Goulburn Mixed Use Development

Goulburn NSW

Archaeological Assessment and Aboriginal Cultural Heritage Assessment

Redacted

June 2019

Navin Officer

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Nicola Hayes	v6.1	Updated mapping	04/04/2019
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EXECUTIVE SUMMARY

This report documents the results of an archaeological and cultural heritage assessment of the Goulburn Mixed Use Development. The report was commissioned by KDC.

Goulburn Mixed Use Precinct development includes a poultry processing plant, a cold storage and distribution centre, a child-care facility, and other associated infrastructure such as car parking, office buildings and amenities.

The site is located at 52 Sinclair Street, Goulburn, 2580, Lot 22 DP 750050. The site is zoned B6 Enterprise Corridor, RU6 Transition and E3 Environmental Management. The total area of the site is approximately 82,606 m^2.

Field survey of the project area was undertaken on Wednesday 27th of February 2019.

The following sites were identified during archaeological survey:

- One culturally significant scarred tree (GMUPA-1)
- One isolated surface artefact (GMUPA-2)
- One surface artefact scatter with subsurface archaeological potential (GMUPA-3)
- One Potential Archaeological Deposit (GMUPA-PAD1)
- One historic artefact scatter (GMUPH-1

It is recommended that:

1. Where feasible, as a first priority, impacts to all Aboriginal sites should be avoided.

2. GMUPA-1 (culturally significant scarred tree) will not be impacted and should be clearly marked on all maps.

3. GMUPA-2 (isolated find) will not be impacted. This site should be clearly marked on all maps and fenced prior to construction to avoid inadvertent impacts during the construction phase.

4. Subsurface archaeological testing following the *Code of Practice* (2010) should be conducted at sites GMUPA-3 and GMUPA-PAD1 prior to any impact. This test excavation program would be completed as per the methodology outlined in Appendix 4.

5. Approval for an AHIP should be sought and obtained prior to the commencement of the proposed works. The AHIP should cover all areas of ground surface impact, as well as any further surface collection or subsurface excavation required within the project area.

6. All artefacts recovered during the testing and salvage programs would be returned to the study area and would be placed in a conservation area at a location chosen by the RAPs and according to the 'return to country' protocols outlined in Requirement 26 of the Code of Practice

7. Information in this report relating to the exact location of the Aboriginal sites detailed in this report should not be published or promoted in the public domain.

8. Where necessary, the protocols for unanticipated discoveries for Aboriginal and European sites and burials detailed in Appendix 3, shall be implemented.

9. One copy of this final report shall be provided to each of the Registered Aboriginal Parties.

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1. INTRODUCTION

1.1 Project Description

The project concerns a Mixed-Use Development, including a poultry processing plant, a cold storage and distribution centre, a child-care facility and other associated infrastructure such as car parking, office buildings and amenities (see Figure 1.1).

The site is located at 52 Sinclair Street, Goulburn, 2580, Lot 22 DP 750050. The site is zoned B6 Enterprise Corridor, RU6 Transition and E3 Environmental Management. The total area of the site is approximately 82,606 m^2. The site is located approximately 1.2 km south east of the Goulburn City Centre. Access to the site is via Common Street and is 400 m from Sydney Road which provides a link to Goulburn City Centre and the Hume Highway (see Figure 1.2 and 1.3).

No Aboriginal or historic cultural heritage sites were listed within the study area. Two AHIMS site recordings are located within 100 m of the study area (51-6-0235, 51-6-0237). These comprise an artefact scatter and an isolated find. These sites will not be impacted by the proposed development.

This report documents the results of an archaeological and cultural heritage assessment of the Goulburn Mixed Use Development. The report was commissioned by KDC.

1.2 Study Aims

The objective of this report is to identify and assess, through archaeological survey and background research, the Aboriginal and non-Aboriginal heritage constraints and possible impacts of the proposed Goulburn Mixed Use Development.

1.3 Project Framework

The proposed Goulburn Mixed Use development will be assessed under:

Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A ACT).

1.4 This Report

1.4.1 Outline

This report:

- Describes the proposed development/works etc (Section 1);
- Provides a description of the study area (Section 2);
- Describes consultation with Aboriginal people (Section 3);
- Provides a heritage context for the study area (Section 4);
- Describes the cultural heritage values and significance statement of the study area (Section 5);
- Describes the proposed activity (Section 6);
- Provides actions to avoid and minimise harm (section 7); and
- Provides management recommendations based on the results of the investigation (Section 8).

1.4.2 Restricted Information

Information in this report relating to the exact location of Aboriginal sites should not be published or promoted in the public domain.

Certain information provided by Aboriginal stakeholders in this report has been specifically identified as requiring access restrictions due to its cultural sensitivity (Section 4.2).

1.4.3 Confidentiality

No information in this report has been classified as confidential.

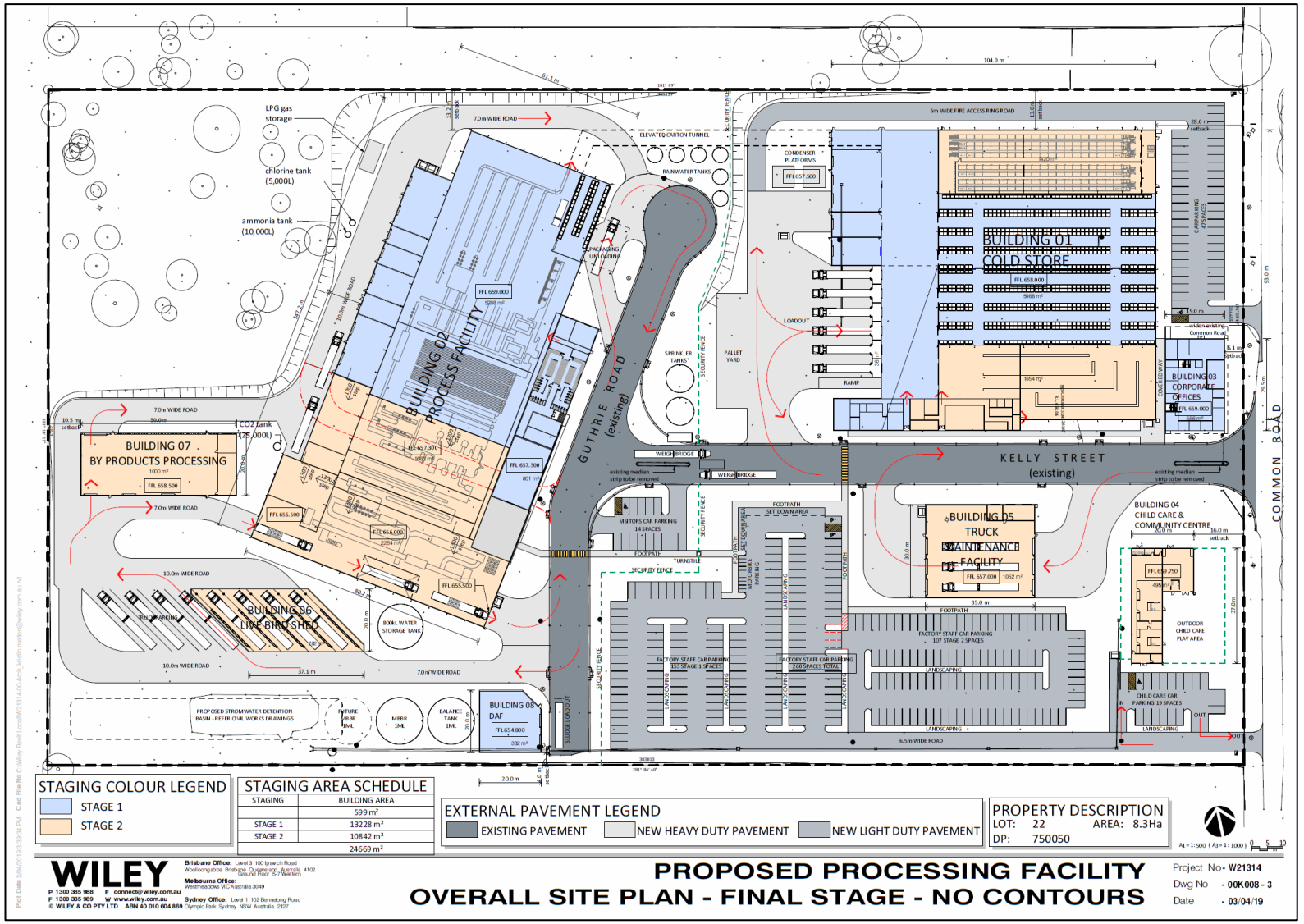

Figure 1.1 Proposed Project layout

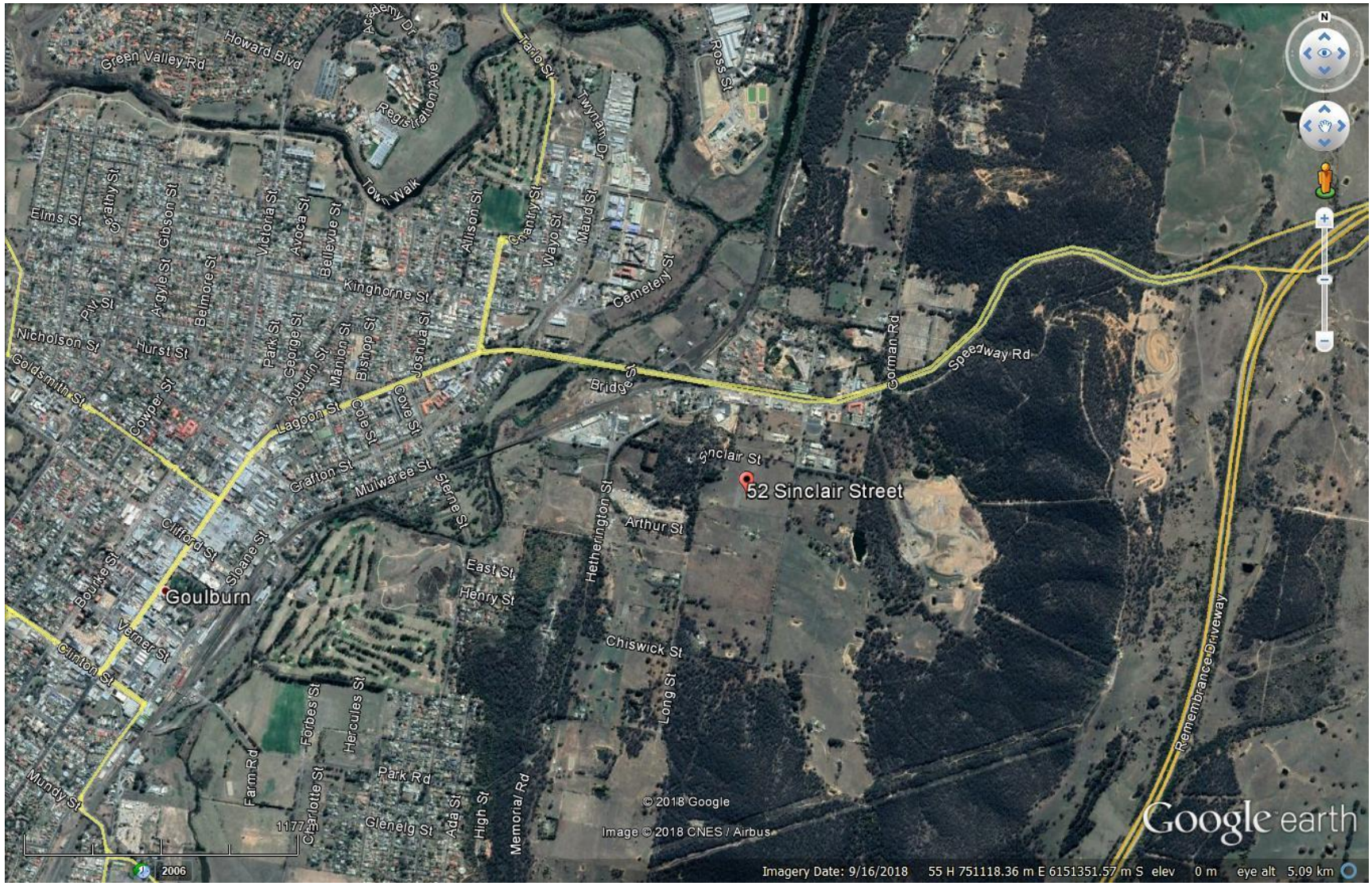

Figure 1.2 Location of the Goulburn Project Area, 52 Sinclair Street

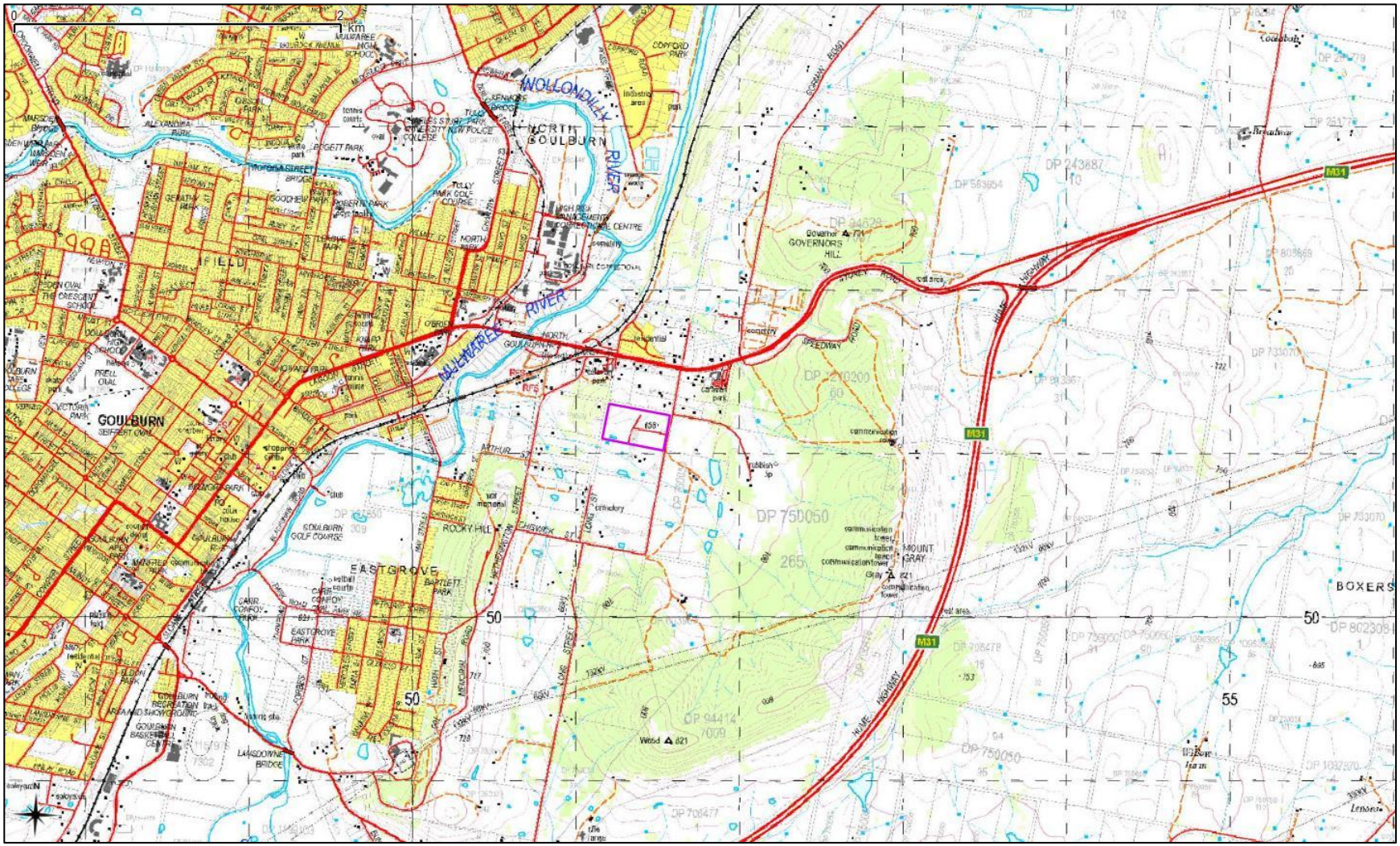

Figure 1.3 Location of Study Area (pink rectangle)

2. DESCRPTION OF THE AREA

2.1 Location of proposed activity

The site is located at 52 Sinclair Street, Goulburn, 2580, Lot 22 DP 750050. The study area is located approximately 1.2 km south east of the Goulburn City Centre. Access to the site is via Common Street and is 400 m from Sydney Road which provides a link to Goulburn City Centre and the Hume Highway (see Figure 1.2 and 1.3).

