

ABORIGINAL ARCHAEOLOGICAL DUE DILIGENCE ASSESSMENT

LINDFIELD LEARNING VILLAGE, LINDFIELD

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SH801
FINAL
PREPARED FOR DESIGNINC SYDNEY PTY LTD

URBIS

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EXECUTIVE SUMMARY

This Aboriginal Archaeological Due Diligence Assessment has been prepared by Urbis on behalf of the NSW Department of Education (DoE) (the 'Applicant') in support of State Significant Development Application (SSD 8114) for the development of the 'Lindfield Learning Village' within the former UTS Ku-ring-gai Campus at 100 Eton Road, Lindfield (the 'site').

This assessment has been undertaken in accordance with the Due Diligence Code of Practice for the Protection of Aboriginal Objects¹ which requires reasonable and practicable steps be taken to: identify whether or not Aboriginal objects are, or are likely to be, present in an area; determine whether or not their activities are likely to harm Aboriginal objects (if present); and determine if an Aboriginal Heritage Impact Assessment is required.²

This Assessment is required as proposed works are going to occur within the vicinity of registered Aboriginal sites, as well as in association with landscape features that are considered to be indicative of the likely existence of Aboriginal objects or sites.

Investigations under the code have included the following:

- Research into the historical and environmental context of the Study Area. This research found that the Study Area would have had the potential to contain Aboriginal sites/objects prior to disturbance. However, this research also found that the Study Area has been subject to severe and extensive disturbance.
- A search of the AHIMS. This search showed that no Aboriginal archaeological sites or places are recorded within the Study Area. The closest site to the Study Area is located approximately 12 metres to the northeast of Carpark A, on the eastern side of the overall site and outside of the proposed impact area. This site, being AHIMS #45-6-2210, is registered as a rock shelter site containing a shell midden deposit. This site is located outside of the Study Area and well outside of any of the proposed impact areas.
- A desktop assessment, including a review of previous archaeological and heritage studies in the vicinity of the Study Area, was undertaken. This review suggested that rockshelter and artefact sites were the most commonly encountered site types in the area, though the results of previous investigations as well as the extent to which the Study Area has been disturbed (and the absence of suitable rockshelters, rock outcrops and rock platforms within the Study Area and proposed impact areas specifically) indicates that the potential for such sites to be encountered within the Study Area is very low to nil;
- A visual inspection of the Study Area. During this inspection, no Aboriginal objects were identified. The visual inspection confirmed that the Study Area had been severely disturbed, and that the archaeological potential of the Study Area is very low;

Overall, the archaeological potential and sensitivity of the Study Area has been assessed as very low. No Aboriginal sites or objects were identified within the Study Area as part of the current assessment, and no previously recorded sites, as registered on AHIMS, are located in Study Area or in proximity to proposed impact areas.

Based on the above, there is no identified risk of harm to any Aboriginal sites or objects associated with the proposed works. It has therefore been determined that no further Aboriginal archaeological investigation is required for the currently proposed works. In accordance with best practice, general mitigation measures are recommended below.

Recommendations

The general mitigation measures recommended below provide contingency procedures that should be referred to in the event that unexpected Aboriginal sites, objects, or skeletal remains are identified within the Study Area during the proposed works. It is reiterated, however, that no identified Aboriginal sites or objects are present within the Study Area, and the potential for such sites has been assessed as very low.

¹ DECCW 2010

² DECCW 2010:2

Recommendation 1

All relevant on-site staff and contractors should generally be made aware of their statutory obligations for heritage under NSW National Parks and Wildlife Act 1974 and the NSW Heritage Act 1977.

Recommendation 2

In the event that further proposals are made that will result in sub-surface disturbance within the Study Area, or which have the potential to impact known Aboriginal sites in the vicinity, further assessment and consultation with relevant Aboriginal stakeholders will be required.

Recommendation 3

This Due Diligence Assessment report must be kept by the property owner so that it can be presented, if needed, as a defence from prosecution.

Recommendation 4

If Aboriginal object/s are identified in the Study Area during works, then all works in the immediate area must cease and the area cordoned off. The Office of Environment and Heritage must be notified by ringing the Enviroline 131 555 so that the site can be adequately assessed and managed.

Recommendation 5

In the event that skeletal remains are uncovered, work must cease immediately in that area and the area cordoned off. Santos Limited must contact the NSW Police with no further action taken until written advice is provided by the Police. If the remains are determined to be of Aboriginal origin, the Office of Environment and Heritage must be notified by ringing the Enviroline 131 555 and a management plan prior to works re-commencing must be developed in consultation with the relevant Aboriginal stakeholders.

1. INTRODUCTION

1.1. BACKGROUND

This Aboriginal Archaeological Due Diligence Assessment has been prepared by Urbis on behalf of the NSW Department of Education (DoE) (the 'Applicant') in support of State Significant Development Application (SSD 8114) for the development of the 'Lindfield Learning Village' within the former UTS Ku-ring-gai Campus at 100 Eton Road, Lindfield (the 'site').

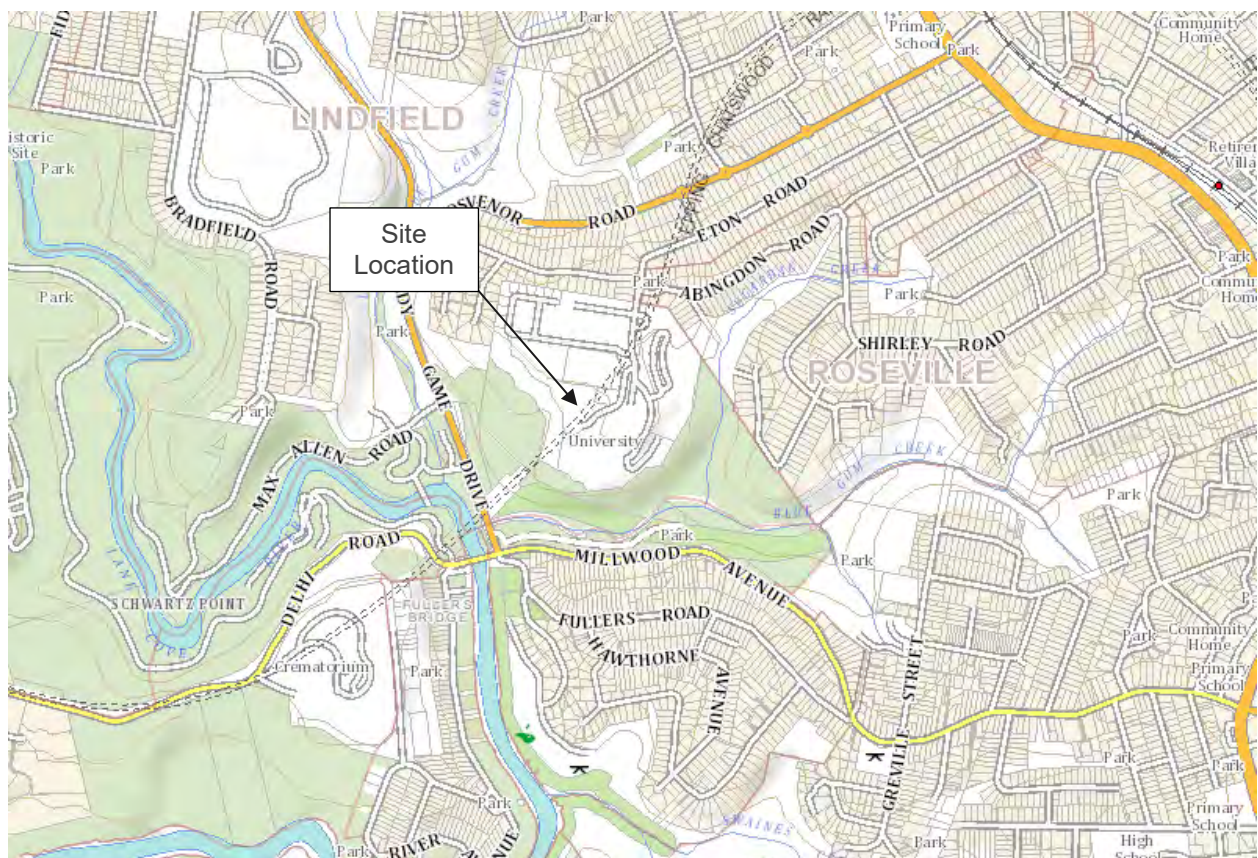
This Assessment is required as proposed works are going to occur within the vicinity of registered Aboriginal sites, as well as in association with landscape features that are considered to be indicative of the likely existence of Aboriginal objects or sites.

1.2. SITE LOCATION

The Study Area comprises the former UTS Ku-ring-gai Campus, located within the suburb of Lindfield, and within the Ku-ring-gai Local Government Area (LGA). It predominately comprises Lot 2 DP1151638, as well as part of Lot 4 DP1151638.

The Study Area is bounded by Dunstan Grove and Eaton Road to the north, by two carpark areas to the east, and by the Lane Cove National Park to the west and south.

Figure 1 – Site location map



Source: <https://maps.six.nsw.gov.au/>

1.3. THE PROPOSAL

The proposal involves the redevelopment of the former UTS Ku-ring-gai Campus for the purposes of a new school to be known as the Lindfield Learning Village.

The proposed development provides an opportunity to deliver a new educational model within a unique campus setting and will cater for students from Kindergarten through to Year 12. An overview of the proposed school and ancillary facilities is provided below.

Kindergarten to Year 12 Home Bases

- It is planned to group students into six home bases, each catering for students of all ages from Kindergarten to Year 12. The home base model represents the educational concept of 'schools within a school'. The educational philosophy is based on the principles of 'Future Focussed Learning' and academic progression through the school is by stage of scholastic achievement, not by the age of the student.

Other Facilities

The proposed school will also be supported by the following facilities:

- Child care centre, which will operate from 6.30am to 6.30pm;
- Aurora College (Distance Education).

After Hour Facilities

It is anticipated that the following facilities will also be made available after hours for community use:

- Existing Greenhalgh Auditorium;
- Existing Lecture Theatre; and
- Existing Lecture Theatre.

No external demolition or earthworks are proposed as part of this SSD application.

Elements of the proposal which may potentially impact on Aboriginal archaeological objects and/or sites, if present, are limited to landscaping works including:

- Install a 2.1 metre high main security fence around the perimeter of the former campus site. This will require footings measuring approximately 300 millimetres in diameter and 400 millimetres deep at intervals of approximately 2.5 metres;
- Install new concrete paths in selected areas. Concrete paths are to have a general thickness of approximately 100 millimetres;
- Establish play/recreation areas in discrete locations. These areas will contain shade structures which will require limited footings approximately 900 millimetres in diameter and approximately 900 millimetres deep;
- Install covered, open learning structures with associated footings;
- Re-landscaping generally, including removal of dead trees and re-planting as required.

The location of these works is shown in the below figure in relation to the remainder of the former campus elements. It is noted that these elements of the proposal will occur only within previously disturbed areas of the overall site.

More detailed landscaping has not been resolved at this stage, with no formal landscaping plans provided prior to finalisation of this report. As such, this assessment is based only on the proposed works shown in Figure 2, below. This is also been attached at Appendix B.

Figure 2 - Elements of the proposal which may potentially impact on Aboriginal archaeological objects and/or sites



Source: DesignInc 2017

Figure 3 – Examples of proposed external elements to be installed



FOOTING SPECIFICATION FOR FENCE : approx. 300 dia x 400 deep concrete footing at approx. 2.5m centres

FOOTING SPECIFICATION FOR SHADE STRUCTURE : approx. 900 dia x 900 deep concrete footing

LINDFIELD LEARNING VILLAGE

2.1m HIGH BOUNDARY FENCE AND SHADE STRUCTURE EXAMPLES



Source: DesignInc 2017

1.4. METHODOLOGY

This report has been written in accordance with the Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (2010). An overview of the relevant legislative context has been provided at Section 2, below.

1.5. AUTHOR IDENTIFICATION

The following report has been prepared by Karyn Virgin (Senior Heritage Consultant/Archaeologist). Stephen Davies (Heritage Director) have reviewed and endorsed its content.

Unless otherwise stated, all drawings, illustrations and photographs are the work of Urbis.

