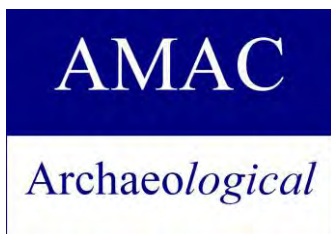


# ABORIGINAL TEXT EXCAVATION REPORT

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



Benjamin Streat & Yolanda Pavincich

*Archaeological* Management & Consulting Group  
& Streat Archaeological Services

for

Conrad Gargett Ancher Mortock Woolley

On behalf of  
Department of Education NSW

Version 3  
January 2018

*Disclaimer*

*The veracity of this report is not guaranteed unless it is a complete and original copy.*

*This report may be inaccurate, incomplete, not original, or modified, if it appears in monochrome form and the signature below is a copy.*

**This report contains sensitive material. This content has been redacted for public exhibition.**



*Benjamin Streat  
Director of Aboriginal Archaeology  
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**Cover Image**

North Section Trench 34  
AMAC, 2017 [DSCN1309]

## INTERNAL REVIEW

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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 NSW (DoE) in October 2017 to prepare an Aboriginal Cultural Heritage Assessment. As part of this investigation a programme of test excavation was conducted under the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010). This report forms the results and analysis of said test excavation.

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), as part of the programme of test excavation under the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales, Part 6 National Parks and Wildlife Act 1974, (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 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 4.1 – Figure 4.6).

- 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 4.1 – 4.6) 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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# 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. As part of this investigation a programme of test excavation was conducted under the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010). This report forms the results and analysis of said test excavation.

## 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 & OBJECTIVES OF THE ASSESSMENT

This report forms the results of the programme of test excavation that was conducted, including the synthesis and analysis of information of which may contribute to our understanding of the site characteristics and local and/or regional prehistory. The results of the test excavation will aid in the formalisation of appropriate management recommendations and conservation goals for the proposed development and any archaeological material recovered.

This assessment is intended for submission in conjunction with an Aboriginal Cultural Heritage Assessment and Aboriginal Archaeological Assessment (AMAC Group 2016), to the New South Wales, Office of Environment and Heritage, Department of Premier and Cabinet, (OEH).

## 1.4 ABORIGINAL CONSULTATION & PARTICIPATION 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), as part of the Aboriginal Cultural Heritage Assessment and programme of test excavation under the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales, Part 6 National Parks and Wildlife Act 1974, (DECCW 2010).

*There is a mandatory 28-day period for the Aboriginal stakeholders to comment on this document. A final Aboriginal stakeholder approved version of this report shall be issued at the close of this period (should any changes be required as a result of the exhibition process or Aboriginal stakeholder comment they will be included at this stage).*

## 1.5 AUTHOR IDENTIFICATION

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

## 1.6 ACKNOWLEDGEMENTS

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

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

## 2.0 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.

### 2.1 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; the Commonwealth Heritage List and the Register of the National Estate.

#### 2.1.1 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).

#### 2.1.2 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.

#### 2.1.3 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.

#### 2.1.4 Register of the National Estate

The Register of the National Estate is a list of natural, Indigenous and heritage places throughout Australia. It was originally established under the *Australian Heritage Commission Act 1975* (AHC Act). This has now been replaced by the Environment Protection and Biodiversity Conservation Act 1999. The register will continue to operate until February 2012 when it will be completely replaced by The Commonwealth Heritage List.

## 2.2 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.

### 2.2.1 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).

## 2.2.2 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).

## 2.2.3 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).

## **2.2.4 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).

## **2.2.5 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.

## **2.2.6 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).

## **2.3 LOCAL PLANNING INSTRUMENTS**

### **2.3.1 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.*

## **2.4 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.

## **2.5 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).

## **2.6 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).

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### 3.0 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.

