Molonglo Stage 3 Additional Areas Cultural Heritage Assessment

Prepared for Environment and Sustainable Development Directorate

REDACTED VERSION

11 July 2017

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Document information

Report to: Directorate (ESDD)	Environment and Sustainable Development
Prepared by:	Lyn O'Brien
Biosis project no.:	16981
File name: Document1	
Citation: Biosis (2014). Molonglo Stage 3 Additional Area Cultural Heritage Assessment. Report for Environment and Sustainable Development Directorate. Authors: L O'Brien, Biosis Pty Ltd, Canberra Office. Project no.16981	

Document control

Version	Internal reviewer	Date issued
Draft version 01	Asher Ford	19/2/2014
Final version 01	Lyn 'Brien	9/4/2014
Redacted version 01	Asher Ford	11/07/2017

Acknowledgements

Biosis Pty Ltd acknowledges the contribution of the following people and organisations in preparing this report:

- Mr Steven Gianakis (ESDD)
- Ms Lisa Chaston and Mr Euroka Gilbert (ACT Heritage)
- Tyrone Bell and Karen Denny (Buru Ngunawal Aboriginal Corporation)
- Carl Brown (King Brown's Tribal Group)
- James Mundy (Ngarigu Currawong Clan)
- Michelle House (Little Gudgenby River Tribal Council)
- James Shepherd for Mapping (Biosis)

Abbreviations

ACTPLA	ACT Planning and Land Authority
AHC	Australian Heritage Council
CHA	Cultural Heritage Assessment
CMP	Conservation Management Plan
ESDD	Environment and Sustainable Development Directorate
GSV	Ground surface visibility
ICOMOS	International Council on Monuments and Sites
MGA	Map Grid of Australia – unless otherwise specified all coordinates are in MGA
NHL	National Heritage List
NNTT	National Native Title Tribunal
NOHC	Navin Officer Heritage Consultants
PAD	Potential Archaeological Deposit
RAO	Representative Aboriginal Organisation
UDP	Unanticipated Discovery Plan

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Summary

This report details the findings of a Cultural Heritage Assessment (CHA) of the proposed Molonglo Stage 3 Residential Development Area C. Please note that this report has been redacted to remove restricted information under the Heritage Act 2004. Project Area is located in the districts of Molonglo and Belconnen, ACT (see Figure 1). The area straddles William Hovell Drive with the Belconnen portion located within the established suburb of Aranda and the Molonglo land located adjacent to the Molonglo Stage 3 future urban area, which has been assessed previously (Biosis 2013). This assessment does not include the area of the Glenloch Homestead and buildings which are currently occupied.

Proposed future land uses include development of residential housing, community facilities, commercial centres, playing fields and environmental offsets. Activities associated with future construction have the potential to disturb, destroy or remove sub-soils and, consequentially, affect heritage items and places located within the Project Area. This report assesses the possible impacts associated with the proposed development.

The potential for heritage sites to be found within the Project Area was considered high based on the potential resources that could be found there, such as water and food. The Project Area is located near to Black Mountain, an area known to hold cultural significance to the Ngunawal people and a focus of ceremonial activity. In addition, archaeological site patterning in the region shows a landscape dominated by low density stone artefact scatters. The predictive model for aboriginal archaeological sites was as follows:

- Open campsites (artefact scatters) are likely to be the most common site types in the Project Area;
- Artefact scatters are most likely to occur on level, or gently sloping, well-drained ground;
- Isolated finds are likely to occur anywhere in the landscape;
- Grinding grooves have been found in the Molonglo Valley, and are more likely to be found where large boulders or outcrops are visible and consist of suitable material;
- Scarred trees are likely to occur in all topographies where woodlands occur and old growth trees survive, likely as isolated trees;
- Burial sites are likely to occur in landforms characterised by relatively deep profile of soft sediments such as sand and alluvium. Burials are known to have occurred in the surrounding hills and potential exists for burials within the Project Area.

There is also a possibility that historical sites may also found in the Project Area. These would relate to the early pastoral settlement of the Molonglo Valley which was an important centre for wool production.

A field survey was conducted with the participation of the Representative Aboriginal Organisations (RAOs) for the ACT and 32 unrecorded Aboriginal cultural heritage sites were identified. All but one consisted of low density artefact scatters or isolated finds found in areas of disturbance. All of these sites are of Low Conservation Value. A number of Potential Archaeological Deposits were also identified, mainly in association with the artefacts identified during the survey. In addition one of the previously recorded Aboriginal sites was re-identified and the current condition assessed for this assessment.

A single previously unrecorded historical cultural heritage site was identified.

Management Recommendations

The following management recommendations apply to the cultural heritage sites located within the Project Area.

- Impacts to the identified cultural heritage sites should be avoided. If impacts to the identified sites cannot be avoided then a program of surface collection (salvage) of the sites should be undertaken. The recovered artefacts should be analysed and deposited for curation with the ACT Heritage Unit or relocated to a secure location within the Aranda bushland reserve.
- If possible in consultation with the RAOs the analysed artefacts should be relocated by return to country to maintain their connection with the landscape.
- Impacts to the area of Potential Archaeological Deposit (PAD) should be avoided. If impacts to the areas of PAD cannot be avoided then a program of sub surface testing should be undertaken to determine the extent and significance of archaeological deposits. A sub surface testing methodology should be developed for approval by the Heritage Council prior to any impacts. This applies to PADs 1-5 and sites G12 and G15.
- Impacts to the identified scarred trees should be avoided. The trees should be assessed by a qualified dendrologist to ascertain the origin of the scar/s and guide decisions regarding the future status of these recordings as *registered Aboriginal objects*. This applies to G4, G14 and G23.
- The historical site GH1 has been classified as holding low significance due to the ability to provide additional information. The archaeological dump should be subject to a program of preliminary investigation to determine the potential of the site and if it warrants detailed investigation.
- If previously unidentified archaeological artefacts or sites are located during the course of development within the Project Area, the process outlined in the Unanticipated Discovery Plan (UDP) should be followed.
- The potential heritage values of the Glenloch homestead and associated buildings have not been assessed for this project and if impacts are planned to occur a built heritage assessment should be undertaken.
- Copies of this report should be submitted to:
  - ACT Heritage Council (via the ACT Heritage Unit
  - Representative Aboriginal Organisations

1 Introduction

1.1 Project background

Biosis has been engaged by the ACT Government, Environment and Sustainable Development Directorate (ESDD) to undertake a Historical and Aboriginal Cultural Heritage Assessment (CHA) for Area C at Molonglo Stage 3. The Project Area is located north of the Molonglo River Corridor and lies on either side of William Hovell Drive, with Caswell Drive bordering the right side of the Project Areas northern section and the Mount Painter nature reserve on the western boundary (Figure 1). The Project Area covers Blocks 6 and 7 in the District of Molonglo and Blocks 1548, 1549 and 1550 in the District of Belconnen (Figure 2) with the exception of the Glenloch Homestead area which is currently occupied under lease.

The Molonglo Valley is located west of the Canberra City centre within a 15km radius, following the lower reaches of the Molonglo River. It is situated between Belconnen and Weston with Mount Stromlo to the south-west and the Canberra National Arboretum to the north-east. When fully developed, it is projected that the Molonglo Valley will support about 55,000 people. Cultural heritage assessments have been ongoing at the main area of the Molonglo Valley (Stage 1, 2 and 3) over the last three years, identifying numerous sites that were previously unknown and building on the knowledge of the Aboriginal utilisation of the valley.

The primary aim of this cultural heritage assessment is to build upon the previous work done at the Molonglo Project Area to determine the significance of Area C in relation to the rest of the site. This CHA will also focus on the future planning for the area by determining the presence of cultural heritage values within the proposed development and the impacts and issues that the planned developments may have on the identified cultural heritage values. This study will provide an assessment of the significance of Area C which will allow for a conservation management plan to be developed to guide future management and conservation of the identified values.

1.2 Planning approvals

This report is being prepared under a development application to ACT Planning and Land Authority (ACTPLA). The land has been provisioned under the Territory Plan as a Future Urban Area (FUA). ACTPLA will refer this report to ACT Heritage Council, under Section 26 of the *Planning and Development Regulation 2008*, to assist in the assessment of the development application.

1.3 Aims

The following is a summary of the major objectives of this assessment.

- Conduct heritage register searches to identify any previously recorded cultural heritage sites within the survey area. Searches will include the ACT Heritage Register, the National Heritage List, and National Trust heritage lists.
- Conduct additional background research in order to recognise any identifiable trends in site distribution and location.
- Consult with identified statutory stakeholders in the area.
- Undertake a comprehensive survey of the Project Area targeting landforms with high potential for heritage places within the Project Area, as identified through background research.

- Record and assess sites identified during the survey, as well as Potential Archaeological Deposits (PADS).
- Identify potential impacts to all known Aboriginal and historic cultural heritage sites and places based on possible changes as a result of the proposed development.
- Make recommendations to minimise or mitigate impacts to cultural heritage values within the Project Area.

1.4 Consultation

1.4.1 Statutory

During the course of this project consultation with Daisy Chaston and Euroka Gilbert of ACT Heritage has been ongoing.

1.4.2 Aboriginal

Aboriginal consultation for this project has been undertaken in compliance with ACT Heritage recommendations. The four Representative Aboriginal Organisations (RAOs) registered with ACT Heritage were contacted. These organisations are:

- The Buru Ngunawal Aboriginal Corporation;
- King Brown's Tribal Group;
- The Little Gudgenby River Tribal Council; and
- The Ngarigu Currawong Clan.

All of the above RAOs were consulted during this project.

1.5 Project Methodology

The project methodology for the project was designed by Biosis in accordance with the project brief developed by ESDD and included input from ACT Heritage Unit, and RAOs. The methodology was designed to fulfil the primary aims of the heritage assessment. The methodology is split into three stages as described below.

Background Research

A search was undertaken of the ACT Heritage Register and copies of relevant reports requested from the ACT Heritage Unit to ensure that all background documentation on the previously recorded sites in the area was included. Information as to previous archaeological work in the region and the previously recorded Aboriginal and historical sites that occur within the Project Area was collated for reference and summarised.

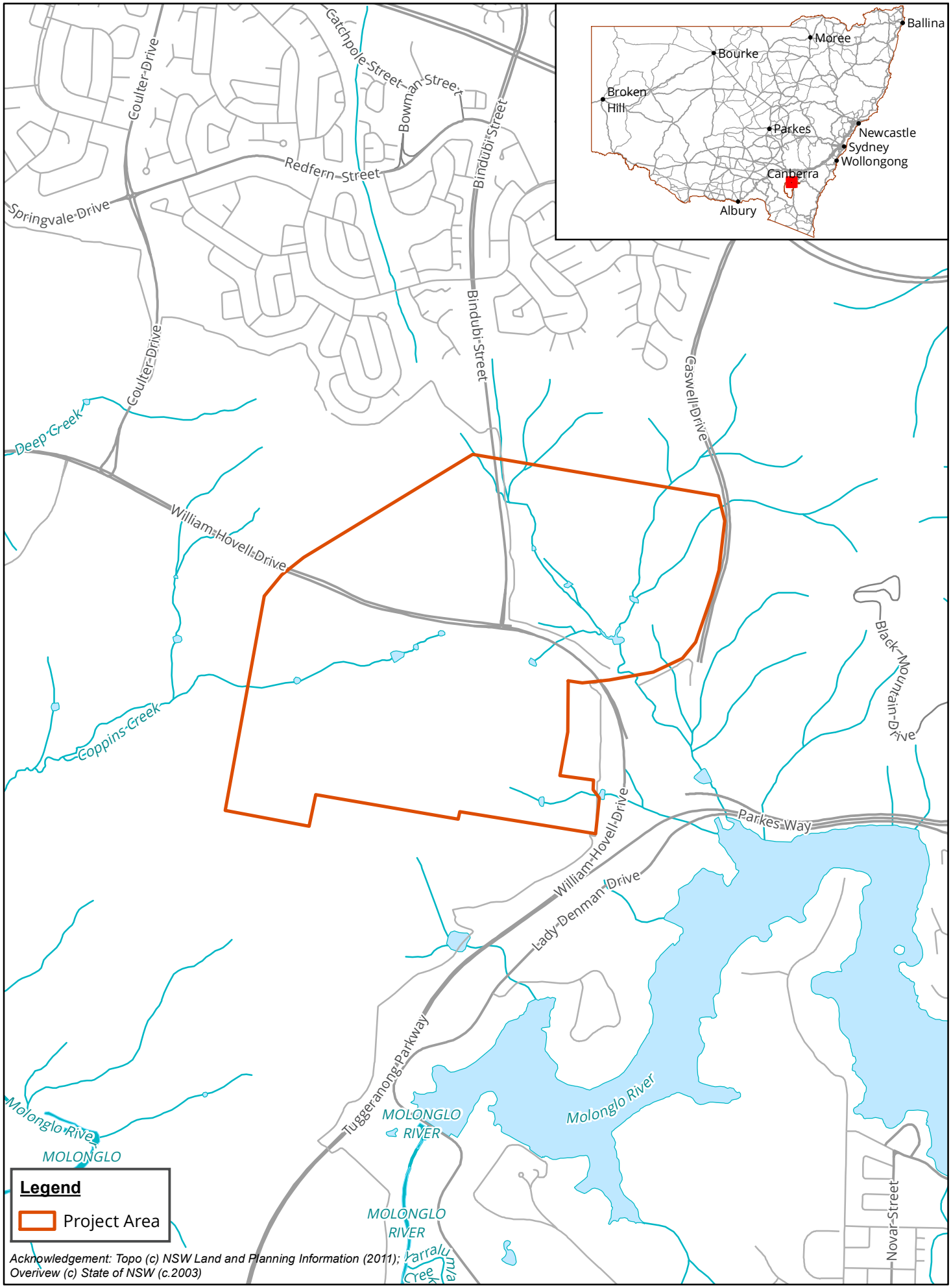
A search was undertaken of the ACT National Trust Register and the Register of the National Estate to ensure that no previously recorded historical sites occurred within the Project Area. Relevant copies of historical records and maps for the Project Area were consulted and the current Project Area plotted against them.

Field Work

After collation of all relevant documentation and approval of access arrangements, field investigation of the Project Area was undertaken. The identification of sites, information on land forms and site conditions were recorded and all site locations identified by hand held GPS units. The current condition of previously recorded sites and areas of PADs within the Project Area were undertaken as part of the current field investigation.

Report Production

The final stage of the project consists of the analysis of the data obtained from the field work program, the collation of the data with previous work and historical records from the Project Area, and the development of a report clearly presenting the project findings.



Acknowledgement: Topo (c) NSW Land and Planning Information (2011); Overivew (c) State of NSW (c.2003)

Figure 1: Location of the Project Area in a regional context

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Matter: 16981
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0 250 500 750 1,000
Metres
N
Scale 1:25,000 @ A4, GDA 1994 MGA Zone 55

Legend

Blocks

Project Area

Figure 2: Location of the Project Area

0 90 180 270 360 450

Metres

Scale: 1:8,000 @ A3

Coordinate System: GDA 1994 MGA Zone 55

N

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2 Heritage status and planning documents

2.1 Commonwealth Registers

2.1.1 National Heritage Registers

The Commonwealth Australian Heritage Commission Act was recently repealed and in its place amendments were made to the *Environment Protection and Biodiversity Conservation* Act 1999 (EPBC Act).

Under the EPBC Act Amendments (No 88, 2003) two mechanisms have been created for protection of heritage places of National or Commonwealth significance. The National Heritage List provides protection to places of cultural significance to the nation of Australia. The Commonwealth Heritage List comprises natural, Aboriginal and historical heritage places owned and controlled by the Commonwealth and therefore mostly include places associated with defence, communications, customs and other government activities. Nominations to these two lists are assessed by the Australian Heritage Council (AHC).

Table 2.1. National Heritage Registers

Application to the Project Area – National Heritage Registers
There are no items within the Project Area are listed on the National Heritage List, the Commonwealth Heritage List or the Register of the National Estate.

2.1.2 National Native Title Register

The Commonwealth *Native Title Act* 1993 establishes the principles and mechanisms for the preservation of Native Title for Aboriginal people.

Under Subdivision P of the Act, *Right to negotiate*, native title claimants can negotiate about some proposed developments over land and waters (known as 'Future Acts'), if they have the right to negotiate. Claimants gain the right to negotiate if their native title claimant application satisfies the registration test conditions.

The right to negotiate applies over some proposed developments or activities that may affect native title. Native title claimants only have the right to negotiate over certain types of future acts. The right to negotiate is not a right to stop projects going ahead — it is a right to have a say about how the development takes place. In some situations, the right to negotiate does not apply. In these circumstances, claimants may have the right to be notified, to be consulted, to object and to be heard by an independent authority.

Table 2.2. Native Title Results

Application to the Project Area – National Native Title Register listings
A search of the National Native Title Tribunal registers (3 August 2013) identified that there are no registered Native Title Claimants within the ACT.

2.2 Territory Register

2.2.1 ACT Heritage Register

ACT Heritage maintains a database of Aboriginal sites within the ACT under the auspices of the *Heritage Act 2004*.

The area searched on the ACT Heritage Register database was larger than the Project Area, as Aboriginal sites recorded within the wider area will provide a regional perspective on the types of sites that may be expected to be found within the Project Area. 14 heritage sites are located within the Project Area and a further six are located within the surrounding 1km radius of the heritage register search. Sites within the Project Area are shaded in Table 2.3 below. The locations of these sites are shown on Figure 5.

Table 2.3. ACT Heritage Register listings

Site Name	Site type	Recorded by
CLB2	Artefact Scatter	Knight 2003
CLB3 –CLB4	Isolated Find	Knight 2003
CLB5	Artefact Scatter	Knight 2003
CLB6	Artefact Scatter	Knight 2003
BELC PAD 2	Archaeological Potential	NOHC 2002
BELC 12	Artefact Scatter	Kabaila 1999
BELC 14	Artefact Scatter	Kabaila 1999
BELC 15	Artefact Scatter	Kabaila 1999
BELC 22	Artefact Scatter	Kabaila 1999
ABF1 and PAD	Artefact Scatter	NOHC 2003
ABF2 and PAD	Artefact Scatter	NOHC 2003
ABF3 and PAD	Artefact Scatter	NOHC 2003
ABF4	Artefact Scatter	NOHC 2003
Caswell Drive 1	Artefact Scatter	NOHC 2004
Caswell Drive 3	Artefact Scatter	NOHC 2004
Caswell Drive 4	Artefact Scatter	NOHC 2004
BAAP 1	Potential Archaeological Area	NOHC 2002
Glenloch 8	Artefact Scatter	NOHC 2003
Glenloch 9	Artefact Scatter	NOHC 2003

2.3 Non-Statutory Registers

2.3.1 The National Trust of Australia (ACT)

The National Trust of Australia (ACT) is a community-based conservation organisation. The Trust maintains a Register of heritage items and places. Although the Register has no legal foundation or statutory power, it is recognised as an authoritative statement on the significance to the community of particular items, and is held in high esteem by the public. The National Trust lists items or places that have heritage or cultural value to the community and, as such, the Trust encourages and promotes the public appreciation, knowledge, and enjoyment of heritage items for future and present generations.

