

UNIVERSITY OF SYDNEY:
CENTRE FOR OBESITY DIABETICS AND CARDIOVASCULAR
RESEARCH (CODCD) PROJECT,
ABORIGINAL HERITAGE ASSESSMENT

September 2009



Report prepared for the University of Sydney

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I INTRODUCTION

Jo McDonald Cultural Heritage Management was initially commissioned by Jones Lang LaSalle to conduct an Aboriginal Heritage Assessment of the site for the proposed Centre for Obesity Diabetics and Cardiovascular Disease (CODCD) at the University of Sydney. A Project Application is currently being prepared for the Department of Planning in relation to Stage 1 of this development.

The draft of this report was prepared in 2007 as part of the Feasibility and Concept Design. The current report reflects subsequent changes in the Project Master Plan, and updated recommendations in light of the revised DECCW Aboriginal community consultation guidelines.

1.1 Project Description

The University of Sydney proposes to construct the CODCD on lands between the University of Sydney, Royal Prince Alfred Hospital and St John's College (Figures 1, 3 & 4). The project also involves the construction of a car park designed to accommodate approximately 1000 vehicles (located at Oval 2). The Veterinary Building, the R.M.C. Gunn Building and the H.K. Ward Gymnasium Building (all located along Regimental Drive) will be incorporated by the proposed works (Figure 4). The proposed CODCD buildings will replace the existing Veterinary Science Area and extend into the north eastern boundary of the St. John's College Oval. Stage 1 works will impact on the H.K. Ward Gymnasium, the Centenary Institute and the western edge of St John's oval (Figure 1).

Figure 1: Proposed Plan- Stage I CODCD development

I.2 Study aims

The aims of the Aboriginal Heritage Assessment are to:

1. determine the extent, nature and integrity of archaeological relics and potential archaeological deposits (PAD) in the development area;
2. assess the significance of any such relics and PADs;
3. assess potential development impacts to the relics and PADs;
4. recommend management options to mitigate impacts and ensure that development is undertaken in accordance with the *NSW Heritage Act 1977* and the *National Parks & Wildlife Act 1974*.
5. facilitate Aboriginal community consultation in accordance with the *Aboriginal Cultural Heritage Community Consultation Guidelines* (DECCW 2009).

The study includes the following components:

- ☞ A review of previous reports, surveys and studies in the locality;
- ☞ A land-use impact assessment (based on aerial photos, historical information and disturbance history) to assist in the assessment of the potential for the subject land to contain undisturbed Aboriginal archaeological evidence;
- ☞ Development of a predicative model for the types of Aboriginal archaeological sites which may occur within the study area, based on regional models and an understanding of the local environmental and cultural context;
- ☞ A field investigation to ground-truth the land-use impact assessment;
- ☞ Identification of constraints to the proposed development which may arise from Indigenous heritage considerations;
- ☞ Liaison with the Metropolitan Land Aboriginal Land Council, particularly with Allan Madden who is a Native Title claimant for the area.

I.2 Summary of Findings and Recommendations

The study area was found to be highly disturbed and therefore there are no areas currently assessed as having high potential for intact archaeological deposit. There are several areas which were unable to be observed during the present study and will require further investigation in order to allow an assessment to be made. It is therefore recommended that;

1. As no archaeological sites or areas of potential archaeological deposit were located during the current study, and the assessable portions of the study area are designated Zone 3/4 (low-no archaeological potential/significance) the assessable portion of the study area should be considered developable without archaeological constraint
2. The proposed demolition of the R.M.C Gunn Building, Veterinary Science Building and the H.K. Ward Gymnasium Building may reveal intact archaeological deposit below their foundations. These buildings should be subject to further archaeological assessment after their demolition. If intact archaeological deposits are identified, a Section 90 *Aboriginal Heritage Impact Permit* will be required and

investigation of these areas undertaken before the development can continue. This work should be carried out in accordance with DECCW guidelines and with the participation of MLALC. If no intact archaeological deposits are found after the demolition of the buildings, a Section 90 *Aboriginal Heritage Impact Permit* will not be required and there will be no further heritage constraints on development.

3. The Metropolitan LALC may be invited to monitor any initial works, such as the demolition of The R.M.C. Gunn Building, the Veterinary Science Building and the H.K. Ward Gymnasium Building.
4. The above recommendations should be considered in conjunction with any building assessments for the R.M.C. Gunn Building, Veterinary Science Building and the H.K. Ward Gymnasium Building. *The University of Sydney Grounds Conservation Plan Vol.1* (Oct 2002) has assessed the Veterinary Science Precinct as having high historic value. The trees along the boundary of St. Paul's Oval have been assessed as having high aesthetic value.

1.3 Report Authorship and Acknowledgments

Fieldwork was undertaken by Andrea Ward and Sandra Wallace (Archaeologists, Jo McDonald CHM). Dr. Peter Mitchell (Groundtruth Consulting) examined the geomorphology and soil of the study area. This report was written by Andrea Ward, Sandra Wallace and Jo McDonald.

2 ABORIGINAL COMMUNITY INVOLVEMENT

The study area falls within the boundaries of the Metropolitan Land Aboriginal Land Council (MLALC). Mr Allen Madden of the MLALC was consulted prior the survey and participated in the survey. A report was not received by MLALC at the time of the survey. MLALC were contacted again (7th September 2009) to give them an opportunity to comment but a report has not been received.

3 THE STUDY AREA

The study area is part of the Camperdown Campus of the University of Sydney (Figure 2). The campus is bounded by Parramatta Road to the north, Victoria Park to the east, City Road and a series of residential colleges associated with the University to the south, and the Royal Prince Alfred Hospital and St John's College to the west.

Figure 2: University of Sydney (Botany Bay 9130-3-S 1:25,000 Topographic Map).

