Godden Mackay Logan
Heritage Consultants

Horsley Park, Lot A DP392643

Heritage Assessment Report

Revised Report prepared for Jacfin Pty Ltd
March 2011

CONFIDENTIAL

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Report Register

The following report register documents the development and issue of the report entitled Horsley Park, Lot A DP392643—Heritage Assessment Report, undertaken by Godden Mackay Logan Pty Ltd in accordance with its quality management system. Godden Mackay Logan operates under a quality management system which has been certified as complying with the Australian/New Zealand Standard for quality management systems AS/NZS ISO 9001:2008.

Job No.	Issue No.	Notes/Description	Issue Date
10-0255	1	Draft Report	5 August 2010
	2	Revised Report	17 August 2010
10-0457	3	Aboriginal Stakeholder Review	18 November 2010
	4	Revised Aboriginal Stakeholder Review	25 November 2010
	5	Revised Report for Department of Planning Review	17 February 2011
	6	Revised Report following Department of Planning Review	15 March 2011

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1.0 Introduction

1.1 Preamble

Godden Mackay Logan Pty Ltd (GML) has been engaged Jacfin Pty Ltd to prepare an Indigenous and non-Indigenous Heritage Assessment for a site at Horsley Park (Lot A DP392643). This report has been prepared to:

- identify known and potential Aboriginal and historical archaeological heritage within the site; and
- provide advice regarding the management of the known and potential archaeological resource.

This assessment will:

- form part of the Concept Plan for the site; and
- form part of the Stage 1 Project Application for the site.

1.2 Site Location

The Horsley Park site, hereafter referred to as the subject land, is located within the Penrith Local Government area approximately 40km to the west of Sydney CBD (Figure 1.1 & 1.2). The subject land is legally known as Lot A in Deposited Plan 392643 and is approximately 100ha in size.

The subject land's northern and eastern boundaries form the boundary between Penrith and Fairfield Local Government areas. It lies approximately 550m to the south of the Sydney Catchment Authority (SCA) water supply pipeline. To the north and west the subject land adjoins land that also forms part of Precinct 8 of the Western Sydney Employment Area (WSEA). To the east, the subject land adjoins a PGH brickworks facility owned by CSR Limited and a number of rural residential properties to the south of that facility; beyond that are multiple small rural holdings and Horsley Park. To the south of the subject land are rural residential areas known as Capitol Hill and Mt Vernon.

1.3 Scope

The report has been prepared in accordance with the 'Aboriginal Cultural Heritage Standards & Guidelines Kit' to satisfy the Department of Environment, Climate Change and Water (DECCW), in response to the requirements of the *National Parks and Wildlife Act 1974* (NSW) and with DECCW Guidelines under Part 3A of the Environmental Planning and Assessment Act 1979 relating to Aboriginal Cultural Heritage Impact Assessment and Community Consultation. The report has been prepared in accordance with the NSW Heritage Manual's 'Archaeological Assessment' in reference to historic heritage. The scope of the work for this project included the following tasks:

- a review of previous historical and Aboriginal research within the vicinity of the study area;
- a search of the Aboriginal Heritage Information Management System (AHIMS) for known Aboriginal objects and/or sites within the vicinity of the study area;
- a search of heritage registers (including the State Heritage Register and State Heritage Inventory) to identify known non-Indigenous heritage sites;

- historical research for the study area, including analysis of historical plans and maps to determine the locations of any former existing structures and buildings;
- consultation with Aboriginal parties who registered an interest in the project through the consultation process;
- development of a predictive model for the study area based on the background research;
- inspection of the proposed development area to identify visible archaeological objects/relics and/or heritage items, sites and places and assessment of their potential to contain subsurface cultural material;
- assessment of the archaeological significance of those relics/objects;
- assessment of the impacts of the proposed Concept Plan and Stage 1 Project Application;
- the providing of recommendations to guide future planning for the site; and
- preparation of a report that complies with NSW Heritage Council, DECCW and Part 3A guidelines.

1.4 Limitations

This report has been prepared to inform the concept plan and project plan application for the site and to form the basis of a heritage impact assessment. It contains sufficient detail to inform recommendations for the future management of the potential archaeological resource.

The conclusions of this report are based on a surface survey of the site. No excavation was undertaken. Although maximum site coverage was attempted, thick grass cover limited the ground surface visibility over most of the subject land. One hundred per cent coverage of the site was not possible.

1.5 Authorship and Acknowledgements

This report has been prepared by Lyndon Patterson, Consultant and Archaeologist and Seána Trehy, Consultant and Archaeologist. The site survey and consultation was undertaken by Lyndon Patterson and Sally MacLennan. Michelle Richmond, Senior Consultant and Historian, prepared the historic background. The report has been reviewed by Reece McDougal, Special Advisor, Godden Mackay Logan.

GML would like to acknowledge the assistance of Jennie Buchanan of JBA Planning and Jackie Waterhouse of Jacfin.

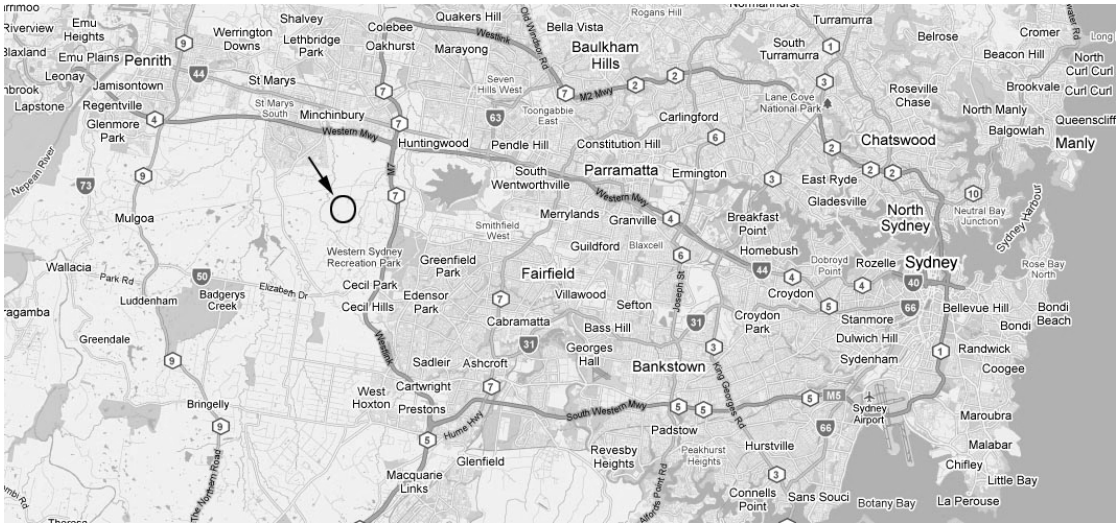

Figure 1.1 Map showing the general location of the subject land within the Sydney Metropolitan area. (Source: Google Map with GML additions 2010)

Figure 1.2 Aerial photograph of the subject site, which is outlined in red. (Source: Google Map with GML additions 2010)

2.0 Statutory Context

2.1 Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act) provides a statutory framework for the determination of development proposals. It distinguishes between:

- Part 3A development—A single assessment and approval system for major development and infrastructure projects in which the provisions of certain legislation do not apply; and
- Part 4 development—Development that must comply with all relevant statutory planning instruments and legislation, including the *Heritage Act 1977* (NSW) (the Heritage Act) and the *National Parks and Wildlife Act 1974* (NSW) (NPW Act).

The proposed redevelopment of the subject land is a 'Major Project' under Part 3A of the EP&A Act. Under Part 3A, contain provisions of the Heritage Act and the NPW Act do not apply.

Insofar as the potential archaeological resource is concerned, a determination by the Minister that a development is a Part 3A matter means:

- an excavation permit issued pursuant to Section 139 of the Heritage Act is not required for non-Aboriginal archaeology; and
- a permit under Section 87 or consent under Section 90 of the NPW Act is not required for potential Aboriginal archaeology.

However, the Minister will still require that appropriate measures be taken for the management of the potential archaeological resource by other means.

This report has been prepared as part of the environmental assessment (EA) for the proposal to accompany an application to the Department of Planning for approval under Part 3A of EP&A Act. The Director General's Requirements (DGRs) for the Jackfin Horsley Park Project issued on 12 August 2010 included provisions for heritage including Aboriginal and non-Aboriginal heritage. This Heritage Assessment Report responds to the DGRs in Section 4, 5, 6 & 7 of this report and has undertaken this assessment in a manner consistent with the DECCW Guidelines and Standards for Aboriginal Heritage and the NSW Heritage Manual and Burra Charter for non-Aboriginal heritage.

2.1.1 Consideration of Part 3A Guidelines

This Heritage Assessment has been undertaken in accordance with DECCW Guidelines under Part 3A of the Environmental Planning and Assessment Act 1979 relating to Aboriginal Cultural Heritage Impact Assessment and Community Consultation. It follows the listed steps in undertaking the assessment, consulting with the Aboriginal community, determining the impact of the proposal on the Aboriginal heritage and recommends mitigation measures and strategies to manage Aboriginal heritage values.

The preliminary assessment and desk top review was undertaken using a 'multi-value' approach to identify whether there are Aboriginal cultural heritage values associated with the subject site. This included the consideration of the landscape, local Aboriginal ethno-history and historical context (Section 3.0 of this report), review of the Aboriginal Heritage Information Management System (AHIMS) for registered sites in the local area (Section 4.3.1), archaeological models for the

Cumberland Plain (4.3.2) and any previous archaeological investigations (4.3.3). Other data sources such as the State Heritage Register, relevant Environmental Planning Instruments, the Commonwealth and National Heritage list and the Register of the National Estate were also searched in relation to the study area. Special consideration was given to any site types likely to be in the study area (Section 4.4). This revealed the subject land contained no previously identified sites; a function of an absence of formal archaeological survey, rather than an absence of Aboriginal sites.

The Assessment documents the consultation process and information received from the Aboriginal community that will be included in the final assessment report. Such an approach is consistent with the Part 3A Guidelines and aims to establishing social and cultural values includes the spiritual, traditional, historical or contemporary associations and attachments for any place or area in the subject property.

Initial consultation including field survey has been conducted with the Deerubbin Local Aboriginal Land Council. In addition, following advertisement a register of Aboriginal stakeholders who have an interest in the project has been prepared and consistent with DECCW Guidelines. The registered stakeholders have subsequently participated in a site visit. Copies of this Assessment have been forwarded to each of the six registered organisations for review and comment and an invitation to include their cultural statement for inclusion in the report.

The field survey located one new Aboriginal site; a surface artefact scatter located predominantly on a dam bank wall. Standard archaeological field survey techniques were employed during the site survey.

Consistent with the Guidelines potential impacts from the proposed development were identified and measures were recommended to mitigate such impacts and management strategies that should be adopted to manage Aboriginal heritage in subject property. Such measures and strategies will be consistent with consultation outcomes from the Aboriginal community.

2.2 The Heritage Act 1977

The Heritage Act is a statutory instrument designed to conserve New South Wales's environmental heritage.

Archaeological features and deposits are afforded automatic statutory protection by the 'relics provisions' of the Heritage Act. Section 139[1] states that:

> *A person must not disturb or excavate any land knowing or having reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed unless the disturbance or excavation is carried out in accordance with an excavation permit.*

A 'relic' is defined to mean any deposit, object or material evidence that:

> *(a) relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and*
>
> *(b) is of State or local heritage significance*

In other words, where archaeological relics, or the potential for archaeological relics, are identified at a site, an application for an excavation permit is ordinarily required.

There are no items within the subject land that are listed on the NSW State Heritage Register.

2.3 National Parks and Wildlife Act 1974

Aboriginal cultural heritage in NSW is principally protected and managed under the NPW Act. Under this Act, the Director General of the Department of the Environment and Climate Change and Water (DECCW) is responsible for the care and protection of all Aboriginal objects (sites, relics and cultural material) and places in NSW. The Act is administered by DECCW which has responsibilities—including approvals and enforcement functions—under the legislation.

Section 5 of the Act defines an 'Aboriginal object' as:

> *any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains.*

Under Section 84, the Act defines an 'Aboriginal place' as:

> *any place specified or described in the order, being a place that, in the opinion of the Minister, is or was of special significance with respect to Aboriginal culture.*

Aboriginal cultural heritage can include human remains and burial sites, scarred trees, artefact scatters, shell middens, rock art, engravings, ceremonial or dreaming sites and natural features that are particularly significant to Aboriginal people. It can also include places with important Aboriginal associations since European settlement.

Under Sections 86 and 87 of the Act, it is an offence to collect, disturb or excavate any land, or cause any land to be disturbed or excavated, for the purpose of discovering an Aboriginal object without a Section 87 permit authorised by the Director General of DECCW (sometimes referred to as a 'research permit').

Similarly, under Section 90 of the Act, 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 place without first obtaining consent from the Director General (sometimes called a 'consent to destroy'). Under Section 90, consent can only be granted by applying for a Heritage Impact Permit, which must be approved by the Director General.

Section 91 requires anyone who discovers an Aboriginal object to notify the discovery to the Director General of DECCW.

Identified objects and sites are registered on the Aboriginal Heritage Information Management System (AHIMS), which is managed and maintained by DECCW. The AHIMS is a database for all Aboriginal objects, Aboriginal places and other Aboriginal heritage values in NSW that have been reported to DECCW. An Aboriginal object is considered to be 'known' if it is registered on AHIMS, is known to the Aboriginal community, or is identified during an investigation of the area conducted for a development application. Aboriginal objects and places are afforded automatic statutory protection in NSW under the Act. This protection applies irrespective of the level of their significance or issues of land tenure. Sites of traditional significance that do not necessarily contain material remains may be gazetted as Aboriginal places and thereby be protected under the NPW Act. However, areas are only gazetted if the Minister is satisfied that sufficient evidence exists to demonstrate that the location was and/or is of special significance to Aboriginal culture.

The need for approval (either under Section 87 or Section 90) is determined by the nature of the proposed works and thus any potential impact on Aboriginal objects or places. In considering

whether to issue a Section 90 permit, DECCW will consider the significance of the object or place that would be subject to the proposed impact, as well as the effect of the impact and mitigation that is proposed. Alternatives to the proposed impact would also be considered, as would the conservation outcomes that would be achieved if consent for impact was granted. Integral to consideration of any permit application is the outcome of Aboriginal community consultation with regards to the proposed impact.

In order to inform this decision, DECCW often requires further investigation of a site through a Section 87 research permit or as a salvage condition of a Section 90 Aboriginal Heritage Impact Permit. In either scenario, Aboriginal community consultation conducted in accordance with the DECCW's *Aboriginal cultural heritage consultation requirements for proponents 2010* is required.

A search of the AHIMS reveals there are no previously recorded sites in the subject land. Within a 4km^2 search area around the subject land, 46 Aboriginal objects have been recorded.

2.4 Penrith Local Environment Plan (LEP) 1991

2.4.1 Background

Penrith LEP 1991 is the main planning instrument currently in force for regulating heritage conservation in Penrith City's residential and commercial areas. This plan will remain in force for the residential and commercial areas within Penrith's CBD but will be replaced in due course by the Draft LEP 2008 for the rural and industrial areas and for the St Marys Town Centre. This LEP sets out Penrith Council's heritage conservation objectives and controls for protection of heritage items and heritage conservation areas.

Draft Amendment No.1 to Penrith Local Environmental Plan 1991 (Environmental Heritage Conservation)

Penrith City Council has prepared an amendment (Draft Amendment No.1) to Penrith Local Environmental Plan 1991 Environmental Heritage Conservation. This plan has been prepared to both bring the heritage provisions of Penrith LEP 1991 Environmental Heritage Conservation into line with the heritage provisions in Draft Penrith Local Environmental Plan 2008, and to add and remove items from the schedule in accordance with the recommendations of the Heritage Study. This amendment, which was endorsed by Council in July 2010, will ensure that heritage conservation provisions are consistent across the City, and that all significant items, conservation areas and archaeological sites are protected.

The 1991 LEP and the Draft Amendment No. 1 do not identify any part of the subject land as a 'potential place of heritage significance'.

