



**175-177 Cleveland Street and 1-5 Woodburn
Street, Redfern:**

Aboriginal Cultural Heritage Assessment

Final

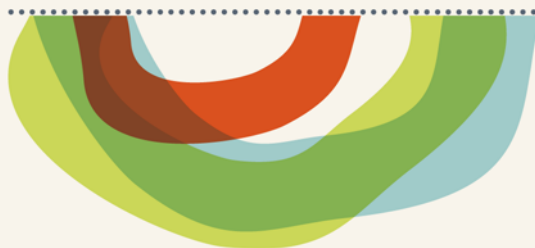
for

Construct Corp

September 2015

AHMS

ARCHAEOLOGICAL & HERITAGE
MANAGEMENT SOLUTIONS



AUTHOR/HERITAGE ADVISOR	Alan Williams, Oliver Brown
PROPONENT	Construct Corp
PROJECT NAME	175-177 Cleveland Street and 1-5 Woodburn Street, Redfern: Preliminary Aboriginal Cultural Heritage Assessment
REAL PROPERTY DESCRIPTION	Lot 1 DP 724328, Lot 15 DP 57107, Lot 1 DP 1093304, Lot 10 DP 809537, Lots 3 & 4 Section 2 DP 977379, Lot 5 DP 68798
DATE	September 2015

AHMS INTERNAL REVIEW/SIGN OFF				
WRITTEN BY	DATE	VERSION	REVIEWED	APPROVED
Alan Williams, Oliver Brown	November 2014	1	Fenella Atkinson	S. McIntyre-Tamwoy
Alan Williams, Oliver Brown	March 2015	2	S McIntyre-Tamwoy	S McIntyre-Tamwoy
Ngaire Richards	September 2015	3	S McIntyre-Tamwoy	S McIntyre-Tamwoy

Copyright and Moral Rights

Historical sources and reference materials used in the preparation of this report are acknowledged and referenced in figure captions or in text citations. Reasonable effort has been made to identify contact, acknowledge and obtain permission to use material from the relevant copyright owners.

Unless otherwise specified in the contract terms for this project AHMS:

- Vests copyright of all material produced by AHMS (but excluding pre-existing material and material in which copyright is held by a third party) in the client for this project (and the client's successors in title);
- Retains the use of all material produced by AHMS for this project for AHMS ongoing business and for professional presentations, academic papers or publications.

ARCHAEOLOGICAL & HERITAGE MANAGEMENT SOLUTIONS

ABN 45 088 058 388
ACN 088 058 388

www.ahms.com.au
info@ahms.com.au

SYDNEY
2/729 Elizabeth St
Waterloo NSW 2017
P 02 9555 4000
F 02 9555 7005

MELBOURNE
2/35 Hope St
Brunswick VIC 3056
P 03 9388 0622

PERTH
25/108 St Georges Tce
Perth WA 6000
P 08 9381 5206

CONTENTS

EXECUTIVE SUMMARY	4
1 INTRODUCTION.....	5
1.1 Project Background.....	5
1.2 Subject Area.....	5
1.3 Legislative Context.....	5
1.4 Authorship and Acknowledgements.....	6
2 PHYSICAL ENVIRONMENT.....	9
2.1 General.....	9
2.2 Landscape Characteristics.....	9
2.3 Landforms of Interest	14
2.4 Land Use History.....	14
2.5 Site Inspection.....	14
3 CULTURAL CONTEXT	18
3.1 General.....	18
3.2 The Sydney Area	18
3.3 Aboriginal Life in Redfern.....	20
4 ARCHAEOLOGICAL CONTEXT.....	23
4.1 Regional Context.....	23
4.1.1 Early Occupation	23
4.1.2 Intensification during the Holocene	23
4.1.3 Regional Site Patterns	24
4.2 Previous Archaeological Reports	25
4.2.1 Sydney Central Business District Archaeological Reports.....	25
4.2.2 Former Rachel Forster Hospital Site.....	26
4.2.3 National Centre of Indigenous Excellence	26
4.2.4 Sheas Creek.....	27
4.2.5 175-177 Cleveland Street, Redfern.....	27
4.3 AHIMS Data	27
5 THE ARCHAEOLOGICAL RESOURCE	30
5.1 A Predictive Model	30
5.2 Aboriginal Archaeological Potential	31
6 ABORIGINAL HERITAGE MANAGEMENT	32
6.1 Conclusion.....	32
6.2 Recommendations	32
7 REFERENCES.....	33

LIST OF TABLES

Table 1	AHIMS sites located within the 5km ² of the subject area.....	27
---------	--	----

LIST OF FIGURES

Figure 1	Map showing the location of the subject area.	7
Figure 2	The proposed development within the subject area. Note the basement car-parking, which would have significant impacts on any buried archaeological deposits.	8
Figure 3	Map of the soil landscapes in the vicinity of the subject area. The subject area is situated on the Blacktown soil landscape, which is characterised as a shallow duplex soil prone to high impact from urban development.....	11
Figure 4	Top: Map of the subject area (red) overlying Woolcott & Clarke's 1854 map of Sydney, which shows the location of Blackwattle Creek. Bottom: The subject area(red) in its current context, with Blackwattle Creek and associated lagoons/dams/swamps highlighted (blue).....	12
Figure 5	Map showing the elevation of the region surrounding the subject area, and the nearby ... Blackwattle Creek. Based on this figure, the subject area is situated on a southwest facing slope over-looking a tributary of Blackwattle Creek, <200 metres away.....	13
Figure 6	An overlay of the subject area on the 1949 aerial. Note the heavily developed nature of the subject area by this time.	16
Figure 7	177 Cleveland Street.....	17
Figure 8	175 Cleveland Street, at the corner with Eveleigh Street.	17
Figure 9	175 Cleveland Street.....	17
Figure 10	1-5 Woodburn Street.....	17
Figure 11	1-5 Woodburn Street.	17
Figure 12	Map of Aboriginal track (yellow) documented in the vicinity of the subject area (red).	22
Figure 13	Map showing previously recorded Aboriginal objects/sites in the vicinity of the subject area.	29

LIST OF APPENDICES

Appendix 1:	AHIMS Search Results	35
-------------	----------------------------	----

EXECUTIVE SUMMARY

Archaeological and Heritage Management Solutions P/L (AHMS) was commissioned by Construct Corp to undertake Aboriginal cultural heritage impact assessment of the proposed development of 175-177 Cleveland Street and 1-5 Woodburn Street, Redfern NSW. The proposal is expected to be assessed as a State Significant Development (SSD 6371) in accordance with Part 4 Division 4.1 of the *Environmental Planning and Assessment Act 1979*. This report has been prepared for inclusion in an Environmental Impact Statement (EIS) meeting the Director-General's Requirements (DGRs) for the proposed works.

The subject area is situated within 200m of water, namely Blackwattle Creek. Previous investigations have shown that land in proximity to water is likely to contain Aboriginal objects. However, the subject area site is situated on shallow duplex soils, and it is considered that existing disturbances (excavations of the original land surface for construction) have impacted much of the natural soil profile, and that the potential for the presence of significant or intact Aboriginal cultural material is low.

On the basis of background research, site inspection and predictive assessment it is considered unlikely that any Aboriginal objects are present within the subject area. Therefore it is considered that there is low risk of harming Aboriginal objects through the proposed work.

The following recommendations are made:

- No further Aboriginal cultural heritage assessment or investigation is required prior to the development.
- If unexpected Aboriginal objects and/or sites are discovered during the course of the development works or at any other time, work should cease in the vicinity of the discovery and the Office of Environment and Heritage should be contacted for advice before work in that area recommences.
- If human skeletal material less than 100 years old is discovered, the *Coroners Act 2009* requires that all works should cease and the NSW Police and the NSW Coroner's Office contacted. Traditional Aboriginal burials (older than 100 years) are protected under the *National Parks and Wildlife Act 1974* and if found, all works should cease and an appropriately skilled archaeologist or physical anthropologist contacted. Should the skeletal material prove to be archaeological Aboriginal remains, notification of Office of Environment and Heritage and the relevant Aboriginal stakeholders will be required. Notification should also be made to the Commonwealth Minister for the Environment, under the provisions of the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984*.

This report was updated in September 2015 to include the final project elevation drawing in Figure 2 which demonstrates the depth of the propose cut into the existing land surface. Other than this change this report documents the original assessment.

1 INTRODUCTION

1.1 Project Background

Construct Corp proposes to redevelop the property 175-177 Cleveland Street and 1-5 Woodburn Street, Redfern (**Figure 1**). The proposed work involves the demolition of existing buildings and the construction of a multi-storey building (**Figure 2**). The proposed plans include significant excavation for underground parking and services and the development will therefore remove any deposits that have the potential to contain subsurface archaeological material.

It is proposed to submit the project for approval as a State Significant Development, in accordance with Part 4 Division 4.1 of the *Environmental Planning and Assessment Act 1979*. Construct Corp expects to be required to address Aboriginal and non-Indigenous heritage in the Environmental Impact Statement, and has therefore commissioned Archaeological and Heritage Management Solutions Pty Ltd (AHMS) to prepare the present preliminary Aboriginal heritage assessment in accordance with the *Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (Department of Environment and Conservation, 2005). Non-Indigenous heritage is addressed in a separate report (AHMS November 2014).

AHMS (June 2014) has previously assessed 175-177 Cleveland Street, as part of the assessment of an earlier version of the proposed development, which covered a smaller footprint. The current report incorporates the findings of that assessment to provide a holistic consideration of the subject area.

1.2 Subject Area

The subject area is the property referred to as 175 and 177 Cleveland Street and 1-5 Woodburn Street, Redfern (**Figure 1**), and defined as Lot 3 in Deposited Plan (DP) 977379, Lot 4 DP 377379, Lot 5 DP 68798, Lot 3 and Lot 4 Section 2 DP 977379, and Lot 5 DP 68798. The subject area is within the City of Sydney Local Government Area; in the Parish of Alexandria, County of Cumberland; and within the boundaries covered by the Metropolitan Local Aboriginal Land Council.

The site is bounded by Cleveland Street to the north, Woodburn Street to the east, other structures to the south and Eveleigh Street to the west. The site is currently occupied by a bitumen covered car park and a two-storey brick warehouse to the east and a one storey brick warehouse building to the west.

1.3 Legislative Context

Aboriginal cultural heritage in NSW is generally protected under the *National Parks and Wildlife Act 1974* (NPW Act). Under the provisions of this Act any 'Aboriginal object' has default statutory protection unless harm is allowed by an Aboriginal Heritage Impact Permit or by exemptions from prosecution for particular activities (such as archaeological investigation) by the *National Parks and Wildlife Regulation 2009*.