The study area is located in the lower to middle reaches of the Wollondily/Mulwaree River Catchment. The creek located 50-100 m south of the study area feeds into the Mulwaree River, which lies 900 metres downstream to the west.

The study area falls within the Goulburn Mulwaree Council LGA.

2.2 Environment

The northwest corner of the study area is characterised by a steep rocky hill with outcropping basalt and sandstones on the crest and upper slopes. The mid-slopes, especially those with an easterly aspect have very sandy deposits that have been a focus of rabbit burrowing. Most of the vegetation in the study area is located on the hill and incorporates a mix of older (>100 years old) and younger (<20 years old) endemic Eucalypts (e.g. E. blakeyi). There is also a stand of introduced pines (>80 years of age) on the south/southeast facing mid-slopes.

The north eastern portion of the study area is characterised by moderate to low gradient slopes with a southerly aspect. This area has been extensively cleared and impacted by the construction of sealed road as well as associated storm water drains which have been excavated perpendicular to the road alignments. In addition, significant earthworks have been associated with levelling the landscape prior to road construction. The soils in this area appear to be made up of shallow yellowy brown silts with variable shale, quartz and ironstone gravel inclusions. These deposits are underlain by clay deposits, which are event around ground exposures and disturbances associated with the installation of underground stormwater network.

The southern portion of the study area incorporates low gradient basal slopes and undulating alluvial flats, that slowly grade towards what is currently an ephemeral creek situated 50-100 m south of the study area. The microtopographic features that characterise the adjacent creek and its banks, suggests that there have been numerous primary and secondary alignments over time, likely characterised by a chain-of-ponds landscape. This area has been extensively cleared with a small portion impacted by the construction of sealed road, there is also a farm dam as well as drainage swales and berms for managing surface water runoff. Soils in this area are generally characterised by brown to yellowy brown sandy silts, with estimated soil depths ranging from 40-60cm, and possibly much deeper in alluvial deposits.

The underlying geology of the Goulburn/Mulwaree River area is dominated by weathered upper Ordovician shales and phyllites with later Tertiary sediments and basalt flows infilling prior drainage lines, creating a relatively low relief.

Figure 2.1 Panoramic view of the study area facing south

Figure 2.2 Aerial view mapping existing disturbances in the study area. Pink polygons represent benching and levelling earthworks associated with road construction. Red polygons represent earthworks associated with dam construction and drainage swales/berms. Yellow line marks the boundary of the study area.

2.3 Aboriginal objects and/or places

There are no known Aboriginal objects or places within the study area. Two AHIMS listed Aboriginal sites (#51-6-0235 & #51-6-0237) are located directly south of the study area and are located on contiguous landforms that stretch into the study area.

The locations of these sites will be discussed further and mapped in Section 5 of this report, which is focussed on the Aboriginal Heritage Context of the study area.

2.4 Aboriginal People's Use of the Landscape

The study area incorporates crests and mid-slopes transitioning into low gradient basal slopes and valley floor adjacent to an unnamed creek. The landforms adjacent to and within the valley floor would have been a focus for Aboriginal occupation and use, for its natural resources.

A discussion of the nature and distribution of archaeological traces that Aboriginal activity is likely to have left in the landscape is included in Section 5, which generates a predictive model of Aboriginal site location.

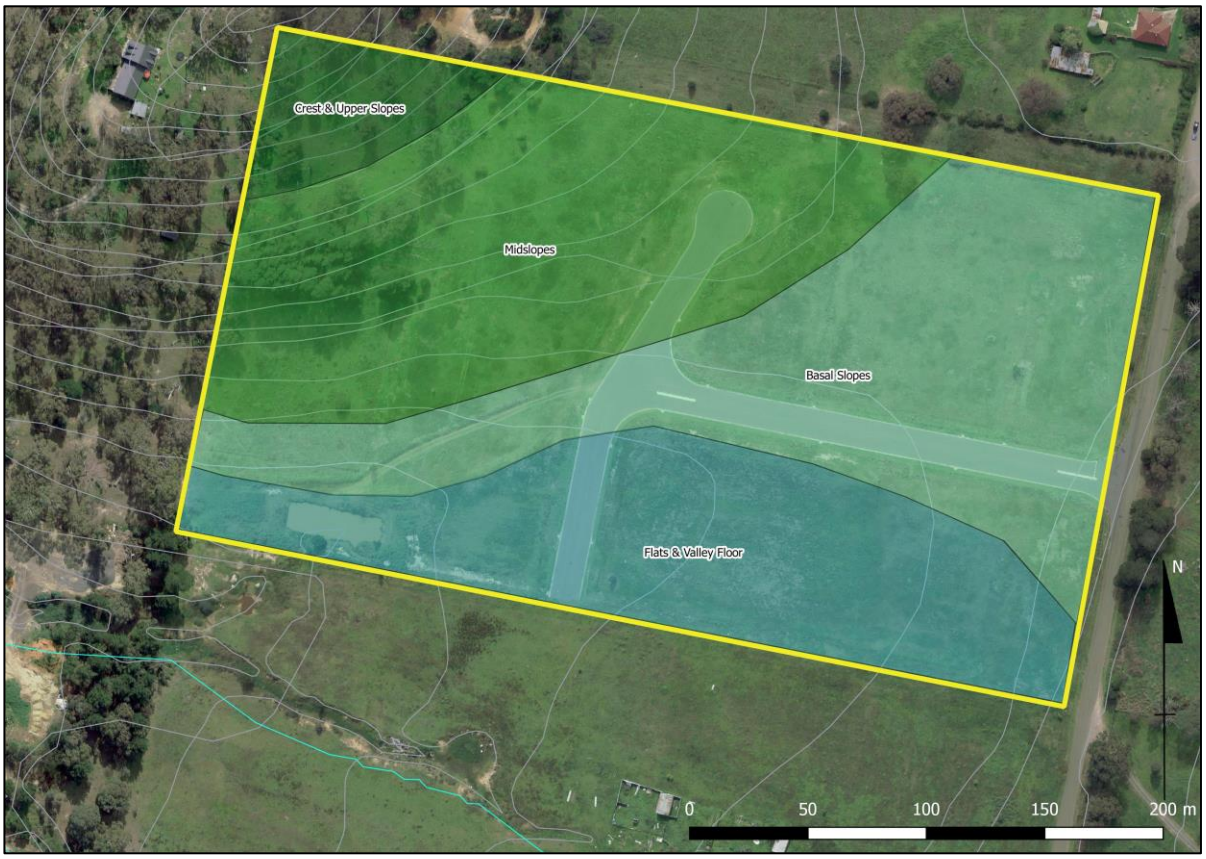

Figure 2.3 Map of landscape typologies within the study area

3. STUDY METHODOLOGY

3.1 Contributors

Field survey was carried out by archaeologists Adrian Cressey and Joel Mason (NOHC); with assistance from the Registered Aboriginal Party (RAP) representatives listed in Section 4.3.

This report was prepared by Adrian Cressey, with background research performed by Jasmine Fenyvesi. Adrian has a Bachelor Archaeological Practice with Honours from the Australian National University (ANU) and a Diploma in Environmental Science from the Canberra Institute of Technology (CIT). Jasmine has a Bachelor Archaeological Practice from the ANU.

Internal review of this report was completed by Nicola Hayes.

3.2 Literature and Database Review

A range of archaeological and historical data was reviewed for the Goulburn Mixed Use study area and its surrounds. This literature and data review was used to determine if known Aboriginal were located within the area under investigation, to facilitate site prediction on the basis of known regional and local site patterns, and to place the area within an archaeological and heritage management context. The review of documentary sources included heritage registers and schedules, local histories, and archaeological reports.

Aboriginal literature sources included the Aboriginal Heritage Information Management System (AHIMS) maintained by the NSW Office of Environment and Heritage (OEH) and associated files and catalogue of archaeological reports held in the library of the School of Archaeology and Anthropology, the Australian National University. Sources of historical information included regional and local histories, heritage studies and theses; parish maps; and where available, other maps, such as portion plans.

Searches were undertaken of the following statutory and non-statutory heritage registers and schedules:

- Statutory Listings:
    - Aboriginal Heritage Information Management System (AHIMS) (NSW OEH);
    - The National Heritage List (Australian Heritage Council);
    - The Commonwealth Heritage List (Australian Heritage Council);
    - The State Heritage Register (NSW Heritage Branch, Office of Environment and Heritage);
    - Heritage Schedule from the Goulburn Mulwaree Local Environmental Plan 2009.
- Non-Statutory Listings:
    - The State Heritage Inventory (NSW Heritage Branch, Office of Environment and Heritage);
    - The Register of the National Estate (Australian Heritage Council);
    - Register of the National Trust of Australia (NSW);

3.3 Field Methodology

Field survey of the project area was undertaken on Wednesday 27th of February 2019.

The archaeological field survey was completed on foot by 16 people walking transects and/or selected traverses, spaced about 5 m apart. The exact nature and arrangement of the transects/traverses conducted depended on an in-field assessment of visibility constraints and cultural and archaeological sensitivity.

Extra focus was applied to locations of already recorded sites or PADs and areas yielding high ground surface visibility/ exposures. Where feasible, all old-growth native trees in the study area were inspected for the presence of culturally derived scars.

Aboriginal field participants were encouraged to communicate knowledge regarding the cultural heritage values of the study area, archaeological and cultural sites, and the overall landscape.

3.3.1 Site Recording

All encountered surface archaeological objects, sites, potential archaeological deposits and places of Aboriginal cultural value were documented.

All sites had the following details recorded using standardised recording forms:

- Site name, recorder and date
- Site type
- GPS coordinates
- Landscape and landform character
- Context information – cultural/spiritual location, proximity to other objects/sites etc
- Site dimensions
- Site condition and potential to be larger
- Site content including numbers and artefact types, raw materials and detailed recording of a sample of artefacts.
- Photos
- Any other relevant information, such as oral information and informant details.

3.4 Recording Parameters

3.4.1 Aboriginal Sites and PADs

The archaeological survey aimed at identifying material evidence of Aboriginal occupation as revealed by surface artefacts and areas of archaeological potential unassociated with surface artefacts. Potential recordings fall into two broad categories: sites and potential archaeological deposits.

Sites

A site is defined as any material evidence of past Aboriginal activity that remains within a context or place which can be reliably related to that activity.

Most Aboriginal sites are identified by the presence of three main categories of artefacts: stone or shell artefacts situated on or in a sedimentary matrix, marks located on or in rock surfaces, and scars on trees.

Frequently encountered site types within south-eastern inland Australia include stone artefact occurrences - including isolated finds and open artefact scatters, rock shelter sites - including occupation deposit and/or rock art, grinding groove sites and scarred trees.

Stone Artefact Occurrences

Stone artefact occurrences are the most commonly recorded site type in Australia. They may consist of single artefacts - described as isolated finds; or as a distribution of more than one artefact – often described as an artefact scatter or 'open camp site' when recording surface artefacts, or as a subsurface artefact distribution when dealing with an archaeological deposit.

Where artefact incidence is very low, either in terms of areal distribution (artefacts per square metre) or density (artefacts per cubic metre), then the differentiation of the recording from background artefacts counts or *background scatter* may be an issue.

Isolated finds

An isolated find is a single stone artefact, not located within a rock shelter, and which occurs without any associated evidence of Aboriginal occupation within a radius of 60 metres. Isolated finds may be indicative of:

- Random loss or deliberate discard of a single artefact;
- The remnant of a now dispersed and disturbed artefact scatter; and
- An otherwise obscured or sub-surface artefact scatter.

Except in the case of the latter, isolated finds may be considered to be constituent components of the *background scatter* present within any particular landform.

The distance used to define an isolated artefact varies according to the survey objectives, the incidence of ground surface exposure, the extent of ground surface disturbance, and estimates of *background scatter* or *background discard* densities. In the absence of baseline information relating to background scatter densities, the defining distance for an isolated find must be based on methodological and visibility considerations. Given the varied incidence of ground surface exposure and deposit disturbance within the study area, and the lack of background baseline data, the specification of 60 metres is considered to be an effective parameter for surface survey methodologies. This distance provides a balance between detecting fine scale patterns of Aboriginal occupation and avoiding environmental biases caused by ground disturbance or high ground surface exposure rates. The 60 m parameter has provided an effective separation of low-density artefact occurrences in similar southeast Australian topographies outside of semi-arid landscapes.

Background scatter

Background scatter is a term used generally by archaeologists to refer to artefacts which cannot be usefully related to a place or focus of past activity (except for the net accumulation of single artefact losses).

There is no single concept for background discard or 'scatter', and therefore no agreed definition. The definitions in current use are based on the postulated nature of prehistoric activity, and often they are phrased in general terms and do not include quantitative criteria. Commonly agreed is that background discard occurs in the absence of 'focused' activity involving the production or discard of stone artefacts in a particular location. An example of unfocused activity is occasional isolated discard of artefacts during travel along a route or pathway. Examples of 'focused activity' are camping, knapping and heat-treating stone, cooking in a hearth, and processing food with stone tools. In practical terms, over a period of thousands of years an accumulation of 'unfocused' discard may result in an archaeological concentration that may be identified as a 'site'. Definitions of background discard comprising only qualitative criteria do not specify the numbers (numerical flux) or 'density' of artefacts required to discriminate site areas from background discard.

Artefact scatters

Artefacts situated within an open context are classed as an open artefact scatter (or 'open camp site') when two or more occur no more than 60 metres away from any other constituent artefact. The 60 m specification relates back to the definition of an isolated find (*Refer above*). The use of the term *scatter* is intended only to be descriptive of the current archaeological evidence and does not infer the original human behaviour which formed the site. The term *open camp site* has been used extensively in the past to describe open artefact scatters. This was based on ethnographic modelling suggesting that most artefact occurrences resulted from activities at camp sites. However, in order to separate the description from the interpretation of field evidence, the terms *artefact scatter*, *artefact distribution* or *artefact occurrence* are now more extensively used. The latter two options can also be used to categorise artefacts occurring in sub-surface contexts.

Scarred Trees

Trees with scars of Aboriginal origin form the other major type of artefactual evidence. Each tree is normally considered to be a separate site. The identification of a scar as Aboriginal in origin is dependent on a set of inter-related interpretive criteria. The credibility of alternative causal explanations such as natural traumas and other types of human scarring must be tested for each scar.

