90 WEROMBI ROAD (LOT 10 DP845472)

&

5 SMALLS ROAD (LOT 201 DP734620)

CAMDEN NSW

ABORIGINAL ARCHAEOLOGICAL SURVEY & ASSESSMENT

View of the study area showing a spur of remnant vegetation above the Nepean River and a former creek, now a lagoon. Aboriginal artefacts and 'open camp sites' were found on this spur, including one high density artefact scatter. Higher ground, such as this, is likely to contain surface Aboriginal sites and/or objects obscured by grass and leaf litter, whereas land adjacent to the River has potential to contain buried sites sealed by alluvium.

Fiona Leslie

AHMS

ARCHAEOLOGICAL & HERITAGE MANAGEMENT SOLUTIONS PTY LTD

122c Percival Road
Stanmore
NSW 2048

ACN 088 058 388 ABN 45 088 058 38

On Behalf of

CARRINGTON CENTENNIAL TRUST

FEBRUARY 2005

Contents

EXECUTIVE SUMMARY

This report presents the results of an Aboriginal archaeological survey and assessment of 90 Werombi Road (Lot 10 DP845472) and 5 Smalls Road (Lot 201 DP734620) Camden, NSW. *Noel Bell, Ridley Smith & Partners Pty Ltd* (NBRS & P Architects) commissioned the study to define Aboriginal Heritage constraints that may affect future development planning and provide management advice on known and potential Aboriginal Heritage sites. The results of the study will be incorporated into the larger Carrington Centennial Trust Master Plan Study.

Archaeological and Heritage Management Solutions Pty Ltd was engaged by NBRS & P Architects to: consult with the Tharawal Local Aboriginal Land Council (TLALC) and the Cubbitch Barta Native Title Claimant Aboriginal Organisation (CBNTC); undertake a field survey with representatives of TLALC and CNBTC; and prepare a report detailing the results of consultation, predictive modelling and survey. The aim of the report was to provide NBRS & P Architect with clear practical directions regarding future management of the study area's Aboriginal heritage values and to ensure that future development complies with requirements of NSW and Commonwealth heritage legislation.

An archaeological survey of the study area was carried out by Fiona Leslie (Archaeologist, AHMS Pty Ltd) and representatives from TLALC and CBNTC on 2, 3 and 4 November 2004. The objectives of the site survey were to identify any archaeological sites or objects, and to document past site formation processes that led to the current site configuration. The depth and potential integrity of natural soil profiles were also assessed across the study area.

The study area was systematically traversed and all areas of exposed ground were examined for archaeological material. Remnant trees were also assessed for evidence of cultural scarring. A large proportion of 90 Werombi Road had been developed as part of the Carrington Retirement Village and was highly disturbed. Undeveloped areas included large patches of remnant open woodland and cleared pasture on both properties. Due to poor ground surface visibility survey coverage was a significant constraint to the survey.

Four open artefact scatters (Open Camp Sites) and five isolated artefacts (Isolated Finds) were located during the field survey. Zones of High, Moderate and Low potential to contain Aboriginal sites and/or isolated objects in surface and sub-surface deposits were also identified using observations on the current site configuration, site distribution patterns and topography.

A number of strategies were recommended to effectively manage Aboriginal sites, Potential Archaeological Deposits (PADs) and the culture heritage values of the study area. These recommendations included continued consultation with TLALC and CBNTC and their participation in further archaeological investigations. Protection of a number of sites found on an intact vegetated spur overlooking the Nepean River was advised, given its cultural significance to TLALC and CBNTC and the assessed scientific significance of Site CP2. In the event that this was not possible it was recommended that the developer liaise with Aboriginal community organisations to develop an interpretation plan and engage an archaeologist to undertake further archaeological investigations. A broad-scale test excavation program was recommended in areas that have potential to contain Aboriginal objects in surface and subsurface soils. The program would combine machine and manual test excavation techniques to locate archaeological deposits and identify areas where further investigation was not required. Following the completion of the program, an application for a Section 90 Heritage Impact Permit for Site IF4 was recommended. Areas that did not require further archaeological investigation were also identified.

1.0 INTRODUCTION

1.1 PREAMBLE

Noel Bell, Ridley Smith & Partners Pty Ltd (NBRS & P Architects) engaged ***Archaeological and Heritage Management Solutions Pty Ltd*** (AHMS) to undertake an Aboriginal archaeological survey and heritage assessment of 90 Werombi Road (Lot 10 DP845472) and 5 Smalls Road (Lot 201 DP734620) Camden, NSW as a component of the Carrington Centennial Trust Master Plan Study. The assessment was commissioned by NBRS & P Architects to define Aboriginal Heritage constraints that may affect future development planning and provide management advice on known and potential Aboriginal Heritage sites.

This report presents the results of the assessment.

1.2 SITE LOCATION

The study area is comprised of roughly 90 hectares of land contained within two land parcels owned by Carrington Centennial Trust: Carrington Retirement Village at 90 Werombi Road (Lot 10 DP845472) and a vacant grazing property at 5 Smalls Road (Lot 201 DP734620). The Retirement Village is bounded by the Nepean River and residential allotments to the north, Werombi Road to the west and Ferguson Road to the east. The grazing property is surrounded by residential development in the south and west. Werombi and Smalls Road form the northern property boundary of this southern allotment (See Figure 1.1).

The study area is located within the Camden Council Local Government Area and is positioned roughly 1km west of Camden Township. Camden is positioned 50km southwest of Sydney CBD, NSW.

The general location of the study area is shown in Figure 1.2.

1.3 RATIONALE, SCOPE & OBJECTIVES

The assessment is required to inform NBRS & P Architects of potential Aboriginal Heritage constraints that will require consideration and management during planning for future expansion of the Carrington Retirement Village. It was prepared in accordance with Division 5 (Part 4) of the *Environmental Planning and Assessment Act 1979*.

One of the aims of the Act is to protect Indigenous cultural heritage values from impacts associated with development. This objective is achieved by:

1. Undertaking an Aboriginal archaeological survey and assessment of the subject land in accordance with National Parks and Wildlife Service (NPWS) *Guidelines for Archaeological Survey and Reporting (1997)*; and

2. Assessing the study area's Aboriginal cultural heritage values and potential impacts of future development on these values.

The rationale for the assessment was to provide NBRS & P Architects with clear practical directions regarding future management of the study area's Aboriginal heritage values and to ensure that future development complies with requirements of NSW and Commonwealth heritage legislation.

In order to achieve this goal the following objectives were identified:

- To address the requirements of the *National Park & Wildlife Act 1974* in regards to the identification and management of Aboriginal sites, objects and places subject to potential development impacts;
- To determine whether or not there were any Aboriginal sites, objects or potential archaeological deposits (PAD's) within the subject land;
- To determine whether or not the study are has any Aboriginal heritage values and to clearly identify any such values via consultation with relevant local Aboriginal community organisations;
- To determine any potential impacts on Aboriginal heritage values that may result from redevelopment of the subject land; and
- To clearly identify constraints and opportunities for future development of the subject land taking into consideration appropriate requirements for management of Aboriginal sites and heritage values.

Specific tasks to be completed during the assessment were outlined in AHMS' response to the brief. These are summarised below:

- **Background Research**: review the NSW Department of Environment and Conservation (DEC) Aboriginal and Heritage Information Management System (AHIMS) and relevant literature, including previous archaeological investigations and studies carried out in the Camden area, to develop a predictive model of the study area's potential to contain archaeological sites.

- **Field Survey**: conduct a field survey of the study area in partnership with representatives of local Aboriginal community organisations to locate and identify sites and areas of Potential Archaeological Deposits (PAD) and assess the integrity of surface and subsurface deposits. Assess the scientific significance of sites based on their integrity, condition and content. The cultural significance of the study area is determined by the local Aboriginal community.

- **Reporting**. Prepare a report describing the results of Aboriginal community consultation, field survey and predictive modelling in accordance with the requirements of the *NSW NPWS Aboriginal Cultural Heritage Standards & Guidelines Kit (1997).* Present appropriate recommendations for future management of Aboriginal objects and sites identified within the study area in accordance with the requirements of the *National Parks & Wildlife Act 1974* in consultation with the local Aboriginal community.

1.4 ABORIGINAL COMMUNITY CONSULTATION

The study area is located within the boundaries of two local Aboriginal community organisations: the Tharawal Local Aboriginal Land Council (TLALC) and the Cubbitch Barta Native Title Claimant Aboriginal Organisation (CBNTC). Representatives from both organisations participated in the field survey, assisted in the identification of sites within the study area and were consulted to determine the cultural significance of the study area. A draft assessment report was forwarded to both groups and their views and recommendations incorporated within the final assessment report. Letters from TLALC and CBNTC outlining their recommendations are included as Appendix 2.

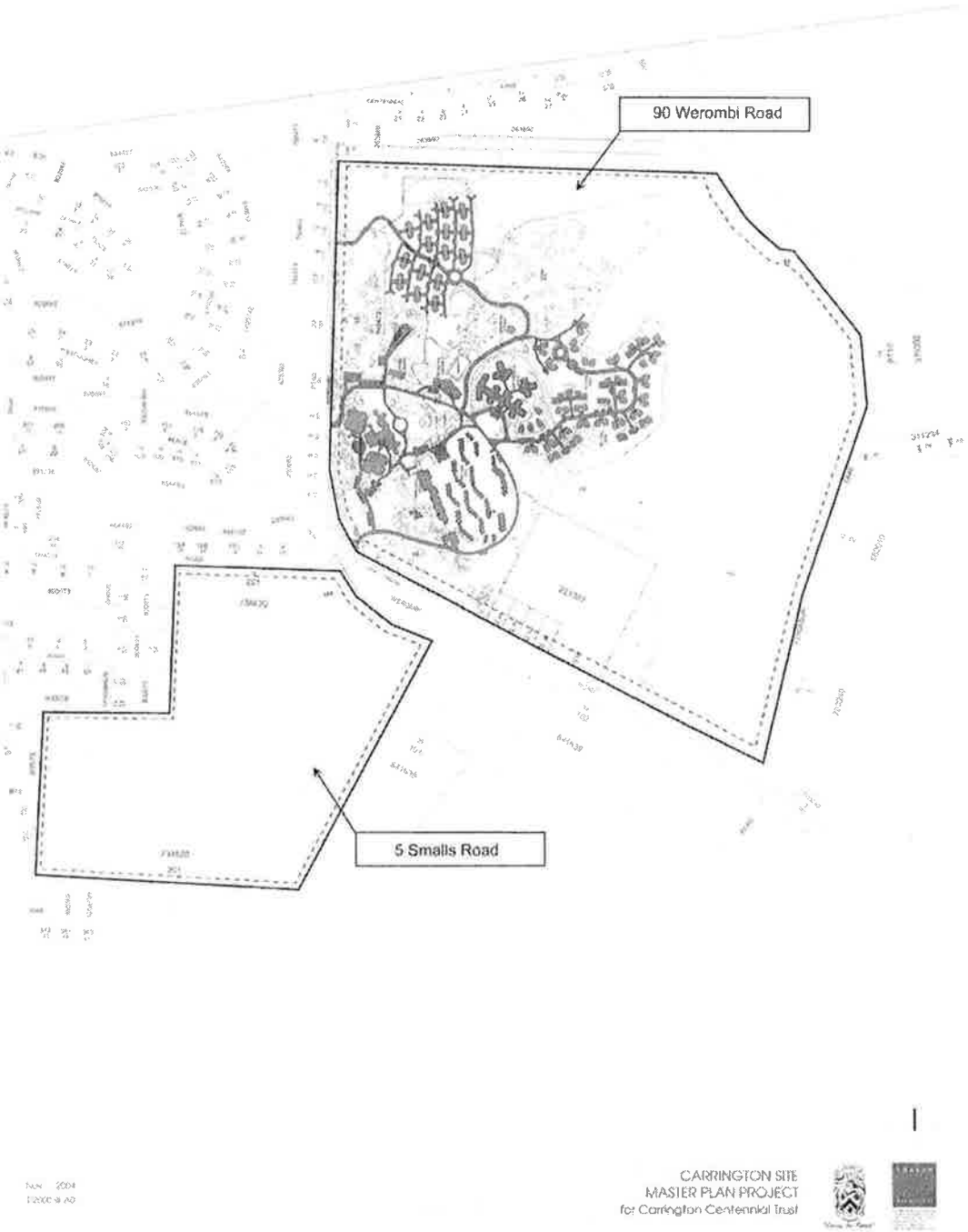

Figure 1.1: Masterplan of the Study Area (provided by NBRS & P Architects)

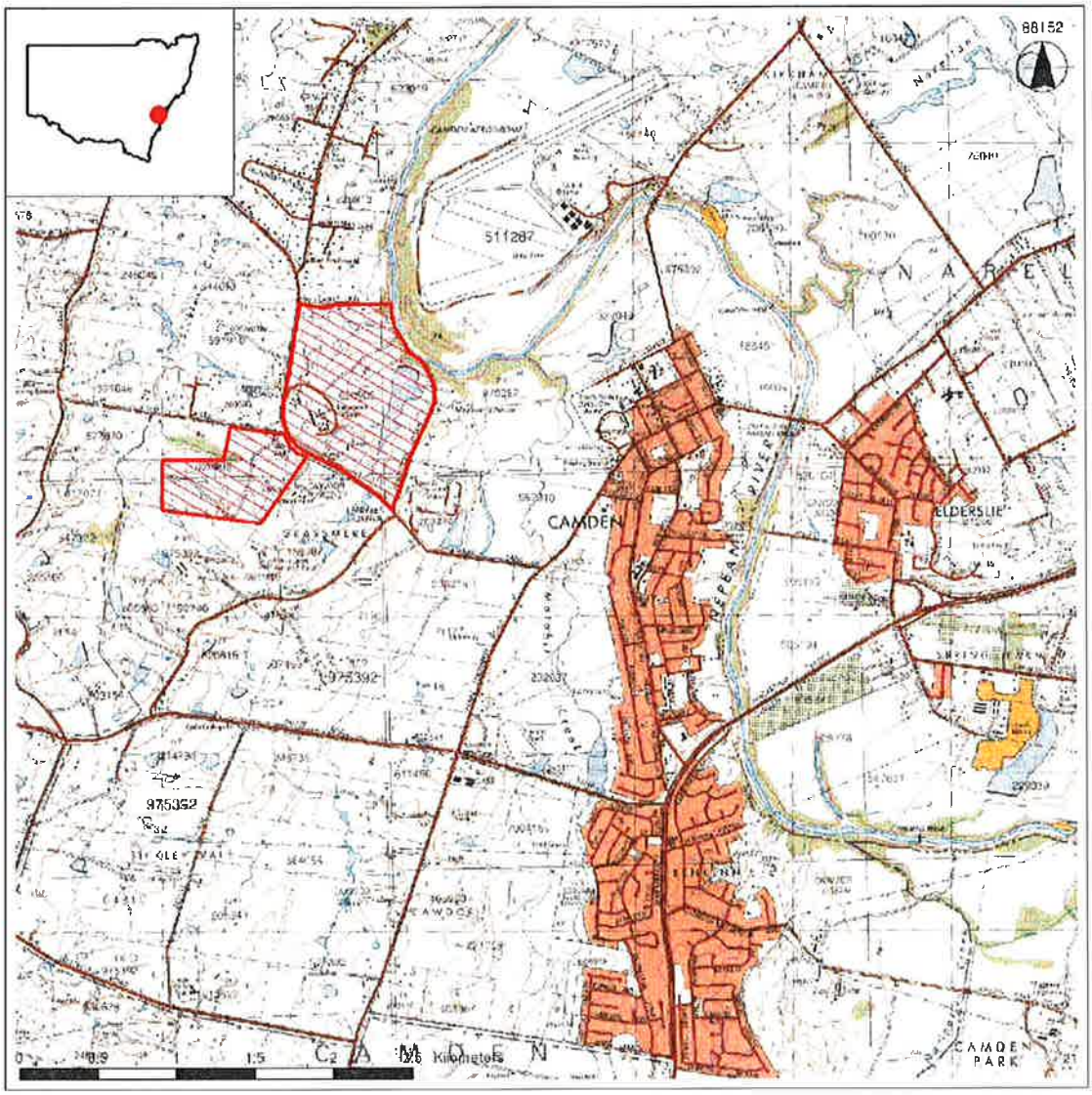

Figure 1.2: Location Map

1.5 STATUTORY ISSUES

The *National Parks & Wildlife Act 1974* and the *Environmental Planning and Assessment Act 1979* provide the statutory tools for Aboriginal cultural heritage management in New South Wales. The *Aboriginal and Torres Strait Islander Heritage Protection Act 1986* is also relevant to the current study. These statutes, and their implications for proposed development, are outlined below.

