CULTURAL HERITAGE CONNECTIONS

Aboriginal Heritage Assessment Canterbury South Public School, 20 High Street, Canterbury, NSW

By Vanessa Hardy
May 2018

Report Prepared for

NBRS Architecture
Level 3, 4 Glen Street
Milsons Point, NSW 2061

PO Box 490 Dulwich Hill NSW 2203 Australia
phone: 02 9518 3421 fax: 02 9518 3421
email: admin@heritageconnect.com.au

Cultural Heritage Connections Pty Ltd
ABN 79 109 836 115

CONTENTS

Figures

1.0 INTRODUCTION & PROJECT AREA

1.1 PROJECT AREA

Cultural Heritage Connections Pty Ltd was commissioned by NBRS Architecture in March 2018 to undertake a due diligence Aboriginal archaeological assessment of Canterbury South Public School at 20 High Street, Canterbury, NSW (the project area). The project area is also known as Lot 1 DP 123147, Lot 2 194469, (Lot 4, 5, 5, 7, 8 DP 8350), Lot B DP312359 and Lot A DP 312359 and is within the Canterbury-Bankstown Council Local Government Area (LGA).

The project area is bounded by High Street to the north-west, Napier Street to the south and France Street to the north-east. The south-eastern boundary abuts Pat O'Connor Reserve, which includes Cup and Saucer Creek. The project area is located approximately 400 metres to the south-west of the Cooks River.

The location of the project area is shown in Figure 1.

1.2 PROJECT CONTEXT & AIMS

The assessment is to consider the potential for harm to Aboriginal objects on the subject land prior to the proposed upgrade to the school. The development will include demolition of some existing buildings, new building construction and associated landscaping. A concept plan for the proposed development is included in Appendix 1.

No Aboriginal objects have been previously recorded within the project area boundaries.

The assessment has been designed to meet the requirements of the former Department of Environment, Climate Change and Water's (DECCW), now OEH, *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW (DECCW 2010c)* (hereafter 'Code of Practice'). A summary of the due diligence process, taken from the Code of Practice, is presented in Figure 2.

The major aims of a due diligence assessment are to:

- identify whether or not Aboriginal objects are, or are likely to be, present in the area;
- if objects are present or likely to be present, determine whether or not the proposed development activities are likely to harm Aboriginal objects; and
- determine whether further assessment or an Aboriginal Heritage Impact Permit (AHIP) is required.

In order to meet these objectives, the following tasks are required:

- undertake a search of the OEH AHIMS and a review of site cards for those sites within close proximity of the project area;
- check for landscape features which may indicate the presence of Aboriginal objects;
- undertake a desktop assessment using relevant background data to categorise the project area and form predictions about the likely presence of cultural sites;
- undertake a site inspection to check the desktop conclusions as well as to look for Aboriginal objects and any other relevant features that may not have been revealed during background review; and

- if necessary, consider strategies to avoid harming Aboriginal objects.

1.3 LEGISLATION SUMMARY

1.3.1 National Parks and Wildlife Act 1974 (amended 2010)

The *National Parks and Wildlife Act 1974* (NPW Act) protects Aboriginal objects and Aboriginal places in NSW. It has been amended by the National Parks and Wildlife Regulation 2009 (NPW Regulation). Under the NPW Act, the following are offences unless an exemption or defence is provided for under the Act:

- A person must not knowingly harm or desecrate an Aboriginal object (knowing offence)
- A person must not harm or desecrate an Aboriginal object or Aboriginal place (strict liability offence)

The maximum penalty for the knowing offence is $550,000 or $275,000 (depending on whether there are aggravating circumstances) and 1 or 2 years' goal for an individual. For a corporation the maximum penalty for the knowing offence is $1.1 million. The maximum penalty for the strict liability offence is $110,000 or $55,000 (depending whether there are aggravating circumstances) for an individual or $220,000 for a corporation.

Harm includes acts or omissions that "destroy, deface or damage" an Aboriginal object or Aboriginal Place, and in relation to an object, move the object from the land on which it has been situated. Harm does not include something that is trivial or negligible.

Section 91 of the Act also obliges any person who discovers an Aboriginal object to report it to the OEH for it to be entered on the AHIMS.

An Aboriginal object is defined as:

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

An Aboriginal object is legally protected irrespective of land tenure, the significance of the object and whether or not it has been recorded.

"Aboriginal Places" are places so declared under Section 84 of the Act.

Anyone who exercises due diligence in determining that their actions will not harm Aboriginal objects has a defence against prosecution for the strict liability offence if they later harm an object. Due diligence can be exercised by complying with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* (DECCW 2010c)(or industry-specific codes of practice) that has been adopted under the National Parks and Wildlife Regulation 2009. The code provides a process to enable a reasonable determination of whether or not Aboriginal objects will be harmed by an activity or whether further investigation or an Aboriginal Heritage Impact Permit (AHIP) are required.

There is also a range of defined exemptions and low impact activities defined in the Regulation for which due diligence is not required. These include undertaking specified

farming, land management, maintenance, surveying or environmental rehabilitation works.

> *Clause 80B Defence of carrying out certain low impact activities: section 87 (4)*
>
> *(1) It is a defence to a prosecution for an offence under section 86 (2) of the Act, if the defendant establishes that the act or omission concerned:*
>
> *(a) was maintenance work of the following kind on land that has been disturbed:*
>
> *(i) maintenance of existing roads, fire and other trails and tracks,*

Under the amended Act a permit will no longer be required to *look for* Aboriginal objects providing the investigation is undertaken in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010b). Archaeological test excavations that follow the code do not require an AHIP. If objects are present and harm cannot be avoided it is necessary to apply for an AHIP.

There are also requirements for consultation with Aboriginal people relating to AHIP applications. These are set out in the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010a).

1.3.2 Environmental Planning and Assessment Act 1979

The *EP&A Act* requires that environmental impacts are considered in land use planning and decision-making. The definition of 'environmental impacts' includes impacts on the cultural heritage of the project area. The Act sets out specific statutory assessment processes including:

- Part 4: Development that requires consent under consideration of environmental planning instruments.
- Part 5: An assessment process for activities undertaken by public authorities and for developments that do not require a development consent but an approval under another mechanism.

Canterbury Local Environmental Plan 2012

5.10 Heritage conservation

(1) Objectives
The objectives of this clause are as follows:
(a) to conserve the environmental heritage of Canterbury,
(b) to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views,
(c) to conserve archaeological sites,
(d) to conserve Aboriginal objects and Aboriginal places of heritage significance.

(2) **Requirement for consent**
Development consent is required for any of the following:

(a) demolishing or moving any of the following or altering the exterior of any of the following (including, in the case of a building, making changes to its detail, fabric, finish or appearance):

(i) a heritage item,

(ii) an Aboriginal object,

(iii) a building, work, relic or tree within a heritage conservation area,

(b) altering a heritage item that is a building by making structural changes to its interior or by making changes to anything inside the item that is specified in Schedule 5 in relation to the item,

(c) disturbing or excavating an archaeological site while knowing, or having reasonable cause to suspect, that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed,

(d) disturbing or excavating an Aboriginal place of heritage significance,

(e) erecting a building on land:

(i) on which a heritage item is located or that is within a heritage conservation area, or

(ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance,

(f) subdividing land:

(i) on which a heritage item is located or that is within a heritage conservation area, or

(ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance.

