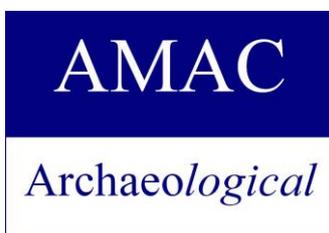
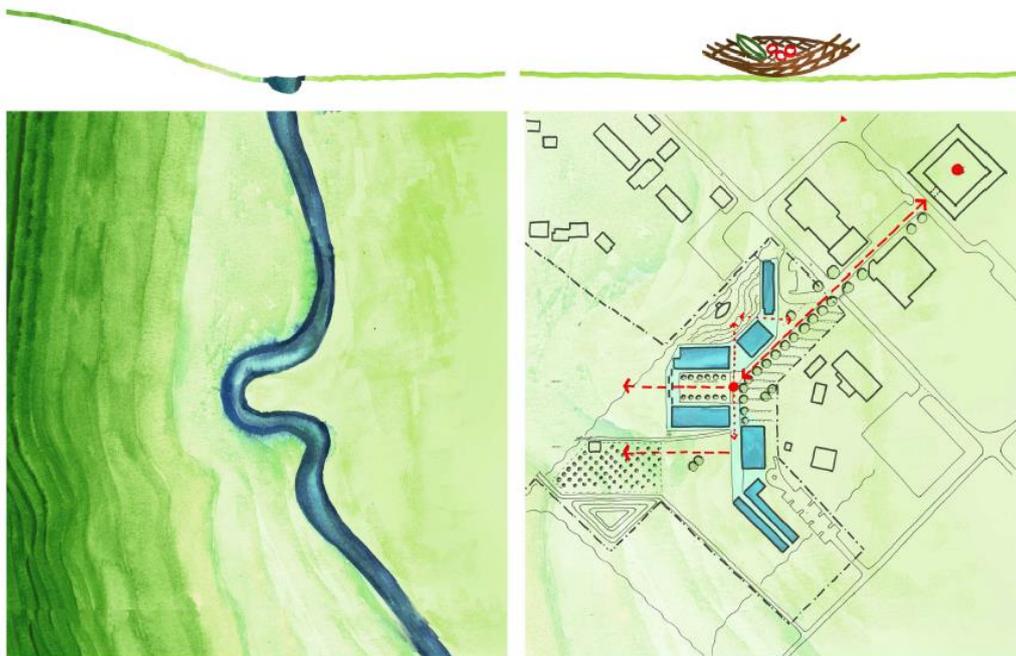


APPENDIX A: ABORIGINAL ARCHAEOLOGICAL TECHNICAL REPORT

*Centre of Excellence (CoE) Agricultural School
2 College Road
Richmond NSW 2753
(Hawkesbury LGA)*



Benjamin Streat & Steven J. Vasilakis

*Archaeological Management & Consulting Group
& Streat Archaeological Services*

**for
Colliers International**

**On behalf of
Department of Education NSW**

**Version 4
June 2021**

Disclaimer

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

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*Benjamin Street
Director of Aboriginal Archaeology
(mobile 0405 455 869)*



Archaeological Management & Consulting Group

AEGIS HERITAGE Pty Ltd ACN 126 155 020

Ph (02) 9568 6093
Fax (02) 9568 6093
Mob 0411 727 395
E-mail amac@archaeological.com.au



Streat Archaeological Services Pty Ltd

ACN 126 731 637 ABN 17 126 731 637

Ph (02) 9564 2206
Mob 0405 455 869
E-mail Streatarchaeological@netspace.net.au
Benjaminstreat@archaeological.com.au

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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 Colliers International on behalf of the Department of Education (DoE) in March 2021, to prepare an Aboriginal Cultural Heritage Assessment Report and accompanying Aboriginal Archaeological Technical Report including consultation for the proposed State Significant Development (SSD-15001460) - Centre of Excellence (CoE) Agricultural School, Western Sydney University (Hawkesbury Campus), at 2 College Road, Richmond, New South Wales 2753.