However, the current proposed development is expected to be assessed as State Significant Development under Part 4 Division 4.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). This effectively turns off the provisions of the NPW Act, other than through the application of equivalent requirements that might be included in Director-General's Requirements following referral to the Office of Environment and Heritage.

Because there are no specific current guidelines for the assessment of Aboriginal cultural heritage for State Significant Developments, reference is instead made to the Draft Guidelines released in 2005. These provide for an initial stage of assessment for which the main purpose 'is to identify whether

there are Aboriginal cultural heritage values associated with the subject site'. Because this stage of assessment has an equivalency with the initial stages of the OEH *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW*, this assessment has been undertaken to a level that is compliant with either or both.

1.4 Authorship and Acknowledgements

This report was written by Alan Williams in March 2015. It includes sections reproduced from the previous assessment of 175-177 Cleveland Street, Redfern, written by Oliver Brown (AHMS June 2014). The floor plans were updated in September 2015 with final plans provided by JPR Architects. The report was reviewed by Fenella Atkinson and Susan McIntyre-Tamwoy, Associate Director.

The assistance of Bill Yassine, Construct Corp, is gratefully acknowledged.

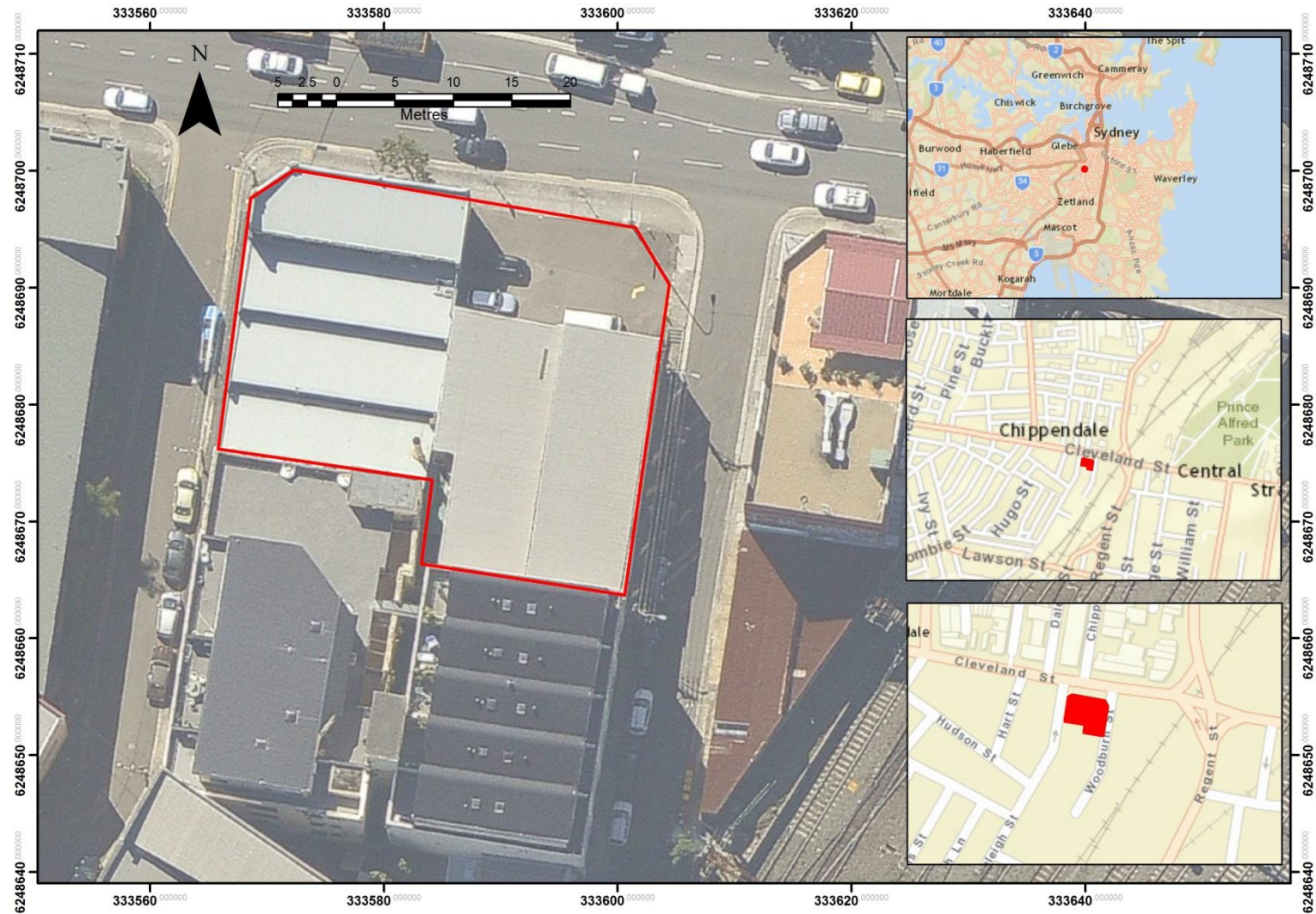


Figure 1 Map showing the location of the subject area.

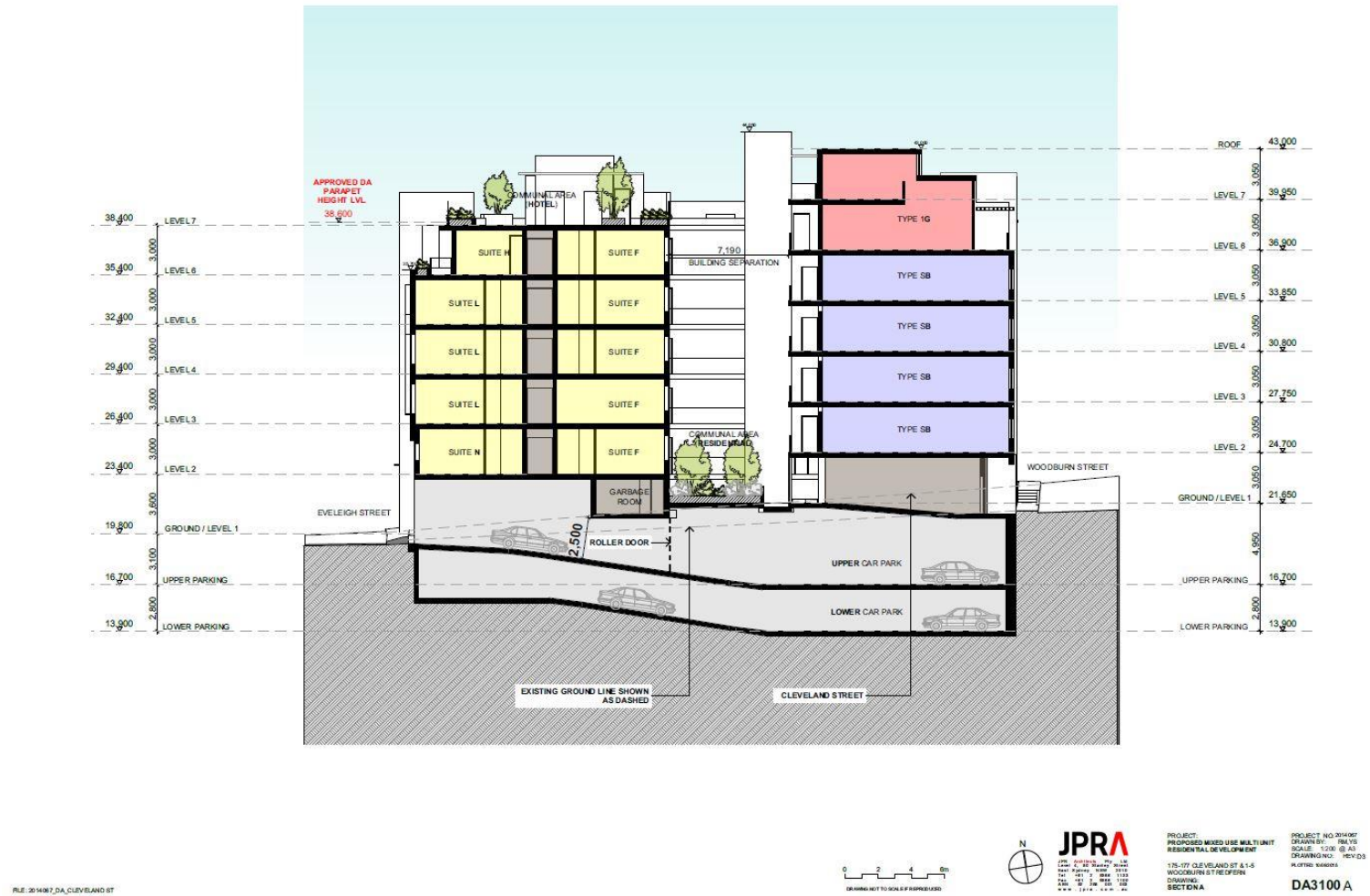


Figure 2 The proposed development within the subject area. Note the basement car-parking, which would have significant impacts on any buried archaeological deposits.

2 PHYSICAL ENVIRONMENT

2.1 General

Environmental and landscape characteristics contribute to the availability of natural resources. In turn, landscape characteristics and available natural resources influence land use. Ultimately, these affect the types of archaeological sites that are likely to exist in a given area. A determination of the past environmental context is essential to develop accurate models of cultural activity, site distribution patterns and the archaeological potential of any given area. The environmental context of the subject area is discussed below.

2.2 Landscape Characteristics

The study area is located on an underlying geology of Ashfield Shale of the Wianamatta group. The high susceptibility to erosion of this shale typically leads to gently undulating landscapes with little elevation relief except in areas where inter-bedded fine grained sandstone occurs within the shale lithology.

The 1:100,000 Sydney Soil Landscape Series mapping indicate that the study area lies on the Blacktown Soil Landscape (Chapman & Murphy, 1989) (**Figure 3**). This landscape is comprised of texture contrast or duplex soils, typically over-laying Wianamatta shales. Typically, the upper soil profile (A1 and A2 horizon) capable of containing cultural materials is quite shallow (<100cm), and therefore is highly susceptible to disturbance and erosion. On crests and slopes, the upper soil profile is frequently absent as a result of de-vegetation and erosion, while in urban areas even minor development can completely remove the deposits of archaeological interest.

A summary of the typical soil profile found within the Blacktown soil profile is outlined below:

- The topsoil (A1 Horizon) is a friable brownish-black loam to clay loam. Roots are common in this layer. Charcoal and fine gravel sized shale are sometimes present.
- The topsoil overlies a hard-setting brown clay loam to silty clay loam (A2 Horizon). Colour ranges from dark brown to dark reddish brown. Ironstone gravel sized shale fragments are common, charcoal and roots are rarely found.
- The A2 Horizon overlays brown, light to medium clay (B Horizon). The colour is usually brown but can contain red, yellow and grey mottling. Fine to coarse gravel sized shale fragments are common. This deposit is usually considered to reflect pre-archaeological deposits, pre-dating the accepted colonisation of Aboriginals to Australia.