1.5.1 National Parks & Wildlife Act 1974 (Amended 2001)

The *National Parks & Wildlife (NPW) Act 1974* provides blanket protection for Aboriginal objects (material evidence of indigenous occupation) and Aboriginal places (areas of cultural significance to the Aboriginal community). The following sections of the Act are of particular importance:

- Section 84 makes provision for protection of 'Aboriginal Places' or locations of special significance to Aboriginal culture.
- Section 86 and 87 state that it is an offence to collect or disturb objects or excavate, or in any way disturb land for the purpose of discovering objects without a permit authorised by the Director-General DEC.
- Section 90 states that it is an offence to destroy, deface, damage or desecrate, or cause or permit the destruction, defacement, damage or desecration of, an Aboriginal object or Aboriginal place.
- Section 91 of the Act states that anyone who discovers an Aboriginal object is obliged to report the discovery to the DEC.

In practical terms, the provisions of the Act require an archaeological assessment of any land where there is potential for Aboriginal objects to be disturbed by development. The format of Aboriginal archaeological assessments is outlined in the *National Parks and Wildlife Service Guidelines for Archaeological Survey and Reporting (1997)*. These guidelines require full consultation with Aboriginal communities and relevant representative bodies such as Local Aboriginal Land Council's (LALC's) and Traditional Owner groups. Aboriginal community participation in all archaeological survey and excavation work, and full consideration of the Aboriginal cultural significance of sites and places is also required.

In accordance with Section 90 of the *NPW Act 1974*, all Aboriginal objects are protected and cannot be legally destroyed or disturbed without a *Heritage Impact Permit (formerly known as 'Consent to Destroy')* from the Department of Environment and Conservation (DEC). This protection is provided irrespective of both the level of significance of the objects, and issues of land tenure. If areas of sub-surface archaeological potential are

identified, DEC generally require archaeological test excavation prior to development to determine whether sub-surface objects are present, and the nature, extent and significance of such objects. The results of archaeological testing are used to determine appropriate management strategies, which should be developed by consultation between Aboriginal community representatives, the consultant archaeologist, client and DEC.

1.5.2 Environmental Planning & Assessment Act 1979

The *Environmental Planning & Assessment Act 1979* requires that environmental and heritage impacts are considered by consent authorities prior to granting development approvals. Under *Division 5 Part 4* of the Act, specific approval from state agencies may be required in certain circumstances. This mechanism is known as an 'integrated development application' or IDA.

The DEC is an approval body in the IDA process when a development will impact on an Aboriginal object or place, and thereby require a *S.90 Heritage Impact Permit* from DEC to allow the destruction or disturbance of a registered site. In this circumstance, consent must be granted by DEC prior to the development being approved.

1.5.3 Aboriginal and Torres Strait Islander Heritage Protection Act 1986

The only Commonwealth legislation directly relevant to the current study is the *Aboriginal and Torres Strait Islander Heritage Protection Act 1986*. It was enacted to preserve and protect areas (particularly sacred sites) and objects of particular significance to Aboriginal Australians from damage or desecration. Steps necessary for the protection of a threatened place are outlined in a gazetted *Ministerial Declaration* (Sections 9 and 10). This can include the prevention of development.

As well as providing protection to areas, it can also protect objects by *Declaration*, in particular Aboriginal skeletal remains (Section 12). Heavy penalties may be levied if the provisions of a *Declaration* are contravened (Section 22). Although this is a Federal Act, it can be invoked on a State level if the State is unwilling or unable to provide protection for such sites or objects.

1.6 REPORT OUTLINE

The balance of the report is set out as follows:

- Description of the environmental context of the study area (**Section 2.0**);
- Review of Camden's Aboriginal history using ethno-historic sources and early documentary records (**Section 3.0**);
- Review of the local and regional Aboriginal archaeological context, including a predictive model of the type of sites indicated within the area (**Section 4.0**);

- Results of the archaeological field survey, including a summary of development episodes that created the current site configuration, surface finds identified, summary of potential Aboriginal archaeological deposits (PAD's) on site and a preliminary analysis of sites and PADs (**Section 5.0**);
- Results of Aboriginal community consultation (**Section 6.0**);
- An assessment of significance for the study area, including a review of processes used to evaluate Aboriginal cultural, scientific and public significance (**Section 7.0**);
- Management Recommendations with regard to future development of the study area (**Section 8.0**).

Attachments to the report include:

1. DEC Site Record Forms for the study area (Appendix 1);
2. Letters from TLALC and CBNTC endorsing this report and its recommendations (Appendix 2).

1.7 AUTHORSHIP & ACKNOWLEDGEMENTS

Fiona Leslie was the project archaeologist and author of this report. The draft report was reviewed by Peter Douglas (Director, AHMS Pty Ltd).

The author acknowledges the assistance and advice received from Mr. Lance Syme (TLALC), Ms. Glenda Chalker (CBNTC), Mr. Graham Nicolas (General Manager, NBRS & P Architects) and Mr. Ken Dodimead (Manager, Carrington Centennial Trust).

2.0 ENVIRONMENTAL CONTEXT

2.1 BACKGROUND

Environmental factors such as topography, climate, soils, vegetation, access to water and other natural resources strongly determined the range of cultural activities undertaken within any given area in the past. This in turn influenced the types of archaeological sites that may be found in a particular area today.

The environmental setting of Camden is discussed below.

2.2 TOPOGRAPHY

The study area is situated on the southern bank of an easterly bend in the Nepean River, roughly one kilometre west of Camden Township.

Geographically, the study area is located on the western edge of the Cumberland Lowlands[1] - an extensive low lying plain characterised by gently undulating ridges and low hills on Wianamatta Group shales and Hawkesbury sandstone parent rock. The Cumberland Lowlands encompasses most of Sydney's western suburbs, extending from the base of the Blue Mountains in the west, the Hornsby Plateau and Macdonald Ranges to the north-east and the Woronora Plateau to the south-east. The plain is dissected by a dense drainage system flowing northward[2].

The topography of 90 Werombi Road is variable. The eastern portion of the allotment is dominated by a former low-lying creek dammed to create a large lagoon. The lagoon is fed by surface water draining from surrounding elevated areas. To the east and south the ground gradually ascends towards Ferguson Lane and residences fronting Werombi Road, whereas, to the west the land rises more steeply to a spur occupied by residences of the Carrington Retirement Village. The western portion is generally more elevated with a second large spur of remnant vegetation extending in a northeast direction towards the Nepean River. Land bordering the River descends sharply to form a narrow alluvial riverbank.

At 5 Smalls Road the topography is less varied and more elevated. From Werombi Road the ground ascends steeply towards the southern and eastern property boundaries. Towards the west the ground forms undulating rises that gradually descend into two drainage lines. Surface water is likely to flow into these two temporary creeks from more elevated areas in the east and south.

[1] Bannerman and Hazelton 1990: p2
[2] Ibid

The one in 100 year flood level in the Camden area is 71.2m above AHD. Importantly, a large proportion of land at 90 Werombi Road sits below this level and is likely to have been affected by flooding events. The highest ground is situated along the southern boundary of 5 Smalls Road.

2.3 GEOLOGY AND SOILS

Bannerman and Hazelton's soil landscape map for the Wollongong 1:100000 map sheet indicates that the study area extends across two separate soil landscapes: Blacktown and Theresa Park[3] (See Figure 2.1).

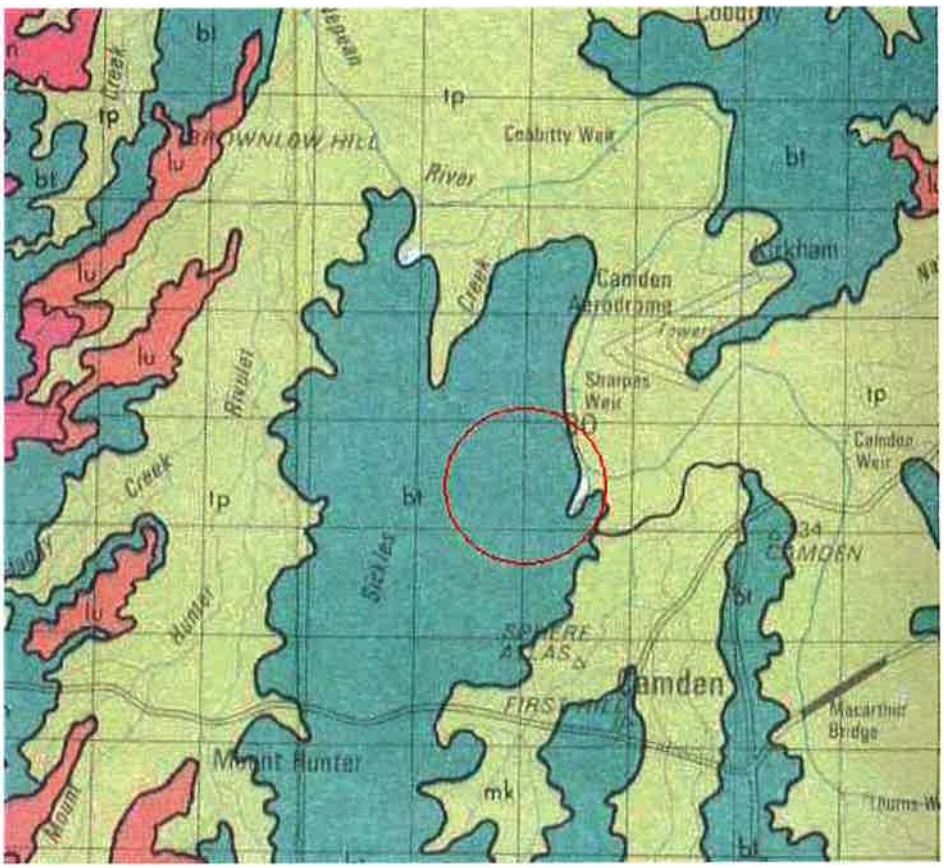

Figure 2.1: Extract from the 1:100 000 Wollongong Soil Landscape Map and a rough estimate of the location of the study area. Note: extension of the study area across the Blacktown and Theresa Park soil landscapes.

As defined by Bannerman and Hazelton, almost all of the study area is contained within the Blacktown soil landscape, with the exception of the alluvial banks of the Nepean River and lagoon. The Blacktown soil landscape typically consists of gently undulating rises deposited on Wianamatta Group shale with an average slope of less than 5% and local relief from 10 to 30m. This soil landscape extends across much of the Cumberland Plain and Moss Vale Tableland with occasional small patches occurring on the Blue Mountains and Woronora Plateaus. The underlying geology is Ashfield laminate and siltstone and Bringelly shale

[3] Bannerman and Hazelton, 1990.

containing occasional claystone, laminite and coal. Soils are typically shallow to moderately deep red and brown podsols on crests and upper slopes and deeper yellow podsols and soloths on lower slopes along drainage lines. Soil acidity, ironstone and gravel shale fragments tend to increase in quantity with depth.

The following soil profile for the Blacktown soil landscape is identified by Bannerman and Hazelton.

- 0 – 30 cm of friable greyish brown loam to sandy loam with a porous earthy fabric. Slightly acidic to neutral, with occasional charcoal and shale fragments. Roots are common. (A1 horizon).
- 10 – 30 cm of hard-setting brown clay loam to silty clay loam with a slowly porous earthy fabric. Colour may vary from brown to bright reddish brown. Slightly acidic with common ironstone gravel shale fragments. Rare charcoal and root matter. (A2 horizon).
- 20 – 100 cm of strongly pedal mottled brown to red brown light to medium clay with increasing texture with depth. Red, yellow and grey mottled inclusions are present and often increase with depth. Strongly acidic with common coarse grey shale fragments. Roots and charcoal are rare. (B horizon)
- >100cm of plastic light grey silty clay occurring above shale bedrock. (C horizon).

The low-lying alluvial riverbank and lagoon within 90 Werombi Road are contained within the Theresa Park soil landscape, a fluvial landscape of tertiary and quaternary Nepean River floodplain, meandering scrolls and terraces south of Cobbitty Creek. Slope within this landscape is generally less than 5% although the edges of high terraces often have a slope greater than 10%. Local relief can be up to 60m. The underlying geology is quaternary alluvium made up of quartz and lithic fluvial sand, silt and clay. Soils within this landscape vary from red soils on terraces to alluvial soils on the floodplain. They include poorly structured brown, orange to red silty sandy loams and are subject to localised flooding, seasonal waterlogging and extensive soil erosion along the Nepean River.