(3) **When consent not required**

However, development consent under this clause is not required if:

(a) the applicant has notified the consent authority of the proposed development and the consent authority has advised the applicant in writing before any work is carried out that it is satisfied that the proposed development:

(i) is of a minor nature or is for the maintenance of the heritage item, Aboriginal object, Aboriginal place of heritage significance or archaeological site or a building, work, relic, tree or place within the heritage conservation area, and

(ii) would not adversely affect the heritage significance of the heritage item, Aboriginal object, Aboriginal place, archaeological site or heritage conservation area, or

(b) the development is in a cemetery or burial ground and the proposed development:

(i) is the creation of a new grave or monument, or excavation or disturbance of land for the purpose of conserving or repairing monuments or grave markers, and

(ii) would not cause disturbance to human remains, relics, Aboriginal objects in the form of grave goods, or to an Aboriginal place of heritage significance, or

(c) the development is limited to the removal of a tree or other vegetation that the Council is satisfied is a risk to human life or property, or

(d) the development is exempt development.

(8) **Aboriginal places of heritage significance**

The consent authority must, before granting consent under this clause to the carrying out of development in an Aboriginal place of heritage significance:

(a) consider the effect of the proposed development on the heritage significance of the place and any Aboriginal object known or reasonably likely to be located at the place by means of an adequate investigation and assessment (which may involve consideration of a heritage impact statement), and
(b) notify the local Aboriginal communities, in writing or in such other manner as may be appropriate, about the application and take into consideration any response received within 28 days after the notice is sent.

1.4 LIMITATIONS AND AUTHORSHIP

Cultural Heritage Connections recognises that Aboriginal people are the determinants of the cultural significance of their heritage. This is also recognised by OEH who provide a guideline for minimum requirements for consultation with Aboriginal stakeholders (DECCW 2010a) when archaeological testing or an AHIP are required.

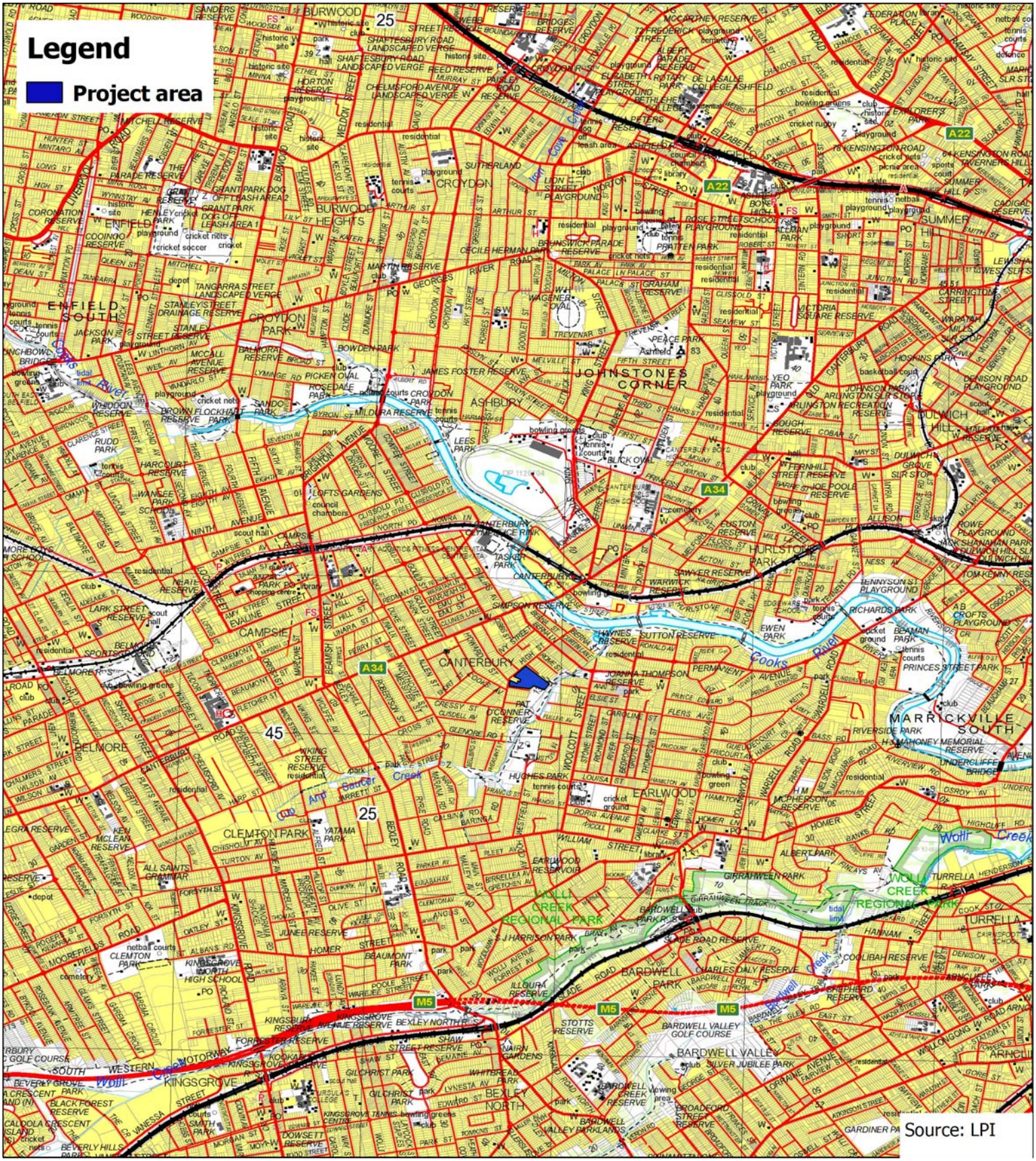
The Metropolitan Local Aboriginal Land Council (MLALC) participated in the assessment. MLALC comment is included in Appendix 2.

No assessment of non-Aboriginal archaeological potential has been undertaken.

Analysis of the archaeological background, design of the methodology, field inspection and reporting for this assessment was undertaken by Vanessa Hardy (BA Hons), archaeologist and Director of Cultural Heritage Connections Pty Ltd.

1.5 REPORT OUTLINE

The following section (Section 2.0) of this report provides a summary of the environmental context of the project area. Section 3.0 examines the archaeological background and Section 4.0 presents the results of the site inspection. Section 5.0 provides a discussion and presents recommendations arising from the assessment.