2.4.2 Draft Penrith Local Environment Plan 2008

Penrith Council has prepared a new Local Environmental Plan (LEP) for the rural and industrial areas and the St Marys Town Centre. The Draft Penrith LEP 2008 is the first stage of complying with the requirement of the State Government to have a single LEP in place by 2011. Clause 5.10 of the Draft LEP applies to all heritage items listed in Schedule 5 including heritage items, conservation areas and archaeological sites and sets out heritage objectives and controls. The Draft Penrith LEP 2008 has been exhibited and is expected to be in place by 2011.

The new version of Penrith LEP 1991 will fully replace the old version. Items which are currently listed under Penrith LEP 1991 but which are not listed in the amendment to Penrith LEP 1991 are

probably listed in Schedule 5 of Draft Penrith LEP 2008. If they are not listed in either plan, they may have been destroyed or the Heritage Study may have recommended they no longer be listed.

No part of the subject land has been identified as a heritage item in Schedule 5 (Parts 1–3) of the Draft LEP and the area is not located within a conservation area. There are a small number of heritage items identified in Schedule 5 (Part 1) in the vicinity of the subject land. These items are identified in Section 5.2 of this report.

2.5 Commonwealth Heritage List, National Heritage List and the Register of the National Estate

The *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) creates/governs the following heritage lists:

- the National Heritage List—places of outstanding heritage value to the nation;
- the Commonwealth Heritage List—places that embody identified Commonwealth Heritage values; and
- the Register of the National Estate—a list of heritage places that is presently being phased out but is still a relevant consideration for the Minister for the Environment, Heritage, Water and the Arts.

The subject land is not listed on these registers.

2.6 State Environmental Planning Policy (Western Sydney Employment Area) 2009

Pursuant to SEPP (WESA) 2009 the site is zoned predominantly IN 1-General Industrial with an E2 Conservation Zone located on the natural drainage line running north west from the centre of the site.

3.0 Landscape and Historical Context

3.1 Environment

3.1.1 Geology

The dominant geology of the subject land and the wider Cumberland Plain is the Triassic Period (251–200 million years ago) Wianamatta Group, which is divided into three formations: Ashfield Shale, Minchinbury Sandstone and Bringelly Shale. The Ashfield Shale consists of black and grey siltstone and laminite. This is overlain by Minchinbury Sandstone which consists of fine to medium-grained quartz lithic sandstone. This is overlain by Bringelly Shale, which consists of claystone and siltstone, carbonaceous claystone, laminite and fine- to medium-grained lithic sandstone.[1] In the northern part of the subject land there is an isolated area of basalt, dolerite, volcanic breccia etc[2], which is visible on the ridgeline surface.

3.1.2 Hydrology

The subject land is located within the Hawkesbury-Nepean catchment. The property contains a number of small unnamed drainage lines which all flow from east to west towards Ropes Creek, which lies approximately 600m to the west of the site. Ropes Creek flows in a northwesterly direction, joining South Creek near Ropes Crossing, which in turn flows into the Hawkesbury River.

Studies have shown that the Aboriginal people favoured locations close to permanent sources of water for their campsites. As such, large and complex artefact scatters or camp sites on the Cumberland Plain are located along prominent waterways or at the confluence of creeks. This form of predictive modelling based on hydrology is further discussed in Section 4.3.2.

3.1.3 Soils

The soil type in the subject land is known as the Blacktown Soil Unit which covers large parts of the Cumberland Plain. This soil unit contains shallow to moderately deep mottled soils

The topography of this soil unit is described as gently undulating rises on Wianamatta Shale with local relief ranging 10-30m, with gentle slopes of less than 5%, but occasionally up to 10%. Wide rounded ridges and crests dominate the landscape measuring 200-600 metres wide[3]. Shale generally does not appear on the surface, but does however occur in areas of disturbance. The soils can be divided into friable brownish black loam to clay loam forming the topsoil (A horizon), hardsetting brown clay loam to silty clay loam forming the A_2 horizon, strongly pedal, mottled brown light clay forming the B horizon and light-grey plastic moddled clay forming the C horizon.[4] Areas of alluvium may occur along the natural drainage line downstream of the large dam in the centre of the property.

3.1.4 Climate

The climate of Horsley Park is temperate with cool winters and warm to hot summers. January is the warmest month in Horsley Park, with the average daily temperatures ranging from a minimum of 17.6°C to a maximum of 29.8°C. July is the coolest month, with average daily temperatures ranging from overnight minimum of 5.8°C to a high of 17.1°C; and frosts are common in winter. The average annual rainfall for Horsley Park is 747mm and totals are highest in the summer months and lowest in the winter months.[5] The Cumberland Plain is located in the rain shadow of the higher coastal plateau of the Blue Mountains that captures rain from the prevailing winds from the

southeast.[6] As such, the rainfall in the western Cumberland Plain is considerably lower than that of the adjacent Blue Mountains and coastal Sydney. The climate of the last 1,000 years is noted to have been similar to that of today[7], so the Horsley Park area would have been suitable for occupation by Aboriginal people in the past.

3.1.5 Flora and Fauna

Before European settlement, the Cumberland Plain was covered with open forest and was home to diverse flora and fauna which would have been an essential resource to the local Aboriginal inhabitants. Through European land clearance and farming practices—which commenced in the area in the early nineteenth century and were followed by the development of housing, roads and services—much of the area has been cleared of its original forest cover. The subject land itself has been cleared of native vegetation and is now pasture. The wider area outside the subject site today is characterised by cleared dry sclerophyll forest with the dominant species being spotted gum (*Eucalyptus maculata*) and grey box (*E. moluccana*). Understorey shrubby species include hickory (*Acacia implexa*) and blackthorn (*Bursaria spinosa*), while grasses include kangaroo grass (*Themeda australis*) and speargrass (*Aristida vegans*).[8] A range of faunal species exist throughout the Cumberland Plain including eastern grey kangaroo (*Macropus giganteus*) and a range of wallaby, wombat and possum species. Swan and duck species frequent the wetlands and creeks in the surrounding area. The plants and animals in the area would have provided Aboriginal people with a varied diet in the past.

3.2 Ethnohistory and Aboriginal Social Structure

3.2.1 Contact History and Population Size

Looking at the ethnographic record, when the first Europeans came in contact with the local Aboriginal inhabitants in the late eighteenth and early nineteenth centuries they described the area as being part of the Darug (or 'Dharug', 'Dhar'-rook' or various other spellings—see Attenbrow 2002 table 3.3[9]) language group.[10] Twentieth-century ethnologist Norman Tindale's map of Aboriginal tribes of Australia[11] shows the area of the Cumberland Plain to be occupied by the 'Daruk'; similarly Horton's map of Aboriginal Australia[12] shows the same area as 'Dharug'. At the beginning of the twentieth century, anthropologist and linguist RH Matthews documented the location of this language group:

> *The Dhar'-rook dialect, very closely representing the Gundungurra, was spoken at Campbelltown, Liverpool, Camden, Penrith, and possibly as far east as Sydney, where it merged into Thurrawal.[13]*

Language groups were broken into a number of small groups called 'bands' (or extended family groups). Scholars[14] identified 13 inland Darug clans, the closest to the Horsley Park area being the Cannemegal clain located at Prospect, Mulgoa clan located at Penrith and the Gomerigal-tongara, possibly being located along South Creek. 'Mulgoa' is believed to be the Darug name for the Mulgoa area and means 'black swan'.[15]

Determining the population of Aboriginal people at the time of European contact is notoriously difficult. Firstly, Aboriginal people were largely mobile and avoided contact with Europeans. Further, many Aboriginal people perished from European diseases—such as smallpox—some time after contact or through clashes with the new settlers, so the population statistics gathered in the early years are not accurate or reliable. Population estimates for the greater Sydney region, including the lower Blue Mountains, generally range from 4,000 to 8,000 at the time of European contact.[16] Specifically within the western Cumberland Plain, Kohen[17] estimated the population to be

between 500 and 1,000 people at the time of contact, with a minimum population density of 0.5 people/km^2.

The Aboriginal population of the Sydney region declined significantly following the arrival of Europeans, as they brought with them diseases to which the Indigenous inhabitants had little or no resistance. The smallpox epidemic of 1789 was particularly deadly and spread throughout the Aboriginal population. The Governor of New South Wales, Arthur Phillip was reported to note dead Aboriginal elderly people and children around Sydney Harbour in 1789.[18] Smallpox had quickly spread west to the Cumberland Plain by the time of Governor Phillip's expedition to the Hawkesbury–Nepean River in April 1791. The smallpox epidemic is thought to have caused the death of well over half of the Aboriginal population of the Sydney region within one year.[19] Butlin argued that prior to the 1780s Aboriginal people in southeastern Australia had not been exposed to smallpox and estimated that 80 percent of them died.[20] The widespread death from smallpox would have had an enormous impact on the social life of Aboriginal people in the Sydney region at the time, including mourning the family members who perished, the loss of elders' knowledge, the survivors fleeing inland to escape the disease and the depopulation of some areas.

Despite these early problems of the impacts of European diseases and depopulation, Aboriginal people continued to live in the region into the twentieth century and today are represented by many local organisations.

3.2.2 Material Culture and Diet

The material culture of Aboriginal people in the Cumberland Plain at the time of European settlement was diverse and utilised the local materials at hand including plants, animals and stone. The use of plant materials was widespread, with many items being made from bark and wood including shelter, canoes, weapons, tools and items of personal adornment. Canoes were noted on the Hawkesbury–Nepean River and ranged in length from 2.4m to 6m.[21]

Spears were made of wood, with stone, bone, wood or shell barbs attached using resin. Wood was also used for axe handles, bowls and women's digging sticks, used to obtain yams and other tubers.[22] Boomerangs and clubs were made from hardwoods and were used in hunting. 'Boomerang' is believed to be a Darug word.[23] Besides plant materials being used to create useful items, Sydney's vegetation communities include over 200 species that have edible parts, including seeds, fruits, tubers, leaves, flowers and nectar.[24] Some plant products also had medicinal or ceremonial use.

Land mammals on the Cumberland Plain were hunted and eaten including kangaroos, wallabies, possums, gliders, fruit bats and kangaroo-rats. Birds were also hunted and eggs were collected for eating. Freshwater food resources available in the Hawkesbury–Nepean catchment included eel, fish, crayfish, yabbies, shellfish, platypus and water rat. Reptiles including snakes, lizards and tortoises were caught and eaten.[25]

Stone was the basis for many of the tools and was used for axe heads and barbs on the ends of wooden spears. From the ethnographic record, the son of settler William Cox, writing in 1875, described seeing ground-edge stone axes 'in the hands of the greater number of the natives of the tribes which once inhabited the Valley of Mulgoa near Penrith'.[26]

As can be seen from the ethnographic record, the natural environment of the Cumberland Plain provided Aboriginal people with a wide variety of plants, animals and stone that were used for food, medicine and artefact manufacture.

3.3 European Historical Overview

The study site on 316 acres lies across two original grants near Rooty Hill. The first was to Major (later Lieutenant-General) George Johnson of 2000 acres known as *Kings Gift* granted to him by Governor King for his part in putting down the Irish Rebellion at Vinegar Hill in 1804. The second, containing 600 acres was granted to his son George Johnson Jnr by Governor Macquarie on 10 June 1815 and known as *Lockwood* (See Figure 3.2).

George Johnson Jnr was killed tragically in 1820 aged 31 years [27] and his 600 acres was left to his parents George and Esther Johnson.

George Johnson Snr resided on his estate Annandale, near Sydney and is thought to have left his land near Rooty Hill idle. When George died in 1823 his properties near Rooty Hill which included *Kings Gift*, *Lockwood* plus the 200 acres granted to Henry Kable in 1819, were inherited by three of his children, Blanche, Robert and David Johnston. Over the next few decades they swapped parcels of land between themselves.[28] Blanche married Major George Nicholas Weston in 1829, a Lieutenant in the East India Company Service. Following two years in India, the Westons returned to Australia and in 1832 built an Indian Colonial homestead on part of *Kings Gift*, which they named Horsley, after George's birthplace in Surrey, England. Horsley homestead still stands at 52 to 58 Jamieson Close, Horsley Park and the name is now given to the surrounding suburb. The farm, being well wooded produced timber carted to sawmills for many years. The Weston's predominant interests were agriculture and raising stock including fine blookstock race horses. A Sydney Morning Herald report of 29 August 1844 described 31 horses belonging to Blanch Weston and her brothers Robert and David Johnston loaded onto the Blindell bound for Calcutta.[29] In 1847 a conveyance of partition separated Robert Johnston's land.

Robert Johnston was a Captain with the British Navy but following the sudden death of first his brother and then three years later his father, was forced to remain in Sydney and entered into agricultural and pastoral pursuits with his brother David Johnston. In 1831 he married Fanny Weller of Hammershaw County, Buckinghamshire, England, and had a family of seven sons and two daughters. [30] Robert inherited Annandale House from his father and resided there with his family until 1877 when he sold Annandale Farm and moved to Petersham. His land near Rooty Hill was most likely used for some of his various pastoral pursuits.

Robert Johnston transferred the Rooty Hill land to his wife Fanny in 1872. This included the 600 acres of *Lockwood* plus 200 acres which had been granted to Henry Kable in August 1819 and a portion of *Kings Gift*. Robert died in 1882.

Fanny brought the land which included 1,023 acres 3 rood 21 perches (See Figure 3.1) under the Real Property Act in 1885 with a Certificate of Title issued at Volume 872 Folio 16. She then transferred the property to her three sons, George Horatio, Robert Percy and Percival Johnston in 1890. Robert Percy died in 1897 and his share in the property was inherited by Francis N Alldritt. Fanny died in 1896.

In 1905 the entire property was sold to Andrew Thompson of St Marys, master farmer who continued to farm the land until his death in 1919.

The whole property was resumed by the Crown for the purpose of the Closer Settlement Act and the Settlement Purchase by Discharged Soldiers, in April 1920. The Closer Settlement Acts (NSW) were introduced by the New South Wales parliament between 1901 and 1909 to reform land holdings and in particular to break the squatters' domination of land tenure. The passage of the

Returned Soldiers Settlement Act 1916 (Act No. 21 1916) allowed the settlement of returned soldiers on Crown and Closer Settlement lands.

When applying for land, an ex-serviceman was required to complete a Qualification Certificate which was a declaration of his or her status as an ex-service person and eligibility for land. This Certificate was then presented to the Returned Soldiers' Classification Committee and forwarded with the application to the Local Land Board for processing.

The 1,023 acre property was included in Settlement Purchase Number 1920/11. This land was then subdivided and re-granted.

In 1937 part of this land described as Portion 81 of the Parish of Melville containing 307 acres 2 roods, together with a small portion of land which became part of the resettlement scheme in 1928 and was described as Portion 86 of the Parish containing 8 acres 2 roods, was re-granted to Dorothy Grace Richardson and her sister Florence Alberta Richardson, from St Marys (see Figure 3.3).[31] Presumably their father had been a returned soldier. The sisters leased the property in 1939 to AH Collette Pty Limited, a firm involved in the dairying and milk industry whose founder Arthur Collette was Mayor of Parramatta on numerous occasions. In 1946 Dorothy married Robert Collett and sold her share in the property to her sister Florence. AH Colette Pty Limited took out a second lease on the property in 1954.[32] It is thought they used the land to graze cattle.

An aerial photograph of the property from 1947 shows a house and surrounding farm buildings constructed in the northwest corner of the site. A line of trees had been planted on the western and northern boundaries of the homestead paddock (see Figures 3.5 and 3.5b). A further aerial photograph from 1955 shows that additional farm buildings had been constructed on the western side of the farm house (see Figures 3.6 and 3.6b). By 1961 aerial photographs show the farmhouse in a ruinous condition and by 1965 it is no longer shown on the site and only the line of trees to the west of the house remain.[33]

A small portion of the property (Lot B DP 392643) was sold to Walter Henry in 1954 and in 1960 Florence sold the remainder of the property (Lot A DP 392643) to Raymond Edward Fitzpatrick of Bankstown, who was described in the land titles records as being a farmer and grazier (see Figure 3.4). [34]

Fitzpatrick was a well known Sydney identity being a businessman and the proprietor of the Bankstown Observer.[35] In 1960 he sold his extensive quarrying and contracting business to the Rio Tinto Co Limited and with the proceeds he purchased 27,000 acres in the Wolgan Valley near Lithgow for breeding cattle and also purchased the subject land at Horsley Park. He used the property to graze cattle.