Lot	Deposited Plan
2	1051798

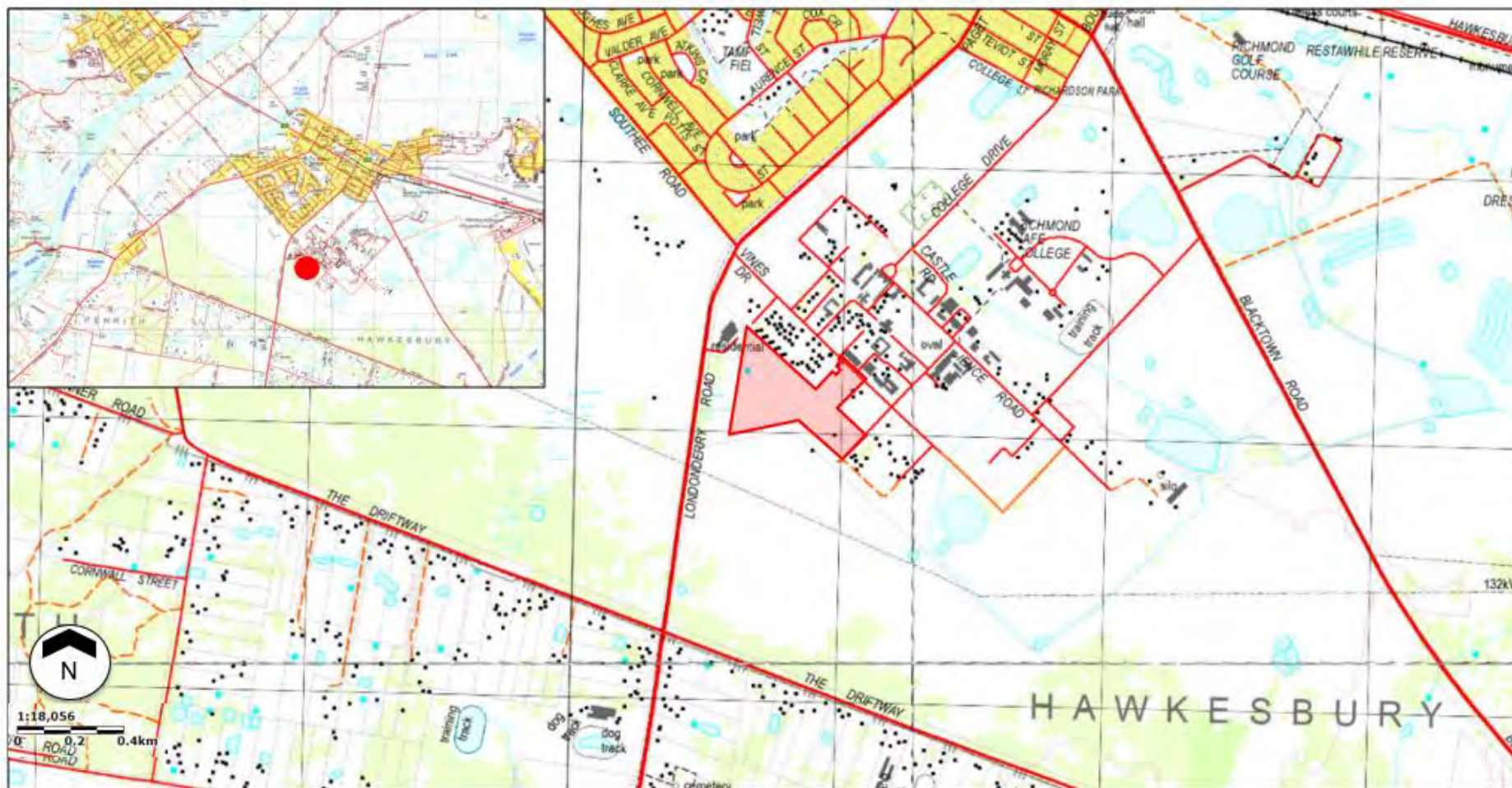
#### 3.1 REGISTERED ARCHAEOLOGICAL SITES WITHIN THE STUDY AREA

There are no registered sites within the study area that the author of this report is aware of.

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Figure 3.1: Study area location, indicated by red outline.  
Six Maps (Accessed 23/05/17)



**Figure 3.2** Topographic map with site location.  
Study area indicated in red. Six Maps, LPI Online, accessed 11/10/2017.

## 4.0 PROPOSED DEVELOPMENT

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.