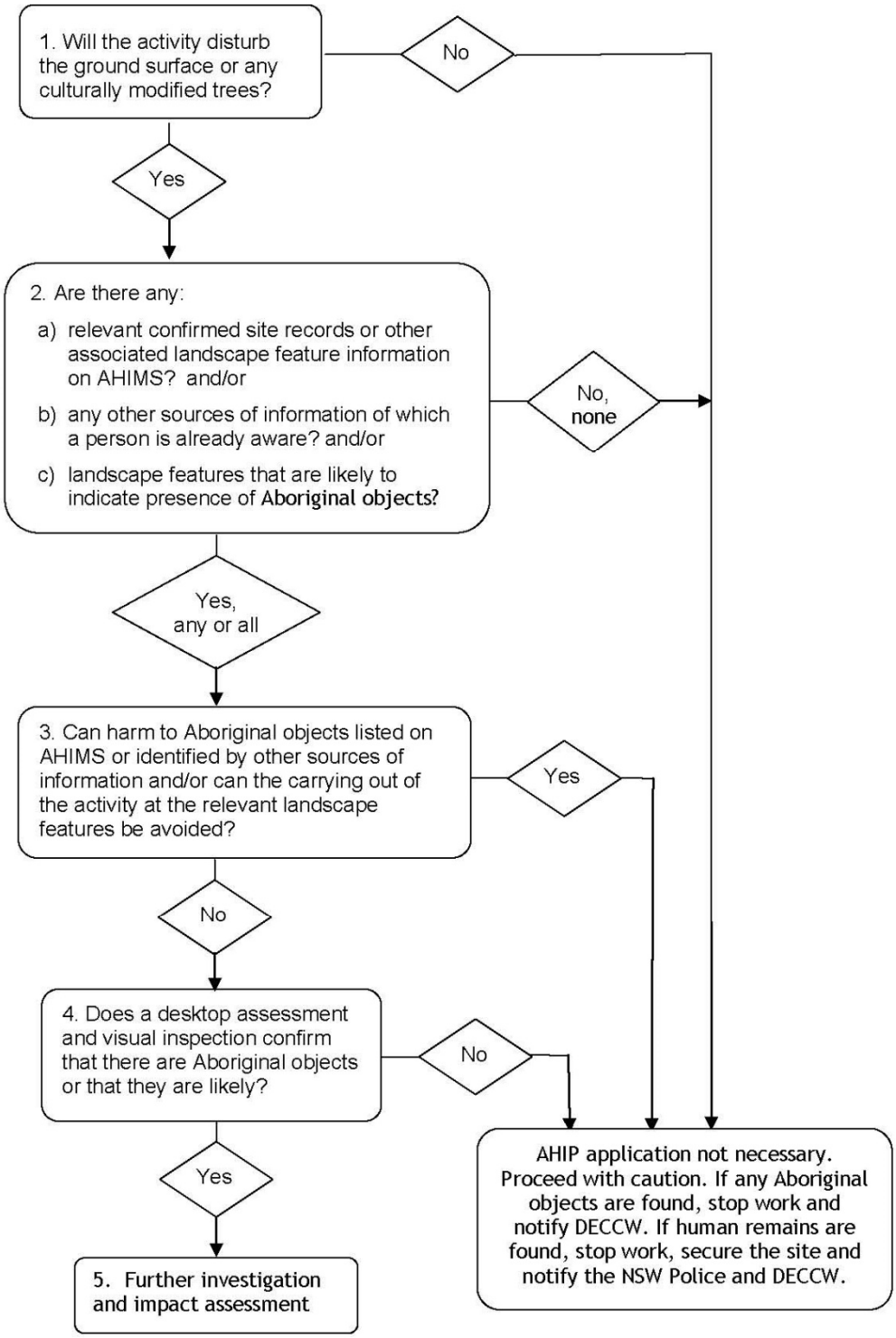


Maps and figures in this document may be based on third party data, may not be to scale and are intended as a guide only. We do not warrant the accuracy of such maps or figures.

Figure 1: Project area location

CULTURAL HERITAGE CONNECTIONS

Figure 2: Due diligence process (DECCW 2010)



2.0 ENVIRONMENTAL CONTEXT

Analysis of the environmental context is essential for developing accurate models of cultural activity, site distribution patterns and the archaeological potential of any given area. Environmental characteristics influence the types of archaeological sites. An understanding of how the landscape looked and behaved in the past can help us to predict where Aboriginal people may have undertaken various activities and therefore the types of archaeological sites that may be found in the present. In addition, environmental processes influence the preservation of sites. Heavy erosion or acidic soils are likely to destroy or damage certain types of evidence, reducing the likelihood of locating evidence of past occupation.

The project area is located within the Sydney Basin. Its environmental setting is discussed below.

2.1 GEOLOGY & LANDSCAPE

The project area is within the Cumberland Lowlands. The Cumberland Lowlands (also known as the Cumberland Plain) is an area of approximately 180,000 hectares of land within the Sydney Basin. The underlying geology is predominantly Wianamatta Group shales. The Lowlands are, in general, gently undulating plains on shale with a "dense drainage net of predominantly northward flowing channels" (Bannerman and Hazelton 1990). The topographic relief of the region is generally subdued with elevations typically less than 100 metres AHD. Slopes are typically less than 5%. The majority of the Cumberland Lowlands is within easy access (less than 500 metres) of a temporary or permanent water source.

Most of the Cumberland Lowlands is underlain by Wianamatta Group shales. Triassic sediments of the Wianamatta Group overlay the Mittagong formation and divide into two formations: the Ashfield Shale and the overlying Bringelly Shale. The Ashfield Shale is the most extensive to the west of Sydney, comprised of black to dark grey siltstone and laminite. Extensive areas of Bringelly Shale are also present across the lowlands. Bringelly Shale is typically comprised of shale (claystone and siltstone), carbonaceous claystone, laminite and fine to medium grained lithic sandstone (Bannerman and Hazelton 1990).

Stone suitable for tool manufacture occurs across the Cumberland Lowlands. Recorded artefacts have been made from silcrete, chert, mudstone/tuff, quartz, quartzite and basalt. Many of these materials can be commonly found as cobbles or boulders eroding out of deposits near creek lines. The most commonly recorded material type in the Lowlands is silcrete. Two large outcrops of St Marys formation silcrete occur at Plumpton Ridge and at Marsden Park with smaller outcrops known at Riverstone and Erskine Park (Jo McDonald CHM 2002e).

The due diligence Code of Practice provides a list of landscape features which can indicate an area has potential to contain Aboriginal occupation evidence. These are listed as areas on land that is *not disturbed* that are:

- within 200 metres of waters;
- located within a sand dune system;
- located on a ridge top, ridge line or headland;

- located within 200 metres below or above a cliff face; or
- within 20 metres of or in a cave, rock shelter, or a cave mouth.

The entire project area could be considered disturbed according the Code of Practice definition. This assessment also considers the sub-surface potential of the area.

The project area is within gently undulating terrain on the crest of a ridgeline. The land slopes down to the north-west and south-east. To the south-east of the school is Pat O'Connor Reserve. The slope down into the reserve at about 16 to 20 degrees. Sandstone outcrops occur on this slope(Geotechnics 2017). Cup and Saucer Creek is located within the reserve approximately 60 metres from the project area boundary. The creek has been highly modified.