While generally an infertile soil, when considered relative to the surrounding sandstone and aeolian sand landscapes, it is more fertile. A map engraved in 1791 or 1792 of 'hitherto explored country contiguous to Port Jackson' by Walker (Ashton & Waterson, 1977) shows an area referred to as the 'Kangaroo Grounds' which largely corresponds to this soil landscape area in the vicinity of the subject area. Blacktown soils give rise to vegetation which under traditional Aboriginal burning regimes would have been open eucalypt woodland over perennial grasses (Benson & Howell, 1990). This provided the nearest suitable habitat for grey kangaroos (*Macropus giganteus*) to the coastal Aboriginal people between Port Jackson and Botany Bay, as well as to the British settlement at Sydney Cove after 1788.

The study area lies on an area of land that slopes gently to the west down to a former tributary of Blackwattle Creek. As mapped in 1854 (**Figure 4** and **Figure 5**), the drainage line lies approximately 80m to the SSW. It is notable however that the general principle, as it applies across most of western Sydney for example, for considering drainage lines as resource areas on Blacktown Soil landscapes

is unlikely to have applied very strongly for the current subject area. This is because a rich estuarine swamp with inflowing fresh water was present <2km to the north-west at Blackwattle Bay, and an inland swamp with fresh water and rich resources was present at Boxley's Lagoon (now Redfern Oval) <1km to the South-East. It is therefore likely that, while some resource use would inevitably have occurred in the vicinity of the subject area (particularly hunting), most occupation would have been focussed in other areas. It is a commonly observed pattern of artefact distribution in the Sydney Basin that occupation tends to be more focussed on coastal and estuarine areas, compared to more dispersed patterns of land use on the hinterland plains / lowlands, as in the case of the subject area.

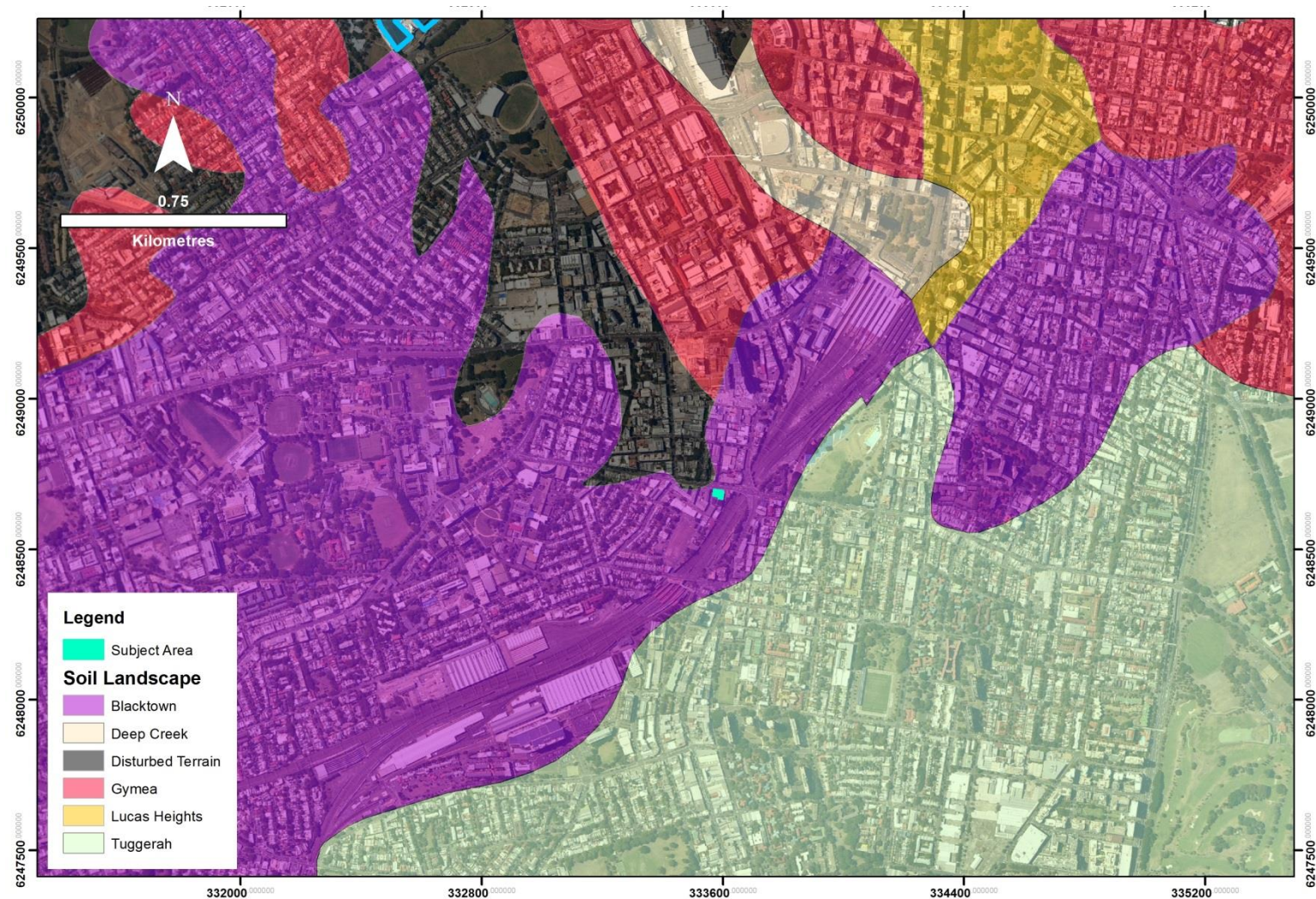


Figure 3 *Map of the soil landscapes in the vicinity of the subject area. The subject area is situated on the Blacktown soil landscape, which is characterised as a shallow duplex soil prone to high impact from urban development.*

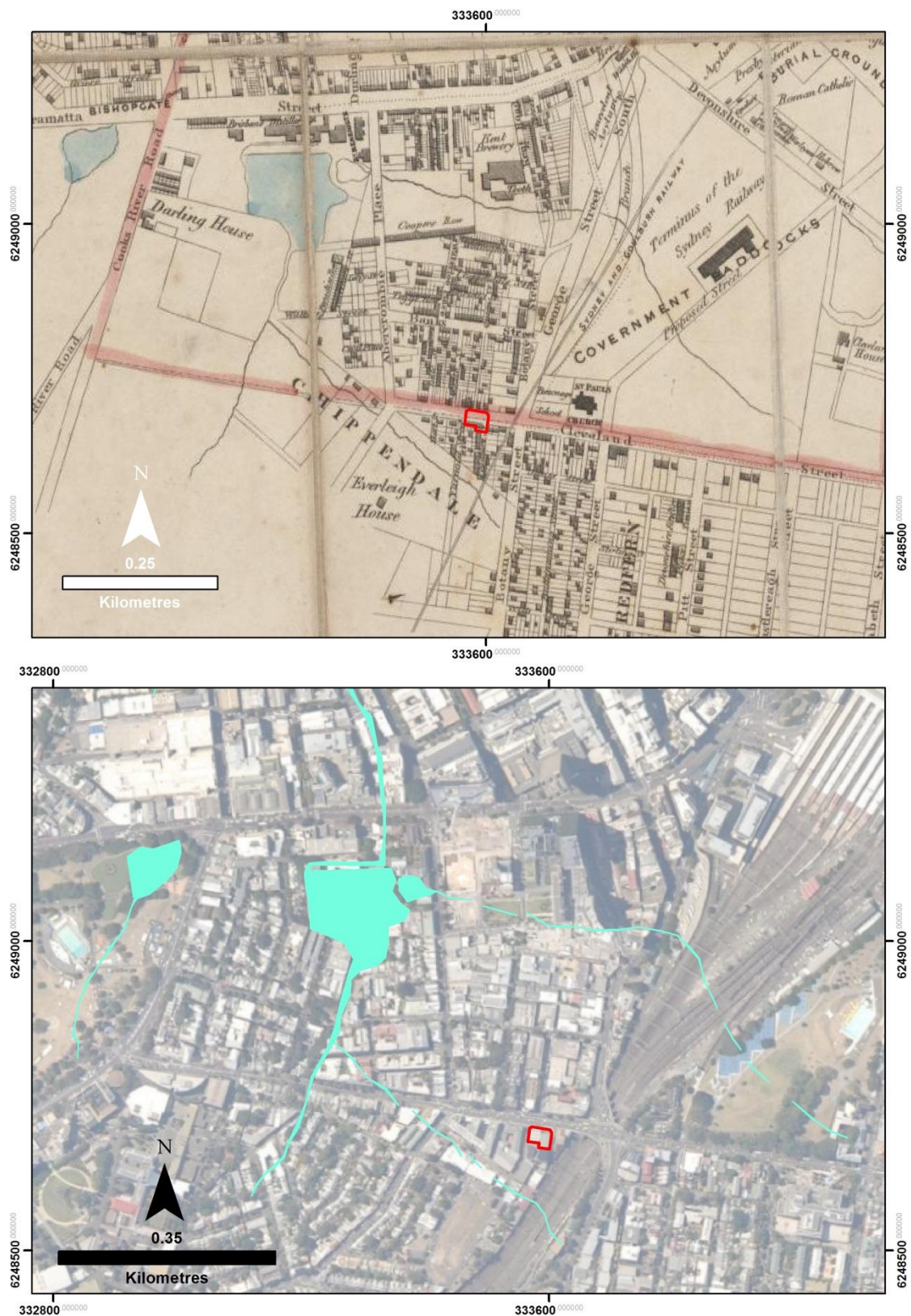


Figure 4 *Top: Map of the subject area (red) overlying Woolcott & Clarke's 1854 map of Sydney, which shows the location of Blackwattle Creek. Bottom: The subject area (red) in its current context, with Blackwattle Creek and associated lagoons/dams/swamps highlighted (blue).*