The study area (see Figure 3.1) is that piece of land described as Part Lot 2 of the Land and Property Information Deposited Plan 1051798 forming the following street address Vines Drive, Richmond, at Western Sydney University (Hawkesbury Campus), 2 College Road, Richmond in the Parish of Ham Common, County of Cumberland. It should be noted that the study area comprises 11.37 Hectares of land leased from Western Sydney University (Hawkesbury Campus) for the CoE development.

In 2018, the study area was part of the SSDA Submission (SSD 8614) for the Hurlstone Agricultural High School (AMAC 2018) and the same site has been subsequently superseded by the State Significant Development (SSD-15001460) for the new Centre of Excellence (CoE) Agricultural School.

Aboriginal Consultation

Consultation for this report has taken place in accordance with Heritage NSW and *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

As part of the previous investigations undertaken as part of the Hurlstone Agricultural High School (SSD 8614) application (subsequently withdrawn), test excavation of the study area 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 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 of the Berkshire Park (bp) Soil Profile were found to be intact with only minor disturbance visible.

Recommendations

In 2018, the study area was part of the SSDA Submission (SSD 8614) for the Hurlstone Agricultural High School (AMAC 2018) application and had been subsequently withdrawn and superseded by the State Significant Development (SSD-15001460) for the new Centre of Excellence (CoE) Agricultural School.

The findings from the 2017 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 DPIE after issue of the development application plans (Figures 4.1–4.31).

- 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 upon approval of the State Significant Development application (SSD-15001460) and prior to construction commencing, in order to manage any unexpected Aboriginal archaeological and cultural constraints that may arise
- Archaeological test excavation conducted in 2017 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 4.1–4.31) 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
- DPIE, a qualified archaeologist and the participating RAPs are to be notified.

Should any human remains be located during the development, then the following should take place:

- All excavation in the immediate vicinity of any objects of deposits shall cease immediately
- The NSW police and Heritage NSW Enviroline be informed as soon as possible
- Once it has been established that the human remains are Aboriginal ancestral remains, DPIE 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:

- Heritage NSW
- Mr S Randall, Deerubbin LALC
- Mr P. Khan, Kamilaroi-Yankuntjatjara Working Group
- Ms C. Everingham, Darug Aboriginal Cultural Heritage Assessments
- Ms C. Hickey, A1 Indigenous Service
- Ms. A. DeZwart, Amanda Hickey Cultural Services
- Mr A. & Mr T. Williams, Aboriginal Archaeological Services
- Ms J. Coplin, Darug Custodian Aboriginal Corporation
- Mr S. Hickey, Widescope Indigenous Group
- Mr P. Boyd & Ms L. Carroll, Didge Ngunawal Clan
- Ms C. Carroll, Gunjeewong Cultural Heritage Aboriginal Corporation
- Mr D. Dyer from Darug Aboriginal Land Care
- Mr C. Smith, Cullendulla
- Ms R. Smith, Murramarang
- Ms J. Smith, Biamanga
- Mr B. Smith, Goobah Developments
- Ms J. Seymour, Aboriginal Education Consultative Group & Darug Woman Member Darug Custodians
- Mr D. Trewlynn, Aboriginal Education Consultative Group
- Ms J. Flood, Aboriginal Education Consultative Group, RHS/RAC
- Ms K. Medley, RHS Campus/RAC
- Ms E. Wilkens, Darug Woman Member Aboriginal Education Consultative Group & Darug Custodian
- Ms S. Price Member Aboriginal Education Consultative Group, Teacher NSW DoE & WSU Lecturer
- Ms M. Stubbings, Merana Aboriginal Community Association for the Hawkesbury Inc.

1.0 INTRODUCTION

1.1 BACKGROUND

Archaeological Management and Consulting Group (AMAC) in conjunction with Streat Archaeological Services Pty Ltd (SAS) was commissioned by Colliers International on behalf of the Department of Education (DoE) in March 2021, to prepare an Aboriginal Cultural Heritage Assessment Report and accompanying Aboriginal Archaeological Technical Report including consultation for the proposed State Significant Development (SSD-15001460) - Centre of Excellence (CoE) Agricultural School, Western Sydney University (Hawkesbury Campus), at 2 College Road, Richmond, New South Wales 2753.