The project area is within a sensitive landscape as defined by the features listed in the Code of Practice and repeated above. It is within 200 metres of waters and on a ridgeline.

2.2 SOILS

The study area falls within the Gymea erosional soil landscape (Chapman, et al. 1989).

The landscape of this soil type is based on a Hawkesbury Sandstone geology and is typically undulating to rolling low hills. Slopes range from 10 to 25% with local relief of 20-80 metres. The sideslopes include varying width sandstone benches (10-100 metres) often forming broken scarps (Chapman and Murphy 1989).

Topsoil (A1 horizon) of the Gymea Landscape is a loose, coarse loamy sand to sandy loam, porous with an apedal single grained structure. Its colour can range from brownish-black where high levels of organic matter are present to a bleached dull yellow-orange. Its pH ranges from slightly to strongly acidic. Sandstone and ironstone inclusions are common. Where erosion has occurred underlying clayey sands and sandy clay subsoils can be exposed. Bedrock may also be exposed.

On crests up to 30 centimetres of A Horizon generally overlies bedrock or B Horizon soils. Sideslope soils are discontinuous and rock outcrop may be present. Up to 30 centimetres of A Horizon is commonly present on the inside and outside of benches (Chapman and Murphy 1989).

The geotechnical assessment found that all bar one of the ten boreholes tested contained fill. The other hole was assessed as potentially having fill. Only three of the boreholes were found to contain some residual natural soils along with the fill. Weathered sandstone was found at the base of the test areas at varying depths from 0.4 to 1.4 metres (Geotechnics 2017). The project area has been highly disturbed with topsoils stripped and imported fill introduced.

2.3 FLORA AND FAUNA

The vegetation communities of the greater Sydney area have over 200 species with edible parts (Attenbrow 2002). Many plants were exploited as a minor food resource, for example berries or plant nectars. Aboriginal firing of the landscape may have resulted in opening up of grasslands in the valleys and ridge tops, which, in turn, increased the habitat for large macropods.

The project area has been completely cleared since European settlement. In the past, the area would have provided a wide variety of flora and fauna resources for the Aboriginal communities who lived there.

In the study area vicinity within the sandstone geology, woodland would have predominated. Common species would have included smooth-barked (*Angophora costata*), blackbutt (*Eucalyptus pilularis*), Sydney peppermint (*E. piperita*). red bloodwood (*E. gummifera*) and turpentine (*Syncarpia glomulifera*) with a varied understorey (Benson and Howell 1990). Elsewhere in nearby shale geology, Turpentine-Ironbark forest would have been the most common vegetation community.

Wood was used to make canoe poles, weapons, woomeras, boomerangs and was used for firewood. Plant resins were used to fix parts of tools together. Bark was used for huts, carrying vessels, canoes, shields, fishing lines, bedding, blankets and torches, amongst other things (Attenbrow 2002: 113). Fibres were used to make ropes that could then be used in traps and nets for trapping animals, birds and fish. Local knowledge of medicine plants was also an important part of Aboriginal culture.

Animal resources were important to the Aboriginal people of the region, not only as a food source but because they could also be used for manufacturing. The use of animal skin clothing and animal bone tools has been well documented.

Overall, the resources available to inhabitants of the project area region could have provided a varied and generally reliable resource to sustain the many economic and social requirements of large Aboriginal groups.

2.4 LAND USE HISTORY

A review of historic aerial photography and land titles was undertaken as part of a preliminary environmental assessment for the project area (EIS 2017). The following information, relevant to the potential for Aboriginal objects to remain on the site is summarised from that assessment.

The historical land title records did not identify any individuals listed on the title records considered to be associated with site related activities (EIS 2017). The school was opened in 1937 in what is now the main administration building. Additional buildings were constructed between 1976 and 2010 (EIS 2017).

Historic aerial photography provides an indication of the history of ground surface disturbance at the school. The 1943 aerial shows the school buildings and houses along the southern boundary. There are also two air raid trenches/shelters within the grounds (Figure 3). The floodplain of Cup and Saucer Creek is visible and appears to be relatively natural. Figure 4 shows the site in 1970. The eastern part of the project area has begun to be filled and the creek line is being modified. By 1982 (Figure 5) the entire eastern area is filled and additional buildings have been constructed. Some of the houses to the south have been removed. In the 2003 photo (Figure 6) the site is at its current configuration. The houses have been removed and the eastern portion has been filled.

The extent of disturbance to the project area is likely to have removed any evidence of past Aboriginal activity that may have been present.

Figure 3: Aerial photo 1943 (EIS 2017)

Figure 4: Aerial photo 1970 (EIS 2017)

Figure 5: Aerial photo 1982 (EIS 2017)

Figure 6: Aerial photo 2003 (EIS 2017)

3.0 ARCHAEOLOGICAL CONTEXT

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 information can be used to provide a picture of behaviour in the past as well as indicate how evidence of that past behaviour might be preserved in the archaeological record. The following provides a brief overview of relevant regional and local archaeological evidence.

3.1 REGIONAL PREDICTIVE MODELLING

Timing of the Aboriginal occupation of the Sydney region has been subject of some research. An early date (41,700 +3000/-2000 BP (years before present)) was taken from artefacts found in gravels of the Cranebrook Terrace on the Nepean River (Stockton and Holland 1974), however there is some disputes over the actual age of the deposits.

A site (RTA-G1) excavated by McDonald (2005b) from the Parramatta Sand Sheet in the city centre of Parramatta has been dated to 30,735 +/- 407 BP. This date is considered more reliable. A rock shelter site north of Penrith on the Nepean, known as Shaws Creek K2, is another Pleistocene dated site, dated to 14,700 +/- 250 BP (Attenbrow 2010:18). More recently, a salvage excavation at Pitt Town on the banks of the Hawkesbury River has the lowest deposits containing artefacts dated to 15,000 BP (Williams, et al. 2012: 95).

The evidence of site dates demonstrates that Aboriginal people have inhabited the greater Sydney region for many thousands of years. In light of this it is expected that a range of evidence of that past habitation may be present.

Many hundreds of artefact sites (also known as open campsites or artefact scatters) have been recorded within the Cumberland Lowlands. This is despite the fact that at least 50% of the Cumberland Plain has already been developed to such an extent that any archaeological evidence that may have once been present has been destroyed. Open artefact scatters can range from a few discarded stone pieces (resulting from a one-off use of an area) to large sites which may have been visited by a large number of people and/or been repeatedly used over many years. In these larger sites, distinct areas relating to specific activities can sometimes be located, such as knapping floors where individuals would have sat to manufacture stone tools. Sites can also include other habitation remains such as animal bone, shell or fireplaces (known as hearths). In areas where sandstone rock overhangs are present sites are commonly located within the overhangs and other sites such as middens, where shellfish are processed and discarded occur along waterways.

