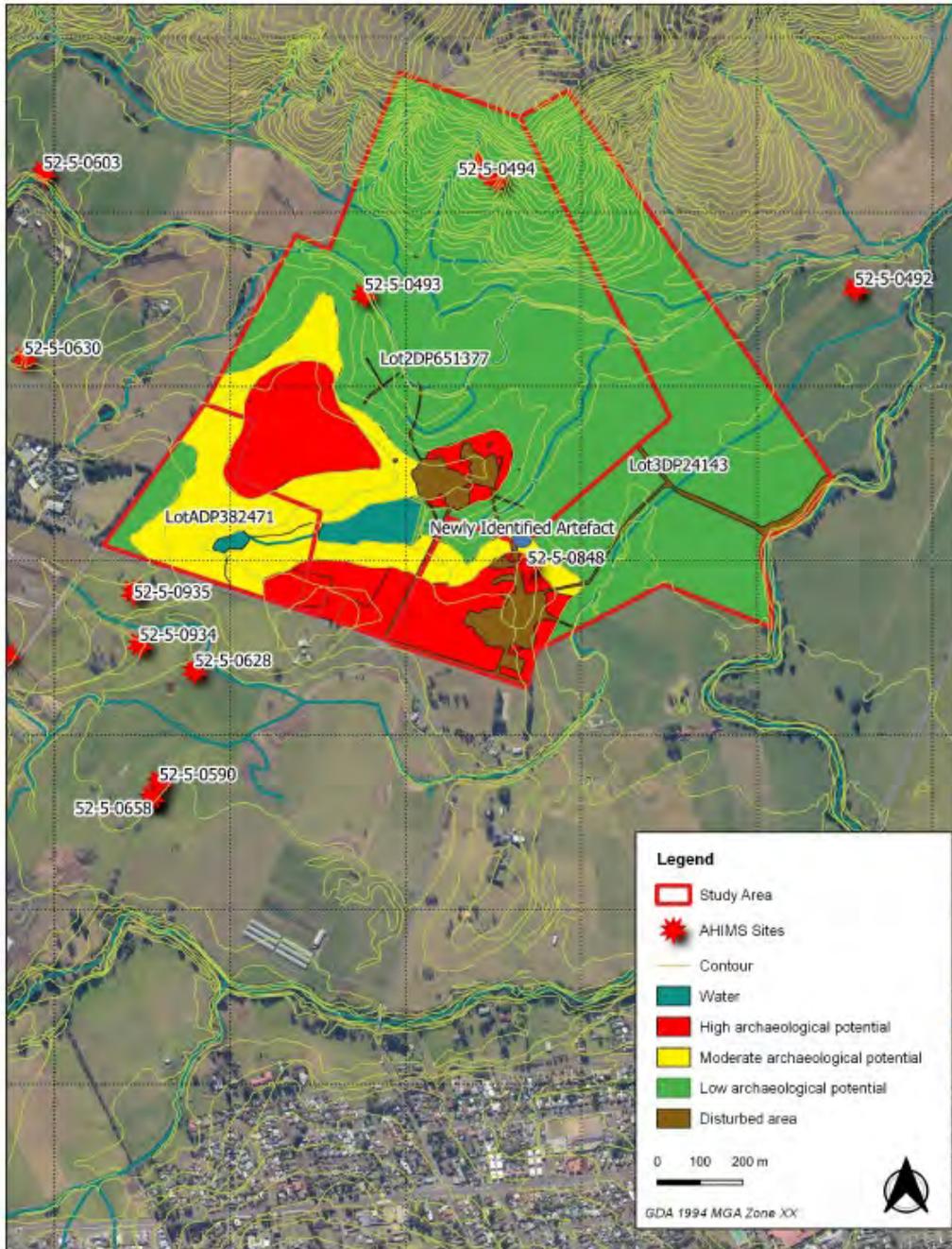


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144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:21 PM
To: biamangachts@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Biamanga (Murrin Clan/Peoples)
 Seli Storer

Dear Seli,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

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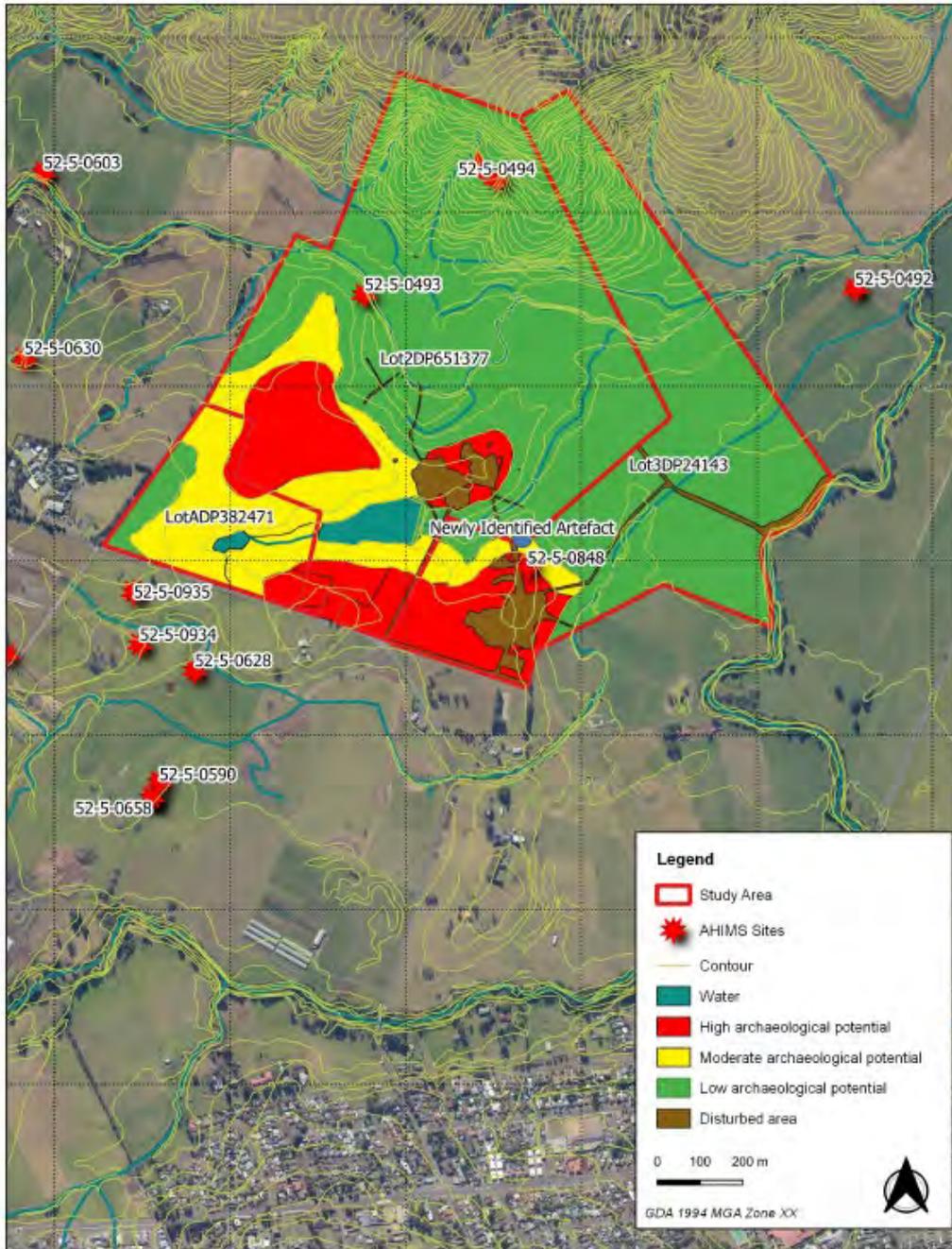