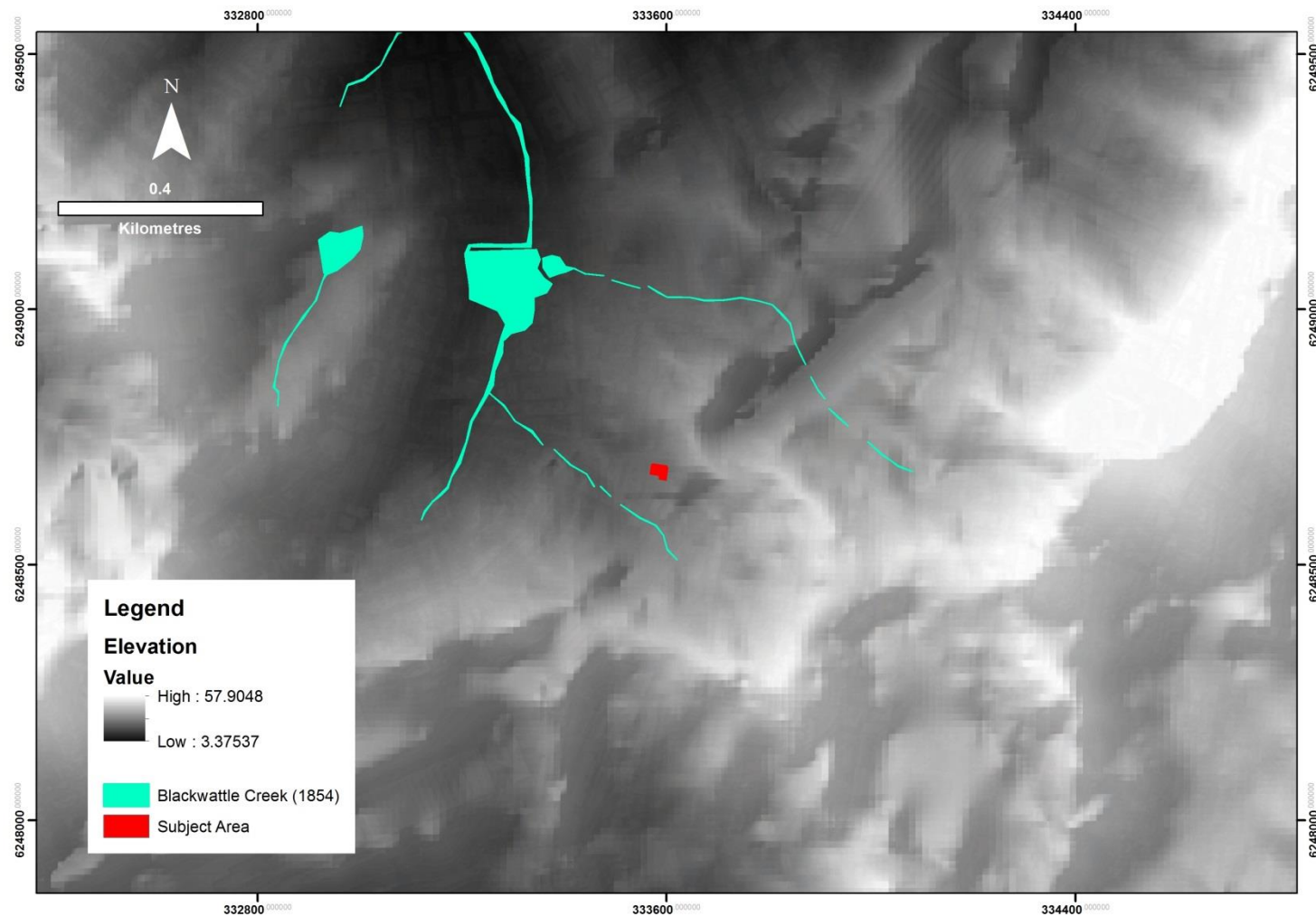


Figure 5 Map showing the elevation of the region surrounding the subject area, and the nearby Blackwattle Creek. Based on this figure, the subject area is situated on a southwest facing slope over-looking a tributary of Blackwattle Creek, <200 metres away.

2.3 Landforms of Interest

OEH guidelines for the investigation of Aboriginal cultural heritage, particularly the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* (OEH 2010), list a number of landscape features that are more frequently associated with the likelihood of Aboriginal cultural heritage material being present. These include areas:

- within 200m of waters.
- located within a sand dune system.
- located on a ridge top, ridge line or headland.
- located within 200 m above or below a cliff face.
- within 20 m of or in a cave, rock shelter or a cave mouth.

Of these, proximity to water is the only feature of relevance to the subject area (see **Section 2.2** above and discussion with regard to archaeological potential in **Section 4.4** below). Waterways were identified and mapped based on an 1854 map as shown in **Figure 4** and **Figure 5**.

2.4 Land Use History

The historical development and occupation of the subject area is described in the historical archaeological assessment (AHMS, November 2014). By the 1870s, houses and a hotel had been constructed on the subject area. Redevelopment took place in the 1930s, with the widening of Cleveland Road and the construction of the present warehouses. The hotel was demolished in the 1980s and replaced with the present carpark. The 1949 aerial photograph shows the extent of development across the subject area (**Figure 6**).

The duration and intensity of the land use at the subject area, particularly given the general shallowness of Blacktown Soils, therefore infers a very strong possibility that all pre-1788 topsoil that could have contained subsurface artefacts may have been removed. This potentiality is addressed through the archaeological site inspection (**Section 2.5**).

2.5 Site Inspection

An inspection of 175-177 Cleveland St was undertaken in April 2014 by AHMS archaeologists Oliver Brown and Laura Matarese; and 1-5 Woodburn St was inspected in October 2014 by Fenella Atkinson and Sophie Brettell. In brief, no Aboriginal objects were identified and it is thought probable that there are no remaining deposits likely to contain them.

In general, the subject area slopes down from the north-east corner. This corner, being 177 Cleveland Street, is occupied by an asphalted carpark (**Figure 7**). It has apparently not been built on since the demolition of the Royal Standard Hotel in the late 1980s. Documentary evidence for this structure includes an indication of the presence of a cellar; and this evidence combines with field observations to indicate that potentially Aboriginal artefact-bearing remnant topsoil is unlikely to exist.

175 Cleveland Street is occupied by a warehouse which is double-storey on the Cleveland Street frontage, and single-storey on the Eveleigh Street frontage (**Figure 8** and **Figure 9**). The ground level of the north-eastern part of this structure is below the surrounding ground level. The building has no underfloor space that could be inspected with the exception of a small area in the southwest corner that appeared to be below original ground level. The deposit observed was not original soil and was considered to represent imported material, possibly being degraded construction sandstone. The

depth of foundations, being partly slab and partly floorboards with an unknown base construction, is considered to be of an extent that would have completely removed all of the original soil profile - particularly given that as Blacktown Soil it is likely to have only been around 20cm deep (see **Section 2.2**).

That part of the subject area known as 1-5 Woodburn Street is occupied by a two-storey warehouse (**Figure 10** and **Figure 11**). The ground level of this structure is sunken below the surrounding ground level on the northern and eastern sides. The floor of this structure consists of a concrete slab, and the small yard is similarly paved.



Figure 6 An overlay of the subject area on the 1949 aerial. Note the heavily developed nature of the subject area by this time.



Figure 7 177 Cleveland Street.



Figure 8 175 Cleveland Street, at the corner with Eveleigh Street.



Figure 9 175 Cleveland Street.



Figure 10 1-5 Woodburn Street.



Figure 11 1-5 Woodburn Street.

3 CULTURAL CONTEXT

3.1 General

This section presents a summary of Aboriginal life at contact, as recorded by early European settlers in documents, maps, plans, images and ethnographic records. By studying these sources, we can reconstruct aspects of traditional Aboriginal lifestyle and economy. Although such accounts are fragmentary and present a biased European view of Aboriginal culture, they provide an important insight into traditional Aboriginal use and occupation of the land.

3.2 The Sydney Area

Over thirty separate Aboriginal groups populated the wider Sydney area in 1788, each with their own country, practices, diets, dress, and dialects. We now know of these groups as 'clans' and each identified or has been identified with broader cultural-linguistic groups known as 'tribes': *Darug*, *Darkinjung*, *Gundungarra*, *Tharawal*, *Guringai* (Coastal Darug), *Eora* (Coastal Darug) and *Awabakal*.

Each clan of thirty to fifty people lived within their own territory, occasionally converging with other clans to trade, hunt, fight, feast, arrange marriages, resolve disputes, and share information. The database includes details of a gathering of three clans on their way to Camden to learn a new song (Backhouse, 1843), *Burramattagal* people venturing out to Manly to feast on a beached whale (Tench, 1793), and groups of hunters near Carabeely cooperating on a large-scale kangaroo hunt (Barrallier, 1802). There was often tension between neighbouring groups and the boundaries between territories were not lightly traversed (White 1788). On an expedition north-west of Parramatta, Watkin Tench records that his guides Colebe (*Gadigal*) and Ballederry (*Burramattagal*) quickly found themselves in 'county unknown' and that they described those who lived there as 'enemies'. When the party finally they reached the Hawkesbury River, Tench (1791) surmised that 'Our natives had evidently never seen this river before'.

The landscape was criss-crossed with Aboriginal paths, many of which later became roads. Missionary James Backhouse was amazed by the speed and sophistication of communication between clans; on 23 October 1835 he encountered Aboriginal people in Richmond who knew of his brief visit to Wellington, over three hundred kilometres away: 'Our persons, costume, and many other particulars, including our manner of communicating religious instruction, had been minutely described' (Backhouse, 1843, p. 339).

The same paths that wove these communities together rapidly spread the small pox virus throughout the region in 1789. The devastating outbreak of small pox forced major reorganisation amongst clan groups. When William Bradley sailed into Sydney in May 1789, he recorded the 'dreadful havock' that small pox had wrought amongst Aboriginal communities: 'we did not see a Canoe or a Native the whole way coming up the Harbour & were told that scarce any had been seen lately except laying dead in & about their miserable habitations' (Bradley, 1969). Traditional burial practices broke down and clans merged together as entire communities were taken by the virus (Hunter, 1793). Bodies were found in caves and by streams, around the harbour and all along 'the path between Port Jackson & Broken Bay' (Bradley, 1969, p. 17 June 1789). The impact of small pox continued to ripple across the country, reducing communities in the Hunter 'from about 200, to 60' (Backhouse, 1843, p. 401).

The primary sources offer only glimpses of the ceremonial life of these Aboriginal communities. Europeans recorded some Aboriginal customs, such as the avulsed teeth and 'scarification' of certain initiated men, and the kangaroo teeth necklaces and the missing little finger joints of 'mountaineer' and coastal women. But, due to the secrecy surrounding ceremonial events, there are serious limitations to even the most richly described accounts like the 'Yoo-long Erah-ba-diang' initiation

ceremonies Collins records at the head of Farm Cove and in the 'middle harbour' (Collins, 1798); the contests and dances conducted on 'a clear spot between the town and the brickfield' (Collins, 1798); and the operation performed by Yellomundee, a 'caradyee', on Colebe's wound on the banks of the Hawkesbury (Tench, 1791).

Those clans that lived along the coast were saltwater people. They harvested shellfish from the shore; men fished from the shallows with long four-pronged spears, while the women fished in bark canoes using turban shell hooks and lines. The hunters' toolkit included clubs, boomerangs, womeras, spears tipped with shell, and, of course, fire. At times they stayed for several months in the one area: Joseph Banks records finding 'a small village consisting of about 6 or 8 houses' on the south shore of Botany Bay in April 1770, and in December 1790, Watkin Tench describes a similar 'little village (if five huts deserve the name)' on the north side of the bay. Botany Bay was a focal point of Aboriginal activity; it has the highest density of plotted ethnographic sources in the Sydney area.