3.1.1 Occupation Modelling

Over the last 30 years, a series of models of occupation of the Cumberland Lowlands have been proposed. These are being continually refined as further work takes place across the Lowlands and the broader Sydney region

An analysis of 666 sites recorded on the Cumberland Lowlands (Jo McDonald CHM 1998) found that open artefact scatters (89%) were the most common site type across the area, with scarred trees making up 2.1%. Shelters and axe grinding grooves accounted for only 3.6% of recorded sites, and these were concentrated at the junction of shale and sandstone geology along the periphery of the Lowlands. The study also highlighted

difficulties associated with archaeological visibility on the Plain by assessing the potential for areas with no surface evidence to contain buried sub-surface deposits. The study found that an absence of surface evidence is not a reliable guide to the potential, nature or density of sub-surface material. The results of McDonald's studies clearly demonstrate the limitations of surface survey for identification of archaeological deposits. It was concluded that one of the main reasons a high proportion of sites were recorded in creek flat areas was the increased visibility conditions rather than it being a reflection of past human behaviour patterns (Jo McDonald CHM 1998).

McDonald synthesised the various Rouse Hill studies ((Jo McDonald CHM 1998, 2002c, 2002a, 2002d, 2002b, 2002e) and developed a predictive model for the local area based on sub-surface investigation as well as surface finds. This has broader application for the entire Cumberland Lowlands. McDonald's model includes the following key elements:

- Site complexity and density in the area is far greater than what analysis of material recorded during initial limited testing programs or analysis of surface remains suggests.
- Most areas, even those without identifiable surface remains, may contain sub-surface archaeological material.
- There is potential for stratified and/or intact deposits in some areas, particularly in stable or aggrading landforms including alluvial deposits.
- The potential for intact deposits is not necessarily greatly diminished by ploughing of an area, which only tends to affect the top 30 centimetres of a deposit.
- Extensive testing has revealed the presence of backed blade manufacturing sites, heat treatment locations, general camp sites and other specialised activity areas.
- Sites are more extensive and complex in landscapes with more permanent water.
- Sites with ephemeral water sources were found to be sparser and to contain evidence of more localised one-off behaviour.
- Grinding grooves may be found in the sandstone or shale/sandstone transition areas.
- Scarred trees may occur in stands of remnant vegetation.
- The most common raw material is silcrete, though some indurated mudstone/silicified tuff and quartz artefacts may also be found.

After ground-truthing the model in a number of places, including at the Australian Defence Industries site (McDonald and Mitchell 1997), McDonald concluded that the three main factors influencing the density and complexity of open artefact sites in the Cumberland Lowlands are:

- stream order;
- landscape unit (ie landform type); and
- proximity to a stone source suitable for extracting stone for tool manufacture.

Baker (AMBS Consulting 2000) proposed a model based on excavation at Mungerie Park (near Caddies Creek). He suggested that three zones of 'archaeological complexity' could be described, namely

- a 'complex zone' of overlapping knapping floors or activity areas and high-density artefact concentration due to repeated occupation;
- a 'dispersed zone' where activity areas are more spatially discrete due to either less frequent use or activities occurring away from main camp sites; and
- a 'sparse zone' of consistently low-density artefact distribution likely to be resulting from discard events rather than knapping (AMBS Consulting 2000: 53-54).

McDonald reviewed this and other models in the light of excavations along Second Ponds Creek and nearby sites. She suggests that the earliest occupants of the Sydney region focused habitation on the Nepean River and large creek lines. As time progressed they gradually moved away from these locations and began to occupy more distant places. At this point populations were highly mobile and transported stone material from the Nepean River Gravels. When this was not possible they made do with whatever local stone sources were available. As sea levels rose and then stabilised after 6,000 before present (BP), groups from the coast were forced inland. Population gradually increased, and many new occupation sites were inhabited in different regions. People began to focus on local stone sources, in the Rouse Hill region people relied on silcrete. Heat-treating of the stone became more common. It is likely that stone was partially worked or prepared at its source and transported back to habitation camps. Backed artefacts became increasingly common. In the last 1,000 years ground stone becomes more common and it is possible that changes in frequencies of use of different raw materials points to 'more restricted social movement, and contact via exchange networks'(Jo McDonald CHM 2005a).

A review of the various occupation models based on the wealth of data in the Rouse Hill Development Area (McDonald and White 2010) produced the following key findings supporting some of the previous models:

- artefact distribution can better be seen as part of a landscape rather than discrete sites as implied by Kohen and others;
- artefact distribution does appear to be related to proximity to water, although this further varies with stream order;
- stream order does seem to be a significant factor in site distribution as suggested by McDonald and Mitchell (1997);
- artefact density does appear to vary significantly with landform (McDonald and Mitchell 1997);
- the orientation of open land surfaces seems to have an influence on the selection of artefact discard locations - with slopes facing north and north-east generally having higher densities;
- distance from known silcrete sources does not seem to have a large influence on artefact density;

- these trends in artefact density and distribution indicate long-term, large scale patterns; and
- social and/or symbolic factors may also have influenced site selection (McDonald and White 2010; AECOM 2011).

3.2 LOCAL CONTEXT

A landscape such as the project area would have provided access to a number of different resource zones; making it an attractive location for past occupation. The subject land is adjacent to the shale geology and the Blacktown Soil Landscape that is common across the Cumberland Plain. The site patterning of the vicinity is also influenced by the local sandstone geology.

Relatively few excavations have been undertaken in the sandstone geology of Sydney compared to the extensive amount of work that has been carried out on the shale soil landscapes of the Cumberland Plain. In general terms more sites have been recorded on sandstone geology than shale (Irish 2002: 21-22).

3.2.1 Database Searches

Searches of the NSW State Heritage Register, Inventory and the Australian Heritage database were undertaken. No Aboriginal archaeological sites or places of cultural heritage significance were recorded on these databases. No Aboriginal sites are recorded on *The Burwood Local Environmental Plan 2012*.

A search of the OEH AHIMS database was undertaken on 5 April 2018 for an area at Datum: GDA, Zone: 56, Eastings: 322000 - 328000, Northings: 6242000 - 6248000. A total of 13 sites have been recorded within this area. None of the sites is within the project area.

All the recorded sites contain stone artefacts. Of the sites recorded, ten are within rock shelters on Wolli Creek between 1.5 and 2 kilometres to the south-west of the project area. Of these ten sites, six contain artefacts and shell while four contain artefacts only. One open artefact site was also recorded in the vicinity. The remaining two sites listed on AHIMS were open artefact scatters recorded in reserves on the Cooks River approximately four kilometres to the north-west of the project area.

The locations of the registered sites recorded in AHIMS are shown in Figure 7. The location information for sites recorded within the AHIMS is subject to variation in recording methods. Coordinates provided are often indicative rather than exact. The accuracy of locations cannot always be relied on. The author cannot vouch for the accuracy of the information provided by OEH or other agencies.

Elsewhere in the local region, due to the intensive development of the locality many previously existing sites would now be destroyed. It is telling that most of the recorded sites within a few kilometres of the project area have been located within undeveloped lands such as reserves or parks.