Table 2.4. National Trust Register

Application to the Project Area – National Trust of Australia (ACT)
No heritage items classified (listed) by the National Trust of Australia are located within the Project Area associated with this proposal.

3 Environmental Context

The following section briefly summarises the geology and landforms, climate, flora and fauna. The discussion focuses on those elements of the natural environment that may have influenced past human behaviour and archaeological site formation processes.

3.1 Geomorphology

3.1.1 Geology

The Project Area has three distinct geology types. Roughly two thirds of the Project Area is located on Mount Painter Volcanics, which dates from the late Silurian period. The Mount Painter Volcanics found in the Project Area are mainly acidic and the types of volcanic rock found include ignimbrites, sandstones, siltstones and tuff. Typically, due to the deep soils and topographic landscape, there are few rock outcrops associated with the Mount Painter Volcanics (Jenkins 2000).

The remainder of the Project Area is split between Adaminaby group and an ungrouped Quaternary formation. The Adaminaby group (also known as Adaminaby beds) consists of a Turbiditic sequence of sandstone, mudstone, shale, carbonaceous shale, greywacke, chert, quartzite, phyllite and slate. This group supersedes Abercrombie beds and is equivalent to Pannack Sandstone. It is Similar in age and lithology to the Wagga Group, but separated by the Gilmore Fault Zone. Ungrouped Quaternary consists of geological formations forming after the Neogene Period and spans from approximately 2.588 million years to present.

The geology of the Project Area is shown on Figure 3.

3.1.2 Soils

There are five main soil landscapes within the Project Areas boundaries, identified as being part of the Burra, Williamsdale, Queanbeyan, Winnunga and Luxor soil groups. In addition the site borders on and contains a small amount of the Campbell soil landscape. Descriptions for these soils are provided below and are shown on Figure 4.

- Burra soil landscapes are typically made up of mottled yellow chromosols on the upper foot slopes and sodosols on the lower foot slopes (Jenkins 2000: 41).
- The Williamsdale soil landscape also contains yellow chromosols on the upper rises, although they are typically associated with red and brown kandosols. The lower rises of the Williamsdale landscape usually contain sodosols (Jenkins 2000: 132).
- The Queanbeyan soil landscape contains a range of different soil types with rudosols found on the upper slopes, red kurosols found on the side slopes while magnesic brown chromosols are found in the drainage lines of the area (Jenkins 2000: 119).
- Like Queanbeyan the Winnunga soil landscape also contains a wide range of soil types. The upper slopes of this landscape are made up of Tenosols, the side slopes are made up of a mixture of red and brown chromosols, while mottled magnesic sodosols can be found on the lower slopes and in the drainage lines (Jenkins 2000: 136).
- The Luxor landscapes are typically made up of stony red Kandosols on the landscapes upper margins, while the lower slopes are up of magnesic-natric kurosols (Jenkins 2000: 96).

- A very small amount of land in the northwestern section of the project area is part of the Campbell soil landscape. This landscape has wide range of different soil types including rudosols on the crests and near the rock outcrops of the area. Red and yellow chromosols are usually found on the side slopes while brown sodosols and grey chromosols and hydrosols are found along the drainage lines (Jenkins 2000: 52).

3.2 Flora

The vegetation present within the Project Area today has been altered through clearance since the arrival of Europeans in Australia. Investigations into the former vegetation types show that originally 'Eucalyptus open woodland' was the dominant vegetation community. Remnant stands of Eucalypts and associated species can be found in the region on uncleared ridge lines. The species that would have been most common are *Eucalyptus blakeyi* (Blakely's Red Gum)*, Eucalyptus bridgesiana* (Apple Box) *and Eucalyptus melliodora* (Yellow Box) (Jenkins 2000). The understory would have been composed of grasslands containing *Themeda, Austrodathonia, AustrosStipa* and *Poa* species*.* On the higher ground at the footslopes of Black Mountain red stringybark becomes the predominant tree species.

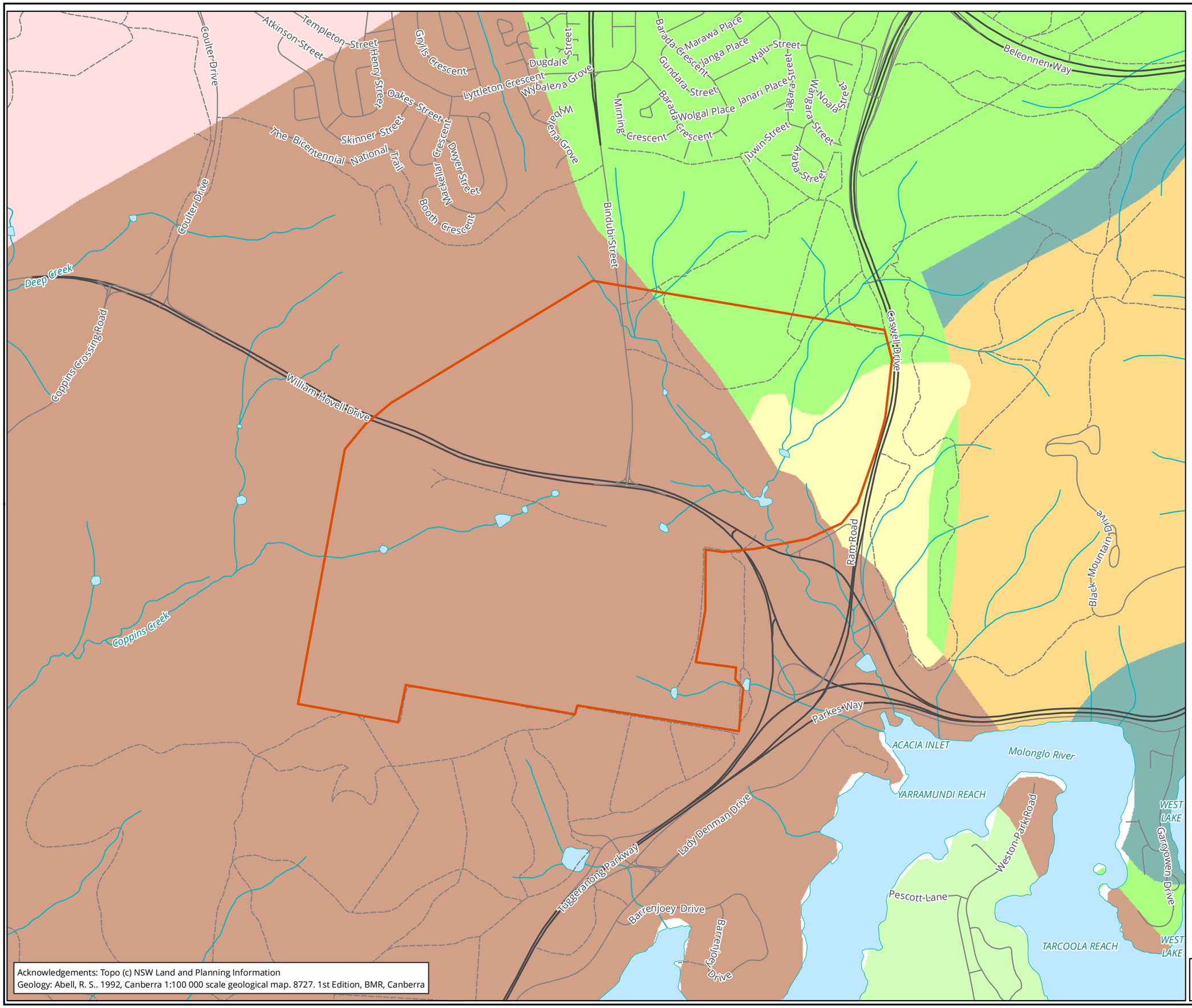
These flora species would have provided a range of resources for Aboriginal people. Food, tools, shelter and ceremonial items were derived from floral resources, with the locations of many campsites predicated on the seasonal availability of these resources. The different types of eucalypts were useful in many respects. The oils from the leaves and gum were used medicinally and the wood was used to make implements, whilst bark strips were utilised in weaving (Stewart and Percival 1997).

3.3 Fauna

The vegetation communities within the Project Area supported a range of faunal habitats. Terrestrial and avian resources were not only used for food, but also provided a significant contribution to the social and ceremonial aspects of Aboriginal life. The fauna that may have been found within the area include larger species, such as kangaroos and wombats, possums and koala and avian species such as cockatoos, the Southern Whiteface, song larks and Superb Parrot. Reptiles would have included the Eastern Blue-tongue Lizard, skinks and snakes, such as Eastern Brown and Red-bellied Black. The nearby Molonglo River would have provided additional resources, such as crayfish, turtles, fish and waterfowl.

3.4 Resource Statement

The background information regarding the geomorphology, climate, hydrology, flora and fauna assist in determining the resources available in the Project Area that could have been exploited by Aboriginal people in the past. The Project Area is close to permanent water sources and would have contained resources, plants and animals, that would have fed, sheltered and provided the raw materials to make implements.



Acknowledgements: Topo (c) NSW Land and Planning Information
Geology: Abell, R. S.. 1992, Canberra 1:100 000 scale geological map. 8727. 1st Edition, BMR, Canberra

Figure 3: 1:100,000 geological units near the Project Area

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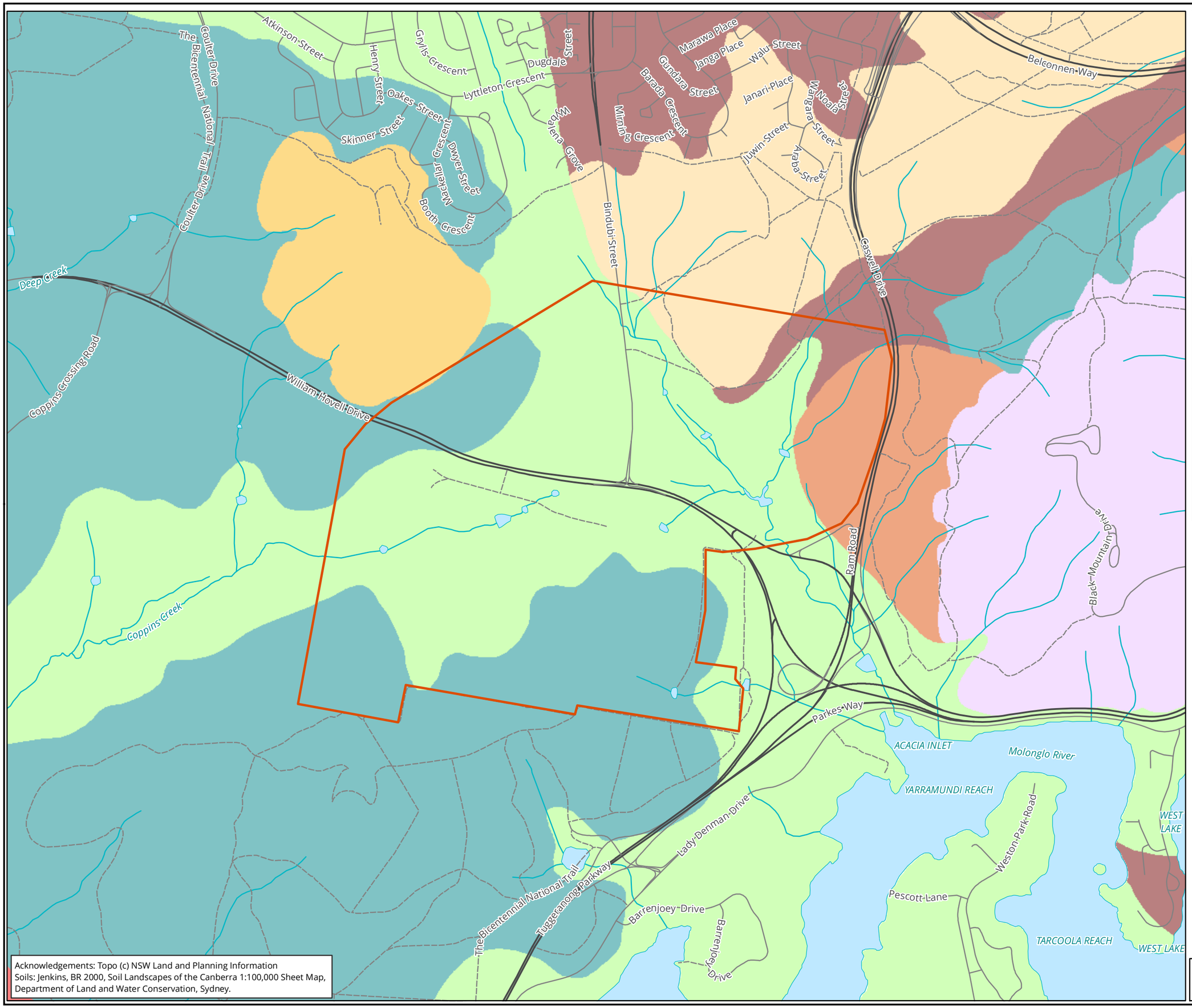

Legend

Project Area

Soil landscape units (1:100,000)

- Burra
- Campbell
- Campbell Variant B
- Luxor Variant B
- Paddy's River Variant B
- Queanbeyan
- Williamsdale
- Winnunga

Figure 4: 1:100,000 soil landscapes near the Project Area

0 150 300 450 600 750

Metres

Scale: 1:15,000 @ A3

Coordinate System: GDA 1994 MGA Zone 55

Acknowledgements: Topo (c) NSW Land and Planning Information
Soils: Jenkins, BR 2000, Soil Landscapes of the Canberra 1:100,000 Sheet Map, Department of Land and Water Conservation, Sydney.

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4 Aboriginal Context

4.1 Ethnohistory

4.1.1 Sources of knowledge of Aboriginal people prior to Contact

Knowledge of traditional Aboriginal social organisation and language groups in the Canberra region area is restricted to a small number of written and oral historical documents, as post-contact occupation and dispossession have resulted in the loss of much information (Gillespie 1984). Through dispossession of land and subsequent loss of many oral histories, many historians have only been able to piece together splintered accounts of Aboriginal life, mainly through nineteenth century European ethnographic observations. We do know that prior to European occupation Aboriginal people occupied south eastern Australia according to a system of land custodianship and had a complex kinship system.

4.1.2 Aboriginal Groups within the Project Areas[1]

It has been noted that there is a high a high correlation between drainage basins and tribal territories in the southern uplands (Flood 1980: 109). As the region features some of the strongest relief on the Australian continent this is not unexpected, as the various river systems provide both reliable sources of resources and easily recognisable territorial boundaries. Generally, custodial lands are based on water catchments of larger rivers. The creeks and rivers enable better communication. Groups within a catchment belong to a cultural group who share a common language and beliefs. The resources of the Canberran landscape could only sustain small groups who would move from tablelands to mountains depending on the season and resource availability. Seasonal movement is considered to have been a significant aspect of life for the Aboriginal people throughout south eastern Australia. Many resources are seasonal, and areas where summer camps were held could be depleted of resources. Movement to fresh resources was required. In addition groups travelled to neighbouring areas to participate in ceremonial activities and large gatherings would have also depleted resources in those camps.

The Bogong moth that inhabits the mountain areas in great numbers was an important food source for the local Aboriginal people, and it is believed the people travelled great distances during summer months to exploit this resource and participate in related ceremonial activity (Flood 1980: 111-112). At these times groups in the area are likely to have co-operated and participated in each others ceremonies, as utilisation of the resource would have meant that groups would have more than likely crossing boundaries in their travels. Groups were able to trade with neighbours, and obtain resources from other areas, including the coast (Avery 1994)

Much of the information on the Aboriginal people of the Canberra region was written in the 1900s and is considered to be questionable (Avery 1994). As a result, the boundaries of custodial lands of cultural groups of the Southern Tablelands and mountain ranges are unclear. It is now recognised that the Ngunawal are the Traditional Owners of the Australian Capital Territory. Through the years, the Ngunawal have been forced to disperse and have been unable to continue a traditional lifestyle, but the descendants still continue to live in the Canberra region today.

[1] Please note that it is not within the scope of this study to conduct primary research regarding the Aboriginal groups of the study area. We can rely only on broad studies conducted and published by historians. We acknowledge that present day groups have conducted their own research, including family orientated research, which is more detailed than found in this report. For this reason, published sources may differ from that of private research by Aboriginal communities.

4.1.3 Early Contact with Europeans

The first contact between Aboriginal people and Europeans would have occurred in the 1820's. Although Throsby, Smith, Vaughn and Wild explored the area in 1820, naming the region, the Limestone Plains, they did not encounter any Aboriginal groups, only spotting fires in the distance (Gillespie 1984). Groups near Yass and Lake George did interact with the incoming pastoralists and often it ended it violence. While the traditional hunting grounds were being subsumed for stock grazing and land was being cleared for improving pasture and agriculture, the ability of groups to subsist by traditional methods was declining. Aboriginal people adapted by either moving further away from settlements or utilising resources from the pastoralists. These resources were obtained by force, in exchange for work or given freely by pastoralists (Avery 1994).

The relationship between pastoralists and Aboriginal groups was often brutal and violent. For example, a number of stockmen began to kidnap Aboriginal girls and as a result there were retaliatory attacks on pastoral stations and stockmen (Gillespie 1984). The resentment and frustration suffered by the Aboriginal groups at the loss of their way of life and the treatment by the settlers would have also caused threats and shows of aggression.

The relationship between pastoralists and Aboriginal people were not all negative. Gillespie (1984) states that the Palmer, Davis and Wright pastoral families had very good relationships with their workers and the Aboriginal community. At the Ginninderra Station, William Davis' cricket team had a large number of Aboriginal players.