Figure 1.2 Aerial map of the study area in relation to surrounding suburbs

144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:21 PM
To: bilingachts@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Bilinga (Murrin Clan/Peoples)
 Simalene Carriage

Dear Simalene,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

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[The study area contains a number of landforms, specifically, raised terraces overlooking drainage lines that are similar to or associated with the landform that contain YTOF_AS_9 (AHIMS #52-5-0848[A1]). Given this, as well as the study

area’s key location within the Macquarie Rivulet catchment, testing of other raised terraces will play a big role in our better understanding of the Aboriginal archaeological and cultural significance of this area.

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Please note that the final decision on the employment of individuals to assist with the project rests with the Proponent.

Please take the time to read this letter and the associated report, and please feel free to contact me on any of the numbers provided below should you wish to raise any concerns or if you require additional information.

Please ensure that your reply reaches this office no later than 29/05/2020 and thank you for your help with this matter.

Please do not hesitate to contact me on 0419 264 344 if you wish to discuss any aspect of this submission.

Yours sincerely,



Pauline Ramsey
Archaeologist
Austral Archaeology
46 Railway Street, Liverpool, 2170
M 0419 264 344
E pauliner@australarch.com.au

7. REFERENCES

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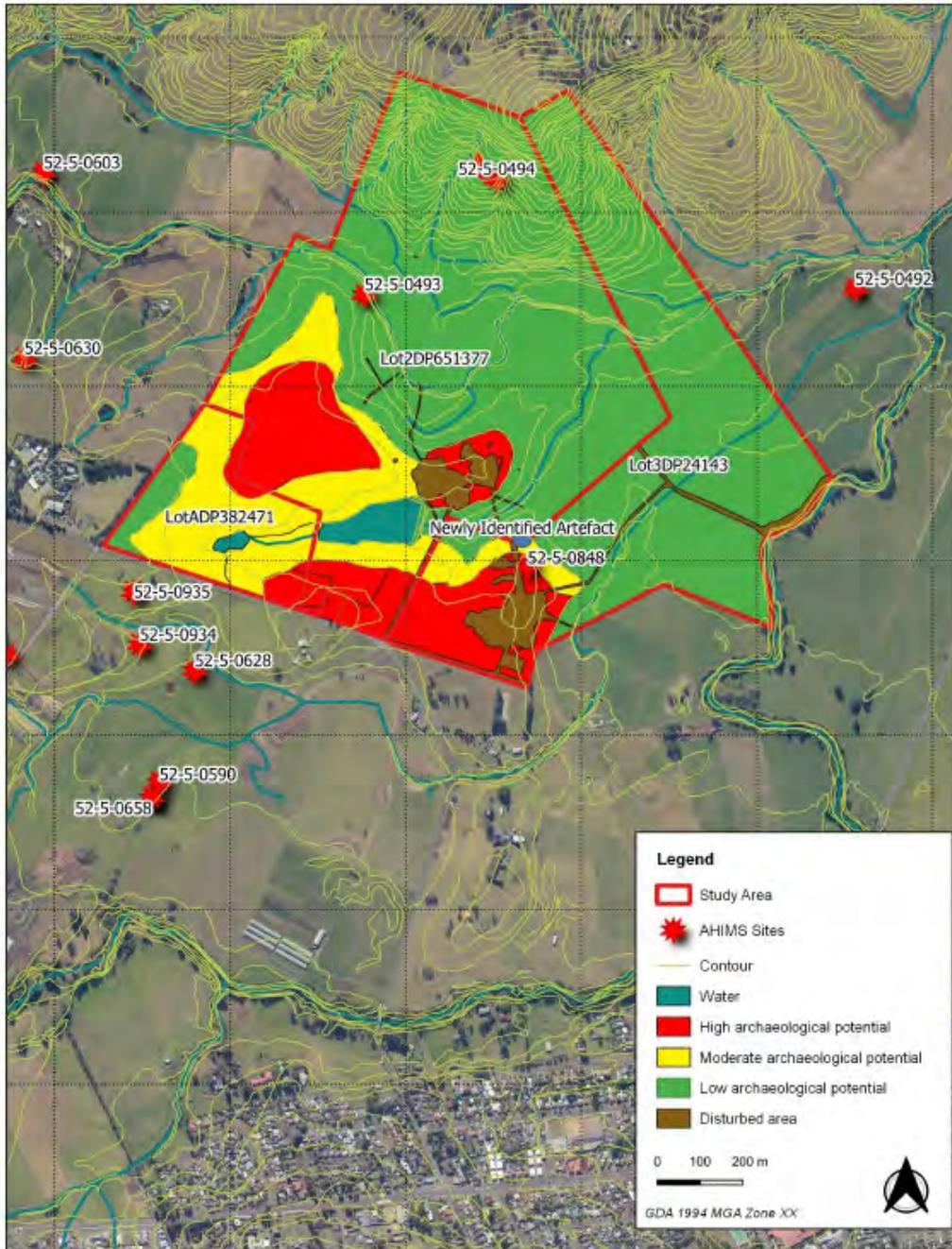


Figure 1.2 Aerial map of the study area in relation to surrounding suburbs

144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:21 PM
To: gundungurratectribseices@gmail.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Gundungurra Tribal Technical Services
 Teangi Mereki Foster
 1/6 Central Avenue NSW
 OEK FLATS

Dear Teangi Mereki,

RE: ABORIGINAL CULTURAL HERITAGE ASSESSMENT: 144 CALDERWOOD, CALDERWOOD, NEW SOUTH WALES

I am writing to you as a Registered Aboriginal Party (RAP) for the proposed subdivision at 144 Calderwood, Calderwood, New South Wales (NSW). This letter provides project information and a methodology for the preparation of an Aboriginal Cultural Heritage Assessment (ACHA) for the study area. This information is being requested in accordance with Stages 2 and 3 of the *Aboriginal cultural heritage consultation requirements for proponents 2010* (Department of Environment, Climate Change and Water NSW 2010) [DECCW].