3.3 SUMMARY

The region would have been a favoured place of occupation for Aboriginal groups in the past. The project area vicinity has abundant resources and would have provided for

relatively large groups. Artefact scatters of high density on Cumberland Plain landforms are usually found within 200 metres of significant waterways with the highest significance sites within 100 metres on elevated terraces. Subsurface artefact densities will be lower on upper slopes and crest/ridgelines and higher on lower slopes. Rock shelter sites are overall more common than open sites in the sandstone geology of Sydney.

In summary, there would have been relatively large Aboriginal populations utilising the project area and surrounds. The number of sites recorded on AHIMS is a fraction of what once would have been present. The major factor influencing the potential for unrecorded sites to be preserved will be the level of disturbance in the area.

Maps and figures in this document may be based on third party data, may not be to scale and are intended as a guide only. We do not warrant the accuracy of such maps or figures.

0 500 1000 1500 2000 m

Figure 7: AHIMS sites

CULTURAL HERITAGE CONNECTIONS

4.0 SITE INSPECTION

The project area was inspected on 26 April 2018 by Vanessa Hardy along with Selina Timothy, Culture and Heritage Officer with Metropolitan Local Aboriginal Land Council (MLALC).

4.1 AIMS & METHODS

The aim of the site inspection was to determine whether any unrecorded Aboriginal objects or areas of sub-surface archaeological potential would be likely to occur in the project area and whether development of the subject land could have the potential to impact these sites or areas. The external parts of the project area were inspected on foot. No inspection was undertaken within standing buildings.

4.2 RESULTS

The project area has been previously cleared of vegetation. External ground surfaces are a combination of buildings, artificial hard surface, landscaped garden and grassed areas.

The grassed areas have limited visibility (Figure 8). Exposures provided additional visibility (Figure 9). Most landscaped and playing areas appear to have some introduced material including gravel and imported fill. The eastern portion of the project area slopes down within a reserve towards a highly modified creek line

No Aboriginal objects were located during the site inspection. No trees with potential for Aboriginal scarring are located in the project area. No areas of archaeological were noted within the project area.

Figure 8: Project area adjacent France Street facing north-west

Figure 9: Exposures in project area

Figure 10: Eastern portion of project area in Pat O'Conner Reserve

4.2.1 Summary

No known sites are recorded within the project area boundaries. No Aboriginal objects were located during the site inspection. The site inspection revealed a highly disturbed landscape with low potential for Aboriginal objects.

5.0 DISCUSSION & RECOMMENDATIONS

This section provides a summary of the results of the assessment and a discussion of the due diligence requirements for the project. It also presents recommendations for ongoing management based on the assessment findings and the legislative context.

5.1 DEVELOPMENT IMPACTS

A concept plan for the subject land showing existing buildings is included in Appendix 1.

As designs are not yet final, for the purposes of considering harm it has been assumed that impacts could include disturbance or removal of soils anywhere across the project area.

5.2 ABORIGINAL COMMUNITY INPUT

The MLALC were contacted prior to the site inspection to participate in providing cultural significance input for the project. Selina Timothy, Culture and Heritage Officer, attended site with the archaeologist and was provided a map of the existing site. The proposed development was discussed.

The MLALC have stated that they have considered the Aboriginal heritage constraints of the proposed development and have no objections. They have recommended that if any Aboriginal cultural material is located during the course of the development MLALC and OEH should be contacted immediately. They have also stressed that any culturally significant items found during works should be cared for, respected and recorded in an appropriate manner.

A copy of the MLALC comment is included in Appendix 2.

5.3 DISCUSSION & CONCLUSIONS

On the basis of the documented disturbance it is concluded that the project area has low archaeological potential. It has been subject to construction, landscaping and filling during its period of use as a school. Based on the geotechnical assessment, A horizon soils have been completely removed in much of the project area. Elsewhere soil strata have been disturbed and fill has been introduced. The ridgeline landform also suggests that erosion and shallow soils would have reduced the potential for intact archaeological deposit to be preserved.

The extent of the disturbance to the ground surface is considered likely to have removed any pre-existing evidence of past Aboriginal occupation.

5.4 DUE DILIGENCE

Due diligence is defined in the Code of Practice as "taking reasonable and practical steps to determine whether a person's actions will harm an Aboriginal object and, if so, what measures can be taken to avoid that harm".

The following discussion relates to the generic due diligence process shown in Figure 2, as applied to the project area.

Step 1 – Yes is disturbance likely

It was determined that future development works would disturb the ground surface.

Step 2 – Are there are sensitive landforms in the project area? – Yes but disturbed

The due diligence Code of Practice provides a list of landscape features which can indicate an area has potential to contain Aboriginal occupation evidence. These are listed as areas on land that is *not disturbed* that are:

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

The project area is within a ridgeline landform and within 200 metres of Cup and Saucer Creek. However, the landforms have been subject to significant disturbance, which is assessed as reducing the sensitivity of the project area.

Although the land meets the definition of *disturbed* under the due diligence guidelines, the assessment presented in this report also includes a consideration of the likelihood of development having an impact on sub-surface Aboriginal objects beneath the level of known surface disturbance.

Step 3 – Can impacts to the landform be avoided? N/A

Development of the project area will affect the ground surface; however, the landforms are assessed as low sensitivity due the level of disturbance.

Step 4 – Are Aboriginal objects present or likely to be present – low potential

No objects are known to be present. The level of disturbance across the area is high. This suggests that there is low potential for intact deposits and/or Aboriginal objects to occur.

5.5 RECOMMENDATIONS

On the basis of the findings of the above archaeological assessment and the legislative framework for protecting and assessing Aboriginal archaeological sites in NSW, the following recommendations are provided:

1. The project area is assessed as having a low likelihood to contain intact archaeological deposit and/or Aboriginal objects. It is recommended that development can 'proceed with caution' as outlined in the due diligence guidelines.
2. MLALC have considered the Aboriginal heritage constraints for the site and have no objections to the proposed development. They have recommended that if cultural materials are located during the development MLALC and OEH should be contacted immediately and any culturally significant items on site should be cared for, respected and recorded in the correct way.

3. On-site employees or contractors involved in ground surface disturbance should be made aware of the statutory obligations that apply to the discovery of Aboriginal objects.
4. If Aboriginal objects are uncovered during ground surface works, all works must cease and OEH and the Metropolitan LALC should be contacted to determine a course of action.
5. In the unlikely event that suspected human remains are found the *Coroners Act 2009* requires that all work must cease, the site should be secured and the NSW Police and the NSW Coroner's Office should be notified. If the remains are found to be Aboriginal pre-contact, OEH and the LALC should be contacted to assist in determining appropriate management.

REFERENCES

AHMS 2011 *Water Related Services for the North West Growth Centre - Second Release Precints Aboriginal Heritage Impact Assessment.* Report for Sydney Water.

ATTENBROW, V.

2002 *Sydney's Aboriginal Past: investigating the archaeological and historical records.* UNSW Press, Sydney.