Raymond Fitzpatrick died in 1967 and his Horsley Park land was inherited by his widow, Clare Fitzpatrick, who was living at Double Bay. She transferred the property to her two daughters, Rae Cottle and Jacquelyn Waterhouse, in 1972.[36] The property was transferred to a family company known as Ray Fitzpatrick Holdings in 1975 and then to a further family company known as Jacfin Pty Limited in 1979.[37] Jacfin Pty Limited remains the current owner and the property and its current Title is Lot A in DP 392643. The property continues to be used for cattle grazing.

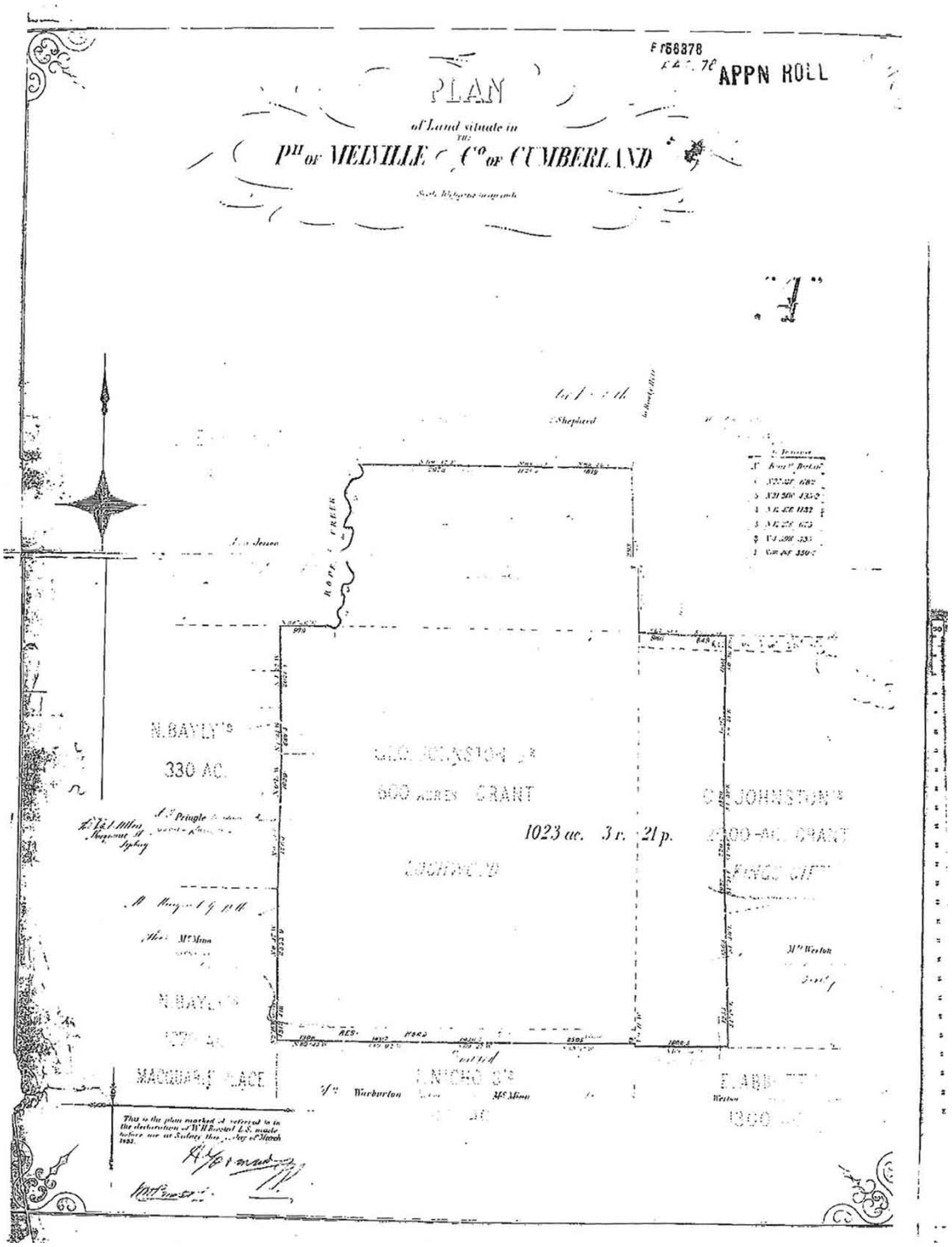

Figure 3.1 DP 56378 dated 1888 showing the 1023 acres of Robert Johnston's land near Rooty Hill which his wife Fanny brought under the Real Property Act in Primary Application No. 6378. (Source: Department of Lands)

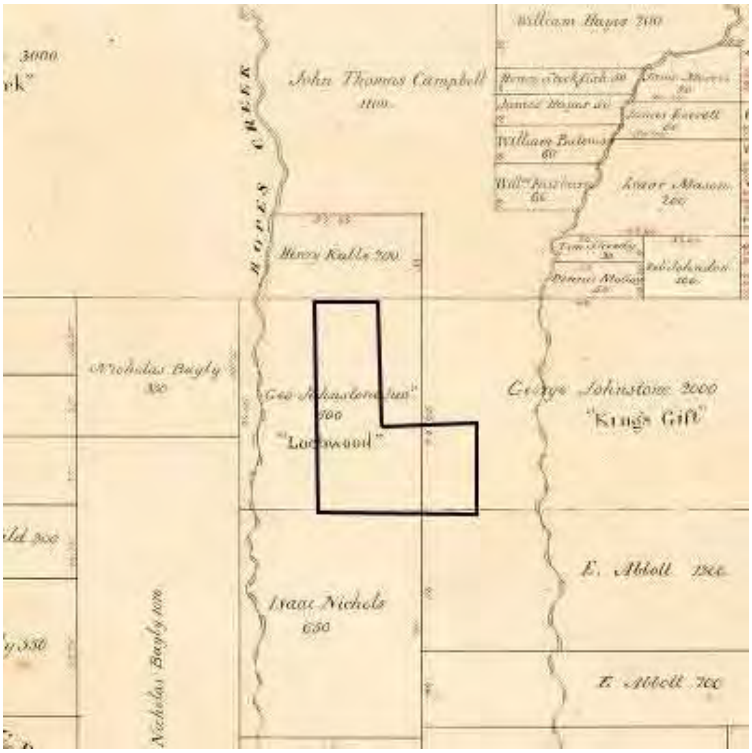

Figure 3.2 Parish Map showing an outline of the subject property overlaid over the 600 acres granted to George Johnson Jnr, known as Lockwood, and the 2000 acres granted to George Johnson Snr, known as Kings Cliff. (Source: Parish Map No. 14067101 Department of Lands)

Figure 3.3 Parish Map No. 14016301 showing land included in Primary Application 6378 subdivided. Lot 81 which relates to this study is outlined in bold. (Source: Department of Lands)

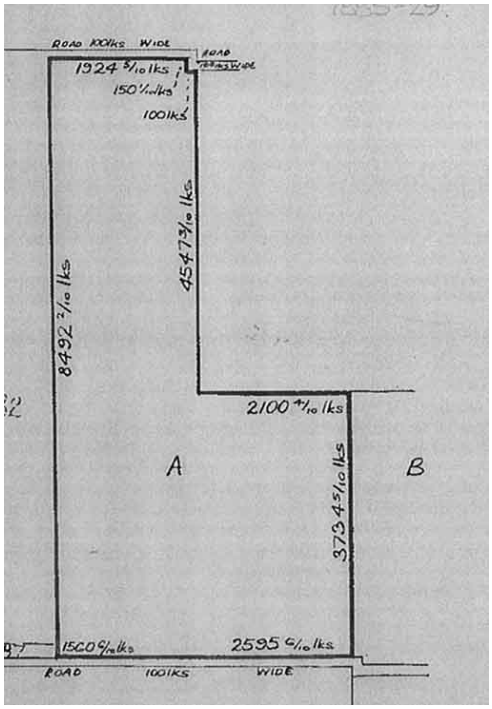

Figure 3.4 Showing the outline of the current size of the subject land being Lot A in DP 392643. (Source: Department of Lands CT 7885-29)

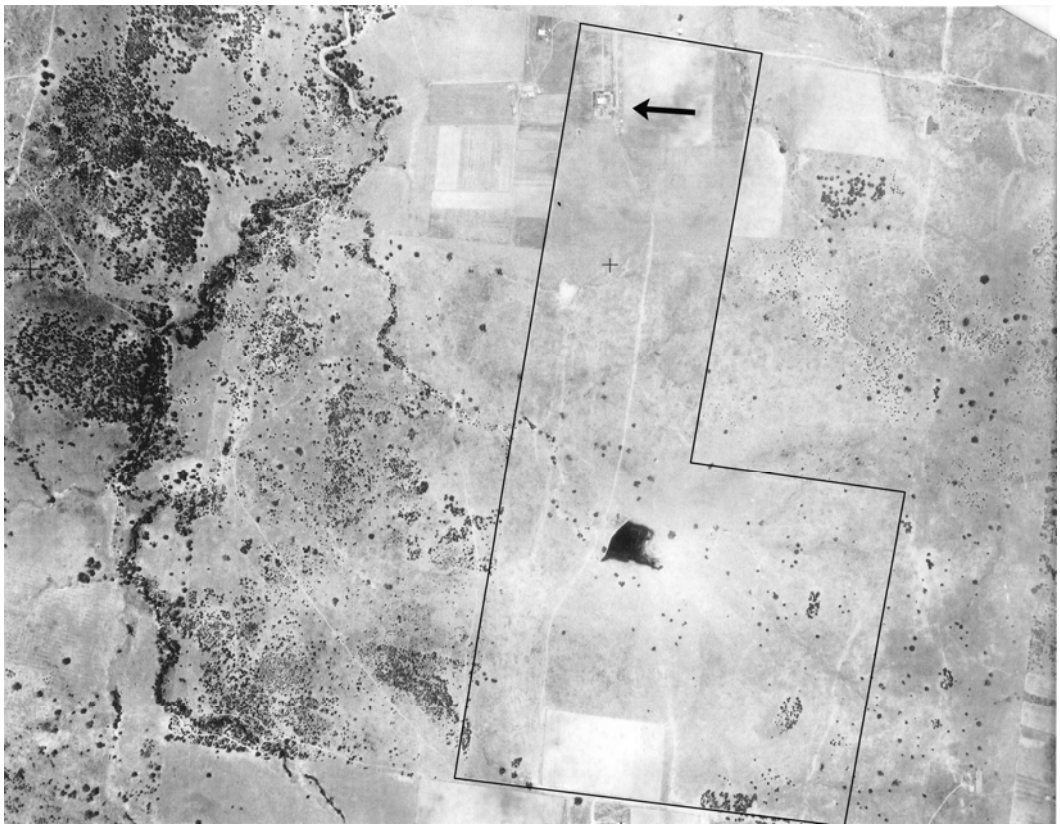

Figure 3.5 1947 aerial view showing the subject site outlined. The arrow points to the homestead on the site. (Source: Department of Lands)

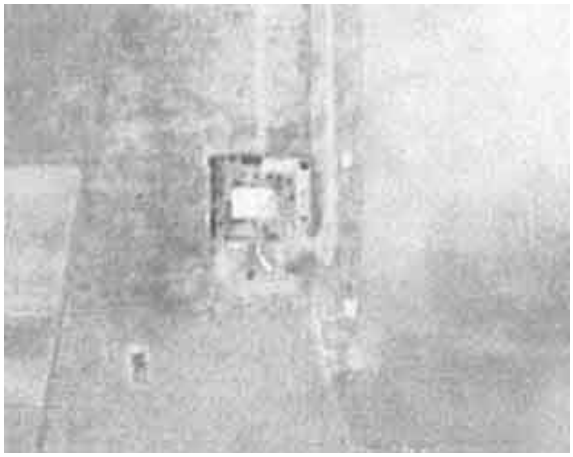

Figure 3.5b Detail of house site 1947 aerial.

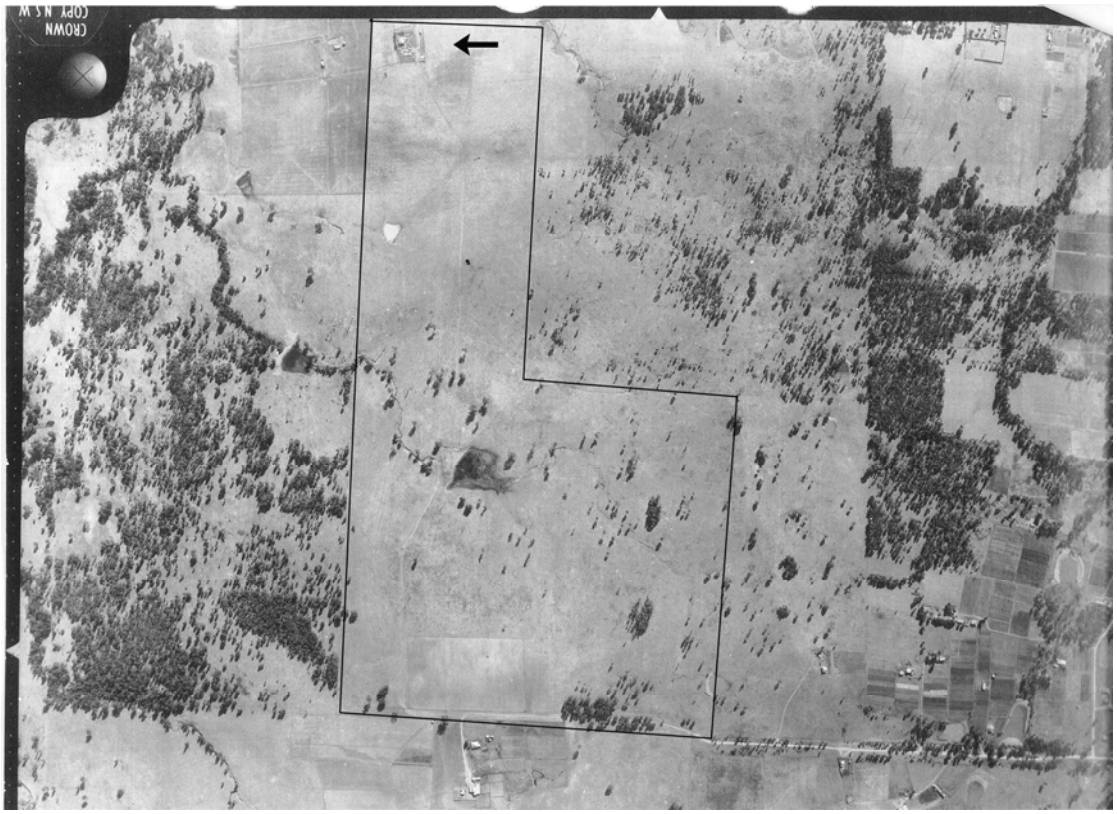

Figure 3.6 1955 aerial photograph of the subject site. Arrow points to the homestead on the site. (Source: Department of Lands)

Figure 3.6b Detail of house site 1955 aerial.

3.4 Endnotes

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22 ibid p 112.
23 Turbet, P 2001, *The Aborigines of the Sydney District before 1788*, revised edition, Kangaroo Press, East Roseville, pp 37–39, 45.
24 Attenbrow, op cit, p 76.
25 ibid pp 69–71.
26 Kohen, J 1982, op cit, p 5.
27 *The Sydney Gazette* 26 February, 1820, p3
28 Primary Application No. 6378, Department of Lands
29 NSW Heritage Office Inventory Form for the Horsley Complex
30 Sydney Morning Herald, 9 September 1882 – Obituary Captain Robert Johnston

[31] Settlement Purchase Grant, Volume 4880 Folio 246, Department of Lands

[32] Ibid.

[33] These aerials were sited at the Department of Lands but not copied in this report.