The inland clans fished for mullet and eels in rich lagoons, but much of their food came from yams dug out from the river banks and worms known as '*cah-bro*' extracted from river driftwood. Colebe and Ballederry called these people the 'climbers of trees' after their practice of skilfully ascending gums in pursuit of animals, cutting footholds in the trunks with a stone axe. More hunting traps were plotted in the area from Parramatta to Richmond than any other part of Sydney. These included 'bird decoys' full of feathers, hollowed-out trees, and a tapering chute at the foot of Richmond Hill 'between forty and fifty feet in length', constructed of earth, weeds, rushes, and brambles (Collins, 1798, p. Appendix IV).

Fire was a constant presence in early Sydney, from the 'moving lights' seen on the harbour at night (Banks, 1798, p. 243) to lone trees burning on the Cumberland Plain, 'the smoke issuing out of the top part as through a chimney' (White J. , 1788, p. 26 April). 'In all the country thro' which I have passed,' wrote Arthur Phillip in May 1788, 'I have seldom gone a quarter of a mile without seeing trees which appear to have been destroyed by fire' (Phillip, 15 May 1788). The first Australians became known as the 'fire-makers' (Cox, 1815, p. 15 Sept 1814). They used fire to open paths and to clean country; to drive animals into the paths of hunters and then to cook the kill; to keep warm at night and to carry as a torch the next day; to treat wood, melt resin and crack stone for tools; to gather around and dance and share stories.

The interactive map gives us an insight into local burning regimes. On a hot dry day in September 1790, for example, David Collins observed Aboriginal people 'burning the grass on the north shore opposite to Sydney, in order to catch rats and other animals' (Hunter, 1793, p. 31 August 1791). Almost exactly twelve months later, on 31 August 1791, they were again 'firing the country' in the same place on a hot day ahead of heavy rains. While Collins regarded this to be another 'remarkable coincidence', it suggests a connection to the land and an understanding of the seasons which the settlers could not fathom. This dismissive approach proved devastating during 1799 flood of the Hawkesbury. Settlers who ignored the flood warnings given by Aboriginal people were engulfed by a destructive torrent as the 'river swell'd to more than fifty feet perpendicular height above its common level' (Collins, 1798, p. Appendix VI).

After contact, early Sydney remained, in the words of historian Grace Karskens, 'an Eora town' (Karskens, 2009, p. 351). Crowds of Aboriginal people would flow through the settlement at Sydney Cove, eating in the yard of Government House, sharing a table with the Governor himself, or gathering at Bennelong's hut. Large parties of convicts paid regular visits to an Aboriginal family in Woolloomooloo, 'where they danced and sung with apparent good humour' (Collins, 1798, p. July 1788). A short-lived fish trade sprang up in Parramatta, with Aboriginal people selling fresh bream and mullet for bread and salted meat (Collins, 1798, p. June 1791). Fierce warfare broke out on the Hawkesbury. And clans came 'not less than one Hundred Miles' to attend Governor Macquarie's 'Annual Meeting of the Natives' at Parramatta. Combined these events knit together a rich tapestry of Aboriginal activity around early Sydney.

3.3 Aboriginal Life in Redfern

Ethnographic and linguistic evidence indicate that people of the *Darug* language group may have been associated with this landscape, however, there is still much debate regarding the identity of the people who traditionally occupied the local area. *Darug* was first described as a language (or dialectic group) by pioneer surveyor, anthropologist and linguist R H Mathews in the early 20th century. He described the extensive range of this language group as follows:

'The Dharruk speaking people adjoined the Thurrawal on the north, extending along the coast to the Hawkesbury River, and inland to what are now Windsor, Penrith, Campbelltown and intervening towns'. (Mathews, 1901, p. 135)

There is considerable ongoing debate about the nature, territory and range of pre-contact Aboriginal language groups of the greater Sydney region. These debates have arisen largely because by the time colonial diarists, missionaries and proto-anthropologists began making detailed records of Aboriginal people in the late 19th Century Aboriginal groups had been broken up and reconfigured by European settlement activity.

Sydney region archaeologist and historian Val Attenbrow (2002, pp. 34-35) has cautioned:

Any boundaries mapped today for (these) languages or dialects can only be indicative at best. This is not only because of an apparent lack of detail about such boundaries in the historical documents, but because boundaries between language groups are not always precise lines.

Language groups such as the *Darug* included a number of sub-groups often referred to as 'clans', based upon religious and/or totemic associations to country. Ethno-historical evidence indicates the Redfern area may have been part of the land occupied by the *Cadigal* or coastal *Darug* clans.

A number of early colonial documentary records refer to an Aboriginal path which ran past the present subject area (**Figure 12**):

Saturday. 31 May 1788: The Governor with a party went to the place where the two Men had been killed by the Natives, the boat returned leaving them in a Natives path which they meant to follow until they met with the Natives.

Sunday. 1st June 1788. The Governor & party return'd by land to Sydney Cove: He had followed the path to the NW arm of Botany Bay, met with a party of Armed Natives of 210; The Governor & one of their principal people, met unarmed, one of the Natives advanced to shew a wound which he had received in the shoulder apparently with an Axe; they were all friendly, the Women shew'd every disposition to be very familiar; a quantity of dried fish was found among these people & bones which from the size were supposed to belong to the Kangaroo. Orders were this day given, that no party under 6 armed Men were to go into the woods on account of the Natives being so numerous.

Bradley (1788) 1969.

February 1788: In spite, however, of all our precautions, they soon found the road to Botany Bay, in visits to the French, who would gladly have dispensed with their company.

Tench 1789.

Collins, March 1789: Immediately on this being known in the settlement, an armed party was sent out with an officer, who found the body of the man that had been killed, stripped, and lying in the path to Botany Bay.

Collins 1798.

Hunter, September 1789: this route being now well known, and the path well trodden, it was not an unpleasant walk.

Hunter 1793.

After European arrival, the swamp at Redfern (in the vicinity of Redfern Park) was a focus of Aboriginal use and occupation, being favoured by Indigenous people visiting the town of Sydney, and the site of ritualised disputes following the enclosure of Hyde Park (Marriot, 1988).

Obed West, a 19th century Sydney resident, recalled:

Boxley's Clear [Redfern] was a great rendezvous of the blacks and was one of their great feasting grounds as well as the scene of many a hard-fought battle. The clearing at Redfern, being nicely adjacent, was chosen by the natives as the place of meeting for the settlement of disputes, in lieu of the Racecourse. This also was the spot where the blacks were punished by their comrades for breaches of their tribal laws.... (Marriot, 1988, pp. 45-46)

West also noted the diverse food resources available to the Aboriginal inhabitants of early 19th Century Redfern:

....Boxley's Lagoon these days was the home of vast numbers of red-bills, wild ducks, snipe, landrail and other game now rarely seen anywhere near Sydney. Eels were also plentiful in the water, and in the bush were bandicoots, possums and native cats which the youths of the time would chase with dogs when the nights were favourable.... (Marriot, 1988, pp. 45-46)

West observed Aboriginal camping around the fringes of Redfern, possibly including the elevated landforms such as the current subject area:

Round the edges of the clear were camping grounds of the blacks, and little do people know who live in comfortable houses with steam trams running past their doors, realize that they are sleeping on the houses and graves of the aboriginals. (Marriot, 1988, p. 46)

The historical evidence summarised above indicates Aboriginal people occupied Redfern during the early 19th Century and used the local area for camping, gathering food, traditional fighting, meeting and transit. This indicates that material evidence of Aboriginal occupation and use is likely to survive in less disturbed areas of Redfern.



Figure 12 Map of Aboriginal track (yellow) documented in the vicinity of the subject area (red).

4 ARCHAEOLOGICAL CONTEXT

This section discusses the regional and local archaeological context within which the subject area is situated. For the purposes of determining settlement and site location patterns, archaeologists examine regional and local trends in the distribution of known sites in relation to environment and topography. This provides evidence about economic and social systems in the past and also assists archaeologists in predicting likely site types, site locations and the nature of the archaeological resource in any given area.

4.1 Regional Context

4.1.1 Early Occupation

Aboriginal occupation in the region dates back well into the Pleistocene period (i.e. before 10,000 years ago). This evidence comes from radiocarbon dates retrieved from excavated sites at Cranebrook Terrace (41,700 years before present [BP]), Shaw's Creek K2 (14,700 BP), and George and Charles Streets Parramatta (c.25,000–30,000 BP) (McDonald 2005; Kohen 1986; Nanson et al. 1987). Other sites include Burrill Lake and Bass Point on the south coast with dates >15,000, and Loggers Shelter and Tempe House, the latter a hearth on Cooks River, both dating to early Holocene (5-10,000 years BP) (Attenbrow 2002; McDonald 2005; Lampert 1971). More recently, AHMS has recently obtained ages of between 12,000 and 15,000 years BP for an artefact concentration within a sand dune overlooking Hawkesbury River in Pitt Town (Williams et al. 2012) and age estimates based on geomorphological evidence of between 14,000 and 18,000 years BP for a site on Peachtree Creek at Penrith (AHMS 2014).

The early occupation sites dating to the late Pleistocene/early Holocene have been found in deep stratified rock - shelter deposits and within alluvial deposits, particularly on the margins of large rivers such as the Hawkesbury-Nepean and Parramatta Rivers. Drawing on this evidence, McDonald has recently argued that early occupation of the Sydney Basin was focused on these primary river systems and characterised by a high degree of 'residential mobility' between a small number of sites (McDonald 2005). However, the survivability and loss of older sites in such a heavily urbanised environment must also be considered.

4.1.2 Intensification during the Holocene

The vast majority of dated sites in the Sydney region are less than 5,000 years old (Attenbrow 2002). It has been argued that this is a result of increased populations and 'intensification' of cultural activity during this period, following arguments most notably put forward by Lourandos (Lourandos 1983; Lourandos & Ross 1994). Leaving inferences about cultural changes aside Williams and others also suggest that populations were in fact larger in the last 2,000 years continent-wide than in any preceding period on the basis of the statistical analysis of the distribution of radiocarbon-dated sites and their age (Williams et al. 2012).

Alternative explanations are however also available. All sites that were on the coast more than 5-7,000 years ago would for example have been inundated by post-glacial sea level rise; dateable organic material such as shell and bone rarely survive in deposits much longer than 3-5,000 years; and with increasing time, the likelihood of entire archaeological deposits being preserved and detected inevitably decreases (Holdaway et al. 2008). In a detailed study of the Upper Mangrove Creek catchment to the north of Sydney, Attenbrow (2004) has also concluded that while the number of sites dateable to the last 2,000 years increases over older sites, this can be explained by changing patterns of population mobility and site use rather than just population growth.