CHAPMAN, G. A. AND C. L. MURPHY

1989 *Soil Landscapes of the Sydney 1:100 000 Sheet.* Soil Conservation Service of NSW, Sydney.

CHAPMAN, G. A., C. L. MURPHY, P. J. TILLE, G. ATKINSON AND R. J. MORSE 1989 Soil Landscape Series Sheet 9130, Sydney. Soil Conservation Service of NSW.

DALLAS, M. and K. SULLIVAN

1993 *Baulkham Hills Shire Aboriginal Heritage Study.* Prepared for Baulkham Hills Shire Council.

DECCW 2010a *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010.*

2010b *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW. Part 6 National Parks and Wildlife Act 1974.*

2010c *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales.* Department of Environment, Climate Change and Water NSW Guideline.

JO MCDONALD CHM 1998 *Survey for Archaeological Sites: Proposed Rouse Hill Stage 2 Infrastructure Works at Rouse Hill, Parklea and Kellyville, NSW.* Report Prepared for GHD on behalf of RHIC by Jo McDonald Cultural Heritage Management Pty Ltd.

2002a *Archaeological excavations at Balfour Drive, Kellyville, NSW (Site RH/SC5). An archaeological salvage programme prior to residential development.* Report prepared for Mepstead & Associates on behalf of Bake Investments Pty. Ltd. & Cardno BLH Pty. Ltd.

2002b *Archaeological reassessment of Indigenous cultural heritage values in Second Ponds Creek (Project 12586).* Report to Landcom.

2002c *Rouse Hill Infrastructure Project (Stage 3) Balmoral Road Release Area Indigenous & European Heritage Issues.* Report to RHI Pty Ltd by Jo McDonald Cultural Heritage Management Pty. Ltd.

2002d *Rouse Hill Infrastructure Project (Stage 3) Development Areas 2,5,10,22 & 24B, Second Ponds Creek Area: Indigenous and European Heritage Issues.* Report to Rouse Hill Infrastructure Project.

2002e *Rouse Hill Infrastucture Project (Stage 3) Balmoral Road Release Area Indigneous & European Heritage Issues.* Unpublished report to Rouse Hill Infrastructure Consortium (RHIC).

2005 *Archaeological Salvage Excavation of Eight Archaeological Landscapes in the Second Ponds Creek Valley Rouse Hill Development Area, NSW*. Report Prepared for Rouse Hill Infrastructure Pty Ltd and Landcom.

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

MCDONALD, J. AND B. WHITE

2010 Lithic artefact distribution in the Rouse Hill Development Area, Cumberland Plain, New South Wales. *Australian Archaeology* 70(1):29-38.AECOM 2011 *Box Hill and Box Hill Industrial Precincts Aborignal Heritage Assessment: Final Step 3 Report*. Prepared by AECOM Australia Pty Ltd for Department of Planning.

AMBS CONSULTING 2000 *Mungerie Park Town Centre Archaeological Salvage: Excavations near Kellyville, Cumberland Plain, NSW. 2 Volumes*. Report to Department of Urban Affairs & Planning.

ATTENBROW, V.

2002 *Sydney's Aboriginal Past: investigating the archaeological and historical records*. UNSW Press, Sydney.

BANNERMAN, S. M. AND P. A. HAZELTON

1990 *Soil Landscapes of the Penrith 1:100 000 Sheet*. Soil Conservation Service of NSW, Sydney.

BENSON, D. AND J. HOWELL

1990 *Taken for Granted: the bushland of Sydney and its suburbs*. Kangaroo Press Pty Ltd, Kenthurst, NSW.

CHAPMAN, G. A. AND C. L. MURPHY

1989 *Soil Landscapes of the Sydney 1:100 000 Sheet*. Soil Conservation Service of NSW, Sydney.

CHAPMAN, G. A., C. L. MURPHY, P. J. TILLE, G. ATKINSON AND R. J. MORSE 1989 Soil Landscape Series Sheet 9130, Sydney. Soil Conservation Service of NSW.

DECCW 2010a *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*.

2010b *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW. Part 6 National Parks and Wildlife Act 1974*.

2010c *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales*. Department of Environment, Climate Change and Water NSW Guideline.

EIS 2017 *Report to NBRS Architecture on Preliminary Stage 1 Environmental Site Assessment for Proposed School Additions at Canterbury South Public School, High STreet Canterbury, NSW*. Unpublished report.

GEOTECHNICS, J. 2017 *Report to NBRS Architecture on Geotechnical Investigation for Proposed Additions to Canterbury South Public School at High STreet, Canterbury, NSW*. Unpublished report.

IRISH, P. 2002 *Archaeological Research Directions. A report based on the findings of Stage 1 of the Aboriginal History & Connections Program at the Sydney Olympic Parklands.* Report to Sydney Olympic Park Authority.

JO MCDONALD CHM 1998 *Survey for Archaeological Sites: Proposed Rouse Hill Stage 2 Infrastructure Works at Rouse Hill, Parklea and Kellyville, NSW*. Report Prepared for GHD on behalf of RHIC by Jo McDonald Cultural Heritage Management Pty Ltd.

2002a *Archaeological excavations at Balfour Drive, Kellyville, NSW (Site RH/SC5). An archaeological salvage programme prior to residential development.* Report prepared for Mepstead & Associates on behalf of Bake Investments Pty. Ltd. & Cardno BLH Pty. Ltd.

2002b *Archaeological reassessment of Indigenous cultural heritage values in Second Ponds Creek (Project 12586).* Report to Landcom.

2002c *Rouse Hill Infrastructure Project (Stage 3) Balmoral Road Release Area Indigenous & European Heritage Issues.* Report to RHI Pty Ltd by Jo McDonald Cultural Heritage Management Pty. Ltd.

2002d *Rouse Hill Infrastructure Project (Stage 3) Development Areas 2,5,10,22 & 24B, Second Ponds Creek Area: Indigenous and European Heritage Issues.* Report to Rouse Hill Infrastructure Project.

2002e *Rouse Hill Infrastucture Project (Stage 3) Balmoral Road Release Area Indigneous & European Heritage Issues.* Unpublished report to Rouse Hill Infrastructure Consortium (RHIC).

2005a *Archaeological Salvage Excavation of Eight Archaeological Landscapes in the Second Ponds Creek Valley Rouse Hill Development Area, NSW*. Report Prepared for Rouse Hill Infrastructure Pty Ltd and Landcom.

2005b *Archaeological Salvage Excavation of Site RTA-G1, 109–113 George Street, Parramatta, New South Wales.* Report to Landcom.

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

MCDONALD, J. AND B. WHITE

2010 Lithic artefact distribution in the Rouse Hill Development Area, Cumberland Plain, New South Wales. *Australian Archaeology* 70(1):29-38.