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 addresses the requirements stipulated in Item 7 of the Secretary's Environmental Assessment Requirements for (SSD-15001460) issued on the 19th March 2021:

Item 7: Aboriginal Cultural Heritage

Provide an Aboriginal Cultural Heritage Assessment Report (ACHAR) that:

- *identifies and describes the Aboriginal cultural heritage values that exist across the site.*
- *Includes surface surveys and test excavations where necessary.*
- *has been prepared in accordance with the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (OEH, 2011) and Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW (OEH, 2010).*
- *incorporates consultation with Aboriginal people in accordance with Aboriginal Cultural Heritage Consultation Requirements for Proponents (Department of Environment, Climate Change and Water, 2010).*
- *documents the significance of cultural heritage values of Aboriginal people who have a cultural association with the land.*
- *identifies, assesses and documents all impacts on the Aboriginal cultural heritage values.*
- *demonstrates attempts to avoid any impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the ACHAR and EIS must outline measures proposed to mitigate impacts.*
- *demonstrates attempts to interpret the Aboriginal cultural heritage significance identified into the development.*

Any Aboriginal objects recorded as part of the Aboriginal Cultural Heritage Assessment Report must be documented and notified to the Aboriginal Heritage Information Management System (AHIMS) within Heritage NSW of the Department of Premier and Cabinet.

In 2018, the study area was part of the SSDA Submission (SSD 8614; see Figure 7.1) for the Hurlstone Agricultural High School (AMAC 2018) and it should be noted that this application has been withdrawn and is superseded by the State Significant

Development (SSD-15001460) for the new Centre of Excellence (CoE) Agricultural School. The site of the current proposal is the same as the previous SSDA.

1.2 STUDY AREA

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

The study area comprises 11.37 Hectares of land leased from Western Sydney University (Hawkesbury Campus) for the CoE development.

| 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 on the study area in 2017 as part of the SSDA Submission (SSD 8614) for the Hurlstone Agricultural High School (AMAC 2018) and includes 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 Report to Heritage NSW, Department of Premier and Cabinet.

As part of the assessment for any Aboriginal objects/deposits and/or features of cultural and archaeological significance for the CoE development, this report utilised the findings and associated test excavation results from the previous Hurlstone Agricultural High School development on the same site originally completed in 2018. The initial programme of test excavation was carried out in relation to the first development proposed and was reviewed by the RAPs in this context. Once the report was completed and finalised consultation was viewed to be at an end. In January 2021, variations to the initial development plans were proposed and these new plans were incorporated into the report and an opportunity for the RAPs to review the new proposed development was provided on the 9th April 2021 for review and input for a period of no less than 28 days.

The programme of test excavation for the first proposed development consisted of 51 test pits and was carried out over an area of 12.59 hectares. The variation to the size of the development constitutes a reduction on overall size with a small variation to the location (Figure 1.1). The nature and extent of the archaeological deposit is very well understood as a result of the test excavation. There is no Aboriginal cultural or archaeological material present within the study area, even a so-called 'background scatter' is absent and as such no further archaeological work is called for in relation to the proposed development. A site induction document and an unexpected finds protocol should be produced as a precaution.

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.



Figure 1-1 Orange fill indicates the locations the CoE development falls outside the previous development boundary.

1.4 ABORIGINAL CONSULTATION & PARTICIPATION SUMMARY

Consultation for this report is to be undertaken in accordance with Heritage NSW 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.

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 in association with archaeologist Steven J. Vasilakis (B Arch. Hons), 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:

