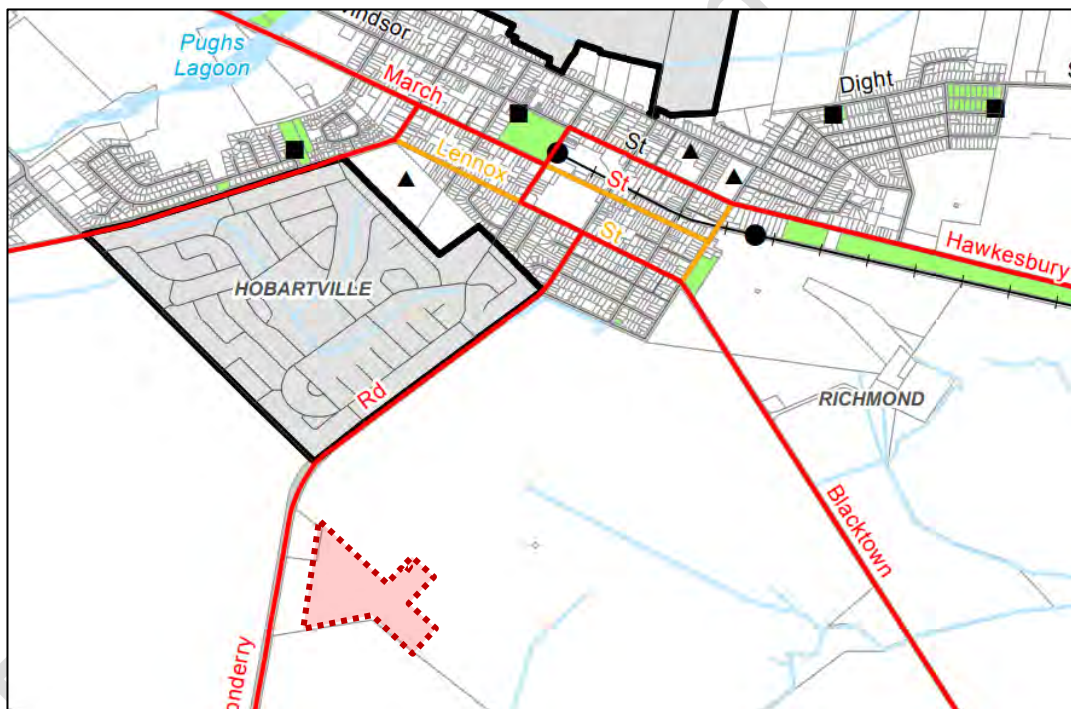


ABORIGINAL CULTURAL HERITAGE ASSESSMENT

**New Hurlstone Agricultural High School
Hawkesbury Campus
2 College Road
Richmond NSW
(Hawkesbury LGA)**



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Archaeological Management & Consulting Group
& Streat Archaeological Services

for
Conrad Gargett Ancher Mortock Woolley

On behalf of
Department of Education NSW

Version 4
January 2018

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Cover Image

Council map of study area
Hawkesbury City Council (2017)

ACKNOWLEDGEMENT OF COUNTRY

NSW Department of Education would like to acknowledge the Traditional Custodians of the western Sydney Area– the Darug peoples– and pay respect to their cultural heritage, beliefs and continuing relationship with the land.

NSW Department of Education would also like to acknowledge the post contact experiences of Aboriginal peoples who have attachment to the Sydney area.

“We pay our respect to the Elders – past, present and future – for they hold the memories, traditions, culture and hopes of Aboriginal Peoples in the area”.

NSW Department of Education recognises the role of the registered Aboriginal parties in the management of the Aboriginal cultural heritage sites, landscape features and values of this project.

NSW Department of Education would like to thank the Registered Aboriginal Parties for their participation in this project and for their valuable contribution to this Aboriginal Cultural Heritage Assessment which has been enriched by their willingness to share valuable aspects of their cultural knowledge especially in respect of Caring for Country

INTERNAL REVIEW

Version	Written/ Edited	Date	Document Status	Reviewed by	Issue Date
1	Y. Pavincich	10/10/17	ACHA Draft V.1	Client/ RAPs	20/12/17
2	Y. Pavincich	10/1/17	ACHA Draft V.2	Client	10/1/17
3	Y. Pavincich/ B. Streat	15/1/18	ACHA Final	Client	19/1/18
4	Y.Pavincich	24/1/18	Public Exhibition	Client	24/1/18

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EXECUTIVE SUMMARY

Study Area

Archaeological Management and Consulting Group (AMAC) in conjunction with Streat Archaeological Services Pty Ltd (SAS) was commissioned by Conrad Gargett Ancher Mortlock Woolley on behalf of the Department of Education (DoE) in October 2017, to prepare an Aboriginal Cultural Heritage Assessment for the proposed State Significant Development #8614 New Hurlstone High School at 2 College Road, Richmond, New South Wales.

The study site is that piece of land described as Lot 2 of the Land and Property Information Deposited Plan 1051798 forming the following street address 2 College Road, Richmond, within the Western Sydney University, Hawkesbury Campus, in the Parish of Ham Common, County of Cumberland.

Aboriginal Consultation

Consultation for this report has been undertaken in accordance with the Office of Environment and Heritage and National Parks and Wildlife Act 1974: Part 6; National Parks and Wildlife Act Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010).

A mandatory 28-day period for the Aboriginal stakeholders to comment on this document has taken place. This is the final Aboriginal stakeholder approved version of this report.

Physical Evidence

Test excavation was undertaken over six days 06/12/17 – 13/12/17. The programme was conducted under the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales and consisted of the excavation of 51 test trenches (50cm x 50cm).

The proposed development and associated infrastructure will impact the study area. In review of the test excavation results, of which intact soils were found to be present, the study area was however absent of any Aboriginal objects and/or deposits or features of cultural and archaeological significance. Therefore, further investigation is not warranted and works may proceed with caution.

Significance

The site is found to be of nil-low archaeological significance this is on account to the test excavation resulting in no Aboriginal objects and/or deposits of cultural or archaeological significance being located. The A horizon was present and soils were found to be intact with only minor disturbance visible.

Recommendations

The findings from the test excavation indicate the site to be of nil-low archaeological significance, intact A horizon was present onsite, however no Aboriginal objects

and/or deposits of cultural significance were located, therefore the development should be allowed to proceed with caution.

The recommendations have been formulated after consultation with RAPs, the proponent and the OEH after issue of the development application plans (Figure 8.1 – Figure 8.6).

- Consultation with the registered Aboriginal stakeholders should continue. Stakeholders have been given the opportunity to comment on the recommendations of this report and these comments are included in this report;
- An Aboriginal Cultural Heritage Management Plan should be devised as a final document for the study area when State Significant Development (SSD) status (SSD #8614), in order to manage any unexpected Aboriginal archaeological and cultural constraints that may arise;
- Archaeological test excavation in accordance with Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales, Part 6 National Parks and Wildlife Act 1974, (DECCW 2010) revealed no Aboriginal archaeological objects or deposits; the development as shown (Figures 8.1 – 8.6) should be allowed to 'proceed with caution';
- After this and before any ground disturbance takes place all development staff, contractors and workers should be briefed prior to works commencing on site as to their responsibilities regarding any Indigenous archaeological deposits and/or objects that may be located during the following development;

If any Aboriginal archaeological deposits and/or objects are located during the development, then the following should take place;

- All work is to cease in the immediate vicinity of the deposits and/or objects
- The area is to be demarcated
- OEH, a qualified archaeologist and the participating RAPs are to be notified.

Should any human remains be located during the following development;

- All excavation in the immediate vicinity of any objects of deposits shall cease immediately;
- The NSW police and OEH's Enviroline be informed as soon as possible;
- Once it has been established that the human remains are Aboriginal ancestral remains, OEH and the relevant Registered Aboriginal Parties will identify the appropriate course of action.

Additional Recommendations

Copies of the final version of this report should be forwarded to the following organisations:

- Mr P. Baigent and M. Walsh from Conrad Gargett;
- Deerubbin LALC;
- Kamilaroi-Yankuntjatjara Working Group;
- Darug Aboriginal Cultural Heritage Assessments;

- A1 Indigenous Service;
- Amanda Hickey Cultural Services;
- Aboriginal Archaeological Services;
- Darug Custodian Aboriginal Corporation;
- Widescope Indigenous Group;
- Didge Ngunawal Clan;
- Gunjeewong Cultural Heritage Aboriginal Corporation;
- Darug Aboriginal Land Care;
- Cullendulla;
- Murramarang;
- Biamanga;
- Goobah Developments

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CONTACT DETAILS

The contact details for the following archaeologist, NSW Police, OEH and Registered Aboriginal Parties are as follows:

Organisation	Contact	Contact Details
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Office of Environment & Heritage NSW Department of Planning and Environment	Archaeologist – Head Office	PO Box A290 Sydney South NSW 1232 Ph: (02) 9995 5000 info@environment.nsw.gov.au
Deerubbin Local Aboriginal Land Council (DLALC)		
Kamilaroi-Yankuntjatjara Working Group		
Darug Aboriginal Cultural Heritage Assessments		
Darug Custodian Aboriginal Corp.		
A1 Indigenous Services		
Amanda Hickey Cultural Services		
Aboriginal Archaeological Services		
Widescope Indigenous Group		
Didge Ngunawal Clan Gunjeewong Cultural Heritage Aboriginal Corp.		
Darug Aboriginal Land Care		
Cullendulla		
Murramarang		
Biamanga		
Goobah Developments		

1.0 INTRODUCTION

1.1 BACKGROUND

Archaeological Management and Consulting Group (AMAC) in conjunction with Streat Archaeological Services Pty Ltd (SAS) was commissioned by Conrad Gargett Ancher Mortlock Woolley on behalf of the Department of Education (DoE) in October 2017, to prepare an Aboriginal Cultural Heritage Assessment for the proposed State Significant Development #8614 New Hurlstone High School at 2 College Road, Richmond, New South Wales.

This report conforms to the reporting process, conditions and requirements of Aboriginal Cultural Heritage Standards and Guidelines Kit (NPWS 1998) and Part 6; National Parks and Wildlife Act Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010). This assessment also conforms to requirement 10 of the Secretary's Environmental Assessment Requirements for SSD #8614;

Requirement 10. Aboriginal Heritage

Address Aboriginal Cultural Heritage in accordance with the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW, 2011) and Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW).

1.2 STUDY AREA

The study site is that piece of land described as Lot 2 of the Land and Property Information Deposited Plan 1051798 forming the following street address 2 College Road, Richmond, within the Western Sydney University, Hawkesbury Campus, in the Parish of Ham Common, County of Cumberland.

Lot	Deposited Plan
2	1051798

1.3 SCOPE

The aims of this cultural heritage assessment are to assess the Aboriginal cultural heritage values of the study area, to provide registered Aboriginal persons or organisations who hold cultural knowledge relevant to determining the cultural significance of Aboriginal object(s) and/or place(s) within, or in the vicinity of the area of the proposed development, to present this knowledge for synthesis, analysis and compilation into a Cultural Heritage Assessment about the study area.

This report will assess the impact of the proposed development on any identified items or places of Aboriginal cultural heritage value and to develop mitigative strategies under the appropriate legislation for the management of Aboriginal archaeological and cultural heritage values of the study area. This process also involves the proponent and/or the proponent's representative to outline the project details and the participating Aboriginal parties to have input into formulating mitigative strategies at identified points in the impact assessment process.

A methodology and a timeline for the completion of assessment process and report delivery was developed and distributed to all registered parties for review and input for a period of no less than 28 days.

1.4 AUTHOR IDENTIFICATION

The analysis of the archaeological background and the reporting were undertaken by Mr. Benjamin Streat (BA, Grad Dip Arch Her, Grad Dip App Sc), archaeologist and Director of Streat Archaeological Services Pty Ltd in association with Ms. Yolanda Pavincich (B. Arch, Grad Dip Cul Her) and under the guidance of Mr. Martin Carney archaeologist and Managing Director of AMAC Group.

1.5 LEGISLATIVE CONTEXT AND STATUTORY CONTROLS

This section of the report provides a brief outline of the relevant legislation and statutory instruments that protect Aboriginal archaeological and cultural heritage sites within the state of New South Wales. Some of the legislation and statutory instruments operate at a federal or local level and as such are applicable to Aboriginal archaeological and cultural heritage sites in New South Wales. This material is not legal advice and is based purely on the author's understanding of the legislation and statutory instruments. This document seeks to meet the requirements of the legislation and statutory instruments set out within this section of the report.

1.5.1 Commonwealth Heritage Legislation and Lists

One piece of legislation and two statutory lists and one non-statutory list are maintained and were consulted as part of this report: the National Heritage List and the Commonwealth Heritage List.

1.5.1.1 Environmental Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) offers provisions to protect matters of national environmental significance. This act establishes the National Heritage List and the Commonwealth Heritage List which can include natural, Indigenous and historic places of value to the nation. This Act helps ensure that the natural, Aboriginal and historic heritage values of places under Commonwealth ownership or control are identified, protected and managed (Australian Government 1999).

1.5.1.2 National Heritage List

The National Heritage List is a list which contains places, items and areas of outstanding heritage value to Australia; this can include places, items and areas overseas as well as items of Aboriginal significance and origin. These places are protected under the Australian Government's EPBC Act.

1.5.1.3 Commonwealth Heritage List

The Commonwealth Heritage List can include natural, Indigenous and historic places of value to the nation. Items on this list are under Commonwealth ownership or control and as such are identified, protected and managed by the Federal Government.

1.5.2 New South Wales State Heritage Legislation and Lists

The state (NSW) based legislation that is of relevance to this assessment comes in the form of the acts which are outlined below.

1.5.2.1 National Parks and Wildlife Act 1974

The NSW National Parks and Wildlife Act 1974 (as amended) defines Aboriginal objects and provides protection to any and all material remains which may be evidence of the Aboriginal occupation of lands continued within the state of New South Wales. The relevant sections of the Act are sections 84, 86, 87 and 90.

An Aboriginal object, formerly known as a relic 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' (NSW Government, 1974).

It is an offence to harm or desecrate an Aboriginal object or places under Part 6, Section 86 of the NPW Act:

Part 6, Division 1, Section 86: Harming or desecrating Aboriginal objects and Aboriginal places:

- (1) *A person must not harm or desecrate an object that the person knows is an Aboriginal object.*

Maximum penalty:

- (a) *in the case of an individual—2,500 penalty units or imprisonment for 1 year, or both, or (in circumstances of aggravation) 5,000 penalty units or imprisonment for 2 years, or both, or*
- (b) *in the case of a corporation—10,000 penalty units.*

- (2) *A person must not harm an Aboriginal object.*

Maximum penalty:

- (a) *in the case of an individual—500 penalty units or (in circumstances of aggravation) 1,000 penalty units, or*
- (b) *in the case of a corporation—2,000 penalty units.*

- (3) *For the purposes of this section, **circumstances of aggravation** are:*

- (a) *that the offence was committed in the course of carrying out a commercial activity, or*
- (b) *that the offence was the second or subsequent occasion on which the offender was convicted of an offence under this section.*

This subsection does not apply unless the circumstances of aggravation were identified in the court attendance notice or summons for the offence.

- (4) *A person must not harm or desecrate an Aboriginal place.*

Maximum penalty:

- (a) *in the case of an individual—5,000 penalty units or imprisonment for 2 years, or both, or*
- (b) *in the case of a corporation—10,000 penalty units.*

- (5) *The offences under subsections (2) and (4) are offences of strict liability and the defence of honest and reasonable mistake of fact applies.*

- (6) *Subsections (1) and (2) do not apply with respect to an Aboriginal object that is dealt with in accordance with section 85A.*

- (7) *A single prosecution for an offence under subsection (1) or (2) may relate to a single Aboriginal object or a group of Aboriginal objects.*
- (8) *If, in proceedings for an offence under subsection (1), the court is satisfied that, at the time the accused harmed the Aboriginal object concerned, the accused did not know that the object was an Aboriginal object, the court may find an offence proved under subsection (2).*

1.5.2.2 Environmental Planning & Assessment Act 1979

The Environmental Planning and Assessment Act 1979 (EP&A Act) states that environmental impacts of proposed developments must be considered in land use planning procedures. Four parts of this act relate to Aboriginal cultural heritage.

- Part 3, divisions 3, 4 and 4A refer to Regional Environmental Plans (REP) and Local Environmental Plans (LEP) which are environmental planning instruments and call for the assessment of Aboriginal heritage among other requirements.
- Part 4 determines what developments require consent and what developments do not require consent. Section 79C calls for the evaluation of
The likely impacts of that development, including environmental impacts on both the natural and built environments and the social and economic impacts in the locality (NSW Government 1979).
- Part 5 of this Act requires that impacts on a locality which may have an impact on the aesthetic, anthropological, architectural, cultural, historic, scientific, recreational or scenic value are considered as part of the development application process (NSW Government, 1979).

1.5.2.3 The Aboriginal Land Rights Act 1983

The NSW *Aboriginal Land Rights Act 1983* (ALR Act), administered by the NSW Department of Aboriginal Affairs, established the NSW Aboriginal Land Council (NSWALC) and Local Aboriginal Land Councils (LALCs). The ALR Act requires these bodies to:

- take action to protect the culture and heritage of Aboriginal persons in the council's area, subject to any other law;
- promote awareness in the community of the culture and heritage of Aboriginal persons in the council's area.