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In order to properly gauge the extent of the Aboriginal archaeological and cultural significance of the study area, Austral is proposing to undertake an archaeological survey as well as additional test excavations as part of the project. Archaeological testing will be completed in accordance with Requirement 16 of the *Code of Practice for the archaeological investigation of Aboriginal objects in NSW* (Department of Environment, Climate Change and Water 2010).

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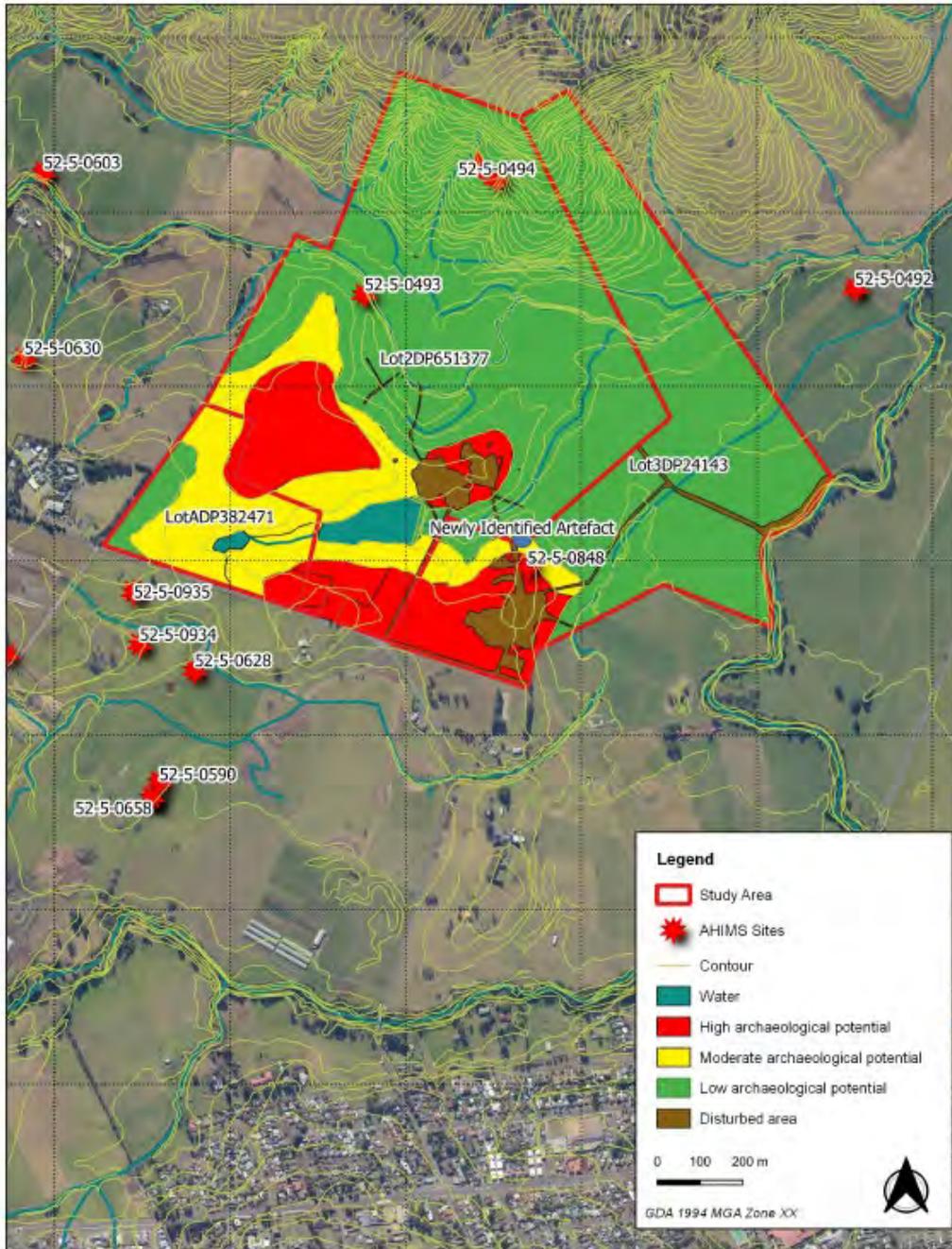


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Drawn by: PR Date: 30/04/2020



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Source: NSW Department of Land Aerials

Drawn by: Pauline Ramsey Date: 20/04/2020

Pauline Ramsey

From: Pauline Ramsey
Sent: Friday, 1 May 2020 5:21 PM
To: troytungai72@outlook.com
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Reference: 2013
 1 May 2020

Tungai Tonghi
 Troy Tungai
 10 Paterson Place NSW
 Barrack Heights

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Input required: Provide feedback on any aspect of the draft ACHA report.

5. EXCAVATION STRATEGY

In order to fully assess the nature and extent of the archaeological deposit, Austral Archaeology have developed an archaeological testing methodology which follows the requirements of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (the *CoP*) (DECCW 2010).

Our test excavation methodology is based on the *CoP* which states that all "test excavations must be excavated using hand tools only" and "the first excavation [pit] must be excavated in 5 cm spits at each area – either PAD or site – being investigated. Based on the evidence of the first excavation [pit], 10 cm spits or sediment profile/stratigraphic excavation (whichever is smaller) may then be implemented" (2010, p.26). The *CoP* is also clear on how many test pits should be excavated and their placement.

It is estimated that a sample of at most 60 test pits will be excavated during the testing phase. We have determined that, based upon the size of PAD 1 and PAD 2 and the study area's overall potential, this would be completed by a team of 2 archaeologists and 2 Aboriginal stakeholders, during the course of 8 days.