Whilst many Aboriginal people moved away from the settlements and continued a traditional lifestyle, many more stayed close. Some traditions continues, such as corroborees, fore example one took place at Reidsdale, north east of Hall, and another near Ginninderra Station in 1853, where 200 people attended (Gillespie 1984). The pastoral stations continued to be places where Aboriginal people could find work and provisions. A 'fringe camp' is noted in the early 1900s near Lanyon (Kabaila 1997: 25).

4.1.4 Customs and lifestyle

The social customs of Aboriginal groups are complex and extensive. Whilst they are highly relevant and useful in the interpretation of sites, they are difficult to summarise for this study. However, there are some records of the customs and lifestyle of the Aboriginal inhabitants of the region that are directly relevant to an archaeological study. These include (from Gillespie 1984):

- Dwellings – different types have been noted: bough and bush shelter; sturdy bark huts and rock shelters.
- Burial customs – the placement of the body was in an upright, flexed position. They could be buried in this position, or placed in tree hollows. Some burials have been placed at the base of a tree and the tree marked. Rockshelters were also used. Burial places were generally highly respected and avoided in daily life.

4.2 Regional Archaeological Record

Numerous archaeological studies have been undertaken in the vicinity of the Project Area. A brief overview of the most relevant studies is presented below.

Flood, in her seminal work on the Aboriginal inhabitants of the Canberra region (1973, 1980), documented a site on the slopes of Black Mountain Peninsula consisting of a large and dense artefact scatter. Prior to the formation of the lake, the peninsula was a bend in the Molonglo River known to be deep and to have good fishing. This site was included in the NCDC Sites of significance for central Canberra in 1988.

In 1985 English conducted a survey of the Molonglo Gorge Area to determine whether the location of river pools was a factor in Aboriginal site location and whether the area had functioned as a winter refuge. The survey resulted in the identification of 27 Aboriginal heritage sites – consisting of either open artefact scatters or isolated finds. Only two sites were large, comprising over 100 artefacts, all the others were small in number.

Barz (1985) completed an assessment for an extension of the National Botanic Gardens on the north eastern face of Black Mountain. Four sites (2 artefact scatters and 2 isolated finds) were located and the significance of Black Mountain confirmed by Aboriginal Representatives.

In 1990 Bulbeck and Boot were engaged by ACT Forests to undertake a cultural resource survey for the Stromlo Pine Forest. The field survey resulted in the identification of 62 Aboriginal sites, including 28 open artefact scatters and 34 isolated artefacts. Based on their findings they developed a site location model that favoured the occupation of lower spurs overlooking water courses. Intermediate slopes were also used probably due to their ease of access and well watered nature. Artefact densities were lowest in steep terrain and away from water courses. No historical sites were identified during the course of their field surveys.

Navin Officer (1991) completed an archaeological survey for the West Belconnen Urban Land Releases. Their field survey resulted in the identification of four scarred trees and six small open artefact scatters. All of the artefact scatters were located adjacent to major creek lines. They concluded that areas within 100m of a creek are the most likely landforms for aboriginal site occupations.

Navin Officer in 1995 completed a further survey within the grounds of the National Botanic Gardens locating one possible culturally scarred tree and one isolated find. This study concurred with the earlier findings of Barz for the area.

To the south of the Project Area, Grinsbergs (2005) was engaged to carry out an investigation of Aboriginal places within a section of Block 447 at Mount Stromlo. This investigation resulted in the identification of 12 artefact scatters and four isolated finds. Sites were distributed over spur crests, spur lines and open slopes.

Australian Archaeological Survey Consultants (AASC) were engaged in 2006 to complete a review of heritage work undertaken for the Molonglo Valley. A locational model was developed as a result of this heritage review concluding that sites located on elevated landscapes near water sources would be the primary focus of occupation. Over the wider Molonglo Valley, a total of 79 Aboriginal sties were recorded and 27 historical sites.

In 2008, Cultural Heritage Management Australia (CHMA) undertook a detailed cultural heritage assessment to the south of the Project Area for the North Weston and Weston Creek residential developments. This investigation resulted in the identification of four Aboriginal sites (3 artefact scatters and one isolated find) and one historical site (a 1940-50 sewerage ventilation shaft). They concluded that sites should be located on elevated and generally level landscape features within 100m of the Molonglo River.

In 2010, Biosis Research Pty Ltd undertook a detailed cultural heritage assessment of a large area on the south side of the Molonglo River for the Molonglo Stage 2 residential development. Field survey and sub-surface testing resulted in the identification of thirty-eight Aboriginal sites (artefact scatters and isolated finds) and two historical sites (a surveyors tree and a slab hut). The assessment concluded that the patterning of Aboriginal sites corresponded with the site locational model devised by Boot and Bulbeck from their Stromlo forest work and refined by later researchers.

In 2011(a) Navin Officer Heritage Consultants were engaged by ActewAGL to assess Block 1572 located on the northern bank of the Molonglo River and to the west of Coppins Crossing Road. Within this area are the disused sewerage sludge ponds and associated infrastructure. No cultural heritage sites were located during this survey and the area was considered to be low in potential.

In 2011 CHMA was commissioned to undertake a cultural heritage investigation of an extension to the sewerage pipeline for the Canberra National Arboretum. This area was to the south west of the actual Arboretum area. Four Aboriginal sites were located consisting of isolated finds and small surface scatters. These sites were salvaged in 2011(b), during which a further site was identified and salvaged. Flaked glass, a rare artefact type in the region, was identified at one site and is an indicator of post-contact interaction between European and Aboriginal people in the area.

4.2.1 Previous work near the vicinity of the Project Area

Saunders (1995) was engaged by the ACT Parks and Conservation Services to undertake a survey of the lower Molonglo River Corridor. Her study area is located adjacent to the southern portion of the Project Area. Aboriginal sites were located across all landforms throughout the area investigated during this assessment. Saunders (1994) concluded that sites could occur anywhere in the landscape with the exception of very steep terrain, but are more likely to occur in proximity to water. A variety of European sites were located; all falling below the threshold for listing to the ACT Register.

Kabaila (1997) surveyed nature parks and open spaces in the Belconnen area locating numerous surface scatters along ridgelines which he theorised represented pathways through the landscape. Kabaila identified these 'pathways' in the Belconnen area, utilised as potential Aboriginal access and travel routes. Surface scatters were located within the Project Area as part of this research, his finding of pathways is contested amongst the archaeological community.

Navin Officer 2003a undertook field survey and excavation along fire trails with in all Canberra nature parks, including Black Mountain, O'Connor Ridge, Bruce Ridge, Aranda Bushland, Rob Roy Range and Gungahlin Hill. Sites were restricted to spur crests and lower slopes flanking the main ridgeline. Areas of highest archaeological sensitivity included low gradient spurs, basal slopes and flats adjacent to major local drainage lines, with particular focus in Black Mountain with the park's southwest and south eastern boundary. Thirteen sites were located in the Black Mountain nature park with the majority being small and dispersed. Four sites were located within the Aranda Bushland three associated with area of PAD. These sites consisted of three artefact scatters and one isolated find located along ridgelines.

Navin Officer (2002, 2003b and 2004) undertook field surveys and excavations along the edge of Black Mountain for the proposed Gungahlin drive. Numerous sites were found, consisting of artefact scatters, isolated finds and a burial. Scarred trees were also noted on the foot slopes of Black Mountain.

Navin Officer (2011b) also undertook field survey and inspection of three proposed sites for the relocation of emergency services in Charnwood, Calwell/Conder and Aranda. The site for the investigation in Aranda is located on the northern end of Bindubi Street and is therefore only a few kilometres from the current Project Area. One Aboriginal site was identified during the investigations.

In 2012 Biosis (Molonglo Stage 3 Project) conducted a field survey over a large area of land on the north side of the Molonglo River corridor to the south of William Hovell Drive and stretching from the Tuggeranong Parkway to cover both sides of Coppins Crossing Road. This study area lies directly south of the current Project Area. A number of new, small Aboriginal sites were identified while none of the previously identified sites were re-located during the survey. It was determined that the majority of the Aboriginal sites had low cultural heritage significance, with the exception of two sites which are were of moderate significance. In addition a historical woolshed was recorded and it was determined that it had moderate to high cultural significance.

4.3 Discussion and Predictive Model

The archaeological predictive model has been formulated based on the results of the location and type of Aboriginal sites that were recorded within the regional area, and information about previous archaeological work. This information has been broken down into patterns that have been compared to the character of the Project Area to allow for an understanding of Aboriginal archaeological potential.

Specifically, the environmental context and regional patterning suggest that the Project Area was likely to have been visited by Aboriginal people, and this visitation has left observable records/marks. Aboriginal site types are discussed below, with particular regard to the potential for such sites within the Project Area. The following broad predictive model is suggested for the Project Area:

Open Campsites, Artefact Scatters and Isolated Finds

These sites represent the prevalent site type identified in the region, especially on level, well-drained land topographies and close to water course and are thus likely to occur within the Project Area. However, due to the predicted levels of site disturbance through European occupation, settlement and development, the probability of such sites surviving intact is low to moderate.

Middens

Middens may occur along creek and river banks. It is likely that flooding along creek banks would have eroded midden complexes. Where the soils are damp, inhabitants may have moved uphill to camp and discard shells from meals within the Project Area. The likely occurrence of middens on low gradient basal colluvial slopes and terminal spur line crests within the Project Area is nil.

Grinding Grooves

Grinding grooves are often found on outcrops in close proximity to water. As the Project Area is at least 200 metres from water and no suitable stone outcrops are known in the area, grinding grooves are unlikely to be identified.

Scarred Trees

Scarred trees can be expected to occur in all landscapes where stands of old growth timbers remain. Such stands could be present within the western half of the Project Area, where pre-European vegetation suggests former woodland. Stands of forest remain on the lower foot slopes of the Project Area leading to Black Mountain. The likelihood of mature trees exhibiting evidence of scarification being present within the Project Area is consequently considered to be high.

Burials

Aboriginal burial sites are generally situated within deep, soft sediments such as Aeolian (wind) sand or alluvial (river deposited) silts or within tree hollows. Burials in the Canberra region are also known on hill tops and have been located on the foot slopes adjacent to the Project Area. Burials are a rare site type and are unlikely to be found in the Project Area.

Aboriginal Ceremony and Dreaming Sites

These types of highly significant sites tend to occur at places where the connections and pathways between the three spheres[2] of the world are realised. These places are in contrast to their surroundings and may be marked in a number of ways, such as scarification of trees and paintings of rock surfaces (Taçon 1999). Generally they are located away from habitation sites, although this is likely to require further testing when more of such site types are recorded. It is considered unlikely that unregistered ceremonial and dreaming places are within the Project Area.

Post-Contact Sites

These are sites relating to the shared history of Aboriginal and non-Aboriginal people of an area. Many of these sites can hold special significance for Aboriginal people and may include places such as missions, massacre sites, post-contact camp sites and buildings associated with post-contact Aboriginal use. This site type is usually known from historical records or knowledge preserved within the local community. It is considered unlikely that unregistered post-contact sites will be present within the Project Area.

Aboriginal Places

Aboriginal *places* may not have any "archaeological" indicators of a site, but are nonetheless significant to Aboriginal people. They may be places of cultural, spiritual or historic significance. Often they are places tied to community history and may include natural features (such as swimming and fishing holes), places where Aboriginal political events commenced or particular buildings. Often these places are significant in the living memory of a community. There is low potential that Aboriginal places of spiritual and cultural significance will be found in association with the Project Area.

Aboriginal Resource and Gathering sites.

Aboriginal Resource and Gathering Sites are sites where there is ethnographic, oral, or other, evidence that suggest that natural resources have been collected and utilised by Aboriginal people. These natural resources have a cultural significance and connection for the Aboriginal community, such as ochre outcrops that were used for art or ceremonial purposes. These sites are still considered important places today. The potential that the Project Area is part of a culturally important resource site is low.

4.3.1 In summary

- Open campsites (artefact scatters) are likely to be the most common site types in the Project Area;
- Artefact scatters are most likely to occur on level, or gently sloping, well-drained ground;
- Isolated finds are likely to occur anywhere in the landscape;
- Grinding grooves are more likely to be found where large boulders or outcrops are visible and of suitable material close to water;
- Scarred trees are likely to occur in all topographies where woodlands occur and old growth trees survive, likely as isolated trees; and
- Burial sites are likely to occur in landforms characterised by relatively deep profile of soft sediments such as sand and alluvium. The hard packed soil suggests that burials are unlikely in the Project Area.

[2] Human, spirit and natural (Gostin and Chong 1994)

- Aboriginal Ceremony and Dreaming Sites, Post-Contact Sites, Aboriginal Places or Aboriginal Resource and Gathering sites are highly unlikely to be located within the Project Area.

The locations of the registered sites across the Project Area (Figure 5) reflects the utilisation of the entire landscape with concentrations on the elevated landscape features that would have provided shelter from wind, access to water and ease of travel through the landscape.

Figure 5. Recorded Aboriginal Heritage sites (Redacted for this version)

5 Historical Context

Historical research has been undertaken to identify the non-Aboriginal historical context of the Project Area. This history incorporates an understanding of land-use, building patterns, areas of disturbance, as well, as land owner histories. This research will lead to understanding historical archaeological potential for the site. The historic background is based on information held at the following repositories:

National Library of Australia

The National Library of Australia contains many primary source maps and plans for the ACT, as well as many primary and secondary sources that relate to the history of the ACT. These may include archives and manuscripts. Maps contain information about land ownership as well as occasional notes on the date roads, reserves and other features were proclaimed and/or built.

ACT Heritage Library

The ACT Heritage Library contains many primary and secondary source documents, including heritage studies.

Other source material

Subdivision plans contain survey information for allotments including services and any buildings that are present on the site at the time of subdivision.

All of this information has been used locate known and potential historical archaeological sites.

5.1 Early exploration and settlement

The earliest exploration of the area by Europeans was by Charles Throsby and his team of explorers in 1820 (Gillespie 1984). Not long after, selectors took up leases for grazing, including Joshua John Moore at Canberry on the Molonglo River in 1823 and James Ainslie on behalf of the Campbell family at Pialligo in 1825. Soon after, numerous selectors flocked to the area along the frontage of the Molonglo River including the Palmer family who established Ginninderra Station with extensive river frontage. The Palmer property joined with Mowatts to the east along the Molonglo and on their western side was the property of Charles Sturt at Belconnen. To the east of the Project Area the land was owned by John McPherson who had settled on the slopes of Black Mountain and its associated river frontage.

The Project Area in the past was located on the boundary between the Parish of Weetangera and the Parish of Canberra. By the time of the 1904 Parish Maps the Project Area has been settled for pastoral grazing with the largest holdings being to the south held by Francis Mowatt, who also controlled Blocks 7, 1549 and 1550 within the Study Area. The Mowatt property of Yarralumla was successively owned after Mowatt by the Murray, Gibes and Campbell families (Coulthard- Clark 1988).

In the east of the Project Area (Blocks 6 and 1548) the land has been divided into smaller holdings consisting of 40acre blocks as a result of the Robertson Land Acts passed in the 1860s. By 1904 these smaller blocks were owned by James Young with Donald McDonald in the north east on the foot slopes of Mount Painter. These holdings are shown in Figure 6.

Following the formation of the Federal Territory a survey of all the Commonwealth land was undertaken. The condition of the Project Area at this time is shown in Figure 7. Since then the land has been leased to rural landholders who have continued to run stock across the landscape. The northern blocks of 1548 and 1549 were also used as horse agistment paddocks in the recent past. Currently the land is under the control of Territories and Municipal Services (TAMS) and the paddocks are vacant on the northern side of William Hovel Drive with the southern portion (Blocks 6 & 7) being leased and actively managed and utilised by the Stuart family.

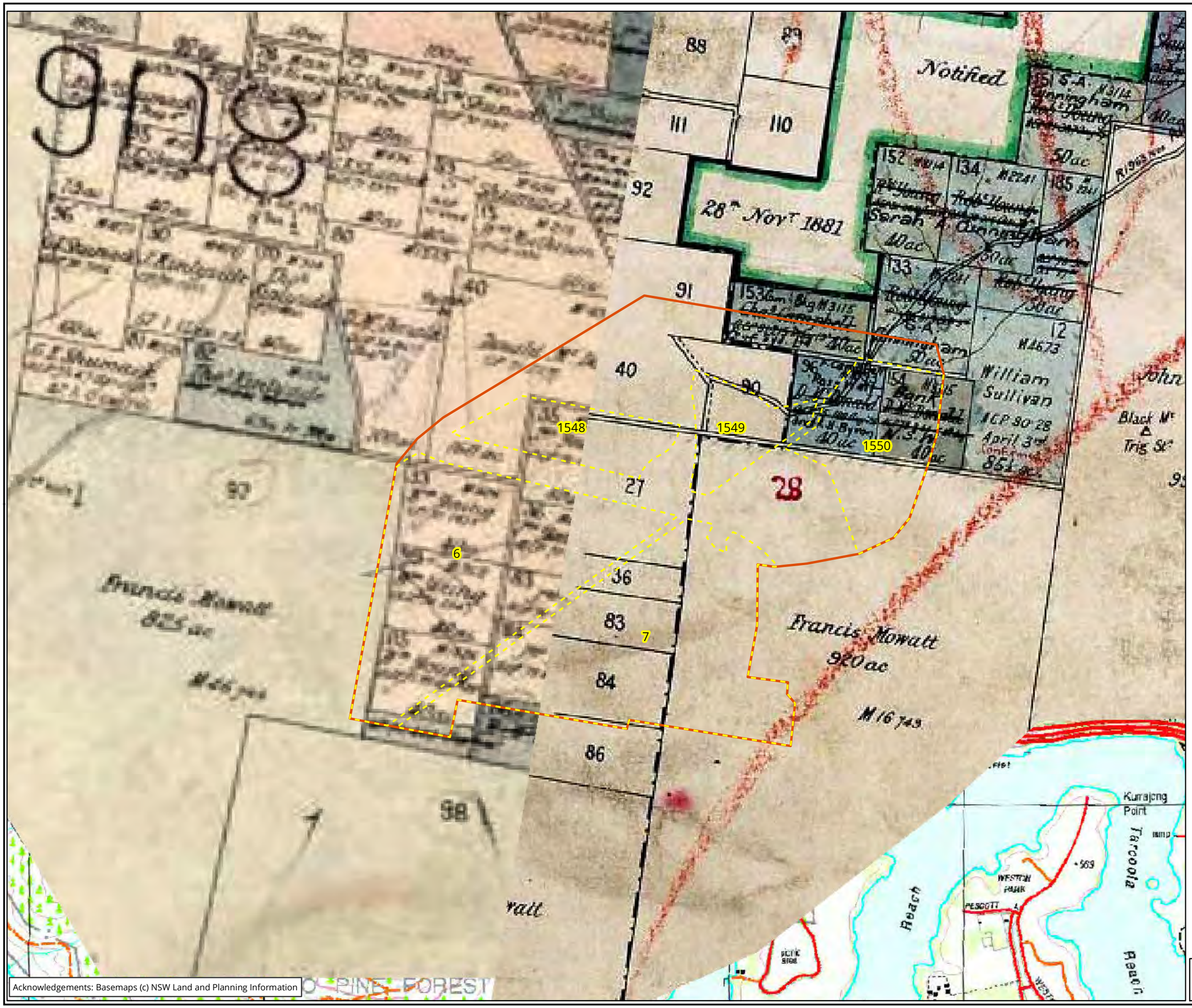
5.2 Predictive Historical Archaeology Statement

Based on the land use history of the Project Area features of heritage significance that may occur include:

- The remains of nineteenth-century structures, such as farm dwellings, stock yards; these may survive as standing buildings, ruins or archaeological deposits.
- Fence lines; these may occur along road easement boundaries or border fences.
- Early Plough lands or other indications of field systems.
- Early tracks, stock routes and roads; these may be associated with early cadastral road reserves, watershed ridgelines, and may be related to early river and creek crossing points.
- Early survey markers, such as trigonometric stations on prominent hilltops.