These requirements recognise and acknowledge the statutory role and responsibilities of New South Wales Aboriginal Land Council and Local Aboriginal Land Councils. The ALR Act also establishes the Office of the Registrar whose functions include but are not limited to, maintaining the Register of Aboriginal Land Claims and the Register of Aboriginal Owners.

Under the ALR Act the Office of the Registrar is to give priority to the entry in the Register of the names of Aboriginal persons who have a cultural association with:

- lands listed in Schedule 14 to the NPW Act;
- lands to which section 36A of the ALR Act applies (NSW Government, 1974 & DECCW 2010).

1.5.2.4 The Native Title Act 1993

The *Native Title Act 1993* (NTA) provides the legislative framework to:

- recognise and protect native title;
- establish ways in which future dealings affecting native title may proceed, and to set standards for those dealings, including providing certain procedural rights for registered native title claimants and native title holders in relation to acts which affect native title;
- establish a mechanism for determining claims to native title;
- provide for, or permit, the validation of past acts invalidated because of the existence of native title.

The National Native Title Tribunal has a number of functions under the NTA including maintaining the Register of Native Title Claims, the National Native Title Register and the Register of Indigenous Land Use Agreements and mediating native title claims (NSW Government, 1974 & DECCW 2010).

1.5.2.5 New South Wales Heritage Register and Inventory 1999

The State Heritage Register is a list of places and objects of particular importance to the people of NSW. The register lists a diverse range of over 1,500 items, in both private and public ownership. Places can be nominated by any person to be considered to be listed on the Heritage register. To be placed an item must be significant for the whole of NSW. The State Heritage Inventory lists items that are listed in local council's local environmental plan (LEP) or in a regional environmental plan (REP) and are of local significance.

1.5.2.6 Register of Declared Aboriginal Places 1999

The NPW Act protects areas of land that have recognised values of significance to Aboriginal people. These areas may or may not contain Aboriginal objects (i.e. any physical evidence of Aboriginal occupation or use). Places can be nominated by any person to be considered for Aboriginal Place gazettal. Once nominated, a recommendation can be made to EPA/OEH for consideration by the Minister. The Minister declares an area to be an 'Aboriginal place' if the Minister believes that the place is or was of special significance to Aboriginal culture. An area can have spiritual, natural resource usage, historical, social, educational or other type of significance. Under section 86 of the NPW Act it is an offence to harm or desecrate a declared Aboriginal place. Harm includes destroying, defacing or damaging an Aboriginal place. The potential impacts of the development on an Aboriginal place must be assessed if the development will be in the vicinity of an Aboriginal place (DECCW 2010).

1.5.3 Local Planning Instruments

1.5.3.1 Hawkesbury Local Environmental Plan 2012

The Hawkesbury City Council Local Environment Plan was endorsed in 2012. Heritage Conservation is discussed in Part 5; Clause 5.10. The following section highlights the archaeological considerations of a site in relation to developments:

5.10 Heritage conservation

(1) Objectives

The objectives of this clause are as follows:

- (a) to conserve the environmental heritage of Hawkesbury*
- (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*

(10) Conservation incentives

The consent authority may grant consent to development for any purpose of a building that is a heritage item or of the land on which such a building is erected, or for any purpose on an Aboriginal place of heritage significance, even though development for that purpose would otherwise not be allowed by this Plan, if the consent authority is satisfied that:

- (a) *the conservation of the heritage item or Aboriginal place of heritage significance is facilitated by the granting of consent, and*
- (b) *the proposed development is in accordance with a heritage management document that has been approved by the consent authority, and*
- (c) *the consent to the proposed development would require that all necessary conservation work identified in the heritage management document is carried out, and*
- (d) *the proposed development would not adversely affect the heritage significance of the heritage item, including its setting, or the heritage significance of the Aboriginal place of heritage significance, and*

- (e) *the proposed development would not have any significant adverse effect on the amenity of the surrounding area*

1.5.3.2 Hawkesbury Development Control Plan 2002

The Hawkesbury Development Control Plan was prepared by the Hawkesbury City Council in 2002. Part C; Chapter 10 deals with heritage of which the following sections address Aboriginal Cultural Heritage;

10.3.1 Indigenous Heritage

“Indigenous heritage consists of places and items that are of significance to Aboriginal people because of their traditions, observations, lore, customs, beliefs and history. It provides evidence of the lives and existence of Aboriginal people before European settlement through to the present.

Long before European settlement the Aboriginal people inhabited the Hawkesbury region. The Darug people are known to have occupied the area for more than 40,000 years. Before 1788 it is believed that up to 3000 Darug people lived in the Hawkesbury River Valley.

The Darug People of the Hawkesbury, the Marramarra clan, subsided around the rich and diverse Hawkesbury River, known as the Deerubbin. The Hawkesbury River played a significant role in the Darug People’s day to day subsistence and ceremonies, as such Aboriginal heritage sites occur throughout the Hawkesbury LGA.

The effective protection and conservation of this heritage is important in maintaining the identity, health and wellbeing of Aboriginal people.

10.6 Submission Requirements

If a development involving the excavation or filling of land or the erection (involving disturbance of land) or demolition of buildings on land which is an archaeological site that has Aboriginal significance or a potential archaeological site that is reasonably likely to have Aboriginal significance, an archaeological report adequately and appropriately addressing relevant issues is to be prepared by a suitably qualified professional.

1.5.4 Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales

This assessment conforms to the parameters set out in the Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales, Part 6 National Parks and Wildlife Act 1974, (DECCW 2010).

The Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales states that if;

- a desktop assessment and visual inspection confirm that there are Aboriginal objects or that they are likely, then further archaeological investigation and impact assessment is necessary.

1.5.5 Code of Practice for Archaeological Investigation of Aboriginal objects in New South Wales

Any further work resulting from recommendations should be carried out conforming to the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales, Part 6 National Parks and Wildlife Act 1974, (DECCW 2010).

1.5.6 Guidelines

This report has been carried out in consultation with the following documents which advocate best practice in New South Wales:

- Aboriginal Archaeological Survey, Guidelines for Archaeological Survey Reporting (NSW NPWS 1998);
- Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales, Part 6 National Parks and Wildlife Act 1974, (DECCW 2010);
- Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales, Part 6 National Parks and Wildlife Act 1974, (DECCW 2010);
- Aboriginal Cultural Heritage Standards and Guidelines Kit (NPWS 1998);
- Australia ICOMOS 'Burra' Charter for the conservation of culturally significant places (Australia ICOMOS 1999);
- Part 6; National Parks and Wildlife Act Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010);
- Protecting Local Heritage Places: A Guide for Communities (Australian Heritage Commission 1999).

1.6 ACKNOWLEDGEMENTS

The author would like to thank the following for advice and/or input into this assessment:

- | | |
|--|---|
| ➤ Mr P. Baigent and M. Walsh from Conrad Gargett; | ➤ [REDACTED] Widescope Indigenous Group; |
| ➤ Mr C. Aspen from MACE; | ➤ [REDACTED] |
| ➤ [REDACTED] LALC; | ➤ [REDACTED] Didge Ngunawal Clan; |
| ➤ [REDACTED] Kamilaroi-Yankuntjatjara Woring Group; | ➤ [REDACTED] Gunjeewong Cultural Heritage Aboriginal Corporation; |
| ➤ [REDACTED] Darug Aboriginal Cultural Heritage Assessments; | ➤ [REDACTED] Darug Aboriginal Land Care; |
| ➤ [REDACTED] A1 Indigenous Service; | ➤ Cullendulla; |
| ➤ [REDACTED] Amanda Hickey Cultural Services; | ➤ Murramarang; |
| ➤ [REDACTED] Aboriginal Archaeological Services; | ➤ Biamanga; |
| ➤ [REDACTED] Darug Custodian Aboriginal Corporation; | ➤ [REDACTED] Goobah Developments; |

2.0 DESCRIPTION OF STUDY AREA

The study site is that piece of land described as Lot 2 of the Land and Property Information Deposited Plan 1051798 forming the following street address 2 College Road, Richmond, within the Western Sydney University, Hawkesbury Campus, in the Parish of Ham Common, County of Cumberland.

The area shaded in red in Figure 2.1 is subject to this assessment as part of State Significant Development #8614.



Figure 2.1 Aerial of study area
Study area outlined in red. Six Maps, LPI Online (accessed 11/10/17).

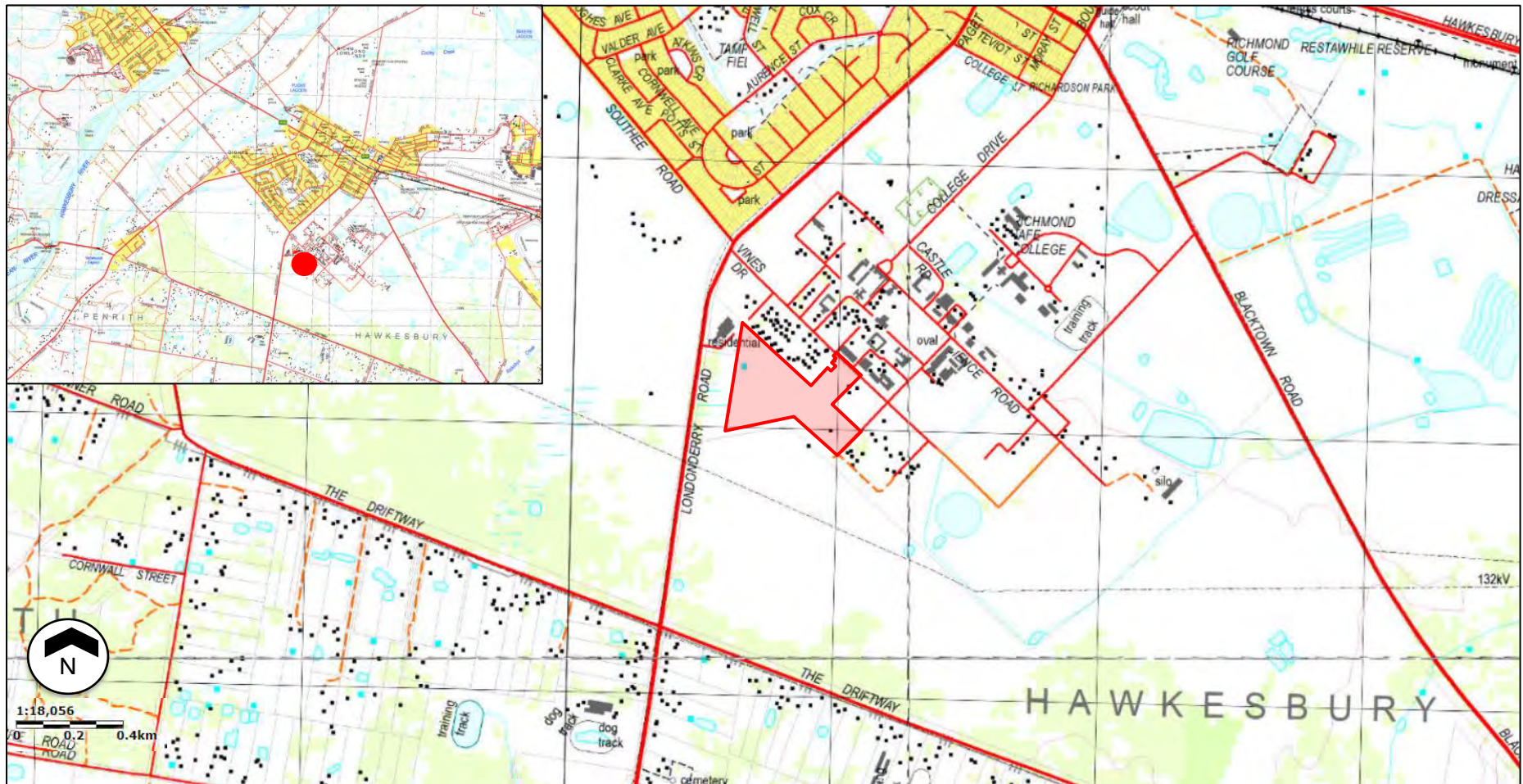


Figure 2.2 Topographic map with site location.
Study area outlined in black. Six Maps, LPI Online, accessed 11/10/2017.

2.1 REGISTERED ARCHAEOLOGICAL SITES WITHIN THE STUDY AREA

There are no registered sites within the study area that the author of this report is aware of. Test excavation resulted in no Aboriginal archaeological and cultural objects and/or deposits being located.

2.2 ENVIRONMENTAL CONTEXT

To adequately understand and assess the potential Aboriginal archaeological resource that may be present within the study area it is vital to understand the environment in which the Aboriginal inhabitants of the study area carried out their activities. The environment that Aboriginal inhabitants lived in is a dominant factor in shaping their activity and therefore the archaeological evidence created by this activity. Not only will the resources available to the Aboriginal population have an influence on the evidence created but the survival of said evidence will also be influenced by the environment.

2.2.1 Topography

The study area lies between the lower terraces of the Hawkesbury/Nepean River System. It intersects a number of major tributaries including South Creek and Agnes Banks.

The study area extends over one topographic zone, that belonging to the Berkshire Park (bp) alluvial landscape which consists of mostly flat terrace tops as well as gently undulating low rises, that have been modified to include small drainage channels and lines for agricultural purposes. The area can be prone to flooding and seasonal waterlogging.

2.2.2 Geology and Soils

The soil landscape map for the Penrith 1:100 000 map sheet shows that the study area lies on the Berkshire Park (bp) soil landscape (Bannerman & Hazelton, 1990).

The geology of the study area consists of three depositional phases of Tertiary alluvial/colluvial origin. This includes the following sandstone and clay formations, St Mary's overlain by the Rickabys Creek gravel formation, which varies in thickness across the region, and is then topped by the Londonderry Clay.

The Berkshire Park (bp) soil profile is made up of weakly pedal clays and clayey sands. In high wind erosion and sheet erosion is likely in cleared/ exposed areas.

N.B lower in the landscape where drainage conditions are poor there can be a thin (<20cm) layer of bp1 or bp2. On flats and drainage lines there can be up to 50cm of bp2. Most areas consist of 50cm of sandy clay (bp3) overlaying >50cm of high chroma clay (bp4) for a total depth of <450cm.

Table 2.1 Description of dominant soil material

Soil Material	Soil Horizon	Description
bp1	A1 Horizon	brownish black fine sandy loam to silt loam with apedal single grained structure and is very porous. Can also be found as bright reddish brown. Roots and charcoal do not occur.
bp2	A2 Horizon	reddish brown – yellowish brown sandy to fine sandy clay loam with a porous sandy fabric, however can be hardsetting.no inclusions.
bp3	B Horizon	brown sandy (slightly silty) clay with porous sandy fabric. It has a weak structure and may contain mottles, usually orange in colour, ironstone nodules are common.
bp4	B2 Horizon (deep subsoil)	bright coloured reddish brown to bright yellowish brown with white/ grey pipes are common as well as mottles of orange or red. This soil is light – heavy clay and can contain up to 90% stones.

2.2.4 Watercourses

The study area lies between two high order streams, the Hawkesbury River to the northwest - west approximate 3.7km and Rickabys Creek to the northeast - east 3.6km as well as having Yarramundi Lagoon located 3.1km to the northwest. There are a number of drainage channels and manmade dams within the vicinity as a result of European occupation and past land use as well as the area being within a swamp land (Figure 2.5)

2.2.5 Vegetation

The vegetation found in the study area is no longer in a native state and is comprised of a variety of introduced and noxious types of vegetation. This movement away from the natural vegetation is a result of previous land clearing for farming, residential and urban development.

These lands were cleared soon after European settlement due to the relatively high agricultural value of the soils upon which they are situated. The native vegetation of this area probably comprised of *Eucalyptus fibrosa* (broad leaved ironbark), *Angophora bakeri* (narrow leaved apple), *E. sclerophylla* (scribbly gum), *Melaleuca decora* and *M. nodosa* (paperbarks).