2. LEGISLATIVE CONTEXT

2.1. THE NATIONAL PARKS AND WILDLIFE ACT 1974 (NSW)

The National Parks and Wildlife Act 1974 (NSW) (the 'NPW Act') is the primary piece of legislation for the protection of Aboriginal cultural heritage in New South Wales. The Office of Environment and Heritage (OEH) administer the NPW Act. The NPW Act provides statutory protection for Aboriginal objects by making it illegal to harm Aboriginal objects and Aboriginal places, and by providing two tiers of offence against which individuals or corporations who harm Aboriginal objects or Aboriginal places can be prosecuted. The NPW Act defines Aboriginal objects and Aboriginal places:

Aboriginal object means 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.

Aboriginal place means any place declared to be an Aboriginal place under section 84. The highest tier offences are reserved for knowledgeable harm of Aboriginal objects or knowledgeable desecration of Aboriginal places. Second tier offences are strict liability offences—that is, offences regardless of whether or not the offender knows they are harming an Aboriginal object or desecrating an Aboriginal place—against which defences may be established under the National Parks and Wildlife Regulation 2009 (NSW) (the 'NPW Regulation').

Section 87 of the NPW Act establishes defences against prosecution under s.86 (1), (2) or (4). The defences are as follows:

- An Aboriginal Heritage Impact Permit (AHIP) authorising the harm (s.87(1))
- Exercising due diligence to establish Aboriginal objects will not be harmed (s.87(2))

Due diligence may be achieved by compliance with requirements set out in the National Parks and Wildlife Regulation 2009 (the NPW Regulation) or a code of practice adopted or prescribed by the NPW Regulation (s.87(3))

This assessment report follows the Due Diligence Code and aims to establish whether Aboriginal objects would be harmed by the proposed wastewater route in accordance with S.87(2) of the NWP Regulation.

2.2. THE NATIONAL PARKS AND WILDLIFE REGULATION 2009 (NSW)

The NPW Regulation 2009 (cl.80A) assigns the Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW (NSW Department of Environment, Climate Change and Water 2010)(the Code) as one of the codes of practice that can be complied with pursuant to s.87 of the NPW Act.

Disturbed land is defined by cl.80B (4) as “disturbed if it has been the subject of a human activity that has changed the land’s surface, being changes that remain clear and observable”. Examples given in the notes to cl.80B (4) include “construction or installation of utilities and other similar services (such as above or below ground electrical infrastructure, water or sewerage pipelines, stormwater drainage and other similar infrastructure)”.

2.3. THE DUE DILIGENCE CODE OF PRACTICE FOR THE PROTECTION OF ABORIGINAL OBJECTS IN NEW SOUTH WALES 2010

The Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (the Code) describes the process that must be followed and the actions that must be taken by a proponent, and the site conditions that must be satisfied, to show due diligence in the consideration of potential harm to Aboriginal objects.

The Due Diligence Code sets out a basic framework with the following steps followed in order to make an assessment of whether or not proposed activities may impact Aboriginal objects:

- **Step 1.** Will the activity disturb the ground surface?

- **Step 2a.** Search the AHIMS database and use any other sources of information of which you are already aware
- **Step 2b.** Activities in areas where landscape features indicate the presence of Aboriginal objects
- **Step 3.** Can the harm or the activity be avoided?
- **Step 4.** Desktop assessment and visual inspection
- **Step 5.** Further investigations and impact assessment

The process set out in the Code involves consideration of harm to Aboriginal objects at increasing levels of detail, with additional information incorporated at each step and used to support the decisions being made. If the proposed activities are not “low impact activities” (a defence for which is provided under the Regulation) the considerations result in a determination of whether or not:

- further approval (an AHIP) under the NPW Act is required, or;
- Due Diligence obligations for the protection of Aboriginal objects are discharged by the process under the Code.

Aboriginal consultation is not required for an investigation under the due diligence code.³ However, if the due diligence investigation shows that the activities proposed for the area are likely to harm objects or likely objects within the landscape, then an Aboriginal Heritage Impact Permit will be required with full consultation.

A record of the due diligence procedure followed must be kept to ensure it can be used as a defence from prosecution.⁴

Following a due diligence assessment (where an AHIP application was not required), an activity must proceed with caution. If any Aboriginal objects are identified during the activity, then works should cease in that area and OEH notified.⁵ The due diligence defence does not authorise continuing harm.

2.4. NATIONAL NATIVE TITLE REGISTER (NNTR)

The *Commonwealth Native Title Act* 1993 establishes the principles and mechanisms for the preservation of Native Title for Aboriginal people. Under Subdivision P of the Act, Right to Negotiate, Native Title claimants can negotiate over some proposed developments (known as the ‘Future Acts’) if they have the right to negotiate, which is granted only when the claimant’s application satisfies the registration test conditions.

A search of the National Native Title Register showed that there are no registered Native Title claims that apply to the Study Area.

2.5. ABORIGINAL COMMUNITY CONSULTATION

Aboriginal community consultation is not a formal requirement of the due diligence process⁶; therefore the proponent is not obliged to undertake Aboriginal community consultation. Aboriginal community consultation was not undertaken for this Due Diligence Assessment.

Further, as the overall archaeological potential of the impact area has been assessed as low, and as no further requirement for archaeological investigation has been identified, Aboriginal community consultation is not considered to be warranted at this time.

³ DECCW 2010:3

⁴ DECCW 2010:15

⁵ DECCW 2010:13

⁶ DECCW 2010:3

3. SITE DESCRIPTION

The Study Area comprises the former UTS Ku-Ring-Gai campus, as well as a relatively limited area of surrounding bushland to the south/south-east.

The former campus is located on a ridgeline set above the Lane Cove River. The surrounding bushland forms part of the eastern extremity of the Lane Cove National Park, with the eastern, southern and western edges of the site falling into valleys above the Lane Cove River. These areas are steeply sloped, and comprise heavily wooded bushland and a number of sandstone outcrops and exposed sandstone bedrock.

To the immediate north of the site, on the opposite side of Dunstan Grove, are relatively recently completed residential flat buildings. Further north of this is a playing field (Charles Bean Oval), and further north again is high density residential development situated within Lindfield proper.

The former campus contains a number of buildings, parking areas (Carpark A and B, both located on the eastern side of the Study Area), outdoor recreation areas and the Charles Bean Oval mentioned above. Former campus buildings include a large auditorium, several lecture theatres and practical teaching class rooms/laboratories, administrative and faculty offices, cafeteria, library, conference facilities, gymnasium, sporting oval and tennis courts, boat shed, a child care facility as well as other auxiliary buildings.

Further information regarding the landscape and environmental context of the Study Area is provided at Section 8, below.

Figure 4 – Aerial view of the Study Area, showing both allotments (indicated by red dashed line)



Source: <https://maps.six.nsw.gov.au/>

4. HISTORICAL OVERVIEW

The following site history has been sourced, in its entirety, from the *Heritage Assessment and Conservation Strategy: UTS Campus Ku-ring-gai*, prepared by Graham Brooks and Associated Pty Ltd in 2004.

4.1. 19TH CENTURY PASTORAL USES AND LAND OWNERSHIP

Early Days, 1806

The site originally formed part of a one thousand acre parcel of land promised to settler William Henry by Governor William Bligh. In 1806, Governor Bligh offered Henry the position of principal overseer of public works, together with 1,000 acres of land situated on the north side of the Lane Cove River. Henry immediately took possession of the land.

In 1813, he received a grant of forty acres from Macquarie, adjacent to his 1,000 acre property, and by December 1828 was able to lease a further 1,000 acres adjoining the land promised by Bligh. Within a short space of time Henry sold his 40 acre grant and moved his family and business wholly onto the leased 1,000 acres and Bligh's 1,000 acres.

In addition to land clearing, cultivation and rudimentary construction of Millwood Farm, he claimed responsibility for the construction of three roads or tracks in the local area. Henry is believed to have made Fullers Road in about 1814 as an access way to the river.

Jenkins' Estate, 1869

Thomas Jenkins acquired a significant part of William Henry's original holdings, including the forty acres granted to Henry by Macquarie and portion 441, granted to him in 1869. The adjoining Portion 440 was granted to him on 29 August 1872. Their farm, radiating outwards from the present day administration area of the Lane Cove National Park, was the cornerstone of a noted market enterprise, with the produce of their orchards and livestock sent to Sydney via the family riverboat Nellie on the Lane Cove River to the fish, fruit and farm produce markets in York Street. Following his death in 1890, the lands were held by his widow Maria, who also acquired another grant, of one acre, one rood and twenty-one perches, in March 1895.

In May 1914, a transfer of mortgagee occurred, from William Plunkett to the Perpetual Trustee Company Ltd, with the mortgage itself discharged shortly thereafter and a subsequent mortgage taken out in July 1914, from Maria Jenkins to Wilhemina Stewart Hogan of Strathfield. Throughout the 1913-1914 period, the transferral of numerous lots was recorded.

4.2. COMMONWEALTH OWNERSHIP, 1915

A gradual process of resumption on the part of the Government commenced during World War One, and added to Crown holdings sporadically until 1939.

On 18 May 1925, the Commonwealth of Australia laid further claim to land in the Lane Cove area. It included land granted to Maria Elizabeth Jenkins in 1895, as well as Lots 17-20 purchased by John Jenkins in 1914.

The Commonwealth used part of their overall site as a rifle range following the resumption. The exact location of the range has not been identifiable from the available documentary research; however it is unlikely to have been on the flatter ridge-top land now occupied by the former UTS Campus.

Commonwealth uses remain on the site to the north of the former UTS campus, where Film Australia continue to occupy a series of buildings within a rectangular site. Some of these buildings appear to date from the immediate post World War Two years, when they may have been used as an Army training facility. The remainder of the current buildings were erected progressively over the latter decades of the 20th century.

4.3. WILLIAM BALMAIN TEACHER'S COLLEGE, BALMAIN, 1946

The William Balmain Teacher's College began its life in the suburb of Balmain in 1946, occupying the buildings formerly known as the Smith Street School. It opened in 1887 and served as a public school until 1945, with only a small interruption of activities from 1890 to the beginning of 1915 when it was known as a Superior Public School.

As early as 1956 the poor educational conditions across the state became a subject for discussion at the NSW Teachers' Federation conferences. In that year a motion was passed to intensify a campaign for new teachers' colleges to be built in NSW, including one at Wollongong, but it took a further fifteen years before a Commonwealth grant provided an opportunity to achieve this proposal.

Ku-ring-gai was part of what became a family of bushland campuses built throughout Australia in the late 1960s and 1970s that were linked through their siting and designs. Such institutions included the Macquarie University in the nearby suburb of Ryde, Mitchell College of Advanced Education in Bathurst, the Townsville Teachers' College (later College of Advanced Education, then James Cook University), Curtin University in Western Australia, and Griffith University in Brisbane, Queensland.

4.4. SITE SELECTION, 1955-1967

Dr Harold Wyndham, Director-General of Education in NSW between 1952 and 1968 indicated in 1955 that a new site for the Balmain college had been under consideration and that a possible new site had been identified. He was apparently aware that the Chatswood Rifle Range had been abandoned by the Army and possibly available for purchase by the State. Although a number of alternative sites were considered for a possible teachers' college on the North Shore, it is apparent that Wyndham had already determined that the old rifle range site would be the most suitable. The land was transferred from the Commonwealth to the NSW Minister of Education on 3 February 1961.

By 1964, there seemed to be a widely held belief within the staff at Balmain that their new college would inevitably be erected at the Chatswood site. Despite his strong support for the selection of the site, lack of funding meant that the new college was not erected until after Wyndham had retired.

The 1963 choice of Ryde as the site for the new Macquarie University may have also influenced the choice of the former Chatswood Rifle Range site. By the early 1950s some 42% of the first year enrolments at Sydney University came from the greater North Shore area, stretching from Hornsby to Warringah. On 14 February 1967 the Government formally announced that the Balmain Teachers' College would be relocated to Lindfield.

4.5. PROJECT FORMULATION, 1967

On 14 February 1967 the Commonwealth Government announced the provision of \$7.5 million in unmatched grants to the NSW Government for the building of three new teachers' colleges, at Ku-ring-gai, Goulburn and Newcastle.

From 1967 David Don Turner, an Architect within the NSW Department of Public Works, was administratively responsible for the architectural supervision of the new colleges at Newcastle and Goulburn. He was however personally responsible for the design of the new Lindfield college.

The planning and design of the new Ku-ring-gai College was thus carried out simultaneously with that for the two other institutions. The architectural imagery for each college varied considerably from its sisters, due in part to discussions held with existing college staff to determine their individual needs: The William Balmain College was intended as a secluded structure, to be set discreetly within the natural landscape rather than creating a visual impact. As the third of the colleges, William Balmain would keep the focus on secondary teachers, specialising in science-related disciplines.