A range of diagnostic criteria has been developed to assist in the identification of Aboriginal scarred trees. The following criteria are based on archaeological work conducted by Simmons (1977) and Beesley (1989), and the field manual for Aboriginal scarred trees developed by Long (2005):

1. The scar does not normally run to ground level: (scars resulting from fire, fungal attack or lightning nearly always reach ground level). However, ground termination does not necessarily discount an Aboriginal origin (some ethno-historical examples of canoe scars reach the ground);

1(a). If a scar extends to the ground, the sides of the original scar must be relatively parallel: (natural scars tend to be triangular in shape;

2. The scar is either approximately parallel sided or concave, and symmetrical: (few natural scars are likely to have these properties except fire scars which may be symmetrical but are wider at the base than their apex. Surveyors marks are typically triangular, and often adzed);

3. The scar should be reasonably regular in outline and regrowth: scars of natural origin tend to have irregular outlines and may have uneven regrowth;

4. The ends of the scar should be 'shaped', either squared off, or pointed (often as a result of regrowth): (a 'keyhole' profile with a 'tail' is suggestive of branch loss);

5. A scar which contains adze or axe marks on the original scar surface is likely to be the result of human scarring. Their morphology and distribution may lend support to an interpretation of an Aboriginal origin: (marks produced after the scarring event may need to be discounted);

6. The scar must date to the time of Aboriginal bark exploitation within its region: The traditional Aboriginal exploitation of bark probably ceased in most regions between 100 and 150 years ago. However, in some locations associated with Aboriginal settlement, the Aboriginal removal of bark may have continued to the present day or restarted as part of new cultural movements.

7. The tree must be endemic to the region: (and thus exclude historic plantings).

Field based identification of Aboriginal scars is based on surface evidence only and will not necessarily provide a definitive classification. In many cases the possibility of a natural origin cannot be ruled out, despite the presence of several diagnostic criteria or the balance of interpretation leaning toward an Aboriginal origin. For this reason, interpretations of an Aboriginal origin are qualified by the recorder's degree of certainty. The following categories were used:

- Aboriginal scar - This is a scar where an Aboriginal origin is considered the most likely. The scar conforms to all of the criteria and a natural origin is considered unlikely and improbable;

- Probable Aboriginal scar - This is a scar that conforms to all of the criteria and where an Aboriginal origin is considered to be the most likely. Despite this, a natural origin cannot be ruled out; and

- Possible Aboriginal scar - This is a scar which conforms to all or most of the criteria and where an Aboriginal origin cannot be reliably considered as more likely than alternative natural causes. The characteristics of this scar will also be consistent with a natural cause.

Potential Archaeological Deposits

A potential archaeological deposit, or PAD, is defined as any location where the potential for subsurface archaeological material is considered to be moderate or high, relative to the surrounding study area landscape. The potential for subsurface material to be present is assessed using criteria developed from the results of previous surveys and excavations relevant to the region. Where necessary, PADs can be given an indicative rating of their 'archaeological potential' based on a combined assessment of their potential to contain artefacts, and the potential archaeological value of the deposit. Table 3.1 illustrates the matrix on which this assessment is based. Locations with low potential for artefacts fall below the threshold of classification. In such cases the potential incidence of artefactual material is considered to be the same as, or close to that for background scatter. Where there is moderate potential for artefacts, the predicted archaeological potential parallels the potential significance of the deposit. For deposits with high potential for artefacts, the assessed archaeological potential is weighted positively.

The boundaries of PADs are generally defined by the extent of particular micro-landforms known to have high correlations with archaeological material. A PAD may or may not be associated with surface artefacts. In the absence of artefacts, a location with potential will be recorded as a PAD. Where one or more surface artefacts occur on a sedimentary deposit, a PAD may also be identified where there is insufficient evidence to assess the nature and content of the underlying deposit. This situation is due mostly to poor ground surface visibility.

Table 3.1 Matrix showing the basis for assessing the archaeological potential (shown in bolded black text) of a potential archaeological deposit.

		Potential to contain Aboriginal objects		
		Low	*Moderate*	*High*
Potential archaeological significance	*Low*	---	**low**	**moderate**
	Moderate	---	**moderate**	**high**
	High	---	**high**	**high**

3.4.2 Historical Sites and Features

Historical archaeology refers to the 'post-contact' period and includes: domestic, commercial and industrial sites as well as most maritime sites. It is the study of the past using physical evidence in conjunction with historical sources. The three primary types of places or items that may form part of the historical archaeology context include:

1. Below ground evidence, including building foundations, occupation deposits, features and artefacts; and above ground evidence, including buildings, works, industrial structures and relics that are intact or ruined;

2. Areas of land that display evidence of human activity or occupation; and

3. Shipwrecks, deposits and structures associated with maritime activities.

Within these broad parameters, an historical archaeological site may include:

- Topographical features and evidence of past environments (that is, resident in pollens and diatoms);
- Evidence of site formation, evolution, redundancy and abandonment (that is, features and materials associated with land reclamation, sequences of structural development, demolition/deconstruction, and renewal);
- Evidence of function and activities according to historical theme/s represented (for example, an industrial site may contain diagnostic evidence of process, products and by-products);
- Evidence associated with domestic occupation including household items and consumables, ornaments, personal effects and toys;
- Evidence of diet including animal and fish bones, and plant residues;
- Evidence of pastimes and occupations including tools of trade and the often fragmentary signatures of these activities and processes;
- Methods of waste disposal and sanitation, including the waste itself which may contain discarded elements from all classes of artefact as well as indicators of diet and pathology; and
- Any surviving physical evidence of the interplay between site environment and people.

The information found in historical archaeological sites is often part of a bigger picture which offers opportunities to compare and contrast results between sites. The most common comparisons are made at the local level, however, due to advances in research and the increasing sophistication and standardisation of methods of data collection, the capacity for wider reference (nationally and, occasionally, internationally) exists and places added emphasis on identification and conservation of historical archaeological resources.

4. CONSULTATION PROCESS

The NSW DECCW has produced a document *Aboriginal cultural heritage consultation requirements for proponents 2010* (NSW DECCW 2010) that sets out the requirements for 'consulting with those Aboriginal people who can provide information about the significance of Aboriginal cultural heritage as part of the heritage assessment process that informs any AHIP application' (ibid:1).

The requirements apply to all activities throughout NSW that have the potential to harm Aboriginal *objects* or places and that also require an AHIP. The requirements specify four stages of consultation:

Stage 1 - notification of project proposal and registration of interest

Stage 2 - presentation of information about the proposed project

Stage 3 – gathering information about cultural significance

Stage 4 – review of draft cultural heritage assessment report

4.1 Stage 1

An advertisement was placed in the (Appendix 2):

- Goulburn Post on Friday, December 14th 2018

Letters were sent to the:

- Pejar Local Aboriginal Land Council;
- Goulburn Mulwaree Council;
- South East Local Land Services - Goulburn
- NSW OEH;
- Native Title Services Corporation Ltd; and
- Office of the Registrar Aboriginal Land Rights Act 1983.

A search was made of the National Native Title Tribunal registers on 12th December 2018.

Following advice received from OEH, letters were sent to:

- Ngunnawal Elders Corporation
- Pejar Local Aboriginal Land Council
- Buru Ngunawal Aboriginal Corporation
- Ngunnawal Elder
- Gundungurra Aboriginal Heritage Association Inc.
- Ngunawal Heritage Aboriginal Corporation
- Konanggo Aboriginal Cultural Heritage Services
- Yurwang Gundana Consultancy Cultural Heritage Services
- King Brown Tribal Group
- Gunjeewong Cultural Heritage Aboriginal Corporation
- Yukkumbruk
- Koomurri Ngunawal Aboriginal Corporation (KNAC)
- Corroboree Aboriginal Corporation
- Murri Bidgee Mullangari Aboriginal Corporation
- Nundagurri Aboriginal Corporation

- Walbunja
- Goobah Development Pty Ltd.
- Gunyuu
- Wullung
- Badu
- Yerramurra
- Jerringong
- Merrigarn Indigenous Corporation
- Wingikara
- Bilinga
- Munyunga
- Pemulwuy
- Karrial
- Didge Ngunawal clan
- Ginninderra Aboriginal Corporation
- Muragadi Heritage Indigenous Corporation
- Gundungurra Tribal Council Aboriginal Corporation
- Gundungurra Aboriginal Heritage Association Inc.
- THAUAIRAWALGALU
- Gadhu Dreaming
- Thunderstone Aboriginal Cultural and Land Management Services Aboriginal Corporation
- Duncan Falk Consultancy
- Thoorga Nura
- Janine Thompson
- Ngurambang
- Clarine Lyons
- Ngunawal Consultancy

The closing date for expressions of interest was 16th January 2019.

Registrations of interest were received from:

- Pejar Local Aboriginal Land Council
- Buru Ngunawal Aboriginal Corporation
- Ngunawal Heritage Aboriginal Corporation (NHAC)
- King Brown Tribal Group
- Gunjeewong Cultural Heritage Aboriginal Corporation
- Koomurri Ngunawal Aboriginal Corporation (KNAC)
- Corroboree Aboriginal Corporation (CAC)
- Murri Bidgee Mullangari Aboriginal Corporation
- Merrigarn Indigenous Corporation
- Didge Ngunawal Clan (DNC)
- Muragadi Heritage Indigenous Corporation
- Thunderstone Aboriginal Cultural and Land Management Services Aboriginal Corporation
- Ngurambang
- Janine Thompson
- Karlari Ngunnawal Pajong Wallabalooa Descendants (R. Ingram)

4.2 Stage 2 and 3

Methodology and cultural information request was sent to registered groups on 17th January 2019.

Table 4.1 Responses to Submissions - Methodology

Date	Type of Contact (email, phone etc)	Group/Individual	Comment	Response
18/1/19	Email	DNC		Agrees with the methodology
22/1/19	Email	Merrigan		Agrees with the methodology
17/1/19	Email	Koomarri	Mens business (not to be passed on)	
27/1/19	Email	Muragadi		Agrees with the Methodology
27/1/19	Email	Murra Bidgee		Agrees with the Methodology
6/2/19	Email	NHAC		Agrees with the Methodology

4.3 Field Participation

Letters inviting the registered groups to participate in a site visit were sent out on the 19th February 2019.

The site visit was undertaken on 27th February 2019. NOHC archaeologists Adrian Cressey and Joel Mason attended, as well as representatives from Pejar LALC (Chris McAllister), Ginninderra Aboriginal Corporation (Krystle Carroll), Ngunawal Heritage Aboriginal Corporation (P. Delponte), Thunderstone Aboriginal Cultural and Land Management Services Aboriginal Corporation (J. Ireland), Buru Ngunawal Aboriginal Corporation (Karen Denny), Ngurambang (Robert Monaghan), KNAC/GNHAC (Glenn Freeman), Murra (Ryan Johnson), Murgadi Heritage Indigenous Corporation (A. Johnson), Didge Ngunawal Clan (A. King), Merrigarn Indigenous Corporation (S. Carroll), Corroboree Aboriginal Corporation (Mike Skinner), and Gunjeewong Cultural Heritage Aboriginal Corporation (Bruce Turrise).

4.4 Stage 4

A draft copy of this report was provided to the RAPs on 2nd May 2019 accompanied by an invitation for registered stakeholders to provide comments, with the comment period closing on 30th May 2019. Summaries of responses can be found in Table 4.2.

For the full versions of feedback and comments please refer to Appendix 2

Table 4.2 Responses to Draft CHA and Subsurface Testing Methodology

Date	Type of Contact (email, phone etc)	Group/Individual	Comment	Response
2/5/19	Email/Post	All	Provided CHA and subsurface testing methodology to all RAPs	
3/5/19	Email	Merrigarn	Agrees with the recommendations and methodology	
7/5/19	Post	Gunjeewong	Agrees with the recommendations and methodology	
8/5/19	Email	Koomurri Ngunawal	No issues with the testing methodology. Questions the archaeological/scientific assessment of the scarred tree	Scientific assessment of scarred trees and other archaeological features does not extinguish or replace Aboriginal Cultural Values of an item or site.
26/5/19	Email	Murra Bidgee	Endorses recommendations and agrees with testing methodology	
26/5/19	Email	Muragadi	Agrees with the recommendations	

5. BACKGROUND INFORMATION

5.1 Aboriginal history

Tindale (1974) has determined that Goulburn was situated at the boundary of two tribes - the Gandangara to the north and the Ngun(n)awal to the south. Early settlers describe large numbers of Aborigines (over 3,000) attending ceremonies in the Goulburn district (in Wyatt 1941:112). Large groups such as this would have collected from a number of neighbouring 'tribes' and the fact that Goulburn was the scene of the gathering suggests that it may have been centrally located between these tribes. However, early commentators often confused hordes or clan divisions, which were, in fact, more relevant to everyday life, with broad tribal groupings. Early ethnographers tended to describe any large groups of Aborigines as 'tribes'.

It is probable that tribal boundaries, clan estates and band ranges were fluid, varying over time. Consequently, tribal boundaries as delineated today must be regarded as approximations only, and relative to the period of, or immediately before, European contact.

Tribal boundaries are based largely on linguistic evidence. It has been observed that the word lists recorded from both the Ngun(n)awal and Gandangara languages were virtually identical (Eades 1976:6). 'This may indicate that the tribal division was inaccurately recorded by Mathews (1904, 1908), or that the Aborigines to the north and south of Goulburn were linguistically related and had close social, and maternal kinship ties' (Koettig & Lance 1986:13).

The Goulburn Aeropark study area at Goulburn was probably located within the boundaries of the Ngun(n)awal tribe. However, taking into consideration the fluid nature of tribal boundaries, the area may well have been within Gandangara territory, or within a sub-set of either of these 'tribes'.

Smith (1992) suggests that the current location of Goulburn fell within the territory of the Gandangara and was effectively a 'cross roads' for at least six Gandangara 'bands' including the Burra Burra, Tarlo, Wollondilly, Cookmai, Parramarrago and Pajong (Smith 1992:45). According to Smith's research, at least one of these bands, the Burra Burra, maintained strong links with the Gandangara to the south of Bathurst and may have occupied a traditional range extending as far south as Lake George (Smith 1992:5).

The area today is located within the boundaries of the Pejar Local Aboriginal Land Council.

Estimates of the pre-European size of the Aboriginal population in the Goulburn region cannot be confidently based on the inadequate ethno-historical sources for the area. By extrapolating Radcliffe-Brown's (1930:696) population estimate for the whole of Australia, and Tindale's (1940) tribe numbers, Flood estimated that the population density for the Southern Tablelands was about 1:36 km^2. She admits, however, that 'It is of course impossible to estimate the population of any one particular area from this crude index of population density for the tribal population as a whole, but such an index can be useful in making comparisons with other tribal territories containing similarly unequal resource zones' (Flood 1980:43).

By the 1840s it was thought that less than twenty Aboriginal people survived in the Goulburn district (Lance & Koettig 1986:14).

5.2 Material evidence of Aboriginal land use

5.2.1 Regional overview

Archaeological investigations within the Southern Tablelands have been carried out since the late 1970s. Broad scale regional studies and research include Witter's (1980) work on site prediction in Australia and Flood's (1980) early synthesis of the archaeology of the highlands of south-eastern New South Wales, which included the Goulburn district. Koettig and Lance produced an Aboriginal Resources Planning Study for the City of Goulburn in 1986.

A number of archaeological surveys for Aboriginal sites have been carried out in the Goulburn area. Site types recorded in these surveys or in historical accounts include open campsites, isolated finds, and stone procurement sites, scarred trees, carved trees, burial grounds and ceremonial sites.

Koettig (1983) surveyed the 11 km Hume Highway deviation around Goulburn and located 22 open campsites and 17 isolated finds. All the sites were within 200 m of a watercourse. Fifty four percent were located on slopes, 23% on ridges and 23% along creek or river flats. Most were low density surface scatters, but one site (G17), located on a low sand bar on the eastern bank of the Mulwaree River near its junction with Gundary Creek, and was found to be a high-density site with a stratified deposit. Koettig recovered 650 artefacts from test pits placed in this site.

Paton (1990) later excavated within the 15% of the G17 site to be destroyed by freeway construction. Over 15,000 artefacts were recovered. Paton's (1989) analysis largely accorded with that of Koettig (1983). Quartz comprised 85% of the assemblage and silcrete 10%, with the remainder being chert, quartzite and volcanics. Formal tool types constituted less than 1% of the total. Paton (1990) interpreted the site as a regularly visited base camp and suggested an occupation date of 5,000 years to the present.