5.3 Previously recorded sites

No historical cultural heritage sites have been previously recorded within the Project Area.



Legend

- Blocks
- Project Area

Figure 6: The Project Area in context of the Canberra and Weetangera parish maps

0 170 340 510 680 850

Metres

Scale: 1:15,000 @ A3

Coordinate System: GDA 1994 MGA Zone 55

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Ballarat, Brisbane, Canberra, Melbourne, Sydney, Wangaratta & Wollongong

Matter: 16981,
Date: 07 April 2014,
Checked by: LOB, Drawn by: JMS, Last edited by: jshepherd
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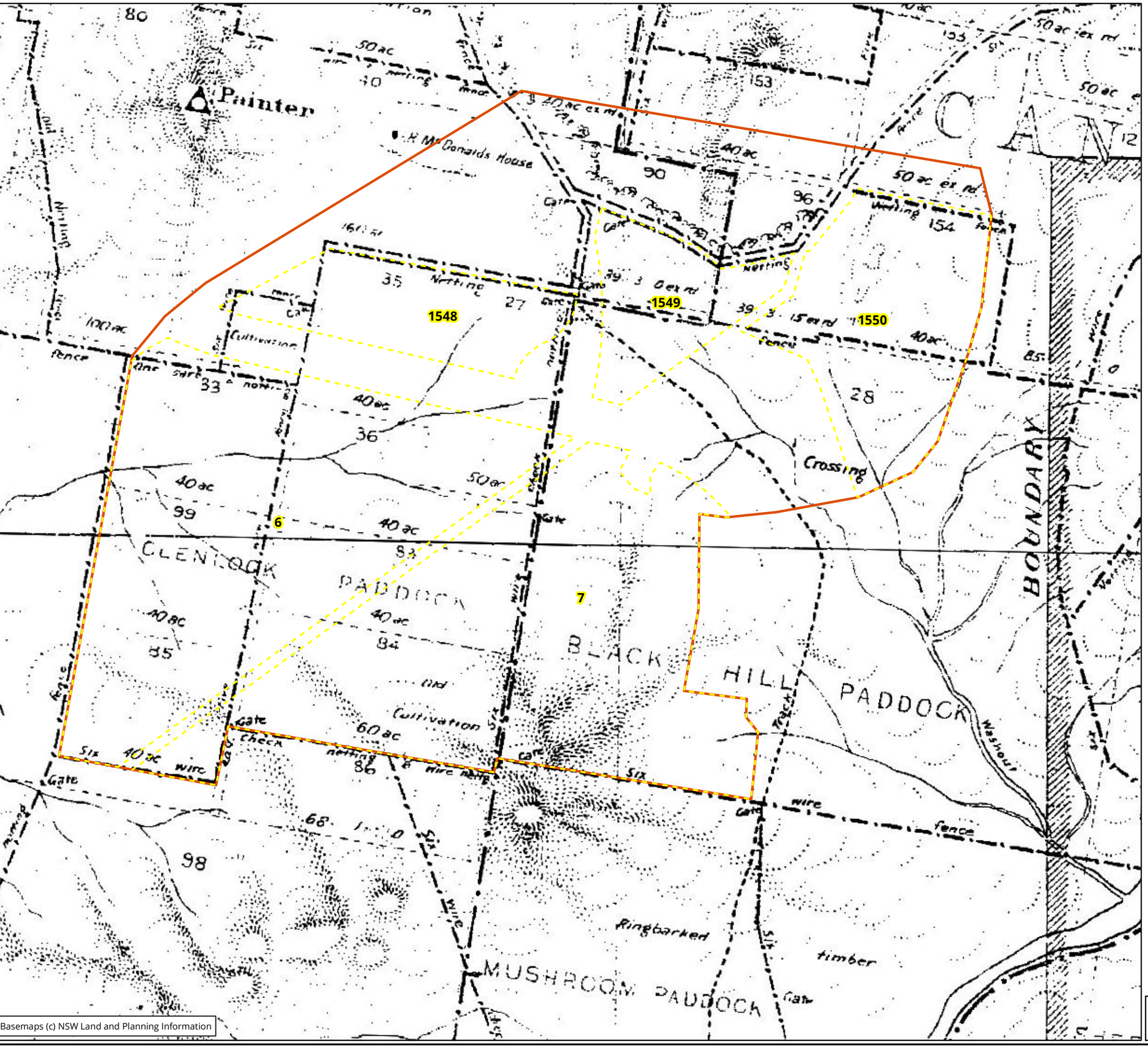

Legend

- Blocks
- Project Area

Figure 7: The Project Area in context of the Federal Territory Feature Map

0 110 220 330 440 550

Metres

Scale: 1:10,000 @ A3

Coordinate System: GDA 1994 MGA Zone 55

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Date: 26 November 2013,
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6 Field Survey

6.1 Survey Methods

Survey methods for Aboriginal sites have been designed in consultation with the RAOs. The survey method has been designed to locate archaeological sites within the Project Area with reference to the following information:

- Previously recorded sites within the Project Area;
- Areas of potential as identified by the background research predictive model (regional site patterns as compared to the physical environment of the Project Area); and
- The proposed development footprint (the Project Area).

The survey was conducted within the Project Area and has used the following method:

100 % Survey Coverage

The size of the Project Area and the type of development allowed for 100% survey coverage of the site. This should not be taken to imply that 100% of the ground surface was examined, but that all of the landforms and most of the ground surface were examined (see Figure 2). Information recorded during the survey included the geology of the area, exploitable resources, identifiable land-use impacts and any archaeological sites present in the Project Area. This information was also used to assist in the identification of area of archaeological potential. The survey team generally walked 5 to 10 metres apart. Where features or areas of exposure were identified, the survey team split briefly for examination of the feature.

Factors that influence the effectiveness of the survey include:

Ground Surface Visibility

Ground Surface Visibility (GSV) is an average amount of the physical ground that could be viewed at the time of survey, and is expressed as a percentage of a square metre. A number of factors hinder the identification of surface archaeological sites; GSV is a major factor in obscuring archaeological materials. Ground surface visibility can be defined as how much of the surface is visible and what other factors (such as vegetation, gravels or leaf litter) may limit the detection of archaeological materials (Burke and Smith 2004: 79). The higher the level of ground surface visibility, the more easily sites can be identified; therefore sites with a good ground surface visibility will have a better representation of sites than areas where the ground surface is obscured.

Disturbance

Evidence of physical ground disturbance that occurs within the area has been noted and mapped. Closely associated with ground surface visibility is ground surface exposure, which looks at the prevailing sedimentation conditions on the site. It looks at whether the ground surface of the site is aggrading, eroding or stable; and the kinds of exposures that are apparent as a result of these processes (Burke and Smith 2004: 79). Recent studies have identified that erosional surfaces have the highest level of artefact exposure, while the lowest level is on depositional surfaces (Fanning and Holdaway 2004: 269).

6.2 Project Team and Aboriginal Participation

The archaeological field inspection of the Project Area was conducted by Lyn O'Brien, Sarah Youngblutt, Michael Popple (Biosis Pty Ltd) accompanied by Tyrone Bell (Buru Ngunawal Aboriginal Corporation), Carl Brown (King Brown Tribal Group), Michelle House (Little Gudgenby River Tribal Council) and James Mundy (Ngarigu Currawong Clan) during September/October 2013.

The representatives have contributed input into the survey methods and management recommendations, and have been asked to provide comment on the cultural significance of the locality and any archaeological objects or areas that are recorded during this survey.

7 Survey Results

7.1 Existing Condition of the Project Area

The overall condition of the Project Area was fair for archaeological visibility. Vegetation varied across the Project Area with grass coverage being short over the north western section where former horse paddocks had been located and which are currently heavily grazed by large mobs of Kangaroos. The north eastern section adjoins the Aranda bushland and Black Mountain nature parks and although also grazed by Kangaroos it merges into the differing landscape of the forested nature parks. Visibility within this section was also generally low with forested areas containing leaf litter and branches obscuring GSV.

The southern section of the Project Area is currently under agistment with sheep grazing across the paddocks resulting in high GSV conditions with short grass and numerous stock impact trails, vehicle tracks, gateways and fence lines providing frequent exposures.

7.2 Newly Identified Aboriginal Cultural Heritage Sites

A total of 34 new Aboriginal sites were identified during the survey (see Figure 8). The details of each of the sites, their composition and location in the landscape are provided below under their individual site descriptions.

7.2.1 Site G1: Isolated Find

Site G1 is located to the north east of a dam amidst grassed lower slopes. Visibility in this area was nil and the discovery of the artefact was unexpected. Grass covered this section of the study area which consisted of wetter areas draining into the dam. The details of the identified artefact are listed below in Table7.1 and site location and artefact are shown in the following plates.

Table 7.1. Site G1 Artefact Details

Artefact	Material	Size (mm)	Platform	Termination
	Chert	20 x 20 x 8	Flaked	Feather -

Plate 7.1. Location of Site 1

Plate 7.2. Artefact detail.

7.2.2 Site G2: Artefact Scatter

Site G2 is located on the southern edge of a drainage gully/creek line. The artefacts were dispersed along animal impact trails and erosion scalds. GSV within the area of exposure was estimated at 80%. Four artefacts were located but the potential for further artefacts in this location is high. The details of the identified artefacts are listed in Table 7.2 below and site location and artefact are shown in the following plates.

Table 7.2. Site G2 Artefact Detail

Artefact	Material	Size (mm)	Platform	Termination
Flake	Silcrete	35 x 22 x 30	Flat	Feather
Flake	Silcrete	20 x 20 x 30	Flat	Feather
Flake	Chert	27 x 17 x 10	Flat	Feather
Flake	Chert	15 x 15 x 2	Flaked	Feather -

Plate 7.3. Site location

Plate 7.4. Artefact Detail

7.2.3 Site G3: Isolated Find

Site G3 is located on the south western edge of the creekline in an area of erosion exposure measuring 10m x 5m. GSV within this exposure was high estimated at 80%. GSV in the general area was estimated at 30% due to the sparse grass coverage and the numerous exposures. The details of the identified artefact are listed in Table 7.3 and site location and artefact are shown in the following plates.

Table 7.3. Site G3 Details.

Artefact	Material	Size	Platform	Termination
Flake	White Quartz	9 x 8 x 5mm	Flat	Feather -

Plate 7.5. Site Location

Plate 7.6. Artefact Detail

7.2.4 Site G4: Possible Scarred Tree

Site 4 consists of a possible culturally scarred tree on a Yellow Box (*E.Melliodora*) on the southern edge of the drainage gully. Two scars are present on the northwest face. Details of the scar (following Long 1995) are presented below with the following plates showing tree and scar details.

- Scar 1 - 44cm height from base.

  Internal width – 14cm
- Scar 2 - 55 cm height from base

Plate 7.7. Possible Cultural Scars

7.2.5 Site G5: Isolated Find

Site G5 consists of a single flake located on an area of linear exposure caused by animal tracks along the top of a drainage line in an area of creek flats to the south east of a group of trees. GSV in the area was low estimated at 20%. The detail of the identified artefact is listed in Table 7.4 and site location and artefact are shown in the following plates.

Table 7.4. Site G5 artefact details

Artefact	Material	Size	Platform	Termination
Flake	Quartz	15 x 10 x 1mm	Flaked	Step-

Plate 7.8. Location of Site

Plate 7.9. Site G5 Artefact

7.2.6 Site G6: Artefact Scatter

Site G6 is located on an old vehicle access track which crosses east west across the study area from the main entrance gate on Bindubi Street. This track is grassed and has a GSV of 55% - the linear exposure caused by vehicle impacts is discontinuous with grass encroaching into areas of exposures. The details of the identified artefact is listed in Table 7.5 and site location and artefact are shown in the following plates

Table 7.5. Site G6 artefact details

Artefact	Material	Size	Platform	Termination
Flake	Quartz	17 x 12 x 3mm	Flat	Step

Plate 7.10. Site Location

Plate 7.11. Artefact Site G6

7.2.7 Site G7: Isolated Find

Site G7 consists of a single artefact located in the area of exposure caused by the main entrance gate in to Block 1549 from Bindubi Street. This site is located in an area of undulating rolling hills. The exposure is approximately 10m x 5m with a GSV of 90%. The details of the identified artefact are listed in Table 7.6 below and site location and artefact are shown in the following plates.

Table 7.6. Site G7 Artefact Details

Artefact	Material	Size	Platform	Termination
Flake	Quartz	1 x 8 x 3mm	Flat	-Step

Plate 7.12. Site 7 location

Plate 7.13. Artefact Site 7

7.2.8 Site G8: Artefact Scatter

Site G8 is located on the north west side of a large stand of tea tree regrowth in an area of sheet erosion and consisted of six artefacts. GSV was estimated at 60%, away from areas of exposure GSV was low at 10%. The site was dispersed over an area of 35m with two distinct concentrations of artefacts. The details of the identified scatter are listed in the Table 7.7 below and site locations are shown in the following plates.

Table 7.7. Site G8 Artefact Details

Artefact	Material	Size (mm)	Platform	Termination
Flake	Silcrete	60 x 11 x 40	Flaked	Feather-
Flake	Silcrete	10 x 6 x 1	Flaked	Feather-
Bipolar Flake	Quartz	30 x 15 x 90	Crushed	Crushed
Flake	Quartz	14 x 10 x 2	Flat	Feather
Flake	Quartz	20 x 12 x 4	Flaked	Feather
Flake	Quartz	17 x 16 x 6	Flaked	Feather

Plate 7.14. Location Concentration 1 Site 8

Plate 7.15. Location Concentration 2 Site 8

7.2.9 Site G9 Artefact Scatter

Site G9 is located within a clearing amongst woodland in an area of increased visibility due to patchy grass coverage and consisted of two artefacts. GSV was estimated at 45%. The details of the identified artefacts are listed in Table 7.8 and site location and artefact are shown in the following plates.

Table 7.8. Site G9 Artefact Detail

Artefact	Material	Size (mm)	Platform	Termination
Flake	Chert	25 x 10 x 6	Flat	Step
Core – Multidirectional	Chert	100 x 63 x 43		

Plate 7.16. Location of Site G9

Plate 7.17. Artefact Detail Site G9

Plate 7.18. Core

7.2.10 Site G10:Artefact Scatter

Site G10 consists of an artefact scatter located in an area of woodland on an upper slope with rocky outcrops present. The site consisted of two artefacts located together. Area of exposure was linear and a result of animal/pedestrian impact trails. GSV within the exposure was limited by leaf litter and surface gravel estimated at 60%. GSV away from the area of exposures was low at 10%. Exposures were common through this area due to the sparse grass coverage and numerous exposure scalds. The details of the identified artefact is listed in Table 7.9 below and site location and artefact are shown in the following plates.

Table 7.9. Site G10 Artefact Details

Artefact	Material	Size (mm)	Platform	Termination
Flake	Quartz	8 x 6 x 3	Flat	Crushed-
Distal Flake	Volcanic rock	34 x 23 x 5	NA	Step

Plate 7.19. Site G10 Location

Plate 7.20. Artefact detail

Plate 7.21. Artefact Detail

7.2.11 Site G11: Artefact Scatter

Site G11 is located on the upper slopes in an area of rock outcrops. This site may be an extension of site 10 but the GSV between the two is poor and no connection was evident. The details of the identified artefact is listed in Table 7.10 below and site location and artefact are shown in the following plates.

Table 7.10. Site G11 Artefact Details

Artefact	Material	Size (mm)	Platform	Termination
Flake	Silcrete	11 x 12 x 2	Flaked	Feather

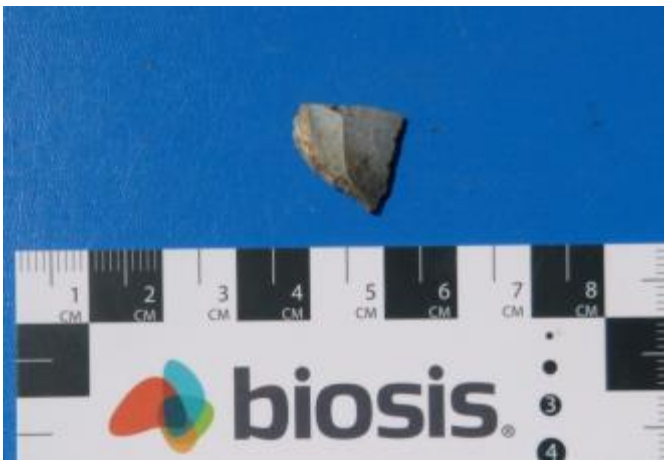

Plate 7.22. Site G11 Location

Plate 7.23. Artefact Detail

7.2.12 Site G12: Artefact Scatter

Site G12 consists of a large dispersed artefact scatter and associated PAD located on an elevated spur lines which runs to the east into the foothills of Black Mountain. The site location presents a view over the valley and is high enough to capture the breeze along the valley. The spur line is in an area of red stringybark. Numerous artefact concentrations were identified with a sample of artefacts from each site recorded. Further artefacts are present on the site estimated at up to 50 artefacts. Details of selected artefacts are listed in Table 7.11 below and site location and artefacts are shown in the following plates.