4.6. DEVELOPMENT OF THE CAMPUS

4.6.1. Stage 1, 1971

As early as September 1967, Minister for Education Charles Cutler announced that sketch plans for the new college had been completed. On 13 December 1968, The Sydney Morning Herald carried an announcement by the Minister for Education that a contract had been let to build Stage One of the project. He said that the contract was the biggest ever approved by the Education Department. Stage

One was to consist of lecture rooms and facilities, a library, an art-craft centre, TV studios, playing fields and temporary administration and students' union facilities.

Before construction work commenced the construction area was clearly marked out on site and all the trees labelled as either 'to be removed' or preserved. Access routes and open areas had been carefully planned on the basis of vegetation that was worthy of being preserved. Just before construction commenced, a severe bushfire razed most of the site, and destroyed the vast majority of the vegetation.

Students began to occupy the campus in 1971 due to the overcrowding on the original Balmain College site, despite the construction works still uncompleted. This echoed the early days of operation of the original Balmain Teachers' College, which had also seen its first students studying amidst the construction works and debris. Relocation was imperative given that in 1971 about 900 students were crammed into Balmain, which had been designed for 200 students and could at best accommodate 400. In consequence, Stage One of the Lindfield campus commenced classes in mid-1971 with a skeleton staff. The library was not opened to the students until six weeks before end-of-year exams.

The success of the design of the former Ku-ring-gai campus earned a Merit Award from the RAIA NSW Chapter for Commercial and Public Buildings in 1972, and an Honourable Mention in 1973 in Japan.

4.6.2. Stage 2, 1972

The construction of Stage Two followed almost immediately on the completion of Stage One, with the expectation that Stage Three would be hard on its heels. Stage Two added an Assembly Hall, Students' Union, offices and more lecture rooms. It was anticipated that the Stage Two construction phase would complete the Lindfield College, to be used by 900 students, bringing the total Government commitment for teachers' colleges at Lindfield, Goulburn and Newcastle to \$15.5 million.

On 1 July 1973 it was announced that the College would become autonomously governed and multi-purpose, in a clear departure from its hitherto existing role as a teacher training college. By 1974, the William Balmain College had become the Ku-ring-gai College of Advanced Education, despite opposition from the Principal, who felt that teachers' colleges needed to retain their identity as separate institutions rather than being absorbed into the multi-purpose Colleges of Advanced Education. The name change also served to identify the college with its location and its surrounding community.

4.6.3. Stage 3, 1976

David Turner's association with the college continued over an unusually long period. He had left the Public Works Department by the time Stage Three, which comprised the Gymnasium and additional teaching spaces, was completed. He did the design and documentation of Stage Three but had no direct involvement with the construction. In total, the Stage 3 Gymnasium block cost \$1.2 million.

In 1978 the by then Ku-ring-gai College of Advanced Education was awarded the Sulman Award by the NSW Chapter of the Royal Australian Institute of Architects. This is the highest level of recognition given by the NSW Chapter.

4.6.4. Stage 4, 1980

David Turner recollected that he was involved with the design of the Dining Terraces in 1977. Stage Four also comprised a small structure that linked the northern extension of Stage Two with the Greenhalgh Theatre, as well as more lecture rooms and a staff office wing.

Other changes to the site in this period related to car parking at the campus: in 1979 development consent was given for a 120-space extension to the north-western car park, and in 1983 another 32 car spaces were approved. The layout of the north-western carpark was carefully undertaken to protect the main trees.

5. ETHNOHISTORICAL CONTEXT

The following ethnohistorical context has been sourced, in its entirety, from the *Central Region Aboriginal Sites Planning Study: Lane Cove River State Recreation Area*, prepared by the NSW National Parks and Wildlife Service in 1990.

Members of the First Fleet and other settlers and explorers made records of their observations of the Aborigines of Port Jackson. These records can be used, with information from linguistics and archaeology, to reconstruct different aspects of the culture of the original inhabitants of Sydney. While these ethnohistorical records are a valuable source of information they cannot be uncritically used for a number of reasons. Europeans were not unbiased recorders, being overly influenced by the concept of the noble savage or prone to denigrate a culture of which they had little understanding.

They also tended to emphasise the notable or visible at the expense of the commonplace. One example is fishing and shell fish gathering frequently referred to by early writers. Hunting by comparison is rarely mentioned, one can assume it took place in woodland or bush settings at some distance from European settlements, which would have displaced game. It was therefore an activity difficult to observe, unlike the exploitation of marine and estuarine resources, which took place on the open waters and shores of the harbour. We know from archaeological evidence that the inhabitants of Port Jackson did not rely solely on marine resources.

Women's activities are also under-reported, perhaps because women took pains to avoid Europeans in early months of European settlement, rather than any lack of interest on the part of recorders.

The reports also contain some terms, such as tribe, which were used indiscriminately. A tribe is a group of people who speak a common language and share certain customs. A clan is a subgroup of a tribe, in whom ownership of land is vested and through whom descent is reckoned. Clans consist of a number of family groups (sometimes referred to as hordes), and around Port Jackson they numbered 30 or 40 people. British settlers seem to have believed that Aboriginal tribes were more hierarchical and authoritarian than was the case. Their habit of selecting elders as "chiefs", on whom they conferred breast plates so inscribed,⁷ supports this misinterpretation. They also used the term to describe different clans or even hordes of the one tribe.

Finally, the evidence from these early sources can only be used to reflect the situation around the time of contact with Europeans and not to extrapolate into the distant past.

5.1. TRIBES AND CLANS OF PORT JACKSON

There is good historical and linguistic evidence for the existence of two tribes on the northern shore of Port Jackson. Along the coast lived the Guringai, whose territory extended from the southern shores of Broken Bay to the northern shores of Port Jackson and inland to the Lane Cove River, perhaps as far as Parramatta. The Dharug lived to the west, on the northern Cumberland Plain, as far as the Blue Mountains.⁸ This evidence is outlined below.

Tribes

The Guringai seem to have shared the custom of ceremonial tooth evulsion. In 1788 Collins wrote:

*"to the tribe of Cammeray also belonged the exclusive privilege of extracting a tooth from the natives of the other tribes inhabiting the sea coast"*⁹

The latter part of his statement implies that those people living away from the coast did not share this custom, however it may not have been universal amongst the Guringai as Tench noted:

*"the deficiency of one of the foreteeth of the upper jaw seen in almost all men"*¹⁰

⁷ Novosil'sky in Barratt, 1981: 29

⁸ Ross, 1988: 5

⁹ Collins, 1788: 453

¹⁰ Tench 1793: 46

The rite evidently survived for at least a generation after contact because it was reported by Rossiysky (in 1814) as a marriage custom (incorrectly - it was an initiation ritual) and by Novosil'sky (in 1820). However both these writers report that two front teeth were removed in the ceremony not one.¹¹

The people living inland on the northern Cumberland Plain did not have a custom of tooth evulsion. Tench and Phillip made a number of journeys to the west and the men they met around the Hawkesbury River possessed all their teeth.¹²

Supporting evidence for the tribal division is provided by linguistics. In 1820 Bellinghausen reported:

*"Their language is not everywhere the same: the natives who live around Sydney understand each other but those who occupy the territories by Newcastle or Port Stephens, or who come from the other bank of the Nepean River, cannot understand the Sydney natives at all"*¹³

The people living inland spoke a different language to those in Sydney (Ross, 1976: 20). In 1970 Capell used this evidence, word lists compiled by Collins and Hunter in the 1790's, and lists compiled by Threlkeld in 1824, to compile a map of the Sydney tribes. He concluded that the Guringai occupied the northern shore of Port Jackson on the coast and that the Dharug bordered them on the west.¹⁴ He placed the boundary between the tribes in the vicinity of Lane Cove, though ethnohistorical records suggest it was further west near Parramatta.

Additional evidence for the tribal division comes from a number of other sources, though is somewhat less conclusive. Two men from the south side of Port Jackson accompanied Tench and Phillip on some of their expeditions to the west. Colbe and Ballederry (who both had their upper right incisors missing) were reported to know nothing of the western countryside or its people, whom they feared and disliked.¹⁵ Also the "native paths" through the bush around Sydney, which were kept clear for travelling, were mainly aligned in a north-south direction¹⁶ indicating little movement east to west.

It is worth emphasising that the tribe who lived in the Lane Cove area was the Guringai not the Karnilaroi, who lived in northern inland New South Wales. Lind¹⁷ states that the north shore of Sydney Harbour was the southern limit of the Kamilaroi and this error has unfortunately been enshrined in some of the names in the Municipality, as well as being quoted elsewhere.

Clans

The names of the clans living around the Harbour and their territories are generally less well known. Collins recorded that:

*"those who live on the north shore of Port Jackson are called Cam-mer-ray-gal ... we have heard Bennilong and other natives speak (before we knew them ourselves) as of a very powerful people"*¹⁸

Tench also referred to the Cam-mer-ray-gal as a numerous and powerful people.¹⁹ Their territory seems to have been the lower north shore from the coast to near Lane Cove. They are one of the clans most frequently referred to in the early accounts. As described above by Collins they were responsible for the initiation of other clans of the Guringai:

*"through the exclusive and extraordinary privilege of extracting a tooth from the natives of other tribes of the sea coast, or of all such as were within their authority"*²⁰

Whether their reported predominance extended into the recent prehistoric past cannot be determined from ethnography. It is possible that they were less immediately affected by the settlement at Sydney

¹¹ Barratt, 1981: 25 and 30

¹² Ross, 1988: 7

¹³ Barratt, 1981: 39

¹⁴ Ross, 1988: 9

¹⁵ Ross, 1988: 5

¹⁶ Ross, 1976: 21

¹⁷ Lind 1983: 1

¹⁸ Collins 1798: 453

¹⁹ Tench 1789: 285

²⁰ Collins 1798: 453

Cove than some of the groups on the south side of Port Jackson, and managed to retain ceremonies and traditions (such as initiation) for a longer period.

To the west of the Carn-mer-ray-gal was the Wal:urnedegal. They lived west of Lane Cove, according to Capell,²¹ and their territory extended up the Parramatta River past Ryde.²² The name of this clan was reported in a letter by Phillip, but little else is known about the group.

The evidence for the existence of these two clans in the study area is reasonable and it is possible that the boundary between them was marked by the Lane Cove River but this must still be considered speculative.

In view of the Kamilaroi error, mentioned above, it seems worthwhile to consider a report of a third clan or group in the study area. The existence of this third group was reported to the Trust in a letter from Rosemary Taplin, an amateur site recorder. The evidence for this group was said to be stylistic variation in the art in the Lane Cove River Valley. This was uncritically quoted by McLoughin and Wyatt in a report to the Trust in 1989. There is no archaeological, linguistic or ethnographic evidence of a third group. It should be clear from the foregoing discussion that the identification of different tribes (let alone clans) around Sydney is complex and requires the evaluation of a great deal of evidence. While tribal differences may be reflected in art styles (and this will be discussed later) Taplin provided no information to support her contention. A claim based on the consideration of a few art sites (which have not been properly recorded) and which is unsupported by other sources of evidence, cannot be seriously considered.

5.2. ECONOMY

The Guringai were hunter-gatherers whose territory on the coastal strip ensured a different economic emphasis to the inland Dharug. As noted above the Guringai exploited maritime/estuarine resources to the extent that:

"fishing engrosses nearly the whole of their time"²³, and

"near Sydney the poor women have to sit all day in little craft and fish"²⁴

"their diet is chiefly fish which is immediately thrown onto burning coals in their boat"²⁵

Novosil'sky also reported that the two joints of the little finger of the left hand of girls was removed supposedly to help winding in fishing line,²⁶ though this ceremony may in fact have been part of the initiation of girls, similar to tooth evulsion for boys.