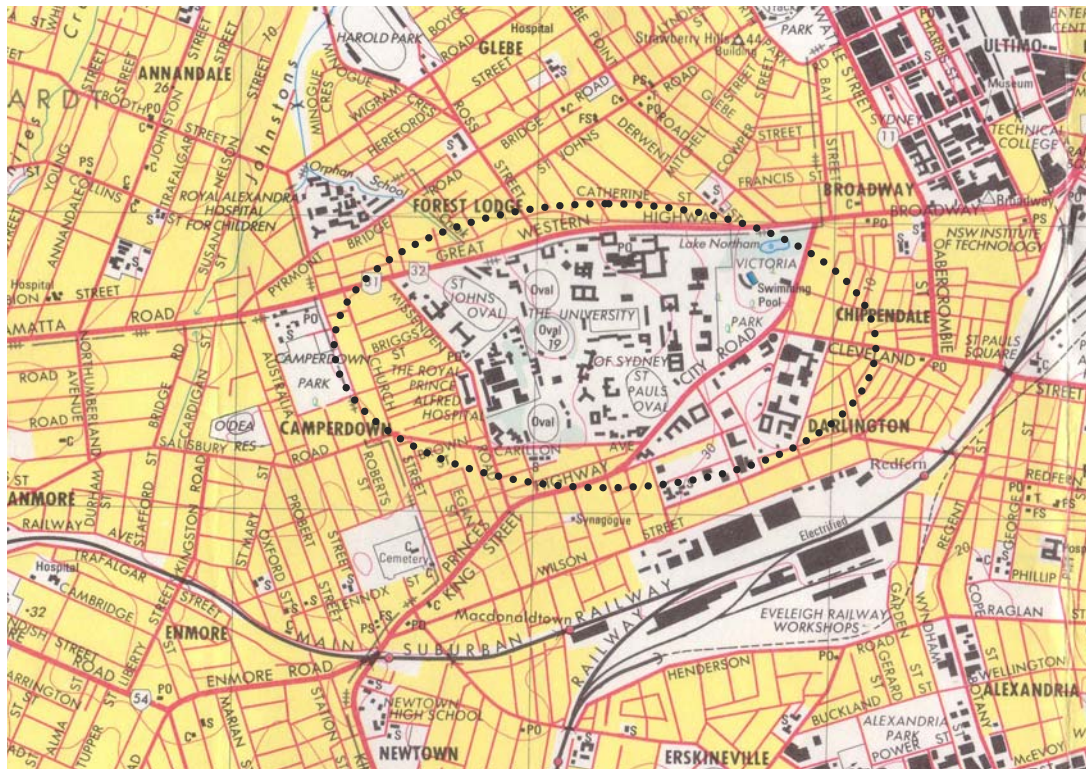


Figure 3: Aerial photo of the study area.



Figure 4: The study area is highlighted in orange and outlined in yellow, including Oval 2 (proposed single level car park).



3.1 Topography and Hydrology

The grounds of the University are located on the northern slope of a broad ridge forming the watershed between Sydney Harbour (Port Jackson) and Botany Bay. An arm of the ridge system juts north from the watershed to run down between Blackwattle Bay and Rozelle Bay. The ridgeline is 30–40 metres above sea level at its highest point. The study area includes a high point of the ridgeline in the north-eastern section of the University grounds. This was known as Petersham Hill, and overlooked the lower reaches of Blackwattle Creek. The lower grounds of the University precinct, including the lower sections of the study area were generally swampy.

Before 1788, the landscape around Petersham Hill would have consisted of a series of low ridge lines associated with relatively open sandstone valleys draining into the upper parts of Port Jackson (City Plan Heritage 2004). The headwaters of a number of creeks running into Port Jackson are located on the watershed ridge between Botany Bay and Port Jackson. At present most are channelized or highly modified. Orphan School Creek, which runs into Johnstons Creek, transected the study area, with its source located in the area that is currently occupied by No. 1 and No. 2 Ovals.

Darling Harbour, Blackwater Bay and Rozelle Bay lie just over one kilometre from the study area. Botany Bay is around 7 kilometres away, as are the Cooks River and Sheas Creek (now known as Alexandria Canal). The University grounds are thus relatively close to a number of estuarine resource zones (Pearson *et al.* 2002).

3.2 Geology

The ridge lines of the study area form part of a system of gently undulating rises capped with Ashfield Shale of the Wianamatta group. The Wianamatta Shales cover a large portion of Sydney's inner western and southern suburbs (Benson & Howell 1995: 8). The Ashfield Shale is underlain by Hawkesbury Sandstone. There are no sandstone exposures within the study area; the closest exposures are at Glebe and around Blackwattle Bay at Pyrmont.

Buried silcrete boulders have been found less than one kilometre south-west of the University grounds, at Newtown. These are part of a Tertiary period paleochannel that is as yet unmapped but could possibly extend beneath the University grounds (Pearson *et*

al. 2002: A8). It is likely that the inhabitants of the study area would have used silcrete from this source to manufacture stone tools (given that this source was buried beneath the surface), although there may have been other, currently unidentified, surface sources in the area.

3.3 Flora

William Bradley, a Lieutenant on HMS *Sirius*, described the original vegetation of the University precinct when he noted that 'Brown Bark'd Gum Tree ... grows in the Kangaroo Ground' (Bradley 1969). Benson & Howell (1995) provide a review of early descriptions of the Turpentine-Ironbark Forest that existed in areas of shale clay soils of the Inner Western suburbs. Twenty to thirty metre high trees would have formed an open-forest structure. Tree species included Turpentine, *Syncarpia glomulifera*; White Stringybark, *Eucalyptus resinifera*, Grey Ironbark, *Eucalyptus paniculate*, Red Mahogany, *Eucalyptus resinifera*, and Blackbutt, *Eucalyptus pilularis*. Understory species included *Acacia falcata*, *Acacia parramattensis*, *Dodonaea triquetra*, *Pittosporum undulatum* and *Polyscias sambucifolia* (Benson & Howell 1995: 17–18, 61).

The swampy headwaters of Blackwattle Creek would have had an original vegetation structure similar to that found at the headwaters of the Tank Stream: that is, Scribbly Gums, *Eucalyptus racemosa*, ti-tree, *Leptospermum flavescens* (now *polygalifolium*), banksia, *Banksia spinulosa* and *Banksia oblongifolia*, bottlebrush, *Callistemon citrinus*, and Paperbarks, *Melaleuca decora* and *Melaleuca styphelioides* (Benson & Howell 1995: 42; Pearson *et al.* 2002: A9).

Attenbrow (2002: 40–41) notes that over 250 plants in the Sydney region have been identified as producing edible berries, fruits, leaves, roots (or tubers or rhizomes), or nectars – or provide wood, timber, fibre or resin used to make tools and weapons. Some of these would have been utilised by the inhabitants of the study area (see Pearson *et al.* 2002: Table A1), but there is insufficient information to reconstruct local dietary habits or subsistence regimes.

With respect to original plant resources within the University of Sydney area, Pearson *et al.* (2002: A10) conclude:

There were thus both food and raw material plant resources that would have attracted people to the Turpentine-Ironbark Forests, though none of these plants are restricted in distribution to only

this association. These forests do not appear to have been resource-rich (at least in terms of diversity of species, and possibly abundance) as the extensive heath and swamp communities of the sand-hills between Bondi and Botany Bay ... or the fringing communities that grew along the small sandstone gullies, such as the Tank Stream ... This perception, however, may be due to the lesser knowledge available about the plant communities of the Turpentine–Ironbark forests.

3.4 Fauna

The fauna of the pre-1788 Sydney region included kangaroos, wallabies, possums, gliders, wombats, bandicoots, quolls, fruit bats, echidnas, native mice and rats, water rats, emus, ducks, parrots and parakeets, tortoises, blue-tongue lizards, snakes and goannas (Attenbrow 2002: 42; Pearson *et al.* 2002: A11). The University grounds are part of an area that was known as the 'Kangaroo ground' indicating that kangaroos would have been a readily available resource. A focus for food gathering would also have been the adjacent estuary and its shorelines, replete with fish and shellfish (Pearson *et al.* 2002: A11).

3.5 Post-Contact Land-Use History

Following the establishment of the first settlement in 1788 the 'Kangaroo Ground', stretching southwards from Parramatta Road towards Botany Bay and the Cooks River, was seen to be one of the few areas suitable for cultivation between Botany Bay and Broken Bay (Collins 1802 and Tench 1793, cited in Pearson *et al.* 2002: A6). The decision by Governor Phillip to set aside the land surrounding Petersham Hill for church, school and Crown purposes was formalised in August 1798 by the division of 1000 acres into relevant reserves. The first campus of the University was sited within the 400-acre Crown Reserve.