The shrub understorey would have been dominated by the following families; Fabaceae, Papilionaceae, Sapindaceae, Proteaceae and Myrtaceae. (Benson, 1981)

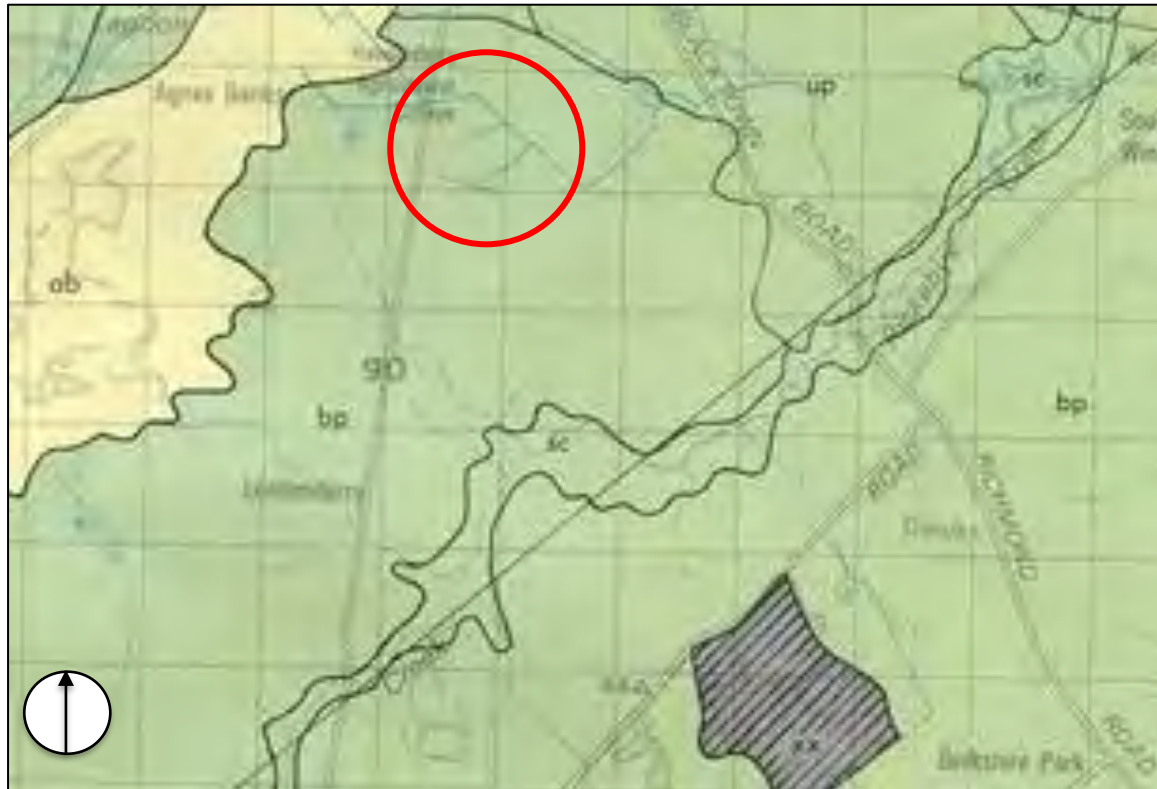


Figure 2.3 Sydney Soil Landscape 1:100 000 sheet map with approximate site location.
Study site outlined in red and located in birrongo soil landscape (bg) - Soil Landscapes of the Sydney 1:100 000 Sheet (Chapman & Murphy, 1989)

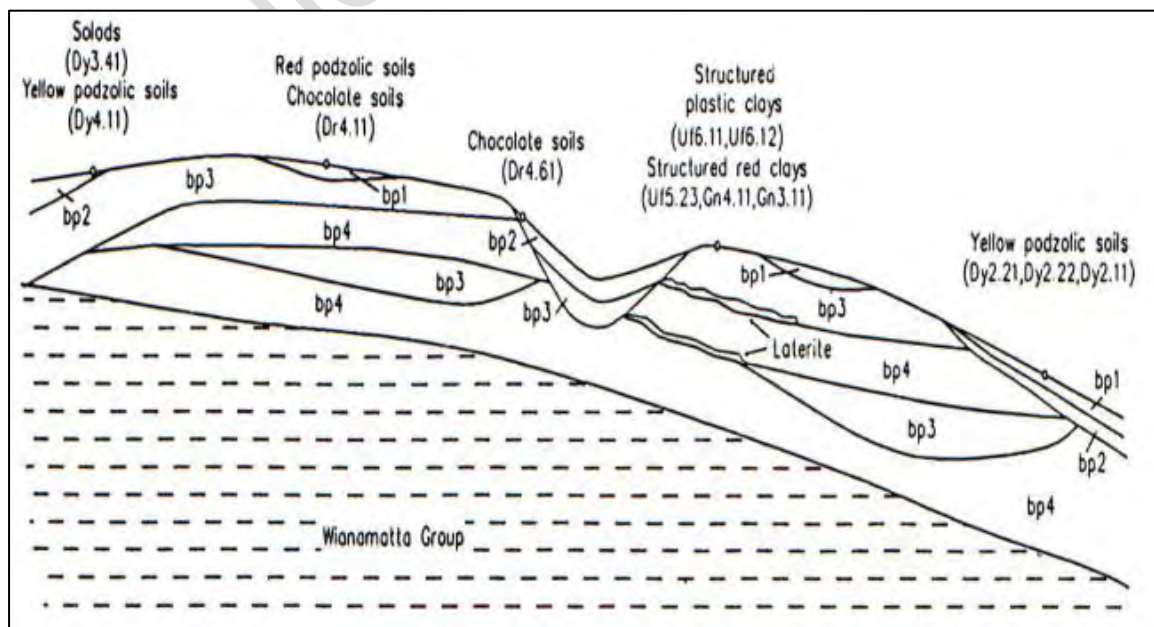


Figure 2.4 Cross Section of soil landscape illustrating relationships between landscape features and dominant soil materials.
Soil Landscapes of the Sydney 1:100 000 sheet (Chapman & Murphy, 1989)

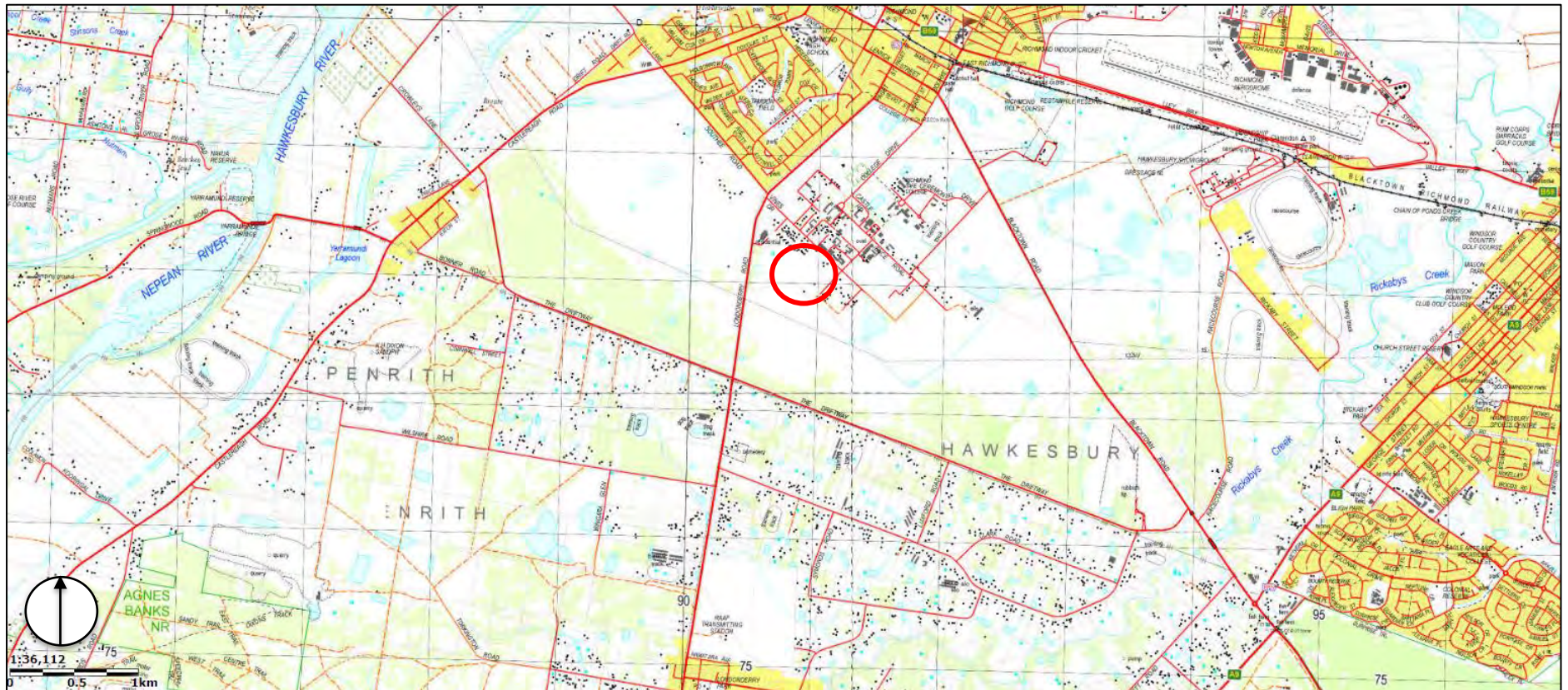


Figure 2.5 Topography Map indicating watercourses in blue
Study site indicated in red circle, Six Maps (2017)

2.3 LAND USE AND DISTURBANCE FACTORS

This section of the report provides an assessment of land use, the level of disturbance and the likely archaeological potential of the study area. The archaeological potential is based on the level of previous disturbance as well as the previously discussed predictive model for the region.

The Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales, Part 6 National Parks and Wildlife Act 1974, (DECCW 2010); defines disturbed lands as given below.

“Land is disturbed if it has been the subject of a human activity that has changed the land’s surface, these being changes that remain clear and observable. Examples include ploughing, construction of rural infrastructure (such as dams and fences), construction of roads, trails and tracks (including fire trails and tracks and walking tracks), clearing vegetation, construction of buildings and the erection of other structures, construction or installation of utilities and other similar services (such as above or below ground electrical infrastructure, water or sewerage pipelines, stormwater drainage and other similar infrastructure and construction of earthworks)”

This definition is based on the types of disturbance as classified in The Australian Soil and Land Survey Field Handbook (CSIRO 2010). The following is a scale formulated by CSIRO (2010) of the levels of disturbances and their classification.

Minor Disturbance		Moderate Disturbance		Major Disturbance	
0	No effective disturbance; natural	3	Extensive clearing (eg: poisoning and ringbarking)	6	Cultivation; grain fed
1	No effective disturbance other than grazing by hoofed animals	4	Complete clearing; pasture native or improved, but never cultivated	7	Cultivation; irrigated, past or present
2	Limited clearing (eg: selected logging)	5	Complete clearing; pasture native or improved, cultivated at some stage	8	Highly disturbed (quarrying, road works, mining, landfill, urban)

The above scale is used in determining the level of disturbance of the study area and its impact on the potential archaeology which may be present.

2.3.1 Aboriginal Land Use and Resources

The study area lies in a resource zone which had resources that may have been exploited on either a regular or repeated basis. Reliable access to fresh water may have been present nearby to the study area.

Sites containing fresh water and sedentary food sources, coupled with the presence of other resources which may have been exploited or available on a seasonal basis, would suggest that Aboriginal land use of the study area was regular and repeated, with this reflected in the archaeological record.

Concentrated and repeated occupation may be represented in areas that have reliable access to water and food sources. These areas will possess a high archaeological potential (Goodwin 1999).

Hawkesbury River provided a rich dietary intake for the local inhabitants, in which estuarine marine resources could be exploited. This is one of the major creek lines within the landscape that has been associated with Aboriginal activity. The accessibility of permanent water and resources along the bank would have channelled Aboriginal movement and land use to this location.

2.3.2 European Land Use

The site remained undeveloped and in its natural state until the late 19th Century when over 3,195 acres was removed in order to establish the Hawkesbury Agricultural College (Proudfoot 1987). The College was established in 1891 which it remains today. The study area has been subject to agricultural activity however, no developments have taken place within the project zone.



Figure 2.6 Aerial photograph of Agricultural College
Australian Aerial Photographs 56 5 416 (1939)



Figure 2.7 1901 Parish Map of Ham Common
Study area outlined in red. (Proudfoot 1987)

2.3.3 Disturbance and Archaeological Potential

It is important to note that the following assessments describe the archaeological potential of the study area. It is acknowledged that if the study area has little or no archaeological potential, the study area may still have cultural significance to the Aboriginal community.

Background research indicates that the entirety of the study area has been impacted on during the 19th Century – 21st Century for agricultural purposes which only pose an impact to the surface. The depth of the soil profile indicate intact soils may remain intact. There is no indication that any deep excavation, construction of basements or bulk soil removal has taken place. Given the nature of the predicted deep soil profile, research suggests that there is original soil profile left intact. The following is predicted;

Low/ Moderate disturbance to sections of the landscape: Sub-surface Aboriginal objects with potential conservation value have a low- moderate probability of being present within the study area.

2.3.3.1 Figure 2.8 – Disturbance Map

Moderate Disturbance (Orange)

The study area is shown in orange shading (Figure 2.8) based on its moderate disturbance on account to the area having been subject to complete clearing of native vegetation/ cultivation, as well as having been subject to surface disturbances with the construction of minor dwellings such as sheds. These activities have the ability to disturb the soil profile at a minor – moderate rate. There is no indication that any deep excavation, construction of basements or bulk soil removal has taken place. Given the nature of the deep soil profile predicted in the area, research suggests that there is original soil profile left intact including the A horizon which is the artefact bearing layer.

2.3.4 Exclusion Areas

No formal areas of exclusion have been identified in the current plans.



Figure 2.8

Disturbance classification of study area.

Orange indicates moderate disturbance. AMAC, Six Maps (accessed 13/10/17)

3.0 ABORIGINAL CONSULTATION

This section documents the requirements of the Aboriginal consultation process that should be undertaken as part of any Aboriginal archaeological and cultural heritage assessment where an Aboriginal Heritage Impact Permit (AHIP) or test excavation is required. Section 4.1 outlines the guidelines for Aboriginal consultation issued by the DECCW. Section 4.2 documents the steps taken for this Aboriginal cultural assessment and the outcomes of the consultation. Further information, including copies of correspondence to and from registered parties is included in Appendix A.

3.1 OEH CONSULTATION REQUIREMENTS

Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW 2010), referring to Part 6 Approvals under the NPW Act were released in April 2010. The responsibilities of the proponent when test excavation is to take place and/or permit under section 90 of the NPW Act are listed below.

<http://www.environment.nsw.gov.au/resources/cultureheritage/commconsultation/09781ACHconsultreq.pdf>

Stage 1 – Notification of project proposal and registration of interest

Stage 1 states that:

“4.1.2- Proponents are responsible for ascertaining, from reasonable sources of information, the names of Aboriginal people who may hold cultural knowledge relevant to determining the significance of Aboriginal *objects* and/or *places*. Reasonable sources of information could include (a) to (g) below. Proponents must compile a list of Aboriginal people who may have an interest for the proposed project area and hold knowledge relevant to determining the cultural significance of Aboriginal *objects* and/or *places* by writing to:

- (a) the relevant DECCW (sic) EPRG regional office
- (b) the relevant Local Aboriginal Land Council(s)
- (c) the Registrar, *Aboriginal Land Rights Act 1983* for a list of Aboriginal owners
- (d) the National Native Title Tribunal for a list of registered native title claimants, native title holders and registered Indigenous Land Use Agreements
- (e) Native Title Services Corporation Limited (NTSCORP Limited)
- (f) the relevant local council(s)
- (g) the relevant catchment management authorities for contact details of any established Aboriginal reference group.

4.1.3- Proponents must write to the Aboriginal people whose names were obtained in step 4.1.2 and the relevant Local Aboriginal Land Council(s) to notify them of the proposed project. The proponent must also place a notice in the local newspaper circulating in the general location of the proposed project explaining the project and its exact location. The notification by letter and in the newspaper, must include:

- (a) the name and contact details of the proponent
- (b) a brief overview of the proposed project that may be the subject of an application for an AHIP, including the location of the proposed project
- (c) a statement that the purpose of community consultation with Aboriginal people is to assist the proposed applicant in the preparation of an application for an AHIP and to assist the Director General of DECCW in his or her consideration and determination of the application
- (d) an invitation for Aboriginal people who hold cultural knowledge relevant to determining the significance of Aboriginal object(s) and/or place(s) in the area of the proposed project to register an interest in a process of community consultation with the proposed applicant regarding the proposed activity
- (e) a closing date for the registration of interests.

4.1.4- There must be a minimum of 14 days from the date the letter was sent, or notice published in the newspaper to register an interest. The time allowed to register an interest should reflect the project's size and complexity.

4.1.5- The proponent must advise Aboriginal people who are registering an interest that their details will be forwarded to DECCW and the Local Aboriginal Land Council (LALC) unless they specify that they do not want their details released.

4.1.6- The proponent must make a record of the names of each Aboriginal person who registered an interest and provide a copy of that record, along with a copy of the notification from 4.1.3 to the relevant DECCW EPRG regional office and LALC within 28 days from the closing date for registering an interest.

4.1.7- LALCs holding cultural knowledge relevant to determining the significance of Aboriginal objects and places in the proposed project area who wish to register an interest to be involved in consultation must register their interest as an Aboriginal organisation rather than as individuals.

4.1.8- Where an Aboriginal organisation representing Aboriginal people who hold cultural knowledge has registered an interest, a contact person for that organisation must be nominated. Aboriginal cultural knowledge holders who have registered an interest may indicate to the proponent they have appointed a representative to act on their behalf. Where this occurs, the registered Aboriginal party must provide written confirmation and contact details of those individuals to act on their behalf.

Stage 2 – Presentation of information about the proposed project

Stage 2 states that:

“4.2.1- The proponent must initiate arrangements for presenting the proposed project information to the registered Aboriginal parties (from Stage 1).

4.2.2- The presentation of proposed project information should provide the opportunity for:

- (a) the proponent to present the proposal, outline project details relevant to the nature, scope, methodology and environmental and other impacts

- (b) the proponent to outline the impact assessment process including the input points into the investigation and assessment activities
- (c) the proponent to specify critical timelines and milestones for the completion of assessment activities and delivery of reports
- (d) the proponent and registered Aboriginal parties to clearly define agreed roles, functions and responsibilities
- (f) the registered Aboriginal parties to identify raise and discuss their cultural concerns, perspectives and assessment requirements (if any).

4.2.3- The proponent should record or document that the proposed project information has been presented. This record or documentation should include any agreed outcomes, and any contentious issues that may require further discussion to establish mutual resolution (where applicable). The proponent should provide a copy of this record or documentation to registered Aboriginal parties.

4.2.4- Depending on the nature, scale and complexity of the proponent's project, it may be reasonable and necessary for the proponent to:

- (a) conduct additional project information sessions to ensure that all necessary information about the project is provided and enable registered Aboriginal parties to provide information about the cultural significance of Aboriginal object(s) and/or place(s) that may be present on the proposed project area
- (b) create the opportunity for registered Aboriginal parties to visit the project site" (DECCW 2010).