4.1.3 Regional Site Patterns

More than ~7,000 sites have been recorded and registered with the OEH Aboriginal Heritage Information Management System (AHIMS) for Sydney, reflecting both the wealth of archaeology in the region and the number of archaeological investigations undertaken.

The dominant site types in the Sydney region (in the 15-20 per cent frequency range) are rock shelters with midden deposit, rock shelters with art, rock art engravings and surface artefact sites (Attenbrow 2002). Less common site types, in the 5-15 per cent range, include rock shelters with artefacts, grinding grooves and open middens. The distribution, density and size of sites are largely dependent on environmental context. For instance, middens are found in close proximity to marine, estuarine and, less often, freshwater bodies. Rock shelters are only found in areas of exposed sandstone escarpment and grinding grooves are found on areas of exposed flat bedded sandstone near a source of water.

Studies of the regional archaeology of the Sydney Basin have made a number of findings about site location patterns (Haglund 1980; Kohen 1986; McDonald 2005). Although largely derived from site distribution patterns in the western Cumberland Plain, these studies have particularly shown that proximity to water was an important factor in the patterning of stone artefact sites. Kohen (1986) found that 65 per cent of open artefact scatter sites were located within 100 metres of permanent fresh water. Only 8 per cent of sites were found more than 500 metres away from permanent fresh water. In a large scale study of the Hills Shire (in the northern Cumberland Plain) Brown (2010b) found that of a total of 219 sites with verifiable locations, 73% of sites were within 100m of water, and 94% within 200m of water. Those sites that were located further from water were mostly isolated finds. Only one of the 219 sites was located more than 500m from mapped water. These patterns are also supported by a recent large scale review of excavation data by White and McDonald (2010) in which stream order and landform provide further detail to the previous observations based simply on distance to water alone:

Although the patterns described above have been generally supported by subsequent investigations, Kohen's study was limited by a reliance on surface evidence. Extensive excavation across the Cumberland Plain has since shown that areas with no surface evidence often contain sub-surface deposits buried beneath current ground surfaces. This is a critical consideration in aggrading soil landscapes, such as those commonly found across the Cumberland Plain and Botany Bay landscapes. In a 1997 study of the Cumberland Plain, McDonald (1997) found that:

- 17 out of 61 excavated sites had no surface artefacts before excavation.
- The ratio of recorded surface to excavated material was 1:25.

None of the excavated sites could be properly characterised on the basis of surface evidence. In short, surface evidence (or the absence of surface evidence) does not necessarily indicate the potential, nature or density of sub-surface material.

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

McDonald has undertaken over 20 years of consulting archaeology in the Cumberland Plain, and, like Kohen, has developed a predictive model for the distribution of Aboriginal objects. In a recent publication, White and McDonald (2010, p. 29) summarised this model as follows:

"Topographic and stream order variables correlate with artefact density and distribution. High artefact density concentrations may have resulted from large number of artefact discard activities and/or from intensive stone flaking. Highest artefact densities occur on terraces and lower slopes associated with 4th and 2nd order streams, especially 50–100 metres from 4th

order streams. Upper slopes have sparse discontinuous artefact distributions but artefacts are still found in these landscape settings".

4.2 Previous Archaeological Reports

This section provides a brief summary of archaeological investigations in the local area to provide an indication of local site patterning and the nature of the local archaeological resource. Due to the urbanised nature of the URS sites, few local studies have been undertaken.

4.2.1 Sydney Central Business District Archaeological Reports

A limited number of Aboriginal sites have been identified and recorded in urban Sydney contexts. Recorded site types include open campsites, middens, rock engravings, rock shelters and historic burials.

Known Aboriginal sites within the Sydney CBD include:

- Dawes Point Park - Rock Engraving.
- Moores Wharf - Open Camp Site.
- Goat Island - Midden/Open Camp Site.
- Bennelong Point – Middens.
- Lilyvale – Middens.
- MSB Tower - Rock Engraving.
- Goat Island Cave - Shelter with Midden.
- First Government House - Burials/Historic Place.
- Goat Island - Midden/Shelter with Deposit.
- Angel Place - Open Camp Site.
- Broadway 1 - Open Camp Site.
- KENS (Kent, Erskine, Napoleon and Sussex Streets) Site Sydney – Open Camp Site.
- William Street – Open Camp Site.

A source of silcrete, a type of stone commonly used by Aboriginal people to manufacture stone implements, is known to occur in Newtown. This indicates that good quality workable stone was locally available to Aboriginal people in the past.

The limited number of recorded sites within the Sydney CBD area is directly related to the long and intensive history of development. More than 200 years of European development has destroyed the majority of Aboriginal sites that would have originally existed along the shores of Sydney Harbour and its associated streams and bays. Of particular note was the early colonial practice of excavating Aboriginal shell middens to extract shells for lime burning for use in the production of mortar.

The majority of Aboriginal sites identified within the Sydney CBD were recorded during the course of historical archaeological excavations associated with development projects. Aboriginal sites and objects were identified in pockets of remnant topsoil either beneath or between historical archaeological contexts.

The 1997 excavations at Angel Place, along the margins of the former Tank Stream, are an excellent case in point. During an historical archaeological investigation, 54 Aboriginal artefacts were recovered from remnant topsoils immediately below the earliest historical levels on site (Steele & Barton, 1998). The results from Angel Place demonstrated that even in areas of earliest European settlement, Aboriginal objects and sites may still survive, buried at depth within remnant soils. Although the evidence from Angel Place was recovered from isolated pockets of surviving remnant soils, the range

of artefact types (core reduction, small flakes and heat affected debitage) and raw materials (silcrete, indurated mudstone and chert) suggests the site was originally a continuous complex occupation site along the margins of the Tank Stream.

Other excavations within the Sydney CBD, such as those at William Street (Baker 2003), the KENS site (Steele & Czastka, 2005) and the Quadrant development on Broadway (Steele & Czastka, 2003) provide context for the current archaeological assessment. Of these, the Quadrant site is in the closest proximity to the subject area. Excavation of a discrete pocket of remnant A-horizon topsoil was undertaken as part of the investigation prior to development of the site. This excavation revealed 20 un-diagnostic Aboriginal flaked stone artefacts (Steele & Czastka, 2003). The presence of such artefacts is physical evidence of Aboriginal occupation in the local area.

Excavation at Shea's Creek, now Alexandra Canal, in the 1890s, revealed the presence of two shell horizons. Archaeological evidence in these horizons included stone axes and butchered bone. The finds were made in two locations, 232 and 824m to the north of Ricketty Street, Alexandria (Attenbrow 1984). A sample of the bone was later dated to $5,520 \pm 70$ BP (conventional age) (McDonald, 2005).

Previous archaeological investigations clearly indicate the potential for Aboriginal cultural material to survive within deposits underlying buildings and below filled ground in the Sydney CBD. Evidence of Aboriginal occupation prior to the arrival of European people clearly exists on some urban sites, where remnant portions of the original soil profile still exist.

4.2.2 Former Rachel Forster Hospital Site

AHMS has undertaken a preliminary assessment (AHMS, 2007) and Aboriginal Heritage Impact Assessment for the Former Rachel Forster Hospital site located at 34 Pitt Street, Redfern (AHMS, 2012) - about 300m southeast of the subject area. The assessments identified that the subject site would have moderate to high potential for Aboriginal objects/sites to be present. In addition the assessments identified that local landscape features of the site (on the crest of a dune) and landscape features in the vicinity of the site (several water resources), increases the likelihood that the locality was used by Aboriginal people in the past.

Specifically, the assessments identified that naturally occurring soil deposits are likely to occur below historic occupation layers are typical of those found within the Tuggerah and Newport soil landscapes which cover extensive portions of south and eastern Sydney. Both are aeolian sands, laid down c10,000 years BP, with the Tuggerah landscape forming extensive dune fields, while the Newport landscape forms a sand mantle over earlier soil horizons. The date of formation of these sand deposits is therefore well within the known timeframe for Aboriginal occupation in the Sydney Basin.

The assessments identified that the site is located near the former presence of numerous streams and swamps within these soil landscapes was a resource zone that was attractive to Aboriginal people, as demonstrated by numerous early historic accounts of the late Eighteenth and early Nineteenth Centuries. This, combined with the documented identification of Aboriginal sites by archaeological investigations within development contexts on former dune fields and beside former water sources (e.g. Angel Place, Sydney, and Prince of Wales Hospital, Randwick), suggested that the natural soil have some potential to contain remains of Aboriginal occupation in areas where soil deposits have not been substantially removed by the construction of the hospital.

4.2.3 National Centre of Indigenous Excellence

In 2007, AHMS undertook an assessment of the proposed National Centre for Indigenous Excellence located between George, Phillip and Cope Streets, Redfern (AHMS, 2009) - about 600m south of the subject area. The assessment identified that the URS site had potential to be on aeolian (wind-blown) dunes in the general vicinity of Black Wattle Creek, a significant water source running through the southern edge of the (now) Sydney CBD. These findings, along with the relatively undisturbed nature

of the URS site, prompted test excavations of the URS site. Excavations consisted of four 1m² test pits located within a larger historic excavation of several mid-late 19th Century residences on the site. The test pits reached depths of up to 90cm and confirmed the aeolian nature of the area. However, no Aboriginal objects were recovered as part of the excavations.

4.2.4 Sheas Creek

Excavation at Sheas Creek, now Alexandra Canal, in the 1890s, revealed the presence of two layers of Aboriginal shell midden at two separate locations (232 and 824m to the north of Ricketty Street, Alexandria) (Attenbrow 2002). Archaeological evidence recovered included stone axes and butchered bone, a sample of which was later dated to 5,520 ± 70 BP. On the basis of this evidence, early European accounts (Tench 1979 (1893)) and extrapolation from regional site distribution patterns, it appears that this waterway, located between three and five kilometres from the present study area, was previously an important resource focus for local Aboriginal people.

4.2.5 175-177 Cleveland Street, Redfern

AHMS completed an Aboriginal cultural heritage impact assessment of 175-177 Cleveland Street, Redfern NSW - part of the current subject area (AHMS June 2014). On the basis of background research, site inspection and predictive assessment it was considered unlikely that any Aboriginal objects were present within the subject area. Recommendations state that there would be no impact to Aboriginal objects through the proposed work and no further Aboriginal cultural heritage assessment or investigation was required prior to the development.

4.3 AHIMS Data

A search of the Aboriginal Heritage Management System (AHIMS) database was undertaken on 7 October 2014 (ID 141001-1). The search covered 5 km², centred on the subject area and returned 23 listings (**Table 1**, **Figure 11** and **Appendix 1**).