Bradley and Phillip reported the following fish as being caught and eaten by the Guringai: jewfish, snapper, mullet, mackerel, whiting, dory, rock cod and leather-jackets. They said that stingrays and sharks were not eaten.²⁷ The stranding of a whale was the opportunity for a feast, with gatherings of up to two hundred people. Simonov wrote in 1820:

"they treat it as a festive occasion when a dead whale or fish is driven ashore by waves"²⁸

A few references have noted the use of other estuarine and land resources. Tench wrote that if the weather prevented fishing, then people collected shell fish and hunted reptiles and small animals.²⁹ Rossiysky saw a small party gathering mussels, which they roasted on a fire and then ate.³⁰ Lazarev and Bellinghausen also refer to the collection of mussels. Earlier, Cook reported that oysters, cockles and mussels were the most commonly eaten shell fish around Botany Bay.³¹ On Port Jackson cockles were

²¹ Turbet, 1989: 22

²² Morris in Rich, 1986: 38

²³ Tench, 1793: 48

²⁴ Bellinghausen in Barratt, 1981: 42

²⁵ Novosil'sky in Barratt, 1981: 30

²⁶ Barratt, 1981: 30

²⁷ Rich, 1986: 39

²⁸ Barratt, 1981, 48

²⁹ Tench 1793: 285

³⁰ Barratt, 1981: 25

³¹ Rich, 1986: 39

also used as bait or burley.³² Phillip also saw crawfish and lobsters being caught in small hoop nets. Ant eggs, some insects, birds, snakes and other reptiles and "animals of all kinds" were also exploited.³³

These accounts do not provide much support for Poiner's hypothesis that winter was a time when the depletion of marine resources led to the fragmentation of clans into smaller, more mobile groups. These groups were thought to move into the coastal hinterland, where they relied on terrestrial resources. Summer, by contrast, was a time when the resources of the coast were able to support larger groups of people who lived a semi-nomadic existence. There clearly were times when terrestrial resources were important, but this is not on a well defined seasonal basis. The other complicating factor in the Sydney area was the existence of an inland tribe, the Dharug. There is no evidence at all of Guringai movement into the territory of their neighbours, and a fair amount to indicate restrictions on east-west movement (discussed above).

It also seems to have been accepted that winter is a time when marine resources are seriously depleted. While shell fish lose condition during this period some fish species seem to be more plentiful (flathead for example) or unaffected.

Evidence from archaeological and ethnohistorical sources indicate that the plant foods gathered by women played an important role as reliable staples, when faunal resources were scarce or hunting unsuccessful. From the ethnohistorical accounts of the Sydney people it appears that faunal resources were exploited when the weather allowed, but that plant foods became important when bad weather prevented fishing. There does not appear to have been a clear correlation between the resources being exploited and the season. Accounts made in March, April and May all refer to fishing and the role of fish in the diet, though it may be that winter storms prevented access to this resource and that vegetable foods became correspondingly important at this time of year.

The Aborigines living around Port Jackson were reported to dig up roots in swamps and to broil vegetable foods to render them edible, many of them being poisonous without processing.³⁴ Other plant foods included berries, fern roots (probably bracken), figs and banksia flowers used to make a sweet drink. As well as the food plants "various medicinal herbs were known".³⁵

5.3. MATERIAL CULTURE

In contrast to the evidence which survives archaeologically the historical accounts of the Guringai tool kit refer, with two exceptions, to organic items which would rarely survive in the archaeological record.

Just as fishing is emphasised in these accounts so too is the fishing kit. There was a sexual division of labour in fishing methods, with women using a handline from canoes while men speared fish, either from canoes or the shore. Fishhooks were made from bone³⁶ or shell and the women's handlines were made from bark fibre.³⁷ Women taught their daughters how to plait the fishing lines.³⁸ Fishing spears were described by Bellinghausen as being long and made from a 'gummy plant' stem (probably a *Xanthorrhoea* flower spike), with a tip like a fork to which small, sharply serrated ones were attached.³⁹ Shell and hardwood barbs have also been reported.

Hunting spears were quite different to fishing spears being tipped with a single prong.⁴⁰ They were sometimes composites of two pieces of ordinary wood with an ironwood sharpened tip. Examples 4', 8' and 10' long were described by Rossiysky in 1814.⁴¹

³² Tench, 1793: 286

³³ Bellinghausen in Barratt, 1981: 35

³⁴ Tench, 1793: 48

³⁵ Bellinghausen in Barratt, 1981: 40

³⁶ Tench, 1793: 47

³⁷ Ross, 1976: 51

³⁸ Novosil'sky in Barratt, 1981: 30

³⁹ Barratt, 1981: 36

⁴⁰ Ross, 1976: 5

⁴¹ Barratt, 1981: 23

The canoes used for fishing and transport were made from flattened sheets of bark, with stretchers near the ends which were tied with bark fibre.⁴² They were about 12 feet long and nearly always contained a fire, laid on a bed of clay. Rossisky noted that they were propelled with "a little ti tree paddle".⁴³

Guringai weapons, in addition to the spears described above, included hardwood shields, which were oval and convex in shape, and clubs of different sizes, also made of hardwood.⁴⁴ Spearthrowers were made of wood and were oval, with a stone or shell adze mounted at one end, this adze being the most frequently reported cutting implement.⁴⁵ Shells were used for a variety of tasks: Tench reported a spear being repaired by a man who converted an oyster to a tool using his teeth. Shell scrapers have also been found in archaeological sites. Containers were made from bark or tree boles, while bags and nets were made from plaited bark fibre. Symmetrical boomerangs were not reported for the Sydney area, although they are depicted in art and engraving sites.

Apart from stone adze flakes mounted on spearthrowers the only stone implements reported in the Sydney area were edge ground axes, hafted to a wooden handle, which were used as a chopping tool. Bellinghausen claimed that these were preferred over European metal axes.⁴⁶

5.4. PERSONAL ORNAMENTATION

The Aborigines of Port Jackson adorned themselves with scars, pigments, teeth and bone and wooden ornaments. They sometimes cicatrized the body, with two longitudinal incisions made with a sharpened shell,⁴⁷ and pierced the nasal septum, in which a bone or stick was then worn.⁴⁸ Tench believed red body painting to be for everyday use, while white pigments were reserved for dancing.⁴⁹ Later observers described body painting as follows:

*"painted their faces with white lines and other figures and their noses red women decorated their face and breast with red, yellow and white pigments"*⁵⁰, and

the Aborigines stained their faces and bodies with "red earth" on which long white stripes were drawn. Chests, arms and backs were decorated with a fish scale or mussel design, and the body was then smeared with fish oil.⁵¹

As well as body painting the Aborigines were reported to adorn their heads with bird or fish bones, dog tails or kangaroo teeth, sometimes plaiting the hair and smearing it with a gummy sap,⁵² so that it looked like dreadlocks. Cicatrizing is not mentioned by any of the later Russian observers and it is possible that this tradition broke down soon after contact. People usually went naked or covered in the case of women by "something like a blanket".⁵³ The possum skin cloaks, which Aborigines of the mountains were often reported wearing, have not been reported for the Guringai.

5.5. DWELLINGS

Evidence from the archaeological record alone, would suggest that the Guringai lived in the rock shelters formed by weathering in Hawkesbury sandstone. The historical accounts suggest however, that occupation of shelters was on an intermittent basis only. At one extreme Lazarev wrote that the Guringai had neither huts nor dwellings, living by day on the sea shore and by night in the bush by an open fire.⁵⁴ Tench recorded that huts were made from pieces of bark laid together in the form of an oven, low and open at one end. The huts were long enough for people to lay down, but they purportedly depended more

⁴² Tench, 1793: 48 and Bellinghausen in Barratt, 1981: 38

⁴³ Barratt, 1981: 26

⁴⁴ Rossisky in Barratt, 1981: 23

⁴⁵ Rich, 1986: 41

⁴⁶ Barratt, 1981: 39

⁴⁷ Tench, 1793: 277

⁴⁸ Rossisky and Novosil'sky in Barratt, 1981: 25 & 29

⁴⁹ Tench 1793: 278

⁵⁰ Rossisky in Barratt, 1981: 25-6

⁵¹ Novosil'sky in Barratt, 1981: 30

⁵² Novosil'sky in Barratt, 1981: 29

⁵³ Vasilyev in Barratt, 1981: 27

⁵⁴ Barratt, 1981: 28

on the caverns in rocks.⁵⁵ Bellinghausen and Novosil'sky noted that people sheltered in caves in poor weather, or built a semicircular windbreak with a fire within.⁵⁶ Bellinghausen visited the camp of Boongaree (Bungaree) and described the windbreaks as being of bark up to 1.5 m high with a fire protected within. It does not appear from any of these later reports that shelters were used as base camps.

5.6. FAMILY/SOCIAL LIFE

Few of the First Fleet recorders made much mention of this aspect of Guringai life, whether through disinterest or because women and children avoided Europeans during the first years of contact. The most detailed accounts are those made by the Russian explorers who visited Port Jackson between 1814 and 1820, virtually a generation after the British settlement of Sydney (and after the 1789 smallpox epidemic). The extent to which social traditions had broken down is hard to determine, but it cannot be assumed that these accounts necessarily reflect the situation at contact or in the recent prehistoric past.

The Aborigines of Port Jackson lived in groups of 30, 40, 50 or more people. These groups probably comprised several families which made up a clan. They were reported to be:

*"ruled by their own elders, nowadays selected by the English government who give them a copper plate"*⁵⁷

When the family groups travelled the men went ahead with the women and children walking behind. If Europeans were encountered the women and children moved aside. Babies of one month or more were carried on their mother's shoulders, sometimes lashed there with grass fibres. After six weeks of age the children were named for a bird, fish or object.⁵⁸ Bellinghausen wrote that men usually chose their wives from another community (clan) and that women were treated "like slaves ... having to sit all day in little craft and fish while their menfolk wander about or sleep".⁵⁹ Women also collected firewood, prepared the fires and collected banksia flowers from which they prepared a drink.

5.7. CEREMONIAL/RELIGIOUS LIFE

Again little is known of the ceremonial or religious life of the Guringai, apart from the initiation ceremony of tooth evulsion and the removal of the digits from the little finger of the left hand of girls. There are a few references to dances⁶⁰ but little other information about ceremonial or religious gatherings. Burial practises were one aspect of their religious life which interested Europeans.

Phillip had a burial mound disturbed and found evidence for the cremation of bodies:

*"from the ashes had no doubt that they burn their dead. From the appearance of the ashes the body must be laid at length only a few inches below the surface and is, with the wood ashes made by the burning of the body covered lightly over with mould, fern and a few stones"*⁶¹

Bellinghausen, writing thirty years later, reported that the custom of burning corpses had been almost eradicated. In that year, Simonov wrote that Bungaree's people used to burn their dead.⁶² Collins had previously reported that young people were buried, but that those past middle age were burned.⁶³

5.8. CONTACT HISTORY OF LANE COVE

None of the foregoing observations were made within the local area, although they do refer to the same tribe, and at least one of the clans who lived in the local area. There are a few observations that were

⁵⁵ Tench 1793: 48

⁵⁶ Barratt, 1981: 30

⁵⁷ Novosil'sky in Barratt, 1981: 29

⁵⁸ Novosil'sky in Barratt, 1981: 33

⁵⁹ Barratt, 1981: 42

⁶⁰ Tench, 1793: 278, Novosil'sky in Barratt, 1981: 30

⁶¹ Rich, 1986: 42

⁶² Barratt, 1981: 40 & 51

⁶³ Collins 1798: 601

made in the local or study area. Lt. Bradley named Lane Cove a week after the arrival of the First Fleet,⁶⁴ when he saw a number of canoes on the river. As the settlement on the south side of the Harbour grew, so did the need for building resources and the north shore was rich in such materials. Phillip was mindful of his instructions to establish good relations with the Aborigines and, with a view to the exploitation of its resources, he sent Lt. Ralph Clark to Lane Cove to make contact with the Aboriginal residents.

In February 1790 Clark made a number of journeys up the Lane Cove River. He met Dourrawan and Terriwan who gave him two spears in exchange for a hatchet. He visited their camp the following day, where he found them eating mussels roasted on a fire, and shared their meal.⁶⁵ Clark requested their children to be brought to him and Dourrawan's son was brought from where he had been hiding, near the camp. Clark was told that the boy's mother had died from small pox and that Terriwan's son also had the disease.⁶⁶ A few days later Clark saw a man on the shore with two spears and a throwing stick in his hand. He pulled ashore but the man disappeared at his approach.

While this early contact seemed amicable enough the Aborigines in the area actively resisted Europeans, once it became apparent that they intended to take their lands. The north shore provided important resources for the colony and:

*"a regular shuttle service of timber from the dense bushland and lime shells from the beaches were sent across the Harbour in boats"*⁶⁷

The exploitation of these resources in the early 1790's coincided with the period of harassment and resistance by the Aborigines, which continued for about a decade. Two incidents were recorded in detail.