The following excavation methodology will be employed for the test excavations:

- The hand excavation of 500 x 500 millimetre test pits across a series of transects located at a maximum spacing of 20 metres apart in areas considered to have high and moderate sensitivity.
- All excavation will be conducted by hand, and the excavation of initial test pits will proceed in 50 millimetres spits. Based on the results of the initial test pits, subsequent test pits will be excavated either in 100 millimetre spits or by stratigraphic unit, dependant on which unit is smaller.
- Recording of each test pit will be conducted during excavation using either printed *pro forma* or with *digital pro forma* stored on an electronic tablet.
- 100% of excavated potential artefact bearing deposit will be sieved. Austral has allowed for dry sieving as part of the excavation program. Dependant on the soils encountered and site conditions, material may need to be wet sieved. Water for the sieving station would be provided by a water tanker and pump.
- Artefacts will be collected from the sieves and bagged according to excavation pit provenance. Each test pit will be backfilled to the best of our ability with the sieved material excavated from the pits at the conclusion of the testing program.
- Each test pit will be backfilled to the best of our ability with the sieved material excavated from the pits at the conclusion of the testing program

Artefact Collection and Storage

Collection and salvage of all artefacts will be undertaken according to the following methodology. Austral has allowed for the analysis of a maximum of 100 artefacts as part of the testing program.

- Each artefact identified during the subsurface testing will be relocated and temporarily stored at Austral's head office located at 46 Railway Street, Liverpool NSW. After the submission of the final subsurface testing report, the collected Aboriginal material will be taken to a location within or near to the study area previously agreed upon by INDESCO and all registered Aboriginal stakeholders for reburial in accordance with requirements of the Code.
- The landowner on whose property this area may be located is to be approached for consent to return the Aboriginal archaeological material to site. If the site where the artefacts are to be returned is situated upon Crown Land then the appropriate authority managing the Local Government Area is to be approached and informed.
- A representative of all registered Aboriginal stakeholders and Cardno are to be invited to attend/participate in the return of artefacts to country.
- A GPS recording of the location is to be made and recorded as a new Aboriginal site. A site card will be completed, and the resulting site registered on the OEH's AHIMS database.

Should it be necessary to move these artefacts at a later date, it is a requirement that a Care and Control agreement be completed as part of any AHIP application. This will require the identified Aboriginal stakeholders and the OEH to be consulted over a suitable relocation site. This new site will also require GPS co-ordinates and all necessary details to be recorded with the OEH AHIMS.

6. ABORIGINAL CULTURAL HERITAGE ASSESSMENT REPORT

An ACHAR will be prepared that documents the assessment Aboriginal cultural heritage values, potential harm to these values as part of the project and strategies to manage any impacts. The ACHAR will be prepared in accordance with the Consultation Requirements, Code of Practice and *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (2010, 2010, Office of Environment and Heritage 2011).

The ACHAR will include at a minimum the following content:

- Steps completed as part of the Aboriginal consultation process.
- Analysis of the environmental context of the study area.
- Summary of Aboriginal archaeological studies in the region and their results.
- Predictive statements relating to the nature of Aboriginal sites and values within the locality.
- Results of the archaeological survey and test excavation results.
- Details of Aboriginal sites identified and an assessment of their significance.
- Impact Assessment
- Management Strategies

As part of Stage 4 of the Consultation Requirements, Aboriginal stakeholders will be provided with the draft ACHAR for their review and comment. Any comments and responses to these comments by Austral or the proponent will be documented in the final ACHAR. Austral will respond to all comments received and will outline how these have been considered and/or implemented as part of the final ACHAR (DECCW 2010, p.6).

Please note that the final decision on the employment of individuals to assist with the project rests with the Proponent.

Please take the time to read this letter and the associated report, and please feel free to contact me on any of the numbers provided below should you wish to raise any concerns or if you require additional information.

Please ensure that your reply reaches this office no later than 29/05/2020 and thank you for your help with this matter.

Please do not hesitate to contact me on 0419 264 344 if you wish to discuss any aspect of this submission.

Yours sincerely,



Pauline Ramsey
Archaeologist
Austral Archaeology
46 Railway Street, Liverpool, 2170
M 0419 264 344
E pauliner@australarch.com.au

7. REFERENCES

Department of Environment, Climate Change and Water 2010, 'Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales'.

Department of Environment, Climate Change and Water NSW 2010, 'Aboriginal cultural heritage consultation requirements for proponents 2010'.

Office of Environment and Heritage 2011, 'Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW'.