- Ms M. Stenniken & Ms L. Young, Colliers International
- Mr S. Randall, Deerubbin LALC
- Mr P. Khan, Kamilaroi-Yankuntjatjara Working Group
- Ms C. Everingham, Darug Aboriginal Cultural Heritage Assessments
- Ms C. Hickey, A1 Indigenous Service
- Ms A. DeZwart, Amanda Hickey Cultural Services
- Mr A. & Mr T. Williams, Aboriginal Archaeological Services
- Ms J. Coplin, Darug Custodian Aboriginal Corporation
- Mr S. Hickey, Widescope Indigenous Group
- Mr P. Boyd & Ms L. Carroll, Didge Ngunawal Clan
- Ms C. Carroll-Turrise, Gunjeewong Cultural Heritage Aboriginal Corporation
- Mr D. Dyer, Darug Aboriginal Land Care
- Mr C. Smith, Cullendulla
- Ms R. Smith, Murramarang
- Ms J. Smith, Biamanga
- Mr B. Smith, Goobah Developments
- Ms J. Seymour, Aboriginal Education Consultative Group
- Mr D. Trewlynn, Aboriginal Education Consultative Group
- Ms J. Flood, Richmond Agricultural College
- Ms K. Medley, Richmond Agricultural College
- Ms E. Wilkens, Aboriginal Education Consultative Group
- Ms S. Price, Aboriginal Education Consultative Group
- Ms M. Stubbings, Merana Aboriginal Community Association for the Hawkesbury Inc.

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, and 4 refer to Regional strategic plans and both Local Environmental Plans (LEP) and Development Control Plans (DCP), 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 4.15 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/Heritage NSW 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 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*

2.3.2 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.

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).

3.0 DESCRIPTION OF STUDY AREA

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

The study area in Figure 3.1 below is subject to this assessment as part of State Significant Development (SSD-15001460) - Centre of Excellence (CoE).

| 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.



Figure 3-1 Aerial of Study Area.
Study area outlined in red. Six Maps, LPI Online (accessed 31/03/2021).