Table 7.11. Site G12 Artefact Details

Artefact	Material	Size (mm)	Platform	Termination
Bipolar Flake	Quartz	20 x 20 x 5	Crushed	-Crushed
Flake	Quartz	20 x 10 x 6	Flake	Feather -
Flake	Quartz	12 x 10 x 2	Flat	Feather-
Angular Fragment	Quartz	40 x 20 x 16	na	na-
Flake	Chert	21 x 17 x 6	Flat	Hinge -
Flake	Quartz	11 x 2 x 7	Flake	Feather-
Flake	White quartz	12 x 10 x 2	Flat	Feather-
Angular Fragment	Quartz	8 x 11 x 2	na	na-
Flake	Quartz	14 x 10 x 3	Flat	Feather-
Bipolar Flake	Quartz	15 x 14 x 6	Crushed	Crushed-
Flake	Quartz	12 x 10 x 2	Flat	Feather -
Flake	Quartz	10 x 7 x 3	Flat	Step-
Flake	Quartz	20 x 5 x 5	Flat	Feather-
Flake	Quartz	10 x 7 x 5	Flat	Feather -
Flake	Quartz	10 x 6 x 1	Flat	Feather -
Flake	Quartz	14 x 6 x 5	Flat	Feaher -
Flake	Chert	12 x 13 x 3	Flat	Feather-
Retouched Flake – thumbnail scraper	Silcrete	16 x 14 x 2	Faceted	removed
Flake	Grey Silcrete	10 x 5 x 2	Flaked	feather-
Flake	Quartz	-22 x 11 x4s	Flat	Feather -
Flake	Quartz	-12x18x6	Flat	Feather -

Plate 7.24. Site location looking west

Plate 7.25.Site location looking south west

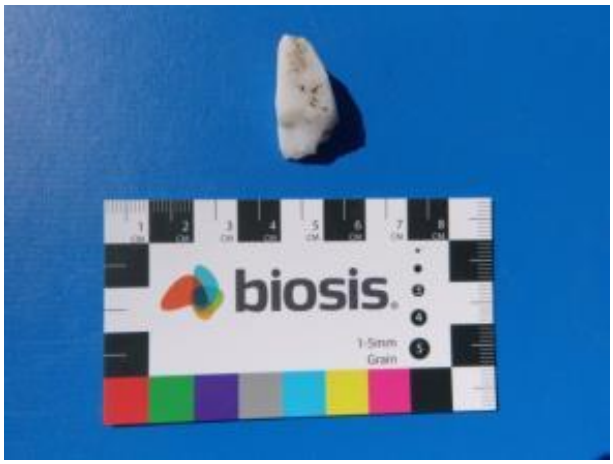

Plate 7.26. Selection of Artefacts from Site 12

Plate 7.27. Selection of Artefacts from Site G12

7.2.13 Site G13: Artefact Scatter

Site G13 consists of an artefact scatter consisting of 4 artefacts. The area of exposure is caused by vehicle traffic through the gate and measures 15m x 5m in approximate size. GSV within the exposure is high at 85%. Background visibility away from the area of exposure was low due to grass coverage and estimated at 10%. The details of the identified artefacts are listed in Table 7.12 below and site location and artefact are shown in the following plates.

Table 7.12. Site G13 Artefact Details

Artefact	Material	Size (mm)	Platform	Termination
Flake	Chert	33 x 24 x 8	Flat	Feather
Flake	Chert	33 x 24 x 8	Flat	Feather
Flake	Chert	19 x 11 x 4	Flat	Step
Flake	Quartz	10 x 8 x 4	Flat	Feather -

Plate 7.28. Location of Site G13

7.2.14 Site G14: Possible Scarred Tree

Site G14 consists of a possible cultural scar on the eastern face of a yellow box. The girth of the tree was measured to be 181cm. The scar consists of the following:

- Vertical interior - 91cm
- Horizontal interior - 31. 7cm left,
- Overgrowth measures 6cm around the edges of the scar.

Details of the scar and the yellow box tree are shown in the following plates.

Plate 7.29. Possible Cultural Scar

Plate 7.30. Scar detail

7.2.15 Site G15: Artefact Scatter

Site G15 consists of a dispersed surface scatter of 15 artefacts with associated PAD centred on areas of exposure. The potential for further artefacts to be located here is high. The details of the identified artefact is listed in Table 7.13 below and site location and artefact are shown in the following plates.

Table 7.13. Site G15 Artefact Details

Artefact	Material	Size (mm)	Platform	Termination
Flake	Quartz	14 x 20 x 2	Cortical	Feather
Flake I	Quartz	16 x 12 x 7	Cortical	Feather
Distal Flake	Quartz	6 x 6 x 2	N/A	Feather
Distal Flake	Quartz	10 x 16 x 10	N/AF	Feather
Distal Flake	Quartz	14 x 7 x 5	N/A	Feather
Flake	Quartz	19 x 17 x 7	Flat	Feather
Flake	Quartz	17 x 6 x 4	Flat	Feather
Core	Quartz	24 x 27 x 20	na	na
Flake	Quartz	23 x 12 x 8	Flat	Feather-
Flake	Quartz	24 x 16 x 10	Flat-	Feather
Retouched Flake	Quartz	17 x 8 x 2	Flaked	Feather-
Flake	Chert	10 x 12 x 4	Flat	Feather
Flake	Tuff	40 x 26 x 18	Flat	Step
Flake	Quartz	17 x 19 x 9	Flat	Feather
Flake	Quartz	18 x 12 x 6	Flat	Feather

Artefact	Material	Size (mm)	Platform	Termination
Flake	Quartz	18 x 12 x 6	Flat	Feather

Plate 7.31. Location of concentration 1 looking west

Plate 7.32. Artefacts from Concentration

Plate 7.33. Concentration 2 looking north

Plate 7.34. Artefacts from Concentration 2

Plate 7.35. Concentration 3 looking north

Plate 7.36. Artefacts from Concentration 3

7.2.16 Site G16: Artefact Scatter

Site G16 is located in an area of exposure in the southern corner of the paddock. This site is located in an area of exposure created by erosion and measuring 2m x 2m. GSV within the exposure was high at 90% with a background visibility in the area of 60% due to the scarcity of grass coverage. The site location and GSV conditions are shown in Plate 37 below and marked by the location of the clipboard.

Plate 7.37. Site G16 Location

Plate 7.38. Artefacts Site G16

7.2.17 Site G17: Artefact Scatter

Site G17 consists of a dispersed scatter of 12 artefacts stretching over a length of 25m x 15m along the fence line from the northern paddocks. Large areas of exposure due to sheet erosion are located along the fence line with a high GSV of 90%. The details of the identified artefacts are listed in Table 7.14 below and site location and artefact are shown in the following plates.

Table 7.14. Site G17 Artefact Details

Artefact	Material	Dimensions (mm)	Platform	Termination
Flake	Quartz	22 x 14 x 6	Flaked	Feather-
Flake	Chert	17 x 10 x 5	Cortical	Step
Flake	Quartz	19 x 8 x 4	Flaked	Feather
Core- multidirectional	Quartz	28 x 27 x 25	N/A	N/A
Angular fragment	Quartz	12 x 10 x 7	N/A	N/A
Angular fragment	Quartz	15 x 17 x 4	N/A	N/A
Flake	Quartz	17 x 11 x 5	Flaked	Feather
Flake	Quartz	15 x 7 x 8	Flaked	Feather
Flake	Quartz	19 x 12 x 5	Flaked	Step
Flake- medial	Red Silcrete	17 x 12 x 7	N/A	N/A-
Flaked piece	Red Silcrete	21 x 20 x 7	N/A	N/A-
Flake	Quartz	15 x 10 x 5	Flat-	Feather

Plate 7.39. Site G17 looking west

Plate 7.40. Artefacts Site G17

7.2.18 Site G18: Artefact Scatter

Site G18 consists of an artefact scatter. This area of exposure measures 10m x 5m GSV within the area of exposure was estimated at 75%. The details of the identified artefacts are listed in Table 7.15 below and site location and artefact are shown in the following plates.

Table 7.15. Site G18 Artefact Details

Artefact Type	Material	Dimensions	Platform	Termination
Flake – backed geometric microlith	Silcrete	25 x 15 x 4mm	na	Feather-
Angular Fragment	Quartz	na	na	na
Angular Fragment	Quartz	na	na	na
Angular Fragment	Quartz	na	na	na
Angular Fragment	Quartz	na	na	na
Angular Fragment	Quartz	na	na	na
Angular Fragment	Quartz	na	na	na
Angular Fragment	Quartz	na	na	na
Angular Fragment	Quartz	na	na	na
Angular Fragment	Quartz	na	na	na
Angular Fragment	Quartz	na	na	na
Angular Fragment	Quartz	na	na	na
Flake	Quartz	16 x 8 x 4mm	Flat	Feather
Flake	Quartz	16 x 6 x 5mm	Flat	Feather -

Plate 7.41. Site G18 Location looking north

Plate 7.42. Artefacts from Site G18

7.2.19 SiteG19: Artefact Scatter

Site G19 consists of a small artefact scatter, GSV was high at 80%. The details of the identified artefacts are listed in the Table below and site location and artefact are shown in the following plates.

Table 7.16. Site G19 Artefact details

Artefact	Material	Dimensions (mm)	Platform	Termination
Flake	Quartz	12 x 12 x 6	Flaked	Step
Flake	Quartz	12 x 16 x 7	Flaked	Feather

Plate 7.43. Site location looking northwest

Plate 7.44. Artefacts Site G19

7.2.20 Site G20: Isolated Find

Site G20 consists of an isolated artefact in an area of erosion on the north bank of a creekline. GSV was estimated at 80%. The detail of the identified artefact is listed in Table 7.17 and site location and recorded artefact are shown in the following plates.

Table 7.17. Site G20 Artefact details

Artefact	Material	Size	Platform	Termination
Flake	Quartz	13 x 8 x 2mm	Flat	Feather-

Plate 7.45. Site G20 looking south

Plate 7.46. Artefact Site G20

7.2.21 Site G21: Artefact Scatter

Site G21 is located on a section of vehicle impact trail across the creek line. These three artefacts were in a tight cluster and near the base of a fence post which stands along at the side of the vehicle trail. It is considered that these artefacts were not in their original location but have been gathered and moved off the vehicle trail by well meaning walkers or other Park users.

Table 7.18. Site G21. Artefact Details

Artefact	Material	Size	Platform	Termination
Flake	Tuff	22 x 14 x 5mm	Flat	Feather
Flake	Quartz	19 x 10 x 4mm	Flaked	Feather
Flake- proximal	Quartz	9 x 4 x 1mm	Flat	NA

Plate 7.47. Location Site G21

Plate 7.48. Artefacts Site G21

7.2.22 Site G22: Artefact Scatter

Site G22 is located an area of sheet erosion. This exposure measured approximately 15m x 4m and held a GSV of 90%. Away from the area of exposure the grass had been mown and holds a GSV of 40%.

Table 7.19. Artefact Details Site G22

Artefact	Material	Size (mm)	Platform	Termination
Flake	Chert	23 x 22 x 3	Flat	Feather
Flake	Quartz	25 x 25 x 4	Flaked	Feather
Flake	Tuff	48 x 17 x 5	Flaked	Feather
Angular Fragment	Quartz	10 x 7 x 3	NA	NA

Plate 7.49. Artefacts Site G22

Plate 7.50. Site location looking north

7.2.23 Site G23: Possible Scarred Tree

Site G23 consist of a possible culturally scarred tree. Base of the tree to base of the scar is approximately 110 cm in length. Width of scar is approximately 55cm and the length of the scar is 90 cm.

The edges of the scar are parallel and symmetrical and appear cut. This scar may be cultural in origin but may also have a historical origin.

Plate 7.51.Looking northeast to Black Mt

Plate 7.52.Detail of Scar face.

7.2.24 Site G24: Artefact Scatter

Site G24 consists of a dispersed artefact scatter located on the midslopes with a ground surface visibility of 35%. Six artefacts were located at the base of a tree in an area of exposure measuring 50cm in a circular depression around the tree trunk. GSV within this area of exposure was estimated at 60% due to high levels of background gravels and leaf litter. Details of the identified artefacts are provided in Table 7.20 and the site location and artefacts shown in the following plates.

Table 7.20 Site G24 Artefact Details

Artefact	Material	Size (mm)	Platform	Termination
Flake	Quartz	25 x 12 x 12	Flat	Feather
Flake	Quartz	18 x 10 x 4	Flat	Feather
Proximal Flake	Quartz	31 x 32 x 11	NA	NA
Flake	Quartz	13 x 12 x 3	Flat	Feather
Flake	Silcrete	45 x 32 x 17	Flaked	Feather
Flake	Tuff	20 x 15 x 14	Flaked	Stepped

Plate 7.53.Location of Site G24

Plate 7.54. Artefact Details

7.2.25 Site G25: Isolated Find

Site G25 consists of a single artefact, a small quartz flake, found along the eastern side of a raised drainage line bank in an area of exposure caused by stock impacts and pedestrian traffic. This exposure has a high ground surface visibility of 90%. Artefact details are listed in Table 7.21 below and site location and artefact shown in the following plates.

Table 7.21. Site G25 Artefact Details

Artefact	Material	Size	Platform	Termination
Flake	Quartz	14x12x3mm	Flaked	Stepped

Plate 7.55. Location of Site G25

Plate 7.56. Artefact G25

7.2.26 Site G26: Isolated Find

Site G26 consists of a single quartz artefact. The ground surface visibility in the area is approximately 85% within an area of exposure measuring approximately 10m x 4m caused by vehicle traffic and stock passing through the connecting gateway between the two sheep paddocks. Details of the identified artefact are provided in Table 7.22 and the following plates show the artefact and site location.

Table 7.22. Site G26 Artefact Details

Artefact Type	Material	Dimensions (mm)	Platform Type	Termination Type
Flake	Quartz	30 x 16 x 5	Flaked	Feather

Plate 7.57. Location site G26 looking north

Plate 7.58. Site G26 artefact.

7.2.27 Site G27: Isolated Find

Site G27 contains a single artefact, a quartz flake located in an area of relatively low visibility, of 35% near to the boundary of the property. Vegetation reduced GSV in this area and the artefact was identified due to the impacts of the entrance gateway. Details of the recorded artefact are listed in Table 7.23 with the artefact shown in Plate 59.

Table 7.23. Site G27 Artefact Details

Artefact	Material	Size	Platform	Termination
Flake	Quartz	15x13x4mm	Flaked	Feathered

Plate 7.59. Site location

Plate 7.60. Artefact Site G27

7.2.28 Site G28: Isolated Find

Site G28 contains a single artefact, a quartz flake. The artefact was found in an area of high visibility, of 90%. The detail of the identified artefact is provided below.

Table 7.24. Site G28. Artefact Details

Artefact	Material	Size	Platform	Termination
Flake	Quartz	25x8x7mm	Flat	Stepped

Plate 7.61. Location of site G28 looking south

Plate 7.62. Artefact Site G28

7.2.29 Site G29: Artefact Scatter

Site G29 consists of a dispersed artefact scatter on the western boundary of the Project Area. This site was identified in the gate entrance area within a large area of exposure caused by vehicle and stock traffic. Five (5) quartz artefacts were identified in this high visibility (85-90%) area.

Table 7.25. Site G29 Artefact Details

Artefact	Material	Size (mm)	Platform	Termination
Distal Flake	Quartz	10 x 20 x 4	NA	Feather
Distal Flake	Quartz	16 x 14 x 7.5	NA	Feather
Flake	Quartz	12 x 7 x 4	Flat	Feather
Angular Fragment	Quartz	20 x16 x 8	NA	NA
Flake	Quartz	12 x 10 x 4	Crushed	Stepped

Plate 7.63. Site location

Plate 7.64. Sample Artefact G29

7.2.30 Site G30: Artefact Scatter

Site G30 consists of a dispersed artefact scatter located due south of William Hovell Drive. The site is just north of exposed creek flats on lower slopes with a ground surface visibility of 80% within an area of exposure caused by erosion and stock impacts. Two artefacts were identified at the site.

Table 7.26. Site G30 Artefact Details

Artefact	Material	Size (mm)	Platform	Termination
Flake	Quartz	10x6x4	Facetted	Feathered
Flake	Quartz	10x4x4	Flat	Feathered

Plate 7.65. Location G30

Plate 7.66: Artefacts G30

7.2.31 Site G31:Artefact Scatter

Site G31 consists of a dispersed scatter located to the south of a dam. The site is on the southern side of the dam and consists of six artefacts. These artefacts were found on exposed areas along the dam edge ranging from 75-95% GSV. Artefact details are provided in Table 7.27 and shown in Plate 69. Site location is shown in Plate 68.

Table 7.27: Site G31 Artefact Details

Artefact	Material	Size (mm)	Platform	Termination
Distal Flake	Quartz	13x7x6	N/A	Hinge
Angular Fragment	Quartz	8x5x3	Unifacial	N/A
Angular Fragment	Quartz	7x5x4	N/A	N/A
Flake	Silcrete	22x19x9	Bifacial	Stepped
Angular Fragment	Quartz	12x11x10	N/A	N/A
Flake	Silcrete	22x16x7	Facetted	Feathered

Plate 7.67.Site G31

Plate 7.68. Sample artefact Site G31

7.2.32 Site G32:Isolated Find

Site G32 consists of an isolated find of a single quartz flake. The site is on the northern side of a dam and located on a lightly grassed area on the northern bank of the dam, where the GSV is between 75-80% due to the presence of stock impact trails. Details of the identified artefact are provided in Table 7.28.

Table 7.28. Site G32 Artefact Details

Artefact Type	Material	Dimensions (mm)	Platform Type	Termination Type
Flake	Quartz	25x14x10	Flat	Feathered

Plate 7.69.Site G32 looking west

Plate 7.70.Artefact Site G32

7.1 Previously identified Aboriginal Cultural Heritage Sites

A total of 14 sites have previously been recorded within the Project Area. The details of these sites are listed under their individual site designations below.