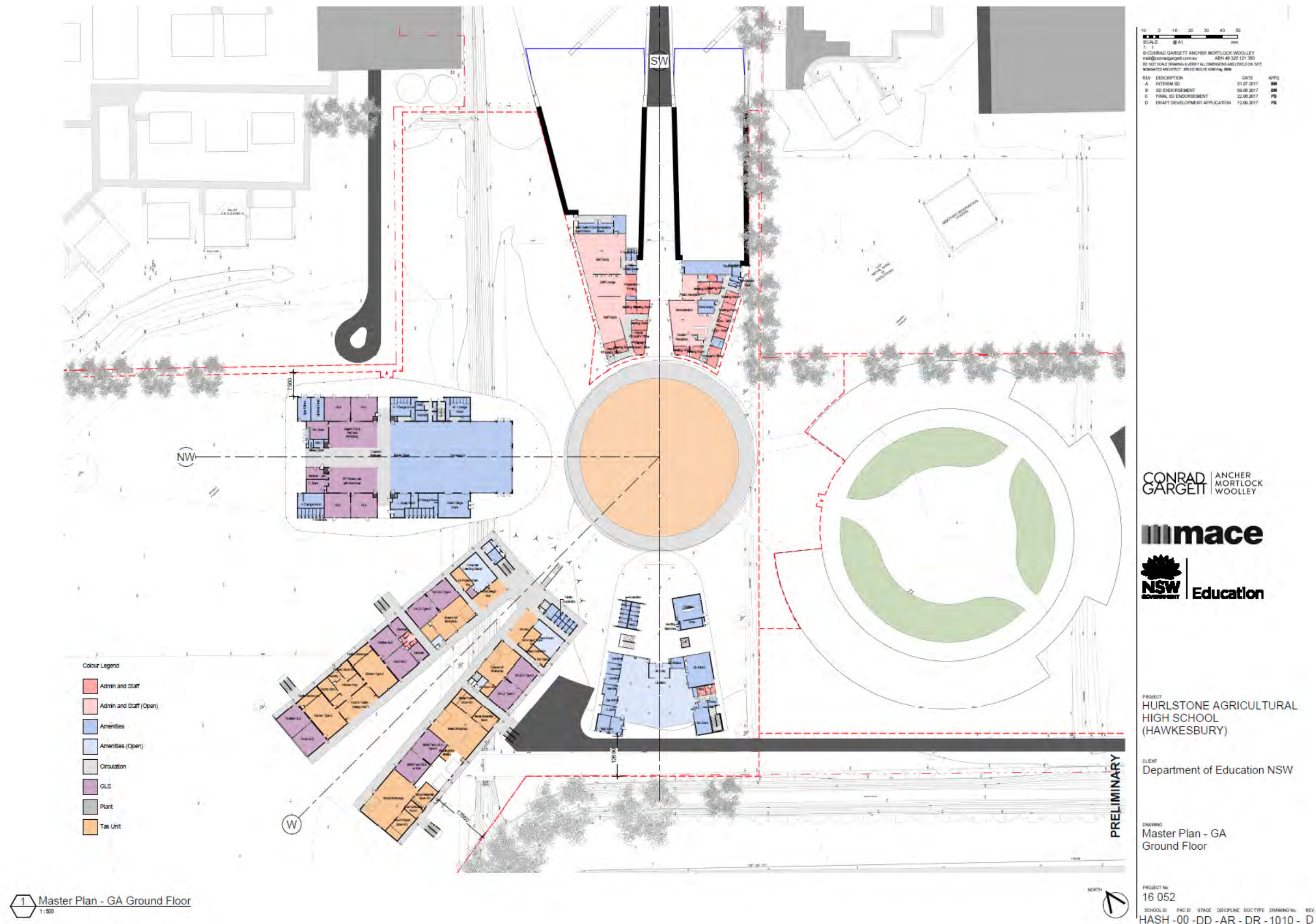
### 4.1 ECOLOGICAL SUSTAINABLE DEVELOPMENT AND INTERGENERATIONAL EQUITY

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.

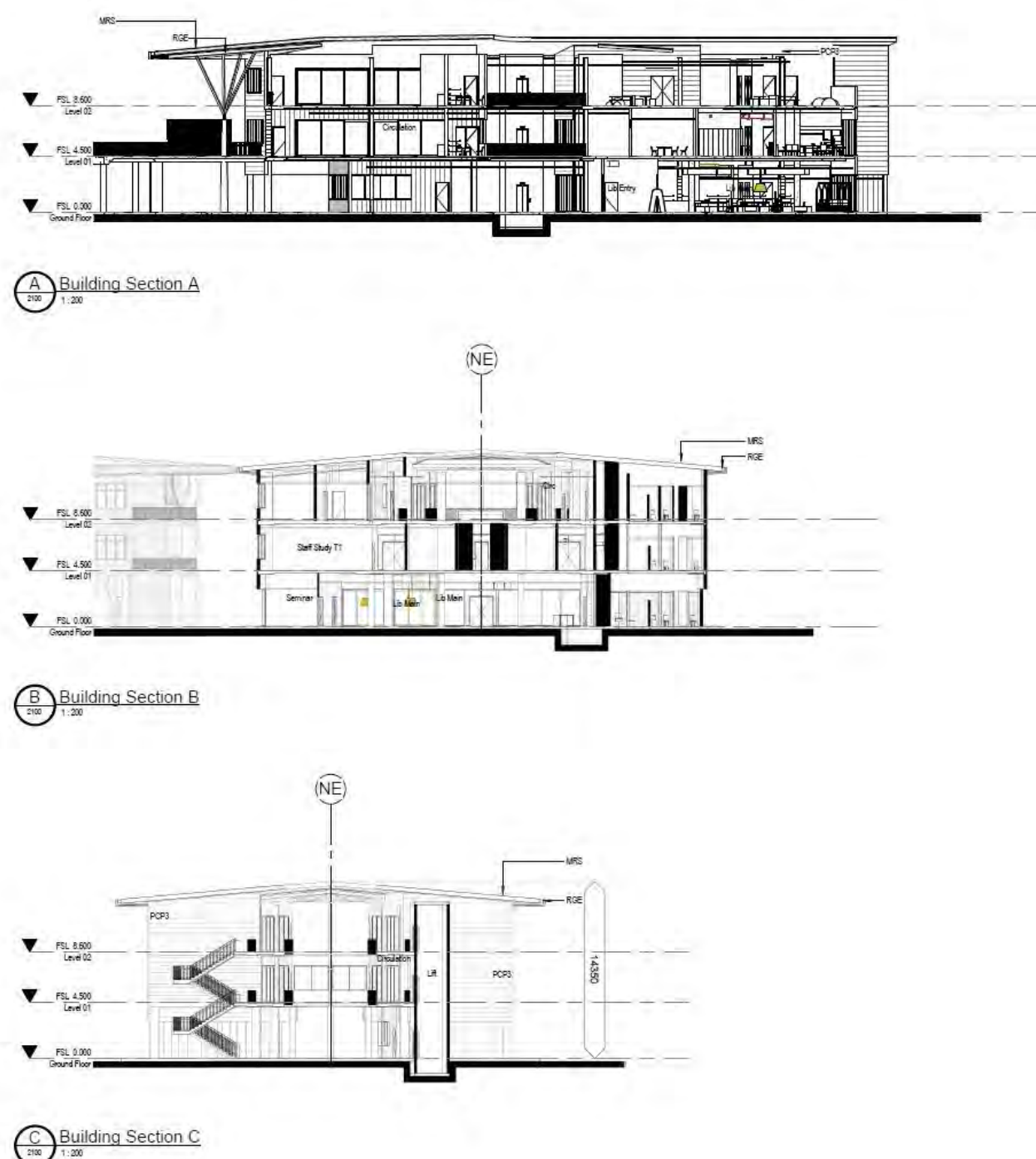


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**Figure 42** Proposed Master Plan – GA Ground Floor  
Conrad Gargett, Ancher Mortlock Woolley (2017) HASH-00-DD-AR-DR-1010-C