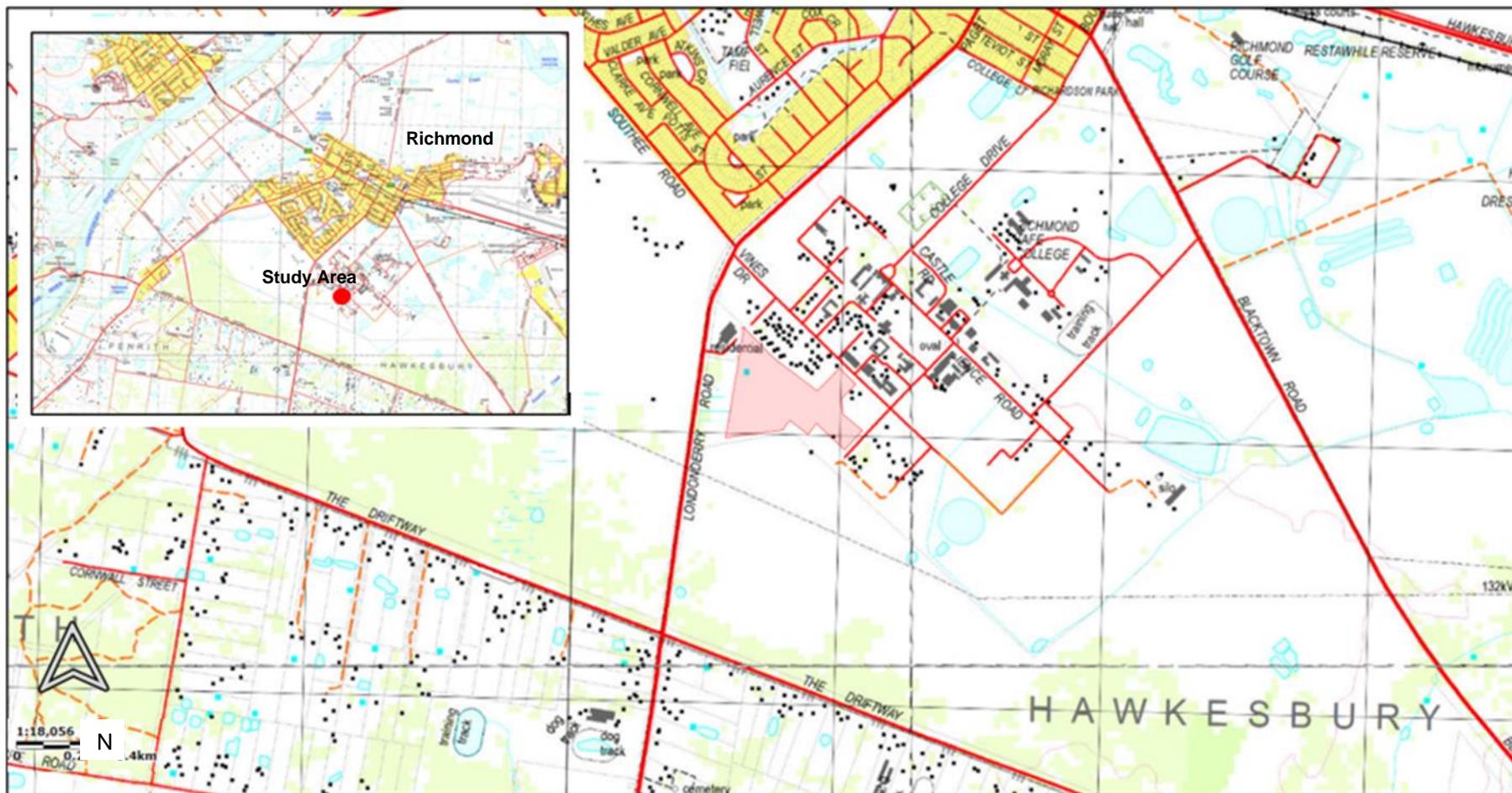


Figure 3-2 Topographic Map with Site Location.
Study area red outline/shade. Six Maps, LPI Online (accessed 31/03/2021).

4.0 PROPOSED DEVELOPMENT

The proposed activity is for the State Significant Development (SSD-15001460) - Centre of Excellence (CoE) Agricultural School, at Western Sydney University (Hawkesbury Campus). The design comprises of 8 building blocks (Blocks A-H) that will include administration, boarding accommodation, learning facilities, science laboratories, recreational areas, greenhouse, and farming premises, as well as landscaping. No basement has been proposed.

These works address and include the following for the property:

- Block A will house the Administration Building
- Blocks B, C & D will provide the learning/seminar facilities
- Block E is for the dining/conference space
- Block F provides the boarding accommodation
- Blocks G & H provide the greenhouse & agricultural workshop
- Aboriginal Enterprise & COLA
- Construction of access roads, driveways, kerbs, and car park
- Associated site works including earthworks, drainage, services, and landscaping.

Overview

The proposed development involves the construction and operation of a new Centre of Excellence (CoE) in Agricultural Education on a leased land parcel within the Western Sydney University (Hawkesbury Campus) site, Richmond NSW.

The CoE will provide new agricultural/STEM teaching facilities with general learning and administration spaces to be utilised by rural, regional, metropolitan and international school students. The CoE will accommodate up to 325 students and up to 25 full-time employees consisting of farm assistants, administration staff and teachers and up to five itinerant staff members. The CoE will also include short-term on-site accommodation facilities for up to 62 visiting students and teaching professionals from regional and rural NSW.

The CoE will include five science laboratories, ten general learning spaces, practical activity teaching areas, seminar, botany room, administration block and accommodation facilities. It will also include covered outdoor learning areas, dining / recreation hall, canteen and kitchen, agricultural plots, significant landscaping spaces, car parking and provision of necessary infrastructure.

The proposed development has been designed to be well integrated into the Western Sydney University site, having due regard for scale, bulk and orientation of existing buildings. The educational facilities will display linear open building forms in single story design with open spaces and lightweight construction techniques. The site is benefitted by views Blue Mountains to the west and the building and landscape plans have incorporated viewing opportunities into the design.

The EIS seeks development consent for the following works:

- Three academic blocks (Block B, C and D).

- Short-term, dormitory site accommodation with capacity for 62 patrons (Block F).
- Dining hall, Conference space and canteen (Block E).
- Administrative building (Block A).
- Support facilities for management and maintenance of site.
- External works to accommodate circulation and covered walkways between buildings.
- Pedestrian walkways.
- Student and staff amenities.
- Covered Outdoor Learning Areas.
- Staff car parking area and mini-bus drop off and pick up area. The parking located in front of block A is for visitors
- Short-term accommodation car parking area. The parking near block F is for staff.
- Green house.
- Various agricultural and animal plots and associated agricultural workshop.
- Provision of waste facility area.
- Installation of all essential services including stormwater management devices where required.
- Operation of the CoE site.