Stage 3 – Drafting, review and finalisation of the Cultural Heritage Assessment Report

Stage 3 states that:

"4.3.1- The proponent must present and/or provide the proposed methodology(s) for the cultural heritage assessment to the registered Aboriginal parties.

4.3.2- The registered Aboriginal parties must be given the opportunity to review and provide feedback to the proponent within a minimum of 28 days of the proponent providing the methodology. The review should identify any protocols that the registered Aboriginal parties wish to be adopted into the information gathering process and assessment methodology and any matters such as issues/areas of cultural significance that might affect, inform or refine the assessment methodology. Comments should be provided in writing, or may be sought verbally by the proponent and accurately recorded.

4.3.3- As part of this consultation, the proponent must also seek cultural information from registered Aboriginal parties to identify:

- (a) whether there are any Aboriginal objects of cultural value to Aboriginal people in the area of the proposed project
- (b) whether there are any places of cultural value to Aboriginal people in the area of the proposed project (whether they are Aboriginal places declared under s.84 of the NPW Act or not). This will include places of social, spiritual and cultural value, historic places with cultural significance, and potential places/areas of historic, social, spiritual and/or cultural significance.

4.3.4- Some information obtained from registered Aboriginal parties may be sensitive or have restricted public access. The proponent must, in consultation with registered Aboriginal parties, develop and implement appropriate protocols for sourcing and holding cultural information. In some cases the sensitive information may be provided to the proponent by an individual and the proponent should not share that information with all registered Aboriginal parties or others without the express permission of the individual.

4.3.5- Information obtained in 4.3.4 is used to understand the context and values of Aboriginal object(s) and/or place(s) located on the proposed project site. This information must be integrated with the scientific (archaeological) assessment of significance. Together the context, values, and scientific assessment provide the basis for assessing Aboriginal heritage values and recommending management options.

The information collected by the proponent during the consultation process must be used only to inform decision making for any application for an AHIP, unless the registered Aboriginal parties agree otherwise.

4.3.6- The proponent must seek the views of registered Aboriginal parties on potential management options. Management options will include ways to avoid or mitigate harm and/or conserve known Aboriginal object(s) and/or place(s). Management options should consider how Aboriginal people can continue their association with identified Aboriginal heritage values.

4.3.7- The proponent must document all feedback received in Stage 3 from registered Aboriginal parties in the final cultural heritage assessment report. This must include copies of any submissions received and the proponents response to the issues raised. In some cases this may require an acknowledgment of sensitive information and a list of Aboriginal people who should be contacted for permission to receive further details” (DECCW 2010).

Stage 4 – Review of draft cultural heritage assessment report.

Stage 4 states that:

“4.4.1- The proponent must prepare a draft cultural heritage assessment report.

4.4.2- The proponent must provide a copy of the draft cultural heritage assessment report to registered Aboriginal parties for their review and comment.

4.4.3- The proponent must give registered Aboriginal parties a minimum of 28 days from sending the draft report to make submissions. The time allowed for comment on the draft report should reflect the project’s size and complexity. Comments should be provided in writing or, where provided verbally, accurately recorded.

4.4.4- After considering the comments received on the draft report the proponent must finalise the report. The final report must include copies of any submissions received, including submissions on the proposed methodology and on the draft report. The final report must also include the proponent’s response to each submission. The report must then be submitted to DECCW for consideration with the proponent’s application for an AHIP.

4.4.5- The proponent must provide or make available copies of the final cultural heritage assessment report and the AHIP application to registered Aboriginal parties and the relevant LALC(s) (whether or not the LALC is registered in Stage 1). The report and application must be provided or made available within 14 days of the AHIP application being made” (DECCW 2010).

3.2 CONSULTATION SUMMARY

Consultation for this report has been undertaken in accordance with the Office of Environment and Heritage and National Parks and Wildlife Act 1974: Part 6; National Parks and Wildlife Act Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010).

All registered stakeholders were given a copy of a proposed Aboriginal Cultural Heritage research methodology and given 28 days to respond to the Aboriginal Cultural Heritage Assessment Research Design and Testing Methodology.

Archaeological test excavation has been undertaken and resulted in no Aboriginal archaeological and cultural objects and/or deposits being located. The findings of this investigation have been synthesised into a report *Aboriginal Test Excavation Report, New Hurlstone Agricultural High School, Hawkesbury Campus, 2 College Road, Richmond (Hawkesbury LGA)*. All registered parties were given 28 days to review and comment on this document. A full consultation log containing documented evidence and submissions can be available on request however as the testing programme resulted in no archaeological and/or cultural material, only a summary of the consultation has been supplied and a full log is not required.

All registered stakeholders were given a copy of a proposed Aboriginal Cultural Heritage Assessment. All registered parties will have the opportunity to review and comment on this document. All comments have been incorporated into this report.

Table 3.1 Consultation Summary

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4.0 BACKGROUND INFORMATION

Pre-field work research consisted of an analysis and synthesis of the background data to determine the nature of the potential archaeological and cultural heritage resource in the region.

Background research entailed a detailed review of sources of information on the history, oral history, ethno history and archaeological background of the study area and surrounds and will include but not be limited to material from:

- OEH archaeological assessment and excavation reports and cultural heritage assessments;
- OEH Library;
- State Library of NSW including the Mitchell Library;
- Local libraries and historical associations;
- National Library of Australia.

A search of the OEH AHIMS was undertaken and the results examined. The site card for each site within 1000m in all directions from the centre of the study area was inspected (where available) and an assessment made of the likelihood of any of the sites being impacted by the proposed development.

The OEH library of archaeological reports (Hurstville) was searched and all relevant reports were examined. Searches were undertaken on the relevant databases outlined in Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales, Part 6 National Parks and Wildlife Act 1974, (DECCW 2010);

Further to this the following sources were examined:

- The National Heritage List;
- The Commonwealth Heritage List;
- The NSW State Heritage Inventory;
- The National Native Title Register;
- The Register of Declared Aboriginal Places;
- Prevailing local and regional environmental plans;
- Environmental background material for the study area.

4.1 AHIMS SEARCH RESULTS

The Archaeological Heritage and Information Management System Database (AHIMS) is located at the OEH Offices at Hurstville in New South Wales. This database comprises information about all the previously recorded Aboriginal archaeological sites registered with OEH. Further to the site card information that is present about each recorded site, the assessments and excavation reports that are associated with the location of many of these sites are present in the library of reports.

The location of these sites) must be viewed as purely indicative as errors in the recording of the locations of sites often occurs due to the disparate nature of the

recording process, the varying level of experience of those locating the sites and the errors that can occur when transferring data. If possible, sites that appear to be located near a study area should be relocated.

An AHIMS extensive 1km search was conducted on the 15th September 2017 (ID 301800). This search resulted in four registered sites near the study area. The following table is comprised of the results listed from the extensive search.

Table 4.1 AHIMS Search Results

Site ID	Site name	Site status	Site features
45-5-1062	Richmond Markerplace 1;RM 1;	Valid	Artefact
45-5-2404	RWP 1;	Valid	Artefact
45-5-0652	HB14	Valid	Artefact
45-5-0651	HB13	Valid	Artefact

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Figure 4.1: AHIMS Search Results.

Registered sites indicated in blue with the study area indicated in purple. OEH (2017) Memory Map (2012) Topographic Map 1:25000 SE

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4.2 OTHER SEARCH RESULTS

Results for other statutory databases searched are given below;

- The study area does not appear on the National Heritage List (DSEWPC, 2012);
- The study area does not appear on the Commonwealth Heritage List (DSEWPC 2012);
- The study site does not appear on the State Heritage Register (DSEWPC, 2012).
- The study area does not appear on the Register of Declared Aboriginal Places (DECCW, 2012);

4.3 SUMMARY OF ARCHAEOLOGICAL PREDICTIVE MODEL FOR THE REGION

Predictive modelling is an adaptive process which relies on a framework formulated by a number of factors, including but not limited to the use of local land systems, the environmental context, archaeological work and any distinctive sets of constraints that would influence land use patterns. This is based on the concept that different landscape zones may offer different constraints, which is then reflected in the spatial distributions and forms of archaeological evidence within the region (Hall and Lomax 1996).

Early settlement models focused on seasonal mobility, with the exploitation of inland resources being sought once local ones become less abundant. These principles were adopted by Foley (1981) who developed a site distribution model for forager settlement patterns. This model identifies two distinctive types of hunter and gather settlements; 'residential base camps' and 'activities areas'. Residential base camps are predominately found located in close proximity to a reliable source of permanent water and shelter. From this point the surrounding landscape is explored and local resources gathered. This is reflected in the archaeological record, with high density artefact scatters being associated with camp bases, while low density and isolated artefacts are related to the travelling routes and activity areas (Figure 4.2) (Foley 1981).

However, more recently, investigation into understanding the impacts of various episodes of occupation on the archaeological record has been explored, of which single or repeated events are being identified. This is often a complex process to establish, specifically within predictive models as land use and disturbance can often result in post depositional processes and the superimposition of archaeological materials by repeated episodes of occupation.

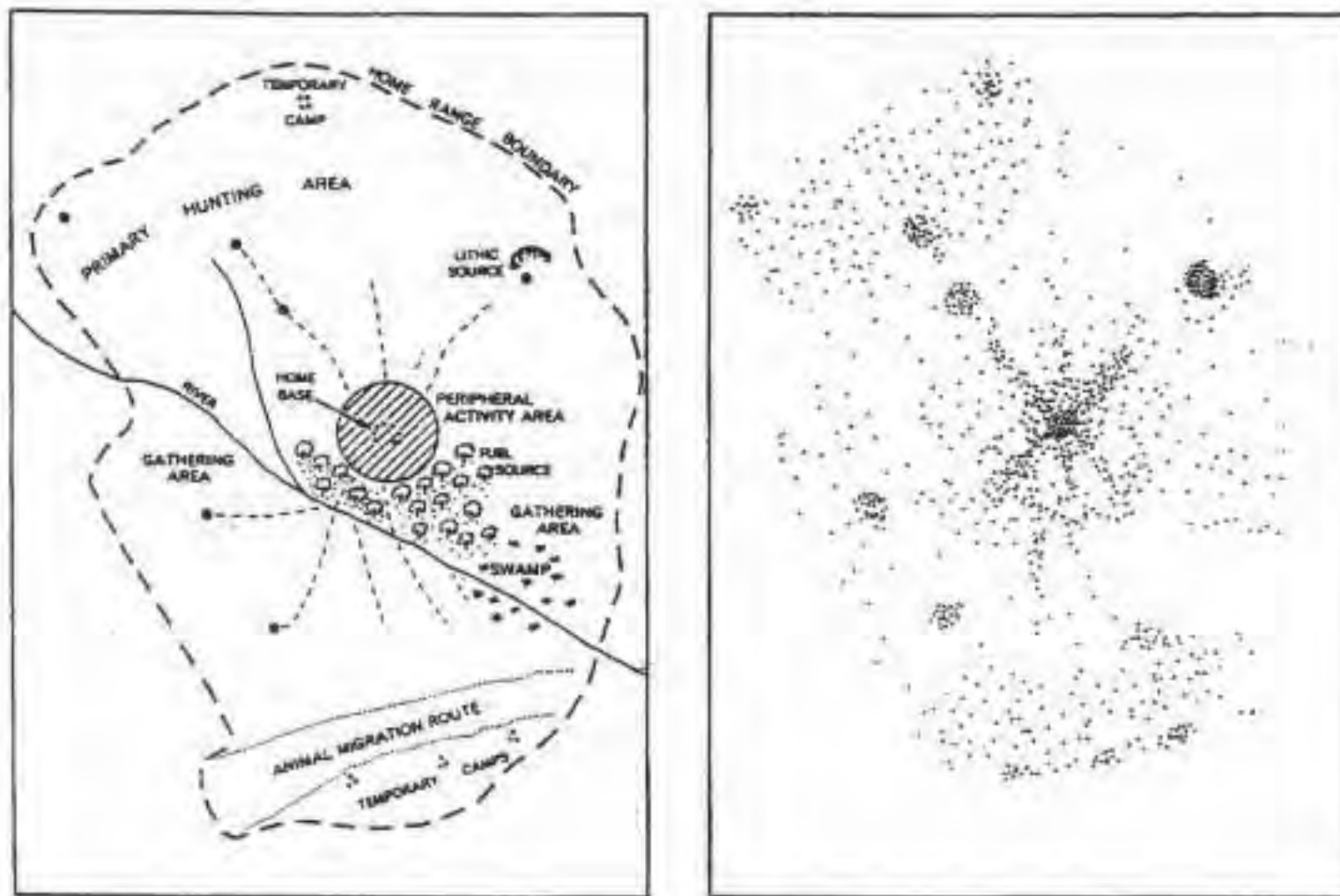


Figure 4.2 Examples of forager settlement patterns
Foley (1981)

The principals behind this model have been incorporated into other predictive models such as that of McBryde (1976). McBryde's model is centred on the utilisation of food resources as a contributor to settlement patterns, specifically with reference to the predictability and reliability of food resources for Aboriginal people within the immediate coastal fringe and/or hinterland zone, with migratory behaviour being a possibility. Resources such as certain species of animals, particularly; small marsupials and reptiles, plant resources and nesting seabirds may have been exploited or only available on a seasonal or intermittent basis. As such, archaeological sites which represent these activities whilst not being representative of permanent occupation may be representative of brief, possibly repeated occupation.

Jo McDonald and Peter Mitchell have since contributed to this debate, with reference to Aboriginal archaeological sites and proximity to water using their Stream order model (1993). This model utilises Strahler's hierarchy of tributaries (Figure 4.3). This model correlates with the concept of proximity to permanent water and site locations and their relationship with topographical units. They identify that artefact densities are greatest on terraces and lower slopes within 100m of water.

Intermittent streams however, also have an impact on the archaeological record. It was discovered that artefacts were most likely within 50 – 100m of higher (4th) order streams, within 50m (2nd) order streams and that artefact distributions around (1st) order streams was not significantly affected by distance from the watercourse. Landscapes associated with higher order streams (2nd) order streams were found to have higher artefact densities and more continuous distribution than lower order streams.

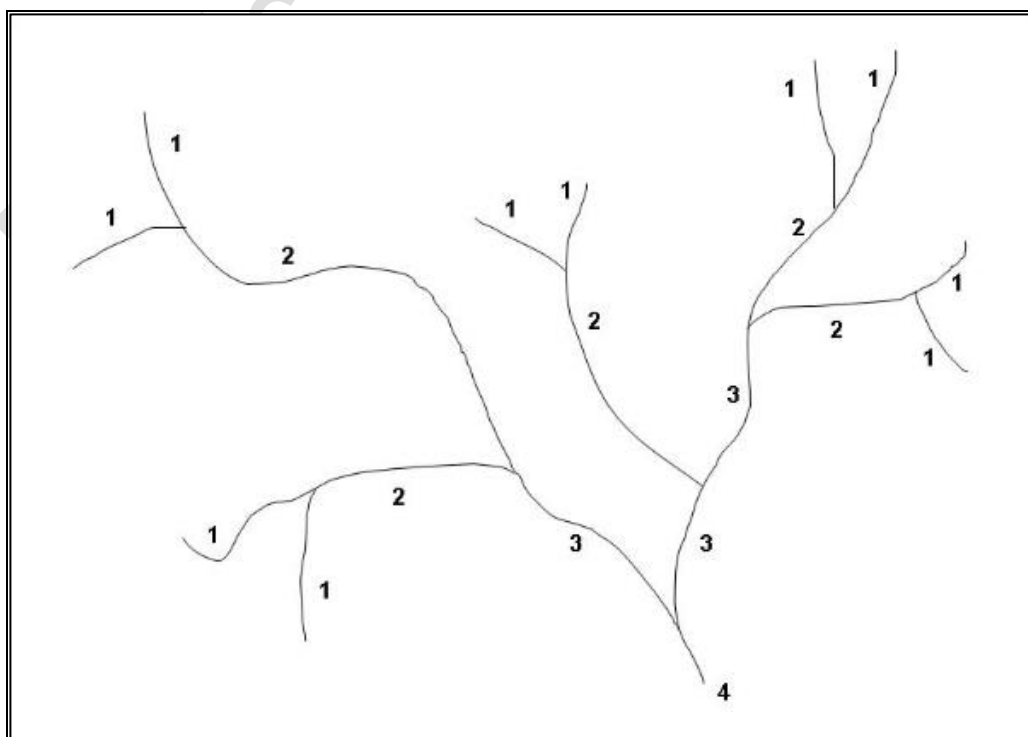


Figure 4.3 Strahler's hierarchy of tributaries
Strahler (1957)

Table 4.2 Relationship between landscape unit and site distribution for region

Landscape Unit /Site types	Site Distribution and activity
1st order stream	Archaeological evidence will be sparse and reflect little more than a background scatter
Middle reaches of 2nd Order Stream	Archaeological evidence will be sparse but focus activity (one off camp locations, single episodes and knapping floor)
Upper reaches of 2nd order stream	Archaeological evidence will have a relatively sparse distribution and density. These sites contain evidence of localised one-off behaviour.
Lower reaches of 3rd order stream	Archaeological evidence for frequent occupation. This will include repeated occupation by small groups, knapping floors (used and unused material) and evidence of concentrated activities.
Major creeklines 4th order streams	Archaeological evidence for more permanent or repeated occupation. Sites will be complex and may be stratified with a high distribution and density.
Creek junctions	This landscape may provide foci for site activity, the size of the confluence in terms of stream rankings could be expected to influence the size of the site, with the expectation of there being higher artefact distribution and density.
Ridge top locations between drainage lines	Ridge Tops will usually contain limited archaeological evidence, although isolated knapping floors or other forms of one off occupation may be in evidence in such a location.
Raw Materials near watersources	The most common raw materials are silcrete and chert in sites closer to coastal headlands, though some indurated mudstone/silicified tuff and quartz artefacts may also be found.
Grinding Grooves	Grinding Grooves may be found in the sandstone or shale/sandstone transition areas.
Scarred trees -	May occur in stands of remnant vegetation.
Ceremonial Sites	Consultation with relevant Aboriginal Stakeholder groups, individuals and review of ethnographic sources often reveal the presence of ceremonial or social sites.