Figure 5: Development of University Grounds, 1790s-1880, including original reserve and land grants, through to 1930 when Oval 2 was constructed. (Source: Pearson et al. 2002, Vol. 1).

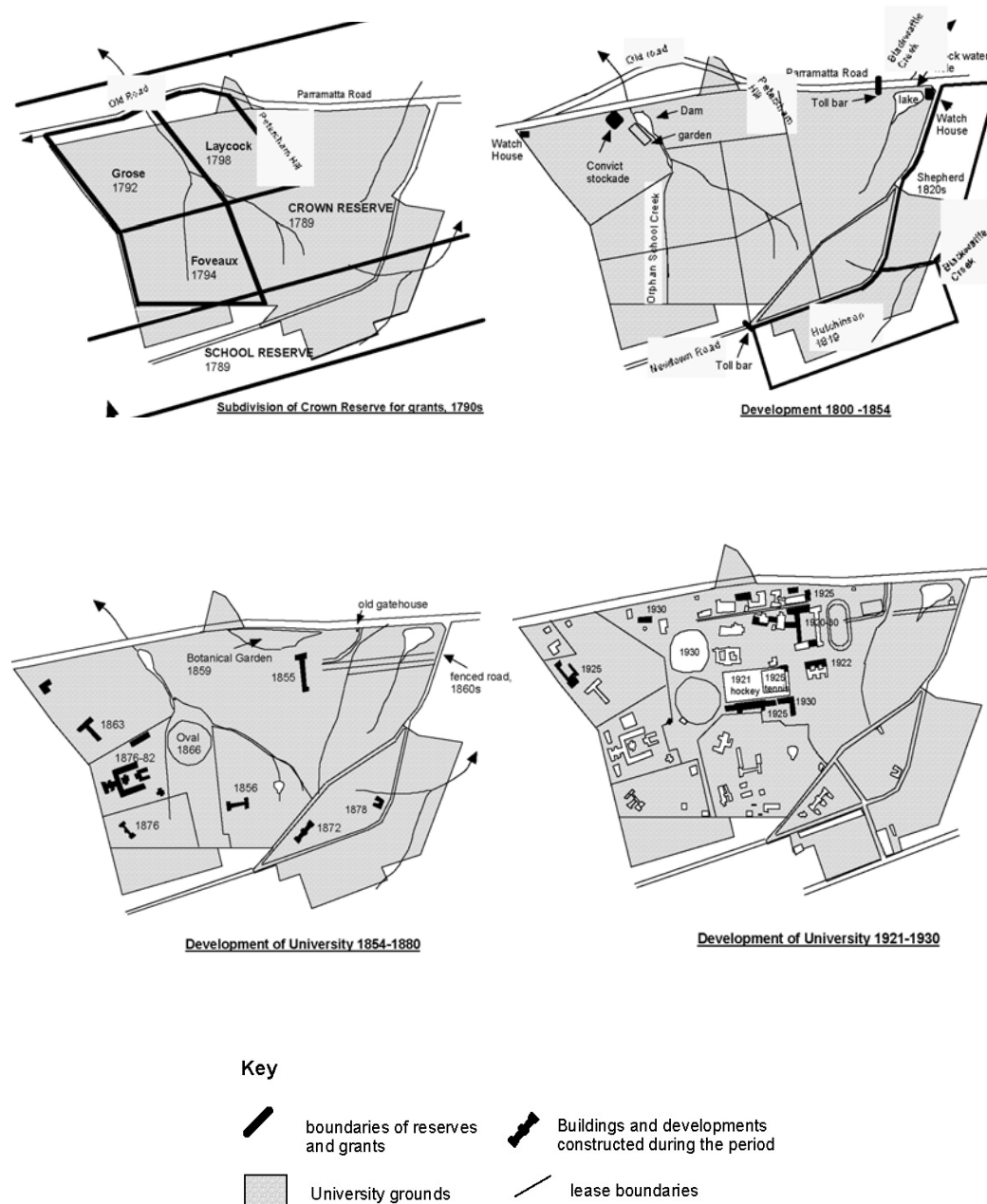


Figure 6: Map of Grose Farm, University Reserve dated 1855. Orphan School Creek enters the south-west perimeter of St. John's Oval (The University of Sydney Archives).

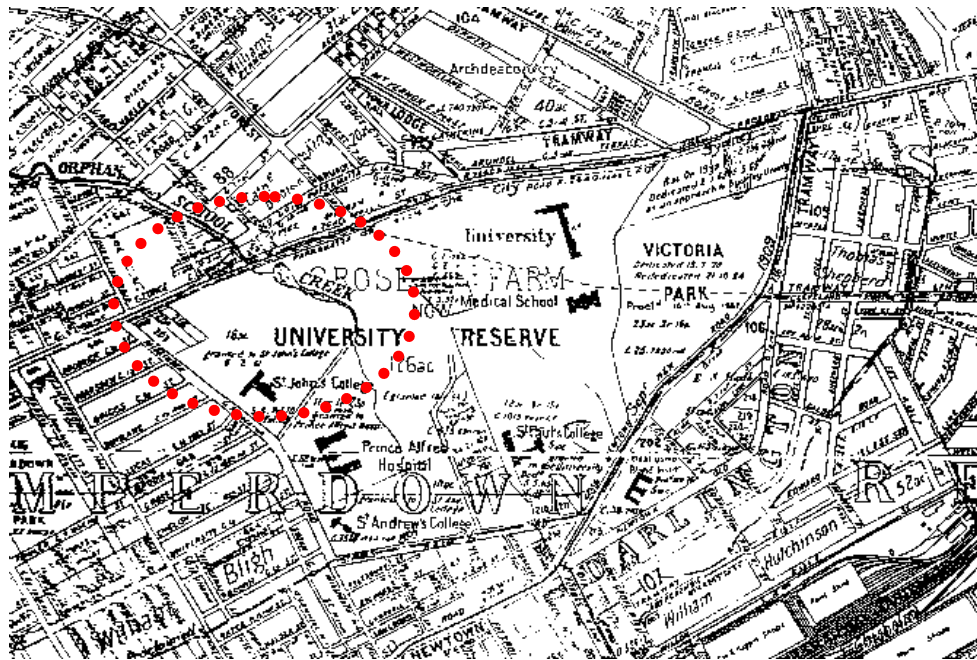


Figure 7: Orphan School Creek entering Grose Farm/Camperdown from Johnstons Bay dated 1866. (Ashton *et al* 2000:29).



In 1792 Lt-Governor Francis Grose was granted a 14-year lease for 30 acres contained within the Crown Reserve. Two additional leases were granted adjoining Grose Farm in the following four years (to Capt. Foveaux and Quartermaster Laycock; see Figure 5). Throughout this period the area around Petersham Hill was primarily pastoral, although a section was used as a timber yard.

In 1801 five hundred acres in the district of Petersham was granted to the Female Orphan Institution (and associated farms) which was established next to Orphan School Creek (see Figures 6 & 7). Over the next thirty years the land was further subdivided. A convict stockade associated with the development of Parramatta Road was established on what is now the north-west corner of the University grounds, and the north-east corner of St John's College grounds (see Figure 5, Pearson *et al.* 2002: 6).