[34] Certificate of Title Volume 7885 Folio 29, Department of Lands

[35] Andrew Moore, 'Fitzpatrick, Raymond Edward (1909–1967)', *Australian Dictionary of Biography*, Volume 14, Melbourne University Press, 1996, pp 181-182.

[36] Transfer No. P92615 dated 15 May 1972, Department of Lands

[37] Transfer No. R432226, Department of Lands

4.0 Indigenous Heritage Assessment

4.1 Preamble

This Indigenous Heritage Assessment is based on consideration of information from the following sources:

- Consultation with Aboriginal parties who registered an interest in the project through the consultation process.
- A desktop review of known Aboriginal archaeological sites registered on the Aboriginal Heritage Information Management System (AHIMS) database and a review of past Indigenous heritage projects undertaken in the general area.
- Predictive modelling of Indigenous archaeological sites based on a review of the environmental and historical background and past land uses on the subject land.
- The preparation of a field survey methodology.
- A field survey of the subject land with the Indigenous stakeholders to identify archaeological sites, areas of potential archaeological sites, landforms and past land disturbances.

4.2 Indigenous Consultation

4.2.1 Background

Input from Aboriginal stakeholders is an integral part of assessing the significance and cultural heritage values of Aboriginal objects and places. Aboriginal community involvement is a requirement under Part 6 of the NPW Act, which requires an application for a permit or consent.

In Part 3A matters, the Minister also generally requires this (or a similar) level of Aboriginal community consultation. DECCW has prepared the draft 'Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation' July 2005 which reference the 'Interim Community Consultation Requirements for Applicants', December 2004. This report has been prepared in accordance with these guidelines.

In non-Part 3A matters, DECCW's consultation guidelines outline the requirements (including prescribed timeframes) for engaging with the Aboriginal community as part of the preparation of an application for consent or a permit under Part 6 of the NPW Act (ie Section 87 or Section 90 permit applications).

4.2.2 The Consultation Process

The subject land falls within the administrative boundaries of the DLALC under the *Aboriginal Land Rights Act 1983* (NSW). This organisation has a statutory responsibility 'to promote the protection of Aboriginal culture and the heritage of Aboriginal persons'[1] within its boundaries. DLALC was contacted and invited to take part in the field survey. Steven Randall represented DLALC during the field survey on 15 and 21 July 2010.

In addition, a number of organisations and individuals also claim traditional and historical links within the greater-western Sydney area of which the Ropes Creek area forms a part. GML has

commenced wider consultation in line with the *Interim Community Consultation Requirements for Applicants* (2004).

This involved placing an advertisement on 28 July 2010 in the *Koori Mail,* inviting stakeholders to register their interest by 11 August 2010 (Appendix A) and sending letters of invitation out to the following bodies:

- Department of Environment, Climate Change and Water (Metro Office);
- DLALC;
- Registrar of Aboriginal Owners;
- National Native Title Tribunal;
- NSW Native Title Services;
- Penrith City Council; and
- Hawkesbury-Nepean Catchment Management Authority.

As at 16 August 2010, the following Aboriginal organisations or individuals have registered their interest in the project:

- DLALC;
- Darug Aboriginal Cultural Heritage Assessments (DACHA);
- Darug Aboriginal Landcare Incorporated (DALI);
- Darug Custodian Aboriginal Corporation (DCAC);
- Darug Land Observations (DLO); and
- Yarrawalk.

Copies of their response letters are in Appendix B. These organisations were invited to a site visit and to prepare a cultural statement or comment on the property. DACHA, DALI, DCAC, DLO and Yarrawalk attended the site visit on 28 January 2011. Verbal comments from some of these organisations were received during the site visit and written responses are included in Appendix C. Under the guidelines, these organisations have 28 days to comment on the investigation, thus comments from these organisations must have been received by 25 February 2011.

A consultation log has been kept for this project and forms Appendix D. In addition, Darug Tribal Aboriginal Corporation (DTAC) who have an active role in cultural heritage in the Western Sydney region were sent a letter (dated 16 August 2010) inviting their organisation to register an interest in the project. DTAC did not respond to this invitation.

Following the review of the report by the client, a copy of this report has been forwarded to DLALC, DACHA, DALI, DCAC, DLO and Yarrawalk for review and comment, with an invitation to provide their cultural heritage statement for inclusion in the final issue of this report.

4.2.3 Department of Planning Review

The Department of Planning (DOP) reviewed this report in early 2011. The DOP required that the project be readvertised in a local newspaper, as the DOP deemed the Koori Mail was not a local newspaper. As such, the project will be readvertised in a local newspaper to invite registrations from interested groups or individuals. Any additional stakeholders beyond those already identified in Section 4.2.2 that register an interest to the advertisement within the closing date, will be included in the consultation process on this project.

4.3 Desktop Review

4.3.1 AHIMS Sites

A search of AHIMS revealed there are no previously recorded Aboriginal sites on the subject land. Within a 4km x 4km search area surrounding the subject land, 46 Aboriginal sites have been recorded and in a 10km x 10km search area approximately 300 Aboriginal sites have been recorded. These sites within a 4km x 4km search area are summarised in Table 4.1 below.

Table 4.1 AHIMS-registered sites within a 4km x 4km search area surrounding the subject land.

Site Type	Site Features	Frequency
Artefact scatter/open campsite	Artefacts	44
Potential archaeological deposit (PAD)	Unknown without further investigation	1
Artefact scatter and PAD	Artefacts	1
TOTAL		46

As illustrated in Table 4.1, almost all sites in the local area are artefact scatters or contain lithic material, representing 96% of all sites. In addition, there is one Potential Archaeological Deposit (or PAD) and one combined artefact scatter and PAD. Artefact scatters represent the majority of sites previously recorded on the Cumberland Plain. Of note, there are no scarred trees, stone exploitation sites, freshwater midden sites or human burials previously recorded in the immediate vicinity. Many of the local sites have been recorded along waterways in the area, particularly Ropes Creek to the west of the subject land. This fits in well with where camp sites or larger artefact scatters are more likely to be located, with proximity to permanent water sources or rises close to creek lines. Many of the sites have been recorded as a response to the development of the surrounding area for residential, industrial and road building projects.

4.3.2 Archaeological Models for the Cumberland Plain

Previous archaeological research on the Cumberland Plain has taken two forms: academic-driven research, begun in the 1960s, and consultant reports which have responded to the urban development of western Sydney, following the gazettal of the NPW Act in 1974.

Aboriginal occupation of the Cumberland Plain and Nepean River Valley extended into the Pleistocene, 10,000 years before present (BP). Currently the oldest accepted date in this region is from the Shaws Creek rockshelter, located on the Nepean River at Cranebrook, dating to 14,700 years BP.[2] Pleistocene dates were also recorded for the lower occupation levels at Regentville near Penrith, dating to 12,100 years BP.[3]

Archaeological models for the Cumberland Plain were developed during the 1980s and 1990s. One of the earliest was developed by Kohen who argued that Aboriginal occupation of the Cumberland Plain first occurred during the mid to late Holocene (c4,500 BP). Before this, it was said that occupation was confined to the coastal areas and the Nepean River Valley. Kohen argued the changes at this time related to increased population and the addition of small tool technologies.[4]

Following on from this, Smith developed a theory for the southern Cumberland Plain, based on her work with the National Parks and Wildlife Service (NPWS) Planning Study for the Cumberland Plain. She concluded that by the time of her study (1989), less than 0.5% of the Cumberland Plain had been the subject of archaeological surveys and that only 17 sites had been excavated. Smith found that sites were more likely to be found along permanent creeks and swamp margins on the Cumberland Plain.[5]

Jo McDonald developed a theory through her work on the Cumberland Plain in the 1990s. She found that by 1997, 666 sites had been registered with DEC (the predecessor to DECCW) on the Cumberland Plain and that the vast majority (89%) of sites were open artefact scatters/open camp sites. A further 3.5% of sites were isolated artefacts, with scarred trees representing 2.1% of sites on the Cumberland Plain. Following salvage excavations undertaken by McDonald at Rouse Hill in the 1990s, she noted that many areas contained subsurface stone artefacts, even when there was no lithic material present on the surface. She found a variety of site types including intact knapping floors; backed-blade manufacturing sites with two early Bondaian dates between 3,000 and 5,000 years BP; heat treatment sites; specialised tool types; and general camp sites.[6]

In further developing her predictive model for the Cumberland Plain, McDonald noted that stream order was an important feature in determining the locations, sizes and complexity of archaeological sites on the Cumberland Plain. She noted:

> *In the headwaters of the upper tributaries (first order creeks) archaeological evidence will be sparse and represent little more than a background scatter. In the middle reaches of the minor tributaries (second order creeks) archaeological evidence will be sparse but indicate focussed activity (e.g. single camp locations). In the lower reaches of tributaries creeks (third order creeks) will be archaeological evidence for more frequent occupation. This will include repeated occupation by small groups, knapping floors (perhaps used and re-used), and evidence of more concentrated activities. On major creek lines and rivers (fourth order) archaeological evidence will indicate more permanent or repeated occupation. Sites will be complex, with a range of lithic activities represented, and may even be stratified. Creek junctions may provide a focus for site activity; the size of the confluence (in terms of stream ranking nodes) could be expected to influence the size of the site. Ridge top locations between the drainage lines will usually contain limited archaeological evidence although isolated knapping floors or other forms of one-off occupation may be in evidence in such a location.*[7]

4.3.3 Previous Archaeological Investigations

A review of previous archaeological assessments undertaken for the surrounding area shows the subject land has been subject to a previous Aboriginal archaeological assessment undertaken by Jo McDonald Cultural Heritage Management Pty Ltd in 2008. In addition, a number of Aboriginal heritage assessments have been completed for the surrounding area as a response to local residential and industrial development.

Horsley Park

Jo McDonald Cultural Heritage Management Pty Ltd undertook an archaeological survey of the same site currently under consideration in 2008. Five small stone artefacts were found on the dam

wall near the centre of the property; however, this artefact scatter site did not come up during the AHIMS search, so may not have been registered with DECCW. The raw material breakdown included two tuff flakes, two silcrete flakes and one quartz flake.

This investigation found that due to extensive grass cover and very limited exposure of soils on different land forms, it is highly likely that the subject land contains stone artefacts which were not found during the survey. A zoning map of the subject land was prepared and general management outcomes were suggested in relation to these zones. Archaeological excavation was recommended in four areas within Zone 2 comprising different representative landforms – knoll ridgetop, lower hillslopes, crest/spurs associated with tributary headwaters, low ridgetop and upper hillslopes that are north facing. It was further recommended that this work proceed under an approved Aboriginal Heritage Management Plan (AHMP). Other areas of high earth disturbance were considered developable without any further work.[8]

Old Wallgrove Road and Ropes Creek

In 2002, John Appleton undertook an Aboriginal archaeological survey of a large parcel of land for a proposed shale and clay extraction area between Old Wallgrove Road and Ropes Creek, directly to the north of the subject land. The survey located two isolated artefacts and one PAD. The study stated that permits would be required to disturb the isolated artefacts if they were to be impacted and an excavation permit would be needed if the PAD were to be impacted by the proposed development.[9]

132kV Transmission line from Transgrid Station to Erskine Park

Navin Officer Heritage Consultants Pty Ltd undertook a cultural heritage assessment in 2003 of a strip of land. At the time, Integral Energy were proposing to construct a 132kV transmission line from the Sydney West Substation (to the northeast of the subject land) for approximately 3.5km (west) to Erskine Park. This proposed transmission line is situated c600m to the south of the current subject land. Two Aboriginal sites (EP1 and EP2) and an area of archaeological potential (EP PAD1) were recorded in the course of the field survey of the easement. The sites are open scatters of stone artefacts and are located in valley floor contexts associated with the margins of ephemeral drainage lines. The sites were assessed as being of low archaeological significance within a local context. EP PAD1 is located on both sides of Ropes Creek, near the junction of the creek with an unnamed tributary that flows into Ropes Creek from the east. A single European feature (EPH1), the remains of an old bridge crossing on an unnamed tributary of Ropes Creek, was noted during the field survey. Site EPH1 did not reach the threshold where it would be considered significant under any heritage assessment criteria.[10]

Proposed CSR Quarry

Curran in 1997[11] investigated an allotment immediately to the east of the subject land for a quarry and landfill development proposal. The area was already in use as a quarry and the land was therefore assessed to be highly disturbed in most portions. Curran identified two isolated stone artefacts and an 'open campsite' consisting of two artefacts in a disturbed context (and therefore not in their original position and thus possibly not indicative of a site). These were recommended for destruction under an NPW Act Section 90 permit though it is not clear whether this was granted and enacted.

Emmaus Village, Kemps Creek

An Aboriginal archaeological assessment was undertaken ahead of a proposed extension of aged care facilities known as Emmaus Village at Kemps Creek approximately 1.5km to the west-northwest of the subject land in 2005.[12] The survey was located adjacent to the existing village and included some relatively undisturbed re-growth woodland near a first order tributary of South Creek. The survey resulted in the recording of four open artefact scatters (EV1-4) and a recommendation to undertake a broad-scale testing program in the vicinity of sites EV3 and EV4. This testing program involved the bulk mechanical excavation of 18 1m x 1m pits at 50m intervals along four transects.[13] The excavations revealed topsoils of between 50mm to 150mm in depth with a moderate level of historical and natural (bioturbation) disturbance. The testing program retrieved just eleven flaked stone artefacts.

Erskine Park Employment Lands

The area known as the Erskine Park Employment Lands is bounded by the suburb of St Clair to the north, Ropes Creek to the east, the Prospect Water Supply Pipeline to the south, and Mamre Road to the west and is situated c500m to the northwest of the subject land. This area has been the focus of a number of Aboriginal archaeological survey and cultural heritage assessment projects over the last two decades, which have resulted in the identification of a number of low density surface artefact scatters and isolated finds, and areas that have been recommended to require further subsurface archaeological investigation prior to redevelopment.[14]

Although historically more disturbed than the subject land, the eastern portion of the Erskine Park Employment Lands in particular is relatively less disturbed and is situated in a similar topographic location to the current subject land. Survey of this area[15] resulted in the identification of two isolated stone artefact finds and an open campsite consisting of three artefacts. In addition, areas of surface archaeological potential (in addition to several previously recorded sites) were also reported. Archaeological potential was identified primarily in association with the banks and floodplain of Ropes Creek. The study recommended an archaeological testing program to be undertaken to investigate these areas of potential. These recommended archaeological test investigations have not occurred to date.

It is noteworthy that although open campsites have been recorded in most topographic contexts (such as floodplain, hillslope, ridgetop landforms) within the Erskine Park Employment Lands, the majority have been reported to consist of less than 25 artefacts in total, with densities of less than one artefact per square metre.

A number of sub-surface investigations of areas across the CSR lands in the central western portion of the Erskine Park Employment have been undertaken to date. The first of these examined two areas near Lenore Lane along the northern edge of the CSR lands with a total of 21 and 17 mechanically excavated test pits being investigated respectively.[16] These works retrieved less than 50 artefacts in total that were found to have been spread over 20 of the 38 test pits, indicating a very low artefact density attributed to low past Aboriginal intensity use of the local landscape.

Further excavations were undertaken in eleven areas across the CSR lands, sampling different topographic contexts and avoiding existing quarried areas in the western portion of the land. Initially 256 mechanically excavated pits were excavated across the eleven sampled areas, with a total of less than 300 artefacts being retrieved from about a third of the test pits.[17] Additional testing in Area 11, involving a further 24 test pits, retrieved an additional 172 artefacts.[18] Most pits were

found to contain low numbers of artefacts (averaging less than five artefacts per square metre but up to almost thirty in some locations).

In summary, the above archaeological excavations have demonstrated a generally low density distribution of Aboriginal archaeological material across similar topographic contexts that are present within the subject lands.

SEPP 59 Lands

The SEPP 59 lands are bounded by the Western (M4) Motorway to the north, Wallgrove Road to the east, the Prospect Water Supply Pipeline to the south, and 330kV power-lines east of Ropes Creek to the west. This area is located approximately 1km to the northeast of the Horsley Park site. Its designation as employment lands under SEPP 59 led to a progressive Aboriginal archaeological planning study being completed for the area over the period spanning 2002 to 2005.[19] These studies summarised previous investigations[20] which had identified archaeological sites in the area (see Figure 3.2) and involved additional field survey, resulting in the identification of further sites and areas of archaeological potential.