In May 1797 Collins wrote that the Aborigines had become exceedingly troublesome to the settlers in Lane Cove, burning a house and killing some hogs.⁶⁸ The settlers banded together and set out with a few soldiers to 'teach them a lesson':

*"being directed by their fires to the place where they lay, discovered a large body of natives, collected no doubt, for the purpose of attacking and plundering the settlers. Being unwilling to take any of their lives a volley of musketry was fired over their heads, which so alarmed and terrified them, that they instantly fled"*⁶⁹

A few years later, in 1804, the Aborigines were again being 'troublesome'. A group went to the farm of James Wilshire where:

*"after making one of the farm labourers prepare a feast for them, they bound them all and spent several hours of mirth and jocularity"*⁷⁰

Wilshire heard of this in Sydney and returned to his farm that afternoon, where he was met by shouts of defiance and spear brandishing by 200 Aborigines. They reportedly resisted all intimidation until shots were fired over their heads, then they fled taking stolen bedding and other items.⁷¹

This is an extremely interesting report because of the large number of people gathered together, if 200 Aborigines was not an exaggeration. It suggests an alliance of different clans, if not different tribes, to resist Europeans. Assuming that the group were all adult males, that Aborigines lived in groups of related families numbering 30 or so people (a quarter of whom were men), then the raiding party comprised all the men from 25 different hordes, or some of the men from an even larger number of hordes. Resistance to loss of territory must have been both more widespread and better organised than has been generally assumed, though futile in view of the technological advantage of guns. "Native raiders" were mentioned again in 1809 but no more recent references to Aborigines living in the area have been found, though more research may be fruitful.

⁶⁴ Lenehan, 1987: 12

⁶⁵ Russell, 1970: 14

⁶⁶ Thompson et al, 1988: 3

⁶⁷ Lenehan, 1987: 11

⁶⁸ Russell, 1970: 23

⁶⁹ Collins in Russell, 1970: 23

⁷⁰ Lenehan, 1987: 14

⁷¹ Lenehan, 1987: 14

6. ENVIRONMENTAL CONTEXT

An understanding of environmental context is important for the predictive modelling of Aboriginal sites, as well as for their interpretation. The local environment provided natural resources for Aboriginal people, such as stone (for manufacturing stone tools), food and medicines, wood and bark (for implements such as shields, spears, canoes, bowls, shelters, amongst others), in addition to areas for camping and other activities.

The nature of Aboriginal occupation and resource procurement is related to the local environment; the local environment therefore needs to be considered as part of the Due Diligence Assessment process.

6.1. DISTURBANCE

The Study Area, and specifically the areas of proposed impact, have been subject to extensive disturbance in association with the construction of the former UTS campus buildings from 1968 to 1989.

To facilitate the development of the former UTS campus, the Study Area was subject to extensive vegetation clearance and re-grading. This is clearly shown in the below photographs, taken during the construction of the former campus buildings.

As is shown, the vast majority of original topsoil in the Study Area was removed and/or severely disturbed by these works. This, combined with subsequent re-landscaping works, including the introduction of fill to the site to create a more level terrain, has resulted in severe disturbance across the entire Study Area. In areas where new fencing is proposed, a sandstone retaining wall that was introduced in association with the establishment of the former campus is present, further indicating the modifications to the landscape that have occurred.

Figure 5 – Clear disturbance associated with the construction Dunstan Road



Source: UTS Archives

Figure 6 – Clear disturbance associated with the construction of the former UTS buildings, facing north. Remnant vegetation stands visible



Source: UTS Archives

Figure 7 – Clear disturbance associated with the construction of the former UTS buildings, showing general site preparation works



Source: UTS Archives

Figure 8 – Clear disturbance associated with the construction of the former UTS buildings



Source: UTS Archives



Source: UTS Archives



Source: UTS Archives



Source: UTS Archives

6.2. GEOLOGY AND SOILS

6.2.1. Geology

Aboriginal people often made stone tools using siliceous, metamorphic or igneous rocks, as such, understanding the local geology can provide important information regarding resources in a project area. The nature of stone exploitation by Aboriginal people depends on the characteristics of the source, for example, whether it outcrops on the surface (a primary source), or whether it occurs as gravels (a secondary source).⁷²

As already mentioned, the Study Area is underlain by the Wiannamatta group of sedimentary rocks in the Sydney Basin, which directly overlies Hawkesbury Sandstone. These rock types were formed in the Triassic Period, and are characterised by shale with sporadic thin lithic sandstone (Wianamatta Group) and medium to coarse grained quartz sandstone with minor shale and laminate lenses (Hawkesbury Sandstone).

In association with this geology and prior to disturbance, the Study Area may have contained a limited amount of raw stone material, particularly sandstone, which is known to have been used by Aboriginal people in the past. For example, sandstone sheets were often used for sharpening hatchets; this process results in depressions in the sandstone identified as 'grinding grooves'.⁷³ Grinding grooves are typically located on suitable sandstone platforms in proximity to watercourses.

However, materials such as shale and ironstone, also present in these areas, were not generally used as a resource by Aboriginal people in the past due to their relative fragility; preferred raw stone materials,

⁷² Doelman, Torrence et al. 2008

⁷³ Attenbrow 2003: 120-122

such as quartz, silcrete, chert, tuff and mudstone, are generally fine-grained and siliceous.⁷⁴ This relative absence of preferred geological resources means that the Study Area is unlikely to have been subject to particularly intensive or long-term habitation or use by Aboriginal people in the past, though it may have been subject to transient occupation or use.

6.2.2. Soils

In association with the Wianamatta Group and Hawkesbury Sandstone, soil profiles are typically characterised as follows:

- A horizon: The topsoil. This has the highest fertility, organic matter content and biological activity. It is generally sandy, and ranges from 10 to 40 centimetres in depth from the ground surface.
- B horizon: The subsoil. This is typically a yellow clayey sand with little to no organic matter. Its fertility is low. It ranges from 40 to 100 centimetres below the surface.
- C horizon: Decomposed rock. This is typically clayey sand to sandy clay in texture and provides little more than moisture storage for plants. It ranges from one to four metres below the surface.

As subsoil (B horizon) layers are typically archaeologically sterile, it is not anticipated that any archaeological material would be present within these soil layers. This means that archaeological deposits, if present, are likely to be limited to the upper 10 to 40 centimetres of soil.

However, the historic removal of vegetation in the area, as well as the known disturbance of the Study Area, strongly suggests that the majority of topsoil layers within the Study Area and all topsoil layers within the proposed impact areas (refer Figure 2, above) would have either been severely disturbed or removed. This further limits the potential for *in situ* archaeological deposits to be present within the Study Area.

This is supported by the findings of archaeological assessments undertaken in the general vicinity of the Study Area, in which similarly developed/used land has been found to be disturbed and to contain a very limited amount of *in situ* archaeological material, if any (refer Section 7.2.1, below).

6.3. TOPOGRAPHY AND HYDROLOGY

Prior to disturbance, the topography of the Study Area would have been characterised by gently undulating rises on Wianamatta Shale, with local relief of 10 – 30 metres, and relatively gentle slopes (<5% up to 10%). Crests and ridges are broad and rounded with convex upper slopes grading into concave lower slopes.

The height of the Study Area above sea level, being approximately 50 metres, means that it is a relatively elevated site within the landscape. means that it would have been easily accessible and navigable in the past. The land to the south, east and west of the former UTS campus slope steeply down into surrounding valley areas and associated watercourses.

The Study Area is therefore also surrounded by a number of watercourses, which it is located in very close proximity to, including:

- Lane Cove River (major watercourse), approximately 260 metres to the west;
- Blue Gum Creek (tributary), approximately 90 metres to the south;
- Little Blue Gum Creek (tributary), approximately 300 metres to the west
- Sugarbag Creek (tributary), approximately 100 metres to the east;
- Cabramatta Creek, approximately 2.8 kilometres to the west.

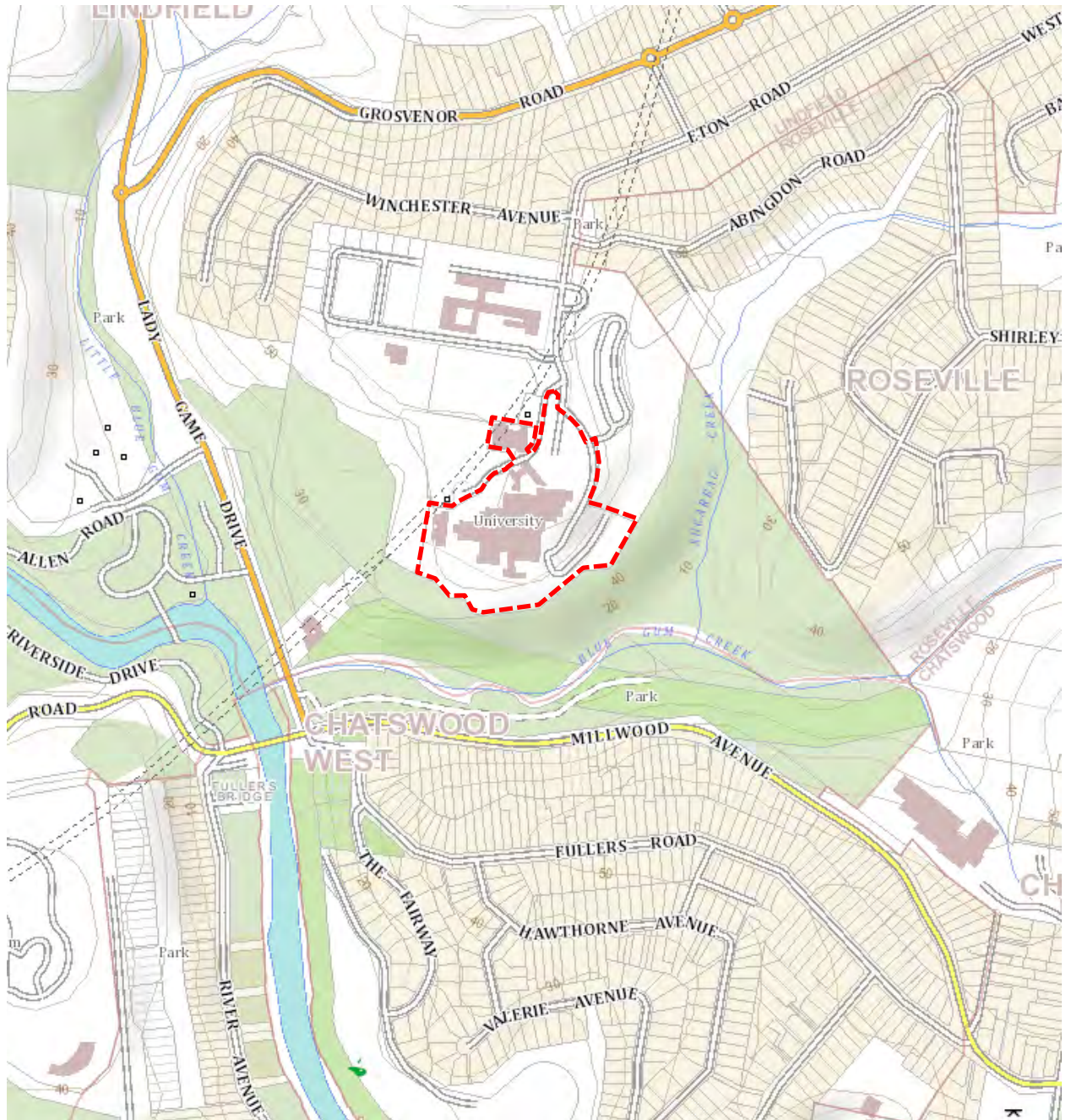
The Lane Cove River would have been a major resource for Aboriginal people in the past, providing both a water source and access to flora and fauna resources. Tributary creeks would have also provided intermittent access to resources, particularly during sustained periods of heavy rainfall. This is demonstrated by the results of the AHIMS search, which show a greater frequency of registered sites in

⁷⁴ Attenbrow 2003: 120

proximity to these watercourses (refer Section 7.1, below). This is also generally in accordance with predictive models for the regional landscape (refer Section 7.27.1, below).

Generally speaking, the topography and hydrology of the Study Area, and particularly the proximity of the Lane Cove River, demonstrate that the surrounding landscape would have provided sufficient subsistence resources and been generally accessible and navigable enough to sustain human occupation and use. This is despite the site featuring relatively steep terrain on its southern, eastern and western sides.

Figure 9 – Topographical map of the Study Area showing watercourses and relative land heights



Source: <https://maps.six.nsw.gov.au/>

6.4. FLORA AND FAUNA

As has been discussed, the majority of the Study Area has been subject to vegetation clearance in association with its development as an educational facility.