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December 2017



LEGEND	
Abbrev	Description
MRS	ROOF SHEETING METAL
PCPS	PANEL SYSTEM CASSETTE PANEL HORIZONTAL ALUMINIUM PVDF CLEAR
RGE	ROOF GUTTER GALVAL

SCALE: 1:200			
© CONRAD GARGETT ANCHER MORTLOCK WOOLLEY			
HAWKESBURY CAMPUS			
NOT SCALE DRAWING & NOT FULL DIMENSIONED AND ELEVATION SET			
HAWKESBURY ARCHITECTURE & DESIGN			
REV	DESCRIPTION	DATE	APPD
A	INTERIM SD	21.07.2017	SM
B	FINAL SD ENDORSEMENT	22.08.2017	PS
C	DRAFT DEVELOPMENT APPLICATION	12.09.2017	PS

CONRAD GARGETT ANCHER MORTLOCK WOOLLEY



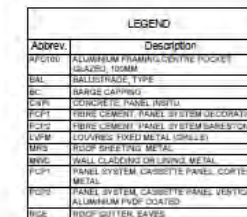
PROJECT  
HURLSTONE  
AGRICULTURAL HIGH  
SCHOOL (HAWKESBURY)  
Building 2

CLIENT  
Department of Education  
NSW

DRAWING  
Sections

PROJECT NO.  
16 052  
SCHOOL ID  
HASH-02-SD-AR-DR-3500-C

Figure 4.4: Proposed Sections Building 2  
Conrad Gargett Ancher Mortlock Woolley (2017) HASH-02-SD-AR-DR-3500-C



Archaeological/Management & Consulting Group  
& Street Archaeological Services Pty Ltd  
December 2017



## 5.0 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 be influenced by the environment.

### 5.1 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.

### 5.2 GEOLOGY AND SOILS

The soil landscape map from 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.

**Table 5.1 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.
-----	---------------------------------	--

*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.*

### 5.3 WATERCOURSES

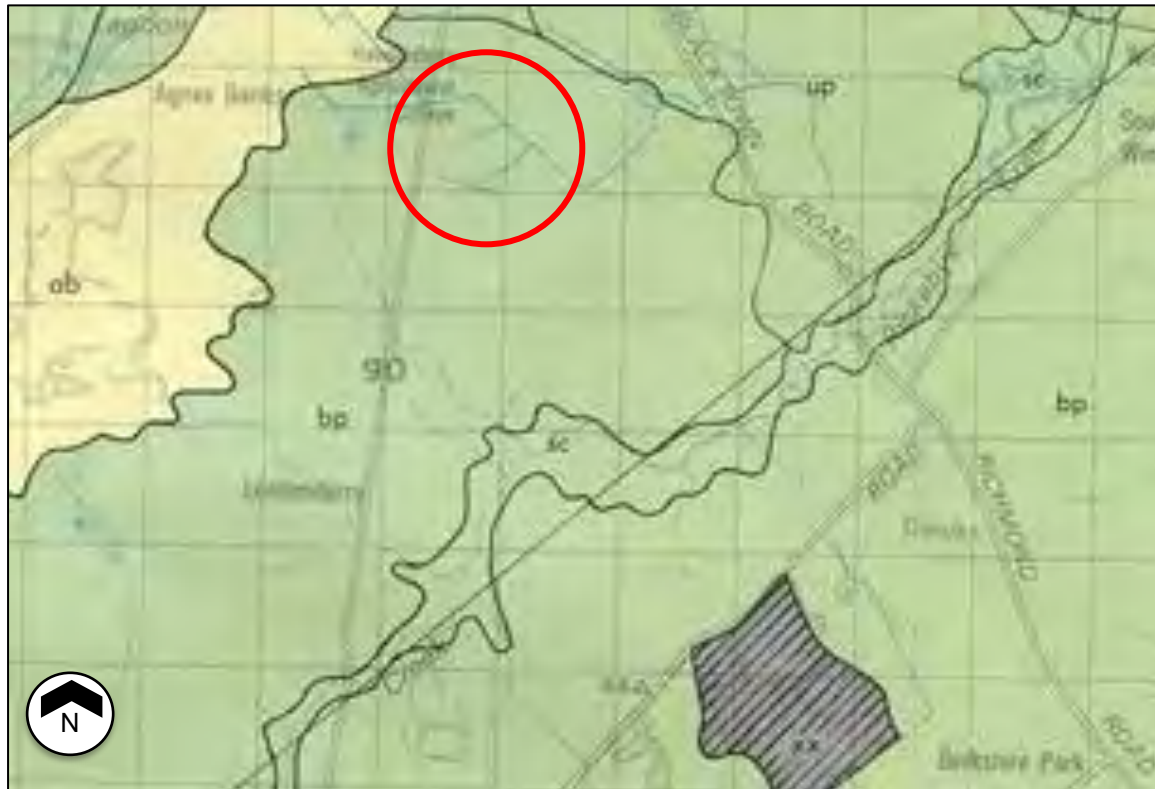
The study area lies between two high order streams, the Hawkesbury River to the northwest - west approximate 3.7km and Rickabys Creek to the northeast - east 3.6km as well as having Yarramundi Lagoon located 3.1km to the northwest. There are a number of drainage channels and manmade dams within the vicinity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