This predictive model has been refined with focus on the dominant environment and landscape zones of the Cumberland Lowlands, such as the Wianamatta Group Shales, Hawkesbury Sandstone, Quaternary alluvium, Quaternary Aeolian and Tertiary alluvium. Attenbrow (2002) discovered that the Quaternary alluvial deposits had a greater concentration of archaeological sites, which is likely the result of these deposits being located towards major creeklines and rivers, such as Eastern Creek, Second Ponds Creek etc. Areas of alluvial deposits were found by Kohen (1986) to contain artefact scatters of a large and complex nature the closer they were to permanent creeks.

Umwelt (2004) have identified similar environmental – archaeological relationships which contribute to the mapping and modelling of archaeological sites, such as;

- The pattern of watercourses and other landscape features such as ridge lines affected the ease with which people could move through the landscape;
- Certain landscape features such as crests or gently sloping, well-drained landforms influenced the location of camping places or vantage points that provided outlooks across the countryside;
- The morphology of different watercourses affected the persistence of water in dry periods and the diversity of aquatic resources and so influenced where, and for how long, people could camp or procure food;
- The distribution of rock outcrops affected the availability of raw materials for flakes and ground stone tools;
- The association of alluvial, colluvial and stable landforms affects the potential that sites will survive;
- European land-use practices affect the potential for site survival and/or the capacity for sites to retain enough information for us to interpret the types of activities that took place at a specific location.

The Aboriginal Cultural Heritage Data Audit (DOP, 2005) produced the following table as part of the NSW Comprehensive Coastal Assessment Toolkit (DOP, 2005) which made the following statements outlined in table 4.3 about the predictive location of Aboriginal sites in Coastal NSW. These statements support the conclusions drawn in the following predictive model established for the study area. The study makes one very important claim which is that Aboriginal Ceremonial or Dreaming Sites can only be identified by Aboriginal community knowledge.

All models state that the primary requirement of all repeated, concentrated or permanent occupation is reliable access to fresh water. Brief and possibly repeated occupation may be represented in areas that have unreliable access to ephemeral water sources, however these areas will not possess a high archaeological potential (Goodwin 1999)

Table 4.3 Aboriginal Cultural Heritage Data Audit, Predictive Modelling for Coastal Aboriginal Sites, NSW.

Site Type	Archaeological/ Predictive Modelling
Aboriginal Ceremony and Dreaming Sites	Can only be identified on the basis of Aboriginal community knowledge.
Aboriginal Resource and Gathering Sites	Can occur at any location where plant and animal target species are found at present or were available in the past.
Art Sites:	All rock paintings or drawings and some rock engravings will occur within rock shelters/overhangs, most commonly within sandstone cliff lines and in granite boulder fields. Rock engravings may occur wherever there are suitable rock-surface exposures.
Artefacts:	Will occur in all landscapes with varying densities. Artefacts of greatest scientific significance will occur in stratified open contexts (such as alluvial terraces, sand bodies) and rock shelter floors.
Burials:	Most likely (but not always) to be buried in, or eroding from, sandy soils. Can occur within rock shelters/overhangs, most commonly within sandstone cliff lines and in granite boulder fields.
Ceremonial Ring Sites:	Environmental factors may be of particular importance in site location including association with sources of water, ridges, unstructured soils and geological boundaries. Distance to adjacent ceremonial ring sites may influence site location.
Conflict Sites:	Can only be identified on the basis of historical records and community knowledge.
Grinding Grooves:	Most likely to occur on surface exposures of sandstone. Occasionally occur within sandstone rock shelters.
Modified Trees	Will only occur where target tree species survive and if these are of an age generally greater than 100 years old.
Non-Human Bone and Organic Material Sites:	Will occur in any surface or buried context where preservation conditions allow. Most commonly survive in open shell midden sites and in rock shelter floor deposits.
Ochre Quarry Sites:	Can occur at any location where suitable ochre sources are found, either as isolated nodules or as suitable sediments (clays).
Potential Archaeological Deposits:	Can occur in all landscape types. PADs of greatest scientific significance will occur in stratified open contexts (such as alluvial terraces, sand bodies) and rock shelter floors.
Shell Middens:	Will occur as extensive packed shell deposits to small shell scatters in all coastal zones along beaches, headlands and estuaries, both in open situations and in rock shelters. May occur along rivers and creeks where edible shellfish populations exist or existed in the past.
Stone Arrangements	Tend to be on high ground, often on the tops of ridges and peaks commanding views of the surrounding country. Often situated in relatively inaccessible places.
Stone Quarry Sites:	Can occur at any location where suitable raw materials outcrop, including pebble beds/beaches.
Waterholes	May occur within any river or creek. Rare examples may occur in open exposures of rock.

4.4 ARCHAEOLOGICAL PREDICTIVE MODEL FOR THE STUDY AREA

The following section gives an indication of the likelihood of certain site types being located within the study area. These indications are based on the research and results of assessments and excavations in the vicinity of the study area and also from the greater Cumberland Region

Site Type	Research	Likelihood
Open Artefact Scatters	Higher order streams are located within the vicinity of the study area. The dearth of known reliable raw material source within nearby landscape units, would suggest that the artefacts may be significant in number but smaller in size, on account to greater levels of stone tool reduction. Excavations in the vicinity of the study area indicate the presence of deposits that are suggestive of concentrated and repeated occupation.	Likely within undisturbed parts of the study area.
Isolated Artefacts	Higher order streams are located within the vicinity of the study area. The dearth of known reliable raw material source within nearby landscape units, would suggest that the artefacts may be significant in number but smaller in size, on account to greater levels of stone tool reduction. Excavations in the vicinity of the study area indicate the presence of deposits that are suggestive of concentrated and repeated occupation.	Likely within undisturbed parts of the study area.
Grinding Grooves	Boulders of sandstone or outcrops can occur in the landscape, generally near watercourses.	Unlikely, none apparent in area.
Stone Resource Sites	Rock outcrops of suitable flaking material are almost absent from the soil landscapes represented within the study area.	Unlikely
Scarred Trees	Trees of sufficient age are not located within the study area due to land clearing.	Unlikely
Sandstone Shelters	The soil landscapes of the study area do not contain sandstone overhangs	Unlikely
Burials	Undisturbed sandy loam deposits do not lie within the study area and the soil landscapes in which the study area is located are generally acidic. Skeletal remains tend to decompose very quickly in acidic soil profiles.	Unlikely
Ceremonial Sites	Consultation with relevant Aboriginal parties and individuals is taking place, however it is possible that such information may become available in the future as a result of further consultation	Possible that Ceremonial/Social sites will be present within the study area

4.6 ARCHAEOLOGICAL CONTEXT

It is generally accepted that Aboriginal occupation of Australia dates back at least 40,000 years (Attenbrow 2002 p.20 - 21 & Kohen et al 1983). The result of this extensive and continued occupation which includes the Sydney region has left a vast amount of accumulated depositional evidence and the Cumberland Lowlands is no exception. The oldest date generally considered to be reliable for the earliest occupation around the region comes from excavations at Parramatta which contain objects or features which have been dated to 30,735 ± 407 BP (McDonald et al 2005).

The majority of reliably dated archaeological sites within the region are less than 5,000 years old which places them in the mid to late Holocene period. A combination of reasons has been suggested for this collection of relatively recent dates. There is an argument that an increase in population and 'intensification' of much of the continent took place around this time, leading to a great deal more evidence being deposited than was deposited as a result of the sparser prior occupation period. It is also the case that many archaeological sites along the past coastline may have been submerged as the seas rose approximately to their current level around 6,000 years ago. This would have had the effect of covering evidence of previous coastal occupation. In addition it is also true that the acidic soils which are predominate around the Sydney region do not allow for longer-term survival of sites (Hiscock 2008 p. 106).

Different landscape units not only influence the preservation of sites but can determine where certain site types will be located. Across the whole of the Sydney Basin, the most common Aboriginal archaeological site type is occupation evidence within Rock Shelters. However, the most common Aboriginal archaeological site type in the Cumberland Lowlands is Open Artefact Scatters or Open Campsites, which are locations where two or more pieces of stone show evidence of human modification. These sites can sometimes be very large, with up to thousands of artefacts and include other habitation remains such as animal bone, shell or fireplaces [known as *hearths*] (Attenbrow 2002 p. 75 – 76). Many hundreds of artefact sites have been recorded within the Cumberland Lowlands. This is despite the fact that at least 50% of the Cumberland Lowlands has already been developed to such an extent that any archaeological evidence which may have once been present has been destroyed.

4.7 THE DARUG AND GANDANGARA NATION

It is estimated that around 250 distinct languages were in use throughout the Australian continent at the time of contact. The exact number cannot be known for certain, however 250 is a conservative estimate. These languages fell within two language groups; the *Pama-Nyungan* and *Non Pama-Nyungan* languages.

Knowledge of the different language groups in a given area is variable. Early European recordings noted the names of particular Aboriginal individuals and groups, but were not always clear about which named groups represented a language rather than some other social grouping (Hardy and Streat 2008).

There were two known distinct language groups observed in the Cumberland Lowlands at the time of contact. Each one is likely to have had a number of dialects, but the observed language groups appear to have been the Darug and Gandangara. One of these language groups, the Darug, was divided into two dialects, a coastal dialect and a hinterland dialect; the later may have been spoken by the inhabitants of the Cumberland Lowlands (Attenbrow 2002).

The boundary between the territories of these two language groups and dialect groups is unclear. Attenbrow (2002) suggests that speakers of the hinterland dialect of the Darug were spread across the Cumberland Lowlands, from the Hawkesbury River in the north to Appin in the area south-west of the Georges River, Parramatta, the Lane Cove River and Berowra Creek. The Gandangara inhabited the southern rim of the Cumberland Lowlands, west of the Georges River and into the southern Blue Mountains. Kohen (1993) suggests that the boundary between the hinterland dialect speakers of the Darug language and the Gandangara was the Nepean River and the Gandangara occupied an area that “extended from the Blue Mountains at Hartley and Lithgow through the Burragong and Megalong Valleys at least as far as the Nepean River” (Kohen 1993 p. 13). This view is concurred with by the Australian Institute of Aboriginal And Torres Strait Islander Studies (2000). There may have been a significant amount of interaction both cultural and linguistic between these two nations and it is probable that the territorial boundary altered from time to time.

Within these large language groups resource access and ownership was centred on extended family groups or ‘clans’ which appear to have had ownership of land (Attenbrow 2002). As it was unlikely to be acceptable to find sexual partners within the family grouping and for other reasons such as resource sharing, a number of clans would often travel together in a larger group. These groups are referred to as *bands*. Whether the clan or the band was the most important group politically to an individual is likely to have varied from place to place. Group borders were generally physical characteristics of the landscape inhabited, such as waterways or the limits of a particular resource. Groups also shared spiritual affiliations, often a common dreaming ancestor, history, knowledge and dialect (Hardy 2008).

A wide variety of activities comprised the lifestyle of the Aboriginal groups across the Cumberland Lowlands. Some behaviours leave traces which can be retrieved by archaeological study of material remains. Many of these can only be reconstructed by oral history, observations of European explorers and ethnologists, and other forms of past recording such as photography or art. Some of the details of the complexity and sophistication of the past lifestyles of Aboriginal people in the area have been lost, but many can be reconstructed using the sources available.

4.8 PREVIOUS ARCHAEOLOGICAL STUDIES NEAR THE STUDY AREA

As part of the research process of this report the library of Archaeological assessments, test excavation and salvage excavation reports, which is located at the offices of OEH at Hurstville, was consulted. This list is by no means exhaustive and merely represents some of the more relevant recent studies that have taken place within the vicinity of the study area in the opinion of the author of this document.

Archaeological survey assessments by Kohen 1983, Kohen et al 1984, Dallas 1985, Brayshaw 1986, Mills 1998 and Therin 2001 & 2004, all identified Aboriginal sites or objects as part of archaeological survey assessments. Koetigg 1990, McDonald 1998, Casey & Lowe 2000, Ozark 2004, Therin 2004, AHMS 2006 and AHMS 2008, all conducted test excavations in the area and McDonald 1997 & 1998, conducted larger scale open area salvage excavation.

An archaeological survey conducted by James Kohen (1984) near Londonderry over three adjacent yet separate study locations covering an area of 67.9 hectares located seven distinct Aboriginal archaeological sites. These sites were named AB/2 – AB/8.

Site AB/2 consisted of one isolated retouched chert flake (thumbnail scraper). Site AB/3 consisted of three chert flakes located over an area of 70 square metres. Site AB/4 consisted of one isolated chert flake. Site AB/5 was the largest site located in this survey which consisted of 47 stone artefacts over an undetermined area. The assemblage comprised “one core, two steep scrapers, two sharp scrapers, three concave scraper, two flakes, two unifacial pebbles and 35 debitage flakes.” Site AB/6 consisted of one chert flake. Site AB/7 consisted of one isolated chert scraper. Site AB/8 consisted of two broken chert flakes. The recommendations of this report were that all sites could be destroyed if a permit was approved under the relevant sections of the NPW Act.

An archaeological survey was conducted by Mary Dallas (1985) in north Richmond for a residential housing development. This survey located eight distinct Aboriginal archaeological sites. These sites were named NR1 – NR7 and ISF 1. Sites NR1 – NR6 and ISF 1 were located in areas of land designated for open space as part of the development and as such were to be left undisturbed and intact. Site NR7 was located within an area that was to be impacted by the proposed development and the recommendation was that this site be preserved and the development plans accommodate the site.

An archaeological survey conducted by Helen Brayshaw and Laura Jane Smith (1986) as part of modifications to the rail line between Blacktown and Richmond located two new Aboriginal archaeological sites near Vineyard. These sites were named Open Site Vineyard 1 and Isolated Find Vineyard 1. Open Site Vineyard 1 occupied an area of 3380 square metres and consisted of 117 stone artefacts. A total of 96 % of these artefacts were silcrete with the remainder being made up of quartz, mudstone and petrified wood. The assemblage was dominated by flaked pieces of fine grained silcrete (99) as well as three cores and 15 flakes. Isolated Find Vineyard 1 was a multi-platform banded chert core. The recommendations of this report were that Isolated Find Vineyard 1 could be destroyed and Open Site Vineyard 1 undergo test excavation after receipt of a permit under the relevant sections of the NPW Act.

An archaeological survey conducted by Robynne Mills (1998) as part of residential housing development at Parklea located six new Aboriginal archaeological sites and three new Potential Archaeological Deposits (PAD's). These sites were named OWR-OS-1, PL-OS-1, PL-OS-2, ML-OS-1, ML-OS-2, ML-OS-1 and PAD'S 1-3. OWR-OS-1 and the associated PAD 1 consisted of nine silcrete artefacts (one multiplatformed core, one flake and six flaked pieces) over an area of 200 square metres. Site PL-OS-1 consisted of one silcrete artefact (manuport) and one chert artefact (flake) over an area of 1800 square metres. The recommendations of this report were that PL-OS-1, PL-OS-2, ML-OS-1, ML-OS-2, ML-OS-1 could be destroyed if a permit were approved under the relevant sections of the NPW Act after the visible surface artefacts were recorded and collected. PAD's 1 -3 and that site OW-OS-1 be left intact and undisturbed.

An archaeological survey conducted by Michael Therin (2001) adjacent to Windsor Road, Kellyville for a road widening development located a single site in the form of a lone silcrete flake, this site was called W1. The recommendations were that site W1 be destroyed after approval under the relevant sections of the NPW Act and that further bulk excavation be monitored by Aboriginal stakeholder groups. This survey also located nine sites in the form of four open campsites, four isolated artefacts and one stone quarrying site. Two possible scarred trees were relocated as part of this survey. These sites were called WBH 1 – WBH 9 and WHST 1 and 2. The recommendations were that a preliminary research permit be sought and test excavation be carried out throughout the areas of sites WBH 3, WBH 4, WBH 7 and WBH 8. It was also recommended that

after the test excavation the sites be destroyed with approval under relevant sections of the NPW Act. Sites WBH 1, WBH 2, WBH 5, WBH 6, WBH 9 and WBST 1 and 2 were not to be impacted by the development and would be left intact.

An archaeological survey conducted by Michael Therin (2004) in relation to the construction of a proposed cycleway, did not located any Aboriginal archaeological artefacts within the study area of the proposed development, Therin identified the potential for sub-surface archaeological artefacts on the basis of two nearby sites outside the study area and as such recommended that a permit for destruction under the relevant sections of the NPW Act. be applied for.