The 2002 to 2005 studies also involved a detailed landscape/landuse and archaeological sensitivity analysis which resulted in the ranking of the SEPP 59 lands into three management zones (1, 2, and 3) of which Zone 1 was regarded as having the highest level of archaeological sensitivity. It was recommended that conservation areas should be selected from Zone 1 lands, which would include samples of all topographic zones except ridgetops (of which only one exists in the subject land). It was further noted that not all conserved areas were known to contain Aboriginal sites.

Four Aboriginal archaeological test excavations have been undertaken within this area in recent years, some of which have been triggered as a result of the conservation and investigation policies instigated by the above-mentioned studies.

DSCA[21] in 2003 excavated an area containing several previously identified low-density surface scatters of artefacts located in the now Wonderland Business Park, in the central eastern portion of the SEPP 59 lands. These works resulted in the recovery of only five additional sub-surface artefacts over the 20 excavated pits investigated during the project. The areas assessed during the program were found to display high levels of historical disturbance and erosion. Approximately 30 additional surface artefacts were also located during the project but none of these were in situ.

Two areas within the Austral lands in the southeastern corner of the SEPP 59 lands were test excavated in 2004. The Austral Site (AHIMS #45-5-2986) along Reedy Creek in the southeastern corner of the SEPP59 lands was found to contain densities of 17 artefacts per square metre, but this was still considered relatively low and the site was not recommended for further investigation or preservation.[22] The second excavations involved the Austral 4 site (AHIMS #45-5-3076) which was found to have very low densities of stone artefacts.[23]

The most recent excavations in this location have involved two adjacent areas of archaeological potential (EC3/1, AHIMS #45-5-3201 and EC3/2, AHIMS #45-5-3202) identified during McDonald's original SEPP 59 studies[24], and also included several previously recorded open campsites and isolated finds located within these lands.[25] The areas investigated were located within lands known as 'Wonderland Surplus' in the northeastern portion of the SEPP 59 development study area. The excavations involved archaeological salvage of a number of targeted sites which included hillslopes and a low ridgetop landform. Over 1500 artefacts were retrieved during the investigation program from around 100 1m x 1m pits, but these finds were found to represent an average density of less

than one artefact per square metre in total, although some areas were found to contain comparatively higher densities of material, though still low in absolute terms.

In summary, with the exception of the previously mentioned Austral site (AHIMS #45-5-2986), all surface Aboriginal archaeological sites and excavated sites contained within the SEPP 59 lands have, to date, been found to comprise artefact densities of less than two artefacts per square metre.

Luddenham and Mamre Roads 1988

In 1988, Mary Dallas undertook an Aboriginal archaeological investigation of a parcel of land between Luddenham and Mamre Roads, approximately 3km to the east of the subject land. The study recorded 12 open camp sites; five of these were located along Cosgrove Creek, three on flood-prone flats between South and Cosgrove creeks and the remaining four sites close to the confluence of Badgerys and South creeks. Dallas noted the presence of raw nodules of silcrete along Cosgrove Creek, indicating a local source of this raw material. The study recommended that if the proposed development was to impact any of the registered sites management of these sites would be required.[26]

Luddenham and Mamre Roads 2001

In 2001, Dominic Steele prepared an archaeological research design for the excavation of three registered open camp sites between Luddenham and Mamre Roads, c3km east of the subject land.[27] The proposed excavation and analysis of the findings aimed to answer questions such as:

- Where were people living in the past?
- Along what creeks did they have their camping spots?
- How long ago were people living there?
- What types of raw materials were they using?
- What sorts of artefacts were they producing?

The excavation was subsequently undertaken and yielded silcrete flakes, flaked pieces and very few formal tools, which was said to represent casual discard of stone artefacts by Aboriginal people. The study found that there were no significant undisturbed archaeological remains on the property and Steele applied for a Section 90 Consent to Destroy to DEC (now DECCW), which was approved. Steele found the primary focus of Aboriginal occupation of the area was at the confluence of South, Kemps and Badgerys creeks and the slopes that rose up from these creeks. In this location there was said to be evidence of stone-tool manufacturing (including heat treatment) and silcrete stone exploitation sites. Steele then produced a management plan for the property, which included provisions for conservation zones.[28]

Riverstone, Schofields and Quakers Hill

In 1982, Dallas undertook an Aboriginal archaeological assessment of a large area of land proposed for development, covering parts of Riverstone, Schofields and Quakers Hill to the north-northwest of the current subject land. The study recorded seven artefact scatters/camp sites and four isolated artefacts, most of which were found to be damaged or disturbed. Silcrete dominated the assemblages of the sites, while smaller percentages of chert, quartz, chalcedony and silicified wood were also present. The study recommended that the two extensive open sites be preserved,

while the remainder of the sites were too heavily disturbed. It was subsequently recommended that the client apply for a permit to disturb these sites.[29]

St Marys

In 2008, Jo McDonald Cultural Heritage Management Pty Ltd prepared an archaeological assessment of the former Australian Defence Industries (ADI) site at St Marys, approximately eight kilometres northwest of this report's subject land. The area of the property is 1,545ha and the study found there were 39 surface archaeological sites within the boundaries. Previous excavations within the property have yielded over 7,000 stone artefacts and more than 131ha of the property have been designated PADs.[30] The study recommended that salvage excavations be undertaken on the property. The excavations were subsequently undertaken by Jo McDonald Cultural Heritage Management Pty Ltd in mid-2009; results are pending.

4.4 Site Types Considered on the Subject Land

A wide range of site types can be encountered during archaeological investigations in New South Wales, and these reflect the range of activities carried out by Aboriginal people in the past. The AHIMS sets out 20 site types which are defined by the cultural activities associated with the use of a place. These site types reflect the diverse range of evidence that may be encountered relating to past Aboriginal activity. It is important to note that one site may comprise a number of different site types or attributes, indicating the diverse range of cultural activities that can be undertaken in one place.

All site types listed on the AHIMS database were considered prior to commencing the field survey in order to determine the site types most likely to be encountered on the subject land. This was informed by the AHIMS search results (which indicate the types of sites and distribution patterns that typically occur within the immediate vicinity of the subject land) as well as a desktop assessment of the landforms and environment within the subject land. The archaeological models for the Cumberland Plain (described in Section 4.3.2) indicate that the most common site types in the area are open camp sites and isolated artefacts. This is also confirmed by the results of the AHIMS search. Other site types which may be encountered in the area include scarred trees and stone exploitation sites. These potential site types are discussed below. Given the known geology and pastoral landscape, other site types including grinding grooves, freshwater midden sites, art sites and human burials would be unlikely on the subject land.

4.4.1 Open Camp Sites, Artefact Scatters and Isolated Artefacts

Stone artefacts occur across much of the New South Wales landscape in varying densities and are typically classified as artefact scatters, open camp sites or isolated occurrences of individual artefacts. These sites provide a record of past Aboriginal occupation and activity across the landscape. Artefact scatters comprise visible concentrations of artefacts (although these sites often have a significant subsurface element) and typically reflect areas of concentrated Aboriginal activity and occupation in the past, either as campsites or more transient places of activity. Although there is no formal definition from DECCW, artefact scatters or open camp sites are typically defined as the presence of two or more artefacts within 50m of each other. These contrast with isolated artefacts, which occur in much lower densities and are generally considered a 'background scatter' across the landscape in many areas of New South Wales, and may represent casual discard of lithic material. Thus, an artefact scatter or open camp site can be defined as a concentration of artefacts that occur in a greater density than the surrounding low-density 'background scatter'.

Throughout the twentieth century, scholars have argued about stone tool technologies varying over time in New South Wales. After subsequent radiocarbon dating of deposits taken from the excavation of two rockshelters in eastern New South Wales—at Lapstone Creek at the base of the Blue Mountains (1936)[31]; and at Capertee Valley, north of Lithgow (1964)[32]—Frederick McCarthy coined the theory of the 'Eastern Regional Sequence'. He identified the 'Carpertian', 'Bondaian' and 'Eloueran' as three phases within the series which collectively span the last 15,000 years. In the earliest phase, Capertian, tools were characterised by uniface pebble implements, cores, dentated saws and large heavy flakes. The Bondaian phase saw the arrival of the microliths and was typified by the small Bondi points (named after Bondi Beach, one of the places where they were first identified), burins and scrapers. The Eloueran phase was named after the Elouera, a triangular sectioned stone-backed blade, somewhat larger than the Bondi point. This last phase also contained ground-edge axes.[33]

Later, scholars such as Stockton and Holland (1974) modified McCarthy's sequence, proposing four phases. After the Capertian, they identified the 'Early Bondaian' and 'Middle Bondaian' phases where the classic backed blades the Bondi point, geometric microlith and the Elouera became common from the late Holocene (5,000 years BP) onwards. Stockton and Holland's[34] 'Late Bondaian' phase corresponded to McCarthy's Eloueran phase which has been revised through carbon dating to the last 1,600 years. During this period, Bondi points and geometric microliths became far less common in the coast areas of Sydney, but remained common on the Cumberland Plain, where they survived until at least 500 years BP. Stockton and Holland's terms are widely used in the Sydney region today.[35]

4.4.2 Stone Exploitation Sites

Stone exploitation sites, also known as 'quarries', are places where stone was either collected from the surface or struck off from bedrock for the purpose of fashioning stone tools. Stone exploitation sites are found over many parts of New South Wales and stone was often traded large distances from the source of the raw material, at times hundreds of kilometres. Stone exploitation sites are characterised by the presence of large amounts of flaked artefacts and debris close to a stone source or negative flake scars on bedrock or both. Stone reduction sites are those where the raw material is broken down into usable flakes, blades or cores for the production of tools. Stone reduction sites may occur at the stone exploitation site or some distance from it. On the Cumberland Plain there are a number of silcrete stone exploitation sites located in the St Marys area and along some of the north–south flowing creeks.

4.4.3 Carved and Scarred Trees

Aboriginal people carved trees by removing a section of the bark and then carving into the exposed wood. These carvings were done to mark burials and ceremonial sites and, as such, are still significant to Aboriginal people. Scarred trees differ in that they were created when a section of a tree's bark and wood was removed to make a range of useful objects including canoes, shields, containers (such as coolamons) and other weapons and items.[36] The term 'possum tree' refers to trees that have had small notches or toeholds cut into them for the purpose of possum hunting or collecting honey. In New South Wales, these types of evidence tend to only occur on trees over a certain age, related to the gradual cessation of traditional Aboriginal land use practices with the arrival of European ways of life. Trees of this age are also becoming rarer as they decay, fall over or are burnt.[37] A number of scarred trees have previously been recorded on the Cumberland Plain.

4.4.4 Potential Archaeological Deposits

Potential Archaeological Deposits or PADs are sites where archaeological deposits such as buried artefact scatters or shell midden accumulations are likely to occur, based on sensitive landforms and locations in the landscape. This site type can also be registered with DECCW.

4.5 Predictive Modelling for the Subject Land

4.5.1 Potential Impact of Former Land Uses

Land uses can have a substantial impact on any Aboriginal archaeological resource that may have once been present. The history of the property shows that it was used for cattle grazing and agricultural activities during the nineteenth and twentieth centuries.

A 1947 aerial photograph (Figure 3.5) shows the property largely devoid of trees by this time; presumably the trees were cleared much earlier than this so the property could be used for grazing and other agricultural pursuits. The 1947 aerial also shows a farmhouse in the northwest corner of the property, showing this area has been subject to local earth disturbance in the twentieth century. Both dams were also created by this time, by creating a dam wall along natural drainage lines for stock water. The removal of the native tree and shrub vegetation, creation of dams, ploughing and grazing, the twentieth-century farmhouse in the northwest corner of the property and the present timber cottage in the southeast corner of the property are all evidence of earth disturbance and potential erosion.

4.5.2 Aboriginal Archaeological Potential on the Subject Land

Given the potential impact of past land uses on the subject land, pre-European Aboriginal archaeological resources are likely to have been disturbed to varying degrees in some isolated parts of the site. The area of the former farmhouse in the northwest corner and present timber cottage in the southeast corner of the site would have been subject to considerable earth disturbance. The creation of dam banks has disturbed these areas also. In the northeast corner of the site, near the second order creek near the gate, the area has been subject to earth disturbance in the past. In terms of past ploughing, of which there is evidence in the aerial photographs, this would have disturbed some potential artefact scatters; however, studies have shown that stratified archaeological deposits often survive below the plough zone in areas of agriculture.

The balance of the land contains a number of landforms which have previously been identified with the potential for containing archaeological deposits in the Jo McDonald CMH (2008) report for the property. These landforms are as follows:

- course and floodplain of the natural drainage lines;
- headwaters of the natural drainage lines including associated slopes;
- ridgetops and hillslopes which are north facing; and
- rocky outcrops / knolls.

4.6 Field Survey Methodology and Recording Procedures

Standard archaeological field survey techniques were employed during the site survey. Due to the dense grass cover over the fields, a decision was made to undertake a pedestrian survey, as

opposed to the team walking transects separated by set distances. The team focussed their attention on natural drainage lines, slopes and hilltops where artefacts would be more likely to occur, and areas of exposures, such as dam banks, vehicle and animal tracks.

All items of Aboriginal cultural heritage located during the course of the field survey were recorded and plotted using a Garmin handheld GPS set to the GDA co-ordinate system. Photographic records (using a Digital Canon Powershot A550 camera), GML site recording forms, sketch plans, and diary descriptions were also compiled as part of the field records.

The site recording detailed the sizes, types and boundaries of archaeological sites, topography (whether Aboriginal archaeological sites, features or areas of potential archaeological sensitivity were located on slopes or flats etc), their contexts, existing vegetation, ground exposures, ground-surface visibility (GSV) and the presence and extent of obvious ground disturbance. The distinction between site categories (open camp sites or artefact scatters as opposed to isolated finds etc) was made according to the following categories:

- Isolated finds—single artefacts that are located more than 50m apart.
- Sites—open artefact scatters that consist of two or more artefacts situated within 50m of each other.

Individual artefacts were flagged and their locations were recorded using a GPS to determine if they were parts of larger sites or isolated artefacts.

The following attributes of each stone artefact were recorded:

- Raw material—Raw materials may include silcrete, tuff, basalt, chert, quartz, quartzite and indurated mudstone, etc.
- Artefact type—This category records the presence of items such as flakes, flaked pieces, blades, cores and hammerstones, etc.
- Tool type—This category records specialised tool types such as scraper, Bondi point, Elouera, geometric microliths, ground edge axe. Non-tools such as un-retouched waste flakes were identified in the catalogue as N/A.
- Dimensions—The maximum lengths, widths and thicknesses of artefacts were recorded.
- Landform unit—The landform where the artefact was located, such as plain, creek bank, swamp, upper slope, middle slope, lower slope, etc.
- Other—Comments include additional information such as the colour of the raw material and the presence of cortex and retouch.

Common attributes of culturally scarred trees[38] have been used to assess whether trees within the subject land are likely to have been scarred by Aboriginal people. Any trees with scars identified as being of possible Aboriginal cultural origin were to be recorded as such and be the subject of a visual (but non-invasive) estimate of age prior to recording the scars as an Aboriginal site. As tree age is difficult to estimate and is often the most crucial factor in determining whether scars have a cultural or natural origin, it is considered prudent that a qualified arborist should have the opportunity to examine any possibly culturally modified/scarred trees prior to registering the item on the AHIMS register.

4.7 Field Survey Results

4.7.1 Survey Units

For the purposes of ease of undertaking the survey, the subject land was divided into three principal areas. Survey Unit One contained the hilltops and slopes in the southern-most paddock and into adjacent areas of the central paddock, and included the cottage and horse yards. Survey Unit Two centred on the east-west drainage lines, large dam and natural drainage line in the centre of the property. Survey Unit Three covered the ridgelines in the northern part of the subject land. A description of the landforms, findings and photographs of each of the survey units is shown in Table 4.2 below. A map showing the survey units is shown in Figure 4.8.

Table 4.2 Descriptions of Survey Units used within the Horsley Park field investigation.