Vegetation distribution within the Sydney Basin is generally related to underlying soils landscapes, and is also influenced by moisture, aspect and European land use (including clearance, agriculture, weeds, etc). Remnant vegetation within the immediate Study Area comprise Sydney Sandstone Gully Forest, which is likely to be found wherever deep gullies have been eroded into sandstone and in association with the Lane Cove River and its tributaries.

Common tree species include the blackbutt, Sydney red gum, turpentine and watergum. Other species that may be present include Sydney peppermint, grey gum. Common understorey species include sally wattle, black she oak, blueberry ash, and grey myrtle. Dominant shrub species include sunshine wattle, old man banksia, yellow tea-tree and heath species.

Areas of Hawkesbury Sandstone, like the Study Area, were generally unsuited for agriculture due to underlying soils, and it is therefore likely that good natural stands of extant bushland are similar to original vegetation.

Prior to European settlement and the subsequent clearance of vegetation, this vegetation community would have provided habitats for a variety of animals, as well as potential food and raw material sources for Aboriginal people. Eucalyptus trees were a particularly important resource; leaves were crushed and soaked for medicinal purposes, bowls, dishes, and canoes were made from the bark, and spears, boomerangs and shields were crafted from the hard wood.⁷⁵

Typical animals which may have been harvested by Aboriginal people include kangaroos, wallabies, sugar gliders, possums, echidnas, a variety of lizards and snakes, birds, as well as rats and mice. The bones of such animals have been recovered from Aboriginal sites excavated in the Sydney region suggesting that they were sources of food,⁷⁶ although the hides, bones and teeth of some of the larger mammals may have been used for Aboriginal clothing, ornamentation, or other implements.

6.5. SYNTHESIS OF ENVIRONMENTAL CONTEXT

The geology of the Study Area suggests that it is unlikely to have been specifically targeted or frequented for resource procurement, with stone quarry sites/raw stone resource sites located elsewhere within the Cumberland Plain. The absence of rock shelters (and therefore a lack of shelter) within the Study Area supports this, and further suggests that the *immediate* area may not have been suitable for sustained habitation or use.

However, it is still likely that the landscape would have been subject to transient use and/or occupation by Aboriginal people in the past, particularly due to the relative proximity of major watercourses, availability of flora resources such as eucalyptus trees, and the gentle topography. Known rockshelter sites are located in proximity to, but outside of the Study Area, in less disturbed areas in which more generous shelters suitable for more frequent use are present in closer proximity to watercourses. Similarly, grinding groove sites are only predicted to be located on suitable sandstone platforms in closer proximity to watercourses.

As discussed, the topography of the landscape means that it would have been relatively easily accessible and navigable, while the native vegetation coupled with the presence of a number of watercourses in the general vicinity, including the major Lane Cove River, would have provided sufficient resources for general subsistence activities.

It is reiterated, however, that archaeological material is generally more likely to have been deposited in closer proximity to these watercourses and on relatively flat land in association with campsites and resource procurement sites; this is clearly demonstrated by the results of the AHIMS search.

A review of the environmental context of the Study Area suggests that, prior to European settlement and associated land disturbance, the surrounding landscape would have been suitable for transient occupation and use. However, general disturbance, modification of the landscape, the absence of suitable rockshelters and the removal of topsoil layers throughout the Study Area is likely to have significantly reduced the potential for *in situ* Aboriginal archaeological deposits to be present within the Study Area and particularly within/in the vicinity of proposed impact areas.

⁷⁵ Nash 2004: 4-8

⁷⁶ Attenbrow 2003:70-76

7. ABORIGINAL ARCHAEOLOGICAL CONTEXT

The purpose of reviewing the relevant heritage information is to assist in identifying whether Aboriginal objects or places are present within the Study Area. An understanding and review of the relevant archaeological context is critical in formulating predictive models and assessing the archaeological potential area, and also forms part of the desktop assessment required under the Due Diligence Code/s.⁷⁷

7.1. ABORIGINAL HERITAGE INFORMATION MANAGEMENT SYSTEM (AHIMS)

An extensive search of the Aboriginal Heritage Information Management System (AHIMS) was undertaken in accordance with the Due Diligence Code⁷⁸ on 7 March 2017. The search was conducted for the following area, which comprises the entirety of the Study Area:

- Lot 2 DP 1151638, with a buffer of 1000 metres.

The results of this AHIMS search showed that no Aboriginal sites have been recorded within the Study Area.

The closest site to the Study Area is located approximately 12 metres to the northeast of Carpark A, on the eastern side of the overall site and outside of the proposed impact area. This site, being AHIMS #45-6-2210, is registered as a rock shelter site containing a shell midden deposit. The original recording of the site describes it as:

“... a large southerly-facing rock shelter, on the northern bank of Blue Gum Creek. The overhang was about 4 m (h) x 30 m (l) x 4 m (d). The floor was uneven, with roof fall and depressions, caused by burrowing animals/humans. The deposit was sandy, with a thin layer of recent reddish sand, from the granular disintegration of the wall and ceiling, overlying a more grey sandy deposit. The deposit was at least 10 centimetres deep in places. The walls of the shelter were uneven and not really suitable for art, which was not detected, however the site was inspected in poor light conditions.”

It also revealed that a total of 15 Aboriginal archaeological sites have previously been recorded within the wider search area. Registered sites include potential archaeological deposits (PADs), art (pigment or engraved) sites, and shelter sites containing both shell midden and stone artefact deposits. The relative frequency of these site types is shown in the below table.

As the table demonstrates, shelter sites are the most common site type, collectively accounting for almost 50% (46.67%) of site types in the search area.

The results of the AHIMS search undertaken are shown in Figure 10, overleaf.

Table 1 – Frequency of site types registered in the wider search area

Site Type	Number	Frequency (%)
Shelter with Artefact Deposit (Unspecified)	3	20
Potential Archaeological Deposit	3	20
Shell Midden with Artefact(s) (Unspecified)	3	20
Art (Pigment or Engraved)	2	13.3
Shelter with Art (Pigment or Engraved)	2	13.3
Shelter with Shell Midden	2	13.3

⁷⁷ DECCW 2010:12-13

⁷⁸ DECCW 2010:11

Site Type	Number	Frequency (%)
Total	15	99.9%

7.2. ARCHAEOLOGICAL CONTEXT

The Study Area is located within the Cumberland Plain, which over the last few decades and in association with the increasing spread of urban development, has become the most intensively investigated archaeological landscape in Australia.

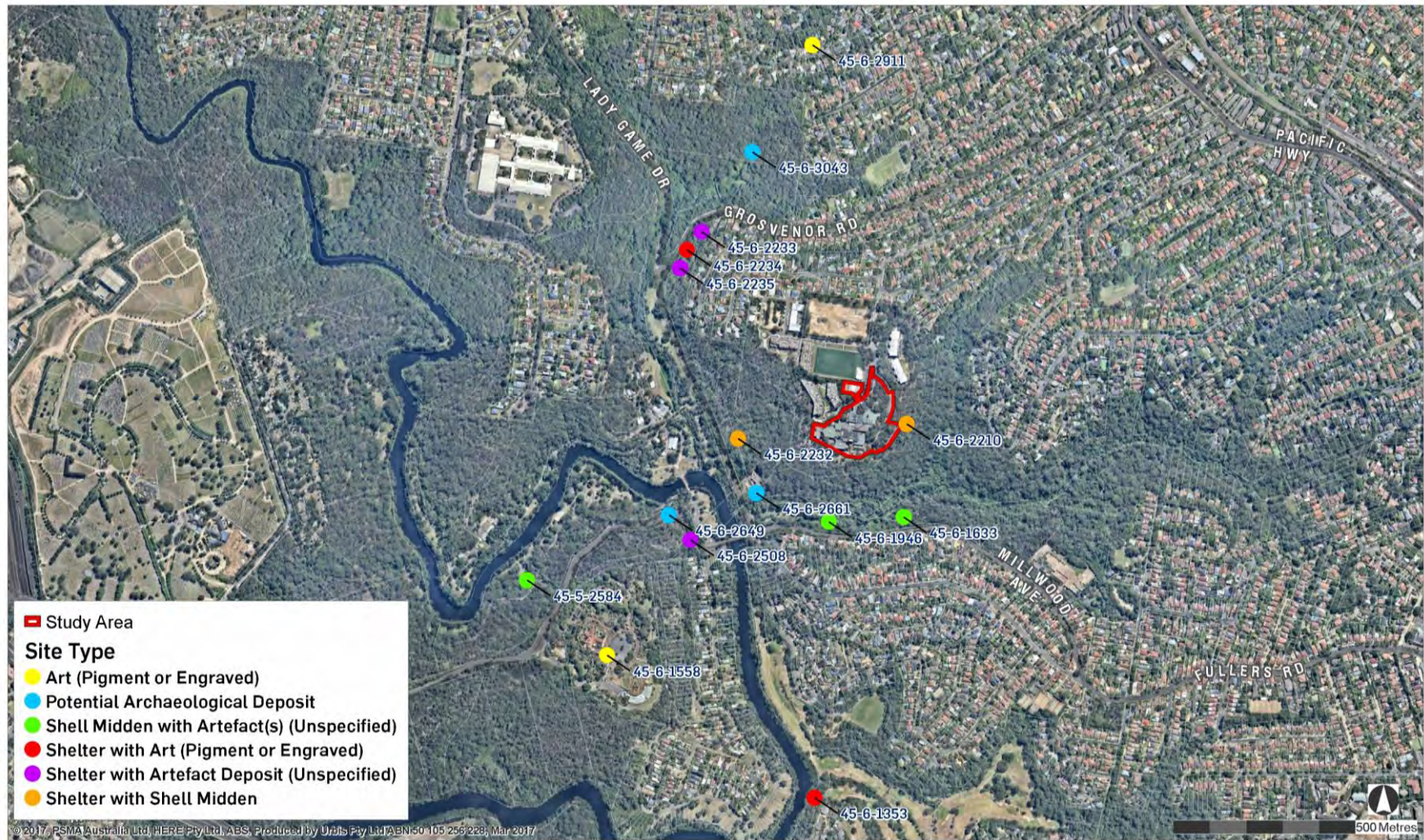
Through previous archaeological studies a number of predictive models relating to Aboriginal occupation patterns and site locations across the Cumberland Plain have been formulated, and more recent works have contributed to refining these models.⁷⁹

The most common site types found on the Cumberland Plain are open artefact scatters/open camp sites, followed by scarred trees and isolated finds. Shelter sites and grinding grooves are also found, although mainly around the periphery of the Plain in sandstone geology. Key trends are summarised below:

- Site frequency and density are directly related to the location of sites within the landscape;
- Complex sites are usually located close to permanent water sources, with major confluences being a key requirement for occupation sites, and would have been used intensively by larger groups, or used repeatedly by smaller groups over a longer period of time;
- Sites with large numbers of artefacts can occur on ridge tops and hill crests;
- Sites situated in alluvial soils retain the potential for stratified deposits;
- Potential Archaeological Deposits (PADs) are most likely to be located along valley floors and low slopes in well-drained areas; and surface artefact distribution does not accurately reflect the composition or density of subsurface archaeological deposits. Some areas with few or no surface manifestations have often been shown to contain subsurface archaeological deposits;
- Artefact scatters are most commonly linked to the close proximity of permanent water sources in areas such as creek and river banks and alluvial flats. The majority of these sites are located within 100 metres of permanent fresh water;
- Artefact assemblages generally comprise a small proportion of formal tool types with the majority of assemblages dominated by unretouched flakes and debitage;
- High concentrations of artefacts are more likely to be located within resource rich areas;
- Silcrete is the dominant raw material used for tool manufacture, followed by chert (also known as tuff). Silcrete sources are located in the north-western Cumberland Plain at places such as St Marys, Plumpton Ridge, Marsden Park, Schofields, Riverstone, Deans Park, Llandilo and Ropes Creek. Other raw materials include indurated mudstone from Nepean River gravels, quartz, porphyry and hornfels which may be derived from Rickaby's Creek gravels, and basalt;
- Stands of remnant old growth vegetation retain the potential for scarred trees to be present; however, large scale land clearance of the plain in general means that such stands of vegetation are rare; and
- Evidence of post-contact camp sites may be located in close proximity to early European houses and farms, or official buildings.