Hughes (1984) assessed the evidence for Aboriginal burials in a proposed residential subdivision in the Eastgrove area of Goulburn. He concluded that burials were unlikely to be located within the proposed subdivision and that in any case, they would not be readily detected by field survey.

Lance (1984) surveyed the route of a proposed pipeline from Sooley Dam to Rossi Weir on the Wollondilly River. A single quartz flake was found on an exposure bordering Sooley Creek south of the present study area. Low surface visibility limited the survey's effectiveness.

Lance and Koettig (1986) prepared an *Aboriginal Resources Planning Study* for the City of Goulburn. The study used archaeological, ethnographic and environmental data and a sample survey to develop an Aboriginal site location model for Goulburn. Four environmental zones (major watercourses, undulating hills and plains, hill tops and built-up areas) were identified, each with an archaeological sensitivity and site significance rating. The majority of sites in the Goulburn area were found to be stone artefact scatters located within the 'undulating hills and plains' zone, particularly on basal slopes adjacent to ephemeral watercourses.

Fuller (1989) tested and refined Lance and Koettig's (1986) model. She located 17 artefact scatters and five isolated finds in her survey. Most of the sites were small, low-density scatters of up to ten artefacts, but one (GC5) contained over 100 artefacts and another (GC4) contained an estimated 1,000 artefacts over a 1 km^2 area. Retouched artefacts of chert, silcrete and 'other' were found at several sites. Bipolar artefacts were also present. Quartz, chert and silcrete were the dominant stone types. Fuller's survey substantially corroborated Lance and Koettig's (1986) model, with further subdivision of the 'undulating hills and plains' category.

Koettig (1987) carried out a survey and test excavations on a ridgeline crest at the junction of Garroorigang Road and the Hume Highway, south of Goulburn. The survey located one open campsite and 15 isolated finds. The excavation recovered a total of 80 artefacts from two distinct locations, G23 and G24. Eighty two percent of the excavated artefacts were of silcrete, whereas only about 50% of the surface finds were silcrete. Quartz was the only other stone type recorded. Koettig dated the site to 3000 - 1500BP (Before Present).

Silcox (1991) surveyed a 3.5 ha area for a storm flow detention pond adjacent to the sewerage treatment works in Ross Street, Goulburn. The proposed pond was located on an elevated, undulating area at the junction of the Wollondilly and Mulwaree Rivers. No Aboriginal sites were located during the survey, but subsurface testing recovered 97 artefacts, 23% of which were cores. Quartz was the dominant raw material, with small amounts of silcrete, acid volcanic, quartzite and conglomerate.

Williams (1992) investigated archaeologically sensitive areas along the proposed Optus fibre optic cable route between Goulburn and Campbelltown. In the Goulburn area, he carried out surface survey and subsurface testing on both sides of the Mulwaree River in the vicinity of site G17, previously investigated by Koettig (1983) and Paton (1990). No artefacts were located on the western

side of the river, but artefacts were recovered from the surface and from deposits at G17. Williams also investigated site G19/20 (Koettig 1983) and relocated 58 of the original 191 artefacts.

Australian Archaeological Survey Consultants (1993) carried out an archaeological assessment of the proposed Telstra optical fibre cable route from Goulburn to 'The Forest', a distance of about 5 km. Three very small low-density open campsites, four isolated finds and one possible scarred tree were located. Artefacts types were flakes, flaked pieces and flaked pebbles. Raw materials were quartz, chert and silcrete.

Williams (1994) surveyed the compound of a proposed Optus communications tower at Mount Gray, east of Goulburn, but no sites were located.

Ellenberger (1994) investigated the 93 ha site for the new Goulburn racecourse approximately 5km north of the centre of Goulburn. Two isolated finds were recorded.

Silcox (1995) investigated the route of a proposed power line and the site of a Telstra radio base station at 'Sunnyside', 14km south west of Goulburn. Two open artefact scatters and one isolated find were recorded. One of the sites (S1) was an extensive scatter with quartz the dominant raw material.

Stuart (1995) surveyed proposed effluent irrigation areas east of Goulburn and located two small open artefact scatters and two isolated finds. Both of the scatters were located in Lance and Koettig's (1986) high potential Zone 1, in this case near the Wollondilly River.

Kuskie (1996) surveyed the site of a proposed 47 ha rural residential development on Lots 2-4 DP835933 immediately southwest of the Goulburn urban area. One small artefact scatter and one isolated find were recorded. The scatter comprised two silcrete flakes located in the middle section of a low simple slope 150 m east of a minor drainage line.

In 2000 NOHC conducted an archaeological assessment for the raising of Sooley Dam as part of the Goulburn Water Supply Augmentation project. The study area was located 5.5 km northwest of Goulburn. No Aboriginal archaeological sites or areas with archaeological sensitivity were recorded within the proposed development area.

In 2003 NOHC conducted an archaeological assessment for the Pictura Tourist Complex in Goulburn. One low density artefact scatter (PA1) was recorded in the western half of the Pictura study area

NOHC (2005a) completed a survey of the Goulburn Business Park development. No Aboriginal sites were located in this study.

In 2005b NOHC undertook an archaeological field survey of the Ducks Lane Infrastructure works in South Goulburn, NSW. The study identified nine Aboriginal sites in the study area, including six isolated finds and three artefact scatter and two areas of archaeological potential.

A program of surface collection was undertaken by NOHC in June and August 2006. Artefacts were collected from seven sites, 17 artefacts were salvaged during the surface collection program.

In compliance with DECC (OEH) recommendations a program of archaeological sub-surface salvage was undertaken by Navin Officer Heritage Consultants at DL2 & PAD in August 2006. The subsurface salvage resulted in the retrieval and identification of no Aboriginal artefacts.

In 2008 NOHC undertook a cultural heritage assessment of the Goulburn Aeropark site. One potential archaeological deposit (GAPAD1) was identified during the course of the field survey. One historic site, a homestead complex (GAHS1), was located.

Most recently NOHC have undertaken the cultural heritage assessment (NOHC 2010a, 2010b) and subsequent subsurface testing and salvage program (NOHC 2012) for the Highlands Source Project (HSP), Water Transfer from Wingecarribee Water Supply Reservoir to Goulburn Water Treatment Plant. In the course of field surveys for the HSP 38 new Aboriginal recordings were made comprising

seven isolated finds (HSP1, 6, 9, 18, 19, 21 and 31), 12 artefact scatters (HSP 2, 4, 11, 12, 13, 14, 22, 24, 27, 28, 29 and 30), one isolated find with associated PAD (HSP7), 11 artefact scatters with associated PAD (HSP3, 5, 8, 10, 15, 16, 17, 20, 23, 25 and 26), and seven areas of PAD un-associated with surface artefacts (HSP PAD1, 2, 3, 5, 6, 7 and 8).

In addition to the seven previously identified European heritage items along the pipeline easement, six more heritage items were identified during surveys for the Project (NOHC 2010b). These items comprised of five lots of house ruins (Highlands Source Project – Historical [HSPH] 1, HSPH3 – HSPH6) and a brick bridge (HSPH2).

AMBS (2012) were commissioned by Goulburn Mulwaree Council to conduct an Aboriginal Heritage Study covering whole Local Government Area (LGA). As part of this assessment the Aboriginal Heritage Significance Map was updated, highlighting areas of Aboriginal heritage sensitivity within the region. The aim of the heritage study was to assist the Goulburn Mulwaree Council in the management of Aboriginal sites and places, as well as, to develop protocols for Aboriginal community liaison.

OzArch (2018) surveyed an industrial area for a proposed concrete batching plant and other associated infrastructure off Braidwood Road, south of the Goulburn Rail Yards. No sites were located during this assessment.

5.2.2 The project area

46 Aboriginal recordings are listed on the OEH AHIMS for the area around the Goulburn Mixed Use study area within the following (MGA/GDA) map grid references (including a 50 m buffer):

748884E, 6149436N to 753521E, 6152796N (Zone 55)

The sites comprise

- 13 open camp sites
- 1 scarred tree
- 16 artefact scatters
- 6 isolated finds
- 10 sites with no listed site information

Two AHIMS site recordings sit within 100 m of the study area (#51-6-0235, #51-6-0237). These comprise of an artefact scatter with PAD (#51-6-0235) and an isolated find (#51-6-0237). These sites will not be impacted by the proposed development.

A copy of the AHIMS search is provided in Appendix 1.

Removed due to cultural sensitivity

Figure 5.1 Mapping of AHIMS results

5.3 Site Location Model

5.3.1 Overview

A predictive model of site location is constructed to identify areas of high archaeological sensitivity (ie locations where there is a high probability of an archaeological site occurring), so that it can be used as a basis for planning and the management of Aboriginal sites. Predictive modelling involves reviewing existing literature to determine basic patterns of site distribution. These patterns are then modified according to the specific environmental characteristics of the study area to form a predictive model of site location.

The use of land systems and environmental factors in predictive modelling is based upon the assumption they provided distinctive sets of constraints which influenced Aboriginal land use patterns. Following from this is the expectation that land use patterns may differ because of differing environmental constraints, and that this may result in the physical manifestation of different spatial distributions and forms of archaeological remains (Hall & Lomax 1993:26).

The predictive model is based on information from the following sources:

- identification of land systems, landscape units and relevant environmental variables;
- previous archaeological surveys conducted within the study area and general region;
- previously recorded sites within the study area and general region;
- known density of sites in the land system; and
- traditional Aboriginal land use patterns.

5.3.2 Southern Tablelands

Within the tablelands, the work by Attenbrow and Hughes (1983) provides a good model of site location. Attenbrow and Hughes (1983) noted that:

- artefact scatters are the most common site type and have the highest potential to occur;
- higher site densities occur in rolling terrain on metasedimentary bedrock and Tertiary alluvium;
- small artefact scatters are predicted to occur throughout the topographic variation present;
- both small and large valleys were foci of Aboriginal occupation;
- sites tend to be located away from probable areas of cold air drainage;
- and clustering of artefact scatters was a phenomenon.

In general terms, artefact scatters have a high potential to occur on:

- terrace formations above the river valley floor;
- terrain representing a median altitude relative to the valley floor and potential cold air drainage;
- flattened ridge tops, knolls, and flats adjacent to permanent drainage lines;
- sand bodies, particularly those adjacent to water and within floodplain contexts.

Further studies focussed on the size, context and location of Aboriginal sites in the Goulburn area by Koettig and Lance (1986) resulted in a similar model of site patterning.

On present evidence it appears that large sites are found on alluvial flats along major watercourses. These sites probably represent focal points of Aboriginal activity and are large, dense, and in close proximity to permanent water sources.

Smaller sites, which comprise the major portion of sites in the region, are found on undulating hills. There appears to be a decrease in the size and frequency of sites the further the distance from water. Sites also become fewer in number where ground is steeply sloping, such as on hillsides and ridge sides.

- *Open Artefact Scatters* may occur almost anywhere that Aborigines have travelled and may be associated with hunting and gathering activities, domestic camps, or the manufacture and maintenance of stone tools. These sites are sometimes referred to as 'open campsites'.

- Open artefact scatters are the most common site type found in the Goulburn region and have been recorded in a number of topographic contexts. These include ridges and hills, and the lower slopes of knolls and spurs. The sites are often associated with watercourses.

- *Isolated Finds* occur anywhere in the landscape and may represent the remnants of dispersed artefact scatters, or random loss or discard of artefacts.

- *Scarred Trees* result when bark has been removed from a tree for some particular purpose such as for the manufacture of a shield, canoe or coolamon. Scars may also be the result of making footholds in a tree to collect foodstuffs or to facilitate the removal of bark. These sites may occur almost anywhere and may potentially survive wherever old growth trees remain within the landscape. The identification of scars as Aboriginal in origin can often remain problematic.

- *Carved Trees* are a much rarer site type than scarred trees and are sometimes found in association with ceremonial or burial grounds. They characteristically include carved figurative and non-figurative motifs on the exposed wood created within a scar produced by bark removal.

- Etheridge (1918) recorded a number of carved trees that had been located in the Goulburn district. One tree (NPWS #51-5-0001) was located on the site of the now abandoned Yarra Railway Station, approximately six kilometres southeast of Goulburn and one kilometre from the study area. Two others were at Mount Wayo, 16 km north of Goulburn and were located near an Aboriginal grave (Koettig & Lance 1986:20).

- *Quarry (extraction or procurement)* sites are typically exposures of a geological raw material where evidence for human extraction and or preliminary processing has survived. Typically, these involve the extraction of siliceous rock types for the manufacture of artefacts or the removal of ochre. To date only one Aboriginal quarry site, a chert quarry, has been located in the Goulburn district (Paton 1989).

- *Stone Arrangements* are defined as any arrangement of placed rocks that can be reasonably assigned to Aboriginal activity. Typically, these include rock cairns and alignments of single or grouped stones.

- *'Bora' Grounds (Earth Circles)* functioned as a prepared stage for initiation and other ceremonial activities which held a key role in the teaching and maintenance of the complex social and religious framework within Aboriginal society. Cited frequently in early records, the Gamilaraay word 'Bora' has been used as a generic term for ceremonial sites across much of New South Wales. In the Goulburn area these sites were more likely known as 'Burbung' or 'Boonan' grounds in line with the Wiradjuri or Yuin/Ngunnawal languages (Knight 2001). They consist mostly of one or more circular rings defined by mounded earth, sand and/or rocks. There may also be an associated depression within the ring. A pathway generally connected two rings and was often many hundreds of metres long. Typically, one circle was associated with more public ceremonies and the second with restricted and sacred information.

- Several of these grounds are known to have existed in the Goulburn area. Macalister (1904:85) notes that a 'bora' ground site was located on a small hill near the existing Kenmore hospital. Others were located at Eastgrove and in the vicinity of the Goulburn railway station, the bridge/showground area, Rocky Hill, the All Saints Church area, Mulwaree Flats near the

Brewery, the Railway Quarry site, Corroboree Hill and Saint Patrick's College Hill (Koettig & Lance 1986: 20; Smith 1992: 11, 43).

- 'Bora' grounds can only be recognised or located either through detailed oral accounts or identifying surviving ground surface features. Unfortunately, most physical evidence of these sites is fragile and easily destroyed by minimal agricultural activities.

- *Burials* are generally found in soft sediments such as sand or alluvial silts, but may also occur in middens, rock shelters or hollow trees. Burials are generally only visible where there has been some disturbance of subsurface sediments or where some erosional process has exposed them.
- Historical records for the Goulburn area indicate that the main methods employed for disposal of the dead in the district were 'placement in hollow trees, interment (sic) in soft soil or sand with a mound built over the grave, or burial in rocky ground on hill tops' (Koettig & Lance 1986:20).

- It is unlikely that burials on rocky hilltops would have survived to the present day. The shallow soils typical of hilltops would not allow for deep burial, consequently the likelihood of disturbance from soil erosion, animal activities and land clearance would be high. These factors would adversely affect burials even if protective stone cairns were placed over them.

5.4 Limits on use of existing information

The data used to generate the general interpretation of Aboriginal prehistoric land use in the study area has been drawn from previous archaeological work carried out on areas being developed, from a number of broad scale research projects, and on the data gathered during the current cultural heritage assessment. These sources of data can be biased in their sampling of the landscape and are limited in their scope. Consequently, the data currently available are unlikely to have provided a completely accurate and comprehensive representation of the distribution of archaeological sites across the landscape, or of the relative frequency of different site types.

Archaeological assessments commissioned for development projects are restricted to the specific footprint that will be impacted by the project. The area of land being assessed is specifically constrained, and in many cases, will not representatively sample the different landforms found across the wider region being studied.

These limitations will usually become less pronounced as more and more assessments are carried out in a region, since more and more patches of ground are being assessed. A systematic bias in the data can still easily occur, however, if the patches of ground are concentrated in one landform type over another. This could be the case if the assessments relate to development projects which preferentially occur on specific landforms – roads tend not to traverse steep slopes, wind-farms tend not to be built in valleys, and housing developments are preferentially situated on flat land, for example.