Survey Unit	Description and Landforms	Photograph
1	Survey Unit One comprised the hilltops and slopes in the southern paddock and adjacent areas in the central paddock, representing approximately 40ha in size. This unit is characterised by hilltops, some facing south and most others facing north, as well as mid and lower slopes. A cottage is located on one of the hilltops representing an area of ground disturbance (Figure 4.1). Ground surface visibility in this area was very low due to the dense pasture grass cover. The land is currently used for cattle and horse grazing. No Aboriginal objects were located in this survey unit. The hilltops ware identified as locations that may contain buried archaeological deposits.	 Figure 4.1 The cottage located on a hilltop in Survey Unit 1. (Source: GML 2010)
2	Survey Unit Two comprised the central paddock, representing approximately 35ha in size and was the largest survey unit. This unit is characterised by the headwater of natural drainage lines (Figure 4.2) that flow from the east to west where they meet before the large dam that has been created for stock water. After the dam, the natural drainage line continues west (Figure 4.3) where it joins Ropes Creek outside of the current property. This unit also contains a number of slight to moderate slopes rising from the natural drainage lines. Ground surface visibility in this area was generally very low due to the dense pasture grass cover, although there were isolated exposures of soil and vehicle tracks that were inspected for Aboriginal objects. Three artefacts forming a small artefact scatter were located on the dam bank in this survey unit; this is discussed in Section 4.7.2 below. In addition, the natural drainage lines are identified as locations that may contain buried archaeological	 Figure 4.2 First order creekline in Survey Unit 2. (Source: GML 2010)

Survey Unit	Description and Landforms	Photograph
	deposits.	 Figure 4.3 Second creekline downstream of the dam in Survey Unit 2. (Source: GML 2010)
3	Survey Unit Three comprised the ridge lines in the north of the subject land, representing approximately 25ha in size. This unit is characterised by a north-south ridgeline (Figure 4.4) with prominent views west to the Blue Mountains, which may or may not have been visible during pre-contact times depending on prior tree cover. Two areas of rocky outcropping were located on the ridgetop, probably volcanic in origin, such as basalt. Basalt is a raw material that was favoured by Aboriginal people in the past for making stone tools; however there was no visible evidence on the surface of stone exploitation. There is potential for buried deposits of archaeological material close to the rocky outcrops. Ground surface visibility in this area was low due to the dense pasture grass cover. Areas of exposure included the dam bank and in the northeast corner where there had been ploughing and previous earth disturbance (Figure 4.5). No Aboriginal objects were located in this survey unit.	 Figure 4.4 North-south ridgeline in Survey Unit 3. (Source: GML 2010)  Figure 4.5 Area of earth disturbance in the northeast corner of Survey Unit 3. (Source: GML 2010)

4.7.2 Effective Survey Coverage

Effective survey coverage is an estimate of the ground surface that was visually examined during a field survey of a property. Effective survey coverage is measured by multiplying the percentage Ground Surface Visibility (GSV) by the size of the survey unit. The effective survey coverage would be low on a heavily vegetated site such as in a forest or grassed field and high on land such as freshly ploughed fields or in an area where the ground was exposed. Effective survey coverage for

the subject land was overall very low due to the poor surface visibility from the grass cover, with the average being 3.2% over the entire property. A summary of the effective survey coverage for each survey unit is presented in Table 4.3 below.

Table 4.3 Effective survey coverage for the subject land.

Survey Unit	Average GSV % for the Unit	Estimated Size of Survey Unit (in Hectares)	Effective Survey Coverage (in Hectares)
1	2	40	0.2
2	2	35	1.0
3	5	25	2.0
			Average effective survey coverage over all survey units is 3.2%.

4.7.3 Aboriginal Objects and Places

One artefact scatter called Horsley Park AS1 was located during the investigation. This small scatter comprised three artefacts: a single red silcrete flake measuring 18mm x 11mm x 3mm, and two mudstone flaked pieces measuring 10mm x 6mm x 2mm and 11mm x 7mm x 3mm respectively. These artefacts were located next to the dirt vehicle track at the south end of the dam bank (Figures 4.6 and 4.7) at AMG Co-ordinates 297967E; 6223748N. These artefacts were located very close to the same place as the artefacts recorded by Jo McDonald CHM by the dam bank wall. The area where the artefacts were located had a high amount of erosion and may have been redeposited via flooding, vehicles or ploughing disturbance.

The artefact scatter has been registered with AHIMS at DECCW with mention of the previous artefacts recorded at this location under the site name Horsley Park AS1 (NPW # 52-2-3820) (Appendix E). The site card number will be included in a supplement or revised report upon receipt of these details by DECCW. The location of this site is shown on Figure 4.8.

Figure 4.6 Red silcrete flake located next the vehicle track on the south side of the large dam bank. (Source: GML 2010)

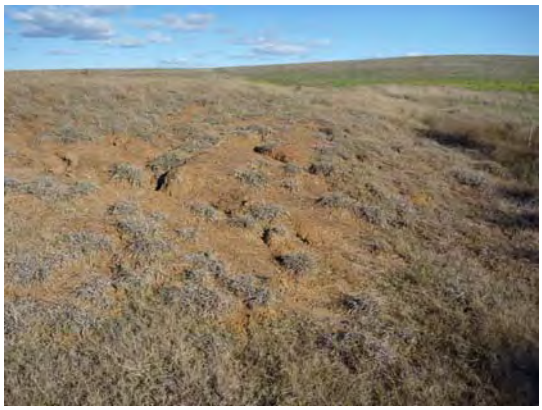

Figure 4.7 Eroded dam bank close to the where the silcrete flake was located. (Source: GML 2010)

4.7.4 Areas of Archaeological Potential

In addition to the Aboriginal object (Horsley Park AS1) identified above, four areas of high archaeological potential or potential archaeological deposits (PADs) were identified during the field assessment. These four PADs were in areas of low surface visibility and low ground disturbance. The four PADs represented different landforms within the subject land which may contain buried archaeological material (for example in the form of stone artefacts). The four PADs are mapped in Figure 4.9. The four PADs are described below:

- PAD 1: The course and floodplain of the natural drainage line in the centre of the subject land (excluding the large dam and dam bank which are areas of disturbance);
- PAD 2: headwaters of the first order drainage lines including associated crests and slopes principally in the east of the subject land;
- PAD 3: rocky outcrops in the north which may have been used as stone exploitation sources; and
- PAD 4: a north facing ridgetop and hillslope in the southwest corner of the subject land.

4.8 Significance Assessment—Indigenous Heritage

4.8.1 The Purpose and Criteria of Significance Assessment

An assessment of significance provides important information on which DECCW can base its decisions regarding the management and protection of Aboriginal heritage sites in New South Wales. The significance of Aboriginal cultural heritage is generally assessed under four criteria commonly applied in Aboriginal cultural heritage management. These criteria are based primarily on the standards outlined in the ICOMOS Burra Charter, which is generally considered to set best-practice standards for the management and conservation of places of cultural significance within Australia and also in accordance with the National Parks and Wildlife Service 'Aboriginal Cultural Heritage Standards and Guidelines Kit'.[39]

Cultural significance, as defined under the Burra Charter, relates to the aesthetic, historic, scientific and social significance of a site or place, and thus emphasises not only the scientific but also the social values of a site or place. This emphasis is similarly embodied in the principles of DECCW, which place emphasis on consultation with Aboriginal stakeholders when assessing the cultural significance of Aboriginal objects and/or places. When assessing an AHIP application, DECCW will consider:

- *cultural and scientific significance of the Aboriginal object(s) and/or place(s);*
- *potential or likely impacts of the proposal on the Aboriginal objects(s) and/or place(s);*
- *adequacy of any proposed measures to avoid or reduce impacts; and*
- *the results of consultation with Aboriginal people.* [40]

Based on this approach, significance is assessed under four criteria:

- **Cultural value:** The cultural significance of a place relates to its value and importance to Aboriginal people, and thus significance under this criterion can only be assessed in consultation with Aboriginal stakeholders.

- **Scientific/archaeological/research value:** This criterion is used by archaeologists to determine the research potential of a particular site. The focus is on the site's ability to illustrate past human behaviour. The research potential of a site includes information about its integrity, such as its stratigraphic integrity and evidence of past disturbances. A site may have increased value when taken as part of a group of sites, as together they can illustrate past human behaviours that they could not do as individual sites. The research potential of sites may be increased if they are able to provide a timeframe for past human behaviours, given the right stratigraphy and preservation and utilising scientific dating methods. Within this criterion are the subsets of Representativeness and Rarity.

  - ***Representativeness:*** This value represents the ability of a site to demonstrate a specific site type or deposit. The importance of this has been realised in Australia with the conservation of representative site types being a priority for government departments. Representativeness can be considered for sites within the state of New South Wales or within a specific region such as the Cumberland Plain. Site distribution across the landscape can also be considered.

  - ***Rarity:*** This value implies an understanding of the types of archaeological sites that are already known within the state or a particular region. If there are numerous other examples of a particular site in a region then a site may be considered common. In contrast, if there are few or no other examples of a particular site within a region, the site would be rare.

- **Aesthetic value:** This criterion relates to the visual beauty of the place. As such, different people may have vastly different aesthetic views on heritage sites. The Aboriginal Cultural Heritage Standards and Guidelines Kit recommends that archaeologists do not make an aesthetic significance judgement of Aboriginal sites or places because of the subjective nature of this type of assessment. A person with specialist skills in art history may be able to undertake this assessment.[41]

- **Educational value:** This criterion relates to the ability of the site to educate the general public about the Aboriginal past of the area. Educating the public on the Aboriginal past may be achieved through site tours, interpretive displays, public parks, lectures or through books, articles and other publications.

4.8.2 Cultural Significance

This area of assessment concerns the relationship and importance of sites/items to the Aboriginal community. Aspects of cultural significance include people's traditional and contemporary links with a given site or landscape as well as an overall concern by Aboriginal people for sites/items 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 still remembered by local Aboriginal communities, they hold particular cultural significance to Aboriginal people. Furthermore, sites of significance are not restricted to the period prior to contact with Europeans. Often events related to the contact period may be important to the local Aboriginal community. If these events relate to a specific place in the landscape, then that place (ie the site) may become sacred or highly significant to the local Aboriginal community.

The findings of the current assessment comprised one small artefact scatter designated Horsley Park AS1.

Comments from Registered Aboriginal Stakeholders

Copies of this report have been sent to the Aboriginal stakeholders that register their interest in this project for comment. DLALC, DACHA, DALI and DCAC have provided written responses following the site visit and issuing of the draft report. The written responses are presented in Appendix C and are summarised below.

DLALC identified the key points in their letter that Aboriginal cultural material was located during the site visit and they recommend further investigation with test excavation occur prior to any development.

DACHA state that only one site was located during the site visit, that it was not significant, the potential for further sites is low and DACHA have no further interest in the Horsley Park project.

DALI request that they be consulted and participate in any fieldwork that will be carried out in regards to Aboriginal heritage on the project.

DCAC state the area of Horsley Park is within Darug boundaries and the area along the creek has potential for containing artefacts. DCAC say they would like to see the creekline preserved as far out as possible with interpretive signs as part of the development. DCAC say the land proposed for development requires further investigation where there is the potential for sites and that their organisation supports the recommendations in the report.

DLO and Yarrawalk have not provided written comment following the site visit.

During the site visit the registered Aboriginal stakeholders were asked their views on the cultural significance of the property. In addition to the above written comments, the following verbal comments were received on site.

Gordon Workman, representing DLO said the north, south and east slopes above the large dam may have potential for sites and could be the subject of test excavation (Gordon Workman pers com).

4.8.3 Preliminary Scientific/Archaeological/Research Significance

This scientific significance assessment is for the small surface artefact scatter - Horsley Park AS1 (NPW # 52-2-3820) recorded for the current assessment. Given the site comprises three artefacts located in a disturbed and eroded environment next to a dam bank and dirt vehicle track, the integrity of this site is considered low. Artefacts in this context are common on the Cumberland Plain and are considered to have low research potential.

The scientific assessment of the four areas of PAD can be considered to have a high potential to contain buried archaeological material, principally stone artefacts, however this cannot be verified without further investigation.

4.8.4 Aesthetic Significance

The Aboriginal Cultural Heritage Standards and Guidelines Kit recommends that archaeologists do not make an aesthetic significance judgement of Aboriginal sites or places because of the

subjective nature of this type of assessment.[42] As such, no assessment was made of the objects or PADs located under this criterion.

4.8.5 Education Value

The educational value of the objects located as part of Horsley Park AS1 is considered low, as it is not considered an appropriate site for educational or interpretative purposes. The educational potential of the four areas of PAD cannot be determined without further investigation.

4.8.6 Summary of Preliminary Significance

The preliminary significance assessment of the surface artefact scatter Horsley Park AS1 and the PADs located are summarised in Table 4.4 below. Note that this does not include the aesthetic significance as discussed in Section 4.8.4.

Table 4.4 Summary of the preliminary significance assessment of the Horsley Park Lot A DP 392643 Site 1.

Site Name / PAD #	Cultural significance	Scientific/ archaeological/ research potential	Representativeness	Rarity	Educational value
Horsley Park AS1 (52-2-3820)	This site is evidence of the area having potential for further cultural material (Appendix C – DCAC response)	Low	Similar to other sites	Common	Low
PAD 1	Potential to contain cultural material in the form of artefacts (Appendix C – DCAC response) Potential for sites (Gordon Workman pers com)	High potential to contain buried archaeological material, principally stone artefacts. This cannot be verified without further investigation	Cannot be determined without further investigation	Cannot be determined without further investigation	Cannot be determined without further investigation
PAD 2	Potential to contain cultural material in the form of artefacts (Appendix C – DCAC response) Potential for sites (Gordon Workman pers com)	High potential to contain buried archaeological material, principally stone artefacts. This cannot be verified without further investigation	Cannot be determined without further investigation	Cannot be determined without further investigation	Cannot be determined without further investigation
PAD 3	No specific comment relating to this area.	High potential to contain buried archaeological material, principally stone artefacts. This cannot be verified without further investigation	Cannot be determined without further investigation	Cannot be determined without further investigation	Cannot be determined without further investigation

PAD 4	No specific comment relating to this area.	High potential to contain buried archaeological material, principally stone artefacts. This cannot be verified without further investigation	Cannot be determined without further investigation	Cannot be determined without further investigation	Cannot be determined without further investigation

4.9 Discussion of Aboriginal Archaeology on the Subject Land

In summary, the identification of the small artefact scatter in the current investigation, demonstrates the past use of this area by Aboriginal people. The artefact scatter was located in the area of the dam bank and vehicle track in the centre of the property in an area of disturbance and erosion and thus may have been excavated during the dam bank construction or entered the area through flooding from upstream.

Due to fields being covered in pasture grasses, the effective survey coverage was very low over the subject land, averaging just 3.2%. This meant that most of the property could not be adequately inspected for Aboriginal artefacts, which may exist on the surface but covered in grasses.

This investigation identifies four main landforms within the subject land which hold potential for buried archaeological material, principally stone artefacts. These areas are as follows:

- The course and floodplain of the natural drainage line in the centre of the subject land;
- headwaters of the first order drainage lines including associated crests and slopes principally in the east of the subject land;
- rocky outcrops in the north which may have been used as stone exploitation sources; and
- a north facing ridgetop and hillslope in the southwest corner of the subject land.

The potential artefacts may have been disturbed through past ploughing activities or may be contained within stratified deposits which cannot be determined without further investigation. In addition, other areas showed evidence of past European disturbance; for example the construction of dam banks, the area of the former farmhouse and present cottage and other isolated areas within the subject land. These findings are consistent with the findings in the previous assessment of the property undertaken by Jo McDonald CHM in 2008. The landforms worthy of further investigation and areas of disturbance are shown in Figure 4.9.