⁷⁹ AMBS 2013: 27

Figure 10 – Results of the AHIMS search



SH801 – SECONDARY SCHOOLS RENEWAL – ETON ROAD, LINDFIELD

AHIMS SEARCH RESULTS

Source: Urbis 2017

7.2.1. Clarification of the Cumberland Plan Predictive Model

More recent archaeological studies across the Cumberland Plain have resulted in a refinement of the above described model, and a move away from the strict assumption that Aboriginal sites will only be found in close proximity to permanent water courses; on creek banks and alluvial flats, or on high ground, and within range of food resources and the raw materials for tool making.⁸⁰

More recent studies at Mungerie Park and Parklea Leisure Centre have proven that large artefact scatters may also be found up to 250 metres away from major watercourses, and it has been suggested that the more traditional predictive model may reflect surface visibility and site formation processes, rather than the actual ways in which Aboriginal people used the landscape in the past.

A recognition of this clarification of the traditional predictive model is now commonly considered as part of Aboriginal archaeological assessments within the Cumberland Plain, and has been considered as part of this assessment.

7.3. RELEVANT ARCHAEOLOGICAL STUDIES/LITERATURE REVIEW

A review of previous archaeological and heritage reports is required as part of the desktop assessment and has been undertaken in accordance with the Due Diligence Code and to provide a better understanding of the archaeological potential of the Study Area.⁸¹

The most relevant publications are outlined below.

Haglund & Associates, 1989, *Preliminary survey for Aboriginal sites along F2-Castlereagh Freeway. Pennant Hills Road to Lane Cove Road*, report to DMR

During an archaeological survey along the route of the F2 (now M2)-Castlereagh Freeway in 1989 Laila Haglund located two rock shelters with deposit. Both shelters (AHIMS #45-6-1855 and AHIMS #45-6-1854) contained middens with oyster and whelk shell recorded, while the latter also had possible remnants of stencil art along the back wall.

Conyers, B, 1990, *Survey for Aboriginal Archaeological Sites: Lane Cove River State Recreation Area*, unpublished report prepared for the State Recreation Area Trust and NSW National Parks and Wildlife Service

In 1990 Conyers conducted a comprehensive survey of the Lane Cove River State Recreation Area (SRA), now known as Lane Cove National Park. Approximately one third of the SRA was surveyed during a twelve-day survey. Seven previously unrecorded Aboriginal sites were located – two engraving sites, two middens, and three rock shelters with deposit. Five potential habitation sites were also recorded along with three engraving sites which had previously been recorded.

Wirrina Consulting, 1995, *Archaeological survey for Aboriginal sites. Delhi Rd – Main Rd No. 191, CSIRO to Northern Suburbs Crematorium, Lane Cove, NSW*, report to RMS

In 1995 Wirrina Consulting conducted a survey for Aboriginal sites for the widening of Delhi Rd, Ryde by the RTA. A rock shelter with midden (AHIMS #45-6-2211), which was first recorded by Conyers, was relocated.

Corkill, T, 1997, *Test Excavation of Rockshelter, CSIRO PAD 1, site 2 Riverside Corporate Park, North Ryde, NSW*, report to Australia Pacific Projects

In 1997 Tessa Corkhill conducted an excavation of a rock shelter with potential archaeological deposit (CSIRO PAD1) at Riverside Corporate Park. The PAD was first located in 1991 and it was recommended at that time that further investigation would be required if the site was to be affected by development. Ten test pits were excavated to bedrock at depths varying from 47 centimetres to 18 centimetres. Fourteen stone artefacts were recovered although the deposit was found to be relatively disturbed with evidence of European material throughout much of the profile.

⁸⁰ AMBS 2011: 14

⁸¹ DECCW 2010:13

Oakely, B, 2000, *Indigenous Heritage Assessment – Proposed Sewerage Upgrade REF, Lane Cove National Park*, report to Australian Water Technologies Pty. Ltd

In 2000 Bobbie Oakley completed a survey for a proposed sewerage upgrade within Lane Cove National Park. Two new Aboriginal sites were located in the southern portion of the National Park. Both new sites (LCRM1 and LCRM2) are shell midden scatters and associated areas of potential archaeological deposit (PAD). It was recommended that the sewer line should be redirected to avoid these sites, or if this was not possible that further archaeological work, such as a test excavation, should be conducted.

HLA-Envirosciences Pty Ltd, 2003, *Archaeological Subsurface Testing Program: Eden Gardens, Macquarie Park, NSW*, prepared for Eden Garden Botanicals Pty Ltd

Archaeological excavation was undertaken at the (now) Eden Gardens Botanicals site, located on the eastern side of the junction of Lane Cove Road and the M2 Motorway. Excavations across multiple 50 x 50 centimetre test pits were undertaken to a maximum depth of 20 centimetres before sandstone was reached; these test pits were excavated in a relatively undeveloped area of bushland.

The excavations revealed that soils were typically disturbed across the entire topsoil layers within all test pits, and only one quartz flake was uncovered as a result of the investigations.

Jo McDonald Cultural Heritage Management Pty Ltd, 2004, *UTS Ku-ring-gai, Rezoning Application, Indigenous Heritage Issues*.

In 2004 JMCHM undertook an Aboriginal archaeological assessment to inform the proposed rezoning of land to the immediate northwest of the former UTS campus, which has since been developed with residential flat buildings.

The assessment did not identify any new archaeological sites during a visual survey of the proposed development area, and no previously recorded sites were identified to be affected by the redevelopment proposal. While a low level of effective survey coverage was acknowledged, it was also noted that the lands that were to be impacted by the development proposal were assessed as having low to no archaeological sensitivity in terms of Indigenous heritage.

The bushland beyond the proposed residential development zone was described as steeply sloping with few likely foci for habitation. No evidence was found along creek lines (where there may be an increased amount of run-off) for archaeological sites.

Overall, the archaeological potential of the study area was assessed as low, and no further investigation was recommended.

AECOM, 2010, *M2 Upgrade Project – Preliminary Aboriginal Heritage Assessment*, report to Leighton Contractors

The route of the proposed M2 upgrade was investigated by AECOM in 2009/2010. The route was from Lane Cove Road in North Ryde, to Windsor Road at Baulkham Hills. Fifteen Aboriginal sites were found or previously recorded within the M2 corridor.

Artefact Heritage, 2011, *150 Epping Rd, Lane Cove West–Heritage Study Aboriginal Cultural Heritage Assessment and Assessment of non-Indigenous heritage for a Concept Plan application*, report to Rose Group.

In 2011 Artefact Heritage conducted a survey of an area along the northern edge of Stringybark Creek in Lane Cove West. A previously recorded rock shelter with a charcoal drawing of two fish was relocated. Although the shelter had been disturbed by construction of a sewer pipe, the art remained in good condition. No new Aboriginal sites were located during the study.

Artefact Heritage, 2012a, *North Ryde Station Precinct Rezoning Study*, report to Transport for NSW

Artefact Heritage (2012a) prepared an archaeological assessment of the North Ryde Station Precinct for a rezoning study. The investigation concluded that there were no recorded Aboriginal objects within the Precinct and that overall limited archaeological potential. The study area was assessed as demonstrating low archaeological significance.

Artefact Heritage, 2012b, *Northern Sydney Freight Corridor: Epping to Thornleigh Third Track Project*, report to Parson Brinckerhoff

An Aboriginal cultural heritage assessment prepared by Artefact Heritage (2012b) for the Epping to Thornleigh Third Track Project (ETTT) did not identify any Aboriginal sites and concluded that the entire rail easement between Epping and Thornleigh demonstrated low/ no archaeological potential.

Artefact Heritage, 2014, *Lindfield Substation – Aboriginal Heritage Due Diligence Assessment*, report to Parson Brinckerhoff

Artefact Heritage was commissioned by Parsons Brinckerhoff to conduct an Aboriginal Heritage Due Diligence Assessment for the construction of a proposed traction power substation at a site in Lindfield in Sydney, NSW and ancillary electrical works, generally between Killara Station and the Clanville Road overbridge. The assessment found that there were no previously recorded Aboriginal sites within the study area, the study area had been heavily modified with high levels of ground disturbance, and the study area had a low Aboriginal archaeological sensitivity overall. The report therefore recommended that no further archaeological investigation was required.

7.4. SYNTHESIS OF ABORIGINAL CULTURAL HERITAGE CONTEXT

The AHIMS search conducted shows that no Aboriginal archaeological sites or places are recorded within the Study Area. The closest site to the Study Area is located approximately 12 metres to the northeast of Carpark A, on the eastern side of the overall site and outside of the proposed impact area. This site, being AHIMS #45-6-2210, is registered as a rock shelter site containing a shell midden deposit. This site is located outside of the Study Area and well outside of any of the proposed impact areas.

Previous archaeological work in the general area suggests that the broader landscape was utilised by Aboriginal communities in the past. This is in part due to the relatively navigable terrain of the surrounding landscape, as well as the ready availability of food, water and other resources, the availability of water being a crucial factor in the frequency of occupation as rivers and creeks are markers of community identity, traditional meeting places and the chosen location of campsites.⁸²

In line with this, the majority of recorded sites located elsewhere within the surrounding landscape were identified in association with watercourses and/or in relatively undisturbed land; for example, a relatively large number of sites have previously been recorded in association with the Lane Cove River, as well within the associated National Park, which has been maintained as relatively undisturbed land. Sites identified in association with such landscape features include middens (in association with watercourses) and rock shelter sites where suitable rock overhangs etc are present.

In contrast, the Study Area has generally been subject to relatively severe disturbance (including the partial or potentially complete removal of topsoil, deposition of fill, development, and substantial vegetation clearance in large areas). As has been demonstrated, previous studies have established that urbanised and/or developed areas like the Study Area have little to no potential to contain Aboriginal archaeological sites or cultural material due to disturbance and/or the absence of sensitive landscape features within the proposed impact areas.

Based on a review of the archaeological context of the Study Area, as well as the known extent to which the site has been disturbed, it is considered unlikely that any Aboriginal sites or objects will have been retained within or in the immediate vicinity of the Study Area, either above or below the ground. This has been confirmed by the visual inspection of the Study Area.

Therefore, the potential for as yet unidentified Archaeological sites or objects to be present within the Study Area and particularly within the proposed impact areas is assessed as very low. It is acknowledged that artefacts have been recovered from disturbed soil profiles in the local area previously, though the likelihood of this occurring is generally relatively low, particularly given the known extent of previous disturbance.

⁸² Attenbrow 2003: 50

8. VISUAL INSPECTION AND FIELD RESULTS

A visual inspection of the Study Area was undertaken to identify whether Aboriginal objects were present on the ground surface or were likely to be present below the ground surface. In accordance with S4 of the Due Diligence Code a qualified archaeologist undertook the visual inspection.⁸³

8.1. VISUAL INSPECTION AND METHODOLOGY

A visual inspection of the Study Area was undertaken on 9th March 2017 by Urbis Senior Archaeologist Karyn Virgin. This inspection was undertaken on foot (pedestrian survey), and encompassed all proposed impact areas. This includes the proposed fencing route, proposed footpath routes, and proposed play/recreation areas that will require seating and/or shade structures.

The Study Area comprises cleared, landscaped areas interspersed with stands of remnant vegetation. Cleared areas are predominately grassed, and have clearly been modified in association with the construction of the former UTS campus. Evidence of cutting and filling was observed throughout these areas, and this is supported by historical photographs taken during construction of the buildings. Clear evidence of cutting was observed on exposed sandstone bedrock, particularly in close proximity to the buildings on site, and fill was also observed in association with the cleared, grassed areas.

Figure 11 – Photographs of the Study Area showing evidence of landscape modification and cutting/filling



Picture 1 – View of the landscaped area adjacent to the Carpark A

⁸³ DECCW 2010:12-13



Picture 2 – Typical landscape adjacent to built elements

Figure 12 – Photographs of the Study Area showing evidence of landscape modification and cutting/filling



Picture 3 – View of cut sandstone bedrock, fill, and proximate buildings



Picture 4 – Cleared and modified grassed area adjacent to former campus buildings



Picture 5 – Cleared area adjacent to buildings



Picture 6 – Evidence of landscape modification, with sandstone retaining wall demarcating proposed new fence route

Soils within the proposed impact areas were observed to comprise either a very shallow and loose sandy loam topsoil in association with remnant vegetation stands, or a more tightly compacted clayey fill in association with more disturbed areas. Loose, shallow soils appeared to be highly susceptible to movement, particularly in association with heavy rainfall and given the steeply sloping topography on the fringes of the former campus site. Extensive areas of exposed sandstone bedrock and sandstone outcrops were also observed. Ironstone gravels were also observed throughout the Study Area.

Ground surface visibility was relatively limited (20%) due to leaf litter, built elements, asphalt/footpaths etc, and grass cover. Exposure were minimal (5-10%) and limited to more disturbed areas of the site.