Archaeological test excavations were carried out by Margrit Koettig (1990) at the Waste Management depot at Londonderry. This excavation comprised 23 test trenches excavated along four transects at two separate localities. Only one artefact was recovered from this test excavation and as such the recommendations were that no further archaeological work was needed within the study area of the waste management depot.

Archaeological test excavations were carried out by Jo McDonald Cultural Heritage Management (1998) at the Water Reuse Facility at Richmond. This excavation comprised 40 1m x 1m test trenches excavated along five transects. A total of 69 artefacts were recovered from this test excavation. The stone artefact assemblage indicated that generalised (not specific) lithic flaking activity was carried out at the site. The recommendations were that no further archaeological work was needed within the study area of the Water Reuse Facility after the developer sought a destruction permit under the relevant section of the NPW Act.

Archaeological test excavations were carried out by OzArk (2000) over four PAD's along the Windsor Flood Evacuation Route. This excavation comprised 60 1m x 1m test trenches excavated along five transects. The stone artefact assemblage comprised 65.9% silcrete, 23.6% tuff, 3.8% quartz with the remainder being made up of chert, silicified wood and quartzite. The recommendations were that two parts of this study area be preserved and the remainder be destroyed in accordance with a permit under the relevant section of the NPW Act.

Archaeological test excavations were carried out by Michael Therin (2004) as part of the widening of Windsor Road between Rouse Hill and Vineyard. This excavation comprised 34 1m x 1m test trenches over four separate locations and a 16 square metre open area hand excavation. A total of 1986 artefacts were recovered from this test excavation. The recommendations were that no further archaeological work was needed within three of the four locations of the study area while one location which yielded the highest artefact density was recommended for salvage and destruction with approval under the relevant section of the NPW Act.

Archaeological test excavations were carried out by Archaeological and Heritage Management Solutions (2008) at Windsor Police Station. This excavation comprised 14 1m x 1m test trenches and ten square metre exploratory holes. A total of 24 artefacts made of silcrete, quartzite, tuff and chert, were recovered from this test excavation. The recommendations were that no further archaeological work was needed and destruction of the sites could take place following approval under the relevant section of the NPW Act.

In 1998 Jo McDonald Cultural Heritage Management completed a salvage excavation program at the corner of Baker and George Streets Windsor (BGW97). A total of 28 square metres was excavated and yielded 1586 stone artefacts of which 654 were conchoidally flaked artefacts. The excavated assemblage indicated that the production of small flakes such as geometric microliths was the most common activity practised at the site. Evidence suggests that completed artefacts were transported to and from the site while there is some evidence of intact microlith knapping floors. The recommendations of this report were that upon completion of the salvage excavation in accordance with the conditions of the permit the client had discharged their obligations with regard to Aboriginal Heritage and the site could be destroyed and the artefacts handed to the Deerubbin Local Aboriginal Land council for safe keeping.

The practical ramifications of the results of the above mentioned archaeological assessments and excavations indicates that there is a moderate to high potential for Aboriginal archaeological objects or deposits to be present within any intact original soil profiles located within study area. Higher order streams are located in the landscape units represented in the study area, chiefly the Hawkesbury River. The dearth of known reliable raw material source (outcrops of silcrete, chert or mudstone) within nearby landscape units, would suggest that the artefacts may be significant in number and smaller in size with a low percentage of cortex will be present in any assemblage located. This may be evident of greater levels of stone tool reduction due to the lower availability of raw materials. Excavations at locations in the immediate vicinity of the study area indicates the presence of deposits that are suggestive of concentrated and repeated occupation.

5.0 TEST EXCAVATION

Test excavation was undertaken over six days 06/12/17 – 13/12/17. The programme was conducted under the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales and consisted of the excavation of 51 test trenches (50cm x 50cm).

The footprint of the proposed development will encompass the majority of the site. The local for the building development will be towards the central and south-eastern surface area, with no exclusion zones proposed. The south-eastern area will accommodate the schools boarding accommodation facilities, while the central area will encompass the school grounds. A bridge will link the school grounds to the agricultural enterprise land on the north-western side of the stormwater drainage channel. The proposed development and associated infrastructure will impact the study area.

In review of the test excavation results, of which although intact soils were found to be present, the study area was absent of any Aboriginal objects and/or deposits or features of cultural significance. Therefore, further investigation is not warranted, and works may proceed with caution.

All RAPs present on site were informed of the status of the investigation and condition of the study area. They acknowledged the sterility of the A2 horizon and likelihood of the investigation resulting in no objects being location. They had no objections to the development taking place with caution.

6.0 CULTURAL HERITAGE RESPONSES

All registered stakeholders were given a copy of this report and were given a minimum of 28 days to comment on this report. All comments will be incorporated into this report. This section outlines the research questions and responses concerning the cultural heritage of the study area.

6.1 REGISTERED STAKEHOLDER QUESTIONS

All registered stakeholders were given a copy of a proposed Aboriginal Cultural Heritage Assessment (ACHA) research methodology and given 28 days to respond to this methodology.

The following is a questionnaire that was included with the ACHA methodology.

- Does the study area hold any social, spiritual or cultural values to the participating Aboriginal stakeholders? If so what are these values and are they confined to particular parts of the study area?
- Why are these parts or the whole of the study area culturally significant to the participating Aboriginal stakeholders?
- Are particular parts of the study area more important than others?
- Are any previously unidentified known culturally significant places present within the study area? If so where are they located?
- Are any previously unidentified Aboriginal objects or Aboriginal places present within the study area? If so where are they located?
- Are any previously unidentified natural or archaeological resources present within the study area? If so where are they located?
- Are there any traditional stories or legends associated with the study area?
- Are there any recollections of Aboriginal people living within the study area?
- Is there any information to suggest the presence of burials within the study area?
- Are any traditional flora or fauna resources associated with the study area?
- Does the study area have any sensory scenic or creatively significant cultural values? If so what are these values and are they confined to particular parts of the study area and where are they located?
- In what way, if any, will the proposed development harm the identified cultural heritage and archaeological values of the study area?
- Do the participants have suggestions on the mitigative strategies for the management of the cultural and archaeological values of the study area?
- Are there any gender specific cultural values associated with the study area which cannot be raised in a male presence?
- Are there any gender specific cultural values associated with the study area which cannot be raised in a female presence? If so how would the Aboriginal stakeholders like these dealt with?
- Do the participants have any concerns not yet raised in this interview?

6.2 REGISTERED STAKEHOLDER SUBMISSIONS TO QUESTIONS

There were no formal responses received from registered stakeholders.

6.3 REGISTERED STAKEHOLDER SUBMISSIONS TO ACHA

The following submissions were received in response to this Aboriginal Cultural Heritage Assessment. No other submissions were received from any other stakeholder.

6.3.1 Kamiliaroi – Yankuntjatjara Working Group

This content contains sensitive material and has been removed for public exhibition

6.3.2 Darug Aboriginal Land Care

This content contains sensitive material and has been removed for public exhibition

6.3.3 Darug Custodian Aboriginal Corporation

This content contains sensitive material and has been removed for public exhibition

7.0 SIGNIFICANCE ASSESSMENT

The processes of assessing significance for items of cultural heritage value are set out in *The Australian ICOMOS Charter for the Conservation of Places of Cultural Significance: the Burra Charter* (amended 1999) formulated in 1979 and based largely on the Venice Charter of International Heritage established in 1966. Archaeological sites may be significant according to four criteria, including scientific or archaeological significance, cultural significance to Aboriginal people, representative significance which is the degree to which a site is representative of archaeological and/or cultural type, and value as an educational resource. In New South Wales the nature of significance relates to the scientific, cultural, representative or educational criteria and sites are also assessed on whether they exhibit historic or cultural connections.

7.1 ARCHAEOLOGICAL SIGNIFICANCE

7.1.1 Educational Significance

The educational value of any given location will depend on the importance of any archaeological material located, on its rarity, quality and the contribution this material can have on any educational process (Australia ICOMOS, 1999 p. 11).

No archaeological and/or Aboriginal cultural material was located as a result of the programme of test excavation. Therefore, no educational significance can be assigned to the study area.

7.1.2 Scientific Significance

The scientific value of any given location will depend on the importance of the data that can be obtained from any archaeological material located, on its rarity, quality and on the degree to which this may contribute further substantial information to a scientific research process. (Australia ICOMOS, 1999 p.11).

No archaeological and/or Aboriginal cultural material was located as a result of the programme of test excavation. Therefore, no scientific significance can be assigned to the study area.

7.1.3 Representative Significance

The representative value of any given location will depend on rarity and quality of any archaeological material located and on the degree to which this representativeness may contribute further substantial information to an educational or scientific research process. (Australia ICOMOS, 1999 p.11).

No archaeological and/or Aboriginal cultural material was located as a result of the programme of test excavation. Therefore, no representative significance can be assigned to the study area.

7.2 SOCIAL AND CULTURAL SIGNIFICANCE

As defined in the 'Burra Charter' (ICOMOS, 1999) cultural significance is broken into three parts: aesthetic, historic and scientific value for past, present or future generations. Cultural significance is a concept which assists in estimating the value of any given place. Places that are likely to be of significance are those which can contain information which may assist with the understanding of the past or enrich the present, and which will

be of value to future generations. The meaning of these terms in the context of cultural significance is outlined below. It should be noted that they are not mutually exclusive, (Australia ICOMOS, 1999 p.12).

7.2.1 Historic Significance

A place may have historic value because it has influenced, or has been influenced by, an historic figure, event, phase or activity. It may also have historic value as the site of an important event. For any given place the significance will be greater where evidence of the association or event survives in situ, or where the settings are substantially intact, than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains significance regardless of subsequent treatment. (Australia ICOMOS, 1999 p.11).

No specific historic significance has been assigned by registered Aboriginal parties.

7.2.2 Scientific Significance

The scientific value of any given location will depend on the importance of the data that can be obtained from any archaeological material located, on its rarity, quality and on the degree to which this may contribute further substantial information to a scientific research process. (Australia ICOMOS, 1999 p.11).

No specific scientific significance has been assigned by registered Aboriginal parties.

7.2.3 Aesthetic Significance

Aesthetic value includes aspects of sensory perception for which criteria can and should be stated. Such criteria may include consideration of the form, scale, colour, texture and material of the fabric; the smells and sounds associated with the place and its use. (Australia ICOMOS, 1999 p.11).

No specific Aesthetic significance has been assigned by registered Aboriginal parties.

8.0 PROPOSED ACTIVITY

This section outlined the proposed activity including the staging and timeframes along with the potential harm of the proposed activity on Aboriginal objects and or declared Aboriginal places, assessing both the direct and indirect result of the activity on any cultural heritage values associated with the study area.

It also aims to outline the justification for harm with the intention of avoiding and minimising harm where possible.

8.1 DESCRIPTION OF PROPOSED ACTIVITY

The proposed activity is for the state significant development (SSD) # 8614 of a new agricultural high school building complete with four new buildings and boarding accommodation. The design will include greenhouse horticultural enclosure, gym, learning facilities and recreational areas, solar panelling as well as landscaping. The building heights vary slightly, the highest point is 14.34m. No basement has been proposed.

The building development will encompass half the surface area with no exclusion zones proposed. One side will be the school divided by a water channel a bridge will link to the agricultural enterprise.

The proposed development will impact and harm any objects and/or deposits of Aboriginal and/or archaeological significance. Test excavation has been proposed under the Code of Practice (DECCW 2010), to assess the level of disturbance of the site and the potential harm that may be the result of the proposed activity. The results of said excavation will assist in minimising harm to Aboriginal objects and/or places, if present.

No formal areas of exclusion have been identified in the current plans.

8.2 PROPOSED DEVELOPMENT JUSTIFICATION

The new Hurlstone Agricultural High School (Hawkesbury) at Western Sydney University (WSU), Richmond, will be an academically selective STEM Agricultural high school for 1,500 students (including 300 boarders from across NSW).

The new school will be the most advanced agricultural high school in Australia, to benefit from a unique partnership with Western Sydney University's School of Science and Health, to facilitate the highest quality agricultural and STEM focussed research experience.

The integrated model of high school-university framed education under development for the school, will infuse critical stages of the educational experience, with the intensive agricultural and STEM innovations required to build Australia's competitive advantage in this rapidly expanding sector of our economy. Students at the new school will have access to the university's world leading science, agricultural, STEM & environmental research facilities, as well as the extensive tracts of farm land, suitable for both intensive & progressive farming practices.

The new school's facilities will include interactive learning spaces, designed to incorporate the findings of the DoE's Future Learning Unit, state of the art boarding accommodation, sporting and science laboratories all with full WIFI connectivity.

8.3 POTENTIAL HARM TO ABORIGINAL OBJECTS AND CULTURAL HERITAGE

No Aboriginal objects and/or features of cultural and archaeological significance were located during the programme of test excavation. The A2 horizon was found to be present over the site. However, in review of the results and level of sterility of the soil, there is a low- nil possibility of their being artefacts present and works may proceed with caution.

8.4 ASSESSING HARM

No Aboriginal objects and/or features of cultural and archaeological significance were located during the programme of test excavation. The A2 horizon was found to be present over the site. However, in review of the results and level of sterility of the soil, there is a low- nil possibility of their being artefacts present and works may proceed with caution.

8.5 AVOIDING AND MINIMISING HARM TO ABORIGINAL OBJECTS

No Aboriginal objects and/or features of cultural and archaeological significance were located during the programme of test excavation. The A2 horizon was found to be present over the site. However, in review of the results and level of sterility of the soil, there is a low- nil possibility of their being artefacts present and works may proceed with caution.

8.6 JUSTIFICATION OF HARM TO ABORIGINAL OBJECTS

No Aboriginal objects and/or features of cultural and archaeological significance were located during the programme of test excavation. The A2 horizon was found to be present over the site. However, in review of the results and level of sterility of the soil, there is a low- nil possibility of their being artefacts present and works may proceed with caution.

8.7 ECOLOGICALLY SUSTAINABLE DEVELOPMENT AND INTERGENERATIONAL EQUITY

The ability of any development to be completely ecologically sustainable will be limited by definition. However, the proponents of this development appear to have made significant efforts to meet the needs of the current generation without compromising the ability of future generations to meet their own needs. This has been accomplished by proposing a plan on a manageable and affordable scale while still protecting and conserving the archaeological resources. This is being accomplished by a program of subsurface test excavation with the possibility of further salvage excavation if needed as well as extensive consultation with the relevant Aboriginal community.

Inter- generational equity refers to the equitable sharing of resources between current and future generations. The planet's current generation should ensure that future generations have the same opportunities and resources available. This idea is being

accomplished by designing a building with as little disturbance to the ground surface as possible and as such any archaeological or cultural material that may be present in these areas either identified or unidentified will be left intact and persevered for future generations.

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Site Plan

Figure 8.1: Proposed Site Plan
Conrad Gargett/Ancher Mortlock Woolley (2017) HASH-00-DD-AR-DR-1001-C

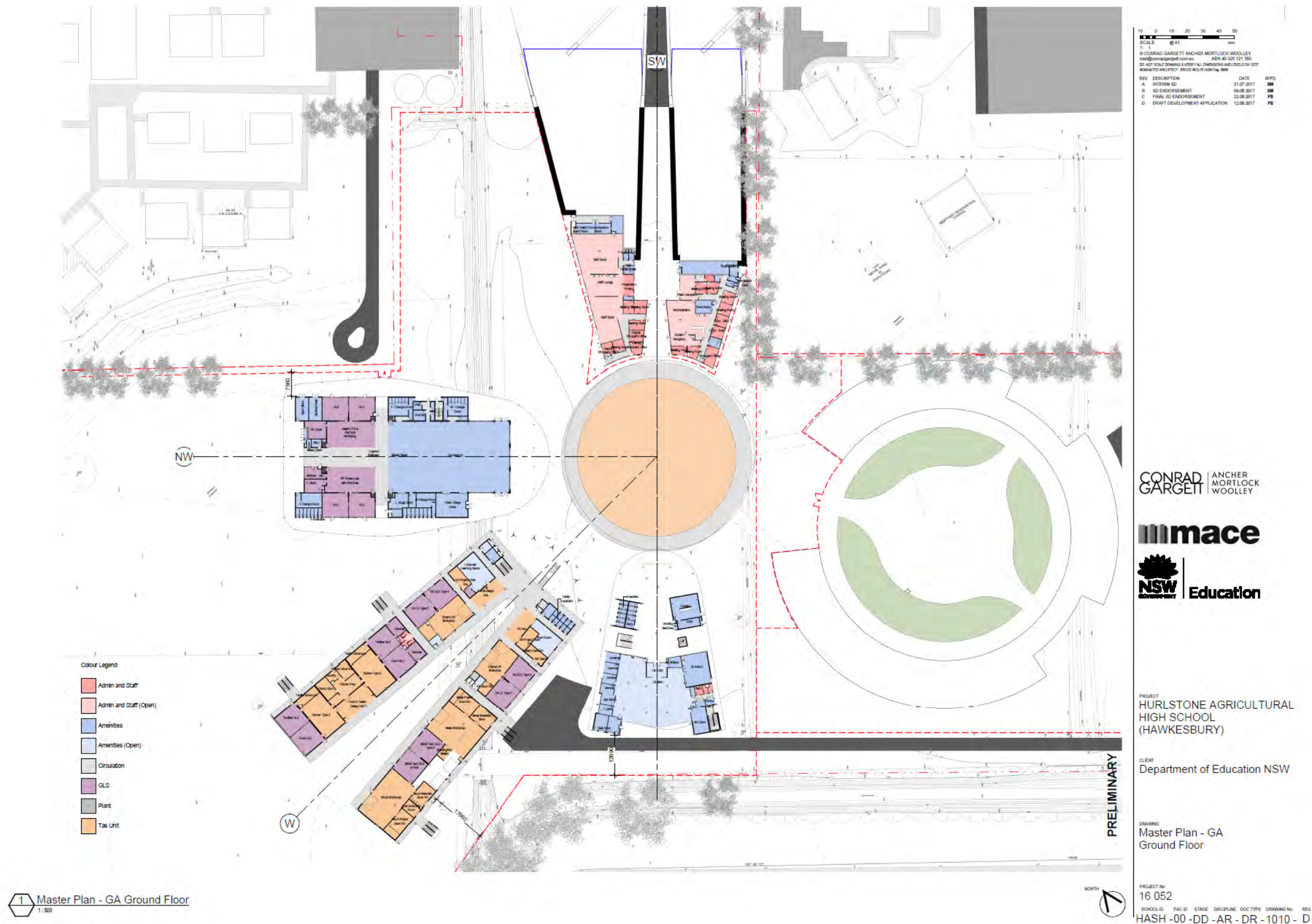


Figure 8.2 Proposed Master Plan – GA, Ground Floor
Conrad Gargett, Ancher Mortlock Woolley (2017) HASH-00-DD-AR-DR-1010-C