### 5.4 VEGETATION

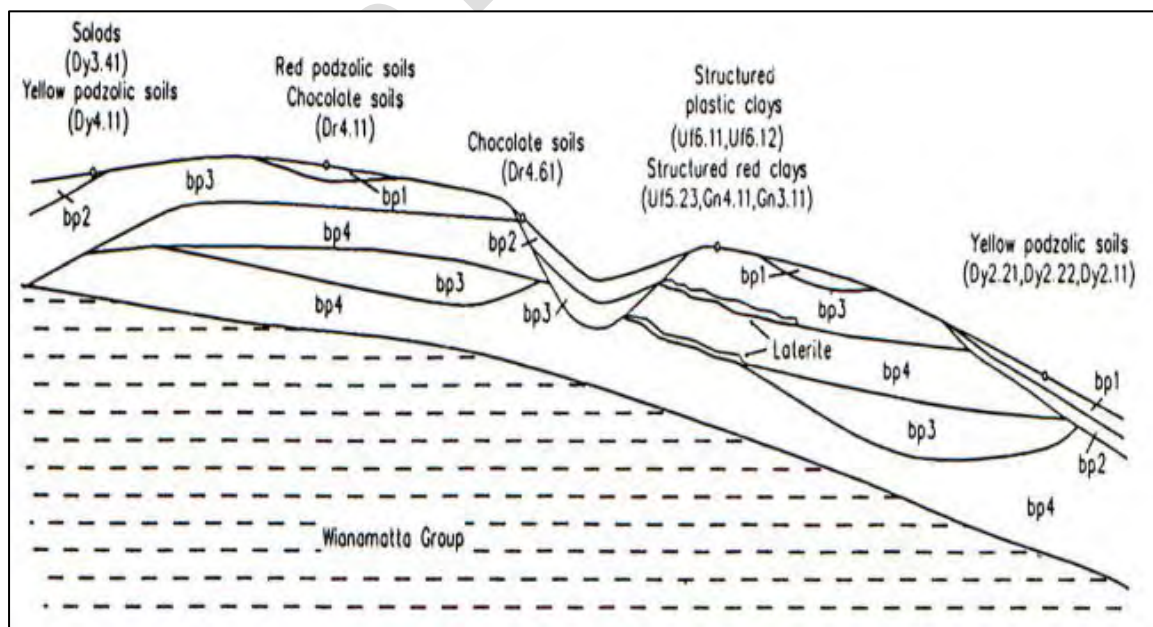
The vegetation found in the study area is no longer in a native state and is comprised of a variety of introduced and noxious types of vegetation. This movement away from the natural vegetation is a result of previous land clearing for farming, residential and urban development.

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 5.1 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 5.2 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)

## 6.0 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.

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:

- 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.
- 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.

### 6.1 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.

## **6.2 PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS 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 locate 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.

### 6.3 OEH 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 15<sup>th</sup> 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 6.1 AHIMS Search Results**

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

**Figure 6.1: 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

## 6.4 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);

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## 7.0 TEST EXCAVATION

Test excavation was undertaken by Streat Archaeological Services in association with AMAC Group in response to the proposed subdivision and prospective future developments and its impact on potential intact Aboriginal archaeological and cultural deposits and/or objects. The study area was considered to have low-moderate potential in containing Aboriginal objects.

Previous reports have identified the area as a resource rich zone due to the sites proximity to reliable fresh water and distance to the Nepean River, which is known to contain concentrated densities of Aboriginal objects and features of archaeological and cultural heritage. It is likely that Aboriginal movement and land use would be channelled to this location and therefore the site may hold information regarding cultural activities of the area.

Test excavations were carried out by Benjamin Streat as director of Indigenous archaeology and archaeologist Yolanda Pavincich, as well as representatives from the following Registered Aboriginal Parties;

Organisation	Representative
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

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 storm water 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.

## 7.1 AIMS

The purpose of subsurface test excavation is to identify the nature and extent of any intact archaeological deposit and/ or objects which may be situated within the study area and its significance.

It aims to collate additional information regarding any site characteristics which may enhance our understanding of the local and/or regional prehistory of the area. The results of the test excavation aid in the formalisation of appropriate management recommendations and conservation goals for the proposed development and any archaeological material recovered.