The following soil profile can be expected along river terraces within this soil landscape.

- Up to 30cm of brown to brown/black sandy hard-setting loam to fine sand with a porous fabric. Slightly acidic occurring as topsoil (A1 horizon).
- Up to 100cm of dull reddish brown sandy clay loam with a weak porous earthy fabric. Occurs as both a topsoil and subsoil and may be bleached when dry. Slightly acidic (A2 horizon).
- Up to 70cm of reddish brown sandy light clay. Occurs as subsoil, commonly contains charcoal and is slightly alkaline (B horizon).

2.4 VEGETATION

Prior to land clearance and residential development more elevated ground within the study area consisted of tall open-forest and Cumberland Plain Woodland (wet and dry sclerophyll forest). This is evidenced by the numerous patches of remnant vegetation present within the study area, particularly along the northern spur at 90 Werombi Road. The canopy was dominated by Sydney blue gum and Blackbutt, with occasional Forest Red Gum, Narrow-leaved Ironbark and Grey Box. Understorey species included grasses, such as spear grass, shrub species such as Blackthorn, ferns including Bracken and vines such as Sarsparilla. Less elevated areas along the Nepean River and the former creek at 90 Werombi Road (now the lagoon) would have supported tall open-forest dominated by cabbage gum and broad-leaved apple.

A surprisingly large proportion of the original vegetation has survived within the study area. Roughly 60% has been cleared for residential development associated with the Carrington Retirement Village and grazing activities at 5 Smalls Road.

3.0 HISTORICAL CONTEXT

3.1 ABORIGINAL HISTORY

The earliest undisputed radiocarbon date for occupation of the Sydney region by Aboriginal people is from Shaws Creek K2, a rock shelter site situated on the western side of the Nepean River roughly 50km north of the study area. A date of 14 700 years before present (BP) was recovered from this site[4]. Further south, along the coast and to the north of Shell Harbour the Bass Point site was dated at 17 101 +/-750 BP[5]. Our current knowledge on the habitation of the Sydney basin, however, is likely to change as new sites are found and analysed. It is highly likely that the occupation of the area occurred much earlier than current evidence suggests.

Our knowledge on the social organisation of Aboriginal people prior to European contact is, to a large extent, reliant on early European accounts. Such documents are inherently biased by the class and culture of the authors. However, when combined with archaeological information they can provide a picture of Aboriginal life in the region.

According to Tindale[6] the study area was part of the lands of the Tharawal people, with their inland boundary extending as far as Camden. The Tharawal are thought to have ranged from the south side of Botany Bay, and the Georges River to the Liverpool and Campbelltown areas as far south as Appin and the Cordeaux and Cataract Water Catchments. The neighbouring group, the Gandangara people, occupied the Nattai and Burragorang Valley and the ranges as far west as Bathurst. It is possible that the Nepean River may have formed the eastern boundary of the Gandangara, making Camden near the boundary of the two groups. There is also mention of an Aboriginal tribe at Camden called the Cubbitch Barta (Gur Gur)[7]. Unfortunately, information that is available is confusing and often contradictory.

Some important insights into the social life of Aboriginal people living in the Camden area were provided by William Russell or 'Werriberrie': a Gandangarra man born in 1830 near the banks of Monkey Creek. Russell continued to live and work in the Camden area and in 1924 dictated his recollections to A. Bennett. These accounts were printed in the Camden News. In later years the ethnologist, R. H. Matthews also collected a substantial body of information about the language, ceremony, mythology and social organisation of the Gandangara, Tharawal and Darug peoples.

[4] Attenbrow 2002: 20
[5] Flood, 1999
[6] Tindale, 1974
[7] W. Russell, 1914 in Martin, 1986: 41.

The ceremonial life of the Tharawal and Gandangara are believed to have been similar to 'Bunan' ceremonies on the south coast[8]. Gatherings of small and large numbers of people are likely to have taken place for ceremonial reasons or to share seasonally abundant resources[9]. Occasions for large gatherings may have included predictable seasonal events such as bird migrations, or one off events such as whale beachings. Such interactions between groups are likely to have varied with the seasons and availability of resources, but ultimately resulted in the sharing of resources, technology and knowledge. This is reflected in the relatively homogenous cultural features observed in the Sydney region, such as art motifs, technology and evidence of resource use[10].

One notable difference was the burial customs of the Gandangara. Unlike neighbouring coastal groups in the Sydney Basin the Gandangara marked the location of graves by carving elaborate designs into the trunks of nearby trees. These carvings were made to confuse evil spirits and protect the deceased. Other mythological beliefs of the Gandangara are described in detail by Martin.

Hinterland groups, such as the Gandangara, were also largely dependent on freshwater and terrestrial animals and plants whereas coastal groups, including the Tharawal exploited marine, estuarine and hinterland resources. Subsequently, animals such as wallabies, kangaroos, possums, flying foxes, water birds, parrots, reptiles, freshwater fish and yabbies played a far greater role in the subsistence of the Gandangara.

The perceived difference in population density between hinterland and coastal areas is thought to be a result of the relative scarcity of resources in the hinterland and the increased work associated with procuring terrestrial foods through hunting. A recent study of early historical sources on the Cumberland Plain has suggested that there was a minimum population density of 0.5 persons per square kilometre[11]. This compares with an estimate of 0.75 persons per square kilometre in the coastal zone around Port Jackson[12].

The Camden area contains a number of different environments that continue to support a diverse range of plant and animal species. On Nepean River terraces, such as those within the study area, tall open forest would have supported a wide variety of game. Similarly, wet sclerophyll forest along creeks and gullies would have provided shelter for numerous animal and plant species that could be eaten or used for other purposes, such as providing shelter and medicines. A number of tree species present in the Camden area supplied bark that could be used in the production of twine for nets and baskets. Consumable plants species found in the area include figs, yams, fern roots, cabbage tree palm hearts, macrozamia seeds and certain lilies.

[8] Martin, 1986: 42
[9] Attenbrow 2002
[10] McDonald 1992
[11] Attenbrow 2002: 17
[12] Ibid

Of these resources, the Macrozamia and various types of yams and roots were stable food items, as they were abundant and predictable. Yams, in particular, are likely to have been a staple food item for groups living along the Nepean, as they grow along the alluvial terraces.

> *"the natives here appear to live chiefly on the roots which they dig from the ground....in considerable quantities, the yams being in greatest plenty on the banks of the River."*[13]

Observations made by the early European explorer Barrallier in 1802 provide further insights into food resources and hunting practices in the Camden / Menangle area. In his journal Barrallier notes that swamps in the Menangle area were important resource zones where *"enormous eels, fishes and various species of shell" were consumed by Aboriginal people.* Rivers were also *"teeming with different species of fishes and shells*[14]*"*. Pointed fishing spears and fishing lines were used during fishing. Possums and kangaroos were also staple foods. Whilst spears, clubs and boomerangs were used to hunt possums and other small terrestrial animals hunting kangaroo required the co-operation of large numbers of people.

> *"To hunt the kangaroo, they formed a circle....according to the number of natives assembled. They usually stand about 30 paces apart, armed with spears and tomahawks....each one of them holding a handful of lighted bark, at a given signal they set fire to the grass and brush...as the fire progresses they advance forward...narrowing the circle and making as much noise as possible, with deafening shouts. The kangaroo, which are thus shut into that circle and burn their feet... They then try to escape in various directions and the natives throw their spears at the one passing nearest them*[15]*."*

3.2 EUROPEAN HISTORY

The study area was first granted to John Macarthur as part of his North Camden estate, and then sold to William H. Paling during the Cawdor Park land sales of 1885 – 1887. Paling then bought several farms which adjoined his own in the Camden Park Estate land sales of 1888 and named his large property "Grasmere".

Paling was a Dutch immigrant, who had studied violin, and became a skilled pianist and technician of musical instruments before emigrating to the Colony of NSW in 1853. He settled permanently in Sydney, where he taught music and promoted concerts, becoming an "estimable pioneer of the musical community of Sydney."[16] He established an enduring and profitable business, importing hand-selected pianos and popular sheet music from Europe. He further profited by speculating in mining and land, and accrued considerable personal wealth.[17]

---

[13] Hunter 1968 in Martin, 1986: 45.
[14] Barrallier, 1802 in Martin, 1986: 46
[15] Ibid
[16] *Music for a Hundred Years*, (Sydney: Oswald Ziegler Publications, 1954), p 44 [Courtesy Carrington Archives]
[17] *Ibid*: H Barker & M Elven, *Houses of Hornsby Shire*, Vol 1, (Hornsby Shire Historical Society, 1989) p 10

Aside from his musical and cultural endeavours, and his business interests, WH Paling was a distinguished citizen. He was a member of the Commission of the Peace, and regularly served on the Bench of Magistrates. He was also active in civic affairs as an Alderman, and later Mayor, of Petersham Council. [18] Contemporary reports indicate that Paling was also noted for his generous philanthropy and concern for health reform. It was this concern which led to the establishment of the Carrington Centennial Convalescent Hospital, the first major convalescent hospital in the Colony.[19]

On New Year's Day 1888 WH Paling wrote a letter to Lord Charles Robert Carrington, then Governor of NSW. In the letter Paling declared his intention to establish a Hospital for Incurables and Convalescents, and his desire that it be named after Lord Carrington. He dedicated his substantial Camden estate, "Grasmere" and £10,000 to the new Hospital, as a;

> *"... Centenary Gift for the Colony of NSW as a token of loyal affection and gratitude from one who during 33 years has enjoyed all the rights and privileges as a subject of that great and liberal nation the British Empire."*[20]

Paling's generous gift was, naturally, accepted. A Provisional Committee, which included Governor Carrington, was formed. By 28 February 1888 the Provisional Committee had resolved that the proposed Hospital be named "The Carrington Convalescent Hospital", and appointed a sub committee to frame the scheme of the Hospital and prepare the necessary arrangements to carry it out. Governor Carrington accepted the Presidency of the Hospital, and the Chair of the General Committee. William Paling was elected Vice President.[21] In the following months a public subscription was opened to raise funds for the erection of the hospital.

An 1888 plan[22] of Palin's estate shows the original Grasmere farm containing several buildings at the time; "Grasmere Villa", and an unnamed cottage at the southern extremity of Paling's land, on the opposite side of Werombi Road. Several surrounding allotments were numbered and known to have been occupied by tenant farmers at the time of purchase. There was a substantial complex of farm, dairy and residential buildings on allotment 12, to the east of "Grasmere Villa". It is possible that this allotment later formed the nucleus of the Hospital farm. There were also several boatsheds and pump houses around the lake.[23] Importantly, the large tract of open woodland to the north of the hospital was left untouched.

---

[18] *Ibid*
[19] WL Chapman, National Trust Listing Proposal, "Carrington Centennial Convalescent Hospital", 25.6.1979
[20] Nixon, *op cit*, p 7
[21] *Ibid*, p 10
[22] The Plan of Grassmere Estate presented to Lord Carrington by WH Paling as a Centennial Gift to the Colony [1888], Mitchell Library, ML MSS 4825/42x]
[23] *Ibid*

In 1890 the Carrington Hospital was opened as the first major convalescent hospital in the colony. The main hospital building was designed by H.C Kent and constructed by the contractor P. Graham. In addition to Grasmere Villa, the numerous cottages and other building on site the Hospital grounds boasted a piggery, dairy and poultry farm, which were consistently profitable for many years. The Hospital's Gardener, under the Matron's supervision, also tended a kitchen garden and a vegetable garden, but these were frequently less successful ventures.

At the turn of the century "Grasmere Cottage" was turned over to the Hospital, along with its orchard and vineyard. The hospital was converted to a retirement village and since this time has undergone significant expansion, with numerous residences added.

3.3 LAND USE EFFECTS

As described above, the study area has been subject to previous land uses and in some areas the ground surface and subsurface soils have been modified. Land use effects have included vegetation clearance, construction of early farm buildings, orcharding, grazing, construction of the early hospital buildings and later retirement village residences. Such activities are likely to have resulted in the damage and possible destruction of surface Aboriginal sites and Potential Archaeological Deposits (PADs).

Disturbance within the study area was mapped during the field survey using the following definitions.

Extremely disturbed: Developed areas including road cuttings, the lagoon and other forms of deep excavation including services and building footings. The depth of disturbed soil in these areas may vary from widespread disturbance of 500mm to localised disturbance of 2m.

Moderately disturbed: Cleared areas, formal roads, concrete platforms and extensively cultivated areas. The depth of disturbance is these areas may be in the range of 200-300mm, with localised disturbance of 500mm.

Least disturbed: Partially cleared with some possible grazing, recently disturbed by unformed vehicle tracks but no evidence of cultivation. The depth of disturbance is these areas may be generally less than 200mm.

The varying degrees of disturbance observed within the study area are shown in Figures 3.1.

Figure 3.1: Relative site disturbance (based on the current site configuration made during the 2004 field survey)

4.0 ARCHAEOLOGICAL CONTEXT

4.1 REGIONAL ARCHAEOLOGICAL CONTEXT

Archaeologists examine regional and local trends in the distribution of known Aboriginal sites in relation to environment and topography to make predictions about Aboriginal site types and locations within a given area.

In terms of its regional archaeological setting, the study area falls within the Cumberland Plain. Aboriginal occupation in this region dates back well into the Pleistocene period (ie. more than 10,000 years ago). This evidence comes from C14 dates retrieved from excavated sites such as Cranebrook Terrace (41,700 years before present) and Shaw's Creek K2 (14,700 years before present). Both of these sites are located near Penrith in western Sydney. The dating of Cranebrook Terrace is currently under review, so at this time Shaw's Creek is considered as the oldest reliable dating of Aboriginal occupation in the Sydney region[24].

The vast majority of dated sites in the Sydney region are, however, less than 5,000 years old (35 out of a total of 48 dated sites). It has been argued that this is a result of increased populations and 'intensification', during this period. The prevalence of sites dating to the last 5000 years may also be a result of the last significant rise in sea level, approximately 6000 years ago. The sea level rise would have submerged many of the older sites along the coastal fringe.

Over the past 20 years the archaeology of the Cumberland Plain has been well documented through a large number of academic, amateur and impact assessment investigations prepared by consultant archaeologists.