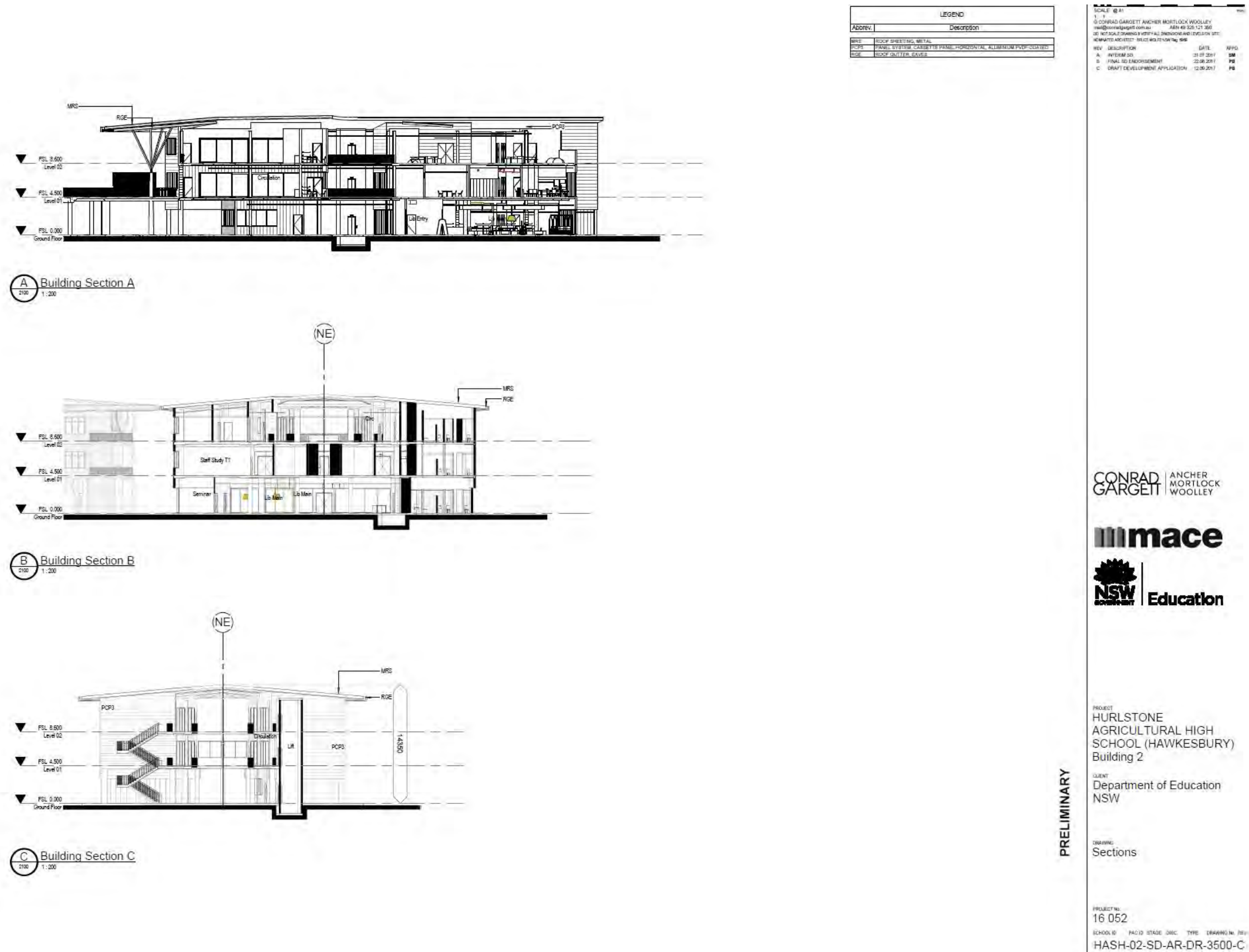


Figure 8.4: Proposed Sections Building 2
Conrad Gargett Ancher Mortlock Woolley (2017) HASH-02-SD-AR-DR-3500-C

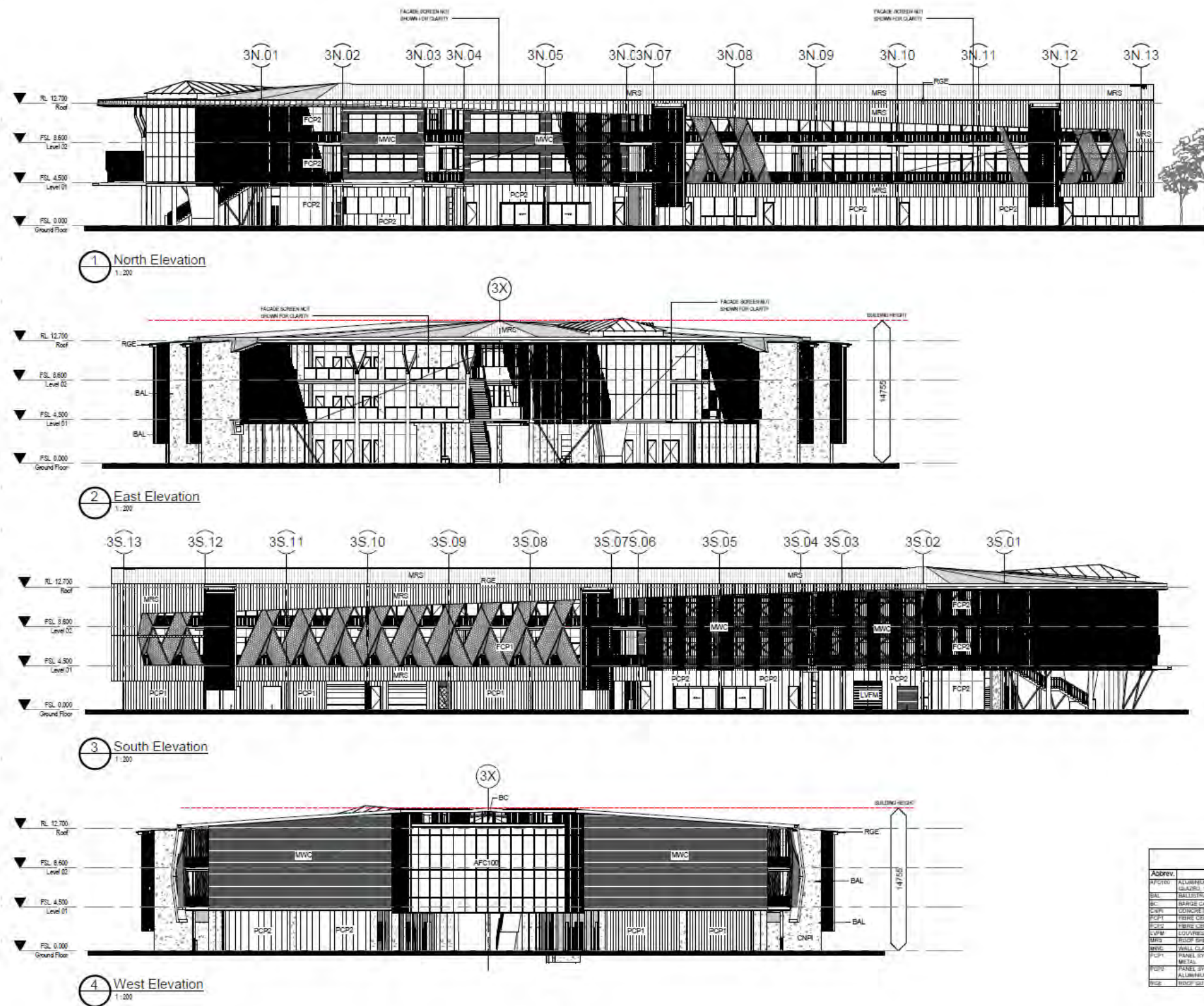


Figure 8.5 Proposed Sections Building 3
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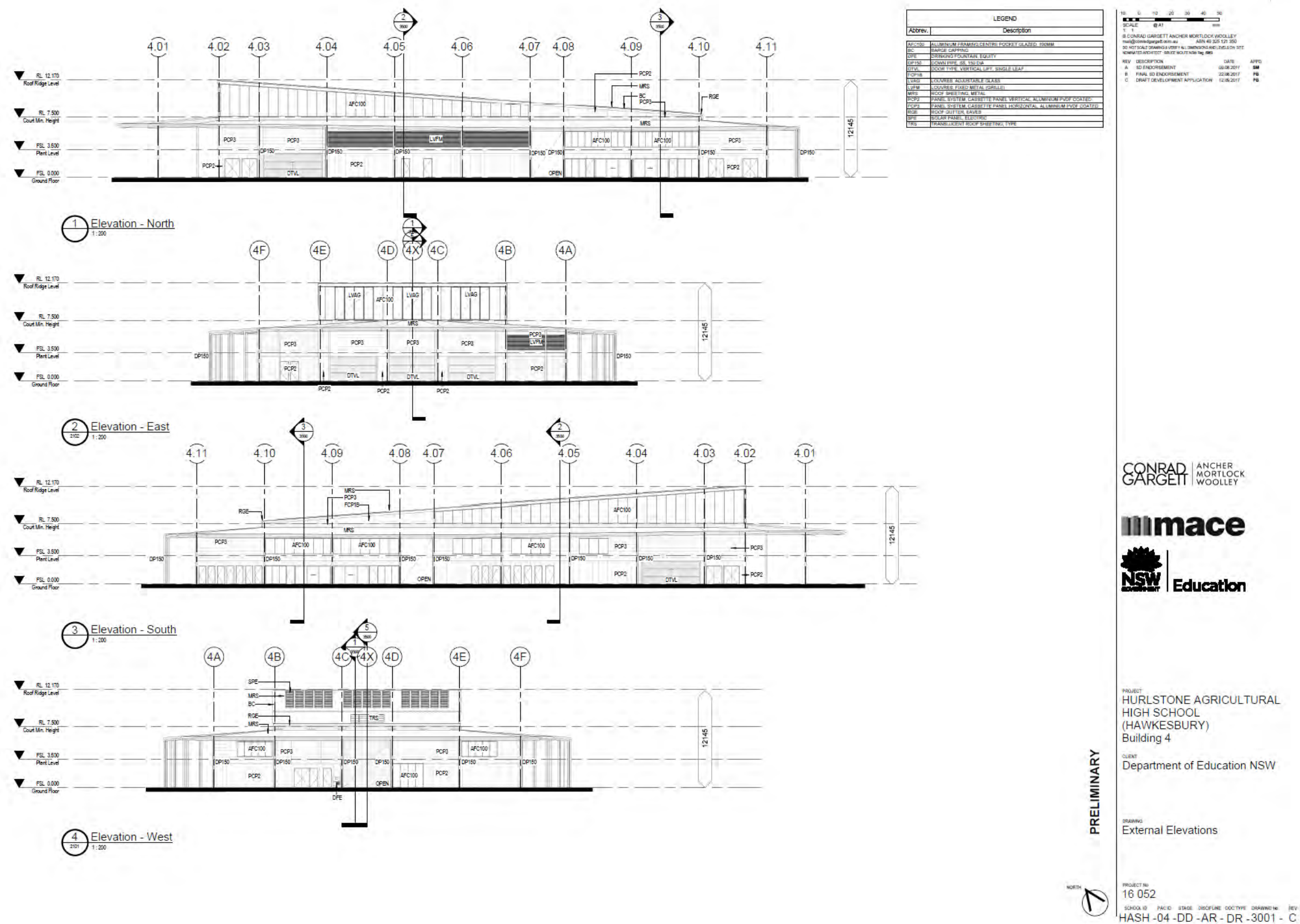


Figure 8.6 Proposed Sections Building 4
Conrad Gargett, Ancher Mortlock Woolley (2017) HASH-04-DD-AR-DR-3001-C

9.0 MANAGEMENT AND MITIGATION

The management recommendations presented in the following section of the report take into account the following:

- Legislation outlined in this report which protects Aboriginal cultural and archaeological objects and places in New South Wales;
- Research and assessment carried out by the author/s of this report;
- Results of previous archaeological assessment and excavation in the vicinity of the study area;
- The concerns and views of the Aboriginal stakeholders listed in this report;
- The impact of the proposed development on any Aboriginal archaeological material that may be present;
- The requirements of the consent authority (Hawkesbury City Council).

9.1 CARE AND CONTROL

If any archaeological material is recovered it shall be subject to a care and control agreement established after the nature and significance of the archaeological or cultural material is understood as per requirement 26 of the Code of Conduct for the investigation of Archaeological objects in NSW.

9.2 RECOMMENDATIONS

The findings from the test excavation indicate the site to be of nil-low archaeological significance, intact A horizon was present onsite, however no Aboriginal objects and/or deposits of cultural significance were located, therefore the development should be allowed to proceed with caution.

The recommendations have been formulated after consultation with RAPs, the proponent and the OEH after issue of the development application plans (Figure 8.1 – Figure 8.5).

- Consultation with the registered Aboriginal stakeholders should continue. Stakeholders have been given the opportunity to comment on the recommendations of this report and these comments are included in this report;
- An Aboriginal Cultural Heritage Management Plan should be devised as a final document for the study area when State Significant Development (SSD) status (SSD #8614), in order to manage any unexpected Aboriginal archaeological and cultural constraints that may arise;
- Archaeological test excavation in accordance with Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales, Part 6 National Parks and Wildlife Act 1974, (DECCW 2010) revealed no Aboriginal archaeological objects or deposits; the development as shown (Figures 8.1 – 8.5) should be allowed to 'proceed with caution';
- After this and before any ground disturbance takes place all development staff, contractors and workers should be briefed prior to works commencing

on site as to their responsibilities regarding any Indigenous archaeological deposits and/or objects that may be located during the following development;

If any Aboriginal archaeological deposits and/or objects are located during the development, then the following should take place;

- All work is to cease in the immediate vicinity of the deposits and/or objects
- The area is to be demarcated
- OEH, a qualified archaeologist and the participating RAPs are to be notified.

Should any human remains be located during the following development;

- All excavation in the immediate vicinity of any objects of deposits shall cease immediately;
- The NSW police and OEH's Enviroline be informed as soon as possible:
- Once it has been established that the human remains are Aboriginal ancestral remains, OEH and the relevant Registered Aboriginal Parties will identify the appropriate course of action.

Additional Recommendations

Copies of the final version of this report should be forwarded to the following organisations:

- | | |
|---|--|
| ➤ Mr P. Baigent and M. Walsh from Conrad Gargett; | ➤ Darug Custodian Aboriginal Corporation; |
| ➤ Deerubbin LALC; | ➤ Widescope Indigenous Group; |
| ➤ Kamilaroi-Yankuntjatjara Working Group; | ➤ Didge Ngunawal Clan; |
| ➤ Darug Aboriginal Cultural Heritage Assessments; | ➤ Gunjeewong Cultural Heritage Aboriginal Corporation; |
| ➤ A1 Indigenous Service; | ➤ Darug Aboriginal Land Care; |
| ➤ Amanda Hickey Cultural Services; | ➤ Cullendulla; |
| ➤ Aboriginal Archaeological Services; | ➤ Murramarang; |
| | ➤ Biamanga; |
| | ➤ Goobah Developments |

GLOSSARY

Term	Definition
Aboriginal/ Aborigine	These terms apply to indigenous Australians throughout time.
Aboriginal Object	A term now used (formerly 'relic') within the NSW <i>National Parks and Wildlife Act, 1974</i> to refer to "...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."
AHIP	Aboriginal Heritage Impact Permit, issued under Part 6 of the National Parks and Wildlife Act 1974, where harm to an Aboriginal object or Aboriginal place cannot be avoided.
Alluvial	Describes material deposited by, or in transit in flowing water.
AMAC	Archaeological Management and Consulting Group.
Artefact	Any object, usually portable, that has been made or shaped by human hand.
Assemblage	A collection of artefacts found in close proximity with one another often excavated together.
Axe grinding Grooves	Areas on a stone surface where other items such as stone tools, wood or bones have been sharpened.
Basalt	A dark coloured, basic volcanic rock.
Bioturbation	Reworking of sediments through the action of ground dwelling life forms. This can also include soil cracking and root activity.
Broken Flake	A flake fragment which displays only part of the diagnostic features of a complete flake.
BP	Before present (AD1950).
Burial	Sites containing the physical remains of deceased Aboriginal people.
Ceremonial Sites	Places or objects of ceremonial, religious or ritual significance to Aboriginal people.
Chert	A hard siliceous rock suitable for flaking into tools.
DCP	Development Control Plan.
DP	Deposited Plan.
Erosion	Process where particles are detached from rock or soil and transported away principally via water, wind and ice.
Flake	A piece of stone, detached by striking a core with another stone.
Flaking/Knapping	The process of making stone tools by detaching flakes from a piece of stone.
Friable	Easily crumbled or cultivated.
Hard setting	Soil which is compact and hard. It appears to have a pedal structure when dried out.
Heritage Division	Formerly known as the Heritage Branch
Holocene	The period of time since the last retreat of the polar icecaps, commencing approximately 10,000 – 110,000
Intensification	Increased social and economic complexity.