Figure 13 – Soils, geology, and ground cover in the Study Area



Picture 7 – Leaf litter, loose soil and exposed sandstone bedrock/outcrops in the Study Area



Picture 8 – Exposed sandstone bedrock in proximity to built elements



Picture 9 – Detailed view of soils within cleared and landscaped areas of the Study Area



Picture 10 – Demonstration of the difference between cleared, grassed areas, and surrounding retained vegetation (demarcated by low sandstone retaining wall)

As noted above, vegetation within the Study Area comprises stands of remnant vegetation, which are dominated by mature eucalypt trees. Casuarina and acacia species are also represented, as is a sparse shrub layer within the less disturbed (i.e. cleared) areas which featured banksia, acacia and leucopogon (heath) species. None of the trees observed during the visual inspection were of a suitable age or physical composition for scarring and/or engraving.

Generally, the Study Area was observed to be highly disturbed, as shown in the above photos and described at Section 6.1, with disturbance being most severe in proximity to built elements and within cleared/landscaped areas.

Figure 14 – Vegetation within the Study Area



Picture 11 – Remnant vegetation in proximity to exposed bedrock and built elements



Picture 12 – Typical vegetation within the Study Area (downslope of cleared/landscaped areas)



Picture 13 – Remnant and regrowth vegetation in the Study Area



Picture 14 – Remnant and regrowth vegetation in the Study Area

8.2. RESULTS OF THE VISUAL INSPECTION

The visual inspection of the Study Area did not result in the identification of any Aboriginal archaeological objects or sites. The developed areas of the Study Area, including the cleared/landscaped areas, were observed to be significantly disturbed.

No vegetation suitable for scarring or carving was identified, despite the presence of sparse stands of remnant, native vegetation within the Study Area's allotment boundaries. A number of sandstone outcrops and sheets were identified, though none were observed to feature or contain any evidence to suggest that they had previously been used or modified by Aboriginal people in the past. No rock shelters or rock platforms suitable for engraving or grinding grooves were observed to be present within the Study Area itself, nor within specific impact areas.

Despite relatively low ground surface visibility and exposures, it was clear that topsoil layers had been completely removed and/or severely disturbed within the majority of the Study Area. Proposed impact areas were observed to be particularly severely disturbed through previously development associated with the former campus.

The description of the landscape as 'severely disturbed' conforms to the Office of Environment and Heritage (OEH) definition of disturbed land as:

"Land is disturbed land if it has been the subject of human activity that has changed the land's surface, being changes that remain clear and observable. Examples include ploughing, construction of rural infrastructure (such as dams and fences), construction of roads, trails and tracks (including fire trails and tracks and walking tracks), clearing vegetation, construction of

buildings and the erection of other structures, construction or installation of utilities and other similar services (such as above or below ground electrical infrastructure, water or sewerage pipelines, stormwater drainage and other similar infrastructure), substantial grazing involving the construction of rural infrastructure, and construction of earthworks associated with anything referred to above.”⁸⁴

This Due Diligence Assessment confirms that the land within the majority of the Study Area is severely disturbed, as are all of the areas of proposed impact. No Aboriginal objects or sites were identified.

The archaeological potential, sensitivity and research potential of the Study Area, including all areas of proposed impact, is therefore assessed to be low. This is supported by previous archaeological studies that have been undertaken at or in proximity to the Study Area.

⁸⁴ DECCW 2010:18

9. IMPACT ASSESSMENT

Overall, the archaeological potential and sensitivity of the Study Area has been assessed as very low. No Aboriginal sites or objects were identified within the Study Area as part of the current assessment, and no previously recorded sites, as registered on AHIMS, are located in or within proximity to proposed impact areas.

Further to the above, the proposed works described in Section 1.3 constitute relatively minor and isolated sub-surface works, with no major earthworks or building works currently proposed at the site.

Based on the above, there is no identified risk of harm to any Aboriginal sites or objects associated with the proposed works. It has therefore been determined that no further Aboriginal archaeological investigation is required for the Study Area.

For these reasons, it is also considered that consultation in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* is not required. However, in the event that further proposals are made that will result in sub-surface disturbance within the Study Area, or which have the potential to impact known Aboriginal sites in the vicinity, further assessment and consultation with relevant Aboriginal stakeholders will be required.

10. CONCLUSION AND RECOMMENDATIONS

This Aboriginal Archaeological Due Diligence Assessment has been prepared for proposed works within the Study Area. A summary of the findings of the assessment is provided below.

- The historical and environmental context of the Study Area was researched. This research found that the Study Area would have had the potential to contain Aboriginal sites/objects prior to disturbance. However, this research also found that the Study Area has been subject to severe and extensive disturbance.
- A search of the AHIMS showed that no Aboriginal archaeological sites or places are recorded within the Study Area. The closest site to the Study Area is located approximately 12 metres to the northeast of Carpark A, on the eastern side of the overall site and outside of the proposed impact area. This site, being AHIMS #45-6-2210, is registered as a rock shelter site containing a shell midden deposit. This site is located outside of the Study Area and well outside of any of the proposed impact areas.
- A desktop assessment, including a review of previous archaeological and heritage studies in the vicinity of the Study Area, was undertaken. This review suggested that rockshelter and artefact sites were the most commonly encountered site types in the area, though the results of previous investigations as well as the extent to which the Study Area has been disturbed (and the absence of suitable rockshelters, rock outcrops and rock platforms within the Study Area and proposed impact areas specifically) indicates that the potential for such sites to be encountered within the Study Area is very low to nil;
- A visual inspection of the Study Area was undertaken and no Aboriginal objects were identified. The visual inspection confirmed that the Study Area had been severely disturbed, and that the archaeological potential of the Study Area is very low;
- The proposed works described in Section 1.3 constitute relatively minor and isolated sub-surface works, with no major earthworks or building works currently proposed at the site.

Overall, the archaeological potential and sensitivity of the Study Area has been assessed as very low. No Aboriginal sites or objects were identified within the Study Area as part of the current assessment, and no previously recorded sites, as registered on AHIMS, are located in Study Area or in proximity to proposed impact areas.

Based on the above, there is no identified risk of harm to any Aboriginal sites or objects associated with the proposed works. It has therefore been determined that no further Aboriginal archaeological investigation is required for the currently proposed works. In accordance with best practice, general mitigation measures are recommended below.

Recommendations

The general mitigation measures recommended below provide contingency procedures that should be referred to in the event that unexpected Aboriginal sites, objects, or skeletal remains are identified within the Study Area during the proposed works. It is reiterated, however, that no identified Aboriginal sites or objects are present within the Study Area, and the potential for such sites has been assessed as very low.

Recommendation 1

All relevant on-site staff and contractors should generally be made aware of their statutory obligations for heritage under NSW National Parks and Wildlife Act 1974 and the NSW Heritage Act 1977.

Recommendation 2

In the event that further proposals are made that will result in sub-surface disturbance within the Study Area, or which have the potential to impact known Aboriginal sites in the vicinity, further assessment and consultation with relevant Aboriginal stakeholders will be required.

Recommendation 3

This Due Diligence Assessment report must be kept by the property owner so that it can be presented, if needed, as a defence from prosecution.

Recommendation 4

If Aboriginal object/s are identified in the Study Area during works, then all works in the immediate area must cease and the area cordoned off. The Office of Environment and Heritage must be notified by ringing the Enviroline 131 555 so that the site can be adequately assessed and managed.

Recommendation 5

In the event that skeletal remains are uncovered, work must cease immediately in that area and the area cordoned off. Santos Limited must contact the NSW Police with no further action taken until written advice is provided by the Police. If the remains are determined to be of Aboriginal origin, the Office of Environment and Heritage must be notified by ringing the Enviroline 131 555 and a management plan prior to works re-commencing must developed in consultation with the relevant Aboriginal stakeholders.

11. BIBLIOGRAPHY AND REFERENCES

11.1. BIBLIOGRAPHY

The report has been prepared in accordance with and/or with reference to the following documents prepared by the NSW OEH (formerly NSW Department of Environment, Climate Change and Water [DECCW]):

- *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW 2010;*
- *Due Diligence Code of Practice for Protection of Aboriginal Objects in NSW 2010;*
- *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010;*
- *Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW 2010;*
- *Applying for an Aboriginal Heritage Impact Permit: Guide for Applicants 2010.*

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DISCLAIMER

This report is dated 7 June 2017 and incorporates information and events up to that date only and excludes any information arising, or event occurring, after that date which may affect the validity of Urbis Pty Ltd's (**Urbis**) opinion in this report. Urbis prepared this report on the instructions, and for the benefit only, of DesignInc Sydney Pty Ltd (**Instructing Party**) for the purpose of Aboriginal Archaeological Due Diligence Assessment (**Purpose**) and not for any other purpose or use. To the extent permitted by applicable law, Urbis expressly disclaims all liability, whether direct or indirect, to the Instructing Party which relies or purports to rely on this report for any purpose other than the Purpose, and to any other person which relies or purports to rely on this report for any purpose whatsoever (including the Purpose).

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This report has been prepared with due care and diligence by Urbis and the statements and opinions given by Urbis in this report are given in good faith and in the reasonable belief that they are correct and not misleading, subject to the limitations above.

APPENDIX A AHIMS EXTENSIVE SEARCH RESULT

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : UTS Lindfield

Client Service ID : 270207

<u>SiteID</u>	<u>SiteName</u>	<u>Datum</u>	<u>Zone</u>	<u>Easting</u>	<u>Northing</u>	<u>Context</u>	<u>Site Status</u>	<u>SiteFeatures</u>	<u>SiteTypes</u>	<u>Reports</u>
45-6-2911	Cocupara Shelter 1	GDA	56	329599	6260665	Closed site	Valid	Art (Pigment or Engraved) : 1		
	<u>Contact</u>	<u>Recorders</u>	Mr.Phil Hunt,Aboriginal Heritage Office					<u>Permits</u>		
45-6-3043	Little Blue Gum Shelter PAD 1 KUR 082	GDA	56	329434	6260370	Closed site	Valid	Potential Archaeological Deposit (PAD) : 1		
	<u>Contact</u>	<u>Recorders</u>	Aboriginal Heritage Office					<u>Permits</u>		

Report generated by AHIMS Web Service on 07/03/2017 for Karyn Virgin for the following area at Lot : 2, DP:DP1151638 with a Buffer of 1000 meters. Additional Info : Research. Number of Aboriginal sites and Aboriginal objects found is 15

This information is not guaranteed to be free from error omission. Office of Environment and Heritage (NSW) and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

APPENDIX B LANDSCAPE PLAN



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Figured dimensions take preference to scale readings. Verify all dimensions on site. Report any discrepancies to the Architect for decision before proceeding with the work.
Nominated Architects
Anthony Guan 5421 | Sandeep Amin 7337 | Ian Armstrong 7260 | Richard Dore 8126

No	DATE	REVISIONS	BY
A	30/05/2017	ISSUED FOR DA	BS

LEGEND

- SITE BOUNDARY
- EXISTING TREE RETAINED
- EXISTING CONTOUR
- PROPOSED NEW CONTOUR
- EXISTING SPOT LEVEL
- PROPOSED SPOT LEVEL
- PROPOSED TREES
- PROPOSED SHRUBS
- PROPOSED GROUNDCOVERS
- CONCRETE PAVING
- SYNTHETIC TURF
- RUBBER SOFTFALL
- HARDWOOD TIMBER CLADDING
- NEW BOUNDARY SECURITY FENCE
- PEBBLE TRIM TO NON ACCESSIBLE ROOF
- EXISTING VEGETATION RETAINED
- EXISTING PAVING RETAINED

ARCHITECT
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CLIENT
NSW GOVERNMENT | Education

PROJECT
LINDFIELD LEARNING VILLAGE
Eton Road,
Lindfield NSW 2070

TITLE
LANDSCAPE MASTERPLAN

DRAWN BY BS

SCALES 1 : 500 @ A1

PLOT DATE 30/05/2017

PROJECT N°. S151441

DRAWING N°. LA-LV-0001

DRAWING STATUS DA

REVISION A

SIGNATURE MR

DATE

QUALITY CERTIFIED
ISO 9001
Completion of the Drawing Status is evidence the design has been verified as conforming to the requirements of the Project M.S. Plan. Initiating the "Drawn By" box confirms that this drawing has been prepared in conformity with Designinc Sydney M.S. procedures.

DEVELOPMENT APPLICATION

NOT FOR CONSTRUCTION



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