Up until 1823, when the land including the study area reverted to the Crown, it was subject to various improvements, including additional farm buildings, convict lodgings, a series of tanks and a reservoir. From 1823 to 1855 the greater part of the area was fenced and used as pasture. Between 1855 and 1856 the University of Sydney was granted approximately 126 acres to the north of City Road, encompassing the area of the former Grose Farm (Pearson *et al.* 2002: A 19–21).

From 1855 to the present the University grounds (including the study area), have been subject to extensive clearing, construction, landscaping, terracing and planting activities, resulting in extensive disturbance of the ground surface and subsurface deposits. The geotechnical results of investigations by Douglas Partners show that the original channel of Orphan School Creek Branch (leaving the main Johnstons Creek channel at Wigram Road, Camperdown) and adjacent slopes are covered by three to five metres of fill.

Johnstons Creek Stormwater Channel no.55, constructed between 1895 and 1901, cuts through the University grounds in an easterly direction until the drain bifurcates opposite No.2 Oval. The main branch then continues on in a south-westerly direction passing under the Medical School, before passing out of the grounds into Carillon Avenue and terminating at Campbell Street. The size of the drain varies from 2.77m x 1.22m box sections to 0.30m circular sections (Sydney Water).

Prior to 1890 stormwater was carried by either combined sewers or natural watercourses (see Figure 7), resulting in unsanitary public health conditions. In 1890 Public Works proposed a separate system of stormwater drains to be built, and by 1900 numerous stormwater drains, including Johnstons Creek SWC, had been completed or were under construction. Johnstons Creek SWC represents an example of one of the earliest purpose built stormwater drains to be constructed in Sydney, and is listed under Sydney Water's conservation register as 'moveable heritage of local significance'.

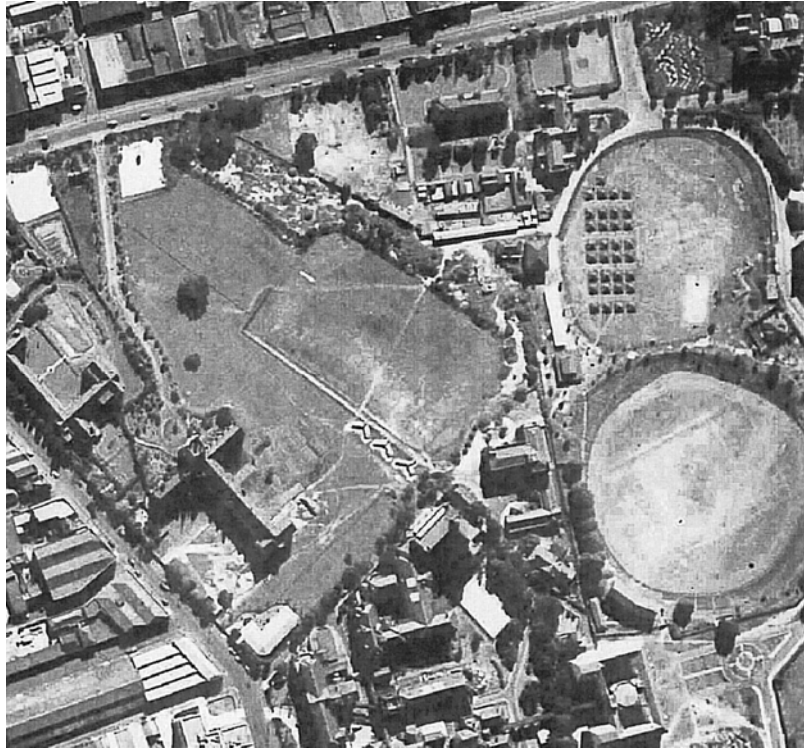
Oval No.1 was constructed in 1884-1890, as part of the relief works improvements to the University grounds. During construction of the oval, the ground was levelled, cut back, and banks were shaped and turfed. From c.1916 spoil from excavations for the City Railway was used as fill in some areas around the Veterinary School, the oval, and part of St John's College lands. The oval can be seen below during the 1895 Military Review soon after its construction (Figure 9).

Figure 8: Military Review, 1895. The No. 1 Oval is to the right. (The University of Sydney, Section 170 Register Report: 4726008: University Ovals 1 & 2).



Oval No. 2 was constructed in 1930-1931, and was occupied during World War II by a unit of the United States Army. The 1943 aerial photo shows disturbance around the ovals and Veterinary School (all within the study area) (Figure 10).

Figure 9: Aerial photo 'from the skies 1943' (RTA), note the zigzag trenches for protection from bombing and the lines of military tents on Oval No. 2.



3.6 Land Use Impacts

Previous land use impacts across the study area have been categorised below in order to assess the potential for the survival of intact Aboriginal archaeological deposit within the study area.

Heavily disturbed areas are constructed land forms, buildings and constructed surfaces.

Artefacts may be present but it would not be possible to determine their origin or context. Many artefacts originally occurring in this zone may have been destroyed by these processes. This zone includes areas subject to construction, erosion and major landscaping works, such as the infilling of Orphan School Creek.

Moderately disturbed areas are natural landforms but with disturbed soils. Artefacts may be present but may have been moved from their original locations. This zone includes areas which have been cultivated continuously or are disturbed by unformed vehicle tracks.

Lightly disturbed areas are natural landforms in which artefacts may be present within an undisturbed sub-surface context. This zone includes areas that may have been cleared of timber, or have had topsoil occasionally ploughed or ripped.

The impacts of previous development including building construction and land filling/modification within the study area suggest that it is unlikely that intact archaeological deposit remains. The observed section of the study area is therefore assessed as 'highly disturbed'.

3.7 Development Impacts

The proposed CODCD development will result in the further modification of the study area. If any archaeological deposits were to remain, the impact of the proposed development would result in their destruction. These impacts include;

- ☒ Building demolition
- ☒ Building construction
- ☒ Landscaping

4 LEGISLATION

Aboriginal Cultural Heritage is protected by legislation, both within NSW and Federally. The relevant Acts are summarized briefly below.

- ☒ The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (as amended 2006) is Federal legislation. It protects the environment, particularly matters of National Environmental Significance. It streamlines national environmental assessment and approvals process, protects Australian biodiversity and integrates management of important natural and cultural places;
- ☒ The *Aboriginal and Torres Strait Islander Heritage Protection Amendment Act 1984* is also Federal legislation, which was enacted to protect places, areas and objects of particular significance to Aboriginal's and for related purposes.

In New South Wales, there are three Acts that principally pertain to Aboriginal heritage:

- ☉ The *National Parks and Wildlife Act 1974* is the primary Act providing protection for Aboriginal objects (sites, relics and cultural material) and Aboriginal places. As part of this Act, the Department of Environment and Climate Control (DECC) have created the Aboriginal Heritage Information Management System (AHIMS), which records all known Aboriginal heritage sites in the state;
- ☉ The *Environmental Planning and Assessment Act 1979* requires the consideration of the environmental impact of a development before it happens. This includes impacts on both Aboriginal and non-Aboriginal cultural heritage items and places. Under this act, Local Governments are required to prepare Local Environmental Plans (LEPs), which provide guidance on the level of environmental assessment required prior to development taking place. This legislation also requires the preparation and implementation of Regional Environmental Plans (REPs);
- ☉ The *Heritage Act 1977 (as amended)* has made provision for places, objects or relics to be placed on the State Heritage Inventory and / or the State Heritage Register, which affords a level of protection against destruction. Although this act primarily deals with non-Aboriginal heritage, Aboriginal places, objects or relics may also be placed on these lists.