No sites were identified in the subject area. The closest site, immediately southeast of subject area, was identified as Wynyard Street midden. A review of the site card indicates this is a shell scatter located in a park near Gibbons Street, just south of Redfern Station, and is not within the subject area.

The AHIMS search results probably reflect the relative lack of archaeological studies in the Redfern area rather than any real paucity of Aboriginal sites. In addition, it is likely that not all known sites have been registered on the AHIMS database.

Table 1 AHIMS sites located within the 5km² of the subject area.

Site ID	Site name	Site features
45-6-2580	Junction Lane	Artefact
45-6-2597	Wynyard St Midden	Shell, Artefact
45-6-2629	Broadway 1	Artefact
45-6-2637	George street 1	Artefact
45-6-2647	KENS Site 1	Artefact, Potential Archaeological Deposit
45-6-2651	William St PAD	Potential Archaeological Deposit
45-6-2652	Ultimo PAD 1	Potential Archaeological Deposit
45-6-2663	Mountain Street Ultimo	Artefact, Potential Archaeological Deposit
45-6-2666	Wattle Street PAD 1	Potential Archaeological Deposit
45-6-2676	Johnstons Creek	Art (Pigment or Engraved), Artefact

45-6-2680	Broadway Picture Theatre PAD 1	Potential Archaeological Deposit
45-6-2687	Crown Street PAD 1	Potential Archaeological Deposit
45-6-2745	University of Sydney Law Building PAD	Potential Archaeological Deposit
45-6-2767	Tent Embassy	Aboriginal Resource and Gathering
45-6-2822	USYD: Central	Artefact
45-6-2838	420 George Street PAD	Potential Archaeological Deposit
45-6-2960	Jackson Landing Shelter	Potential Archaeological Deposit
45-6-2979	UTS PAD 1 14-28 Ultimo Rd Syd	Potential Archaeological Deposit
45-6-2987	Poultry Market 1	Artefact
45-6-3064	445-473 WATTLE ST PAD	Potential Archaeological Deposit
45-6-3071	445-473 Wattle Street PAD	Potential Archaeological Deposit
45-6-3152	168-190 Day Street, Sydney PAD	Potential Archaeological Deposit
45-6-3155	Moore Park AS1	Artefact

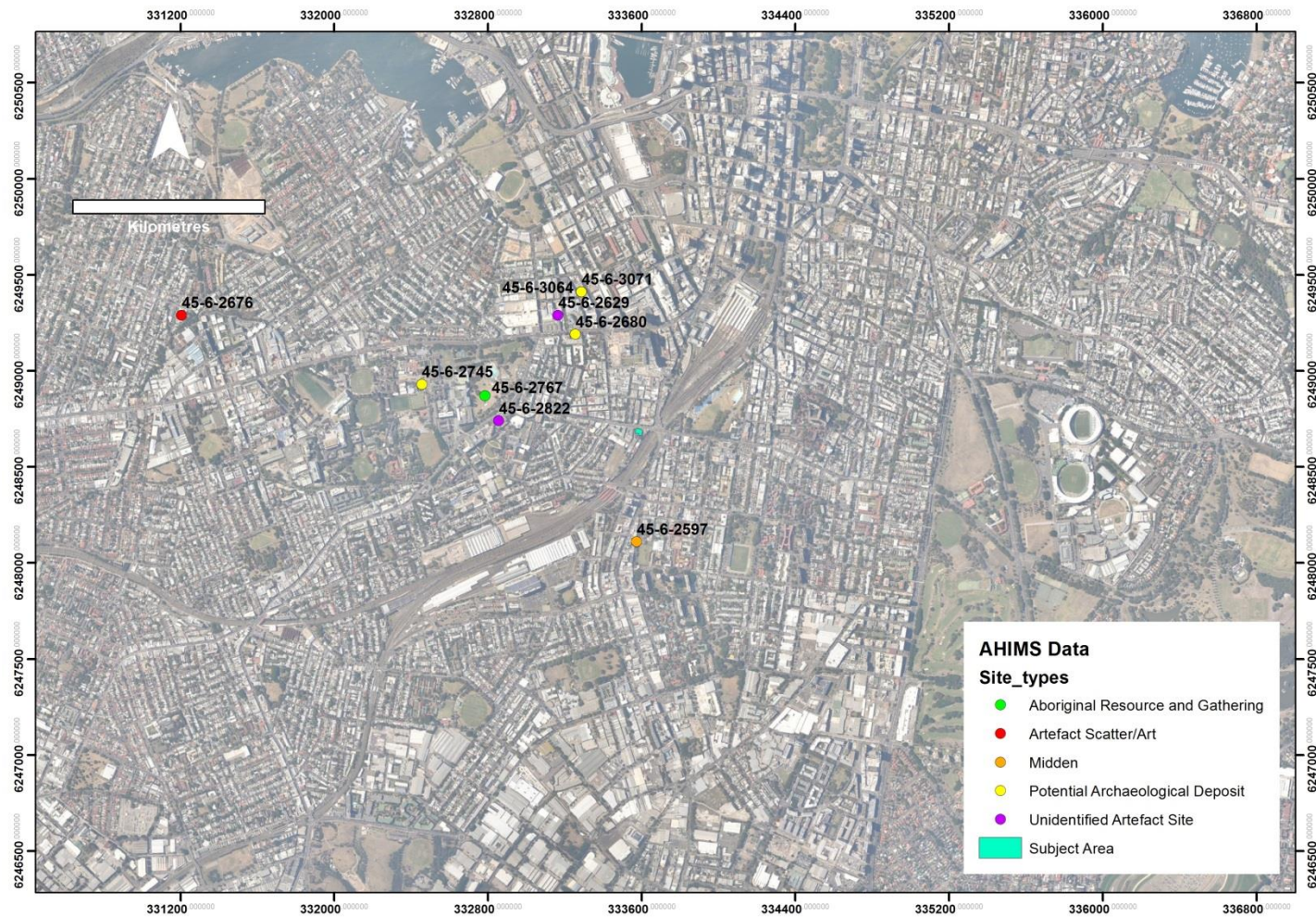


Figure 13 Map showing previously recorded Aboriginal objects/sites in the vicinity of the subject area.

5 THE ARCHAEOLOGICAL RESOURCE

This section summarises the background assessment and field investigations of the subject area to develop an archaeological model. The model will be used in subsequent sections to determine archaeological and cultural significance, identify potential impacts, and propose strategies to manage and mitigate cultural deposits prior to and during development.

5.1 A Predictive Model

Based on the regional and local archaeological context, a number of conclusions can be reached regarding the Aboriginal archaeological potential of the subject area.

From a regional perspective, Aboriginal people have occupied and utilised the Sydney Basin for a considerable period of time, certainly throughout the Holocene (10,000 years ago to present) and evidence suggests probably also in the late Pleistocene (10,000-50,000 years ago). Archaeological studies pertaining to the region suggest that site distribution is characterised by proximity to permanent water sources, and landform types such as lower slopes, spurs, river terraces and alluvial flats. Importantly, sites are generally found above the flood zone.

The size (scale and repetition) of sites generally increases with permanence of water (stream order) and localised stream characteristics like permanent ponds and wetlands. A range of studies have generally shown that a distance of 200m from water is a critical threshold within which the vast majority of sites will be situated. Using historical overlays, it can be shown that the subject area was entirely within 200m of a tributary of Blackwattle Creek (**Figure 4**). It must be highlighted, however, European development has fundamentally changed the local landscape, hydrology, and deposits within the subject area (see below).

Previous archaeological sites recorded as a result of excavations in the Sydney CBD and surrounds have been characterised by very low-density stone artefact deposits, suggesting that occupation of areas back from the immediate foreshore was sporadic. This finding broadly concurs with ethnographic reports of large groups living in semi-permanent villages in the modern eastern suburbs area and north arm of Botany Bay. It may be the case that Aboriginal occupation was specifically focused on particular landforms or resources, possibly permanent water sources. More work is required to satisfactorily resolve these issues relating to local settlement patterning. In this regard it is noted that there have been very few archaeological investigations of the western portions of the Botany Sand Dune, including the Redfern – Waterloo area.

Ethno-historical evidence indicates the subject area overlooked a traditional transit route from the eastern suburbs area along the present line of Botany Road. Historical sources also indicate that Redfern Park (southeast of the subject area) was used by early 19th century Aboriginal people as a place for camping, feasting, fighting and other social gatherings. It is also highlighted that Redfern still maintains a considerable contemporary Aboriginal community.

Based on the information above, and assuming a pristine environment (however see **Section 2.4**), the subject area can be considered to contain very low densities of Aboriginal objects. The small size of the nearby water source, combined with the landform it is situated upon (slope) reduces the potential for significant or complex cultural materials. Archaeological deposits may extend into the post-contact period, given the level of Aboriginal occupation and activity in Redfern, during the 19th Century.

5.2 Aboriginal Archaeological Potential

Previous archaeological investigation found that the primary factor in assessing archaeological potential is the degree of prior land-use disturbance of soils. Therefore, areas that have a low level of land-use disturbance should be considered to have archaeological potential because archaeological deposits may survive intact within undisturbed portions of topsoil in such areas. Conversely, areas with a high level of disturbance should be considered to have nil to low potential because any archaeological deposits have either been removed or heavily disturbed (meaning they have little or no archaeological value).

The subject area is within dense residential, commercial and industrial centres, and has been continuously developed for over 150 years. Disturbance of the site has therefore been extensive. This is most evident in the construction of factory buildings on the site, which would likely have required excavation for foundations and footings. It is considered the survival of intact cultural material in these areas to be unlikely. This is likely to be exaggerated by the nature of the under-lying (shallow) soil profile, with even minor structures likely to have caused significant impact to any cultural material that may have been present.

Ultimately, it is concluded that the site is likely to have had potential for cultural material to occur, but historical and recent disturbances are likely to have completely removed any cultural materials that may have been present.

6 ABORIGINAL HERITAGE MANAGEMENT

6.1 Conclusion

The subject area is situated within 200m of water, namely Blackwattle Creek. Previous investigations have shown that land in proximity to water is likely to contain Aboriginal objects. However, the subject area site is situated on shallow duplex soils, and it is considered that existing disturbances (excavations of the original land surface for construction) have impacted much of the natural soil profile, and that the potential for the presence of significant or intact Aboriginal cultural material is low.

On the basis of background research, site inspection and predictive assessment it is considered unlikely that any Aboriginal objects are present within the subject area. It is considered that there is low risk of harming Aboriginal objects through the proposed work.