In 1984 Dr Jim Kohen conducted intensive PhD research in the surrounding region, comparing sites along the Nepean / Hawkesbury system (including Emu Plains) with those to the east across the Cumberland Plain. In contrast to the small low-density open sites commonly found in the neighbouring Blue Mountains, a very large and significant open site was located on the Nepean River terrace beside Jamison's Creek. A surface collection at the site recovered almost 10,000 stone artefacts that were distributed over an area of 775 square metres. Examples of all major categories of stone tool types were found including stone axe heads, uniface pebble tools, elouera adze flakes, bondi points, geometric microliths, thumbnail discoid scrapers, bipolar cores, single and multiplatform cores and blade cores. Raw material types used to make the artefacts found at the site included chert, basalt, quartz from the Nepean gravels, quartzite, silcrete and siliceous wood. In addition to stone artefacts associated with occupation before c1788, post-contact artefacts were also found. These included clay pipe bowl fragments and ceramics, indicating that the site had been continuously used until at least the 1830s. Excavations at the site revealed a 1.5 metre

[24] Attenbrow 2002: 20-21

thick cultural deposit that produced radiocarbon dates ranging from 7,000 to 1,500 years BP. The site is located 25 kilometres southwest of the current study area and is considered one of the most significant open sites in the Sydney region. The site was largely destroyed in 1984 during the development of a sporting complex.

Analysis of 666 sites recorded on the Cumberland Plain (ie. on the DEC Site Register) by McDonald[25] found that open sites (89%) were the most common site type, followed by scarred trees (2.1%). Shelters and axe grinding grooves accounted for 3.6% of recorded sites, and these were concentrated along the periphery of the Plain, at the junction of shale and sandstone geology. The study highlighted difficulties associated with archaeological visibility on the Plain by assessing the potential for areas with no surface evidence to contain buried sub-surface deposits. The study found that:

- 17 out of 61 excavated sites had no surface artefacts prior to excavation;
- the ratio of recorded surface to excavated material was 1:25; and
- none of the excavated sites could be properly characterised on the basis of surface evidence. In short, surface evidence (or the absence of surface evidence) does not necessarily indicate the potential, nature or density of sub-surface material.

The results of McDonald's study clearly highlight the limitations of surface survey in identifying archaeological deposits. The study also shows the importance of test excavation in establishing the nature and density of archaeological material on the Cumberland Plain.

More recent archaeological work on the Cumberland Plain has been conducted at Rouse Hill and the ADI Site at St Marys[26]. Although undertaken more than 5 years ago, the test excavation program at Rouse Hill is still the most extensive subsurface investigation conducted on the Plain. Results of the investigation demonstrated that existing predictive models were inaccurate because their conclusions were based on an analysis of surface sites. An analysis of sub-surface deposits provided important insights into the distribution of sites, dominant site types and their preservation. These were as follows:

- Almost all areas contained subsurface archaeological deposits, even areas that showed no evidence of archaeological material on the ground surface;
- Open sites in aggrading and stable landscapes have the potential to contain intact deposits and sites with structural integrity. Deposits in alluvium have potential to contain stratified remains;
- Ploughing only affected deposits to a depth of 30cm, and knapping floors were still identifiable in plough zones;
- Some deposits contained very high densities of artefacts and a variety of artefacts that reflected changes in activity and site use;

[25] McDonald 1997
[26] Ibid

- The archaeological record is more complex than was previously assumed. Extensive archaeological testing found intact knapping floors, backed blade manufacturing sites, heat treatment locations and areas designated for the manufacture of specialised tool types;
- A new context of 5,000 – 3,000 BP was identified for the manufacture of backed blades on the Plain; and
- Sites on permanent water sources were found to be more complex than sites on ephemeral / temporary drainage lines.

4.2 AHIMS SEARCH RESULTS

A search of the DEC Aboriginal Heritage Information Management System (AHIMS) for a five kilometre area surrounding the study area indicates that a very low density of sites have been identified and recorded in its vicinity, although this result reflects the limited number of studies conducted in the area rather than site distribution patterns. A total of 4 sites have been recorded within the search area (Table 4.1; Figure 4.1). Site types and frequency are as follows;

Table 4.1: DEC AHIMS Search Results

Site Type	Number
Scarred Tree	2
Open Camp Site (Artefact Scatter)	2
Total	**4**

4.3 NATIONAL ESTATE SEARCH RESULTS

A search of the Australian Heritage Commission's Register of the National Estate indicated that there were no Aboriginal places present within the study area.

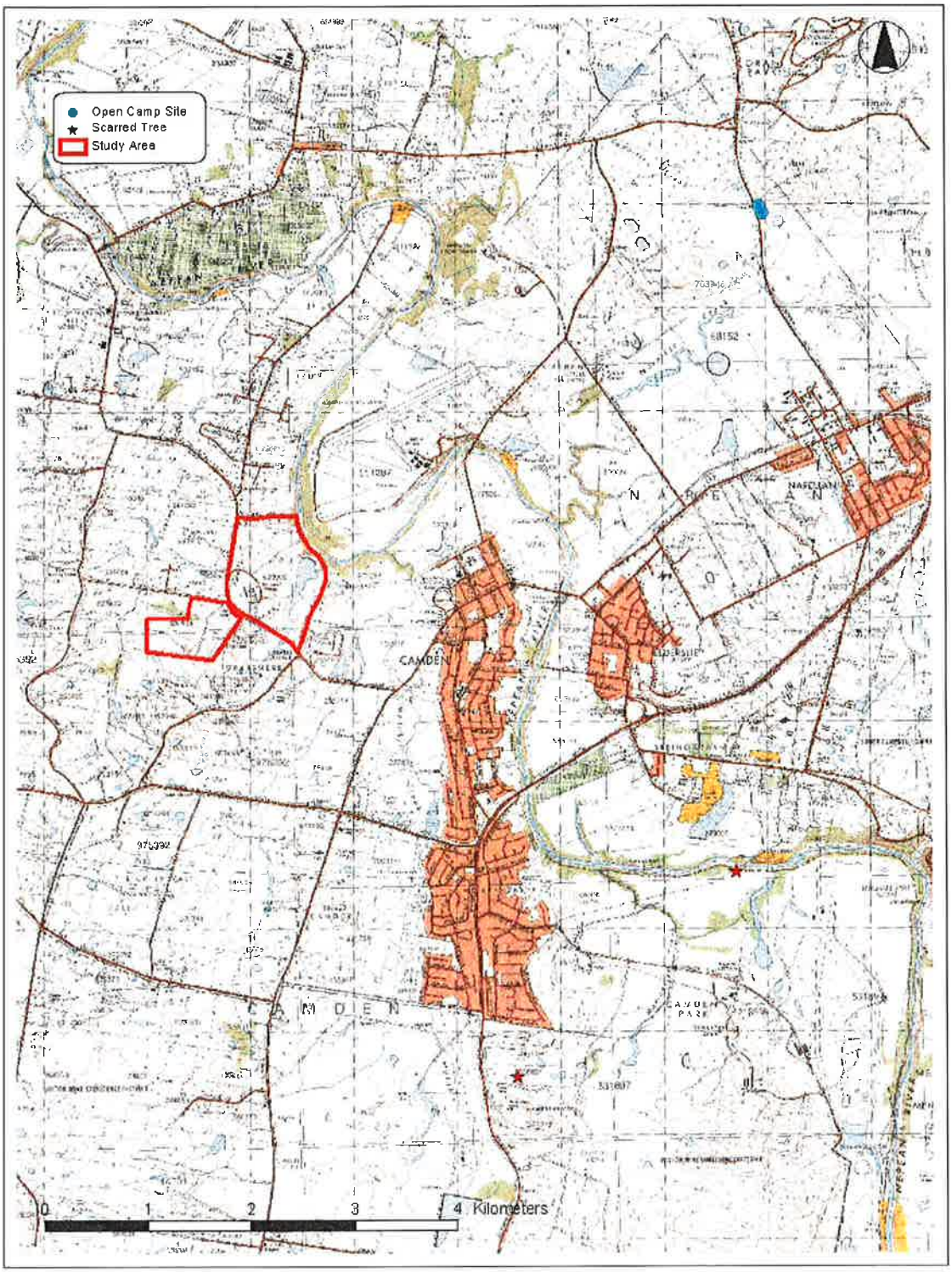

Figure 4.1: Map of previously recorded sites in the surrounding region

4.4 LOCAL ARCHAEOLOGICAL CONTEXT

A number of archaeological studies have been undertaken in the Camden area. These investigations have included broad heritage planning studies and impact assessments associated with residential and town developments.

This section provides a brief review of these investigations to indicate the various site types and their distribution in the local area.

4.4.1 Macarthur Region Aboriginal Heritage Study

In 1986 Sarah Martin was engaged by the NSW Department of Environment and Planning to undertake an Aboriginal Heritage study as a component of a larger Macarthur Region Heritage Study and ultimately a later Regional Environmental Plan. Specific aims included providing an inventory of known and predicted Aboriginal sites, the identification of specific areas of interest to the Aboriginal community and provision of management recommendations. The area studied was comprised of the Cities of Liverpool and Campbelltown, the Camden Municipality and the Wollondilly Shire. The report includes a very detailed contact and post-contact history and a description of Aboriginal sites in the region.

At the time of the study very few studies had been undertaken on the alluvial terraces along the Nepean River. Martin predicted that many of the sites in this environment had been destroyed by clearing, agriculture and urban development and that the visibility of the ground surface would be a significant constraint during field surveys. Sites found in this environment, however, had the potential to be of a significant age given the discovery of the 7,000 year old site at Emu Plains. Martin therefore concluded that this landform had potential to contain stratified and dateable deposits of some antiquity. Management priorities included: the conservation and management of sites of significance to the Aboriginal community and sites of scientific significance; and further archaeological research in the region to increase existing information available on the distribution, range and significance of Aboriginal sites. Implications for development included the need for test excavation along areas of undisturbed alluvial terrace on the Nepean and Georges River.

4.4.2 Archaeological Survey at Spring Farm, Camden

Jo McDonald from Brayshaw McDonald Pty Ltd inspected a site on Richardson Road, Spring Farm in June 1992 and wrote a brief letter report. No Aboriginal sites were located during the survey and exposed soil profiles showed no evidence of artefactual material. McDonald therefore concluded that the site had very low potential to contain Aboriginal relics. No archaeological constraints were therefore placed on proposed sand mining operations at the site. The site was located roughly 4.5 km south east of the current study area.

4.4.3 *Aboriginal and Historic Archaeological Survey – West Camden Sewerage Treatment Plant, Camden*

In May 1993 Bobbietje Oakley conducted an archaeological survey at the West Camden Sewerage Treatment Plant on Ferguson Road, Camden. The site sits directly adjacent to the current study area. Whilst no Aboriginal archaeological sites were located during the survey the whole site was assessed as having archaeological potential. It was therefore recommended that an archaeologist be commissioned to conduct surface stripping and sub-surface testing for Aboriginal sites prior to the development of the proposed wetlands area. Similarly, if additional runoff down a surviving creek has the potential to damage Aboriginal archaeological deposits it was recommended that an archaeologist assess the relics and record them prior to their destruction. Additional recommendations were made for historical archaeological remains found at the site.

4.4.4 *Inspection of a Canoe Tree, Camden*

Tony English from the CRC inspected a canoe tree situated on the banks of the Nepean River, near Camden in May 1994 on the request of Ms. Glenda Chalker (TLALC). The tree was first located on the opposite side of the River by Ms. Chalker during a previous survey and is situated roughly 5km southeast of the current study area. The inspection revealed that the tree was a dead Eucalypt species with two cultural scars measuring roughly 3 – 5m high and 80cm wide. Access and removal to save the tree, however, was difficult due to its position on the edge of a steep river bank. A number of recommendations for its safe removal and conservation were made by English, including the need for funding. Discussions with Ms. Chalker during the current survey revealed that no further action has been taken (Glenda Chalker, *pers comm*).

4.4.5 *Archaeological Survey of the proposed Harrington Park Housing Estate, Narellan, NSW*

In May 1994, Tony English from Navin Officer Pty Ltd conducted an archaeological survey at the site of a proposed housing estate at Narellan, just over 5km east of the current study area. Three Aboriginal sites, seven isolated finds and two PADs were located during the survey. The archaeological significance of the surface finds was assessed as being low due to disturbance by erosion and past European land use. TLALC, however, indicated that the sites were of cultural significance to the Aboriginal community. It was recommended that Consent-to-Destroy and Collection Permits be obtained from NPWS prior to commencement of works. The two PADs were located along watercourses at the site and further archaeological investigation, in the form of sub-surface test excavation, was recommended at both sites.

4.4.6 Aboriginal Archaeological Assessment: Spring Farm Urban Release Area

In January 2001 Mary Dallas and Paul Irish conducted an Aboriginal archaeological survey of the Spring Farm Release Area situated to the east of Camden Township, roughly 5.5 km south east of the current study area. Four artefact scatters, a scarred tree and an area containing PAD were identified at the site. The sites were located in relatively undisturbed terrain assessed as being archaeologically sensitive. It was recommended that the report be used as a base-line for future planning and management of Aboriginal sites. Various management strategies were recommended for the various allotments including large areas requiring test excavation, areas where further archaeological survey was required and areas where no further archaeological investigations were warranted.

4.5 PREDICTIVE MODELLING

4.5.1 Site Types

Based on information compiled within the DEC AHIMS and background archaeological data, the types of sites that are likely to be found in the study area are:

Open Artefact Scatters (Camp Sites)
These are found almost anywhere that Aboriginal people travelled in the past. The cultural activity represented by these sites may be associated with hunting or gathering activities, domestic camps, or the manufacture and maintenance of stone tools. The density of artefacts present in these scatters can vary dramatically and may relate to either transient or short stay camps, or base camps of long term and/or repeated occupation. These types of sites are commonly referred to as *'open campsites'*. Open camp sites in the Camden region are likely to be characterised by low to high density surface scatters dominated by silcrete and indurated mudstone / rhyolitic tuff.

Isolated Finds
These are also found anywhere in the landscape and often represent the random loss, deliberate discard or abandonment of artefacts, or the remains of dispersed artefact scatters. The presence of *manuports* and *heat fractured stone remains* also needs to be considered. These items consist of raw materials of stone that do not naturally occur within the soil profiles of a given region. Transported onto a site by Aboriginal people from external sources, these items will have subsequently been discarded before use as flaked or ground stone tools.

Scarred or Carved Trees
These result from the removal of bark and/or wood for various purposes, including the manufacture of shelters, canoes and shields and carved designs for aesthetic, functional or ceremonial reasons such as burial. Cultural scars are usually found on large, mature trees that are endemic to the region. If the scar is less than 100 years old it is less likely to be of Aboriginal origin.

Burials
These sites are usually restricted to landforms with deep soil profiles of soft sediments such as alluvium or aeolian deposits. This can include the banks of major Rivers, such as the Nepean.