Data on uses of the land by Aboriginal groups in the post-contact period, including the present day, might be limited if activities practiced by Aboriginal groups have not been reported in the public domain, and have not been reported to NOHC during consultations with Aboriginal groups. This could occur if land use practices are associated with knowledge that is culturally restricted.

6. HISTORICAL CONTEXT

6.1 Historical Overview

Europeans first accessed the Goulburn area in the late 1790s when a party of four men made two journeys south of Sydney under orders from Governor Hunter. The explorers included an ex-convict named James Wilson, Henry Hacking (quartermaster from the 'Sirius'), a man named Collins and a 'lad' known as Barracks (Wyatt 1941:24). On the second journey the group reached Mount Towrang from which they could clearly see the area in which Goulburn is now located.

Further official exploration of the area did not resume until after 1814 when Hamilton Hume, John Oxley and James Meehan undertook a number of expeditions along various routes to as far south as Lake Bathurst. Governor Macquarie and John Oxley traversed the current site of Goulburn in 1820. Macquarie subsequently named the area 'Goulburn Plains' (Wyatt 1941:26).

Rapid settlement of the country took place shortly thereafter with productive use of the land being actively encouraged by the government through the issuing of grants. Numerous large properties were established in and around the Goulburn Plains and by the early 1820s the district was being used to grow wheat, sheep and cattle for the Sydney market (Bayley 1954:17).

By 1824, several houses are known to have been built a short distance to the northeast of the current town site and plans had been drawn up for the area to be subdivided as 'Veteran Allotments' for the settling of discharged soldiers (Bayley 1954:16, Wyatt 1941:35). However, the 'original' town site was abandoned in favour of the current location in 1832 when government buildings were constructed further downstream on the Mulwaree River. This early settlement was known as 'Strathallen', a garrison town drawing largely upon the labour of convicts quartered at Towrang. Until the cessation of transportation to New South Wales in 1840, ironed gangs were used in the construction of local infrastructure including the Main Southern Road (Wyatt 1941:63).

In 1841, Goulburn had a population of 655 people and was composed of 90 houses of brick or wood including a number of mansions and a hospital (Wyatt 1941:46-47). This population had almost doubled by 1845 and by the late 1840s a steam-powered flourmill and brewery were operating in the town (Bayley 1954:28, Wyatt 1941:49). By this stage Goulburn had become a centre for the production of a range of agricultural crops including wheat, oats, barley, maize and potatoes. Varieties of fruit trees and vines were also well established in the area (Bayley 1954:64). Wheat production peaked in the 1860s, no doubt aided by provision of ready access to external markets with the opening of the Sydney-Goulburn Railway Line in 1869 (Wyatt 1941:87). Despite this, grain crops gradually receded in favour of wool in the late 1800s and had almost disappeared by the early part of the twentieth century.

6.2 Heritage Listed Items

There are no heritage sites in the study area listed on any statutory or non-statutory heritage registers.

6.3 Predictive Historical Archaeology Statement

Unrecorded historic sites and features of heritage significance that may occur within the study area include:

- Old fence lines, such as post and rail fencing; these may occur along road easement boundaries and farmlands.

- Indications of field systems, such as drainage channels and ridge and furrow ploughlands; these are likely to survive in low lying agricultural ground, especially in areas that are now used for grazing, rather than cropping.

- Traces of agricultural and industrial processing or extractive sites, such as dairies, factories, and quarries; these may be found throughout agricultural lands on valley floors and adjacent low ranges;

- Archaeological sites, such as the occupation remains of former dwellings including homesteads, houses and huts; these will be distributed in close association with land settlement patterns, and correlated with favourable agricultural lands, trading nodes and transport corridors;

- Nineteenth-century structures, such as farm dwellings, outbuildings, selector's and timber-getters huts; these may survive as standing buildings, ruins or archaeological deposits and are most likely to survive on less developed rural properties, on early portion numbers, and in or near established farm building complexes;

- Sites associated with early roads; these will be closely associated with early cadastral road reserves, watershed ridgelines, and related to early river and creek crossing points;

- Transport and access routes, such as bridle paths, stock routes, roads, and highway alignments of varying forms and ages; these may survive as abandoned remnants adjacent to modern transport routes, or as alignments now followed by more modern or upgraded road and track infrastructure; and

Structures of historical interest and heritage significance may be standing, ruined, buried, abandoned or still in use.

7. RESULTS

7.1 Summary

The following sites were identified during archaeological survey:

- One culturally significant scarred tree (GMUPA-1)
- One isolated surface artefact (GMUPA-2)
- One surface artefact scatter with subsurface archaeological potential (GMUPA-3)
- One Potential Archaeological Deposit (GMUPA-PAD1)
- One historic artefact scatter (GMUPH-1)

7.2 Aboriginal Sites

GMUPA-1 – Culturally Significant Tree

This tree was identified as a culturally significant modified tree by RAP representatives Karen Denny (BNAC) and Glenn Freeman (KNAC).

The tree is a Eucalypt (probably E. blakelyi) and is situated on the moderate gradient upper slopes of the hill in the northwest corner of the study area. The tree has main trunk bifurcates into two co-dominant branches 1.2 m from ground level. There are many scars on the tree. One of the scars is located in the fork of the tree where the branches bifurcate. This feature was identified by Karen and Glenn as a diagnostic feature of a 'storage tree'. In addition, a number of other scars were identified as 'climbing marks' or 'foot/hand holds' from the base of the tree to about 5 m in height.

Figure 7.1 Example of scar thought to be 'climbing mark' used as 'foot/hand hold' by some RAPs

Figure 7.2 Occluded scars in top right of photo suggested to also be 'climbing marks' by some RAPs

Figure 7.3 Scar in fork of tree suggested by some RAPs to be for storage.

Figure 7.4 Branches immediately downslope of the tree, evidencing multiple limb loss episodes, that are likely the origin of a number of the scars.

From a scientific perspective, the scars on this tree are unlikely to be of Aboriginal origin. The tree is unlikely to be greater than 100 years of age, and therefore the scars are unlikely to be the result of Aboriginal cultural practices. The shape of many of the scars, as well as the clear evidence of branch fall (Figure 7.4), and relative fresh bark tear scars, suggest that there are many environmental factors contributing to the scars on this tree.

Nonetheless, it is important that the Aboriginal community's concerns be heard, and that impacts to items of Aboriginal cultural importance be adequately mitigated where possible.

GMUPA-2 – Isolated Find

This site consists of an isolated quartz flake measuring 4 x 3 x 1 mm. This item was located on steep gradient mid-slopes within ground exposures adjacent to the western fence-line of the study area (Figure 7.6). Given the steep gradient of the slopes, it is likely that this item has migrated down slope from its original depositional location, via slope wash/sheet erosion.

Ground exposure was approximately 30%, with visibility averaging 60% within these exposures (Figure 7.7). Ground disturbances in the vicinity of the artefact, include sheet erosion, stock activity along the fence-line, as well as historic clearance of native primary bushland and resultant loss of topsoil from these slopes. Soils are estimated to be shallow (approx.15cm) given outcropping bedrock no more than 10-15 m upslope of the site.

Given the paucity of other artefacts in the area, steep gradient of the landform, sheet erosion, and shallow soil depth, this site is assessed to have low potential for in-situ archaeological deposits of low scientific significance.

Figure 7.6 View of site facing south

Figure 7.7 Example of ground exposure

GMUPA-3 – Artefact Scatter

This site consists of a scatter of three red silcrete artefacts located on a swale berm. The site is located in low gradient basal slopes. The broader landscape context of the site is immediately below moderate to steep gradient mid-slopes and immediately above valley floor flats.

The three artefacts are described as follows:

1. Red silcrete core with at least six negative scars 34 x 34 x 10 mm

2. Red silcrete flake measuring 19 x 18 x 6 mm

3. Red silcrete flake measuring 17 x 12 x 3 mm

The presence of artefacts of the same material type may be the result of a single flaking event. The swale berm on which this artefact scatter was located has clearly been built up by the excavation of soil from the downslope edge of the berm (see Figures 7.10 and 7.11). While heavy earthworks have occurred to the southwest of this location (dam), there is little evidence of landscaping earthworks other than the swale berm itself, which has been constructed to slow down surface water wash, and direct drainage from the hill slopes towards the dam. The downslope side of the swale berm has also been used as a vehicle access track in the past. There is a high assessed probability of further subsurface artefacts in the general vicinity of this site.

Figure 7.8 Artefacts from site GMUPA-3

Figure 7.9 Detailed view of red silcrete core

Ground exposure was approximately 70%, with visibility averaging 80% within these exposures. Ground disturbances in the vicinity of the artefact, scatter include the earthworks (swale ditch and berm), sheet erosion, stock activity, as well as historic clearance of native primary bushland. Soils are estimated to be of moderate depth, approximately 40-50 cm on the basal slopes, and possibly deeper on the adjacent valley flats.

Given the presence artefacts of the same material type, the localised presence of remnant natural landscape surfaces that have been unaffected by earthworks, estimated moderate soil depth, the low gradient/locally elevated nature of the landform, valley floor context of the site, and close proximity to water, this site is assessed to have moderate to high potential for in-situ archaeological deposits of moderate local scientific significance.

Figure 7.10 View of site GMUPA-3 facing northwest

Figure 7.11 View of swale berm at GMUPA-3 looking northeast. Note: former vehicle access track immediately downslope of the berm, likely where berm soil was excavated.

GMUPA-PAD1 – Potential Archaeological Deposit

GDA Zone 55 - 751361.6151070

This area is designated as a Potential Archaeological Deposit (PAD) It consists of a broad flat to low gradient locally elevated microtopographic landform in a valley floor context and stretches along the southern boundary of the study area.

This PAD location is well aligned with a number of landscape features represented in the predictive site location model outlined in Section 5.3, including:

- Locally elevated
- Valley floor/alluvial flats location
- Close proximity to water

The predictive model suggests that landforms such as this would have been a focus of Aboriginal occupation.

No surface artefacts were identified during the archaeological survey of this location. Two sites have previously been identified on this same landform and are located approximately 65 m ((#51-6-0235 (artefact scatter and PAD)) and 100 metres (#51-6-0237 (isolated find)) outside the study area.

Ground exposure was approximately 10%, with visibility averaging 30% within these exposures. Ground disturbances at this PAD include some sheet erosion, stock activity (particularly along the fence-line), as well as historic clearance of native primary bushland. There are no obvious signs that earthworks associated with road, dam, or storm water infrastructure have impacted this portion of the study area. Soils are a sandy silt estimated to be of moderate depth, likely at least 40-50 cm and possibly deeper due to the alluvial valley floor valley floor landscape context.

Given the localised presence of remnant natural landscape surfaces that have been unaffected by earthworks, estimated moderate or greater depth of soil deposits, the low gradient/locally elevated nature of the landform, valley floor context of the site, and close proximity to water, this site is assessed to have moderate to high potential for in-situ archaeological deposits of moderate local scientific significance.

7.3 Historical Sites

GMUPH-1

GDA Zone 55 – 751173.6151142

This site is a small concentration of glass and ceramic sherds. These items were located on moderate to low gradient mid-slopes and basal slopes, within ground exposures on the south west fence-line of the study area.

Four glass colours were present including two brown sherds along with single sherds of light green and clear. The clear sherd was had evidence of having been subject to fire. The thickness of the glass sherds suggests an early twentieth century date for these items. The single ceramic sherd was white, with dark green floral/triangle design, with its thickness and form suggestive of domestic tableware. There is a concentration of large non-native trees, suggestive of an old building/farmhouse location, to the west of the fence-line (outside the study area). It may be the case that these items are associated with the adjacent block.

Ground exposure was approximately 70%, with visibility averaging 70% within these exposures. Significant ground disturbances have occurred in the vicinity of the artefacts, including but not limited to, earthworks associated with dam construction, sheet erosion, stock activity along the fence-line, as well as rabbit burrowing.

Given that age of the items, significant levels of ground disturbance, and indicative European plantings in the adjacent block that is outside the study area, this site is assessed to have a very low potential for in-situ historic archaeological deposits of low scientific significance.

Figure 7.12 Broken glass at site GMUPH-1

Figure 7.13 Ceramic sherd at site GMUPH-1

Figure 7.14 View towards location of site GMUPH-1 (person with high-vis shirt), facing southwest

7.4 Inventory of Site Locations

The locations of all sites identified within the study area during archaeological survey are shown in Figure 7.15.

Removed due to cultural sensitivity

Figure 7.15 Heritage sites identified during archaeological field survey of the Goulburn Mixed Use Project study area. Note: Aboriginal sites are represented by green dots, historic sites are represented by dark blue dots.

7.5 Survey Coverage and Visibility Variables

The effectiveness of archaeological field survey is to a large degree related to the obtrusiveness of the sites being looked for and the incidence and quality of ground surface visibility. Visibility variables were estimated for all areas of comprehensive survey within the study area. These estimates provide a measure with which to gauge the effectiveness of the survey and level of sampling conducted. They can also be used to gauge the number and type of sites that may not have been detected by the survey.

Ground surface visibility is a measure of the bare ground visible to the archaeologist during the survey. There are two main variables used to assess ground surface visibility, the frequency of exposure encountered by the surveyor and the quality of visibility within those exposures. The predominant factors affecting the quality of ground surface visibility within an exposure are the extent of vegetation and ground litter, the depth and origin of exposure, the extent of recent sedimentary deposition, and the level of visual interference from surface gravels. Two variables of ground surface visibility were estimated during the survey:

- A percentage estimate of the total area of ground inspected which contained useable exposures of bare ground; and

- A percentage estimate of the average levels of ground surface visibility within those exposures. This is a net estimate and accounts for all impacting visual and physical variables including the archaeological potential of the sediment or rock exposed.

The obtrusiveness of different site types is also an important factor in assessing the impact of visibility levels. For example, artefacts made from locally occurring rock such as quartz may be more difficult to detect under usual field survey conditions than rock types that are foreign to the area. The impact of natural gravels on artefact detection was taken into account in the visibility variables estimates outlined above.

The natural incidence of sandstone platforms suitable for grinding grooves or engraving, together with the incidence of old growth trees, are important considerations in identifying both survey effectiveness and site location patterns outside of environmentally determined factors.

Tables 7.1 and 7.2 summarise and estimate the degree to which separate landforms within the study area were examined and also indicate the exposure incidence and average ground visibility present in each case. A total of 11.81% of the ground area in the study area was inspected during the survey, with 60.48% of these exposures providing useable archaeological visibility.

Taking into account survey coverage, archaeologically useable exposures, and visibility variables, the effective survey coverage (ESC) was 7.14% of the total survey area. The ESC attempts to provide an estimate of the proportion of the total study area that provided a net 100% level of ground surface visibility to archaeological surveyors.

Table 7.1 Survey Coverage Data

Survey Unit	Landform	Survey unit area (sq m)	Exposure %	Visibility %	Effective coverage area (sq m) survey unit area x exposure % x visibility %)	Effective Coverage % (effective coverage area / survey unit area x 100)
1	Crest & upper slopes	4,357	5	40	87.14	2
2	Midslopes (Steep to moderate gradient)	27,896	15	70	2,929.08	10.5
3	Basal slopes (Low gradient)	28,174	15	60	2,535.66	9
4	Valley floor flats	21,895	5	30	328.43	1.5
Total		***82,322***	***11.81***	***60.48***	***5880.31***	***7.14***

Table 7.2 Landform Summary – Sampled areas

Landform	Landform area (sq m)	Area effectively surveyed (sq m) (effective coverage area)	% Landform effectively surveyed (area effectively surveyed / landform area x 100)	Number of Aboriginal sites	Number of Artefacts or Features
Crest & upper slopes	4,357	87.14	2	1	1
Midslopes (Steep to moderate gradient)	27,896	2,929.08	10.5	1	1
Basal slopes (Low gradient)	28,174	2,535.66	9	1	3
Valley floor flats	21,895	328.43	1.5	1	1
Total	***82,322***	***5880.31***	***7.14***	***4***	***6***

8. CULTURAL HERITAGE VALUES AND STATEMENT OF SIGNIFICANCE

8.1 Assessment Criteria

The Burra Charter of Australia defines cultural significance as 'aesthetic, historical, scientific or social value for past, present and future generations' (Aust. ICOMOS 2013). The assessment of the cultural significance of a place is based on this definition but often varies in the precise criteria used according to the analytical discipline and the nature of the site, object or place.