6.2 Recommendations

The following recommendations are made:

- No further Aboriginal cultural heritage assessment or investigation is required prior to the development.
- If unexpected Aboriginal objects and/or sites are discovered during the course of the development works or at any other time, work should cease in the vicinity of the discovery and the Office of Environment and Heritage should be contacted for advice before work in that area recommences.
- If human skeletal material less than 100 years old is discovered, the *Coroners Act 2009* requires that all works should cease and the NSW Police and the NSW Coroner's Office contacted. Traditional Aboriginal burials (older than 100 years) are protected under the *National Parks and Wildlife Act 1974* and if found, all works should cease and an appropriately skilled archaeologist or physical anthropologist contacted. Should the skeletal material prove to be archaeological Aboriginal remains, notification of Office of Environment and Heritage and the relevant Aboriginal stakeholders will be required. Notification should also be made to the Commonwealth Minister for the Environment, under the provisions of the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984*.

7 REFERENCES

- AHMS (2007) Former Rachel Forster Hospital – Initial Archaeological Assessment. Unpublished Report to Redfern-Waterloo Authority.
- AHMS (2009) National Indigenous Development Centre – Aboriginal Heritage Impact Assessment. Unpublished Report for Indigenous Land Corporation.
- AHMS (2012) Former Rachel Forster Hospital Site Aboriginal Heritage Impact Assessment. Client: Kaymet Corporation Pty Ltd.
- AHMS, (June 2014). 175-177 Cleveland Street Redfern, Aboriginal Cultural Heritage Impact Assessment. Report to Ghazi Al Ali Architect.
- AHMS (November 2014) '175-177 Cleveland Street and 1-5 Woodburn Street, Redfern: Historical Archaeological Impact Assessment', for Construct Corp.
- Attenbrow, V. (2002). Sydney's Aboriginal Past: Investigating the Archaeological and Historical Records. Sydney: UNSW Press.
- Attenbrow, V. (2004). What's Changing: Population Size or Land Use. The Archaeology of Upper Mangrove Creek, Sydney Basin. In *Terra Australis* (Vol. 21). Canberra: Pandanus Books.
- Bradley, W. (1969). A Voyage to New South Wales, December 1786 - May 1792: The Journal of Lieutenant William Bradley of HMS Sirius. Sydney: Ure Smith Pty Limited.
- Chapman, G. A., & Murphy, C. L. (1989). Soil Landscapes of the Sydney 1:100 000 sheet. Sydney: Soil Conservation Service of N.S.W.
- Collins, D. (1975). An Account of the English Colony in New South Wales (Vol. 1). (B. H. Fletcher, Ed.) London: T Cadell Jun. and W Davies.
- Cook, J. (1999). The Journals. (P. Edwards, Ed.) London: Penguin Books.
- Haglund, L. (1980) Report on Archaeological Survey in the City of Blacktown.
- Hiscock, P., & Attenbrow, V. (1998). Early Holocene Backed Artefacts from Australia. *Archaeology in Oceania*, 33(2).
- Hunter, John, 1793, An Historical Journal of the Transactions at Port Jackson and Norfolk Island, printed for John Stockdale, London.
- Kohen, J. L. (1986). Prehistoric Settlement in the Western Cumberland Plain: Resources, Environment, Technology. Sydney: PhD Thesis, School of Earth Sciences, Macquarie University.
- Lampert, R. (1971) Burrill Lake and Currarong, *Terra Australis* 1, Australian National University, Canberra.
- Lang, J. (1839). SLNSW Aborigines Protection Board, V.
- Liston, C. (1988). The Dharawal and Gandangara in Colonial Campbelltown, New South Wales, 1788-1830. *Aboriginal History*, 12(1), 49-62.
- Lourandos, H. (1983) Intensification: A Late Pleistocene-Holocene Archaeological Sequence from Southwestern Australia, *Archaeology in Oceania*, Volume 18 (2), 81-97.

- Lourandos, H. and A. Ross (1994) The Great 'Intensification Debate': Its History and Place in Australian Archaeology, *Australian Archaeology*, Volume 39, 54-63.
- Marriot, E. W. (1988). *The Memoirs of Obed West. A Portrait of Early Sydney*. Barcom Press.
- Mathews, R. (1901). The Thurrawal Language (including Gundungarra and Dharrak languages, with vocabularies. *Journal & Proceedings of the Royal Society of New South Wales*, 35, 127-160.
- McDonald, J. (. (1997). Archaeological Test Excavation of PAD 1 CSIRO Laboratory, Ian Clunies Ross Research Laboratory. Report to CSIRO Australia.
- McDonald, J. (2005). Archaeological Salvage Excavation of Eight Archaeological Landscapes in the Second Ponds Creek Valley, Rouse Hill Development Area, NSW. Report to Rouse Hill Infrastructure Pty Ltd and Landcom.
- McDonald, J. (2008) Dreamtime Superhighway. Sydney Basin Rock Art and Prehistoric Information Exchange. *Terra Australis* 27. The Australian National University, Canberra.
- Nanson, G., R. Young & E. Stockton (1987) Chronology and Palaeoenvironment of the Cranebrook Terrace, near Sydney, containing artefacts more than 40,000 Years Old, *Archaeology in Oceania*, Volume 22, 72-78.
- Ross, A. (1990). Aboriginal Life on the Lower Hawkesbury at the Time of European Settlement. In J. Powell, & L. Banks, *Hawkesbury River History: Governor Phillip, Exploration & Early Settlement*. Darug & Lower Hawkesbury.
- Steele, D., & Barton, H. (1998). Angel Place, Sydney. Archaeological Salvage of Site #45-6-2581, Angel Place, Sydney. Report prepared for AMP Investments Pty Ltd.
- Steele, D., & Czastka, J. (2003). Archaeological Salvage Excavations at the Quadrant, Broadway. Australand Holdings.
- Steele, D., & Czastka, J. (2005). Aboriginal Archaeological Salvage at KENS, Sydney. Unpublished report by Dominic Steele Consulting Archaeology for Leightons Pty Ltd.
- Tench, W. (1979). *Sydney's First Four Years. A Narrative of the expedition to Botany Bay and A complete account of the settlement at Port Jackson 1788-1791*. (L. F. Fitzhardinge, Ed.) Sydney: Library of Australian History.
- Tench, W. (1996). *Watkin Tench 1788*. (T. Flannery, Ed.) Melbourne: The Text Publishing Company.
- Thackway, R., Cresswell, I.D. (1995) *An Interim Biogeographic Regionalisation for Australia: A Framework for Establishing the National System of Reserves*. Australian Nature Conservation Agency, Canberra.
- White, E., & McDonald, J. (2010). Lithic artefact distribution in the Rouse Hill Development Area, Cumberland Plain, New South Wales. *Australian Archaeology*, 70, 29-38.
- Williams, A. N., Mitchell, P., Wright, R. V., & Toms, P. (2012). A Terminal Pleistocene Open Site on the Hawkesbury River, Pitt Town, NSW. *Australian Archaeology*, 74, 85-97.

Appendix 1: AHIMS Search Results

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref Number : 141002-1

Client Service ID : 149891

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-6-2580	Junction Lane	AGD	56	335070	6250410	Open site	Valid	Artefact : -	Open Camp Site	102494,10276 3,102765
	<u>Contact</u>									
	<u>Recorders</u>			Helen Brayshaw				<u>Permits</u>	894,902,903	
45-6-2652	Ultimo PAD 1	AGD	56	333450	6250000	Open site	Valid	Potential Archaeological Deposit (PAD) : -		102494,10276 3,102765
	<u>Contact</u>			Jim Wheeler				<u>Permits</u>	1598	
45-6-2687	Crown Street PAD 1	AGD	56	334950	6250300	Open site	Valid	Potential Archaeological Deposit (PAD) : -		102494,10276 3,102765
	<u>Contact</u>			Dominic Steele Archaeological Consulting				<u>Permits</u>	2017	
45-6-2745	University of Sydney Law Building PAD	AGD	56	332350	6248740	Open site	Valid	Potential Archaeological Deposit (PAD) : -		102201,10249 4,102763,1027 65
	<u>Contact</u>			Doctor.Jo McDonald				<u>Permits</u>	2153,2320,2443	
45-6-3071	445-473 Wattle Street PAD	GDA	56	333285	6249412	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		
	<u>Contact</u>			Biosis Research Pty Ltd Sydney Office				<u>Permits</u>		
45-6-2987	Poultry Market 1	GDA	56	333746	6249575	Open site	Valid	Artefact : 1		102494,10276 3
	<u>Contact</u>			Ms.Samantha Higgs,Biosis Pty Ltd - Canberra				<u>Permits</u>	3506	
45-6-3064	445-473 WATTLE ST PAD	GDA	56	333285	6249412	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		102763
	<u>Contact</u>			Biosis Research Pty Ltd Sydney Office				<u>Permits</u>		
45-6-3155	Moore Park AS1	GDA	56	335613	6247909	Open site	Valid	Artefact : -		
	<u>Contact</u>			Artefact Heritage Services,Mr.Alex Timms				<u>Permits</u>		
45-6-2629	Broadway 1	AGD	56	333060	6249100	Open site	Valid	Artefact : -		102494,10276 3,102765
	<u>Contact</u>			Dominic Steele Archaeological Consulting				<u>Permits</u>	1299	
45-6-2637	George street 1	AGD	56	333860	6249880	Open site	Valid	Artefact : -		98238,102494, 102763,10276 5
	<u>Contact</u>			Dominic Steele Archaeological Consulting				<u>Permits</u>	1369	
45-6-2767	Tent Embassy	AGD	56	332680	6248680	Open site	Valid	Aboriginal Resource and Gathering : 1		102494,10276 3,102765
	<u>Contact</u>			T Russell				<u>Permits</u>		
	<u>Recorders</u>			Bill Lord						

Report generated by AHIMS Web Service on 03/10/2014 for Fenella Atkinson for the following area at Datum :GDA, Zone : 56, Eastings : 331090 - 336090, Northings : 6246175 - 6251175 with a Buffer of 0 meters. Additional Info : As part of an archaeological assessment of a proposed development. Number of Aboriginal sites and Aboriginal objects found is 23

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.

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref Number : 141002-1

Client Service ID : 149891

<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>
45-6-2822	USYD: Central	AGD	56	332750	6248550	Open site	Valid	Artefact : -		100302,10249 4,102763,1027 65
	<u>Contact</u>	<u>Recorders</u>	Jo McDonald Cultural Heritage Management					<u>Permits</u>	2554	
45-6-3152	168-190 Day Street, Sydney PAD	GDA	56	333877	6250257	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	<u>Contact</u>	<u>Recorders</u>	Mr.Josh Symons					<u>Permits</u>		

Report generated by AHIMS Web Service on 03/10/2014 for Fenella Atkinson for the following area at Datum :GDA, Zone : 56, Eastings : 331090 - 336090, Northings : 6246175 - 6251175 with a Buffer of 0 meters. Additional Info : As part of an archaeological assessment of a proposed development. Number of Aboriginal sites and Aboriginal objects found is 23

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.