4.5.2 Site Specific Predictions

Using trends identified in previous studies and information on the topography and distribution of natural resources in the surrounding Camden area the following site predictions and assessments of archaeological potential can be made for the study area:

- ***Given the site's proximity to the Nepean River (a large, permanent water source) open artefact scatters and isolated finds may be present in all areas across the site;***
- ***Relatively complex high-density artefact scatters are more likely to be situated on elevated spurs overlooking the River. Whereas, less complex low-density scatters are predicted along temporary and minor gullies;***
- ***Surface artefacts are likely to be more visible in disturbed areas within the study area. Conversely, archaeological material in these areas may be significantly disturbed and of limited scientific value;***
- ***Sub-surface archaeological deposits may be present in areas that show no evidence of archaeological material on the ground surface and / or in areas where the ground surface is obscured;***
- ***Alluvial deposits along the Nepean River have a higher potential to contain stratified archaeological remains due to the recent deposition of alluvium during flooding events. The integrity of these deposits, however, is dependent on the intensity and nature of past flooding events; and***
- ***Intact archaeological deposits will only be present in areas that have not been significantly disturbed by European activities and flood activity.***

5.0 ARCHAEOLOGICAL SITE SURVEY

5.1 SURVEY DETAILS

Fiona Leslie of AHMS Pty Ltd carried out an archaeological survey in the study area with representatives of the Tharawal Local Aboriginal Land Council (TLALC) and the Cubbitch Barta Native Title Claimant Aboriginal Organisation (CBNTC) on the 2nd, 3rd and 4th of November 2004. The survey covered the entire study area. In accordance with DEC guidelines, a standard archaeological site inspection and recording methodology was employed.

The objectives of the site survey were to identify any archaeological sites or objects, and to document past site formation processes that led to the surface configuration visible today. This information was used to assess the depth and potential integrity (intactness) of natural soil profiles across the study area, and the likely impact of development on these soils.

For the purposes of the survey, an Open Artefact Scatter was defined by the presence of two or more artefacts located within 20 metres of each other. Isolated artefacts more than 20 metres from each other were defined as Isolated Finds. This definition ensured a high level of spatial control over artefact locations and distribution.

5.2 SURVEY METHODOLOGY

The study area was systematically traversed on foot to identify and examine areas where the ground surface was visible. Tracks and any form of ground disturbance were examined for archaeological material. Remnant trees were also assessed for evidence of cultural scarring.

All accessible areas where the ground was exposed were surveyed. A large proportion of 90 Werombi Road has been developed as residences of Carrington Retirement Village. These areas were highly disturbed and subsequently not surveyed. Undeveloped areas included large patches of remnant open forest and cleared pasture. Much of the ground in these areas was obscured by grass and/or leaf litter with the occasional unformed vehicle track and patches of eroded ground. 5 Smalls Road was essentially grazing land with roughly half of the property cleared for pasture. Large patches of remnant open forest were distributed along the property boundaries.

The location of archaeological sites and objects were recorded using a hand-held GPS. Locations of identified sites and objects were recorded using standard DEC AHIMS Site Cards.

5.3 SURVEY COVERAGE

Effective coverage is calculated by multiplying an estimate of the percentage of ground exposure (or visibility for detecting artefacts) by the percentage of the survey coverage (ie. the actual area surveyed). This calculation demonstrates the effectiveness of the surface survey in detecting archaeological sites and accordingly, how much weight ought to be put on the results.

For the purposes of detailing survey coverage data, the study area was divided into 4 separate landforms units. These were as follows:

1. Alluvial terrace – a very narrow strip of high level alluvium along the Nepean River. Subject to erosion and flood impacts.
2. Major Creek / Lagoon– more fertile and resource rich area along the former permanent creekline, now a lagoon, adjacent to the Nepean River.
3. Hill Slopes / Minor Creeks – steep to moderate hill-slopes and elevated undulating hills in the northern and southern parts of the study area dissected by minor tributary creeklines.
4. Ridge-tops / Crests – elevated spurs and associated plateaus in the northern allotment overlooking the Nepean River.

The location of landscape units are shown on Figure 5.2.

Table 5.1 details the survey coverage data and shows that although all accessible areas of the study area were surveyed, ground exposure was low and, as a result, effective survey coverage was limited.

5.4 SURVEY RESULTS

Four open artefact scatters and five isolated artefacts were located during the field survey (Figure 5.2). Given the large proportion of ground obscured by vegetation it is likely that more sites and isolated objects exist on the surface below grassed and vegetated area, and in sub-surface deposits throughout the study area.

As discussed in Section 3.3 the study area has been subjected to various land uses since c1880 to the present day. A significant portion of the original vegetation has been cleared with portions of elevated land at 90 Werombi Road developed as part of the Retirement Village. The former major creek was also dammed to create an artificial lake. Land at 2 Smalls Road has generally been used for grazing purposes.

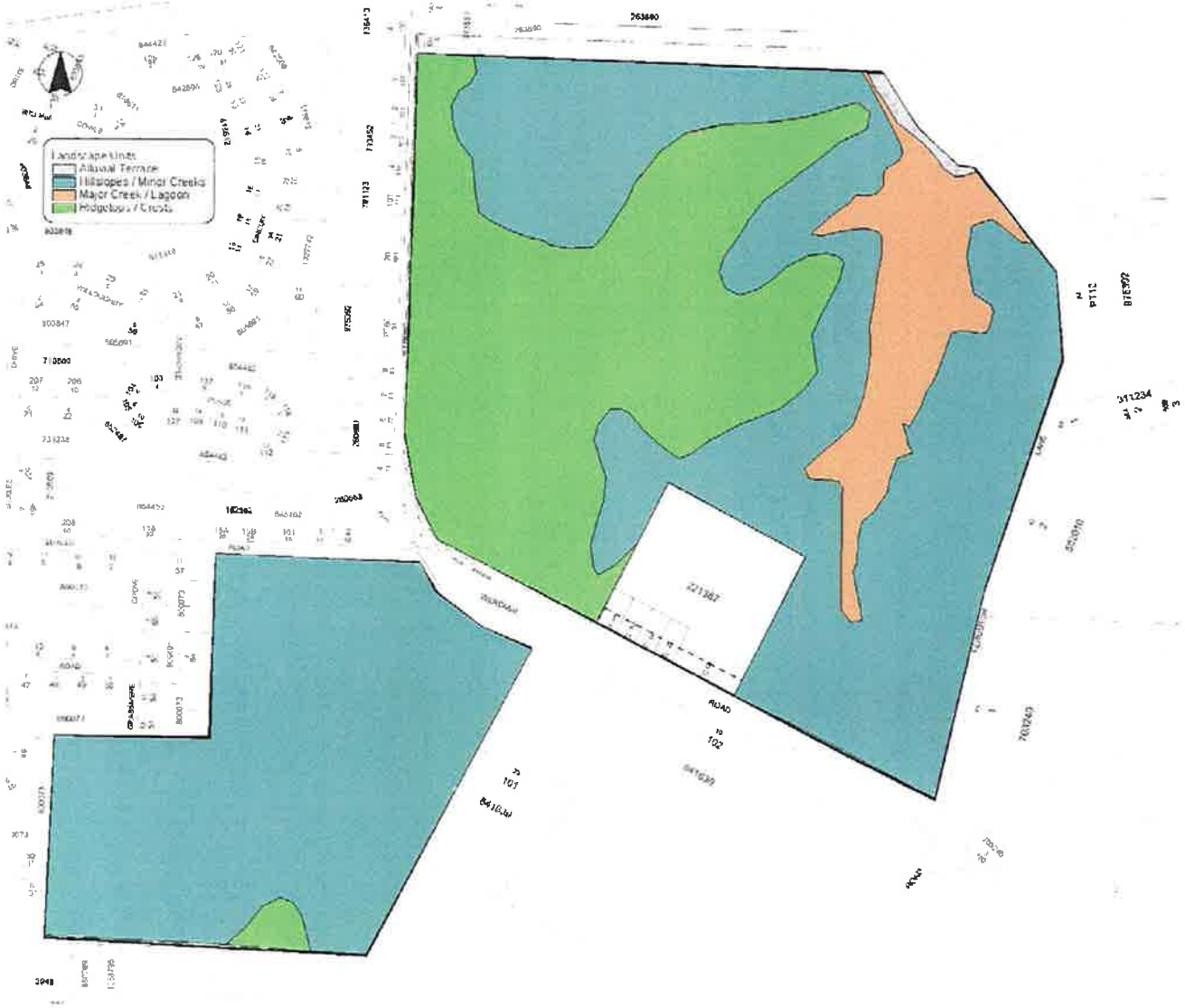

Figure 5.1: Landform Units

Table 5.1: Summary description of Landform Units: 90 Werombi Road and 5 Smalls Road, Camden, NSW

Landform Unit	Current Land Use (s)	% Proportion of Study Area	% Average Ground Exposure	% Survey Coverage	Degree of disturbance	Estimate of effective coverage	Site(s) / isolated find(s)
1. Alluvial Terrace	No current use	< 5%	5%	20%	Moderate to Low. An unformed vehicle track runs adjacent to the River. Steep drop (>20m) to riverbank. Remnant trees and mangrove scrub. Thick leaf litter obscured ground surface.	10%	No sites
2. Major Creek / Lagoon	Lagoon	10%	<5%	10%	High. Banks flooded after creek was dammed. Mostly inaccessible.	<5%	1 open artefact scatter
3. Hill Slopes / Minor Creeks	Grazing & Residential development	50%	10%	100%	Moderate to Low. Large cleared areas and patches of remnant vegetation. Some areas developed. Ground obscured by thick low grass or leaf litter / understorey. Occasional unformed vehicle tracks.	10%	1 open artefact scatters; 3 isolated artefacts
4. Ridge-tops / Crests	Residential development & Remnant vegetation	40%	10%	100%	High to Low. Developed areas were heavily impacted with ground excavated and scraped for footings, building platforms and formed roads. Undeveloped areas were largely intact supporting remnant open woodland.	10%	2 open artefact scatters; 2 isolated artefacts

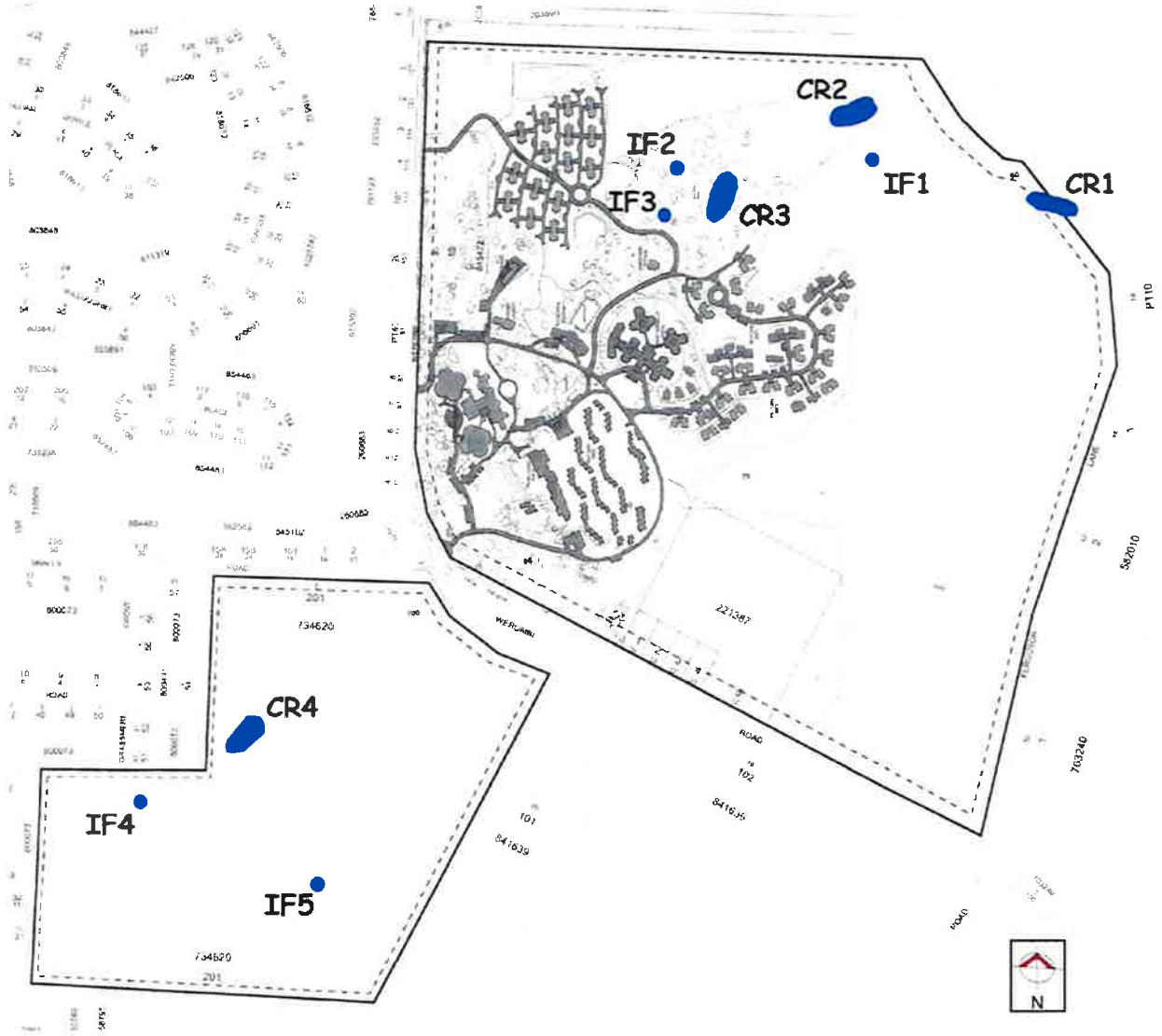

Figure 5.2: Survey Results – location of Sites and Isolated Finds

The following sections discuss site formation processes, the number and type of archaeological sites and isolated objects, and the potential for archaeological deposits within each landform unit.

LANDFORM UNIT 1: ALLUVIAL TERRACE

No archaeological objects or sites were found along the thin alluvial terrace overlooking the Nepean River. This result was not surprising as leaf litter and scrub obscured 95% of the ground surface. Ground disturbance was observed to be low, although it is likely that past flooding events have impacted on the terrace. Conversely, such events are also likely to have buried sites and objects and covered redeposited objects washed down from adjacent hill-slopes. The unit was therefore assessed as having a high potential for archaeological deposits (PAD). As demonstrated in Figure 5.3 (below), an unformed vehicle track ran through across the terrace adjacent to the River.