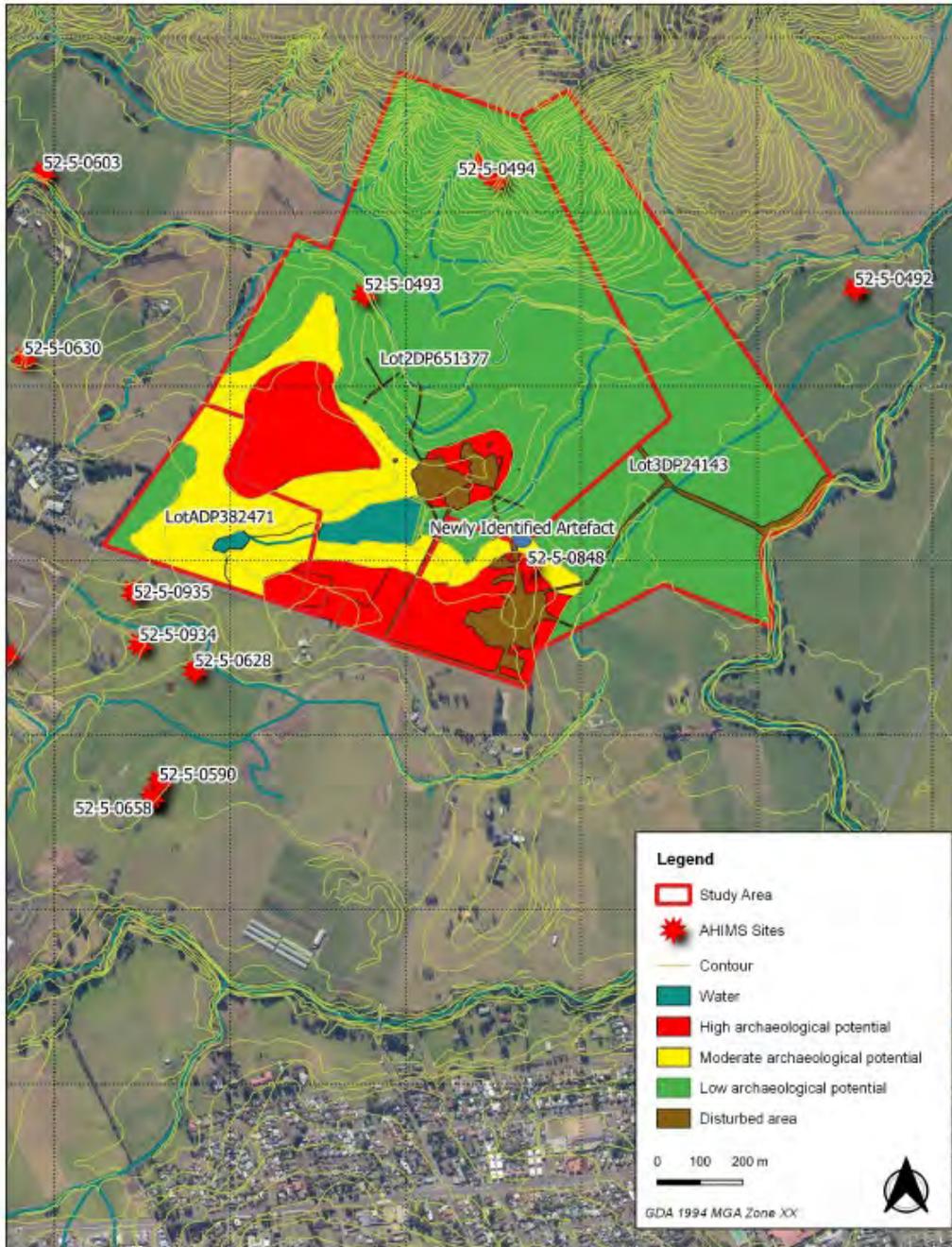


Figure 1.2 Aerial map of the study area in relation to surrounding suburbs

144 Calderwood Road

Source: NSW Aerials

Drawn by: PR Date: 30/04/2020



Aboriginal archaeological potential within study area

144 Calderwood, Calderwood NSW

Source: NSW Department of Land
Aerials

Drawn by: Pauline Ramsey Date:
20/04/2020

Pauline Ramsey

From: Blaan Davies <bd875@uowmail.edu.au>
Sent: Friday, 1 May 2020 9:39 PM
To: Pauline Ramsey
Subject: Re: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Thank you Pauline for conducting the assessment of stage 2 & 3, on behalf Aboriginal peoples. i would like to be engaged with any further development of this project.

regards

Blaan Davies
Yuin/Eloura Nation
Wodi-Wandian
Dhwaral Custodian
Eastern, South Coast Peoples
bd875@uowmail.edu.au
0413208344

Pauline Ramsey

From: yurrandaali_cs@outlook.com
Sent: Tuesday, 12 May 2020 12:34 PM
To: Pauline Ramsey
Subject: Re: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Dear Pauline

Yurrandaali Pty Ltd has read and agrees with the methodology for this project

Thanks
Bo Field

Pauline Ramsey

From: Muragadi <muragadi@yahoo.com.au>
Sent: Tuesday, 12 May 2020 2:14 PM
To: Pauline Ramsey
Subject: RE: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Dear Pauline,
I have read the project information and ACHA, I agree with the recommendations made.
Thanks
Jesse Carroll Johnson

From: Pauline Ramsey [mailto:pauliner@australarch.com.au]
Sent: Friday, 1 May 2020 5:21 PM
To: muragadi@yahoo.com.au
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Pauline Ramsey

From: Ryan Johnson <murrabidgeemullangari@yahoo.com.au>
Sent: Monday, 11 May 2020 1:18 PM
To: Pauline Ramsey
Subject: RE: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Dear Pauline,
I have read the project information and methodology for the above project, I endorse the recommendations made.
Thanks

Ryan Johnson | Murra Bidgee Mullangari
0475565517



Aboriginal Corporation Cultural Heritage

A: PO Box 246, Seven Hills, NSW, 2147
E: murrabidgeemullangari@yahoo.com.au
ICN: 8112

Pauline Ramsey

From: Troy Tungai <Troytungai72@outlook.com>
Sent: Saturday, 2 May 2020 10:26 AM
To: Pauline Ramsey
Subject: Re: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

Hi Pauline

Thanks for your email I have read the methodology it's sounds good to me I agree with everything you said and I also would like

To put my expression of interest for this upcoming project as I have a lot of cultural knowledge in this area thanks
troytungai72

Sent from [Outlook](#)

From: Pauline Ramsey <pauliner@australarch.com.au>
Sent: Friday, 1 May 2020 5:20 PM
To: troytungai72@outlook.com <troytungai72@outlook.com>
Subject: 144 Calderwood Cultural Heritage Assessment Stage 2 & 3

APPENDIX A.4 STAGE 4 CONSULTATION DOCUMENTATION

NOT INCLUDED FOR PRIVACY PURPOSES. INFORMATION CAN BE SUPPLIED ON REQUEST. TO BE INSERTED IN THE FINAL REPORT

From: [Miles Robson](mailto:milesr@australarch.com.au)
To: raymond@bariyu.org.au
Subject: 2013_Dairy Meadows Estate
Date: Tuesday, 22 September 2020 5:06:00 PM
Attachments: [2013 Dairy Meadows Estate Calderwood ACHA Draftv2 20200922.pdf](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)

Hi Raymond,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
BA. (Hons) Arch.

M: 0411 842 200
P: 02 9568 6701
E: milesr@australarch.com.au



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To: djirawjdch@gmail.com
Subject: 2013_Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 5:11:00 PM
Attachments: 2013 Dairy Meadows Estate Calderwood ACHA Draftv2 20200922.pdf
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)

Hi Aaron,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
BA. (Hons) Arch.

M: 0411 842 200
P: 02 9568 6701
E: milesr@australarch.com.au



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To: baduchts@gmail.com
Subject: 2013_Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 5:28:00 PM
Attachments: [2013 Dairy Meadows Estate Calderwood ACHA Draftv2 20200922.pdf](#),
[image002.png](#),
[image003.png](#),
[image004.png](#),
[image005.png](#)

Hi Karia,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
BA. (Hons) Arch.

M: 0411 842 200
P: 02 9568 6701
E: milesr@australarch.com.au



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To: bunjilsmith@gmail.com
Subject: 2013_Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 5:07:00 PM
Attachments: [2013 Dairy Meadows Estate Calderwood ACHA Draftv2 20200922.pdf](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)

Hi Basil,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
BA. (Hons) Arch.