Locally:

- ☉ Part 4 of the *South Sydney Local Environment Plan 1998*, relates to heritage and clause 27 deals with Aboriginal cultural heritage. This section of the LEP states that consents will be granted to developments on archaeological sites which have Aboriginal cultural heritage significance or are reasonably likely to have Aboriginal cultural heritage significance if they have met the following criteria:

1. a Statement of Heritage Impact has been prepared on how the proposed development will affect the conservation of the site and any relic known to be located or reasonably likely to be located at the site;
2. the Director-General of the National Parks and Wildlife (now Department of Environment & Climate Change and Water) has been notified of the intention to develop the site and comments received from the Director-General have been taken into consideration within 28 days of notice being sent;
3. any necessary consents or permissions have been granted in accordance with the *National Parks and Wildlife Act 1974*.

5 ARCHAEOLOGICAL CONTEXT

5.1 Pre-Contact Aboriginal Life

First hand descriptions of traditional Aboriginal life in the Sydney region rely on information gathered by either those who sailed with Captain James Cook in 1770 on the *Endeavour*, or those early colonists and naval officers who accompanied Captain Arthur Phillip and the First Fleet in 1788 (for example, David Collins, Watkin Tench, William Dawes, John White, GB Worgan, Ralph Clarke, William Bradley and Daniel Southwell).

Attenbrow (2002: 22) notes that while many of the early observers used the term 'tribes' to name groups, these are not 'tribes' in the modern-day anthropological understanding of the word. More commonly, the groups were local descent groups, otherwise referred to as local clans or territorial clans. Pearson *et al.* (2002: A6) suggest that some confusion remains as to whether the clan lands associated with what are now the grounds of the University of Sydney are the lands of the Cadigal or the Wanngal. This arises from conflicting information contained within two historical quotes:

The tribe of Cadi inhabit the south side, extending from the sought head to Long-Cove; at which place the district of Wanne, and the tribe of Wangal, commences, extending as far as Par-ra-mata, or Rose-Hill (King in Hunter 1793 [1968]:412).

From the entrance of the harbour, along the south shore, to the cove adjoining this settlement the district is called Cadi, and the tribe Cadigal; the women, Cadigalleon. The south side of the harbour from the above-mentioned cove to Rose Hill, which the natives call Parramatta, the district is called Wann, and the tribe Wanngal. (Phillip 13 Feb 1790 [1892: 309]).

On the basis of King's description the University grounds lie within Cadi. Collins' description implies that the grounds lie at the eastern end of Wanne (Pearson *et al.* 2002: A6-7).

Ultimately, the process of colonisation was one which saw the inhabitants of the study area dispossessed of their lands and of the food and plant resources that the lands provided very early in the establishment of Sydney. Steele (2001: 3) suggests that the area occupied by the Cadigal (or Wanngal), which included the study area, was reduced in number from approximately fifty individuals in 1788 to only three by 1790. This arose from decimation caused by introduced disease, loss of traditional lands and resources, inter-tribal conflict for reduced resources, starvation, and the breakdown of traditional cultural practices (City Plan Heritage 2004: 33).

Before European colonisation the inhabitants of the Sydney region relied on food obtained through fishing, hunting and gathering plants and small animals. The land and its rivers and estuaries were the source of a range of plant and animals for food, medicines and raw materials for tools, weapons, shelters and body decoration (Attenbrow 2002: 37; see also Benson & Howell 1995; Kohen 1986). A variety of tools were used for obtaining food and raw materials, carrying small objects and equipment-making. Weapons were required for either offensive or defensive purposes (Pearson *et al.* 2002: A7).

5.2 Regional Context

The Aboriginal archaeology of the Sydney CBD and inner suburbs remains less well understood than other parts of the region, such as the Cumberland Plain of western Sydney (e.g. Kohen 1986, McDonald & Rich 1993; Rich & McDonald 1995; Smith 1989, Jo McDonald CHM 2001) and areas of the Hawkesbury sandstone around the Sydney Basin (e.g. Attenbrow 1987; McDonald *et al.* 1994). As central Sydney was subject to the earliest occupation by European settlers it has undergone intensive and often

multi-layered development. Any relatively intact Aboriginal open site¹ within this area will consequently be of significance due to its rarity (Jo McDonald CHM 1998).

The Port Jackson Archaeological Project provides an overview of sites in the central Sydney region (Attenbrow 2003). The project listed 126 open middens, 203 middens in rockshelters, 6 open middens associated with small rockshelters, 27 deposits in rockshelters, and 7 open deposits (open campsites or open scatters of artefacts). Most of these sites are located on Hawkesbury sandstone and its overlying Quaternary sediments. Only a very small number have been recorded on the Wianamatta shale landscapes that characterise the grounds of the University (Pearson *et al.* 2002: 30). The majority of surviving archaeological sites in the central Sydney area are located in rockshelters (e.g. Bowdler 1971; Attenbrow 1992) with open site contexts scarce in comparison.

There have been a number of archaeological excavations over the last 25 years, within the central Sydney region. Several of these projects are discussed below in order to provide a regional context for the Aboriginal Heritage Assessment at the University of Sydney.

Moore's Wharf, Miller's Point

In 1984 an Aboriginal midden was recorded at Moore's Wharf, Millers Point (Lampert and Truscott 1984). The deposit was located beneath the rubble floor of the Bond Store, truncated on both sides by wall trenches of the building. It consisted of a 10cm deep shell midden within a light brown A-Horizon soil that covered approximately 30cm of stone-artefact-rich grey sand, and lay within a natural depression in the sandstone bedrock.

Shell remains included oyster (*Saccostrea* and *Ostrea*), whelk (*Pyrazus ebininus*), cockle (*Anadara trapezia*) and mussel (*Trichomya*). Of the approximately 400 stone artefacts recovered, raw materials included silcrete, quartz, quartzite and chert, represented by an assemblage of cores, used flakes and fabricators, with indications of use of unusually small pebbles and bi-polar flaking. The artefacts were post-Bondaian in technology and

¹ **Open camp site** usually refers to a surface scatter of stone (and sometimes other artefacts such as bone and shell, and features, such as hearths and stone knapping floors). Types of raw materials often reflect proximity to sources. Knapping floors can reveal details about technology. An **Isolated artefact** refers to a single Aboriginal artefact made from stone, bone, shell or other material. Whether or not an artefact is culturally isolated from others depends on archaeological convention and context.

there was evidence for continuation of Aboriginal use of the site well into the historic period.

Lilyvale Cottage

The salvage excavation of a small midden, adjacent to Lilyvale Cottage on Cumberland Street in The Rocks was reported in Attenbrow (1991). The site was dated to c. 340 years prior to the European settlement of Sydney Cove. The deposit included rock oyster (*Saccostrea cucullata*), hairy mussel (*Trichomya hirsuta*), snapper bones (*Pagrus auratus*) and bream bones (*Acanthopagrus australis*).