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

- Legislation 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 and previous reports;
- Results of previous archaeological assessment and excavation in the vicinity of the study area;
- The impact of the proposed development on any Aboriginal archaeological material that may be present;

## 7.2 TEST EXCAVATION UNDER THE CODE OF PRACTICE

As detailed in the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales, Part 6 National Parks and Wildlife Act 1974 (DECCW 2010). The purpose for test excavation

*“...is to collect information about the nature and extent of sub-surface Aboriginal objects, based on a sample derived from sub-surface investigations. Test excavations contribute to the understanding of site characteristics and local and regional prehistory and they can be used to inform conservation goals and harm mitigation measures for the proposed activity”*

As the proposed test excavation is not being carried out in the following areas;

- in or within 50 m of an area where burial sites are known or are likely to exist
- in or within 50 m of a declared Aboriginal place
- in or within 50 m of a rock shelter, shell midden or earth mound
- in areas known or suspected to be Aboriginal missions or previous Aboriginal reserves or institutes
- in areas known or suspected to be conflict or contact sites.

It is therefore excluded from the definition of harm and as such will not require an Aboriginal Heritage Impact Permit and can be completed under the Code of Practice (DECCW 2010).

As set out in the Code of Conduct for the Investigation of Archaeological Objects in NSW:

*“The test excavation should be sufficiently comprehensive to allow characterisation of the Aboriginal objects present without having a significant impact on the archaeological value of the subject area” (DECCW 2010)*

Any test excavation carried out under this requirement must cease when:

- suspected human remains are encountered;
- enough information has been recovered to adequately characterise the objects present, with regard to their nature and significance.

The Code of Conduct for the Investigation of Archaeological Objects in NSW ‘enough information’ means that the sample of excavated material clearly and self-evidently demonstrates the deposit’s nature and significance, and may include things like:

- locally or regionally high object density
- presence of rare or representative objects
- presence of archaeological features or locally or regionally significant deposits, stratified or not.

Decisions regarding the nature and significance of the site and choices about discontinuing the test excavation program shall be made by the excavation director in consultation with the registered Aboriginal stakeholders and OEH if required. Information will be reviewed on a daily basis and the excavation director reserves the right to cease all excavation if he/she believes the nature and extent of the site is understood in accordance with the Code of Conduct for the Investigation of Archaeological Objects in NSW.

### **7.3 TESTING METHODOLOGY**

The following measures will be taken to establish the nature and extent of any such material discovered during test excavations under the Code of Practice (DECCW 2010)

The proposed development does have the potential to disturb any Aboriginal archaeological deposits and/or objects which are, or may be present. Therefore, in accordance with 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), it is recommended a programme of test excavation be conducted before the development can proceed.

The first priority in test excavations, and recording Aboriginal objects during test excavations, must always be to avoid or minimise, as far as practicable, the risk of harm to the objects under investigation. This means due care must be taken when excavating and collecting objects.

In compliance with the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales, Part 6 National Parks and Wildlife Act 1974, (DECCW 2010) the following test excavation methodology will be conducted;

- Test excavation units will be placed on a systematic grid appropriate to the scale of the area – either PAD or site – being investigated e.g. 10 m intervals, 20 m intervals, or other justifiable and regular spacing.
- Any test excavation point will be separated by at least 5 m.
- Test excavations units will be excavated using hand tools only.

- Test excavations will be excavated in 50 cm x 50 cm units.
- Test excavations units may be combined and excavated as necessary to understand the site characteristics, however: the maximum continuous surface area of a combination of test excavation units at any single excavation point conducted in accordance with point (above) will be no greater than 3 m<sup>2</sup>. The maximum surface area of all test excavation units will be no greater than 0.5% of the area – either PAD or site – being investigated.
- The first excavation unit will be excavated and documented in 5 cm spits at each area – either PAD or site – being investigated. Based on the evidence of the first excavation unit, 10 cm spits or sediment profile/stratigraphic excavation (whichever is smaller) will then be implemented.
- Test excavation units will be excavated to at least the base of the identified Aboriginal object-bearing units, and will continue to confirm the soils below are culturally sterile.
- Photographic and scale-drawn records of the stratigraphy/soil profile, features and informative Aboriginal objects will be made for each single excavation point.
- Test excavations units will be backfilled as soon as practicable.
- Following test excavation, an Aboriginal Site Impact Recording form will be completed and submitted to the AHIMS Registrar as soon as practicable

#### **7.3.1 Sieving**

The excavated soil from each spit is to be placed in buckets of uniform size (9-10kg limit); these buckets will be counted, and all material excavated from the test excavation units will be sieved using a 5 mm aperture wire-mesh sieve. All archaeological material that is recovered from sieving will be placed in a zip lock bag and labelled with the site number, date, trench and spit. All of the bags will then be placed in a larger zip lock bag for processing.

#### **7.3.2 Recording**

A photographic record will be kept of the progress of each test trench as well as photographic and scale-drawn records of the stratigraphy/soil profile and features will be made for each single excavation point.

Details pertaining to individual spits will be recorded through the completion of site forms. The details on the form include site name, pit number, location and landform, area, spit number, spit depth, soil horizon, artefacts, stratigraphic profile as well as additional notes relating to the soil deposits encountered.

Personal records are also to be noted in the director's field journal. Any artefacts recovered shall be recorded under the parameters set out in the Code of Conduct for the investigation of Archaeological objects in NSW and will be stored as outlined in the care and control agreement.