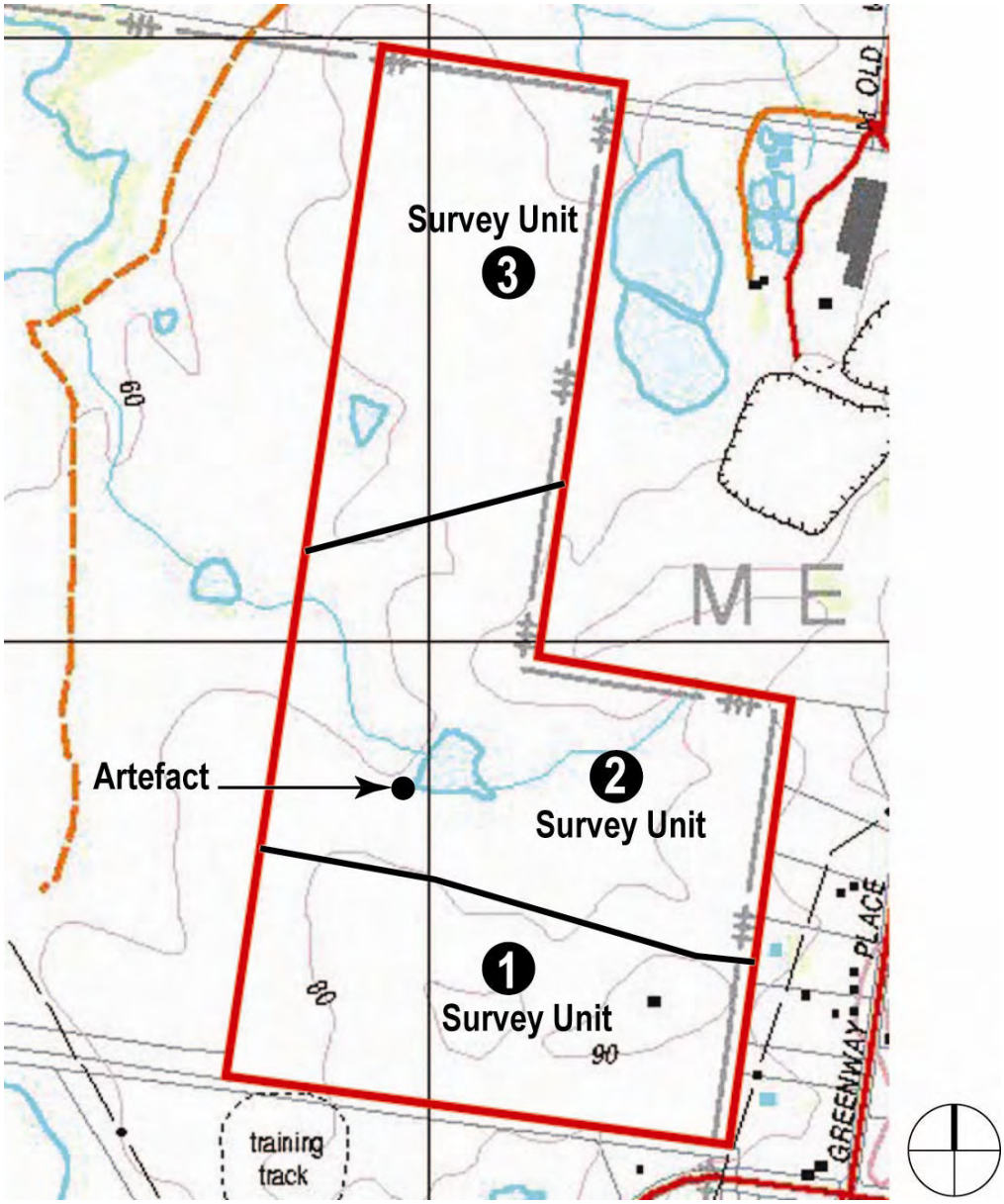

Figure 4.8 Location of survey units and artefact scatter recorded during the current investigation. (Source: Topo Viewer, Topographic Maps of NSW, 2006 with GML additions 2010)

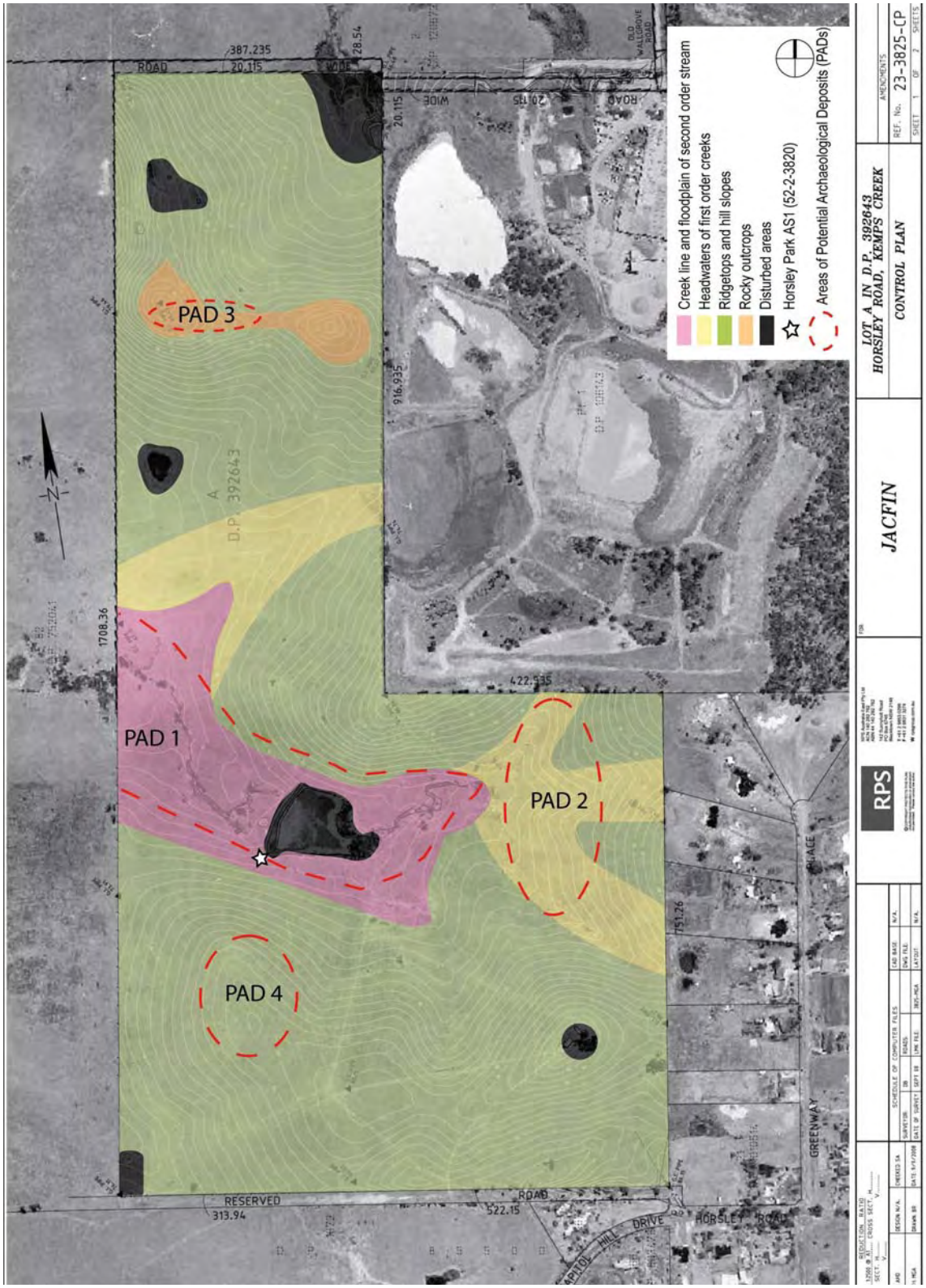

Figure 4.9 Location of landforms and areas of disturbance found within the subject land are shown coloured, see key. The recorded site Horsley Park AS1 is shown marked with a star. Areas of Potential Archaeological Deposits (PADs) are indicated by the dotted red circles (Source: RPS with GML additions 2010)

4.10 Endnotes

1 *Aboriginal Land Rights Act 1983* (NSW), s52(1)(m).

2 Nanson, GC, Young, RW and Stockton, ED 1987, 'Chronology and palaeoenvironment of the Cranebrook Terrace (near Sydney) containing artefacts more than 40 000 years old', in *Archaeology in Oceania* 22(2), Sydney, p 76.

3 McDonald, J, Mitchell, P and Rich, E 1996, A Further Investigation of Site RS1 (45-5-892) at Regentville, Mulgoa Creek, Western Sydney, unpublished report, Sydney, p 33.

4 Foley, J 1986, An Archaeological Survey of 'Windbourne' at Mulgoa, unpublished report, Sydney.

5 Smith, L 1989, Interim Report: Site Survey and Site Analysis on the Cumberland Plain, report prepared for NSW National Parks and Wildlife Service, Sydney, p 2.

6 McDonald, Mitchell and Rich, 1996, op cit, p 115.

7 McDonald, J 2000, Archaeological Survey for Aboriginal Sites: Proposed Light Industrial Subdivision 'Austral Site' – Mamre Road, Eskine Park, NSW, unpublished report, Sydney, p 19.

8 Jo McDonald Cultural Heritage Management Pty Ltd 2008, Archaeological survey for Aboriginal sites: Horsley Park FP 392643A, NSW, Report prepared for the Worley Parsons Group On behalf of Jacfin Pty Ltd, pp 1-27.

9 Appleton, J 2002, The Archaeological Investigation of Lot 2 DP 120673, the site of the proposed new clay and shale extraction area, Old Walgrove Road, Horsley Park, West of Sydney, NSW, unpublished report, Sydney, pp 24, 29.

10 Navin Office Heritage Consultants Pty Ltd 2003, Proposed 132kV Transmission line Erskine Park, NSW, Cultural Heritage Assessment, report for Integral Energy.

11 Curran, N. 1997. Aboriginal Heritage Assessment. Lot 1 of DP 106143. Horsley Park, NSW. Report to CMPS&F Pty Ltd.

12 AHMS. 2005a. Emmuas Village, Kemps Creek, NSW. Aboriginal Archaeological Assessment. Report to Catholic Health Care Services Ltd.

13 AHMS. 2005b. Emmuas Village, Kemps Creek, NSW. Aboriginal Archaeological Test Excavation Report. Report to Catholic Health Care Services Ltd.

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[35] Attenbrow, op cit, pp 153–159.

[36] DECCW, online aboriginal site information: <http://www.environment.nsw.gov.au/nswcultureheritage/OtherSites.htm> Accessed 16 October 2008.

[37] ibid.

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5.0 Non-Indigenous Heritage Assessment

5.1 Introduction

This section discusses potential non-Indigenous heritage issues at the site, including built heritage and the site's historical archaeological potential. This non-Indigenous heritage assessment is based on consideration of background historical information about the site, a review of heritage listings for the site and the surrounding area, and a site inspection.

5.2 Desktop Review

5.2.1 Search of Heritage Registers

Heritage items within the subject land

The following heritage registers were searched to identify any previously recorded heritage items within the subject land or in the vicinity of the subject land:

- State Heritage Inventory (Heritage Branch, Department of Planning);
- State Heritage Register (Heritage Branch, Department of Planning);
- Draft Penrith Local Environmental Plan 2008 (Stage 1)—Schedule 5: Environmental Heritage, Parts 1–3 (Penrith City Council);
- the National Heritage List (Department of Environment, Water, Heritage and the Arts);
- the Commonwealth Heritage List (Department of Environment, Water, Heritage and the Arts); and
- the Register of the National Estate (Department of Environment, Water, Heritage and the Arts).

These searches revealed that the subject land is not located in a Conservation Area and there are no recorded heritage items within it.

Heritage items located in the vicinity of the subject land are listed in Table 5.1 below.

Table 5.1: Heritage Items in the vicinity of the subject land

LGA	Suburb	Item name	Address	Property description	Significance	SHI No
Draft Penrith LEP 2008 Schedule 5	Kemps Creek	Farmhouse outbuildings and landscape	705–752 Mamre Road	Lot 1, DP 104958	Local	2260103
Draft Penrith LEP 2008 Schedule 5	Kemps Creek	Bayly Park—house	919–929 Mamre Road	Lot 35, DP 258414	Local	2260104
Draft Penrith LEP 2008 Schedule 5	Kemps Creek	Gateposts to Colesbrook	269–285 Mamre Road	Lot 8, DP 253503	Local	2260105

LGA	Suburb	Item name	Address	Property description	Significance	SHI No
Draft Penrith LEP 2008 Schedule 5	Kemps Creek	Farmhouse	282 Aldington Road	Lot 142, DP 1033686	Local	2260106
Fairfield LEP 1994 Schedule 4	Horsley Park	Horsley Homestead	52-58 Jamieson Close	Lot 60 & 61 DP 1081261	State	5045518

5.2.2 Review of Documentary Evidence

The historical research undertaken for this project has revealed that a farmhouse, row of trees and associated outbuildings existed in the northwest corner of the subject land, shown on a 1947 aerial photograph (Figure 3.5). A further aerial photograph from 1955 shows additional outbuildings around the farmhouse (Figure 3.6). By 1961 the aerial photographs show the farmhouse in a ruinous state and by 1965 the house is no longer visible and only the line of trees remain. The title history of the property does not assign the farmhouse to any particular owner or time period. Thus it is only known at this stage that the house existed by 1947 and was in ruin and abandoned by 1961, by which time Raymond Fitzpatrick owned the property.

The layout of the former farmhouse and outbuildings is shown on a 2007 aerial (Figure 5.1). Eight Broad-Leafed Privet trees mark the western extent of the site, with a square structure, possibly a cellar or refuse pit located just to the east. The outline of former fence lines or animal pens are visible to the north and south of the former house location. To the southeast a small dam is visible, along with a concrete platform of an earlier farm shed.

Figure 5.1 A 2007 aerial view showing the location of the former farmhouse site (outlined in red). Eight Broad-Leafed Privet trees in a north-south alignment mark the western extent of the site, with a square structure, possibly a cellar or pit located just to the east. The outline of former fence lines or animal pens are visible to the north and south of the former house location. To the southeast a small dam is visible, along with a concrete platform of an earlier farm shed. The western boundary fenceline of the property is visible to the left of the image. (Source: Google Earth, 2010).

5.3 Built and Landscape Elements

The site contains only one building, a late twentieth-century demountable cottage on a prominent hill in the southeast corner of the site (Figure 5.2). This cottage is not considered to have heritage significance. There is a corrugated iron horse shed located next to the cottage, another small animal shed in the southwest corner of the property and a corrugated iron shed next to the main creekline near the western boundary of the property (Figure 5.3). There are wooden posts and a metal gate in the north of the property that are probably the remains of an animal pen or animal loading area (Figure 5.4).

The row of Broad-Leafed Privet trees (*Ligustrum lucidum*), marking the western extent of the old farmhouse, may be a considered landscape feature (Figures 5.5–5.7). Broad-Leafed Privet trees are native of China and were first cultivated in Australia in Camden Park, NSW, in 1857, probably as a hedge plant.[1] They have since become widespread along in eastern NSW and are now considered a noxious weed under Class 4 (locally controlled weed) under the *Noxious Weeds Act 1993*.

Archaeological remains of the farmhouse and associated outbuildings, if they exist, together with the Privet trees may constitute a cultural landscape; however, the significance of this is not considered to be high, due to the fact the trees are considered weeds and the farmhouse is not known to be associated with any prominent identities.

5.4 Potential Archaeological Resource

5.4.1 Site Inspection

The site inspection was conducted on 15 and 21 July 2010 by Lyndon Patterson, Consultant, of GML. The site inspection located only one historic site, the former farmhouse site in the northwest corner of the subject land. The row of eight Broad-Leafed Privet trees in a north–south alignment mark the western boundary of the site with some broken glass and ceramic fragments located under the trees. To the east of the trees is an area of earth disturbance. No physical remains of structure of the farmhouse are visible on the surface. The square-shaped cellar or well visible in the 2007 aerial photograph is not visible and may have been buried since that image was taken. Approximately 100m southeast of the trees is a small dam and a concrete platform to the south of the dam that may be the remains of an early farm shed, possibly a small dairy (Figure 5.8). These items are visible in the 2007 aerial photograph. There are a couple of bricks located near the concrete base.