In general, Aboriginal archaeological sites are assessed using five potential categories of significance:

- significance to contemporary aboriginal people;
- scientific or archaeological significance;
- aesthetic value;
- representativeness; and
- value as an educational and/or recreational resource.

Many sites will be significant according to several categories and the exact criteria used will vary according to the nature and purpose of the evaluation. Cultural significance is a relative value based on variable references within social and scientific practice. The cultural significance of a place is therefore not a fixed assessment and may vary with changes in knowledge and social perceptions.

Cultural significance can be defined as the cultural values of a place held by and manifest within the local and wider contemporary Aboriginal community. Places of significance may be landscape features as well as archaeologically definable traces of past human activity. The significance of a place can be the result of several factors including continuity of tradition, occupation or action; historical association; custodianship or concern for the protection and maintenance of places; and the value of sites as tangible and meaningful links with the lifestyle and values of community ancestors. Aboriginal cultural significance may or may not parallel the archaeological significance of a site.

Scientific significance can be defined as the present and future research potential of the artefactual material occurring within a place or site. This is also known as archaeological significance.

There are two major criteria used in assessing scientific significance:

1. The potential of a place to provide information which is of value in scientific analysis and the resolution of potential research questions. Sites may fall into this category because they: contain undisturbed artefactual material, occur within a context which enables the testing of certain propositions, are very old or contain significant time depth, contain large artefactual assemblages or material diversity, have unusual characteristics, are of good preservation, or are a constituent of a larger significant structure such as a site complex.

2. The representativeness of a place. Representativeness is a measure of the degree to which a place is characteristic of other places of its type, content, context or location. Under this criterion a place may be significant because it is very rare or because it provides a characteristic example or reference.

The value of an Aboriginal place as an educational resource is dependent on the potential for interpretation to a general visitor audience, compatible Aboriginal values, a resistant site fabric, and feasible site access and management resources.

The principal aim of cultural resource management is the conservation of a representative sample of site types and variation from differing social and environmental contexts. Sites with inherently unique

features, or which are poorly represented elsewhere in similar environment types, are considered to have relatively high cultural significance.

The cultural significance of a place can be usefully classified according to a comparative scale which combines a relative value with a geographic context. In this way a site can be of low, moderate or high significance within a local, regional or national context. This system provides a means of comparison, between and across places. However, it does not necessarily imply that a place with a limited sphere of significance is of lesser value than one of greater reference.

The following assessments are made with full reference to the scientific, aesthetic, representative and educational criteria outlined above. Reference to Aboriginal cultural values has also been made where these values have been communicated to the consultants. It should be noted that Aboriginal cultural significance can only be determined by the Aboriginal community, and that confirmation of this significance component is dependent on written submissions by the appropriate representative organisations.

8.2 Cultural heritage values identified

8.2.1 Social or cultural value

Aboriginal people alone can determine the Aboriginal cultural significance of a place. The following is the result of the ongoing consultation that has occurred as part of this assessment.

All archaeological objects and sites have cultural value for present-day Aboriginal people, as they were created by ancestral Aboriginal people and provide tangible evidence of past occupation of the landscape.

All sites have cultural significance to present-day Aboriginal groups as manifestations of their ancestors' past occupation of the landscape.

Aboriginal site GMUPA-1 (culturally significant scarred tree) was identified during field survey as culturally significant to some of the RAP representatives.

It should be noted that some objects and places might have cultural value that were not communicated to NOHC. This could be the case for objects or places that are associated with information that is culturally restricted.

5.2.2 Historical value

No information has been provided by Aboriginal stakeholders to suggest the study area is historically important in terms of persons, events, phases or activities in the Aboriginal community. This is not to say that they do not have such significance, simply that no evidence has been forthcoming.

5.2.3 Scientific (archaeological) value

A total of four Aboriginal sites, GMUPA-1 through GMUPA-3 and GMUPA-PAD1, have been identified in the in the Goulburn Mixed Use Precinct study area.

GMUPA-1 (Culturally Significant Scarred Tree) is assessed from an archaeological/scientific perspective as low significance, due to the characteristics of the scars, significant evidence of limb loss, as well as the estimated age of the tree (<100 years). This assessment should not detract from the Aboriginal Cultural Significance that has already been outlined above.

GMUPA-2 (Isolated Find) is assessed to be of low significance due the paucity of other artefacts in the area as well as the steep gradient of the landform and shallow soils. This is a very common site type with little potential to provide data that would substantially add to our understanding of Aboriginal society and land-use in this region of Australia.

The preliminary scientific significance of GMUPA-3 (Artefact Scatter and PAD) is assessed as low, however, the site has inherent research potential, due to the assessed moderate to high potential for subsurface archaeological deposits at this location. Therefore, the scientific significance of this site may change depending on the future results of archaeological subsurface testing.

The scientific significance of GMUPA-PAD1 (Potential Archaeological Deposit) cannot be assessed at this stage of investigation. This site type can only be assessed for archaeological significance through subsurface archaeological testing. Any portions of the PAD's that yield artefacts will then be able to be assessed from a scientific perspective, and areas that are not found to yield artefacts during excavation will be assessed as 'not a site'.

5.2.4 Aesthetic value

As noted in the OEH *Guide to investigating, assessing and reporting on Aboriginal cultural heritage* (DECCW 2011), aesthetic value is often closely associated with social values. To date, no specific aesthetic values have been outlined by RAP representatives.

8.3 Historical Heritage

8.3.1 Assessment criteria

The NSW Heritage Branch has defined a methodology and set of criteria for the assessment of cultural heritage significance for items and places, where these do not include Aboriginal heritage from the pre-contact period (NSW Heritage Office & DUAP 1996, NSW Heritage Office 2000). The assessments provided in this report follow the Heritage Branch methodology.

The following heritage assessment criteria are those set out for Listing on the State Heritage Register. In many cases items will be significant under only one or two criteria. The State Heritage Register was established under Part 3A of the Heritage Act (as amended in 1999) for listing of items of environmental heritage that are of state heritage significance. Environmental heritage means those places, buildings, works, relics, moveable objects, and precincts, of state or local heritage significance (section 4, *Heritage Act 1977*).

An item will be considered to be of State (or local) heritage significance if, in the opinion of the Heritage Council of NSW, it meets one or more of the following criteria:

Criterion (a) an item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area);

Criterion (b) an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the cultural or natural history of the local area);

Criterion (c) an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area);

Criterion (d) an item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons;

Criterion (e) an item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area);

Criterion (f) an item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area);

Criterion (g) an item is important in demonstrating the principal characteristics of a class of NSW's:

- cultural or natural places; or

- cultural or natural environments.

(or a class of the local area's:

- cultural or natural places; or
- cultural or natural environments.)

An item is not to be excluded from the Register on the grounds that items with similar characteristics have already been listed on the Register. Only particularly complex items or places will be significant under all criteria.

In using these criteria, it is important to assess the values first, then the local or State context in which they may be significant.

Different components of a place may make a different relative contribution to its heritage value. For example, loss of integrity or condition may diminish significance. In some cases, it is constructive to note the relative contribution of an item or its components.

All significance assessments below may be updated if new information comes to light through further research or archaeological investigation. Criteria that are assessed to be significant relative to a site are in bold typeset.

8.3.2 Significance assessment

GMUPH-1 Sparse scatter of early 20th century glass and ceramic

Criterion (a) The site is not important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area). The site is assessed as not significant against this criterion.

Criterion (b) This site does not have a strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the cultural or natural history of the local area) and is therefore assessed as not having significance against this criterion.

Criterion (c) This site is not important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area), and is therefore not significant against this criterion.

Criterion (d) This site does not have a strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons and therefore is assessed as not having significance against this criterion.

Criterion (e) This site does not have potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area). The site is assessed as not having significance against this criterion.

Criterion (f) The site does not possess uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area), and therefore is assessed as not having significance against this criterion.

Criterion (g) This site is not important in demonstrating the principal characteristics of a class of NSW's, and therefore is assessed as not having significance against this criterion.

In summary, historic site GMUPH-1 does not meet any of the above criterion and is therefore assessed as not significant.

9. THE PROPOSED ACTIVITY

9.1 Historical Overview

Overall, historically the study area has been subject to European (post-contact) disturbances mostly related to farming. These include:

- Clearance of remnant vegetation
- Stock treadage
- Broad scale topsoil erosion and sheet erosion

The original native vegetation in the study area was mostly cleared in the historic period and is now a mixture of cleared open pastures for grazing, with secondary eucalypts limited to the mid-slopes and hill crest in the north-western corner of the study area. Clearance of trees can substantially disturb archaeological material on the surface and in subsurface sediments (Wildesen 1982). If trees are up-rooted they drag subsurface sediments up to the surface. If tree stumps are left in the ground to rot, or are burned out, their roots create vacuities that are filled by intrusive sediment. This intrusive sediment can carry archaeological material down through the sediment profile.

Clearing of vegetation also intensifies erosion, which can move archaeological material across eroding areas, and can mix material together that was initially separated, as the intervening sediment is stripped away. Erosion can also bury archaeological sites in areas where mobilised sediments settle, such as on floodplains.

There have been more focussed disturbances related to the use of the study area for farming purposes. These impacts include:

- Planting of introduced pine trees
- Dam earthworks
- Swale ditches and berms

There was then a development period in the study area that related in further subsurface impacts, associated with a residential development. The disturbances associated with this phase include:

- Heavy earthworks in the form of benching and excavation
- Road construction (laying asphalt and installing concrete curb side gutters)
- Installation of subsurface stormwater

The above road and dam construction impacts can best be summarised as disturbance through excavation, compaction, and erosion.

Excavations result in the movement and mixing of artefacts and archaeological deposits, and damage to artefacts through breakage. The impact of excavation is experienced by artefacts on the ground surface and in subsurface deposits throughout the depth of the excavation.

Compaction of subsurface deposits can compress archaeological deposits, resulting in the movement of artefacts within deposits, and blurring the transitions between archaeological sequences. These pressures can force archaeological material together causing breakage and thus limiting the level of scientific data that could be gained through artefact analysis.

Areas subject to ground disturbance are more prone to erosion. Vulnerability to erosion is heightened on sloped areas where surface water runoff occurs during rainfall. Erosion impacts archaeological sites by stripping away sediments which hold artefacts, consequently removing the potentially

informative context of these artefacts; and by moving the artefacts themselves, which can result in artefacts from separate archaeological contexts being mixed together, and can also result in damage to artefacts as they collide with rocks and other objects (Wildesen 1982).

The majority of the land in the study area will be impacted by the proposed Goulburn Mixed Use Precinct development. Only the crest of the hill and associated steep mid-slopes will be unaffected by construction impacts.

9.2 Proposed project & potential harm

The current design of the Goulburn Mixed Use Precinct has the potential to harm a number of sites.

The project concerns a Mixed-Use Development, including a poultry processing plant, a cold storage and distribution centre, a child-care facility, and other associated infrastructure such as car parking, office buildings and amenities (see Figure 1.1).

GMUPA-1 (Culturally Significant Scarred Tree) is 80 m outside the area subject to construction impacts and will not be harmed.

GMUPA-2 (Isolated Find) is approximately 20 m outside of the area subject to construction impacts and will not be harmed.

GMUPA-3 (Artefact Scatter and PAD) is situated in an area designated for truck parking and would be subject t considerable subsurface impacts in the form of excavation, levelling, compaction, and capping with asphalt.

GMUPA-PAD1 (Potential Archaeological Deposit) is situated in an area designated for factory staff parking as well as a wastewater treatment plant and associated infrastructure. Subsurface impacts in this location would include excavation, levelling, compaction, installation of building footings, and capping with asphalt.

GMUPH-1 (sparse scatter of early 20th century glass and ceramic) is located on the fence-line. It is likely to be impacts by fencing upgrades during construction. The does not meet any significance thresholds and will not require the implementation of any impact mitigation measures.

9.2.1 Construction impacts

Within the construction area, the physical impact on Aboriginal archaeological sites and artefacts is likely to range from partial to total in scope and be mostly severe in effect. The high degree of land surface modification involved in most of the activities in these areas will in most cases result in wholescale removal, dispersal or destruction of archaeological material. There will be a consequential substantial loss of heritage significance.

Likely construction impacts include:

- Destruction of surface and subsurface artefacts;
- Displacement, dispersal and loss of archaeological deposits through sediment removal, transport and deposition;
- Permanent loss and exclusion of access, through covering with fill, or construction materials;
- Loss of contextual landscape integrity for any remaining archaeological material.

9.3 Impact on Aboriginal cultural heritage values

Archaeological sites have cultural heritage value for present-day Aboriginal groups, in that they are manifestations of prehistoric Aboriginal groups and their occupation and use of the land. In that

sense, the impacts to archaeological sites discussed above carry with them an impact to the cultural heritage value of the study area.

It should be noted that some objects and places might have cultural value that was not communicated to NOHC. This could be the case for objects or places that are associated with information that is culturally restricted.

10. AVOIDING AND MINIMISING HARM

10.1 Impact assessment

Table 10.1 Impact Assessment

Site Number	Type of Harm	Degree of Harm	Consequence of Harm	Mitigation
GMUPA-1	None	None	None	No mitigation required. Site is over 80 metres from construction
GMUPA-2	Low possibility of indirect/inadvertent	None anticipated	Destruction of surface material (inadvertent)	No further work required. Site to be protected by fences during construction
GMUPA-3	Direct	Whole	Destruction of surface material and possible sub-surface material (PAD)	Collection of surface artefacts and archaeological subsurface testing to assess subsurface deposits
GMUPA-PAD1	Direct	Partial	Destruction of possible sub-surface material (PAD)	Archaeological subsurface testing to assess subsurface deposits
GMUPH-1	Direct	Whole		Site does not meet significance thresholds. No mitigation required.

10.2 Description of how ESD (ecological sustainable development) principles have been considered

ESD (defined in s.6 of the *Protection of the Environment Administration Act 1991*) requires the integration of *economic* and *environmental* considerations (including cultural heritage) in the decision-making process. In regard to Aboriginal cultural heritage, ESD can be achieved by applying the principle of intergenerational equity, the precautionary principle and by considering the project's contribution to cumulative impacts.

Intergenerational equity is the principle whereby the present generation should ensure the health, diversity and productivity of the environment for the benefit of future generations.

The precautionary principle states that 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.

Assessing cumulative impacts involves the consideration of the proposed impact in the context of existing developments and past destruction of heritage sites, as well as the population of heritage sites that still exist in the region of interest (Godwin 2011). The concept of assessing cumulative impacts aims to avoid discussing the impact of a development in isolation and aims to assess the impact in terms of the overall past and future degradation of a region's heritage resource.

This report considers ESD principles in the following ways:

- *Intergenerational equity*

The layout of the Goulburn Mixed Use Precinct development has been designed to ensure that almost all of the portions of the site covered by trees will remain. This mainly applies to the northwest corner of the study area, where Aboriginal site GMUPA-1 is located and will be conserved.

The objects salvaged during the archaeological test excavation program and any subsequent surface collection or subsurface salvage program, will be subject to analysis followed by a 'return to country' in accordance with Requirement 26 of the Code of Practice. This will ensure that the objects themselves will be available for future generations to potentially access.