7.1.1 CLB3 – Isolated Find

Site CLB3 was identified by Tom Knight during the post bushfire 2003 survey, with a site recording form lodged with the Heritage Unit. One artefact was identified. This area consists of a vehicle track running along the northern boundary of the Cork Plantation. Visibility was high in the area with large areas of exposures. Knight moved the metasedimentary flake 10m to the north under a tree. The recorded location was examined for any sign of the previously identified artefact with no artefact being recorded.

7.1.2 CLB4 – Isolated Find

Also identified by Tom Knight during the post bushfire 2003 survey, with site recording form lodged with the Heritage Unit. One artefact was identified. Despite a search of the area the artefact was not re-identified.

7.1.3 CLB5 – Artefact Scatter

This site was also identified by Tom Knight during the post bushfire 2003 survey, with site recording form lodged with the Heritage Unit. Two artefacts were identified spanning a 55 metre area. This site could not be relocated during the current field survey despite a search of the known location.

7.1.4 CLB6 – Artefact Scatter

This site was also identified by Tom Knight during the post bushfire 2003 survey, with site recording form lodged with the Heritage Unit. Two artefacts were identified spanning a 40 metre area. This site could not be relocated during the current field survey despite a search of the known location.

7.1.5 BELC 12 – Artefact Scatter

Peter Kabaila (1997) recorded this site as part of his background research for his research on the Aboriginal occupation of the Belconnen district which was published under the title 'Belconnen's Aboriginal past: A Glimpse into the Australian Capital Territory'. His recording of the site consists of a scatter of flaked stone artefacts located on gentle slopes overlooking a drainage tributary of Black Mountain Creek. 26 artefacts were identified in a 20 metre radius on the western edge of Caswell Drive.

The known site located was searched for any sign of the previous artefacts. No artefacts were identified at the location at the time of the field survey.

7.1.6 BELC 14 – Artefact Scatter

Also originally recorded by Kabaila (1997) the site consists of five artefacts identified in a 10 metre area. Despite high GSV at the known location no artefacts were re-identified at the recorded site location.

7.1.7 BELC 15 – Artefact Scatter

Also originally recorded by Kabaila(1997) as a small scatter of flaked stone artefacts located in a clearing on gentle valley slopes above and ephemeral tributary of Black Mountain Creek. Three artefacts were identified in a 20 metre area. The recorded site location was searched for surface artefacts no artefacts were identified at the previously recorded location.

7.1.8 BELC 22 – Artefact Scatter

Also originally recorded by Kabaila (1997) the site was recorded as a scatter of flaked stone artefacts exposed in a sheet eroded area on gentle slope above Black Mountain Creek. 14 artefacts were identified spanning a 20 x 30 metre area. This site was not re-identified on the day of the field survey.

7.1.9 ABF1 and PAD – Artefact Scatter

This site was originally recorded by Navin Officer (2003) as an isolated stone artefact exposed on the surface of a graded dirt track, approximately 22 metres north of an old gateway. The site location was considered to hold moderate potential for sub surface deposits. No artefact was re-identified at this location but the PAD is still intact.

7.1.10 ABF2 and PAD – Artefact Scatter

Also recorded by Navin Officer in 2003 the site consisted of 15 artefacts identified in an open artefact scatter (including flakes and flaked pieces of silcrete, quartz and chert) in an exposed area along a fire trail at the eastern end of the park. The site was also designated as a PAD containing sub surface potential. No artefacts were identified at his location, which was heavily vegetated, thus visibility was low.

7.1.11 Caswell Drive 1 – Artefact Scatter

In 2004, Navin Officer located this site consisting of five aboriginal stone artefacts distributed along a 70m interval of the gravel track alongside the overhead electricity power line situated adjacent to the compound area.

Vegetation was high in this area (thus low visibility) and no artefacts were identified at the known site location.

7.1.12 Glenloch 8 – Artefact Scatter

In 2003, Navin Officer identified a site on the edge of the current Project Area north of William Hovell Drive. The site was initially described as an isolated stone artefact located within a disturbed context adjacent to a drainage gully. On re-examination a further artefact was located and the designation was changed to an artefact scatter. On examination of this location 16 artefacts were located dispersed around both side of the drainage gully. These artefacts are listed in Table 7.29 below and the condition of the site is shown in Plates 7.71 and 7.72.

Table 7.29. Glenloch 8 Artefact Details

Artefact	Material	Size (mm)	Platform	Termination
Flake	Quartz	20 x 12 x 4	Flat	Feather
Flake	Chert	10 x 6 x 1	Flat	Feather
Flake	Chert	30 x 13 x 9	Flat	Feather
Flake	Chert	12 x 13 x 9	Flat	Feather
Flake	Chert	9 x 6 x 1	Flat	Feather
Flake	Quartz	20 x 12 x 3	Flat	Feather
Flake	Quartz	20 x 15 x 4	Flat	Feather
Flake	Quartz	4.2 x 20 x 7	Flat	Step
Flake	Quartz	23 x 12 x 7	Flat	Step
Flake	Quartz	20 x 13 x 3	Flat	Feather
Flake	Quartz	27 x 25 x 5	Flat	Feather
Flake	Silcrete	43 x 33 x 10	Flat	Feather
Flake	Chert	40 x 28 x 5	Flat	Feather
Flake	Quartz	13 x 14 x 5	Flaked	Feather
Flake	Chert	50 x 35 x 14	Flaked	Feather
Flake	quartz	37 x 30 x 17	Flaked	Feather

Plate 7.71.Glenloch 8 North Bank

Plate 7.72.Glenloch 8 South Bank

7.2 Previously Identified Potential Archaeological Deposits (PAD)

Two areas of PAD have been previously identified as occurring within the Project Area. These areas have not been disturbed and still hold their value as PADs for future investigation.

7.2.1 BELC PAD 2 – Potential Archaeological Deposit

Navin Officer conducted a survey in 2002 and 2004 for the Gungahlin Drive Extension ACT: Cultural Heritage Assessment. The reports were addressed to WP Brown and Partners for the ACT Department of Urban

Services and Tree cleaning and Associated Ground Disturbance Heritage Protocol. One potential Archaeological Deposit (PAD) was identified, spanning a 25m diameter area.

7.2.2 BAAP 1- Potential Archaeological Area

In 2011, the ACT Heritage Unit presented a report on Aboriginal Places in the District of Belconnen. A potential archaeological area was identified, consisting of creek flats and gentle spurs in proximity to recorded artefact scatters. The site was considered to have the potential to contain further archaeological materials and was contained within a 300 x 400 metre area.

7.3 Newly Identified PADS

A number of PADs were identified during the field survey (see Figure 8). They comprise:

7.3.1 PAD1 - Potential Archaeological Deposit

PAD 1 is located on a rise situated along a western spurline amongst an area of remnant woodland. The rise is gently sloping with a level surface and commands views of the surrounds to Black Mountain. Prior to the construction of dams along its length this PAD would have overlooked the chain of ponds that formed Coppins Creek. This area is considered to hold moderate potential. The area of PAD is estimated to cover 150m x 60m across the crest and upper slopes of the rise. The area of the PAD is shown in the following Plates and on Figure 8.

Plate 7.73.PAD 1 Looking South

Plate 7.74.PAD 1 Looking south west

7.3.2 PAD2 - Potential Archaeological Deposit

PAD 2 is located on the crest of a northerly running spurline to Mt Painter. The slope is gently inclined and level across the crest. This PAD is located to the north and east of Site G15 which has its own associated PAD. The area of PAD is estimated at 200m x 150m and is considered to hold moderate potential. The area of PAD is shown in the following plates and on Figure 8.

Plate 7.75.PAD 2 looking west

Plate 7.76.PAD 2 looking north

7.3.3 PAD3 Potential Archaeological Deposit

PAD 3 is located on the crest of a northwest spurline. This area is located close to a creekline tributary which is the only available water in the vicinity. The slope is gently inclining and the spurline has a level crest ideal for camping or resting. Soils appear to be deeper in this area and may hold cultural deposits. The area is estimated to cover 100m x 80m across the crest and upper slopes. This area is considered to hold moderate potential and is shown in Plate 7.76.

Plate 7.77. PAD 3 looking north

7.3.4 PAD4 Potential Archaeological Deposit

PAD 4 is located on the crest of a northwest spurline 150m to the north of William Howell Drive. This area is located close to a creekline tributary which is the only available water in the vicinity. The slope is gently inclining and the spurline has a level crest ideal for camping or resting. Soils appear to be deeper in this area and may hold cultural deposits. The area of PAD is estimated to cover 100m x 60m, to hold moderate potential and is shown in Plate 7.77.

Plate 7.78. PAD 4 looking north

7.3.5 PAD5 Potential Archaeological Deposit

PAD 5 is located to the south of PAD 4 and closer to the tributary creekline. PAD 5 is also located on the crest of a northwest spurline north of William Hovell Drive. The area of PAD is considered to be 50m x 40m and to hold moderate potential and is shown in Plate 7.78.

Plate 7.79. PAD 5 looking north

7.4 Previously Recorded Historical Sites

No historical sites have previously been identified within the Project Area.

7.5 Newly Identified Historical Sites

One historical site was located during the field survey. Details of the site are provided below.

7.5.1 Site GH1. Historical Dump Site

This is a diverse heritage scatter located in the central area of the survey, to the south of William Hovell Drive. The site would appear to consist of an historical garbage dump where glass, ceramics and household debris have been placed in an area of the creek/drainage line. Surrounding, glass containers are interwoven with the roots of the tree and scattered glass fragments are located throughout the area. Intact bottles are also present with manufacturer's marks evident. Finds from the site are shown in Plates 7.80 and 7.81.

Plate 7.80.Glass Bottles Site GH1.

Plate 7.81.Ceramics GH1.

7.6 Discussion

The field survey over the Project Area identified numerous sites which provide evidence of the Aboriginal occupation and utilisation of the area. The sites identified mainly consisted of dispersed open scatters with less than 10 artefacts or isolated finds. A single large site was identified within the foothills of Black Mountain consisting of over 50 artefacts.

One historical site was identified consisting of a historical garbage dump. These artefacts appear to have been placed in the dry creek bed for disposal, a common practice amongst rural communities. Information that may be provided by the archaeological examination of the garbage dump would relate to the type of household items used during different settlement phases.

The preservation and intact condition of some of the bottles may enable the dating of the items and the identification of their place of manufacture. Despite this, the information thus recovered would be considered low in value and unlikely to alter our views of the inhabitants ,or the type of items that they used in a significant way.

This site distribution conforms to the predictive modelling for the area as no large bodies of permanent water occur through the Project Area to provide for large intensive sites. Where larger sites were identified (such as Glenloch 8) they are in close proximity to the major drainage lines through the Project Area.

Figure 8. Survey Results (Redacted)

8 Significance Assessment

8.1 Introduction to the Assessment Process

Assessing the significance of a cultural heritage place is undertaken to make decisions about the best way to protect and manage that particular heritage place. The category and significance of a heritage place will also determine if it is to be given statutory protection. The statutory issues that affect heritage places are discussed in detail in Appendix 3.

Places that are assessed as having National heritage significance can be added to the Commonwealth Heritage List, those of Territory significance to the ACT Heritage Register. The ACT Heritage maintains a register of known Aboriginal sites and historical sites. The National Trust maintains a list of significant heritage places, and local historical societies and Aboriginal communities will often have substantial knowledge about local heritage places.

Assessment of the significance of a heritage place can be complex and include a range of heritage values. The cultural heritage values of a site or place are broadly defined in the Burra Charter – the set of guidelines on cultural heritage management and practice prepared by Australia ICOMOS (International Council on Monuments and Sites) – as the 'aesthetic, historic, scientific or social values for past, present or future generations' (Marquis-Kyle and Walker 1992: 21). ACT Heritage has developed formal criteria for assessing heritage significance. These have been included at the end of this appendix and used in this report as applicable. Many Aboriginal sites also have significance to a specific Aboriginal community – this is discussed in a separate section below.

The primary criterion used to assess archaeological sites is scientific significance. This is based on the capacity of archaeological relics and sites to provide us with historical, cultural or social information. The following evaluation will assess the scientific significance of the archaeological sites recorded during this project. The scientific significance assessment methodology outlined below is based on scores for research potential (divided into site contents and site condition) and for representativeness. This system is refined and derived from Bowdler (1981) and Sullivan and Bowdler (1984).

8.2 Principles and Evaluation Criteria

Although there are no formal guidelines for the assessment of significance specified for Aboriginal archaeological places in the ACT, the definition of 'heritage significance' under Section 10 of the *ACT Heritage Act* 2004 includes some of the following categories –

- Technical, aesthetic, rarity, historical, social significance;
- Contribution to cultural history of ACT; and
- Significance in accordance with Aboriginal tradition.

Many projects require assessment of the relative significance of recorded sites, and the identification of archaeologically sensitive areas or landforms. The definition of cultural significance set out in the Burra Charter, and the criteria used by the Australian Heritage Commission for assessing nominations to the Commonwealth Heritage List, provide useful comparative guidelines.

Assessments of significance are essential for:

- identifying sites of importance to Aborigines or other groups;
- identifying sites with research potential;
- identifying sites of educational value; and
- making management recommendations.

In general, the following should be considered when assessing site significance:

- state of preservation;
- site contents;
- site structure;
- frequency of such sites within the Activity area, and within the broader regional context;
- potential to yield information on a particular cultural activity or historical theme;
- association with important historical events or individuals; and
- importance to particular cultural or ethnic groups.

8.3 Heritage Sites – Assessment of Significance

8.3.1 ACT Heritage Act 2004 criteria

The ACT Heritage Act 2004 specifies twelve criteria (a – l) against which the significance of a place can be assessed.

Criteria

(a) it demonstrates a high degree of technical or creative achievement (or both), by showing qualities of innovation, discovery, invention or an exceptionally fine level of application of existing techniques or approaches;

(b) it exhibits outstanding design or aesthetic qualities valued by the community or a cultural group;

(c) it is important as evidence of a distinctive way of life, taste, tradition, religion, land use, custom, process, design or function that is no longer practised, is in danger of being lost or is of exceptional interest;

(d) it is highly valued by the community or a cultural group for reasons of strong or special religious, spiritual, cultural, educational or social associations;

(e) it is significant to the ACT because of its importance as part of local Aboriginal tradition;

(f) it is a rare or unique example of its kind, or is rare or unique in its comparative intactness;

(g) it is a notable example of a kind of place or object and demonstrates the main characteristics of that kind;

(h) it has strong or special associations with a person, group, event, development or cultural phase in local or national history;

(i) it is significant for understanding the evolution of natural landscapes, including significant geological features, landforms, biota or natural processes;

(j) it has provided, or is likely to provide, information that will contribute significantly to a wider understanding of the natural or cultural history of the ACT because of its use or potential use as a research site or object, teaching site or object, type, locality or benchmark site;

(k) for a place—it exhibits unusual richness, diversity or significant transitions of flora, fauna or natural landscapes and their elements;

(l) for a place—it is a significant ecological community, habitat or locality for any of the following:

(i) the life cycle of native species;

(ii) rare, threatened or uncommon species;

(iii) species at the limits of their natural range;

(iv) distinct occurrences of species.

8.3.2 Scientific significance methodology

Scientific significance is assessed by examining the *research potential* and *representativeness* of archaeological sites.

Research potential is assessed by examining *site contents* and *site condition*. Site content refers to all cultural materials and organic remains associated with human activity at a site. Site content also refers to the site structure – the size of the site, the patterning of cultural materials within the site, the presence of any stratified deposits and the rarity of particular artefact types. As the site contents criterion is not applicable to scarred trees, the assessment of scarred trees is outlined separately below. Site condition refers to the degree of disturbance to the contents of a site at the time it was recorded.

The *site contents* ratings used for archaeological sites are:

0. No cultural material remaining.
1. Site contains a small number (e.g. 0–10 artefacts) or limited range of cultural materials with no evident stratification.
2. Site contains a larger number, but limited range of cultural materials; and/or some intact stratified deposit remains; and/or rare or unusual example(s) of a particular artefact type.
3. Site contains a large number and diverse range of cultural materials; and/or largely intact stratified deposit; and/or surface spatial patterning of cultural materials that still reflect the way in which the cultural materials were deposited.

The *site condition* ratings used for archaeological sites are:

4. Site destroyed.
5. Site in a deteriorated condition with a high degree of disturbance; some cultural materials remaining.
6. Site in a fair to good condition, but with some disturbance.
7. Site in an excellent condition with little or no disturbance. For surface artefact scatters this may mean that the spatial patterning of cultural materials still reflects the way in which the cultural materials were laid down.

Representativeness refers to the regional distribution of a particular site type. Representativeness is assessed by whether the site is *common*, *occasional*, or *rare* in a given region. Assessments of representativeness are subjectively biased by current knowledge of the distribution and number of archaeological sites in a region. This varies from place to place depending on the extent of archaeological

research. Consequently, a site that is assigned low significance values for contents and condition, but a high significance value for representativeness, can only be regarded as significant in terms of knowledge of the regional archaeology. Any such site should be subject to re-assessment as more archaeological research is undertaken.

Assessment of representativeness also takes into account the contents and condition of a site. For example, in any region there may only be a limited number of sites of any type that have suffered minimal disturbance. Such sites would therefore be given a high significance rating for representativeness, although they may occur commonly within the region.

The representativeness ratings used for archaeological sites are:

1. common occurrence
2. occasional occurrence
3. rare occurrence

Overall scientific significance ratings for sites, based on a cumulative score for site contents, site integrity and representativeness are:

1-4 low scientific significance

5-6 moderate scientific significance

7-9 high scientific significance

The above classification methodology has been applied to each of the identified heritage sites within the Project Area. The results of the scientific assessment are provided in Table 8.1 below.