Angel Place

Investigations at Angel Place next to Wynyard Station (NPWS #45-6-2581) provided limited evidence of prehistoric Aboriginal use of the Tank Stream Valley – most of the archaeological deposit having been destroyed by development. An assemblage of 54 flaked stone artefacts was recovered from an area of around 10 square metres. The assemblage included flakes, cores and flake fragments from a variety of raw materials (including silicified tuff, indurated mudstone, silcrete and quartz).

Sydney Conservatorium of Music

A total of 16 artefacts were recovered from five excavated pits at the Conservatorium site, although it was concluded that they were brought to the location along with fill material, at an indeterminate date (post-1800) (Jo McDonald CHM 1998). Most of the artefacts were silcrete, however, there were also examples of quartz, quartzite and indurated mudstone artefacts. The majority were flakes, but the assemblage included one core and one microlith.

The Quadrant Site, Broadway

The excavation of a series of European pits and post holes at the rear of the Phoenician Club in February 2002 identified a small and isolated remnant patch of sandy loam covering an area of approximately 5m x 10m, which revealed a small number of Aboriginal flaked stone artefacts. The site was registered (NPWS Site #45-6-2629) and excavated during Stage 2 of the project.

Only 3 of 16 excavated pits contained Aboriginal artefacts (a total of 14) and all were located within one isolated patch of remnant topsoil situated at the most elevated part of the site adjacent to Mountain Street. Raw materials were confined to quartz (7 items), silcrete (6 items) and a single flake of unidentified stone.

The low distribution of Aboriginal artefacts encountered at the site is probably a function of two factors:

- ☞ the area reflected infrequent Aboriginal visitation and use in the past and hence low density artefact accumulation; and,
- ☞ the effects of post-1788 processes operated to remove the majority of previously deposited cultural material.

The recovered collection appears to represent a background distribution of isolated finds, salvaged from a disturbed (historical) landscape, possibly reflecting sporadic past Aboriginal visitation and use.

The final report (Steele & Czastka 2003) suggests that the absence of more substantial Aboriginal archaeological remains identified on the Quadrant site excavations may be partly due to the poorly-drained nature of the Blackwattle Creek landscape. Although Aboriginal people were likely to have exploited the available food and raw material resources of the creekline/swamp environments within and immediately adjacent to the study area, they are unlikely to have established long-term occupation sites on the lower-lying and poorly drained land. The report further concludes:

The portion of the local landscape likely to have contained more substantial evidence for past Aboriginal visitation and use of the locality would have been found along the higher site elevations overlooking Blackwattle Creek than were offered by the residual soil landscape of the Hawkesbury Sandstone adjacent to today's Mountain Street. These areas coincided with intense historical settlement and construction activities and these processes appear to have served therefore to destroy any further archaeological deposits that may have been present.

The KENS Site

An Aboriginal archaeological site was excavated within the Sydney City block that is defined by Kent, Erskine, Napoleon and Sussex Streets – referred to as the 'KENS' site (Steele & Czastka 2005). The material was preserved beneath sheetwash deposits located under a terrace basement and backyard (City Plan Heritage 2004: 39). The excavation

recovered upwards of 1000 artefacts, distributed in various densities across the site overlooking the original shoreline of Cockle Bay. Quartz and silcrete dominated, but a range of other raw materials were present. Although the full range of a reduction sequence appeared to be present (with a number of formal tool types), the majority of items were small (*cf.* Angel Place) suggesting a culture of paucity as opposed to plenty: that is, raw materials may have been hard to get and/or were brought in from some distance away (Dominic Steele pers. comm.).

The topsoil was defined (and variously disturbed) by surrounding 19th and early 20th-century archaeological features including terrace footings, wells, cess pits and service lines.

The findings of work undertaken at the site indicate the following:

- ☞ Raw materials indicate the use of quartz and silcrete.
- ☞ At least two knapping events can be identified among a low to medium density lithic scatter.
- ☞ A colluvial component has been identified in the soils creating lenses that indicate it may be possible to separate the introduced material from the *in situ* artefacts.
- ☞ Two Geometric Microliths and a Bondi Point indicate a Bondaian date.
- ☞ The use of both silcrete and quartz, in association with Microliths, suggests a mid to Late Bondaian time period.

William Street

A programme of Aboriginal and historical archaeological excavation was undertaken by Neville Baker at 60–70 William Street (Steele & Czastka 2005). The investigation revealed a large quantity of Aboriginal flaked stone artefacts.

- ☞ The bulk of the excavation contexts that produced the Aboriginal finds were located within approximately 5–10 metres of the (now channelled) alignment of Woolloomooloo Creek that crosses the site.
- ☞ The main soil profiles consisted of indurated colluvial sand that overlay Waterloo Rock.

- ☞ Salvage excavation and wet screening of approximately 60 square metres of deposit (to varying depths) revealed upwards of 1000 flaked stone artefacts comprising items of quartz, silcrete, tuff, indurated mudstone and petrified wood.
- ☞ The principal component of the assemblages consists of a range of small quartz fragments (including bipolar knapping waste) although a smaller number of formal tool types such as backed blades are also present.

Smail and Mountain Street Site

A combined historical and Aboriginal archaeological excavation on the corner of Smail and Mountain Streets was completed under the direction of Mary Dallas. A small number of Aboriginal flaked stone artefacts (no more than 3 or 4) have been recovered from re-deposited historical archaeological excavation contexts that include footing trench fills and introduced fill deposits.

Archaeological and geomorphological investigations indicated that the site retained little or no potential to contain significant intact or *in situ* Aboriginal archaeological deposits beyond the finds previously identified. The following preliminary observations and conclusions have been prepared for the site (Steele & Czastka 2005):

- ☞ Subsurface profiles consisted of considerable depths of heavy black sandy clay loams that appear to have been frequently inundated and/or largely waterlogged in the past as was previously observed at the Quadrant site. These deposits in turn were extensively disturbed by ongoing European occupation and development of the place as a result of creek modification, housing construction and deposition of fills associated with reclamation

5.3 Local Context

A search of the Department of Environment Climate Change and Water (DECCW) Aboriginal Site Register (AHIMS, 28/05/07) showed one site (NPWS #45-6-2745) recorded within the University Campus, in the area of the Law Building.

Previous excavations in the University grounds (Jo McDonald CHM 2005b), at Maze Green and the Geology lawn, identified a disturbed A-horizon with low archaeological significance. At Maze Green one silcrete artefact was recovered *in situ* from the

disturbed overburden. It is likely that this artefact was moved into the area as part of fill deposit. At the Geology lawn one silcrete artefact was recovered within the upper portion of the buried A-horizon. This artefact was listed with DECC as site NPWS #45-6-2745.

Test excavations at the University of Sydney Central site over a five day period in 2006 (Jo McDonald CHM 2006) failed to identify any intact archaeological deposit. Hand excavation of eleven 1m² pits through the buried A horizon to the surface of the B horizon resulted in the recovery of a single flaked silicified tuff artefact. No other identifiable Indigenous cultural material was recovered.