Building Design Philosophy

The proposed development has been designed with a strong focus on the speciality function of the educational facility. The learning environment offers a strong focus on Agriculture and STEM skills, as such the external learning environment produces equal if not more significance to the facility than the internal arrangements. The site planning has accommodated for this with the inclusion of the following principles of the project:

- Strong presentation to Vines Drive, with the Administrative Building identified as the principal entrance to the site.
- Regard for the Western Sydney University (Hawkesbury Campus) masterplan principles and the existing entry arrangements at the site with concern to the axial arrangement of the proposed buildings.
- Entry vistas that terminate at low level within the learning blocks.
- Intuitive educational “block” organisation; assigning order to related function.
- Consideration to the local heritage items within the WSU campus
- Orientation and placement of buildings to correspond to the existing surrounding environment and enterprises.
- Positioning of internal spaces to be sympathetic to the existing vistas and Aboriginal heritage nature of the site.

Proposed Built Form

The proposed development is to be sited on a vacant parcel to the south of the existing Western Sydney University (Hawkesbury Campus) and Vines Drive. The proposed CoE buildings are sited to the south of Vines Road with the primary access from a private road. The proposed development includes new educational buildings, open spaces and parking facilities as per below.

New educational buildings

Six (6) main educational buildings are proposed as part of the development.

- Block A: One (1) single- storey building on the site will accommodate the administrative activities, shared office space and staff located at the main entrance from Vines Road.
- Block B: One (1) single storey building provides a central practical activities / seminar room and four general learning areas (two on the northeast elevation and two on the southwest elevation) to be used as teaching areas. Oriented generally north to south.
- Block C: One (1) single storey building offers two (2) areas for practical activities, 1 seminar, semi commercial food tech with kitchen prep and six (6) general learning areas. Generally oriented east to west.
- Block D: One (1) single storey building to provide five (5) labs, 1 botany / zoology room, 2 practical spaces and one preparation area. Oriented east to west.
- Block E: One (1) Single story building containing the dining hall and conference area with canteen and kitchen. Oriented north to south.
- Block F: One (1) Single storey building to accommodate short term accommodation, dormitory style bedrooms with a wellbeing area extending to the northeast.
- Block G: One (1) Single storey green house.
- Block H: One (1) Single storey Agricultural workshop.

Open space and amenities

Buildings have been oriented on the site in linear open building forms utilising a 7.5 x 9m DfMA grid for a light weight steel structure and portal frame structures. The buildings are connected by Covered Outdoor Learning Areas, facilitating pedestrian activity. Agricultural plots are sited to the west of the buildings and accessed by internal circulation path. The arrangement of the outdoor learning spaces and buildings create a comprehensive site wayfinding strategy with landscaping utilised to reinforce the site plan.

Site and parking facilities

The site planning focuses on separate private and public vehicular access with minibus/ student drop off and pickup occurring at the north from Vines Road. Further parking for staff, short-term accommodation, loading, waste removal and maintenance is located to the eastern side of the site.

The proposed development will impact sections of the study area where intact/residual soil profiles may exist. There is a low-moderate potential for Aboriginal artefacts and/or deposits of archaeological and cultural significance to be present. Test excavation under the *Code of Practice (DECCW 2010)*, had been undertaken in 2017 (see Section 7.0) to assess the level of disturbance of the site and the potential harm that may be the result of the proposed activity. 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.