Figure 5.3: River bank covered with thick scrub with one unformed vehicle track.

LANDFORM UNIT 2: MAJOR CREEK / LAGOON

One artefact scatter was located in this landform, on the eastern bank of the former creek near the River. Most of this area was significantly disturbed and inaccessible due to the damming and inundation of the original creek. Ground surface visibility was a constraint, with thick grass and debris obscuring the ground (Figure 5.4). The unit lies below the 100 year flood level. Ground that was not inundated therefore has potential to contain buried archaeological material.

Figure 5.4: Site CR1 on the banks of the former creek / now lagoon.

LANDFORM UNIT 3: HILL SLOPES / MINOR CREEKS

This landform was characterised by steep to moderate hill-slopes descending from elevated spurs and crests to minor creeks and associated tributaries. A large proportion of the study area fell into this category. One artefact scatter and three isolated artefacts were recorded on eroded ground. All other areas were covered in thick grass and / or vegetation (Figure 5.5). The hill slopes at 5 Smalls Road were less disturbed than those at 90 Werombi Road, where some residential development and cultivation had taken place. Cleared areas were generally assessed as having moderate archaeological potential and vegetated areas high archaeological potential. Steep slopes are less likely to contain intact material as objects are likely to have been redeposited by flooding events and/or slope wash caused by erosion.

(a)

(b)

Figure 5.5: (a) Moderate hill slope at 90 Werombi Road (b) Minor creek in intact woodland at 5 Smalls Road. Note the presence of thick grass and occasional patches of eroded ground.

LANDFORM UNIT 4: RIDGETOPS / CRESTS

Ridgetops and crest within the study area were largely restricted to 90 Werombi Road, with a large proportion developed for housing. One large elevated spur near the northern boundary, however, has remained intact and supports remnant open woodland (Figure 5.6). Two artefact scatters, including one very dense scatter, and two isolated artefact were located on this spur, on eroded ground along an unformed vehicle track. In all other areas ground surface visibility was poor (10%) with the ground covered in leaf litter, vegetation and debris. The potential for archaeological deposits in developed areas was assessed as being low, given the impact from excavation and ground scraping for building platforms, footings and formed roads. In contrast, undeveloped areas, particularly the spur along the northern boundary, were assessed as having a high potential to contain obscured archaeological sites and buried archaeological material.

Figure 5.6: Undeveloped ridge overlooking the lagoon. This spur supports remnant open woodland and is likely to contain additional intact archaeological sites and deposits.

5.4.1 Sites

The following section is a summary of field notes made for each site identified during the survey.

CR1	**Open Artefact Scatter**
GPS (GDA94):	285814E 6229751N
Location:	On eroded ground overlooking lagoon – on the eastern property boundary of 90 Werombi Road. Roughly 50m north of Ferguson Lane, Camden, NSW
Landform:	On the southern former creek bank 30m south of the Nepean River.
Description:	Low density artefact scatter extending across a 30m area and consists of at least seven artefacts (one white/grey banded rhyolitic tuff flaked piece, one quartz flaked piece, one white/grey silcrete retouched flake, three red silcrete flakes and one red silcrete flaked piece)
Disturbance:	Moderate to Low

Figure 5.7: Silcrete flake at Site CR1

CR2	**Open Artefact Scatter**
GPS (GDA94):	285521E 6229912N
Location:	On an unformed vehicle track running along an intact ridgeline overlooking the Nepean River - northern portion of 90 Werombi Road. Roughly 250m south of Bicentennial Lane, Camden, NSW
Landform:	On the crest of an intact ridgeline supporting open woodland roughly 70m west of the Nepean River.
Description:	This high density artefact scatter extended across an area of roughly 60m x 10m. The scatter consists of at least forty-five stone artefacts including two conjoining artefacts and one broken retouched silcrete flake (twenty-one silcrete artefacts, ten quartz artefact, twelve rhyolitic tuff artefacts and two quartzite artefacts).
Disturbance:	Low – as evidenced by the presence of conjoins.

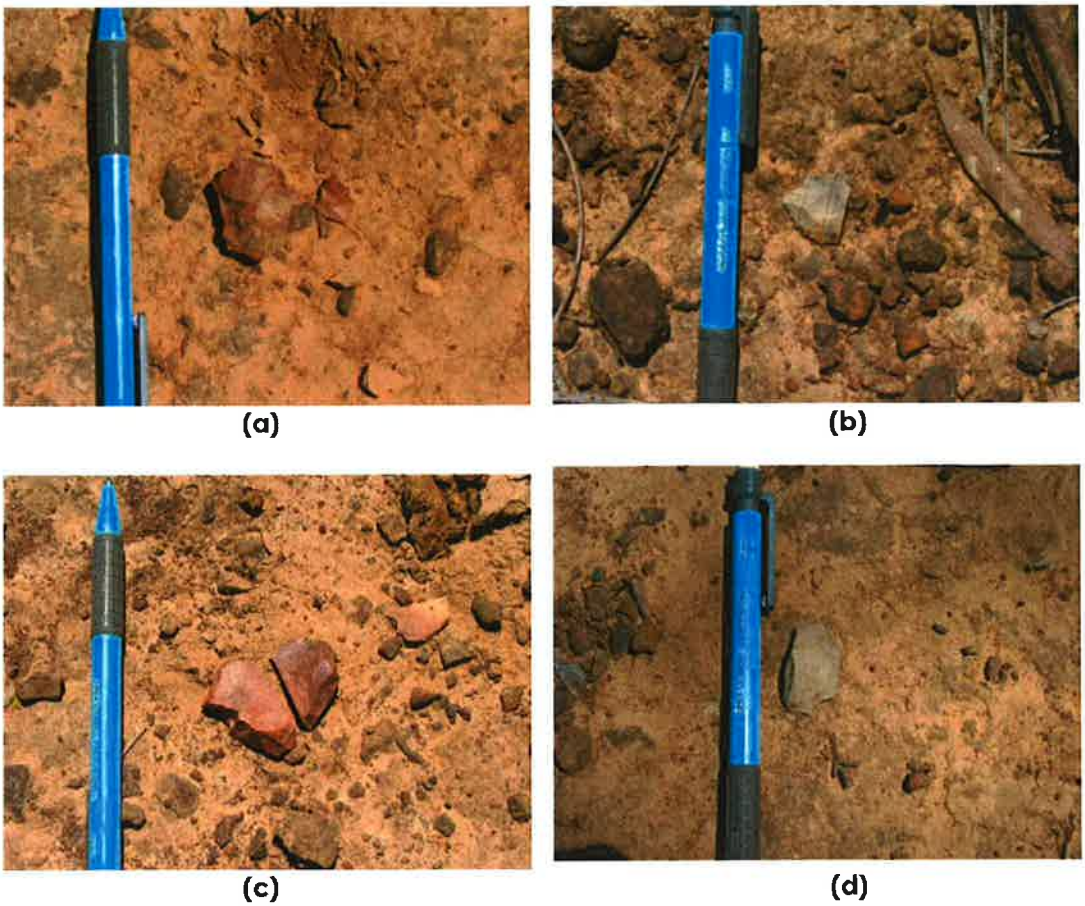

Figure 5.8: Artefacts recorded at Site CR2. (a) conjoining silcrete flake and core (b) banded rhyolite tuff flake (c) broke silcrete retouched flake (possible scraper) (d) rhyolitic tuff flake

CR3	**Open Artefact Scatter**
GPS (GDA94):	285347E 6229836N
Location:	On an unformed vehicle track running along an intact ridgeline overlooking the Nepean River - northern portion of 90 Werombi Road. Roughly 320m south of Bicentennial Lane, Camden, NSW.
Landform:	On the crest of an intact ridgeline supporting open woodland roughly 270m south west of the Nepean River.
Description:	Medium density artefact scatter extending across an area of 20m x 10m. The scatter consists of at least eleven stone artefacts (five silcrete artefacts, five rhyolitic tuff artefacts and one quartz artefact)
Disturbance:	Low

CR4	**Open Artefact Scatter**
GPS (GDA94):	284581E 6229152N
Location:	Exposed ground on an unformed vehicle track running along the edge of a minor creek – 5 Smalls Road. Area was relatively intact supporting remnant open woodland.
Landform:	Gentle hill slope descending towards a minor creek. 230m south of Smalls Road and less than 10m from the temporary creek.
Description:	Low density artefact scatter extending across an area of 30m x 10m. The scatter consists of three artefacts (one yellow/grey silcrete flaked piece, one orange/red silcrete flaked piece and one red silcrete manuport).
Disturbance:	Low

5.4.2 Isolated Finds

IF1	**Isolated Find**
GPS (GDA94):	285555E 6229848N
Location:	On an unformed vehicle track running parallel to the intact ridgeline in the northern portion of 90 Werombi Road. Area has been cleared of vegetation.
Landform:	Gentle hill slope descending towards a minor creek (now filled, channelled and enclosed). 100m west of the Nepean River and 40m north of the minor creek.
Description:	one yellow rhyolitic tuff flaked piece
Disturbance:	Moderate

IF2	**Isolated Find**
GPS (GDA94):	285285E 6229870N
Location:	On an unformed vehicle track north of an intact spur in the northern portion of 90 Werombi Road. Surrounding area supports remnant open woodland.
Landform:	Steep hill slope descending towards a minor creek (now channelled and enclosed). 330m west of the Nepean River and 60 south of the minor creek.
Description:	one quartz piece, possibly flaked
Disturbance:	Low

IF3	**Isolated Find**
GPS (GDA94):	285260E 6229808N
Location:	On cleared ground north of the Gardeners Cottage – 90 Werombi Road. Roughly 10 north of a formed road.
Landform:	Undulating hill slope along the western edge of the intact spur in the northern portion of 90 Werombi Road. 60 south east of a former minor creek, now enclosed as a drain.
Description:	one red silcrete flaked piece
Disturbance:	Low to Moderate

IF4	**Isolated Find**
GPS (GDA94):	284437E 6229088N
Location:	Exposed ground in a disturbed area adjacent to residences on Grassmere Grove Road – 5 Smalls Road. The surface has been excavated and scraped with soil mounded. Fill has also been introduced.
Landform:	Gentle hill slope descending towards a minor creek (now filled) 5m to the north.
Description:	One red silcrete flake
Disturbance:	High

IF5	**Isolated Find**
GPS (GDA94):	284666E 6228945N
Location:	Exposed ground in a patch of remnant vegetation extending along the eastern property boundary - 5 Smalls Road.
Landform:	Gentle hill-slope and undulating ground 150m west of the eastern property boundary.
Description:	One red silcrete flaked piece
Disturbance:	Low to Moderate.

5.5 POTENTIAL ARCHAEOLOGICAL DEPOSIT (PAD)

Archaeologists use the term 'Potential Archaeological Deposit (PAD)' to describe areas that have potential to contain intact sub-surface Aboriginal objects or sites. Surface survey results, predictive modelling, and assessment of past site formation processes are used to identify PAD.

Based on the topography, various landforms and landscape context, history of land use and associated disturbance of the soil profile the study area has been divided into zones of High, Moderate and Low potential to contain intact Aboriginal sites and/or isolated objects in subsurface deposits (illustrated in Figure 5.9). This predictive model forms the basis for the various management strategies presented and discussed in Section 8.0.

High Potential Zone: This zone includes intact remnant open woodland that may have been disturbed by unformed vehicle tracks but where there is no evidence of extensive clearing or cultivation. Most of this zone lies above the 100 year flood level suggesting that the likelihood of finding deep stratified archaeological deposits is low. However, relatively shallow open sites and associated deposits may be present in remnant topsoils. The narrow alluvial terrace adjoining the Nepean River may contain deeper deposits buried by past flooding events. Their integrity, however, is likely to be dependent on the gradient of adjacent hill slopes and the intensity of past flooding events.

Moderate Potential Zone: A large portion of the study area falls within this zone. It includes areas where the vegetation has been cleared for grazing or cultivation. Aboriginal sites and/or isolated objects indicated in topsoils across this zone are likely to be disturbed either by cattle trampling, ploughing, slope-wash and / or erosion. Some of the land within this zone lies below the 1 to 100 year flood level and it is possible that intact Aboriginal deposits have been preserved below disturbed topsoils in these areas. The integrity of any Aboriginal sites, below this level can only be determined by archaeological test excavation.

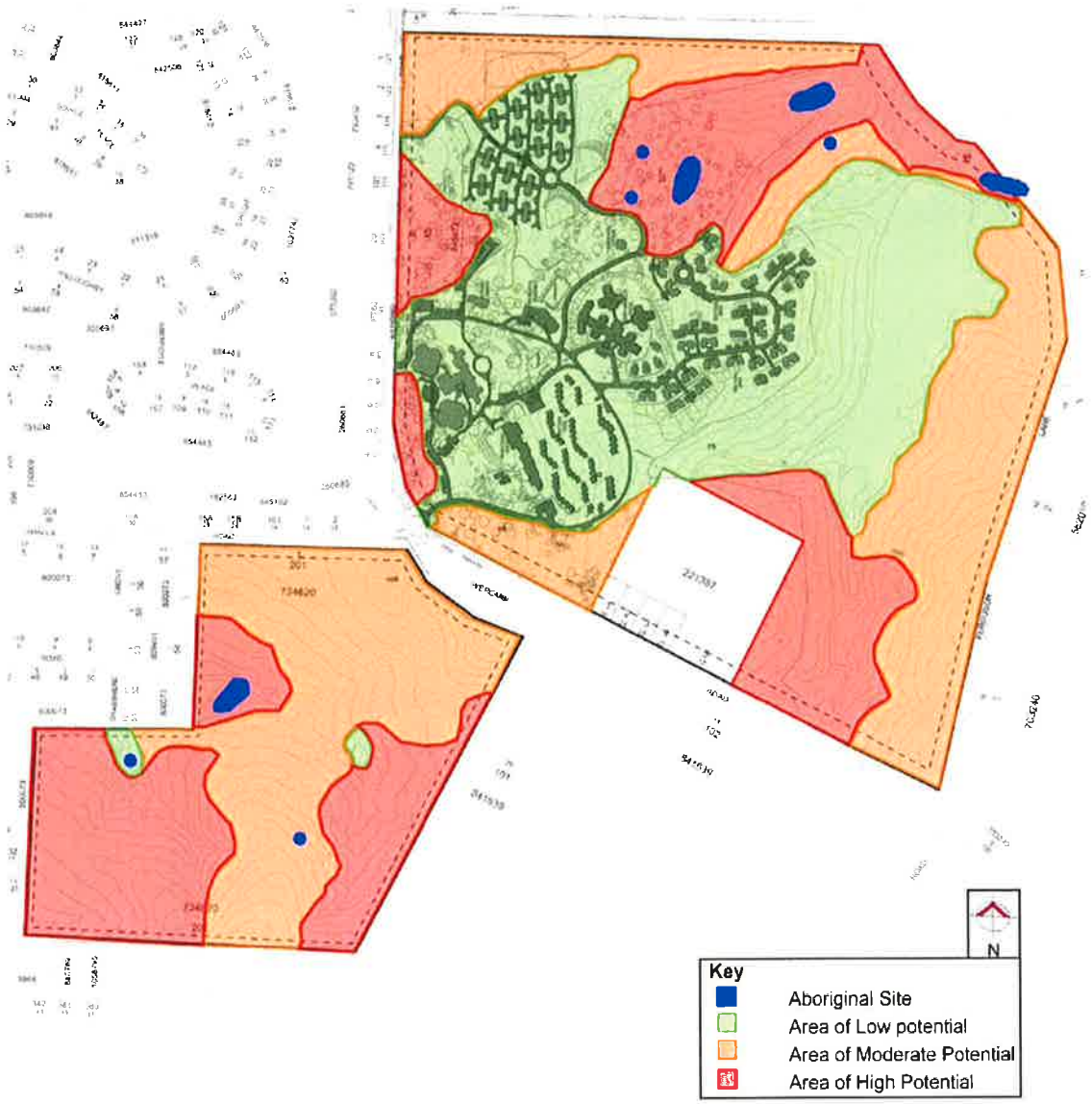

Figure 5.9: Plan showing various zones of archaeological potential across the Study Area.