Only two Aboriginal sites have been recorded within the area of the original Blackwattle Creek Catchment, the site of the Quadrant at Broadway and the site at Smail and Mountain St, although a single find in Victoria Park was recorded in the 1890s. This was a stone axe (or hatchet) head that has subsequently been lost.

5.4 Predictions for Sites in a Local Context

On the basis of local and regional studies and considering the local landscape and resource availability, the following predictions can be made about site types and their likely locations within the study area:

1. Open camp sites (artefact scatters) and isolated artefacts are the most likely site types to be encountered.
2. Sites are most likely to occur in valleys and on well-drained, lower slopes, saddles and ridges adjacent to sources of freshwater.
3. Most sites are located within 100 m of (at least semi-permanent) water.

Archaeological investigations suggest that the Turpentine-Ironbark forests of the Wianamatta shales were inhabited infrequently, although the forests contained resources that the Aboriginal people could have utilised (Pearson *et al.* 2002: 31). The relatively small number of sites recorded in the Inner West and Sydney CBD may be a function of the high levels of destruction and disturbance of sites as the city expanded.

There has been considerable disturbance associated with the establishment and expansion of the University. The *University of Sydney Grounds Conservation Plan* (Pearson *et al.* 2002) has identified four areas of open land within the grounds that are the most likely to have potential for Aboriginal deposits:

- ☉ St John's College sports ground
- ☉ The areas around University Ovals No. 1 and 2
- ☉ The areas adjacent to the boundary fence between the University grounds and Victoria Park
- ☉ The open areas around Old Darlington School.

The first two are located within the current study area. Both were originally in close proximity to a water source, the swampy channel of Orphan School Creek, and therefore may have been focal areas for Aboriginal activities and campsites. But as these areas have been subject to considerable modification and/or building construction, it is unlikely that natural surfaces have survived. These areas are therefore predicted to have a low archaeological potential.

6 FIELDWORK & SURVEY RESULTS

6.1 Field work methodology

Andrea Ward and Sandra Wallace (Archaeologists, Jo McDonald CHM), Peter Mitchell (Geomorphologist), Cameron Kline (Development Manager, Jones Lang LaSalle) and Allen Madden (Cultural & Educational Officer, MLALC) met on site on Tuesday 29th May 2007.

The study area was covered by pedestrian survey, which targeted areas of good visibility, such as exposed areas at the base of trees, sections of St. John's Oval and the perimeters of Ovals No.1 and No.2. In general, visibility across the study area was low, at <10%.

6.2 Site Description

The study area was surveyed in three sections (Figure 3). These were:

1. St. John's College Oval
2. Oval No. 2 and surrounds
3. The built environment - or the Veterinary Science Area (encompassing the Veterinary Science Building, the R.M. Gunn Building and the HK Ward Building).

St John's College Oval- Visible ground surfaces revealed mixed deposits containing construction material such as bricks, gravel and glass. These exposures were primarily at the north-eastern side of the St John's College sports ground, particularly along the embankment beneath the relatively dense growth of trees and bushes (Plate 1). The grassed areas at the edge of the oval allowed only low visibility.

Plate 1: Example of disturbance/developments surrounding the St John's oval periphery, facing west.



North-east, along St John's oval, the SWC pipeline would have been closest to the original line of Orphan School Creek. Spoil from the construction of the City railway in the 1920's were used for fill over Orphan School Creek flats (Pearson *et al.* 2002: 8). The site of the 1840s convict stockade and garden, adjacent to or possibly within what is now the Veterinary Sciences building was also located in this area. During the survey it was noticed that the water table was high in this area and the ground was sodden.

Plate 2: Western end of St John's oval, SWC pipeline follows the north-east tree line.



Oval No. 2 – Visibility was very poor within the oval as the ground surface was obscured by turf. Some exposures were located around the base of trees lining the oval although the deposit appeared to be disturbed (Plate 2).

Plate 3: Shale exposure south of Oval 2 (facing north-west).



Plate 4: Oval 2 (location for the proposed car park) facing north-west towards the Veterinary Science and R.M. GUNN buildings (both buildings scheduled for demolition as part of this development).

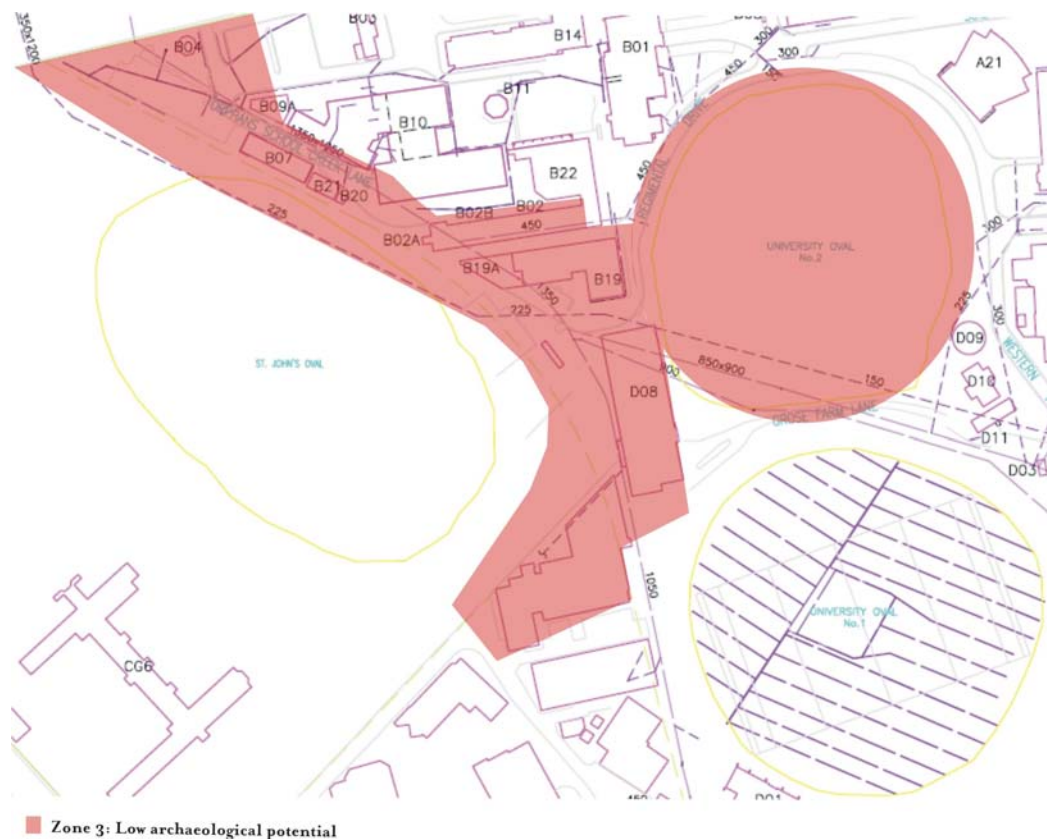


The built environment – The presence of buildings within the study area did not allow the observation of the ground surface below. Further inspection of deposit potential beneath these buildings is required after their demolition.