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

4.1 ECOLOGICAL SUSTAINABLE DEVELOPMENT AND INTERGENERATIONAL EQUITY

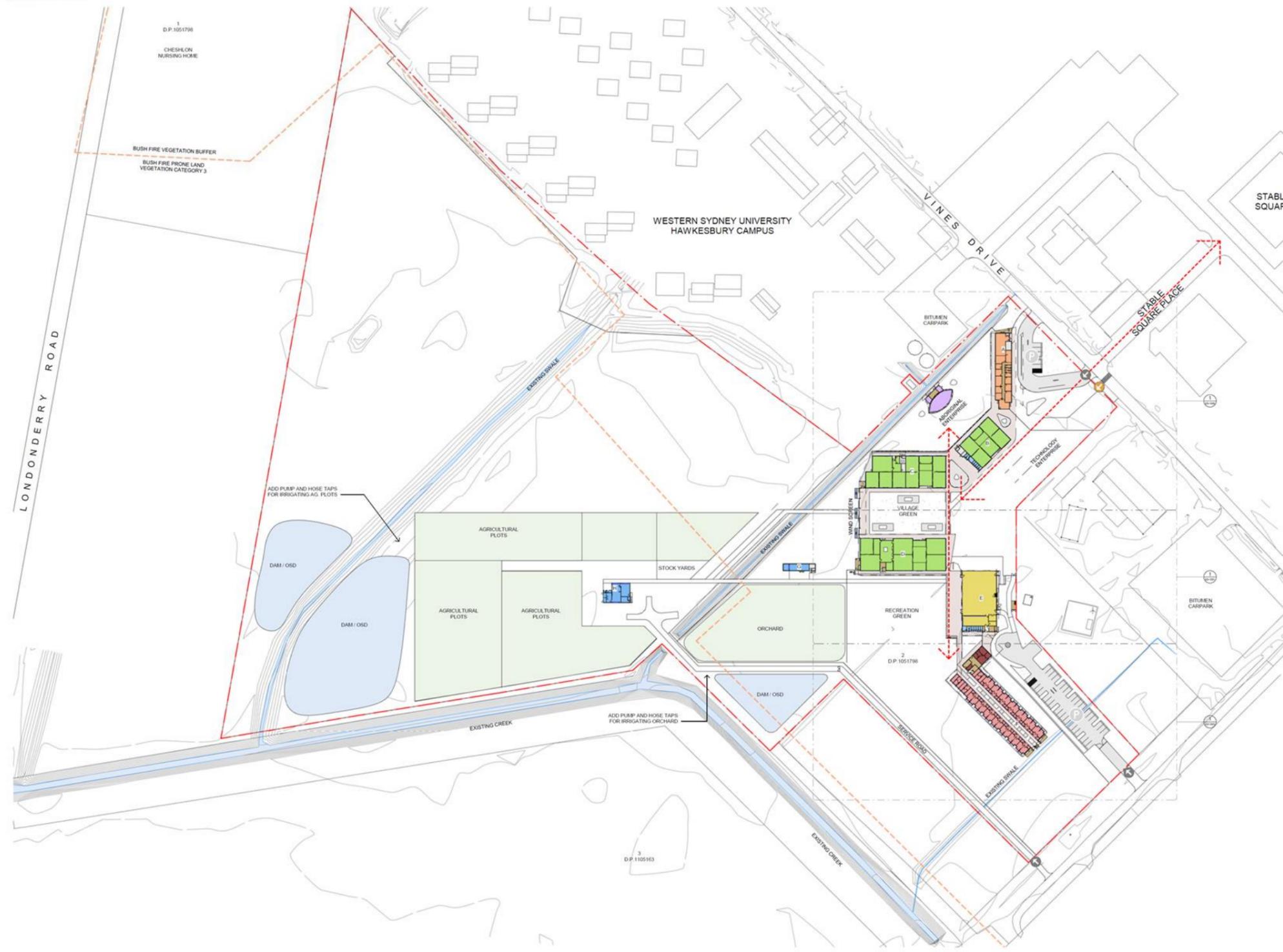
The ability of any development to be completely ecologically sustainable will be limited by definition. However, the proponents of this development appear to have made significant efforts to meet the needs of the current generation without compromising the ability of future generations to meet their 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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LEGEND

- LEASE LINE
- PEDESTRIAN AXIS
- EXISTING DRIVE & CREEK
- BUSH FIRE PRONE LAND VEGETATION BUFFER
- B BUS STOP
- P CARPARKING
- A PEDESTRIAN ACCESS
- T VEHICLE ENTRY/EXIT
- BLOCK A ADMINISTRATION
- BLOCK B, C & D LEARNING
- BLOCK E DINING
- BLOCK F ACCOMMODINATION
- BLOCK G & H PARKING
- ABBORIGINAL ENTERPRISE COLA