M: 0411 842 200
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E: milesr@australarch.com.au



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To: hb1alc@bigpond.com
Subject: 2013_Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 5:16:00 PM
Attachments: [2013 Dairy Meadows Estate Calderwood ACHA Draftv2 20200922.pdf](#)
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[image003.png](#)
[image004.png](#)
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Hi Colin,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
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M: 0411 842 200
P: 02 9568 6701
E: milesr@australarch.com.au



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To: biamangachts@gmail.com
Subject: 2013_Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 5:03:00 PM
Attachments: [2013 Dairy Meadows Estate Calderwood ACHA Draftv2 20200922.pdf](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)

Hi Seli,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
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M: 0411 842 200
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To: bjlingachts@gmail.com
Subject: 2013_Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 5:54:00 PM
Attachments: [2013 Dairy Meadows Estate Calderwood ACHA Draftv2 20200922.pdf](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)

Hi Simalene,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
BA. (Hons) Arch.

M: 0411 842 200
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E: milesr@australarch.com.au



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From: [Miles Robson](#)
To: bd875@uow.edu.au
Subject: 2013_Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 5:09:00 PM
Attachments: [2013 Dairy Meadows Estate Calderwood ACHA Draftv2 20200922.pdf](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)

Hi Blaen,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
BA. (Hons) Arch.

M: 0411 842 200
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E: milesr@australarch.com.au



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To: "Bo Field"
Subject: 2013_Dairy Meadows Estate ACHA
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[image004.png](#)
[image005.png](#)

Hi Bo,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
BA. (Hons) Arch.

M: 0411 842 200
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E: milesr@australarch.com.au



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From: [Miles Robson](mailto:milesr@australarch.com.au)
To: clive.freeman@7mail.com
Subject: 2013_Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 5:05:00 PM
Attachments: [2013 Dairy Meadows Estate Calderwood ACHA Draftv2 20200922.pdf](#)
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[image003.png](#)
[image004.png](#)
[image005.png](#)

Hi Clive,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
BA. (Hons) Arch.

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To: coomaditchie@gmail.com
Subject: 2013_Dairy Meadows Estate ACHA
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Attachments: [2013 Dairy Meadows Estate Calderwood ACHA Draftv2 20200922.pdf](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)

Hi Lorraine,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
BA. (Hons) Arch.

M: 0411 842 200
P: 02 9568 6701
E: milesr@australarch.com.au



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To: cullendullachts@gmail.com
Subject: 2013_Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 5:01:00 PM
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[image005.png](#)

Hi Corey,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
BA. (Hons) Arch.

M: 0411 842 200
P: 02 9568 6701
E: milesr@australarch.com.au



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To: darrylcaines8@gmail.com
Subject: 2013_Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 5:17:00 PM
Attachments: [2013 Dairy Meadows Estate Calderwood ACHA Draftv2 20200922.pdf](#)
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[image004.png](#)
[image005.png](#)

Hi Darryl,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
BA. (Hons) Arch.

M: 0411 842 200
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E: milesr@australarch.com.au



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From: Miles Robson
To: "dharrugchts@gmail.com"
Subject: 2013_Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 5:12:00 PM
Attachments: [2013 Dairy Meadows Estate Calderwood ACHA Draftv2 20200922.pdf](#),
[image002.png](#),
[image003.png](#),
[image004.png](#),
[image005.png](#)

Hi Andrew,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
BA. (Hons) Arch.

M: 0411 842 200
P: 02 9568 6701
E: milesr@australarch.com.au



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From: [Miles Robson](mailto:miles.robson@australarch.com.au)
To: dairylandobservations@gmail.com
Subject: 2013 Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 5:14:00 PM
Attachments: [2013 Dairy Meadows Estate Calderwood ACHA Draftv2 20200922.pdf](#),
[image002.png](#),
[image003.png](#),
[image004.png](#),
[image005.png](#)

Hi Anna,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
BA. (Hons) Arch.

M: 0411 842 200
P: 02 9588 8701
E: milesr@australarch.com.au



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To: duncanfalk@hotmail.com
Subject: 2013_Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 5:04:00 PM
Attachments: [2013 Dairy Meadows Estate Calderwood ACHA Draftv2 20200922.pdf](#)
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[image003.png](#)
[image004.png](#)
[image005.png](#)

Hi Duncan,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
BA. (Hons) Arch.

M: 0411 842 200
P: 02 9568 6701
E: milesr@australarch.com.au



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To: gayle.w@hotmail.com
Subject: 2013_Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 5:21:00 PM
Attachments: [2013 Dairy Meadows Estate Calderwood ACHA Draftv2 20200922.pdf](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)

Hi Gayle,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
BA, (Hons) Arch.

M: 0411 842 200
P: 02 9568 6701
E: milesr@australarch.com.au



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From: [Miles Robson](#)
To: gordy2540@hotmail.com
Subject: 2013_Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 5:22:00 PM
Attachments: 2013 Dairy Meadows Estate Calderwood ACHA Draftv2 20200922.pdf,
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)

Hi Gordon,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
BA. (Hons) Arch.

M: 0411 842 200
P: 02 9568 6701
E: milesr@australarch.com.au



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From: [Miles Robson](mailto:Miles_Robson)
To: gundungurrtribalservices@gmail.com
Subject: 2013_Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 5:11:00 PM
Attachments: 2013 Dairy Meadows Estate Calderwood ACHA Draftv2 20200922.pdf
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[image003.png](#)
[image004.png](#)
[image005.png](#)

Hi Christopher,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
BA. (Hons) Arch.

M: 0411 842 200
P: 02 9568 6701
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From: [Miles Robson](#)
To: ceo@ilalc.org.au
Subject: 2013_Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 5:36:00 PM
Attachments: 2013 Dairy Meadows Estate Calderwood ACHA Draftv2 20200922.pdf,
[image002.png](#)
[image003.png](#)
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[image005.png](#)

Hi Paul,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
BA. (Hons) Arch.

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Subject: 2013_Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 5:26:00 PM
Attachments: 2013 Dairy Meadows Estate Calderwood ACHA Draftv2 20200922.pdf,
image002.png
image003.png
image004.png
image005.png

Hi Jodi Anne,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
BA. (Hons) Arch.

M: 0411 842 200
P: 02 9568 6701
E: milesr@australarch.com.au



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Subject: 2013_Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 5:13:00 PM
Attachments: [2013 Dairy Meadows Estate Calderwood ACHA Draftv2 20200922.pdf](#),
[image002.png](#),
[image003.png](#),
[image004.png](#),
[image005.png](#)

Hi Karrial,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
BA. (Hons) Arch.