#### **7.3.3 Care and Control Agreement**

Any archaeological material recovered 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. Any artefacts recovered shall be

subject to an as yet unestablished care and control agreement. A secure temporary storage location in accordance with requirement 26 of the Code of Conduct for the investigation of Archaeological objects in NSW, shall be established (AMAC Offices) pending any agreement being reached as to the long-term management of the salvaged Aboriginal objects. The excavation director is responsible for ensuring that procedures are put in place so that Aboriginal objects are not harmed. The location of the secure temporary storage location will be submitted to AHIMS with a site update record card for the site(s) in question.

If long term management of any objects recovered has not been decided in a timely fashion, the objects will be lodged with the Australian Museum

#### 7.4 TEST PIT LOCATION

Test trench locations were placed with reference to known or suspected locations of Aboriginal archaeological deposits, the location of development excavation and areas of known disturbance as well as services.

The order of excavation was established on site as logistics and site access were factors that needed to be considered, as well as ensuring the investigation of all landforms were performed accordingly in order to maximise the results.

The study area was divided into four zones. These zones were based on paddock access. Due to the scale of the study area this division also assisted in ensuring a systematic approach was undertaken.

Table 7.1 Zones with test trenches numbers

Zone	Test Trench No.
1	15
2	15
3	5
4	16

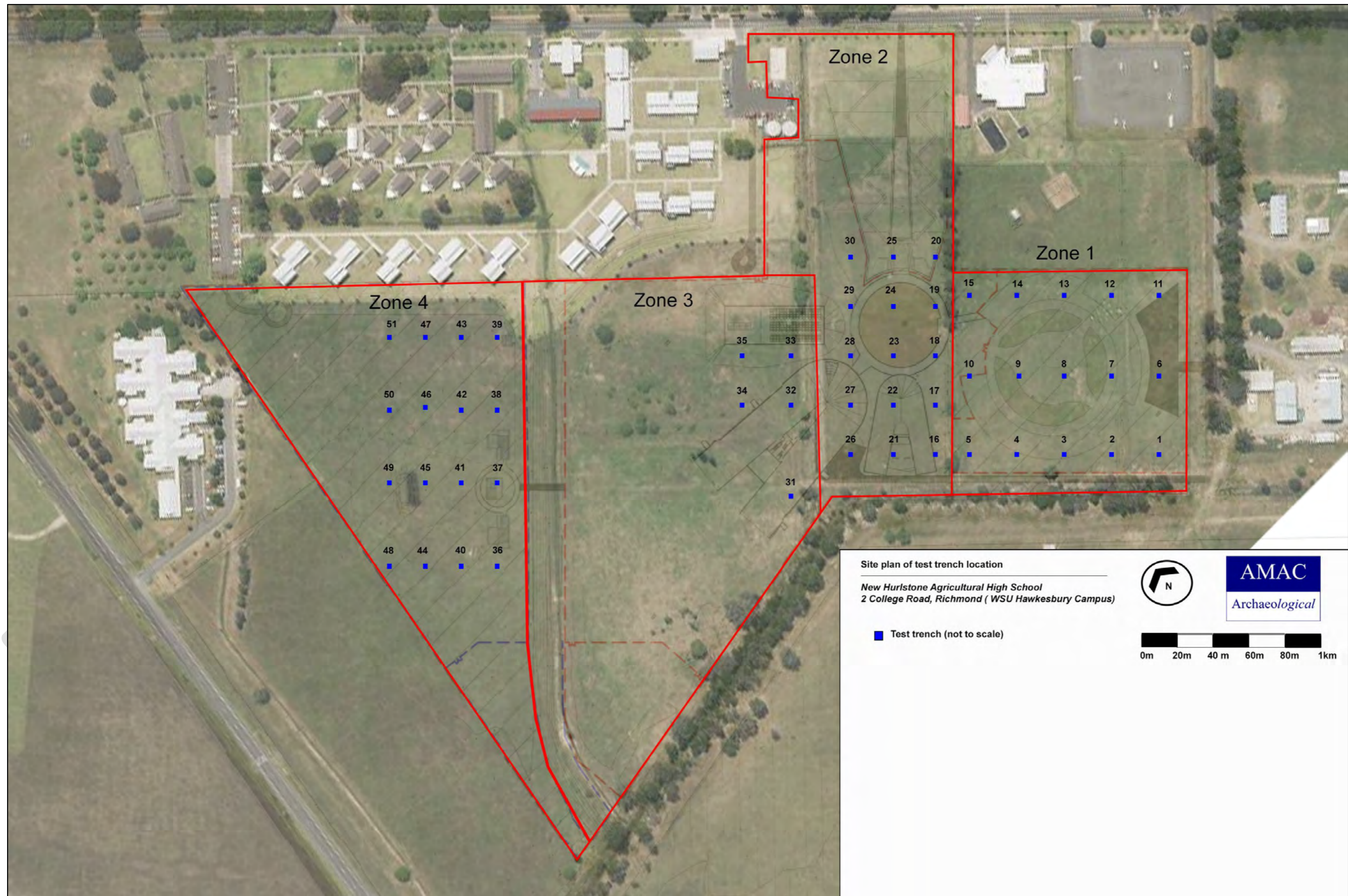


Figure 7.1 Site plan with Aboriginal test trenches indicated in blue  
AMAC (2017)

## 7.5 RESULTS

The testing programme involved the excavation of 51 test trenches (50cm x 50cm). These were situated evenly across the site in order to obtain information and data that could systematically determine a distribution pattern and/or density pattern within a localised scale of the site.