- *Precautionary principle*

As outlined in this report, the proposed development will impact Aboriginal objects. Effort has been made to avoid Aboriginal objects. The culturally significant scarred tree GMUPA-1, as well as GMUPA-2 (isolated find) have been avoided and subsequently will not be impacted by the project.

The project will impact an additional two sites. Surface artefact scatter GMUPA-3 as well as Potential Archaeological Deposit GMUPA-PAD1, were both assessed as having moderate to high potential for subsurface archaeological deposits. Impact at these sites will be mitigated through the collection of surface artefacts at GMUPA-3, as well as archaeological test excavation at site GMUPA-3 and GMUPA-PAD1. All sites that will be directly impacted for have a high possibility of indirect or inadvertent impact will be subject to the mitigation measures outlined in Table 10.1.

The surface collection and subsurface salvage of artefacts represents a precautionary measure against the harm to archaeological material in the Goulburn Mixed Use Precinct development area.

Protection of sites lying outside the areas proposed to be impacted will be accomplished by placing physical fences (where necessary) between these sites and areas of construction work. Use of physical fencing, an engineering control to guard against inadvertent impacts, represents a precautionary measure to prevent any damage to these sites and consequent reduction of their heritage value.

- *Cumulative impacts*

The archaeological sites that will be impacted under this proposal are a scatter of stone artefacts that is currently sitting on the ground surface, and areas of PAD that are likely to yield subsurface deposits immediately beneath the surface. Previous archaeological surveys and excavations indicate that artefact scatters are common in the surrounding region (Goulburn and the Southern Tablelands) and are distributed across the range of landform types represented in the region (see Section 5.3).

The majority of the sites that are proposed to be impacted are not unusual or unique in any way, on the basis of data obtained so far (for example, they are not notably intact and undisturbed, unusually rich or rare), and so it can be assumed that there is a large 'meta-population' of similar sites distributed across the surrounding landscape. The majority of the region surrounding Goulburn is utilised as farmland, with some forest plantations and national parks. Areas that have experienced dramatic disturbance, such as towns and mines, make up a relatively minor proportion of the land area. The population of sites that have been previously destroyed can be assumed to be a similarly minor percentage of the total population of sites that existed at the time of European contact.

For these reasons - a large existing population of similar sites, and a small population of previously destroyed sites relative to the total population of sites that have existed in the region - it is assessed that the cumulative impact to the region's archaeological resource represented by this proposal is minor.

Two sites that need further assessment to confirm relative scientific significance, GMUPA-3 and GMUPA-PAD1, are proposed to be surface and/or subsurface testing. This will mitigate impacts anticipated by the proposed development.

10.3 Management and Mitigation Measures

The management and mitigation measures proposed for the sites in the project area are:

1. The location of all Aboriginal sites that lie outside areas of impact should be clearly marked on all relevant maps and plans to be used on-site and in planning, and physical access controls installed where possible during construction to ensure that no inadvertent impacts occur to these sites.

   Information in this report relating to the exact location of Aboriginal sites should not be published or promoted in the public domain.

2. Archaeological subsurface testing should be undertaken at Aboriginal site GMUPA-1 and GMUPA-PAD1, following the *Code of practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (2010). A notification of period, to OEH, of 2 weeks prior to commencement of works is a required.

3. Approval for an AHIP should be sought and obtained prior to the commencement of the proposed works. The AHIP should cover all areas of ground surface impact, as well as any further surface collection or subsurface excavation required within the project area.

4. The specific site management actions detailed in Table 10.1 should be implemented.

5. All artefacts recovered during the archaeological testing program, and any surface collection, would be returned to the study area in accordance with 'return to country' Requirement 26 of the Code of Practice, and would be placed in a suitable location identified in consultation with the RAPs.

6. The protocols for the unanticipated discovery of archaeological material and suspected human remains (presented in Appendix 3) would be adopted and complied with during construction activities involving ground surface disturbance and excavation.

10.4 Input by Aboriginal People

A draft copy of this ACHAR was sent to each Aboriginal stakeholder with an opportunity to comment on the results, as well as the archaeological subsurface testing methodology (Appendix 4).

11. RECOMMENDATIONS

The following recommendations are made on the basis of the location of heritage sites, their assessed archaeological sensitivity and heritage significance.

It is recommended that:

1. Where feasible, as a first priority, impacts to all Aboriginal sites should be avoided.

2. GMUPA-1 (culturally significant scarred tree) will not be impacted and should be clearly marked on all maps.

3. GMUPA-2 (isolated find) will not be impacted. This site should be clearly marked on all maps and fenced prior to construction to avoid inadvertent impacts during the construction phase.

4. Subsurface archaeological testing following the *Code of Practice* (2010) should be conducted at sites GMUPA-3 and GMUPA-PAD1 prior to any impact. This salvage would be completed as per the methodology outlined in Appendix 4.

5. Approval for an AHIP should be sought and obtained prior to the commencement of the proposed works. The AHIP should cover all areas of ground surface impact, as well as any further surface collection or subsurface excavation required within the project area.

6. All artefacts recovered during the testing and salvage programs would be returned to the study area and would be placed in a conservation area at a location chosen by the RAPs and according to the 'return to country' protocols outlined in Requirement 26 of the Code of Practice.

7. Information in this report relating to the exact location of the Aboriginal sites detailed in this report should not be published or promoted in the public domain.

8. Where necessary, the protocols for unanticipated discoveries for Aboriginal and European sites and burials detailed in Appendix 3, shall be implemented.

9. One copy of this report shall be provided to each of the Registered Aboriginal Parties.

12. REFERENCES

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APPENDIX 1

AHIMS HERITAGE REGISTER SEARCH RESULTS

Office of Environment & Heritage
NSW GOVERNMENT

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : Goulburn mixed use
Client Service ID : 391440

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
51-6-0073	Goulburn 4.	AGD	55	753350	6150150	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	Doctor.Susan Mcintyre-Tamwoy					Permits		
51-6-0064	Goulburn 4	AGD	55	751500	6150500	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	Doctor.Susan Mcintyre-Tamwoy					Permits		
51-6-0041	GC05	AGD	55	750900	6150750	Open site	Valid	Artefact : -	Open Camp Site	1578
	Contact	Recorders	Ms.N Fuller					Permits		
51-6-0055	GC19	AGD	55	752750	6151680	Open site	Valid	Artefact : -	Open Camp Site	1578
	Contact	Recorders	Ms.N Fuller					Permits		
51-6-0056	GC20	AGD	55	750000	6149400	Open site	Valid	Artefact : -	Open Camp Site	1578
	Contact	Recorders	Ms.N Fuller					Permits		
51-6-0043	GC07	AGD	55	751050	6150220	Open site	Valid	Artefact : -	Open Camp Site	1578
	Contact	Recorders	Ms.N Fuller					Permits		
51-6-0044	GC08	AGD	55	751050	6150120	Open site	Valid	Artefact : -	Open Camp Site	1578
	Contact	Recorders	Ms.N Fuller					Permits		
51-6-0045	GC09	AGD	55	752580	6152180	Open site	Valid	Artefact : -	Open Camp Site	1578
	Contact	Recorders	Ms.N Fuller					Permits		
51-6-0046	GC10	AGD	55	752750	6152200	Open site	Valid	Artefact : -	Open Camp Site	1578
	Contact	Recorders	Ms.N Fuller					Permits		
51-6-0061	GSP 1	AGD	55	751150	6152700	Open site	Valid	Artefact : -	Open Camp Site	1845,1975
	Contact	Recorders	Rex Silcox					Permits		
51-6-0062	Goulburn 2	AGD	55	750250	6149300	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	Doctor.Susan Mcintyre-Tamwoy					Permits		
51-6-0063	Goulburn 3	AGD	55	751000	6150000	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	
	Contact	Recorders	Doctor.Susan Mcintyre-Tamwoy					Permits		
51-6-0054	GC18	AGD	55	749950	6149350	Open site	Valid	Artefact : -	Open Camp Site	1578
	Contact	Recorders	Ms.N Fuller					Permits		
51-6-0671	AS-OS-1 (same as 51-6-0651)	GDA	55	750810	6150730	Open site	Valid	Artefact : 17		
	Contact	Recorders	Mrs.Robynne Mills					Permits		
51-6-0123	Tall Timbers 1	AGD	55	749650	6149200	Open site	Valid	Artefact : 100		98991
	Contact	Recorders	Mr.Doug Williams					Permits	2027,3952	
51-6-0234	Pineleigh Isf2	AGD	55	751151	6150920	Open site	Valid	Artefact : 1		99404
	Contact T Russell	Recorders	Heritage Concepts					Permits		
51-6-0235	Pineleigh Ocs1 & PAD	GDA	55	751409	6150980	Open site	Valid	Artefact : 4		

Report generated by AHIMS Web Service on 09/01/2019 for Nicola Hayes for the following area at Lat, Long From : -34.7669, 149.7194 - Lat, Long To : -34.7355, 149.769 with a Buffer of 50 meters. Additional Info : ACHAR. Number of Aboriginal sites and Aboriginal objects found is 46

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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : Goulburn mixed use

Client Service ID : 391440

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
	Contact T Russell	Recorders	Heritage Concepts					Permits		
51-6-0236	Pineleigh Ocs3	GDA	55	751229	6150897	Open site	Valid	Artefact : 4		
	Contact T Russell	Recorders	Heritage Concepts					Permits		
51-6-0237	Pineleigh ISF 1	GDA	55	751341	6150969	Open site	Valid	Artefact : 1		
	Contact T Russell	Recorders	Heritage Concepts					Permits		
51-6-0413	Pineleigh OCS 2	AGD	55	751312	6150874	Open site	Valid	Artefact : 2		
	Contact T Russell	Recorders	Heritage Concepts					Permits		
51-6-0650	WR-OS-1 (Pole 31)	AGD	55	750790	6151740	Open site	Valid	Artefact : 11		101434
	Contact	Recorders	Mills Archaeological & Heritage Services Pty Ltd					Permits	3222	
51-6-0651	AS-OS-1 (Pole 20)	AGD	55	750810	6150730	Open site	Valid	Artefact : 17		101434
	Contact	Recorders	Mills Archaeological & Heritage Services Pty Ltd					Permits	3222	
51-6-0652	WR-OS-2 (Pole 33)	AGD	55	750970	6151970	Open site	Valid	Artefact : 7		101434
	Contact	Recorders	Mills Archaeological & Heritage Services Pty Ltd					Permits	3222	
51-6-0653	WR-OS-3 (Pole 36)	AGD	55	751070	6152410	Open site	Valid	Artefact : 3		101434
	Contact	Recorders	Mills Archaeological & Heritage Services Pty Ltd					Permits	3222	
51-6-0654	WR-OS-4 (Pole 37)	GDA	55	751060	6152560	Open site	Valid	Artefact : 5		101434
	Contact	Recorders	Mills Archaeological & Heritage Services Pty Ltd					Permits	3222	
51-6-0655	WR-OS-5 (Pole 38)	AGD	55	751060	6152720	Open site	Valid	Artefact : 7		101434
	Contact	Recorders	Mills Archaeological & Heritage Services Pty Ltd					Permits	3222	
51-6-0658	RH-OS-1 (Goulburn)	AGD	55	750571	6149373	Open site	Valid	Artefact : 4		
	Contact	Recorders	Mills Archaeological & Heritage Services Pty Ltd					Permits	3222	
51-6-0674	PL-OS-10	GDA	55	750600	6149410	Open site	Valid	Artefact : 7		
	Contact	Recorders	Mrs.Robynne Mills					Permits		
51-6-0675	PL-OS-11	GDA	55	750690	6149540	Open site	Valid	Artefact : 2		
	Contact	Recorders	Mrs.Robynne Mills					Permits		
51-6-0676	PL-OS-19	GDA	55	751000	6150690	Open site	Valid	Artefact : 1		
	Contact	Recorders	Mrs.Robynne Mills					Permits		
51-6-0677	PL-IF-18	GDA	55	750970	6150530	Open site	Valid	Artefact : 1		
	Contact	Recorders	Mrs.Robynne Mills					Permits		
51-6-0679	LS-OS-1	GDA	55	750820	6149880	Open site	Valid	Artefact : 7		
	Contact	Recorders	Mrs.Robynne Mills					Permits		
51-6-0673	PL-OS-14	GDA	55	751000	6150690	Open site	Valid	Artefact : 1		
	Contact	Recorders	Mrs.Robynne Mills					Permits		
51-6-0692	WR-OS-8	GDA	55	751187	6152768	Open site	Valid	Artefact : 3		102280

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Office of Environment & Heritage

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : Goulburn mixed use
Client Service ID : 391440

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
	Contact	Recorders	South East Archaeology,Mr.Leigh Bate					Permits		
51-6-0726	HSP2	GDA	55	753083	6152112	Open site	Valid	Artefact : 1		
	Contact	Recorders	Navin Officer Heritage Consultants Pty Ltd,Doctor.Rebecca Parkes					Permits		
51-6-0738	HSP20	GDA	55	753083	6152112	Open site	Valid	Artefact : 1		
	Contact	Recorders	Navin Officer Heritage Consultants Pty Ltd,Doctor.Rebecca Parkes					Permits		
51-6-0724	Leeson ST1	GDA	55	749519	6149423	Open site	Valid	Artefact : -		
	Contact	Recorders	Biosis Pty Ltd - Canberra					Permits		
51-6-0791	Lot 1 DP789099/IF3	GDA	55	750237	6150360	Open site	Valid	Artefact : -		
	Contact	Recorders	Biosis Pty Ltd - Sydney,Ms.Rebecca Morris					Permits		
51-6-0792	Lot 1 DP789099/IF4	GDA	55	750202	6150511	Open site	Valid	Artefact : -		
	Contact	Recorders	Biosis Pty Ltd - Sydney,Ms.Rebecca Morris					Permits		
51-6-0793	Lot 1 DP789099/IF1	GDA	55	750251	6150536	Open site	Valid	Artefact : -		
	Contact	Recorders	Biosis Pty Ltd - Sydney,Ms.Rebecca Morris					Permits		
51-6-0794	Lot 1 DP789099/3	GDA	55	750326	6150489	Open site	Valid	Artefact : -		
	Contact	Recorders	Biosis Pty Ltd - Sydney,Ms.Rebecca Morris					Permits		
51-6-0795	Lot 1 DP789099/IF2	GDA	55	750306	6150526	Open site	Valid	Artefact : -		
	Contact	Recorders	Biosis Pty Ltd - Sydney,Ms.Rebecca Morris					Permits		
51-6-0796	Lot 17 DP789099/IF2	GDA	55	750262	6150503	Open site	Valid	Artefact : -		
	Contact	Recorders	Biosis Pty Ltd - Sydney,Ms.Rebecca Morris					Permits		
51-6-0797	Lot 1 DP789099/2	GDA	55	750288	6150500	Open site	Valid	Artefact : -		
	Contact	Recorders	Biosis Pty Ltd - Sydney,Ms.Rebecca Morris					Permits		
51-6-0798	Lot 1 DP789099/1	GDA	55	750146	6150408	Open site	Valid	Artefact : -		
	Contact	Recorders	Biosis Pty Ltd - Sydney,Ms.Rebecca Morris					Permits		
51-6-0801	Lot 17 DP789099/IF1	GDA	55	750232	6150535	Open site	Valid	Artefact : -		
	Contact	Recorders	Biosis Pty Ltd - Sydney,Ms.Rebecca Morris					Permits		

Report generated by AHIMS Web Service on 09/01/2019 for Nicola Hayes for the following area at Lat, Long From : -34.7669, 149.7194 - Lat, Long To : -34.7355, 149.769 with a Buffer of 50 meters. Additional Info : ACHAR. Number of Aboriginal sites and Aboriginal objects found is 46

APPENDIX 2

RECORD OF ABORIGINAL CULTURAL HERITAGE CONSULTATION REQUIREMENTS FOR PROPONENTS 2010

ABORIGINAL HERITAGE IMPACT PERMIT APPLICATION

Navin Officer Heritage Consultants Pty Ltd has been commissioned by KDC to conduct a cultural heritage assessment for the Goulburn Mixed Use Development project, located at 52 Sinclair St Goulburn.