Low Potential Zone: This zone includes land that has been subject to various development activities, including deep excavation and/or ground scraping, which are likely to have removed and/or disturbed subsurface archaeological material. It includes land developed as part of the Retirement Village, a dam and a disturbed area at 5 Smalls Road adjacent to neighbouring houses.

5.6 REGIONAL COMPARISON AND DISCUSSION

As discussed in Section 4.4, previous archaeological investigations on the Cumberland Plain have demonstrated that open sites are usually found near water sources, although this is likely to be a product of ground surface visibility. Perhaps a more useful observation was made by Smith in her study on the northern Cumberland Plain[27]. More complex high-density open sites were found to be situated near permanent water sources. Given the site's proximity to the Nepean River, it was predicted that artefact scatters and isolated finds were likely to be present in all areas of the study area. However, the concentration and visibility of archaeological material would be dependent on the nature and intensity of past and more recent disturbance activities.

The results of the survey largely conform to this prediction. Surface sites were located on unformed vehicle tracks, where the ground was exposed, or in eroded patches of ground adjacent to either a minor or major watercourse. The presence of material in these areas tends to support the notion that currently obscured open artefacts scatters and shallow archaeological deposits are likely to be present on elevated ground adjacent to major and minor creeks and the River. Deeper buried archaeological material may also be present in intact subsurface deposits below the 100 year flood level.

The surface assemblage found during the present study corresponds with other site assemblages found on the Cumberland Plain. As demonstrated by Smith and McDonald, silcrete and rhyolitic tuff are typically dominant raw materials, followed by quartz, chert, basalt and quartzite. Flaked pieces, including heat fractured stone, flaked artefacts and cores are the most common artefact types found in the area. Less common artefacts include broken axes, hammerstones, scrapers, backed blades and microliths. To obtain a greater understanding of how this assemblage compares to others recorded in the region a more detailed stone tool analysis would be required following the collection of artefacts.

[27] Smith, 1989

6.0 ABORIGINAL CONSULTATION

6.1 DEVELOPMENT OF CONSULTATION

The Tharawal Local Aboriginal Land Council (TLALC) and the Cubbitch Barta Native Title Claimant Aboriginal Organisation (CBNTC) were consulted during the course of this assessment. Representatives from the two groups participated in the survey work: Mr. Lance Syme (TLALC) and Ms. Glenda Chalker (CBNTC).

The recommendations detailed in this report have been developed in consultation with TLALC and CBNTC. Each organisation provided written management recommendations, which were forwarded directly to the client upon receipt. Both letters are included as Appendix 2 and summarised below.

6.2 OUTCOMES OF CONSULTATION

The results of consultation with TLALC and CBNTC regarding the archaeological survey and assessment at Camden can be summarised as follows:

- ***During the survey representatives from both groups indicated that the archaeological evidence found in the study area is culturally significant to the local Aboriginal community. The significance of Site CR2 was particularly noted;***

- ***Both groups voiced their concern about the impact of future development on Aboriginal sites present in the study area and their associated heritage values. They were particularly concerned about future impacts on Site CR2 and on unidentified surface sites and subsurface deposits on the vegetated spur overlooking the Nepean River;***

- ***Following completion of the survey both TLALC and CBNTC requested that the spur associated with Sites CR2, CR3, IF1, IF2 and IF3 be preserved in-situ as a Conservation Area for future generations (See Appendix 2). CBNTC highlighted the integrity and cultural importance of the area and its associated sites and PAD. TLALC indicated that use of the area for stockpiling and disposal of landscaping material should cease immediately and the area be protected from further impacts.***

- ***CBNTC requested that Sites CR1 and CR4 be conserved within buffer zones associated with nearby water sources. TLALC requested that both sites be subject to further investigation prior to any determination on future use of both locations.***

- ***Both groups noted the disturbed location of Site IF4 and agreed to its collection prior to excavation or development.***

- ***CBNTC noted that the area surrounding IF 5 has potential to contain archaeological material in subsurface deposits. Further investigation of the area was therefore recommended prior to excavation or development.***

- ***Given the generally low ground surface visibility both groups recommended that a systematic archaeological test excavation program be undertaken in advance of development in all areas where there is potential for Aboriginal objects and/or sites.*** *These test investigations will be used to identify the presence, nature and significance of objects and sites, which will ultimately feed back into a mitigation plan tailored to the configuration of any development proposal that will affect sites and objects;*

- ***TLALC called for the compilation of a comprehensive Conservation Management Plan to ensure that the Aboriginal cultural heritage resource of the area is appropriately management into the future.*** *Ideally this should be incorporated into the current CMP being developed to manage historic buildings and relics present at the Carrington Hospital site.*

- ***TLALC also indicated that further consultation regarding Aboriginal heritage at the site should be sought from them prior to the development of future development proposals.***

7.0 SIGNIFICANCE ASSESSMENT

7.1 BASIS FOR ASSESSMENT

The significance of Aboriginal archaeological sites is assessed using three criteria: Scientific archaeological (scientific), Cultural (Aboriginal) and Public Significance. These criteria recognise that Aboriginal sites are valuable in a number of ways. Namely:

- To the Aboriginal community as an aspect of their cultural heritage and as part of continuing traditions;
- To the broader community, for educational, historical and cultural enrichment values; and
- To the scientific community for potential research value.

The guidelines outlined in the Draft *NSW National Parks and Wildlife* publication *Aboriginal Cultural Heritage: Standards and Guidelines Kit* provide the basis and background for the following discussion regarding evaluation of site significance.

7.2 CULTURAL SIGNIFICANCE

This criterion concerns the relationship and importance of sites to the Aboriginal community. Aspects of cultural significance include both people's traditional and contemporary links with a given site or landscape as well as an overall concern by Aboriginal people for sites and their continued protection.

Unmodified natural features in the landscape can signify sacred sites/places of significance. As such they are archaeologically invisible and can only be identified with the aid of Aboriginal interpretation. If such sites are known they hold particular cultural significance to contemporary Aboriginal people. Furthermore, sites of significance are not restricted to the period prior to contact with Europeans. Often events related to the Contact-period, and at times to the period since European settlement, may be so important to the local Aboriginal communities that they become significant. If these events relate to a specific place in the landscape, then that place (i.e. the site) may become sacred or highly significant to the local Aboriginal communities.

Consultation with the TLALC and CBNTC indicates that the study area is part of an important cultural landscape. Any evidence of Aboriginal occupation in the area is considered to be culturally significant to the Aboriginal community. The cultural significance of the vegetated spur containing Sites CP2, CP3, IF1, IF2 & IF3 was noted by both groups and it was requested that the area be preserved in-situ as a Conservation Area for future generations.

A systematic archaeological test excavation program was also recommended in advance of development in all areas where there is potential for Aboriginal objects and/or sites.

Please refer to **Section 6.2** and **Appendix 2** for correspondence received from the TLALC and CBNTC regarding the importance of the site and their views with respect to its proposed development.

7.3 PUBLIC SIGNIFICANCE

This assessment criterion concerns a site's potential to educate people about the past. It also relates to the heritage value of particular sites as being representative examples of past lifestyles, why they are important and why they should be preserved.

Further archaeological investigation of Sites CR1, CP2, CR3 and CR4 and areas that have potential to contain intact surface and subsurface archaeological deposits (PAD) may yield information that will better educate people about Aboriginal lifestyles and culture in the Camden region prior to European occupation. The potential scientific significance of these sites and PAD's is discussed below.

7.4 SCIENTIFIC SIGNIFICANCE

The objective of undertaking scientific significance assessment for a site is to determine its research potential in terms of potential contributions to our understanding of the past. Criteria used to evaluate scientific potential include condition/integrity, representativeness and rarity.

Sites CP2 was found within a relatively undisturbed context and contained a very high density of artefacts made from a range of raw materials types, indicating either intense or prolonged use by Aboriginal people. Conjoin artefacts were found indicating that the site has retained a significant level of integrity. Additional items, currently obscured by vegetation and debris, are also likely to be present in intact soils on either side of the vehicle track. Very few high density open sites have been found in the Camden region, particularly along the Nepean River where extensive sand mining and land clearance has taken place. Given its integrity, condition and rarity this site is highly significant from a scientific perspective.

Sites CP1, CP3 and CP4 were also found in relatively undisturbed contexts. In contrast to Site CP2, however, they contained moderate to low artefact densities suggesting short, temporary use by Aboriginal people. Given the poor ground surface visibility it is possible that additional archaeological material is present in surrounding topsoils. Based on current observations, however, these sites appear to be of limited size and density and of moderate scientific significance.

Isolated artefacts (IF1-IF5) and areas of Low Archaeological Potential are unlikely to provide valuable or additional information regarding Aboriginal occupation of the study area and the broader Camden region. They are therefore assessed as being of low scientific significance.

With regards to PAD, land below the 100 year flood level has the potential to contain deeper archaeological deposits sealed by alluvium. If present, these deposits may be intact, chronologically stratified and possibly of a significant age ie Early Holocene. From a scientific perspective, this type of archaeological deposit would be highly significant for its research potential and rarity value. Areas above the 100 year flood level may also contain shallow archaeological deposits and features; however, they are less likely to be stratified and will presumably be less significant with regards to their research value. The scientific significance of PADs can only be assessed via archaeological test excavation.

In general, archaeological surface collection, test excavation and the analysis of sites and PADs within the study area could provide valuable information that contributes towards our current knowledge and understanding of Aboriginal occupation in the Camden area.

8.0 RECOMMENDATIONS

8.1 BASIS FOR RECOMMENDATIONS

The following recommendations are based upon:

- the legal requirements of the *National Parks and Wildlife Act of 1974 [as amended 2001]*, which states that it is an offence to damage, deface or destroy an Aboriginal site or object without written permission of the Director-General DEC; in conjunction with;

- the results of the archaeological assessment of the study area which are documented in this report. This includes the assessment of archaeological significance of the study area and recorded sites; and

- the views and concerns expressed by the Tharawal Local Aboriginal Land Council (TLALC) and the Cubbitch Barta Native Title Claimant Aboriginal Organisation (CBNTC).

8.2 ABORIGINAL CONSULTATION

It is recommended that:

- ***Prior to resolution of future development plans Carrington Centennial Trust consult directly with TLALC and CBNTC regarding the future conservation of the spur containing Sites CP2, CP3, IF1, IF2 and IF3.*** Both groups have highlighted the integrity and cultural importance of this area and its associated Aboriginal sites and PAD. Current use of this area should cease until future management issues are resolved.

- Similarly, future use and development of land at Sites CP1, CP4 and IF5 should be discussed with TLALC and CBNTC prior to determination of development plans. In the first instance, a conservation policy should be adopted.

- Following initial discussions, liaison with TLALC and CBNTC should be maintained until all issues relating to the management of Aboriginal cultural heritage sites within the study area have been resolved.

- TLALC and CBNTC be invited to participate in any archaeological investigations, including sub-surface testing and/or monitoring (if required). Participation of the Aboriginal community in archaeological assessments and excavation is required by DEC;

- A copy of this report and the final Masterplan Study be forwarded to TLALC and CBNTC at the following addresses:

Tharawal Local Aboriginal Land Council (TLALC)	**Cubbitch Barta Native Title Claimant Aboriginal Organisation (CBNTC)**
Attn: Mr. Lance Syme PO Box 20 Buxton NSW 2571	Attn: Ms. Glenda Chalker 55 Nightingale Road Pheasants Nest NSW 2574

8.3 ARCHAEOLOGICAL MANAGEMENT STRATEGIES

A number of strategies are recommended for management of Aboriginal sites and areas that have potential to contain buried Aboriginal sites within the study area. These are illustrated in Figure 8.1 and discussed below.

Conservation

Given the scientific significance of Site CP2, in conjunction with the views expressed by TLALC and CTNTC regarding the cultural significance of its associated environment and surrounding sites, ***it is recommended that the spur, as shown in Figure 8.1, be protected from potential impacts during future development and Sites CP2, CP3, IF1, IF2 and IF3 be preserved in-situ.*** This is most effectively achieved during the planning and design concept stages by configuring future development in such a way as to conserve sites and their surrounds.

One option would be to incorporate the spur as a bushland area or open space that can be used by residents of the Retirement Village. The sites could be effectively managed in this context. A management plan for the area would need to be developed in this instance to ensure that essential works associated with its management, such as drainage works, development of walking tracks, fire management and bush regeneration activities, do not disturb Aboriginal sites or PAD. Alternatively, management recommendations for the area could be incorporated into the current Conservation Management Plan (CMP) for Carrington Hospital.

If this area cannot be retained undisturbed further archaeological investigations will be required and should be undertaken as a component of the test excavation program detailed below. The investigations would include surface collection, subsurface testing, detailed recording and an analysis of the artefact assemblage to fully assess the nature and significance of sites CP2, CP3, IF1, IF2 and IF3. This work should be conducted by a qualified archaeologist and representatives of TLALC and CBNTC.