The soil profile was found to be consistent throughout the study area. It is clear and observable that the A1 horizon was found to be absent in majority of the study area, however an A2 horizon was evident. The A horizon is found to be the artefact bearing deposit.

The study area is a floodplain/ flats. The soils observed through testing are consistent with the Berkshire Park soil landscape (bp) in which on flats and small drainage lines to 50cm of sandy clay loam A2 horizon (bp2) can be found overlaying <50cm B horizon made up of sandy clay with iron nodules (bp3).

No Aboriginal archaeological and cultural material/ deposits were located as a result of the programme of test excavation. The soil was found to be sterile with minor disturbances found in ATT 9, 16, 31, 35 and 47 of which modern glass and ceramic were retrieved.

Further investigation is not warranted and works may proceed with caution.

Table 7.2 Test Trench Summary

Test Trench No.	Zone	No. Spits	Final depth	Description	No. Artefacts
1	1	6	55cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
2	1	6	55cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
3	1	4	35cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
4	1	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
5	1	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
6	1	5	45cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
7	1	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
8	1	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
9	1	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam, (slightly disturbed -pieces of metal found in spit 1) overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
10	1	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
11	1	5	45cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
12	1	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
13	1	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0

Test Trench No.	Zone	No. Spits	Final depth	Description	No. Artefacts
14	1	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
15	1	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
16	2	6	55cm	A2 horizon: dull yellowish brown sandy silty clay loam (slightly disturbed – brick/ceramic) overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
17	2	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
18	2	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
19	2	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
20	2	4	35cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
21	2	4	35cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
22	2	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
23	2	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
24	2	4	35cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
25	2	4	35cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
26	2	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
27	2	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0

Test Trench No.	Zone	No. Spits	Final depth	Description	No. Artefacts
28	2	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
29	2	4	35cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
30	2	4	35cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
31	3	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam (slightly disturbed – pieces of glass) overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
32	3	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
33	3	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam (slightly disturbed – pieces of ceramic) overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
34	3	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam (slightly disturbed – pieces of ceramic) overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
35	3	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam (slightly disturbed – pieces of ceramic/glass) overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
36	4	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
37	4	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
38	4	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
39	4	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
40	4	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0

Test Trench No.	Zone	No. Spits	Final depth	Description	No. Artefacts
41	4	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
42	4	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
43	4	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
44	4	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
45	4	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
46	4	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
47	4	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam (slightly disturbed – pieces of ceramic) overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
48	4	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
49	4	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
50	4	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0
51	4	3	25cm	A2 horizon: dull yellowish brown sandy silty clay loam overlaying; B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules	0

### 7.5.1 Test Trench Photographs



ATT1: Start Up [DSCN\_1069]



ATT1: Final Shot [DSCN\_1072]



ATT2: Final Shot [DSCN\_1087]



ATT3: Start Up [DSCN\_1077]



ATT3: Start Up [DSCN\_1090]



ATT4: Start Up [DSCN\_1078]



ATT4: Final Shot [DSCN\_1094]



ATT5: Start Up [DSCN\_1079]



ATT5: Final Shot [DSCN\_1100]



ATT6: Start Up [DSCN\_1084]



ATT6: Final shot [DSCN\_1107]



ATT7: Start Up [DSCN\_1083]



ATT7: Final Shot [DSCN\_1111]



ATT8: Start Up [DSCN\_1082]



ATT8: Final Shot [DSCN\_1123]



ATT9: Start Up [DSCN\_1081]



ATT9: Final Shot [DSCN\_1117]



ATT10: Start Up [DSCN\_1080]



ATT10: Final Shot [DSCN\_1103]



ATT11: Start Up [DSCN\_1126]



ATT11: Final Shot [DSCN\_1156]



ATT12: Start Up [DSCN\_1129]



ATT12: Final Shot [DSCN\_1160]



ATT13: Start Up [DSCN\_1130]



ATT13: Final Shot [DSCN\_1165]



ATT14: Start Up [DSCN\_1132]



ATT14: Final Shot [DSCN\_1210]



ATT15: Start Up [DSCN\_1133]



ATT15: Final Shot [DSCN\_1214]



ATT16: Start Up [DSCN\_1174]



ATT16: Final Shot [DSCN\_1231]



ATT17: Start Up [DSCN\_1175]



ATT17: Final Shot [DSCN\_1226]



ATT18: Start Up [DSCN\_1176]



ATT18: Final Shot [DSCN\_1222]



ATT19: Start Up [DSCN\_1177]



ATT19: Final Shot [DSCN\_1218]



ATT20: Start Up [DSCN\_1200]



ATT20: Final Shot [DSCN\_1280]



ATT21: Start Up [DSCN\_1187]



ATT21: Final Shot [DSCN\_1236]



ATT22: Start Up [DSCN\_1185]



ATT22: Final Shot [DSCN\_1240]



ATT23: Start Up [DSCN\_1182]



ATT23: Final Shot [DSCN\_1244]



ATT24: Start Up [DSCN\_1179]



ATT24: Final Shot [DSCN\_1264]