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To: [lee field](#)
Subject: 2013_Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 4:58:00 PM
Attachments: [2013 Dairy Meadows Estate Calderwood ACHA Draftv2 20200922.pdf](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)

Hi Lee,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
BA. (Hons) Arch.

M: 0411 842 200
P: 02 9568 6701
E: milesr@australarch.com.au



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From: [Miles Robson](mailto:miles.robson@australarch.com.au)
To: murramanghts@gmail.com
Subject: 2013_Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 5:40:00 PM
Attachments: [2013 Dairy Meadows Estate Calderwood ACHA Drafty2 20200922.pdf](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)

Hi Roxanne,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
BA. (Hons) Arch.

M: 0411 842 200
P: 02 9568 6701
E: milesr@australarch.com.au



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To: "murumbul@gmail.com"
Subject: 2013_Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 5:31:00 PM
Attachments: 2013 Dairy Meadows Estate Calderwood ACHA Draftv2 20200922.pdf
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)

Hi Mark,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
BA. (Hons) Arch.

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To: [Noel](#)
Subject: 2013_Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 5:34:00 PM
Attachments: [2013 Dairy Meadows Estate Calderwood ACHA Draftv2 20200922.pdf](#)
[image002.png](#)
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[image004.png](#)
[image005.png](#)

Hi Noel,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
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To: nundagurri@gmail.com
Subject: 2013_Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 5:34:00 PM
Attachments: [2013 Dairy Meadows Estate Calderwood ACHA Draftv2 20200922.pdf](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)

Hi Newton,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
BA. (Hons) Arch.

M: 0411 842 200
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Subject: 2013_Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 5:35:00 PM
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[image002.png](#)
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[image004.png](#)
[image005.png](#)

Hi Owen,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
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To: pemil@uoyd@gmail.com
Subject: 2013_Dairy Meadows Estate ACHA
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[image005.png](#)

Hi,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
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To: [Richard Campbell](#)
Subject: 2013_Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 5:26:00 PM
Attachments: [2013 Dairy Meadows Estate Calderwood ACHA Draftv2 20200922.pdf](#)
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[image003.png](#)
[image004.png](#)
[image005.png](#)

Hi Richard,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
BA. (Hons) Arch.

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To: [Ryan Johnson](#)
Subject: 2013_Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 5:17:00 PM
Attachments: [2013 Dairy Meadows Estate Calderwood ACHA Draftv2 20200922.pdf](#)
[image002.png](#)
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[image004.png](#)
[image005.png](#)

Hi Darleen,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
BA. (Hons) Arch.

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P: 02 9568 6701
E: milesr@australarch.com.au



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To: ["thoorganura@gmail.com"](mailto:thoorganura@gmail.com)
Subject: 2013_Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 5:27:00 PM
Attachments: [2013 Dairy Meadows Estate Calderwood ACHA Draftv2 20200922.pdf](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)

Hi John,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
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To: [Troy Tungai](#)
Subject: 2013_Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 5:30:00 PM
Attachments: 2013 Dairy Meadows Estate Calderwood ACHA Draftv2 20200922.pdf
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)

Hi Troy,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
BA. (Hons) Arch.

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To: walbunja@gmail.com
Subject: 2013_Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 5:24:00 PM
Attachments: [2013 Dairy Meadows Estate Calderwood ACHA Draftv2 20200922.pdf](#),
[image002.png](#),
[image003.png](#),
[image004.png](#),
[image005.png](#)

Hi Hika Te,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
BA. (Hons) Arch.

M: 0411 842 200
P: 02 9568 6701
E: milesr@australarch.com.au



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Subject: 2013_Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 5:25:00 PM
Attachments: 2013 Dairy Meadows Estate Calderwood ACHA Draftv2 20200922.pdf;
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[image005.png](#)

Hi James,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
BA. (Hons) Arch.

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To: walgalchts@gmail.com
Subject: 2013_Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 5:30:00 PM
Attachments: 2013 Dairy Meadows Estate Calderwood ACHA Draftv2 20200922.pdf
[image002.png](#)
[image003.png](#)
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[image005.png](#)

Hi Ronald,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
BA. (Hons) Arch.

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To: baduchts@gmail.com
Subject: 2013_Dairy Meadows Estate ACHA
Date: Tuesday, 22 September 2020 4:57:00 PM
Attachments: [2013 Dairy Meadows Estate Calderwood ACHA Draftv2 20200922.pdf](#)
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[image005.png](#)

Hi Karia,

Please find attached the amended draft of the ACHA for Dairy Meadows Estate, Calderwood for your review.

Regards,

Miles Robson
Senior Archaeologist
BA. (Hons) Arch.

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APPENDIX B – MINUTES FROM HERITAGE NSW MEETING



MEETING MINUTES

PROJECT NAME: 144 CALDERWOOD ROAD

Project No: ISC00168

Meeting Date: 21 July 2020

Location: Via Microsoft Teams

Item	Action
1. Attendance	
Jackie Taylor Team Leader, Aboriginal Cultural Heritage Regulation, Heritage NSW	Alex Beben Archaeological Consultant, Austral Archaeology Pty Ltd
Rose O'Sullivan Archaeologist, Aboriginal Cultural Heritage Regulation, Heritage NSW	Ryhan Thomson Lead Consultant, Indesco South Coast
Paul Nichols Developer, Illawarra Land Corp	
2. Apologies	
Nil	
3. Distribution	
All attendees	
4. Introductions	
<p>Paul advised that the developer was pleased to have arranged extensive investigations at the onset of the project (after having heard of the significant archaeological finds at the adjoining Tate Dairy Expansion site to the east), and was appreciative of the opportunity to discuss the findings with Heritage NSW prior to preparation of the draft ACHAR report.</p> <p>Ryhan reiterated the value of the extensive archaeological investigations in being able to develop a preliminary lot layout that reflects the archaeological sensitivity of the site, which is crucial in obtaining support for the planning proposal that Indesco had been commissioned to coordinate, to rezone the site for residential land use consistent with the Illawarra Regional Plan 2015.</p>	
5. Summary of ACHAR Investigations	
<p>Alex provided an overview of the archaeological investigations that were carried out in June 2020, including commentary on landforms that were considered to have archaeological potential, particularly the sandy knoll where the farm buildings of Greys Farm are located.</p> <p>Alex presented an aerial photograph to the meeting outlining the locations of approximately 100 test pits that were excavated. In summary, there was up to 20 artefacts/m² in test pits immediately north and east of the farm buildings on Greys Farm, with low densities elsewhere including on the adjoining property to the west (also owned by the Tate Dairy).</p>	