As specified below, subsurface testing would need to be undertaken in accordance with a *Section 87 Preliminary Research Permit* application to the Department of Environment and Conservation (DEC). Given the cultural significance of the spur, we would also recommend that the developer engage in liaison with TLALC and CBNTC to develop an

Interpretation Plan for the area. This interpretation plan should be designed to communicate the spur's significance, incorporating the results of archaeological investigations.

Text Excavation

A test excavation program is recommended in the areas indicated in Figure 8.1, if they are to be disturbed or affected by future development. This testing program would be undertaken under the terms and conditions of a DEC Section 87 Preliminary Research Permit in collaboration with TLALC and CBNTC. Past experience indicates that DEC will take at least 8 weeks to process an application and the permit will attract a fee of $100.

The program would aim to broadly sample the terrain using a landscape-based approach, focussing on areas assessed as having high archaeological potential, such as relatively level ground adjacent to major and minor watercourses that contain relatively intact topsoils. The program should use a combination of both machine excavated test pits and manually excavated test pits in areas where archaeological deposits were present. Initial sampling will indicate areas that have a low potential for archaeological material, eliminating the need for further investigation.

Testing may be incorporated into the planning and design of various stages of development. However, it should always precede any works that will affect surface and subsurface soils (eg. Installation of services, landscaping etc).

As a standard condition of a *Section 87 Preliminary Research Permit* the results of the test excavation program are to be documented in a report to DEC. This type of report typically assesses the significance of sites and / or objects found during testing and includes management recommendations on how to appropriately mitigate development impacts on the archaeological resource. Mitigation measures can include salvage excavation, monitoring, collection, consent to destroy or preservation in situ, depending on the significance of the finds.

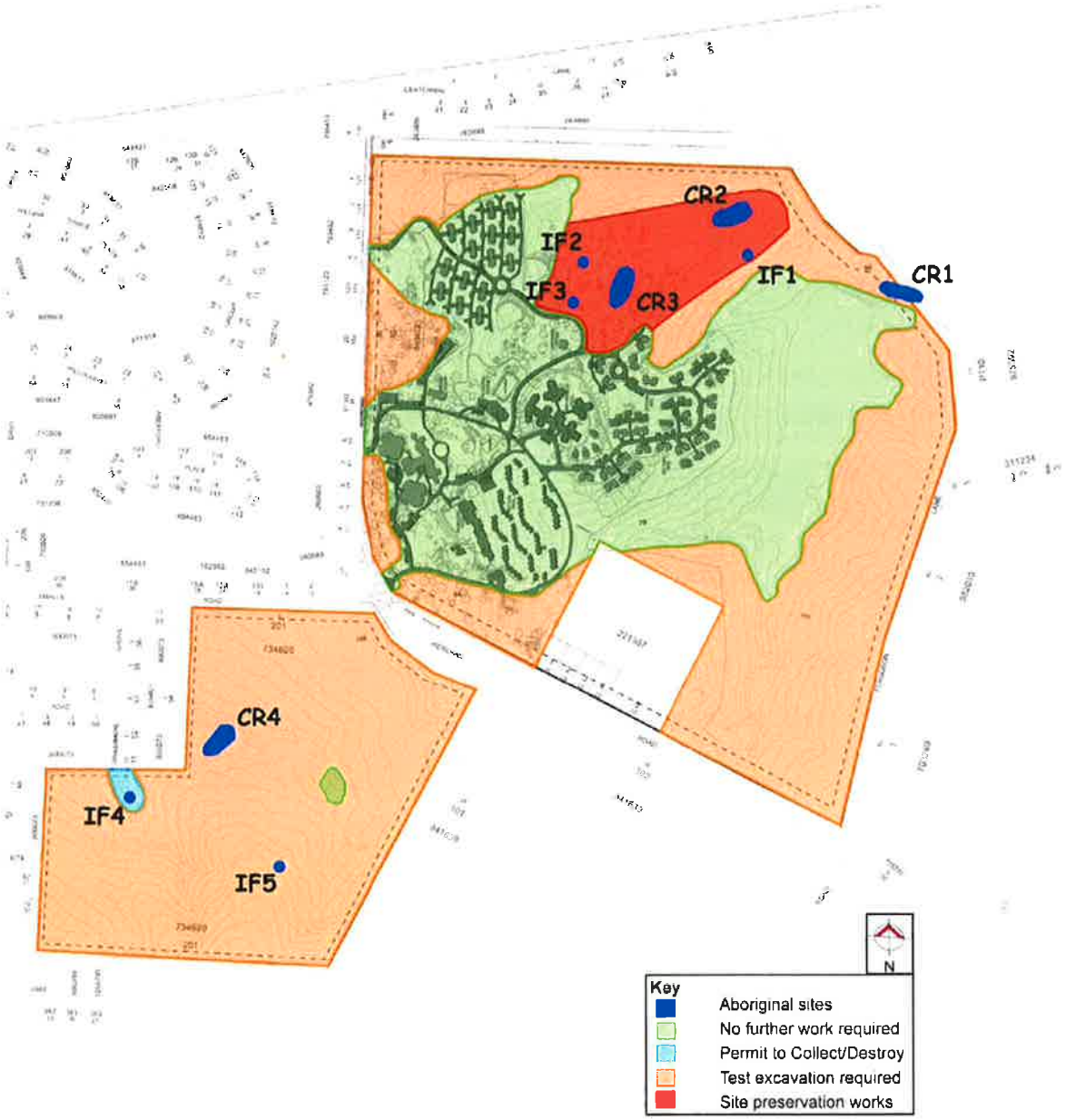

Figure 8.1: Archaeological Management Strategies recommended for the Study Area

Permit to Collect / Destroy

Given the condition and integrity of Site IF4 it is recommended that a *Section 90 Heritage Impact Impact Permit* application be submitted to DEC, if the site is to be affected by works. This application should be submitted after the test excavation program has been completed, as an attachment to the test excavation report.

No Further Work Required

No further archaeological investigations are required in areas where the topsoil and sub-surface soils have been significantly disturbed. These areas are indicated in Figure 8.1. It is highly unlikely that intact Aboriginal archaeological deposits have survived in these areas.

Report Distribution

Three copies of this report should be sent to the DEC Central Aboriginal Heritage Unit together with the Section 87 permit application form, DEC AHIMS site recording forms and a $100 cheque covering the application fee. The DEC address is:

Department of Environment and Conservation
Central Aboriginal Heritage Unit
Attn: Dr Katherine Przywolnik (Archaeologist)
PO Box 1967
Hurstville
NSW 2220
Ph: (02) 9585 6444

REFERENCES

Attenbrow, V. (2002) *Sydney's Aboriginal Past: Investigating the Archaeological and Historical Records*. UNSW Press, Sydney.

Bannerman, S. M. & Hazelton, P.A. (1990) *Soil Landscapes of the Wollongong / Port Hacking 1:100000 Sheet*. Soil Conservation Service of NSW, Sydney.

Brayshaw McDonald Pty Ltd (1992) *Re: Archaeological Survey at Spring Farm Camden*, Letter Report to PPK Consultants.

Dallas, M & Irish, P (2001) *Aboriginal Archaeological Assessment: Spring Farm Urban Release Area*. Report to Camden City Council.

DEC National Parks and Wildlife Service. (1997) *Aboriginal Cultural Heritage: Standards and Guidelines Kit*. Sydney.

Eades, D.K. (1976) *The Dharawal and Dhurga Languages of the NSW South Coast,* Australian Institute of Aboriginal Studies, ANU, Canberra.

English, T. (1994) *Report on the Inspection of a Canoe Tree, Camden, New South Wales on Friday, May 20th, 1994.*

Fitzhardinge, L. F. (1979) *Sydney's First Four Years, A Narrative of the Expedition to Botany Bay and a Complete Account of the Settlement at Port Jackson 1788 – 1791 by Captain Watkin Tench of the Marines.* Library of Australian History: Sydney.

Flood, J. (1999) *Archaeology of the dreamtime: the story of prehistoric Australia and its people* (revised edition), Angus and Robertson, Sydney.

Kohen, J.L. (1986) *Prehistoric Settlement in the Western Cumberland Plain: Resources, Environment, Technology*. PhD Thesis, School of Earth Sciences, Macquarie University, Sydney.

Martin, S. (1986) *Macarthur Region Aboriginal Heritage Study*. Report to JRC Planning Services

McDonald, J. (1997*) Interim Heritage Management Report: ADI Site St Marys. Volume 1: Text*. Report to Lend Lease - ADI Joint Venture in Response to the Section 22 Committee Interim Report.

McDonald, J. (1998b) *Archaeological Survey of two land parcels known as Bona Vista and Fernadell at Pitt Town, NSW.* Report to Don Fox Planning on behalf of Bona Vista and Fernadell Pty Ltd.

Navin Officer Archaeological Resource Management, (1994) *Archaeological Survey of proposed Harrington Park House Estate, Narellan, NSW.* Report to Hassell Planning Consultants.

Oakley, B. A. (1993) *A Survey for Aboriginal and Historic Archaeological Sites. West Camden Sewerage Treatment Plant Stage 2 Upgrade.* Report to Sinclair Knight Consulting Engineers.

Smith, L. (1989) *Final Report: Site Survey and Site Analysis on the Northern Cumberland Plain.* Report to NSW NPWS.

Tindale, N.B. (1974) *Aboriginal Tribes of Australia*, Australian National University, Canberra.

APPENDICES

1: DEC ABORIGINAL SITE RECORDING FORMS

2: ABORIGINAL COMMUNITY CORRESPONDENCE

1: DEC ABORIGINAL SITE RECORDING FORMS

2: ABORIGINAL COMMUNITY CORRESPONDENCE

THARAWAL LOCAL ABORIGINAL LAND COUNCIL (TLALC) REPORT

THARAWAL
LOCAL ABORIGINAL LAND COUNCIL

Fiona Leslie
Archaeological & Heritage Management Solutions Pty Ltd
122c Percival Road Stanmore NSW 2048

Tuesday, 7 December 2004

RE: Carrington Site at Camden

Dear Fiona,

Thankyou for inviting a representative of the Tharawal Local Aboriginal Land Council to participate in the archaeological field survey of Carrington Site at Camden, for Aboriginal sites conducted during November 2004.

During the field survey a total of nine aboriginal sites were identified. These sites consisted predominately of open artefact scatters (flora) and isolated finds (five).

Tharawal Local Aboriginal Land Council elevies that all Aboriginal sites should be preserved regardless of the value placed upon them by archaeologists. The Aboriginal community has intangible links and associations with Aboriginal sites.

TLALC makes the following recommendation based on field survey's carried out during November 2004.

- The sportline associated with CR2, CR3, IF2 & IF3 be reserved as a conservation area. Use of the area for stockpiling and disposal of landscaping material is to cease. There is to be **no present active** utilisation of the area.
- IF4 is situated within a highly disturbed context. TLALC would support the collection of this relic.
- CR1 and CR4 should be the subject of further investigation prior to any determinations on the future use of their locations.
- Given the generally low level of visability a systematic testing program should be initiated for areas of PAD as detailed in Figure 8.1 of your report.
- Prior to any future use of the study area a detailed and comprehensive Conservation Management Plan should be developed and adopted to ensure the Aboriginal cultural heritage resource of the area is adequately managed into the future.

Tharawal Local Aboriginal Land Council reserves the right to amend these recommendations should further information become available. The current position of TLALC regarding these sites should always be sought prior to any future development proposals.

Should you have any queries, I am available on 02 4677 0446.

Regards,

Lance Syme

P.O. BOX 20 BUXTON NSW 2571
220 WEST PARADE COURIDJAH NSW 2571
TELEPHONE (02) 4681 0559 (02) 4681 0799 FAX (02) 4683 1375
tharawal@ideal.net.au

CUBBITCH BARTA NATIVE TITLE CLAIMANT ABORIGINAL ORGANISATION (CBNTC)

Cubbitch Barta Native Title Claimants
Aboriginal Corporation,
55 Nightingale Road,
PHEASANTS NEST, N.S.W. 2574
27th January, 2005.

Ms Fiona Leslie
AHMS
122c Percival Road,
STANMORE, N.SW. 2048.

Dear Fiona,

RE CARRINGTON HOSPITAL
ABORIGINAL SURVEY.

On the 2nd, 3rd & 4th November, I took part in an archaeological survey to identify any Aboriginal sites within the areas of 90 Werombi Road and 5 Smalls Road, Camden. The survey also included yourself and Lance Syme from Tharawal Local Aboriginal Land Council.

The survey was carried out by foot over a three day period, during which time there were four artefact sites and five isolated artefacts identified. There was also identified areas of high potential to contain sub-surface artefactual material.

I believe that the sites identified as CR2 & CR3 are a continuous line of artefactual material, and that the isolated finds identified as IF1, 2 & 3 are artefacts possibly on the outer edge of this area. This area where the sites and isolated finds are located is in relatively undisturbed context. The artefacts are all located along the spur line above the river, and what we see is only a very narrow window, merely exposed by the track that is present. This area would have been used over along period of time by Aboriginal people. Site CR1 is in an area where the possibility of any development, for several reasons would not take place. Site Cr 4 is located just above a creek line. Isolated find 4 is in a highly disturbed area, where there has been a large amount of soil and debris deposited near where the artefact was located near the creek. Isolated find 5 was located high up on a spur line above an unnamed creek.

Recommendations;
1. Sites identified as CR2 & CR 3 should be included in a conservation area, along with the isolated finds IF1, 2 & 3, they are all within the vegetated area along the spur line above the Nepean River.
2. Site CR1 is in an area out of any impact, and is protected by its closeness to the river, and being within the flood line, and should also be included in the conservation plan.
3. Site CR 4 is just above the creek line and if any development takes place in this area, the possibility of including the site, in a buffer zone should be a high priority to the management of this site.

4. Isolated Find 5 is border line to an area that has been identified as having a high potential to contain subsurface potential. This area requires further investigation prior to any excavation or development taking place.
5. Isolated Find 4, because of the highly disturbed context where it is , a permit to collect should be sought prior to any excavation or development.
6 Any other areas identified as having a high potential will require further investigation prior to any excavation or development taking place.

A lot of our culture has been lost in the past in the Camden area, because of the early impact by colonists and the destruction by the massive development in the area. Now is the time for such small areas to be preserved for the posterity of Aboriginal and Non-Aboriginal to know and understand the culture of my ancestors who belonged to the land, that is now the subject of this study.

I thank you for the opportunity of allowing me just a little more of the insight on the life of my ancestors. Cubbitch Barta people were mentioned in your report. I am a descendant of those people and are proud of my ancestry.

Yours truly,

G. Chalker

Glenda Chalker
Hon. Chairperson
02 46 841129