Term	Definition
Landscape Unit	An area of land where topography and soils have distinct characteristics, are recognisable, describable by concise statements and capable of being represented on a map.
Laminite	A thinly bedded, fine grained sedimentary rock.
LEP	Local Environment Plan.
LGA	Local Government Area.
Lithics	A term used to describe stone and stone artefacts.
Loam	A medium textured soil of approximate composition of 10-25% clay, 25-50% silt and 2% sand.
Loose	A soil which is not cohesive.
Matrix	Finer grained fraction, typically a cementing agent within soil or rock in which larger particles are embedded.
Midden	Aboriginal occupation site consisting chiefly of shells, which can also include bone, stone artefacts and other debris.
NPW Act	National Parks and Wildlife Act 1974
OEH	NSW Office of Environment and Heritage (formerly known as the DECCW)
Open Campsite	A surface accumulation of stone artefacts and/ or other artefacts exposed on the ground surface.
Potential Archaeological Deposit (PAD)	An area where no surface archaeological remains are visible but where it has been assessed that there is some potential for sub-surface archaeological remains to be present.
Ped	An individual, natural soil aggregate.
Pedal	Describes a soil in which some or all of the soil material occurs in the form of peds in a moist state.
Pleistocene	The epoch of geological time starting 1.8 million years ago.
Quartz	Common mineral with naturally sharp edges and poor fracturing properties. Colour ranging from clear, to milky white and pink.
Quartzite	Homogenous medium to coarse grained metamorphosed sandstone.
Rock Painting	Encompassing drawing, paintings or stencils that have been placed on a rock surface usually within a rock shelter.
Rock Engraving	Pictures which have been carved, pecked or abraded into a rock surface, usually sandstone and predominantly open, flat surfaces.
Sandstone	A detrital sedimentary rock with predominantly sand sized particles.
Scarred/ Carved Tree	A tree from which bark has been deliberately removed.
Sclerophyll	Denoting the presence of hard stiff leaves, typically used to classify forest and indicative of drier conditions.
Sedimentation	Deposition of sediment typically by water.
Silcrete	A sedimentary rock comprising of quartz grains in a matrix of fine grained – amorphous silica.
Silt	Fine soil particles in size ranges of 0.02 – 0.002mm.
Slope	A landform element inclined from the horizontal at an angle measured in degrees or as a percentage.
SHI	State Heritage Inventory
SHR	State Heritage Register
Subsoil	Subsurface material comprising the B and C horizons of soils with distinct profiles.

Term	Definition
Stone Resource Site	A geological feature in the landscape from which raw material for the manufacture of stone tools was obtained.
Texture	The coarseness or fineness of a soil as measured by the behaviour of a moist ball of soil when pressed between the thumb and forefinger.
Topsoil	A part of the soil profile, typically the A1 Horizon, containing material which is usually darker, more fertile and better structured than the underlying layers.
Weathering	The physical and chemical disintegration, alteration and decomposition of rocks and minerals at or near the earth's surface by atmospheric and biological agents.

Public Exhibition Only

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APPENDICES

APPENDIX ONE SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS SSD #8614

Secretary's Environmental Assessment Requirements

Section 78A(8A) of the *Environmental Planning and Assessment Act*
Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*

Application Number	SSD 8614
Proposal Name	Hurlstone Agricultural High School (Hawkesbury)
Location	Western Sydney University (2 College Street, Richmond)
Applicant	Department of Education
Date of Issue	8 August 2017
General Requirements	<p>The Environmental Impact Statement (EIS) must be prepared in accordance with, and meet the minimum requirements of clauses 6 and 7 of Schedule 2 the <i>Environmental Planning and Assessment Regulation 2000</i> (the Regulation).</p> <p>Notwithstanding the key issues specified below, the EIS must include an environmental risk assessment to identify the potential environmental impacts associated with the development.</p> <p>Where relevant, the assessment of the key issues below, and any other significant issues identified in the risk assessment, must include:</p> <ul style="list-style-type: none"> adequate baseline data; consideration of potential cumulative impacts due to other development in the vicinity (completed, underway or proposed); and measures to avoid, minimise and if necessary, offset the predicted impacts, including detailed contingency plans for managing any significant risks to the environment. <p>The EIS must be accompanied by a report from a qualified quantity surveyor providing:</p> <ul style="list-style-type: none"> a detailed calculation of the capital investment value (CIV) (as defined in clause 3 of the <i>Environmental Planning and Assessment Regulation 2000</i>) of the proposal, including details of all assumptions and components from which the CIV calculation is derived; an estimate of the jobs that will be created by the future development during the construction and operational phases of the development; and certification that the information provided is accurate at the date of preparation.
Key Issues	<p>The EIS must address the following specific matters:</p> <p>1. Statutory and Strategic Context – including: Address the statutory provisions contained in all relevant environmental planning instruments, including:</p> <ul style="list-style-type: none"> <i>State Environmental Planning Policy (State & Regional Development) 2011</i>; <i>State Environmental Planning Policy (Infrastructure) 2007</i>; <i>State Environmental Planning Policy No.55 – Remediation of Land</i>; <i>State Environmental Planning Policy No. 64 – Advertising and Signage</i>; <i>Draft State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017</i>; and <i>Hawkesbury Local Environmental Plan 2012</i>.

	<p><i>Permissibility</i> Detail the nature and extent of any prohibitions that apply to the development.</p> <p><i>Development Standards</i> Identify compliance with the development standards applying to the site and provide justification for any contravention of the development standards.</p> <p>2. Policies Address the relevant planning provisions, goals and strategic planning objectives in the following:</p> <ul style="list-style-type: none"> • NSW State Priorities; • A Plan for Growing Sydney; • NSW Long Term Transport Master Plan 2012; • Sydney's Cycling Future 2013; • Sydney's Walking Future 2013; • Sydney's Bus Future 2013; • Crime Prevention Through Environmental Design (CPTED) Principles; • Healthy Urban Development Checklist, NSW Health; and • Greater Sydney Commission's Draft West District Plan. <p>3. Built Form and Urban Design</p> <ul style="list-style-type: none"> • Address the height, density, bulk and scale, setbacks of the proposal in relation to the surrounding development, topography, streetscape and any public open spaces. • Address design quality, with specific consideration of the overall site layout, streetscape, open spaces, façade, rooftop, massing, setbacks, building articulation, materials, colours and Crime Prevention Through Environmental Design Principles. • Detail how services, including but not limited to waste management, loading zones, and mechanical plant are integrated into the design of the development. <p>4. Environmental Amenity</p> <ul style="list-style-type: none"> • Detail amenity impacts including solar access, acoustic impacts, visual privacy, view loss, overshadowing and wind impacts. A high level of environmental amenity for any surrounding residential land uses must be demonstrated. • Detail any proposed use of the school grounds out of school hours (including weekends) and any resultant amenity impacts on the immediate locality and proposed mitigation measures. <p>5. Transport and Accessibility Include a transport and accessibility impact assessment, which details, but not limited to the following:</p> <ul style="list-style-type: none"> • accurate details of the current daily and peak hour vehicle, public transport, pedestrian and cycle movement and existing traffic and transport facilities provided on the road network located adjacent to the proposed development; • an assessment of the operation of existing and future transport networks including the bus network and their ability to accommodate the forecast number of trips to and from the development; • details of estimated total daily and peak hour trips generated by the proposal, including vehicle, public transport, pedestrian and bicycle trips based on surveys of the existing and similar schools within the local area; • the adequacy of public transport, pedestrian and bicycle networks and infrastructure to meet the likely future demand of the proposed development;
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	<ul style="list-style-type: none"> the impact of the proposed development on existing and future public transport infrastructure within the vicinity of the site in consultation with Roads and Maritime Services and Transport for NSW and identify measures to integrate the development with the transport network; details of any upgrading or road improvement works required to accommodate the proposed development; details of travel demand management measures to minimise the impact on general traffic and bus operations and to encourage sustainable travel choices and details programs for implementation; the impact of trips generated by the development on nearby intersections, with consideration of the cumulative impacts from other approved developments in the vicinity, and the need/associated funding for upgrading or road improvement works, if required. Traffic modelling, using, but not limited to, SIDRA network modelling for current and future years, is to be undertaken of the following signalised intersections: <ul style="list-style-type: none"> Londonderry Road at Vines Drive and Southee Road; Lennox Street/Paget Street; Blacktown Road/Bourke Street; the proposed active transport access arrangements and connections to public transport services; details of any proposed school bus routes along bus capable roads (i.e. travel lanes of 3.5 m minimum) and infrastructure (bus stops, bus layovers etc.); the proposed access arrangements, including car and bus pick-up/drop-off facilities, and measures to mitigate any associated traffic impacts and impacts on public transport, pedestrian and bicycle networks, including pedestrian crossings and refuges and speed control devices and zones; measures to maintain road and personal safety in line with CPTED principles; proposed bicycle parking provision, including end of trip facilities, in secure, convenient, accessible areas close to main entries incorporating lighting and passive surveillance; proposed number of on-site car parking spaces and corresponding compliance with existing parking codes and justification for the level of car parking provided on-site; details of emergency vehicle access arrangements; an assessment of road and pedestrian safety adjacent to the proposed development and the details of required road safety measures; service vehicle access, delivery and loading arrangements and estimated service vehicle movements (including vehicle type and the likely arrival and departure times); in relation to construction traffic: <ul style="list-style-type: none"> assessment of cumulative impacts associated with other construction activities (if any); an assessment of road safety at key intersection and locations subject to heavy vehicle construction traffic movements and high pedestrian activity; details of construction program detailing the anticipated construction duration and highlighting significant and milestone stages and events during the construction process; details of anticipated peak hour and daily construction vehicle movements to and from the site; details of access arrangements of construction vehicles, construction workers to and from the site, emergency vehicles and service vehicle; details of temporary cycling and pedestrian access during construction;
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	<ul style="list-style-type: none"> ○ details of proposed construction vehicle access arrangements at all stages of construction; and ○ traffic and transport impacts during construction, including cumulative impacts associated with other construction activities, and how these impacts will be mitigated for any associated traffic, pedestrian, cyclists, parking and public transport, including the preparation of a draft Construction Traffic Management Plan to demonstrate the proposed management of the impact. <p>→ Relevant Policies and Guidelines:</p> <ul style="list-style-type: none"> • <i>Guide to Traffic Generating Developments (Roads and Maritime Services)</i> • <i>EIS Guidelines – Road and Related Facilities (DoPI)</i> • <i>Cycling Aspects of Austroads Guides</i> • <i>NSW Planning Guidelines for Walking and Cycling</i> • <i>Austroads Guide to Traffic Management Part 12: Traffic Impacts of Development</i> • <i>Standards Australia AS2890.3 (Bicycle Parking Facilities)</i> <p>6. Ecologically Sustainable Development (ESD)</p> <ul style="list-style-type: none"> • Detail how ESD principles (as defined in clause 7(4) of Schedule 2 of the Environmental Planning and Assessment Regulation 2000) will be incorporated in the design and ongoing operation phases of the development. • Demonstrate that the development has been assessed against a suitably accredited rating scheme to meet industry best practice. • Include a description of the measures that would be implemented to minimise consumption of resources, water (including water sensitive urban design) and energy. <p>7. Social Impacts Include an assessment of the social consequences of the schools' relative location.</p> <p>8. Biodiversity Biodiversity impacts related to the proposed development are to be assessed and documented in accordance with the Framework for Biodiversity Assessment, unless where otherwise agreed by the OEH, by a person accredited in accordance with s142B(1)(c) of the <i>Threatened Species Conservation Act 1995</i>.</p> <p>9. Heritage Include a Heritage Impact Statement that addresses the significance of, and provides an assessment of the impact on the heritage significance of any heritage items on the site and in the vicinity, and/or conservation areas and/or potentially archaeologically significant areas, in accordance with the guidelines in the NSW Heritage Manual.</p> <p>10. Aboriginal Heritage Address Aboriginal Cultural Heritage in accordance with the <i>Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW, 2011)</i> and <i>Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW)</i>.</p> <p>11. Noise and Vibration Identify and provide a quantitative assessment of the main noise and vibration generating sources during construction and operation, including consideration of any public address system, school bell and use of any school hall for concerts etc. (both during and outside school hours), and outline measures to minimise and mitigate the potential noise impacts on surrounding occupiers of land.</p>
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	<p>→ Relevant Policies and Guidelines:</p> <ul style="list-style-type: none"> • <i>NSW Industrial Noise Policy (EPA)</i> • <i>Interim Construction Noise Guideline (DECC)</i> • <i>Assessing Vibration: A Technical Guideline 2006</i> • <i>Development Near Rail Corridors and Busy Roads – Interim Guideline (Department of Planning 2008)</i> <p>12. Sediment, Erosion and Dust Controls Detail measures and procedures to minimise and manage the generation and off-site transmission of sediment, dust and fine particles.</p> <p>→ Relevant Policies and Guidelines:</p> <ul style="list-style-type: none"> • <i>Managing Urban Stormwater – Soils & Construction Volume 1 2004 (Landcom)</i> • <i>Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (EPA)</i> • <i>Guidelines for development adjoining land and water managed by DECCW (OEH, 2013)</i> <p>13. Contamination Assess and quantify any soil and groundwater contamination and demonstrate that the site is suitable for the proposed use in accordance with SEPP 55.</p> <p>→ Relevant Policies and Guidelines:</p> <ul style="list-style-type: none"> • <i>Managing Land Contamination: Planning Guidelines - SEPP 55 Remediation of Land (DUAP)</i> <p>14. Utilities</p> <ul style="list-style-type: none"> • Prepare an Infrastructure Management Plan in consultation with relevant agencies, detailing information on the existing capacity and any augmentation requirements of the development for the provision of utilities including staging of infrastructure. • Prepare an Integrated Water Management Plan detailing any proposed alternative water supplies, proposed end uses of potable and non-potable water, and water sensitive urban design. <p>15. Contributions Address Council's Section 94A Contribution Plan and/or details of any Voluntary Planning Agreement, which may be required to be amended because of the proposed development.</p> <p>16. Drainage Detail drainage associated with the proposal, including stormwater and drainage infrastructure.</p> <p>→ Relevant Policies and Guidelines:</p> <ul style="list-style-type: none"> • <i>Guidelines for development adjoining land and water managed by DECCW (OEH, 2013)</i> <p>17. Flooding Assess any flood risk on site (detailing the most recent flood studies for the project area) and consideration of any relevant provisions of the NSW Floodplain Development Manual (2005), including the potential effects of climate change, sea level rise and an increase in rainfall intensity.</p> <p>18. Waste Identify, quantify and classify the likely waste streams to be generated during construction and operation and describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste. Identify appropriate servicing arrangements (including but not limited to, waste management, loading zones, mechanical plant) for the site.</p>
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	<p>19. Construction Hours Identify proposed construction hours and provide details of the instances where it is expected that works will be required to be carried out outside the standard construction hours.</p> <p>20. Bushfire Address bushfire hazard and if required, prepare a report that addresses the requirements for Special Fire Protection Purpose Development as detailed in Planning for Bush Fire Protection 2006 guidelines.</p>
Plans and Documents	<p>The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the <i>Environmental Planning and Assessment Regulation 2000</i>. Provide these as part of the EIS rather than as separate documents.</p> <p>In addition, the EIS must include the following:</p> <ul style="list-style-type: none"> • Architectural drawings (dimensioned and including RLs); • Site Survey Plan, showing existing levels, location and height of existing and adjacent structures / buildings and boundaries; • Site Analysis Plan; • Stormwater Concept Plan; • Sediment and Erosion Control Plan; • Shadow Diagrams; • View Analysis / Photomontages; • Landscape Plan (identifying any trees to be removed and trees to be retained or transplanted); • Preliminary Construction Management Plan, inclusive of a Preliminary Construction Traffic Management Plan detailing vehicle routes, number of trucks, hours of operation, access arrangements and traffic control measures; • Geotechnical and Structural Report; • Accessibility Report; • Arborist Report; • Salinity Investigation Report (if required); • Acid Sulphate Soils Management Plan (if required); and • Schedule of materials and finishes.
Consultation	<p>During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners. In particular, you must consult with:</p> <ul style="list-style-type: none"> • Hawkesbury City Council; • Transport for NSW; and • Roads and Maritime Services. <p>Consultation with TfNSW and RMS should commence as soon as practicable to agree the scope of investigation.</p> <p>The EIS must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.</p>
Further consultation after 2 years	<p>If you do not lodge a development application and EIS for the development within two years of the issue date of these SEARs, you must consult further with the Secretary in relation to the preparation of the EIS.</p>
References	<p>The assessment of the key issues listed above must consider relevant guidelines, policies, and plans as identified.</p>