Other physical evidence of non-Indigenous sites on the subject land included vehicle tracks, one large dam that had been placed on the drainage line in the centre of the property and a smaller dam in the north of the property. Any additional such evidence would be likely to be limited to the following:

- postholes—associated with former fencelines or timber structures such as sheds or stables;
- artefact scatters—associated with incidental use of the site during various phases of its history (land clearing, stock management, temporary camp sites, rubbish dumps); and
- pits—associated with rubbish dumping or carcass disposal.

Figure 5.2 Timber cottage located on a hill in the southeast of the subject land. (Source: GML, 2010)

Figure 5.3 Corrugated iron farm shed located in the near the main natural drainage lne and western boundary fence of the property. (Source: GML, 2010)

Figure 5.4 Wooden posts and metal gate are probably remains of an animal pen or loading area in the north of the property. (Source: GML, 2010)

Figure 5.5 Broad-Leafed Privet trees mark the western boundary of the former farmhouse. (Source: GML, 2010)

Figure 5.6 A total of eight Broad-Leafed Privet trees mark the western boundary of the former farmhouse. Note the dense pasture grasses in the foreground. (Source: GML, 2010)

Figure 5.7 Purple berries on the Broad-Leafed Privet trees. (Source: GML, 2010)

Figure 5.8 Concrete base of a former building or shed near the dam in the north of the property. (Source: GML, 2010)

5.4.2 Summary of Non-Indigenous Archaeological Potential

In summary, one potential non-Indigenous archaeological site was located within the property, this being the former farmhouse shown in the 1947 and 1955 aerial photograph, with an extant row of Broad-Leaf Privet trees, a concrete base from a former building or shed and some bricks, ceramic and glass material. The age of the farmhouse is not known. This site could be further investigated archaeologically.

5.5 Significance Assessment—Non-Indigenous Heritage

The significance assessment is completed for the potential archaeological remains associated with the former farmhouse on the ridgeline in the northwest corner of the property.

5.5.1 Principles

The concept of 'cultural significance' or 'heritage value' embraces the value of a place or item that cannot be expressed solely in financial terms. Assessment of cultural significance endeavours to establish why a place or item is considered important and is valued by the community. Cultural significance is embodied in the fabric of the place (including its setting and relationship to other items), the records associated with the place, and the response that the place evokes in the community.

The assessment of cultural significance with respect to archaeological sites is more difficult, in that the nature and extent of the features is sometimes unknown, and it becomes necessary for value judgements to be formulated on the basis of expected or potential attributes. The element of judgement can be greatly reduced by historical or other research, as has been carried out in this and earlier studies.

Archaeological deposits and features provide important evidence of the history and settlement of New South Wales. Archaeological sites may include stratified deposits of material culture which can be analysed to yield information about the history of the colony and state, which is unavailable from documentary sources alone. Archaeological investigations can reveal much about technologies, economic and social conditions, taste and style. The features and artefacts extracted and recorded can provide primary evidence about the way of life of previous generations, through examination of structural features, artefacts and deposits. Archaeological sites that contain these

elements therefore have a high scientific value. This value can be further enhanced where there is a substantial body of supporting documentary evidence that enables further inference to be drawn from the archaeological records. It is through this potential for revealing information that the heritage significance of archaeological sites occurs.

5.5.2 Basis of Assessment

Bickford and Sullivan Questions

The NSW Heritage Criteria are not specifically tailored to address the significance of archaeological sites, and historical archaeological sites in particular. This is a matter that has been considered in an influential paper by Bickford and Sullivan, published in 1984.[2] Bickford and Sullivan draw attention to the dilemma faced by archaeologists and developers in connection with sites to be destroyed by development and they discuss effective means of assessing those sites' heritage values by applying the following three questions:

- Can the site contribute knowledge that no other resource can?

The potential archaeological remains of the former farmhouse in the northwest corner of the site may contribute knowledge that no other resource can, as the construction and occupation date is not known from the historic record. An aerial photograph shows the house existed in 1947 and by 1961 the house was in a ruinous state. Archaeological investigation may indicate when the house was constructed and first used. Was the house constructed in the late nineteenth century, early twentieth century or as late as World War II? A 2007 aerial photograph appears to show a square structure, possibly a cellar or well, close to the location of the line of trees. There may be evidence of outbuildings, wells, gardens, fencelines buried under the ground. Relics, such as historic artefacts, deposits and structures, if present, may be able to yield information to answer these questions.

- Can the site contribute knowledge that no other site can?

Other farmhouse sites from the late nineteenth and early twentieth centuries have been investigated in NSW. This site is not considered particularly significant or unusual from the current physical evidence or historic aerial photographs.

- Is this knowledge relevant to general questions about human history or other substantive questions relating to Australian history, or does it contribute to other major research questions?

The potential archaeological remains of the former farmhouse may represent rural life in the Cumberland Plain in the late nineteenth or early twentieth century and are considered to have significance at a local level.

Heritage Branch Guidelines for Assessing Significance related to Archaeological Sites and Relics

Use of the Bickford and Sullivan questions will provide basic but essential information. However, particular questions framed around the current NSW Heritage Criteria build upon that essential information to allow consideration of how an individual archaeological site or relic may be assessed in its own right. Part of the significance assessment of the subject sites archaeological resource is carried out by applying a range of criteria expressed in the publication 'Assessing Significance for Historical Archaeological Sites and 'Relics', prepared by the Heritage Branch, Department of Planning (NSW), in December 2009.[3] This guideline has adopted criteria for assessing significance

related to non-indigenous archaeological sites and relics. Significance assessments address the following criteria:

- Archaeological Research Potential (current NSW Heritage criterion E).
- Association with individuals, events or groups of historical importance (NSW Heritage Criteria A, B, & D).
- Aesthetic or technical significance (NSW Heritage Criterion C).
- Ability to demonstrate the past through archaeological remains (NSW Heritage Criteria A, C, F & G).

The potential archaeological remains of the former farmhouse in the northwest corner of the site are considered to have archaeological research potential (Criterion E) at a local level and the ability to demonstrate the past through archaeological remains (Criteria A, C, F & G) at a local level. The historic research has not unearthed any indication of association with people of historical importance or demonstrated that the site has technical or aesthetic significance.

5.5.3 Summary Statement of Significance

The potential archaeological remains of the former farmhouse are known from a 1947 aerial photograph, but by 1961 the house was in ruin and by 1965 the site was cleared. From the aerial photograph the farmhouse appears modest in size and vernacular in design. Today the site is marked by a row of eight Broad-Leafed Privet trees and concrete base possibly from a farm shed next to a small dam. The site represents rural life on the Cumberland Plain in the early twentieth century and is considered to have research significance at a local level.

5.6 Endnotes

1 Weeds Australia Website: <http://www.weeds.org.au/cgi-bin/weedident.cgi?tpl=plant.tpl&ibra=all&card=T02> Accessed on 03/08/10.

2 Bickford, A and Sullivan S 1984, 'Assessing the Research Significance of Historic Sites', in Sullivan, S and S Bowdler (eds) *Site Surveys and Significance Assessment in Australian Archaeology* (Proceedings of the 1981 Springwood Conference on Australian Prehistory), Department of Prehistory, Research School of Pacific Studies, The Australian National University, Canberra, pp 19–26.

3 Heritage Branch, Department of Planning 2009, *Assessing Significance for Historical Archaeological Sites and 'Relics'*, Heritage Council of NSW.

6.0 Impact Assessment of Concept Plan and Staged Project Application

6.1 Concept Plan—Preliminary Layout

The subject site Concept Plan and Stage 1 Project Application contain the following features:

- Indicative location of Stage 1 Project Application Building in the northeast corner of the site;
- Proposed regional road;
- Indicative building footprints;
- Proposed local roads; and
- Environmental Conservation (E2 Zone) on the natural drainage line, downstream of the large dam.

The concept plan (including the Stage 1 Project Area)—preliminary layout is shown in Figure 6.1 overlaid with the Aboriginal objects, Potential Archaeological Deposits (PADs) and heritage items identified in this assessment. The current assessment assesses the impacts of the Concept Plan area and the Stage 1 Project Application Building and Stage 1 Project Application Access Road in the northeast corner of the site.

6.2 Impacts on Indigenous Heritage

The aboriginal objects as part of Horsley Park AS 1 and the four areas of PAD will be impacted by the buildings, roads and associated infrastructure on the proposed Concept Plan. It should be noted however, the footprint of the Stage 1 project application building will not impact the Aboriginal objects or areas of PAD.

The impacts on the Aboriginal objects and PADs from the Horsley Park Employment Precinct Concept Plan and appropriate mitigation measures are detailed in Table 6.1 below.

Table 6.1 Impacts on the Aboriginal objects and areas of PADs from the Horsley Park Employment Precinct Concept Plan.

Site Name / PAD #	Impacts from the Concept Plan	Mitigation Measures
Horsley Park AS1 (52-2-3820)	Objects are next to an indicative building footprint, southwest of the large dam.	Aboriginal Heritage Management Plan (AHMP) See management recommendations Section 7.1
PAD 1	Will be impacted by the proposed regional road, proposed local roads and indicative building footprints. The western half of the PAD largely lies within the E2 conservation zone.	Test excavation, AHMP See management recommendations Section 7.1
PAD 2	Will be impacted by the proposed local road and indicative building footprints.	Test excavation, AHMP See management recommendations Section 7.1

PAD 3	Will be impacted by the proposed regional road and an indicative building footprint.	Test excavation, AHMP See management recommendations Section 7.1
PAD 4	Will be impacted by the proposed regional road and an indicative building footprint.	Test excavation, AHMP See management recommendations Section 7.1

6.3 Impacts on Non-Indigenous Heritage

The potential archaeological remains of the former farmhouse and associated outbuildings and old line of Privet tree plantings will be impacted by the Concept Plan. Figure 6.1 shows that an indicative building footprint is at this location on the Concept Plan. A farmhouse, surrounding outbuildings and trees are known to exist in 1947 from an aerial photograph (Figure 3.5). The history of the farmhouse site is presented in Section 3 of this report and the site is likely to be at most of local heritage significance. If any relics are exposed by future development then the Heritage Branch, NSW Department of Planning should be notified to determine if further investigation will be required.

Figure 6.1 Horsley Park Employment Precinct Concept Plan. The location of the surface artefact scatter Horsley Park AS1, PADs 1-4 and the former farmhouse site are shown overlaid on the concept plan. (Source: JBA, 23 November 2010 with GML additions 2011)

7.0 Conclusions and Recommendations

7.1 Indigenous Heritage

7.1.1 Conclusions

- A search of the AHIMS register did not reveal any previously recorded sites on the subject land; 46 sites have been previously recorded within a 4km x 4km search area. The property has been subject to a previous archaeological investigation (McDonald 2008) which located five artefacts on the dam bank, although these do not appear in the AHIMS results for the area.
- Aboriginal community consultation for this project was initiated by GML in July 2010. Six organisations have currently registered their interest in this project.
- One small surface artefact scatter—Horsley Park AS1 (NPW # 52-2-3820)—was found next to the vehicle track south of the dam bank in the same location of the previous artefacts located by McDonald. This artefact scatter has been registered with DECCW under Section 91 of the *National Parks and Wildlife Act 1974*. This site is considered to have low scientific value. The cultural significance as determined by the registered Aboriginal stakeholders of this site is that it is representative of the area having further cultural material.
- The survey found most of the land was covered in pasture grasses which made ground surface visibility and effective survey coverage extremely low. Due to the pasture grasses, there was little opportunity to locate artefacts on the surface.
- Four areas of Potential Archaeological Deposits (PADs) were located within the subject land which hold potential for buried archaeological material, principally stone artefacts. These PADs are based on intact landforms, archaeological models of the Cumberland Plain, likelihood of containing buried archaeological material, low ground surface visibility and results of the survey. These four PADs are located at the course of the floodplain of the natural drainage line in the centre of the subject land, the headwaters of the first order drainage lines in the east of the subject land, rocky outcrops in the north which may have been used as stone exploitation sources and a large north facing hilltop and slope in the southwest of the subject land.
- The Horsley Park Concept Plan will impact on the site Horsley Park AS1 and PADs 1-4. It should be noted however, the footprint of the Stage 1 project application building will not impact the Aboriginal objects or areas of PAD. Mitigation measures for the impacts from the Horsley Park Concept Plan are detailed in the management recommendations below.

7.1.2 Recommendations

Based on the findings of this investigation and the requirements of the *National Parks and Wildlife Act 1974* and Part 3A of the *Environmental Planning and Assessment Act 1979* the following management recommendations are made for the subject land:

1. Indigenous Community Consultation

Following the request from the Department of Planning, the project will be readvertised in a local newspaper to invite registrations from interested groups or individuals. Any additional stakeholders

beyond those already identified in Section 4.2.2 that register an interest to the advertisement within the closing date, will be included in the consultation process on this project.

2. Test Excavation Program

To mitigate the impact from the proposed development, archaeological investigation in the form of a test excavation program should be undertaken at the four PAD locations to determine the presence and extent of buried archaeological material at these locations. An Archaeological Research Design (ARD) should be developed prior to the test excavation and presented to the registered Aboriginal stakeholders for review and comment. It is recommended that the test excavation methodology should follow the DECCW 'Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales'. Should highly significant archaeological deposits be discovered during the test excavation program, a program of salvage excavation may be appropriate. If Aboriginal objects are located during the test excavation program, the finds should be reported to DECCW under Section 91 of the *National Parks and Wildlife Act* 1974.

3. Aboriginal Heritage Management

Following the test excavation program, Aboriginal heritage over the balance of the Concept Plan area, including the objects recorded - Horsley Park AS1 (NPW # 52-2-3820) and other objects located can be managed by either:

- The preparation of an Aboriginal Heritage Management Plan (AHMP) prior to the commencement of future development on the subject land beyond the Stage 1 application area. The AHMP would need to be reviewed by registered Aboriginal stakeholders; or
- The undertaking of an Aboriginal Heritage Impact Assessment on a project by project basis prior to the commencement of each project.

4. Unexpected Discovery of Further Aboriginal Objects

Should Aboriginal objects be identified during any stage of development of the subject land, works must stop and a suitable qualified archaeologist should be called in to document and assess the finds. The finds should be reported to DECCW under Section 91 of the *National Parks and Wildlife Act* 1974.

5. Unlikely Discovery of Human Remains

In the unlikely event that human remains are discovered during any development works on the property, the findings should immediately be reported to the New South Wales Coroner's Office and/or the New South Wales Police. If the remains are suspected to be Aboriginal, DECCW should also be contacted and a specialist should be consulted to determine the nature of the remains.

6. Reports

Copies of this report have been forwarded to the Aboriginal stakeholders who have registered an interest in this project for comment. Cultural assessments and comments received from these organisations have been included in this report in Appendix C.

One hard copy and one electronic (PDF) copy of the final report should be forwarded to:

The Registrar

Aboriginal Heritage Information Management System
NSW Department of Environment, Climate Change and Water
PO Box 1967
HURSTVILLE NSW 2770

7.2 Non-Indigenous Heritage

7.2.1 Conclusions

- A search of the historic registers, including the State Heritage Register, Stage Heritage Inventory, Penrith LEP and Commonwealth Heritage lists, revealed that there are no previously recorded heritage items within the subject land and it is not located in a Conservation Area.
- The historical research undertaken for this project has revealed that a farmhouse, row of trees and associated outbuildings existed in the northwest corner of the subject land, shown on a 1947 aerial photograph; however by 1961 the farmhouse was in a state of ruin and appeared no longer occupied. The historic research failed to establish when the farmhouse was constructed and first occupied.
- The site today is marked by a row of Broad-Leafed Privet trees, and a concrete base of a possible early shed next to a small dam.
- The potential archaeological remains of the former farmhouse and surrounding outbuildings is considered to have research potential at a local level only.

7.2.2 Recommendations

Based on the findings of this investigation and the requirements of the *Heritage Act 1977* and Part 3A of the *Environmental Planning and Assessment Act 1979* the following management recommendation is made for the subject land:

- The potential archaeological remains of the former farmhouse and surrounding outbuildings may have some significance at a local heritage level and accordingly if any relics are exposed by future development works then the Heritage Branch, Department of Planning should be notified to determine if further investigation will be required.