Table 8.1: Significance assessment

Site Name	Content	Condition	Representative- ness	Overall Scientific Significance	ACT Heritage Criteria
G1	1	2	1	4-Low	C, E
G2	1	2	1	4-Low	C, E
G3	1	2	1	4-Low	C, E
G4	1	2	2	5 - moderate	C, E
G5	1	2	1	4-Low	C, E
G6	1	2	1	4-Low	C, E
G7	1	2	1	4-Low	C, E
G8	1	2	1	4-Low	C, E
G9	1	2	1	4-Low	C, E
G10	1	2	1	4-Low	C, E
G11	1	2	1	4-Low	C, E
G12	2	2	3	7-high	C,E,J
G13	1	2	1	4-Low	C, E
G14	1	2	2	5 - moderate	C, E

Site Name	Content	Condition	Representative- ness	Overall Scientific Significance	ACT Heritage Criteria
G15	2	2	1	5 – moderate	C, E
G16	1	2	1	4-Low	C, E
G17	1	2	1	4-Low	C, E
G18	1	2	1	4-Low	C, E
G19	1	2	1	4-Low	C, E
G20	1	2	1	4-Low	C, E
G21	1	2	1	4-Low	C, E
G22	1	2	1	4-Low	C, E
G23	1	2	2	5 – moderate	C, E
G24	1	2	1	4-Low	C, E
G25	1	2	1	4-Low	C, E
G26	1	2	1	4-Low	C, E
G27	1	2	1	4-Low	C, E
G28	1	2	1	4-Low	C, E
G29	1	2	1	4-Low	C, E
G30	1	2	1	4-Low	C, E
G31	1	2	1	4-Low	C, E
G32	1	2	1	4-Low	C, E
Glenloch 8	2	2	1	5 - moderate	C, E
GH1	1	1	2	4 - low	J

8.3.3 Aboriginal community or cultural values

Biosis recognises that our role in the cultural heritage assessment process is to provide specialist skills, particularly in regard to archaeological and heritage management expertise. These specialist skills can be articulated and enhanced through consultation with the Aboriginal community, with the aim of providing a comprehensive assessment of cultural heritage significance.

The heritage assessment criteria outlined above that relate to community or cultural values include social, historic and aesthetic value. Social and aesthetic values are often closely related. Social value refers to the spiritual, traditional, historical or contemporary associations and attachment that the place or area has for the present-day Aboriginal community. Aesthetic values related to Aboriginal sites and places that may contain particular sensory, scenic, architectural and creative values and meaning to Aboriginal people. Historic value refers to the associations of a place with a person, event, phase or activity of importance to the history of an Aboriginal community. Gaining a sufficient understanding of this aspect of significance will often require the collection of oral histories and archival or documentary research, as well as field documentation. Places of post-contact Aboriginal history have generally been poorly recognised in investigations of Aboriginal

heritage, and the Aboriginal involvement and contribution to important regional historical themes is often missing from accepted historical narratives.

These aspects of heritage significance can only be determined through consultative processes with one or more Aboriginal communities. In terms of Aboriginal communities, heritage places – including those that are otherwise defined as 'archaeological sites' – will always attract differing values. These may include custodianship obligations, education, family or ancestral links, identity, and symbolic representation. History and traditions are important: this generation has an obligation to future generations to retain certain things as they are currently seen and understood. This includes retaining alternative understandings to those that come through scientific assessments. Heritage places are often more complex than is identified through the scientific determination of value. Cultural and social values can be complex and rich - the past is a vital component of cultural identity. Feelings of belonging and identity are reinforced by knowledge of the existence of a past, and this is further reinforced and maintained in the protection of cultural heritage.

Community comment has been requested. On site discussions with the RAOs during the field survey reflected that larger sites with a variety of materials held higher values for the community. Whilst all sites are important as reminders of the Aboriginal occupation of the region larger sites may provide information on trade, activities and preferred camping locations. This information can then be taught to the next generations.

8.3.4 Heritage Sites – Significance Summary

The determination of Heritage significance relies on a comprehensive approach to cultural heritage assessments and to the values that are attached to heritage places. Heritage significance can be considered to be the importance of a place, site or object arising from the combination of values attributed to it. These values determine the 'what' and 'how' of conservation and direct management decisions.

The results of the analysis for the identified sites that occur within the Project Area are listed in Table 8.2. All of the sites meet the criteria of the heritage register but all are below the threshold for listing in that they are lacking in a high enough level of significance to warrant nomination to the register.

Table 8.2. Heritage Values

Site Name	Scientific Value	Aboriginal Value	Heritage register criteria
G1	4-Low	Low	C, E
G2	4-Low		C, E
G3	4-Low		C, E
G4	5 - moderate	moderate	C, E
G5	4-Low		C, E
G6	4-Low		C, E
G7	4-Low		C, E
G8	4-Low		C, E
G9	4-Low		C, E
G10	4-Low		C, E
G11	4-Low		C, E

Site Name	Scientific Value	Aboriginal Value	Heritage register criteria
G12	7-high	High	C,E,J
G13	4-Low		C, E
G14	5 - moderate	Moderate	C, E
G15	5 – moderate	Low	C, E
G16	4-Low		C, E
G17	4-Low		C, E
G18	4-Low		C, E
G19	4-Low		C, E
G20	4-Low		C, E
G21	4-Low		C, E
G22	4-Low		C, E
G23	5 – moderate	Moderate	C, E
G24	4-Low		C, E
G25	4-Low		C, E
G26	4-Low		C, E
G27	4-Low		C, E
G28	4-Low		C, E
G29	4-Low		C, E
G30	4-Low		C, E
G31	4-Low		C, E
G32	4-Low		C, E
Glenloch 8	5 - moderate	Low	C, E
GH1	4-low	NA	J

9 Conservation Management Plan

9.1 Proposed Development

The Molonglo portion of the Project Area does not encompass the entire land area associated with the Molonglo Stage 3 future development. The remaining Molonglo Stage 3 development area was surveyed as part of a separate study by Biosis in 2013. If development in the Project Area were to proceed in accordance with the current Territory Plan, heritage sites within the area would be impacted. However, informed planning decisions, based on the results of the heritage study and in accordance with the following management recommendations, can provide for the protection and/or conservation of these sites.

9.2 Potential Impacts

The proposed development will generate disturbance within the Project Area and has the potential to impact on the physical remains and significance of archaeological sites in the following ways:

- The types of activities that impact the ground surface and sub-soils include the excavation of infrastructure, such as drainage, sewerage, communication and roads; and foundation trenches for built structures.
- Activities that will potentially cause less impact on sub-soils including the establishment of public open space and planting of vegetation.
- The Project Area contains artefacts situated on the ground surface as well as PADs. If not salvaged and/or protected, these sites could be damaged or destroyed by activities associated with construction of the development.

9.3 Management Recommendations

The following recommendations are based on the results of the background research, fieldwork and from on-site consultation with the RAO's. This report will be sent to the four RAO's for comment and to provide the groups with a further opportunity for direct input into this report. These management recommendations are devised to minimise the impact of the development on the identified heritage sites wherever possible. The recommendations for the area are:

- Impacts to the identified cultural heritage sites should be avoided. If impacts to the identified sites can not be avoided then a program of surface collection (salvage) of the sites should be undertaken. The recovered artefacts should be analysed and deposited for curation with the ACT Heritage Unit or relocated to a secure location within the Aranda bushland reserve.
- If possible, and in consultation with the RAOs, the analysed artefacts should be relocated by return to country to maintain their connection with the landscape.
- Impacts to areas of PAD should be avoided. If impacts to the areas of PAD can not be avoided then a program of sub surface testing should be undertaken to determine the extent and significance of archaeological deposits. A sub surface testing methodology should be developed for approval by the Heritage Council prior to any impacts. This applies to PAD 1 -5 and sites G12 and G15.

- Impacts to the possible scarred trees should be avoided. The trees should be assessed by a qualified dendrologist to ascertain the origin of the scar/s and guide decisions regarding the future status of these recordings as *registered Aboriginal objects*. This applies to G4, G14 and G23.
- The historical site GH1 has been classified as holding low significance due to the ability to provide additional information. The archaeological dump should be subject to a program of preliminary investigation to determine the potential of the site and if it warrants detailed investigation.
- If previously unidentified archaeological artefacts or sites are located during the course of development within the Project Area, the process outlined in the Unanticipated Discovery Plan (UDP) should be followed.
- The potential heritage values of the Glenloch homestead and associated buildings have not been assessed for this project and if impacts are planned to occur a built heritage assessment should be undertaken.
- Copies of this report should be submitted to:
  - ACT Heritage Council (via the ACT Heritage Unit
  - Representative Aboriginal Organisations

10 Unanticipated Discovery Plan

The process outlined in the unanticipated discovery plans should not be undertaken until it has been endorsed by the ACT Heritage Council. The plans provide guidance to project personnel so that obligations in accordance with the *Heritage Act 2004* can be meet.

10.1 Unanticipated Discovery Plan

If any items are uncovered during the course of works, which are considered to possibly be of Aboriginal or historical significance the following unanticipated discovery plan is provided

10.1.1 Unexpected discovery of isolated or dispersed Aboriginal cultural heritage

If suspected isolated stone artefact scatter (less than 5 artefacts) or other small items is found then the following management process must be followed:

1. Work must immediately stop in the area within a buffer zone of 20 metres from the primary grid coordinate.
2. A suitably qualified heritage advisor needs to be engaged to assess the potential site.
3. If the items are not considered to be Aboriginal, activity may recommence.
4. If the items are considered to be Aboriginal, the artefacts should be recorded and then salvaged in accordance with approval from the Heritage Council.
5. Following completion of the recording and salvage, the activity may then recommence.

10.1.2 Unexpected discovery of stratified occupation deposits

If a stratified occupation deposit, dense artefact scatter or a hearth feature is found, works must stop in the relevant area and the following process be followed:

1. Work must immediately stop in the area within a buffer zone of 20 metres from the primary grid coordinate.
2. ACT Heritage must be contacted on **13 22 81** for advice.
3. A suitably qualified heritage advisor needs to be engaged to assess the potential site. The Aboriginal deposits should be recorded and documented.
4. If the items are not considered to be Aboriginal, activity may recommence.
5. If the items are considered to be Aboriginal, the Proponent and the Cultural Heritage Advisor, will discuss the possibility of avoiding and minimising harm to the Aboriginal cultural heritage, and the Proponent must avoid or minimise harm to the Aboriginal cultural heritage, where possible.
6. Where harm cannot be avoided, all RAO Groups should be contacted by the heritage advisor and be engaged by the proponent to facilitate the on-site assessment and provide heritage advice.
7. Following consultation with the ACT Heritage Unit and with the permission of the ACT Heritage Council, the Cultural Heritage Advisor and RAO's will salvage the cultural heritage with the aim of establishing the extent, nature and significance of the Aboriginal cultural heritage.
8. Subsequent aims of the salvage excavation will be to establish:

- The relative and absolute (if possible) age of any identified Aboriginal cultural heritage;
- The character of the excavated artefact assemblage if extant; and
- As far as possible, the nature of occupation of any identified Aboriginal cultural heritage.

9. In cases where cultural material is considered in situ and where suitable sample material is available, appropriate age determinations (e.g. radiocarbon) are to be made to establish the age of the cultural material.
10. Any artefacts recovered during excavations are to be secured by the Cultural Heritage Advisor until the salvage has been concluded.
11. Details regarding the methodology of any collection or salvage of Aboriginal cultural heritage located during the project will be determined by the Cultural Heritage Advisor and RAO's. Without limiting the options, a Cultural Heritage Advisor will:
    - Catalogue the Aboriginal cultural heritage;
    - Label and package the Aboriginal cultural heritage with reference to provenance; and
    - Ensure all excavated deposits are sieved, and the presence of any additional cultural heritage material recorded in detail;
12. Works may recommence at completion of the salvage excavation.
13. Any materials collected will need to be lodged with ACT Heritage following completion of the salvage and analysis.
14. A report detailing the findings of any collection, salvage or analysis of material recovered as a result of this activity will be completed and lodged with the ACT Heritage. This report will include plans and/or maps that accurately present the location and extent of any excavation, and the details of exposed sediments and stratigraphy.

10.1.3 Unexpected discovery of historical cultural heritage

If suspected historical items are found then the following management process must be followed:

1. Work must immediately stop in the area within a buffer zone of 20 metres from the primary grid coordinate.
2. ACT Heritage must be contacted on 13 22 81 for advice.
3. A suitably qualified heritage advisor needs to be engaged to assess the potential site.
4. If the items are not considered to be historically significant, activity may recommence.
5. If the items are considered to be historically significant, a management recommendation should be given by the heritage advisor.
6. Following approval by ACT Heritage Council and completion of the management recommendation, the activity may then recommence.

10.1.4 Unexpected discovery of Human Remains

If any suspected human remains are discovered during any activity works, all activity in the areas must cease immediately. The following contingency plan describes the actions that must be taken in instances where human remains or suspected human remains are discovered. Any such discovery at the Project Area must follow these steps.

1. **Discovery:**

- If any suspected human remains are found during any activity, works in the vicinity **must** cease.
- All personnel should leave the area immediately
- The remains must be left in place, and protected from harm or damage.

2. **Notification:**

- The ACT Federal Police must be notified immediately. All details of the location and nature of the human remains must be provided to the relevant authorities.
- If there are reasonable grounds to believe that the remains are Aboriginal, ACT Heritage must be contacted immediately on **13 22 81**.
- The Project Manger must be contacted immediately.

3. **Process:**

- If the remains are considered to be Aboriginal by the AFP an appropriate management and mitigation, or salvage strategy will be implemented following consultation with the RAOs. The strategy undertaken will depend on the circumstances in which the remains are found, the number of burials found and the type of burials, and the outcome of consultation with the RAOs.
- The Representative Aboriginal Organisations wishes in regards to human burials must be respected and any strategy must be undertaken with their consent and respect for cultural values.
- A forensic archaeologist will be engaged to assess the burials and oversee excavation (if required) and to assist in the formulation of management strategies. Biosis staff trained in forensic archaeology and biological anthropology will be responsible for this step in the procedure.
- If reburial is undertaken, any reburial site must be fully documented, clearly marked and all details provided to ACT Heritage Council; and appropriate management measures must be implemented to ensure that the remains are not disturbed in the future.
- Any cultural ceremonies associated with the reburial of remains must be undertaken at a cost to the proponent.

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Appendices

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Project Sign On Sheet for Cultural Heritage Assessment

Date: 19/9/2013

Project Name: Molonglo

Archaeologist present: Lyn O'Brien.

RAO: BNAC.

Date	Start Time	Finish Time	Lunch	Rep Name	Signature
19/9	8:00	4:00	30mins	Tyrone Bell.	
03/10	8:00	1:00	30MN'	Josh Bell	
03/11	8:00	4:00	30 MINS	Karen Denny	KDenny
23/9	8:00	4:00	30mins	Tyrone Bell	

☐ Up to date insurances

Comments on project:

- Excavation of PADS
- Scarred trees to be conserved.

Biosis Pty Ltd
Canberra Resource Group

Unit 16/2 Yallourn Street
Fyshwick ACT 2609

Phone: 02 6228 1599
Fax: 02 6280 8752

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Project Sign On Sheet for Cultural Heritage Assessment

Date: 19/9/2013

Project Name: Molonglo

Archaeologist present: Lyn O'Brien

RAO: Carl Brown.

Date	Start Time	Finish Time	Lunch	Rep Name	Signature
19/9	8.00	4.00	30 mins	Carl Brown.	Carl Brown
19/9	8.00	4.00	30 mins	TREVOR BELL	TBell
23/9	8.00	4.00	30 mins	~~Trevor Bell~~	
				Carl Brown.	Carl Brown
03/10	8:00	1:00	30 MIN	Carl Brown	Carl Brown
03/11	8:00	4:00	30 MIN	Carl Brown	Carl Brown

☐ Up to date insurances

Comments on project:

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Project Sign On Sheet for Cultural Heritage Assessment

Date: 19/9/2013

Project Name: Mobyglo

Archaeologist present: Lyn O'Brien.

RAO: LGRTC

Date	Start Time	Finish Time	Lunch	Rep Name	Signature
19/9	8:00	4:00	30 mins	Michelle House	
23/9.	8:00	4:00	30 mns	Michelle House.	
03/10	8:00	1:00	30 mins	Michelle House	

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Comments on project:

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Project Sign On Sheet for Cultural Heritage Assessment

Date: 23/9

Project Name: Molonglo Stage 3

Archaeologist present: Lyn O'Brien.

RAO: Ngamigo

Date	Start Time	Finish Time	Lunch	Rep Name	Signature
23/9	8 00	4.00	30 mins	James Mundy	J. Mundy
03/10	8:00	1:00	30 min	James Mundy	J. Mundy

☐ Up to date insurances

Comments on project:

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Appendix 1: Aboriginal Community Comment/Timesheets

Appendix 2: Legislation

Commonwealth Legislation

Environment Protection and Biodiversity Conservation Act 1999

In January 2004 the Commonwealth *Australian Heritage Commission Act 1975* was repealed and in its place amendments to the EPBC Act were made. The amendments were contained in three new pieces of Commonwealth Heritage Legislation. The three new Acts are the:

1. Environment and Heritage Legislation Amendment Act (No. 1) 2003 which:

   (a) amends the Environment Protection and Biodiversity Conservation Act 1999 to include 'national heritage' as a new matter of National Environmental Significance and protects listed places to the fullest extent under the Constitution

   (b) establishes the National Heritage List

   (c) establishes the Commonwealth Heritage List

2. Australian Heritage Council Act 2003 which establishes a new heritage advisory body to the Minister for the Environment and Heritage, the Australian Heritage Council, and retains the Register of the National Estate.
3. Australian Heritage Council (Consequential and Transitional Provisions) Act 2003 which repeals the Australian Heritage Commission Act, amends various Acts as a consequence of this repeal and allows for the transition to the new heritage system.

Any place that has been nominated and assessed as having cultural heritage significance at a national level can be added to the National Heritage List.

Under the *Environment Protection and Biodiversity Conservation Act* 1999 (EPBC Act) an action requires approval from the Federal Environment Minister if the action will, or is likely to, have a significant impact on a matter of national environmental significance. Matters of national environmental significance relating to cultural heritage are:

- World Heritage Places, and
- National Heritage Places.

An action includes a project, development, undertaking, activity, or series of activities.

Actions that are likely to have a significant impact on the environment of Commonwealth land (even if taken outside Commonwealth land), and actions taken by the Commonwealth that are likely to have a significant impact on the environment anywhere in the world, may also require approval under the EPBC Act.

Native Title Act 1993

The Commonwealth Native Title Act establishes the principles and mechanisms for the preservation of Native Title for Aboriginal people.

Under Subdivision P of the Act, *Right to negotiate*, native title claimants can negotiate about some proposed developments over land and waters (known as 'Future Acts') if they have the right to negotiate. Claimants gain the right to negotiate if their native title claimant application satisfies the registration test conditions.