6.3 Survey Results

No sites or surface artefacts were identified within the current study area. The assessed zones of disturbance are shown (Figure 10). Land use mapping within the study area, based on pre-survey assessment and the recommendations of the *University of Sydney Grounds Conservation Plan* (Pearson *et al.* 2002), identified two areas of PAD. Ground-truthing during survey downgraded the assessment of the study area, which has high levels of previous disturbance. All of the current study area is assessed as being highly disturbed.

Figure 10: Highlighted is the approximate development zone of high disturbance



7 DISCUSSION

7.1 Archaeological Potential and Significance

In order to appropriately manage Aboriginal heritage the study area must be assessed for its archaeological significance and/or potential. Assessment includes the identification of lands with the greatest potential to contain intact archaeological deposit (i.e. only minimally disturbed by previous land-use impact) and those which are locally (and regionally) threatened by existing urban development. These two factors affect the assessment of high conservation potential.

Four zones are generally identified for this purpose, although only the two lowest categories are found within the subject land: These zones are used to assist in the assessment of the sites and landscapes within the study area.

☉ Zone 1 – High archaeological potential

☉ Zone 2 – Moderate archaeological potential

☉ Zone 3 – Low archaeological potential

☉ Zone 4 – No archaeological potential

The assessable portions of the study area were found to be Zone 3/4 (low/no archaeological potential).

Cultural significance

This usually refers to the importance of a site or feature to the local Aboriginal community. Certain sites, items and landscapes may have traditional significance or contemporary importance to the community. This importance may involve both traditional links with specific areas, as well as an overall concern by Indigenous people for continued protection of their sites in general. Cultural significance must be assessed by the relevant Aboriginal community – in this case the Metropolitan Local Area Land Council (MLALC).

A report outlining the field inspection of the study area and its assessed cultural or Aboriginal significance was requested from the Metropolitan Local Aboriginal Land Council at the time of the survey, and again at for this revision, but has not been received.

Scientific significance

One of the aims of cultural heritage management is to preserve a representative sample of the archaeological resource for the benefit of future scientific researchers and the general public. Assessment of scientific significance involves placing a site or heritage item within a broader regional framework, as well as assessing the site's individual merits in light of current archaeological discourse. This usually includes an assessment of a site's potential to answer current archaeological research questions. Assessment is also based on the condition (integrity), content, and representative of a site, e.g. is it representative of a certain site type? Is it a rare or exceptional example? Can it contribute information that no other site can?

The study area has been previously subject to a considerable amount of disturbance, therefore it is assessed as being of low scientific significance.

Public significance

This refers to a site's potential to educate the general public about Aboriginal culture, but can have a broader definition. Increasing public awareness and understanding about a site's Indigenous and scientific values may spare other sites spared from inadvertent or intentional destruction. Educating the public to appreciate the past may increase the chances of archaeological resources surviving into the future.

Public significance may also include the different community values placed on a site or heritage place. These may include its importance to local residents or the wider community: e.g. aesthetic values, recreational values, links with local European history and local identity. Also of importance when considering heritage management outcomes is the extent of proposed development impact and the existing condition of the heritage resource. The current development proposal will result in a number of impacts across the study area. These impacts will range from small scale landscaping

works to the demolition of established buildings, in contexts where the original surface areas have already been disturbed. Therefore, the public significance of the study area has been assessed as low.

7.2 Management Principles

The following general management principles apply for sites and landscapes with Aboriginal heritage values. These principles are predicated on the assessment of archaeological sensitivity based on previous levels of land-use disturbance.

- ☉ Sites and/or landscapes with high archaeological potential or high cultural significance (particularly in threatened landscapes) should be identified as worthy of conservation, and development impacts on these areas should be avoided.
- ☉ Sites and/or landscapes with moderate archaeological potential or cultural significance should be managed on the basis of their assessed significance. These areas would only require sub-surface investigation if they provided landscape parameters which are poorly understood in the local and regional context;
- ☉ Sites and/or landscapes of low or no archaeological potential or cultural significance do not require planning consideration or further archaeological investigation in relation to the proposed development;

7.2.1 Managing identified sites/landscapes

No land within the current study area has as yet been assessed as worthy of conservation (Zone 1). All of the assessed study area has low to no archaeological potential/significance (Zone 3 and 4). Zone 3 is assessed as having low archaeological potential and Zone 4 as assessed as having no archaeological potential/significance. Areas assessed as being Zone 3/4 require no further archaeological work.

There are no identified Aboriginal heritage constraints within the assessed portions of the study area. The deposit beneath the buildings cannot be assessed until demolition takes place. The level of archaeological potential/significance and resultant

recommendations relating to heritage constraints or management protocols cannot be applied to these areas until further assessment is completed.

8 RECOMMENDATIONS

The following recommendations are made as part of the Aboriginal Heritage Assessment of the CODCD project site. These are made on the basis of:

- ☉ the legal requirements of the National Parks and Wildlife Act NSW 1974 (as amended) whereby it is illegal to damage, deface or destroy an Aboriginal Relic without the prior written consent of the Director-General, DECCW NSW;
- ☉ the interests of the Metropolitan Local Aboriginal Land Council (MLALC);
- ☉ the results of the field survey completed within the study area;
- ☉ a review of archaeological investigations in the local context;
- ☉ the assessed potential/significance of the landscapes and archaeological features identified within the study area; and,
- ☉ the assessed impacts of the development proposal.

It is recommended that:

1. As no archaeological sites or areas of potential archaeological deposit were located during the current study, and the assessed portions of the study area are designated Zone 3/4 (low-no archaeological potential/significance) these areas should be considered developable without archaeological constraint.
2. Those parts of the study area currently beneath the foundations of existing buildings were not able to be assessed during the current study. The proposed demolition of the R.M.C Gunn Building, Veterinary Science Building and the H.K. Ward Gymnasium Building may reveal intact archaeological deposit below their foundations. These areas should be subject to further archaeological assessment after their demolition. If intact archaeological deposits are identified, a Section 90 *Aboriginal Heritage Impact Permit* would be required, and further investigation of these areas may be necessary before the development can proceed. This work would

need to be carried out in accordance with DECC reporting and community consultation guidelines and with the participation of MLALC. If no archaeological deposits are found after the demolition of the buildings, a Section 90 *Aboriginal Heritage Impact Permit* will not be required and there will be no further heritage constraints on development.

3. MLALC may be invited to monitor initial works, such as the demolition of The R.M.C. Gunn Building, the Veterinary Science Building and the H.K. Ward Gymnasium Building.
4. The above recommendations should be considered in conjunction with any building assessments for the RMC Gunn Building, Veterinary Science Building and the HK Ward Gymnasium Building. *The University of Sydney Grounds Conservation Plan Vol.1* (Oct 2002) has assessed the Veterinary Science Precinct as having high historic value. The trees along the boundary of St. Paul's Oval have been assessed as having high aesthetic value.

5. One copy of this report should be sent to:

Allan Madden
Cultural & Educational Officer
Metropolitan LALC
PO Box 1103
Strawberry Hills NSW 2012

6. Two hard copies and one electronic copy of this report should be sent to:

Ms Lou Ewins
Manager Cultural Heritage Division
Sydney Zone, DECCW
PO Box 668
Parramatta NSW 2124

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