The investigation is required to assess the potential impact of the proposed development of these lands on Aboriginal cultural heritage values.

We are implementing the NSW Office of Environment and Heritage Aboriginal cultural heritage consultation requirements for proponents 2010 for this project.

We invite Aboriginal people who hold cultural knowledge relevant to determining the cultural significance of objects and places in the investigation area, to register an interest in a process of community consultation.

The purpose of this consultation is to assist the proponent and government authorities in the preparation and assessment of legislative requirements, permits and approvals.

Please forward expressions of interest to:

The Secretary
Navin Officer Heritage Consultants Pty Ltd
4/71 Leichhardt Street
Kingston ACT 2604

The closing time for this registration of interest is 14 days.

Step 1a Public Notice in Goulburn Post

From: Muragadi <muragadi@yahoo.com.au>
Sent: Monday, May 27, 2019 1:28 PM
To: Adrian Cressey <acressey@nohc.com.au>
Subject: RE: Goulburn Mixed Use Precinct

Hi Adrian,
I agree with recommendations made by Navin Officer Heritage for the Goulburn Mixed use precinct, please feel free to contact me should you require further details.
Thanks
Jesse Johnson

From: Ryan Johnson <murrabidgeemullangari@yahoo.com.au>
Sent: Monday, May 27, 2019 11:08 AM
To: Adrian Cressey <acressey@nohc.com.au>
Subject: RE: Goulburn Mixed Use Precinct

Hi Adrian,
I have read the project information and methodology for the Goulburn Mixed Use Precinct, I endorse the recommendations made by Navin Officer Heritage.
Kind regards
Ryan Johnson | **Murra Bidgee Mullangari**

From: Shaun Carroll <Merrigarn@hotmail.com>
Sent: Friday, 3 May 2019 8:17 AM
To: Navin Officer <navinofficer@nohc.com.au>
Subject: FW: Goulburn Mixed Use Precinct

Hi Nicola
I have read the project information, methodology and recommendations for the above project, I agree with Navin Officer Heritage recommendations.
Kind regards
Shaun Carroll

From: Koomurri Ngunawal Aboriginal Corporation <koomurrinac@hotmail.com>
Sent: Wednesday, May 8, 2019 3:08 PM
To: Adrian Cressey <acressey@nohc.com.au>
Subject: Re: Goulburn Mixed Use Precinct

Yadhung Dhunga (Ngunawal Language)Greeting,

Adrian, I have no issues with the proposed methodology
for this project. Upon reading the speculation about who's Nation/Country this is,I feel that the reliance on 17th/18th century information in the 21st century is virtually useless, while these people have certain knowledge about aboriginal peoples of those times as to who is or were the Local Custodians they are mostly wrong,with due respect.

In those ancient times all Aboriginal people were still in touch with the metaphysical aspects of life on country "connection". Because of that connection, they were as in tune within their environment as the animals were.

When you are in the bush and take the time to sit quietly for a while, you become a part of the environment of nature, animals,birds,insects and so forth, in the old times our people were as adept at blending into the environment as the animals were.

The accuracy on our numbers is very wrong,like animals that don't want you to see them, this was the same for our ancestors, you may get to see some of them but not all of them,when the "rations"and blankets were handed out,there were designated people sent to do this(oral knowledge from 85yr old Elder).

As it is in Ngunawal country,we were still practicing our Culture although not in the open, due to the practices and prejudices of the colonial police and politicians of the time. Oak Hill was one place where this took place,(The wild Blacks camp),myself and two cousins were shown how to pick a tree for barking for canoes how to cure it and such in 1960,I was 6yrs old, some elements of Culture I have only a basic understanding of, because of our system where not all knowledge is allowed to be given to just one person, it's shared within the clan groups.

It's the responsibility of the Elders to pass knowledge on to their initiates, not everyone is recognised as an Elder because of their age as it is in white society, it is an honor bestowed upon a knowledge holder by other Elders.

When you speak of the scientific way of classifying whether a tree has been modified or that it has been barked and you mention the age factor,I have to ask how you come to the conclusion of a trees age.

Usually you have to cut the tree down to ascertain it's age, unless of course you have another way to do this, my father taught me as a part of sharing knowledge passed from Elder to the initiates how this is done.

Nothing grows to it's full potential in barren sandy type soils,I do not have your book learning(no disrespect to you)in regards to scientific profiling of soils and such but I have seen trees up to 150 to 300 hundred years of age that match the physical profile of the modified tree that you seem to have dismissed by quoting your scientific profile as the overruling factor.

We are asked to be on a project for our knowledge of the environment of our country I thought. Too often it is stated that there was no knowledge shared with the archaeologists on projects,perhaps because the wrong people are engaged such as white people who are sent by so called Aboriginal Cultural Heritage Corporations who are greed oriented only.

Perhaps the Aboriginal people who are engaged by you simply have no knowledge to share of the country they are on because it isn't their country, again no understanding of our protocols as to who is permitted to speak, there was certainly one white person who had plenty to say without permission on this survey.

Language? our Ngaiyuriidja Ngunawal Language Revitalisation project has been in place for 8yrs in partnership with AIATSIS,our language is not identical to any other,although there may be some common words used between certain language groups,Yuin, Dharawal,Gandangarra,Woddi Woddi and Ngarigu all share some language with us for Ceremonial and for harvest times,surely it stands to reason that we all had linguists in the ancient times, we have our own writing system for our Ngunawal language and I think only the Dharawal Yuin and the Ngunawal have stand alone languages systems in place.

As to the case for who's country Djeddamulong belongs
to and whether it belongs to us,being surrounded by four of our Seven clans whose main alli was the Gandangarra and vice averse they are the only people who have a shared space within our Nation/Country, always has been and always will be Ngunawal Nation.

So if you are looking for new information on language and such you could do worse than to contact Doug Marmion at AIATSIS Head Linguist.

I haven't got enough time to tell you anymore about our country,but make no mistake this is Ngunawal Dharwra.

Regards,
Glen

7/5/2019

Dear Adrian, Re Goulbourn mixed use development Project, As an elder Gnunnawal I have worked with NAVIN officer and the loud Nichola Hayes on many Jobs in my ancestors lands and have allways found you NAVIN to be most afficent on Aboriginal sites to record lands and were our Ancestors lived or travelled across or Camped on. Yes I agree with site signifacance and assessments

I agree with all reccomendations in section 11. of report I believe as you do any artefact left by our ancestors Aboriginal need to be found and recorded for future generations.

I agree with methodology for subsurface testing your very thorougher with all testing NAVIN

Cherie Carroll Turrise, Gunjeewong Cultural Heritage Aboriginal Corporation

1 BELLVUE PLACE Portland
NSW 2847

APPENDIX 3

UNANTICIPATED DISCOVERY PROTOCOLS

Protocol to follow in the event of the discovery of suspected human remains

For projects not yet approved, or approved under Part 5 of the EP&A Act

The following protocol will be actioned if suspected human material is revealed during development activities or excavations:

1. All works must halt in the immediate area of the find(s) and any further disturbance to the area of the find(s) prevented.

    a. The discoverer of the find(s) will notify machinery operators in the immediate vicinity of the find(s) so that work can be halted; and

    b. The site supervisor and the Principal/Project manager will be informed of the find(s).

2. If there is substantial doubt regarding a human origin for the remains, then consider if it is possible to gain a qualified opinion within a short period of time. If feasible, gain a qualified opinion (this can circumvent proceeding further along the protocol for remains which are not human). If conducted, this opinion must be gained without further disturbance to the find(s) or the immediate area of the find(s). (Be aware that the site may be considered a crime scene that retains forensic evidence). If a quick opinion cannot be gained, or the identification is positive, then proceed to the next step.

3. Immediately notify the following of the discovery:

    a. The local Police (this is required by law);

    b. A OEH archaeologist or Aboriginal Heritage Officer from the Regional Operations South Branch, Queanbeyan (02 6229 7188);

    c. Representative(s) from the Registered Aboriginal Parties and

    d. The project archaeologist (if not already notified).

4. Co-operate and be advised by the Police and/or coroner with regard to further actions and requirements concerning the find area. If required, facilitate the definitive identification of the material by a qualified person (if not already completed).

5. In the event that the Police or coroner instigate an investigation, construction works are not to resume in the designated area until approval in writing is gained from the NSW Police.

6. In the event that the Police and/or Coroner advise that they do not have a continuing or statutory role in the management of the finds then proceed with the following steps:

7. If the finds are not human in origin but are considered to be archaeological material relating to Aboriginal occupation then proceed with Protocol for the discovery of Aboriginal objects (other than human remains).

8. If the finds are Aboriginal or probably Aboriginal in origin:

    a. Ascertain the requirements of OEH, the Heritage Branch, the Project Manager, and the views of the AFG, and the project archaeologist.

    b. Based on the above, determine and conduct an appropriate course of action. Possible strategies could include one or more of the following:

i. Avoiding further disturbance to the find and conserving the remains *in situ*;

ii. Conducting archaeological salvage of the finds following receipt of any required statutory approvals;

iii. Scientific description (including excavation where necessary), and possibly also analysis of the remains prior to reburial;

iv. Recovering samples for dating and other analyses; and/or

v. Subsequent reburial at another place and in an appropriate manner determined by the AFG.

9. If the finds are non-Aboriginal in origin:

c. Ascertain the requirements of the Heritage Branch, Project Manager, and the views of any relevant community stakeholders and the project archaeologist.

a. Based on the above, determine and conduct an appropriate course of action. Possible strategies could include one or more of the following:

a. Avoiding further disturbance to the find and conserving the remains *in situ*;

b. Conducting archaeological salvage of the finds following receipt of any required statutory approvals;

c. Scientific description (including excavation where necessary), and possibly also analysis of the remains prior to reburial;

d. Recovering samples for dating and other analyses; and/or

e. Subsequent reburial at another place and in an appropriate manner determined in consultation with the Heritage Office and other relevant stakeholders.

10. Construction related works in the area of the remains (designated area) may not resume until the proponent receives written approval in writing from the relevant statutory authority: from the Police or Coroner in the event of an investigation, from OEH in the case of Aboriginal remains outside of the jurisdiction of the Police or Coroner, and from the Heritage Branch in the case of non-Aboriginal remains outside of the jurisdiction of the Police or Coroner.

APPENDIX 4

PROPOSED SUBSURFACE TESTING METHODOLOGY

Archaeological Test Excavation

A4.1 Study Aims

The aim of the archaeological subsurface testing is to test for the presence of archaeological deposits within the areas of identified PAD that will be directly impacted by the project.

Two sites with subsurface archaeological potential have been identified (GMUPA-PAD1 and GMUPA-3) (see Figure A)

The archaeological subsurface testing is proposed to follow the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (2010).* This does not require an AHIP and will be a by-hand excavation program.

A4.2 Methodology

Testing will be undertaken along transects within areas of direct disturbance to GMUPA-PAD1 and areas of subsurface potential associated with artefact scatter GMUPA-3 (see Figure A). Test pits will be placed at 10 m intervals along the transects. The proposed number of test pits at each location is:

GMUPA-PAD1 – 18 pits

GMUPA-3 – 12 pits

If artefacts are found with one or more of the following characteristics:

- Diverse range of artefacts/materials;
- Evidence of in situ knapping;
- Low levels of disturbance;
- Stratified deposits;
- Other features indicative of substantial archaeological deposits.

then additional pits may be excavated around excavation points, to extend a test transect or to fill in a transect to a 5 metre spacing.

Up to 10 additional 50 x 50 cm Code of Practice test pits may be excavated in addition to the above across the two excavation areas.

Following an on-site review, the indicative test pit locations may be varied slightly in order to avoid the following:

- large stone cobbles or tors (with maximum linear dimensions greater than 300 mm);
- outcropping bedrock;
- highly disturbed or eroded ground; and/or
- substantial vegetation (with stem diameter of 100 mm or greater).

A4.3 Hand Excavation

An indicative testing methodology would consist of the following:

1. Mark out and record pit location(s).

   The size of an individual excavation pit would be 0.50 x 0.50 metres.

2. Excavate pit.

   Pits would be excavated by shovel and trowel using standard by-hand archaeological methodologies including vertical and horizontal recording of spit levels and sedimentary, cultural and stratigraphic features.

   The first excavation unit at each site would be excavated and documented in 5 cm spits. Depending upon the results of the first excavation unit, subsequent spit intervals would be at 10 cm, except in circumstances where the excavation of cultural features or stratigraphic units necessitates a smaller interval.

   Excavation would cease according to an on-site appreciation of the vertical extent of the archaeological deposit.

3. Where cultural features are identified, such as heat treatment pits or hearths, detailed plans would be drawn and samples of dateable material would be obtained.

4. Other samples may be obtained for the potential analysis of paleoenvironmental indicators such as pollen, phytoliths and microfauna.

5. All excavated archaeological deposit would be dry sieved. All material would be sieved through 5 x 5-millimetre mesh, with use of a top larger mesh (10 x 10 mm) where appropriate. All identified or suspected cultural material recovered from sieving would be retained, bagged and labelled.

6. Sieving would be conducted over a tarpaulin, directly adjacent each excavation pit, and all excavated material would be transferred from the tarpaulin back to the excavation pit immediately upon completion of each excavated pit. This is to prevent injury to grazing animals.

A4.4 Lithic Analysis

All lithic items would be examined in detail by a lithic specialist such as Dr Oliver Macgregor (or other suitably qualified lithic specialist, depending on availability), using a low-power binocular microscope and incident illumination and/or hand lens. Descriptive recording of collected material would be to a level concomitant with the stated testing and salvage aims of the investigation, and the number of artefacts/types of material recovered.

The primary aim of the analysis of the lithic items retrieved from the test locations would be to assist in the assessment of the significance of the sites/deposits and to identify appropriate management strategies.

Raw material type would be recorded for each stone artefact. Attributes for each artefact in the assemblage would be entered into a relational database and digital photographs may be taken of selected artefacts, where appropriate. Information for each specimen recorded in the analysis would be provided in an appendix in the final report.

Analysis will be consistent with standards and guidelines defined by OEH.

A4.5 Protocol to be followed if suspected human remains are encountered

In the event that suspected human remains are encountered during any of the proposed test or salvage excavations, protocols for the unanticipated discovery of archaeological material and suspected human remains (Appendix 3) would be adopted.

A4.6 Environmental Safeguards

Minimal vegetation would be removed to facilitate the testing program.

Dry sieving methods would be adopted as a means to minimise possible erosion caused by wet sieving and in order to reduce vehicle movements.

All pits would be backfilled as soon as practicable after completion of test excavation using material that is excavated from the pits to prevent possible sediment contamination from backfilling with introduced soil.

A4.7 Care and Management of Recovered Artefacts

Disposition and storage of collected stone artefact assemblages during this test excavation would be dealt with in accordance with the Code of Practice (Part 6 National Parks and Wildlife Act 1974) under Requirement 26.

After examination and measurement, all recovered artefacts would be stored individually in standard resealable plastic bags or bagged in appropriate and identifiable units. The bags would be labelled using a permanent black pen with the item's unique identification number (where generated and appropriate), and/or details of its provenance within the excavation (as appropriate).

Following completion of the analysis of the recovered artefacts, it is proposed that all Aboriginal objects be repositioned back into the landscape (‘returned to country’) in accordance with Requirement 26 of the Code of Practice.

All locations of repositioned artefacts would be recorded on appropriate OEH forms and lodged with the AHIMS, administered by OEH.

Figure A - Indicative archaeological test pit locations (blue squares) at Aboriginal sites GMUPA-3 and GMUPA-PAD1