The right to negotiate applies over some proposed developments or activities that may affect native title. These are known as future acts under the Native Title Act 1993. Native title claimants only have the right to negotiate over certain types of future acts, such as mining. Activities such as exploration and prospecting on the land do not usually attract the right to negotiate.

The right to negotiate is not a right to stop projects going ahead — it is a right to have a say about how the development takes place. In some situations, the right to negotiate does not apply. In these circumstances, claimants may have the right to be notified, to be consulted, to object and to be heard by an independent umpire.

The right to negotiate is triggered when a government issues a notice to say that it intends to allow certain things to happen on land, such as granting a mining lease. This notice is called a 'section 29 notice.

People who claim to hold native title in the area, but have not yet made a native title claimant application, have three months from the date given in the section 29 notice to file a claim if they want to have a say about the proposed development. To get the right to negotiate, the claim must be registered within a month after that.

If the right to negotiate applies, the government, the developer and the registered native title parties must negotiate 'in good faith' about the effect of the proposed development on the registered native title rights and interests of the claimants.

The parties can ask the National Native Title Tribunal to mediate during the negotiations.

If the negotiations do not result in an agreement the parties can ask the Tribunal (no sooner than six months after the notification date) to decide whether or not the future act should go ahead, or on what conditions it should go ahead.

The National Native Title Tribunal administers the future act processes under the Commonwealth legislation. The Tribunal's role includes mediating between parties, conducting inquiries and making decisions (called 'future act determinations') where parties can't reach agreements.

When the Tribunal receives a future act determination application, it must conduct an inquiry (an arbitration) in order to determine whether the future act can be done and if so whether any conditions should be imposed.

A member of the Tribunal (or a panel of three members) will be appointed to conduct the inquiry, and will initially hold a preliminary conference and set directions for the parties to provide submissions and evidence. Members who have mediated a particular matter are not usually appointed as inquiry members. Inquiry members conduct hearings, receive submissions and evidence from the parties and take into account matters set out in section 39 of the Native Title Act such as:

- the effect of the future act on the enjoyment by the native title party of their registered native title rights and interests; their way of life, culture and traditions; the development of their social, cultural and economic structures; their freedom of access to the land and freedom to conduct ceremonies and other cultural activities; and the effect of the future act on any area or site of particular (special) significance to the native title party;
- the interests, proposals, opinions or wishes of the native title party;
- the economic or other significance of the future act;
- the public interest; and
- the presence of any existing non-native title rights and interests and use of the land by other persons (for instance, pastoralists).

Aboriginal and Torres Strait Islander Heritage Protection Act 1984

The Commonwealth *Aboriginal and Torres Strait Islander Heritage Protection Act* 1984 provides protection for Aboriginal cultural property. Whereas the Territory Act provides legal protection for all the physical evidence of past Aboriginal occupation, the Commonwealth Act deals with Aboriginal cultural property in a wider sense. Such cultural property includes any places, objects and folklore that 'are of particular significance to Aboriginals in accordance with Aboriginal tradition'. There is no cut-off date and the Act may apply to contemporary Aboriginal cultural property as well as ancient sites.

Protection of Movable Cultural Heritage Act 1986

Australia's movable cultural heritage is protected at both Commonwealth and State levels. This web site only provides information on the Commonwealth laws.

In 1970 the United Nations Educational, Scientific and Cultural Organisation (UNESCO) adopted the UNESCO Convention on the Means of Prohibiting the Illicit Import, Export and Transfer of Ownership of Cultural Property. Australia ratified the convention by passing the *Protection of Movable Cultural Heritage Act 1986* (the Act), giving the 1970 Convention force in Australian law.

The Act regulates the export of Australia's significant cultural heritage objects. It is not intended to restrict normal and legitimate trade in cultural property and does not affect an individual's right to own or sell within Australia.

It implements a system of export permits for certain heritage objects defined by the Act as 'Australian protected objects'. Australian protected objects are objects which form part of the movable cultural heritage of Australia and which meet the criteria established under the National Cultural Heritage Control List. The Control List is located in the Regulations to the Act, and divides Australian protected objects into two classes:

- Class A objects which may not be exported
- Class B objects which may be exported if granted a permit under the Act.

A person wishing to export a Class B object is required to apply for a permit in writing. Applications are processed in accordance with the legislative process established under section 10 of the Act.

Certificates of Exemption, granted under section 12 of the Act, allow Australian protected objects that are currently overseas to be imported into Australia and subsequently re-exported. This includes Class A objects.

The Act also includes provisions that allow Australia to respond to an official request by a foreign government to return movable cultural heritage objects that have been illegally exported from their country of origin.

The *Protection of Movable Cultural Heritage Act 1986* is administered by the Minister for the Environment and Heritage. This responsibility was transferred from the Minister for Communication, Information Technology and the Arts in November 2001.

The Movable Cultural Heritage Unit in the Department of the Environment and Heritage provides the Secretariat to the National Cultural Heritage Committee

Territory Legislation

ACT Heritage Act 2004

The ACT Heritage Act 2004 (The Act) contains provisions for the protection and conservation of heritage places and objects in the Territory. It also contains provisions for the establishment of the Heritage Council and the Heritage Register. The Act defines registration processes for entry of significant heritage places and objects on to the Register; provides heritage guidelines, describes offences relating to damaging heritage; prescribes heritage directions and enforcement; describes the obligations of public authorities; and the incentives for heritage conservation.

The Act covers natural and cultural heritage including Aboriginal heritage. It deals with both heritage places and objects. Under Part 2 Clause 8 of The Act "objects" include equipment, furniture, fittings and articles at, or historically or physically associated with, the place.

The ACT Heritage Council maintains the Heritage Register. A listing on the Register means that the place or object fulfils the criteria outlined in Part 2 Sections 8 to 12 of The Act. In summary, this means that a place or object is:

- of particular importance to the people of the ACT and enriches the understanding of history and identity;
- is legally protected under the Heritage Act 2004 including the application of Heritage Guidelines;
- requires advice by the ACT Heritage Council on development issues to improve conservation outcomes.

Under Clause 49 of the ACT Heritage Act 2004, a person who discovers a place or object and has reasonable grounds for believing it is an Aboriginal place or object, is required to report the discovery to the Heritage Council within one week after the discovery. It is an offence of strict liability to contravene this section. Punishable actions taken against historic heritage and Aboriginal heritage are defined in Part 13 s 72 and 73 of The Act. In summary they are nominated as any actions taken to diminish the heritage significance of a place or object, and, any actions taken to damage an Aboriginal place or object.

The ACT Heritage Register

The ACT Heritage Council is responsible for maintaining the register. Places and objects listed on the Register are legally protected under the ACT Heritage Act 2004, and require approval from the ACT Heritage Council prior to undertaking work that results in their alteration or modification.

Glossary

Introduction and terminology

The glossary provides definitions of various terms used in this report. Some terms have been referenced and the sources included in the reference list at the end of this report.

There is often a degree of confusion about the use of terms such as *heritage place*, *historical site*, *archaeological site*. The definitions of these terms, as used in this report, have been included in the glossary and their relationship outlined in **Figure G1** below. The term used most consistently is *heritage place.* For the purpose of discussion in this plan 'heritage place' can be sub-divided into **Aboriginal place** and **historic place** (i.e. a historic place refers more particularly to non-Aboriginal sites).

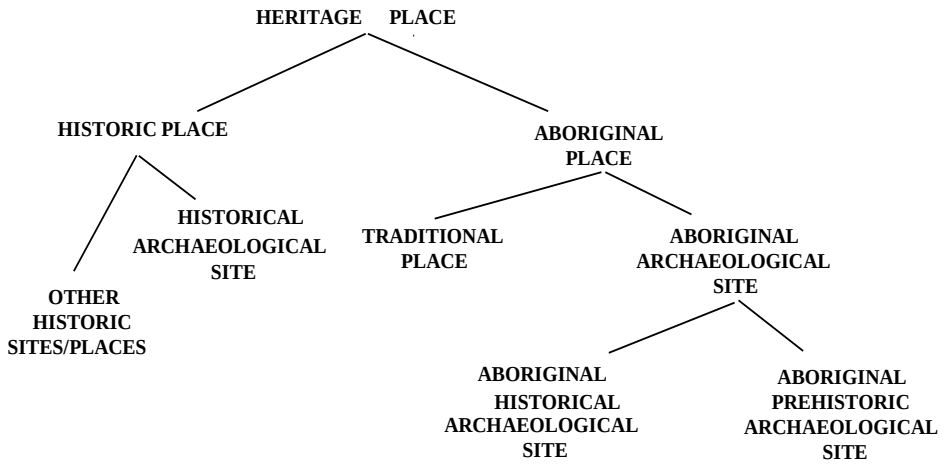

Figure G1: Terminology used for categories of heritage places.

Archaeological site types

The archaeological site types encountered in Australia can be divided into three main groups:

Historical archaeological site: an archaeological site formed since non-Aboriginal settlement that contains physical evidence of past human activity (for example a structure, landscape or artefact scatter).

Aboriginal historical archaeological site (or contact site): a site with a historical context such as an Aboriginal mission station or provisioning point; or a site that shows evidence of Aboriginal use of non-Aboriginal materials and ideas (for example: artefact scatter sites that have artefacts made from glass, metal or ceramics).

Aboriginal prehistoric archaeological site: a site that contains physical evidence of past Aboriginal activity, formed or used by Aboriginal people either before, or not long after, European settlement. These sites are commonly grouped as follows (further definition of each is contained in the glossary list):

- artefact scatter
- burial
- hearth
- isolated artefact
- mound
- quarry
- scarred tree
- shell midden
- structures
- rock art
- rock shelter
- rock well

One of the most common artefact types that provides evidence of Aboriginal people are those made from stone. Types and categories are outlined below in **Figure G2**, with further definition of each in the glossary list.

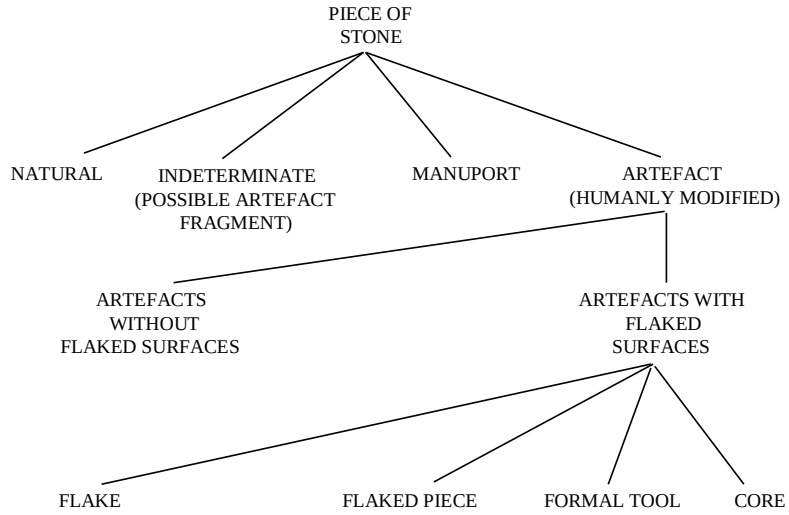

Figure G2: Stone artefact types/categories.

List of definitions

Aboriginal historical archaeological site (or contact site): either a site with an historic context such as an Aboriginal mission station or provisioning point; or a site that shows evidence of Aboriginal use of European/non-Aboriginal materials and ideas (e.g. artefact scatter sites that contain artefacts made from glass, metal or ceramics).

Aboriginal prehistoric archaeological site: a site that contains physical evidence of past Aboriginal use, formed or used by Aboriginal people either before, or not long after, European settlement.

Alluvial terrace: a platform created from deposits of alluvial material along river banks.

Angular fragment: a piece of stone that is blocky or angular, not flake-like.

Archaeology: the study of the remains of past human activity.

Artefact scatter: a surface scatter of cultural material. Artefact scatters are often the only physical remains of places where people have lived camped, prepared and eaten meals and worked.

Backed piece: a flake or blade that has been abruptly retouched along one or more margins opposite an acute (sharp) edge. Backed pieces include backed blades and geometric microliths. They are thought to have been hafted onto wooden handles to produce composite cutting tools. Backed pieces are a feature of the 'Australian small tool tradition', dating from between 5000 and 1000 years ago in southern Australia (Mulvaney 1975; Holdaway and Stern, 2004).

Blade: a flake at least twice as long as it is wide.

Burial site: usually a sub-surface pit containing human remains and sometimes associated artefacts.

Contact site: see 'Aboriginal historical archaeological site'.

Core: an artefact from which flakes have been detached using a hammerstone. Core types include single platform, multi-platform and bipolar forms.

Cortex: original or natural (unflaked) surface of a stone.

Cortical: refers to the cortex.

Flake: a stone piece removed from a core by percussion (striking it) or pressure. It is identified by the presence of a striking platform and bulb of percussion, not usually found on a naturally shattered stone.

Flaked piece: a piece of stone with definite flake surfaces, which cannot be classified as a flake or core.

Formal tool: an artefact that has been shaped by flaking, including retouch, or grinding to a predetermined form for use as a tool. Formal tools include scrapers, backed pieces and axes.

GDA94 or Geocentric Datum of Australia 1994: a system of latitudes and longitudes, or east and north coordinates, centred at the centre of the earth's mass. GDA94 is compatible with modern positioning techniques such as the Global Positioning System (GPS). It supersedes older coordinate systems (AGD66, AGD84). GDA94 is based on a global framework, the IERS Terrestrial Reference Frame (ITRF), but is fixed to a number of reference points in Australia.

Geometric microlith: a small tool that has been fashioned from breaking apart a microblade. The piece is then retouched or backed and a small tool formed.

Grindstones: upper (handstone) and lower (basal) stones used to grind plants for food and medicine and/or ochre for painting. A handstone sometimes doubles as a hammerstone and/or anvil.

Ground Surface Visibility: the degree to which the surface of the ground can be seen. This may be influenced by natural processes such as wind erosion or the character of the native vegetation, and by land-use practices, such as ploughing or grading. Visibility is generally expressed in terms of the percentage of the ground surface visible for an observer on foot (Bird 1992).

Hearth: usually a sub-surface feature found eroding from a river or creek bank or a sand dune - it indicates a place where Aboriginal people cooked food. The remains of a hearth are usually identifiable by the presence of charcoal and sometimes clay balls (like brick fragments) and hearth stones. Remains of burnt bone or shell are sometimes preserved within a hearth.

Heritage Place: A place with aesthetic, historic, scientific or social values for past, present or future generations – '...this definition encompasses all cultural places with any *potential* present or future value as defined above' (Pearson and Sullivan 1995:7).

Historic place: a place that has some significance or noted association in history.

Historical archaeological site: an archaeological site formed since non-Aboriginal settlement that contains physical evidence of past human activity (for example a structure, landscape or artefact scatter).

Isolated artefact: Discrete, low density site of less than 5 artefacts. It/they can be evidence of a short-lived (or one-off) activity location, the result of an artefact being lost or discarded during travel, or evidence of an artefact scatter that is otherwise obscured by poor ground visibility.

Manuport: foreign fragment**,** chunk or lump of stone that shows no clear signs of flaking but is out of geological context and must have been transported to the site by people.

Map Grid of Australia (MGA): The official coordinate projection for use with the Geocentric Datum of Australia 1994 (GDA94).

Mound: **t**hese sites, often appearing as raised areas of darker soil, are found most commonly in the plains or on higher ground near bodies of water. The majority were probably formed by a slow build-up of debris resulting from earth-oven cooking; although some may have been formed by the collapse of sod or turf structures. It has also been suggested some were deliberately constructed as hut foundations (Bird and Frankel 1991: 7–8).

Percussion: the act of hitting a core with a hammerstone to strike off flakes.

Platform preparation: removal of small flake scars on the dorsal edge of a flake, opposite the bulb of percussion. These overhang removal scars are produced to prevent a platform from shattering (Hiscock 1986: 49).

Pre-contact: before contact with non-Aboriginal people.

Post-contact: after contact with non-Aboriginal people.

Quarry (stone/ochre source): a place where stone or ochre is exposed and has been extracted by Aboriginal people. The rock types most commonly quarried for artefact manufacture in south-eastern Australia include silcrete, quartz, quartzite, chert and fine-grained volcanics such as greenstone.

Rejuvenation flake: a flake that has been knapped from a core solely for the purpose of preparing a new platform and making it easier to get flakes off a core, as it reduces the angle between platform and core surface.

Retouch: a flake, flaked piece or core with intentional secondary flaking along one or more edges.

Rock art: 'paintings, engravings and shallow relief work on natural rock surfaces' (Rosenfeld 1988: 1). Paintings were often produced by mineral pigments, such as ochre, combined with clay and usually mixed with water to form a paste or liquid that was applied to an unprepared rock surface. Rock engravings were made by incising, pounding, pecking or chiselling a design into a rock surface. Rare examples of carved trees occasionally survive.

Rock shelter: may contain the physical remains of camping places where people prepared meals, flaked stone, etc. They are often classed as a different type of site due to their fixed boundaries and greater likelihood of containing sub-surface deposits. Rockshelters may also contain rock art.

Scarred tree: scars on trees may be the result of removal of strips of bark by Aborigines e.g. for the manufacture of utensils, canoes or for shelter; or resulting from small notches chopped into the bark to provide hand and toe holds for hunting possums and koalas. Some scars may be the result of non-Aboriginal activity, such as surveyors' marks.

Scraper: a flake, flaked piece or core with systematic retouch on one or more margins. Scraper types follow Holdaway and Stern (2004).

Shell midden: a surface scatter and/or deposit comprised mainly of shell, sometimes containing stone artefacts, charcoal, bone and manuports. These site types are normally found in association with coastlines, rivers, creeks and swamps – wherever coastal, riverine or estuarine shellfish resources were accessed and exploited.

Significance: the importance of a heritage place or site for aesthetic, historic, scientific or social values for past, present or future generations.

Striking platform: the surface of a core, which is struck by a hammerstone to remove flakes.

Structures (Aboriginal): can refer to a number of different site types, grouped here only because of their relative rarity and their status as built structures. Most structures tend to be made of locally available rock, such as rock arrangements (ceremonial and domestic), fishtraps, dams and cairns, or of earth, such as mounds or some fishtraps.

Stratified deposit: material that has been laid down, over time, in distinguishable layers.

Transect: A fixed path along which one records archaeological remains.

Utilised artefact: a flake, flaked piece or core that has irregular small flake scarring along one or more margins that does not represent platform preparation.