Ref: 2020-07-21 Minutes of Teams Meeting For Issue

1



Item	Action
<p>In response to questions from Rose, Alex advised that:</p> <ul style="list-style-type: none"> • There were eleven geometric microliths and seven backed points. • Most of the artefacts were located at depths between 300 to 600 mm. 	
<p>6. Management Options for Areas of Archaeological Significance</p>	
<p>Ryhan asked the Heritage NSW representatives for their views on management of the area near the farm buildings where there was a significant density of artefacts.</p> <p>It was advised that conservation would be the preferred outcome, particularly given the clustering found on the Tate Dairy site which is an indication of the high degree of preservation of the artefacts on site.</p> <p>Care should be taken to ensure that development plans avoid disturbance of the site. Examples where unintended impacts may transpire is excavation associated with drainage works or electrical cable trenching for lighting purposes. Heritage NSW would like to see a scheme that avoided excavation.</p> <p>Key aspects of a successful conservation strategy would include:</p> <ul style="list-style-type: none"> • Engagement with the aboriginal community • Providing explanation of the history of the site to the public • Early involvement of Council in developing an appropriate long-term management plan. In terms of an appropriate level of active management, a mowed grass field would be suitable in this instance. • Securing an appropriate boundary for the conservation site at the rezoning stage. • Possible gazettal of the site as an aboriginal place as an option that could also be considered. • Public access, noting that Heritage NSW would not want to see the area fenced off. • Linkage of conservation outcomes with the Tate Dairy archaeological area, particularly with respect to the aboriginal community. 	<p>Note</p>
<p>7. Heritage NSW Expectations at Planning Proposal Stage</p>	
<p>Heritage NSW would like to see as much information as possible at the planning proposal stage, in particular:</p> <ul style="list-style-type: none"> • Management measures for the artefacts that have been found • Detailed assessment of curtilage requirements • Draft conservation plan. 	
<p>8. ACHAR Report</p>	
<p>Alex advised that the suggestions by Heritage NSW would be mentioned in the ACHAR report that is under preparation. This will also include guidance on the need for additional investigations at the DA stage, to the extent which may be necessary.</p>	<p>Austral</p>



Item		Action
9.	<p>Post-Meeting Actions</p> <p>In conjunction with input from Austral, the preliminary lot layout plan (Snapshot included at Figure 2 below) has been updated to reflect Heritage NSW comments including identification of appropriate curtilage, public access and car parking arrangements for the proposed conservation area/public park (Snapshot included at Figure 3 below).</p> <p>The plan is also accompanied by a typical cross-section across the conservation area showing the potential placement of additional topsoil to provide consistent fall across the area to avoid drainage issues and provide a more consistent surface in the future.</p> <p>This will ensure no drainage excavation works are inadvertently undertaken, as well as affording additional protection to the artefacts in the longer term from erosion and washing artefacts downslope lower into the floodplain. It will also facilitate further options for recreational use of the land should that be deemed appropriate.</p> <p>It is intended to present these drawings at the proposed pre-lodgement meeting with Council prior to submission of the planning proposal. Any further comments from Heritage NSW on the drawings would be welcome, including whether it is considered appropriate to include them in the ACHAR.</p>	<p>Heritage NSW invited to comment</p>

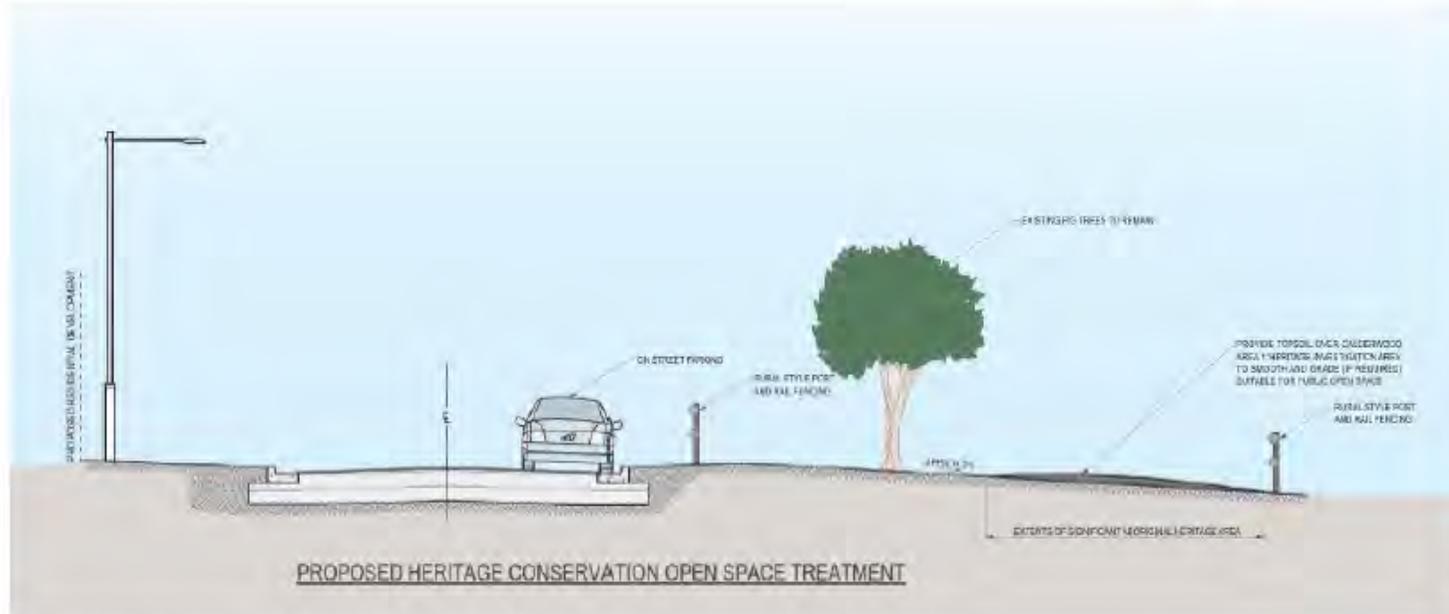


Figure 1: Proposed treatment of Heritage Conservation Area

Ref. 2020-07-21 Minutes of Teams Meeting For Issue



Figure 2: Proposed Concept Development plan prior to Aboriginal Test Excavations.



Figure 3: Revised Concept Development plan excluding residential development within areas of heritage importance.

Location of test pits identified to demonstrate offset of development from sensitive areas.

Ref: 2020-07-21 Minutes of Teams Meeting For Issue