STOCKTON, E. AND W. HOLLAND

1974 Environments in the Blue Mountains. *Archaeology & Physical Anthropology in Oceania* 9:36-65.

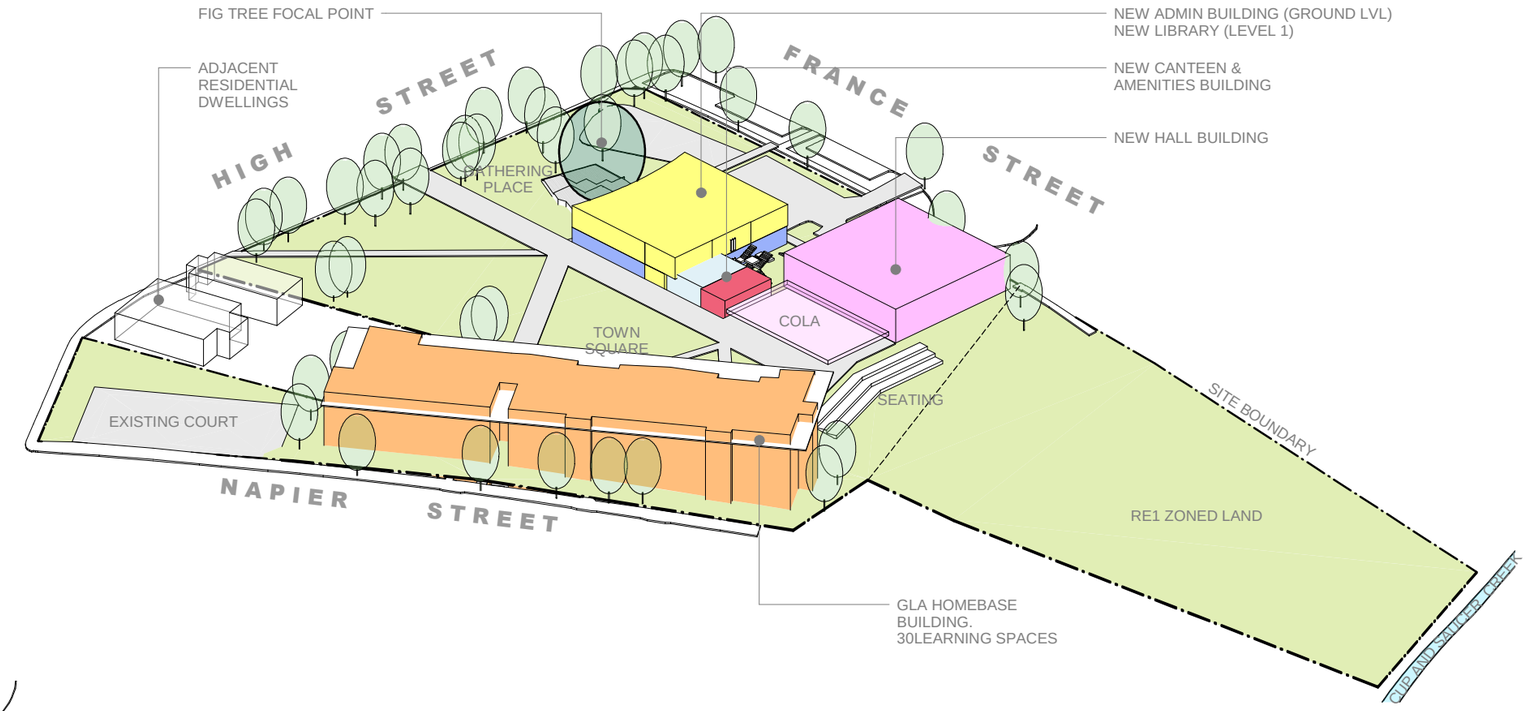
WILLIAMS, A. N., P. MITCHELL, R. V. S. WRIGHT AND P. S. TOMS

2012 A terminal Pleistocene Open Site on the Hawkesbury River, Pitt Town, New South Wales. *Australian Archaeology* 74:85-97.

APPENDIX 1: DEVELOPMENT CONCEPT PLAN

Canterbury South Public School

NBRSARCHITECTURE.



Scale 500@A1 or 1000@A3

Option 4 - Riverbank - Siteplan

APPENDIX 2: METROPOLITAN LALC COMMENT

Metropolitan Local Aboriginal Land Council
36-38 George Street Redfern NSW 2016
PO Box 1103 Strawberry Hills NSW 2012
Telephone: (02) 8394 9666 Fax: (02) 8394 9733 Email: bookings@metrolalc.org.au

Wednesday 16th May 2018

Vanessa Hardy M.ICOMOS MEIANZ
Director & Principal Archaeologist
Cultural Heritage Connections Pty Ltd
PO Box 490
Dulwich Hill
NSW 2203

Dear Vanessa

Re: Aboriginal Site Survey Report
Canterbury South Public School
20 High Street Canterbury ,NSW 2193

On Tuesday 26th April 2018, I as representative of Metropolitan Local Aboriginal Land Council participated in a site inspection survey at the above property. The purpose of my role was to identify any Aboriginal Heritage constraints to the proposed development by NBRS Architecture of Canterbury South Public School. The entire property was assessed at this time by foot with Vanessa Hardy Director and Principal Archaeologist, Cultural Heritage Connections.

The aim of the site inspection was to determine whether any recorded Aboriginal objects or areas of sub-surface archeological potential would likely occur on the project area and weather development areas would have potential impact on these sites or areas.

Property Description

The project area within the school boundary is bounded by High Street to the north-west, Napier Street to the south and Frances Street to the north-east. The south eastern boundary abuts Pat O'Connor reserve, which includes Cup and Saucer Creek. The project area is located approximately 400 metres to the south-west of the Cooks River.

Photos and notes were taken throughout the proposed development site. This report outlines the findings of the Metropolitan Local Aboriginal Land Council (MLALC) and to make recommendations and any constraints that MLALC feel will protect any identified site.

Prior to commencement for compiling of this report, MLALC was informed about this property and discussions took place with Vanessa about the development. A registered search was undertaken for any known sites in the area and subject to this some sites were identified but not within the proposed project area.

Aboriginal Heritage

The surveyed area contained no evidence of significant Aboriginal artefacts, no Aboriginal scarring of trees were located in the project area nor were any areas of archaeological landforms were noted within the project area on inspection. The area has been disturbed and built upon as the landscape suggests disturbance to the ground surface and is considered likely to have removed any pre-existing traces of Aboriginal occupation within the area.

No Aboriginal archaeological sites or places of cultural heritage significance were recorded on database and no sites recorded are within the project area.

Conclusions and Recommendations

If any cultural materials are unearthed during any stages of the proposed development then all works are to cease and MLALC, and the Office of Environment and Heritage are to be contacted immediately.

Items found during work carried out that any cultural significant items are to be cared, respected and recorded in the correct way.

MLALC have no objections to the proposed development of Canterbury South Public School, 20 High Street Canterbury, NSW 2193.

If you require further information please do not hesitate in contacting the MLALC Office for assistance.

Regards,

Selina Timothy

Culture and Heritage Officer

Metropolitan Local Aboriginal Land Council (MLALC)