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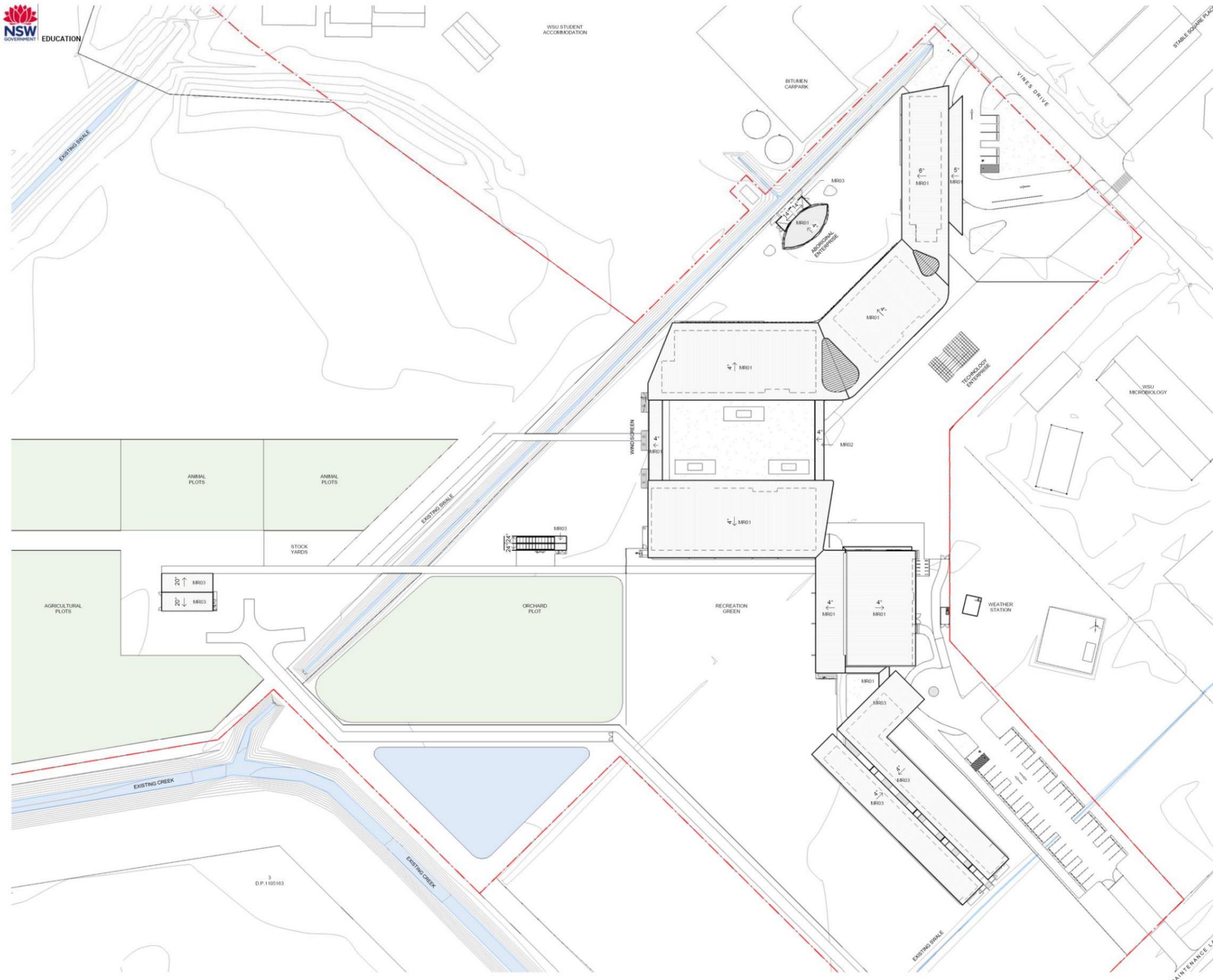
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 Proposed Site Plan

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Figure 4-1 Proposed Site Plan.
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Drawing Title
 Proposed Roof Plan

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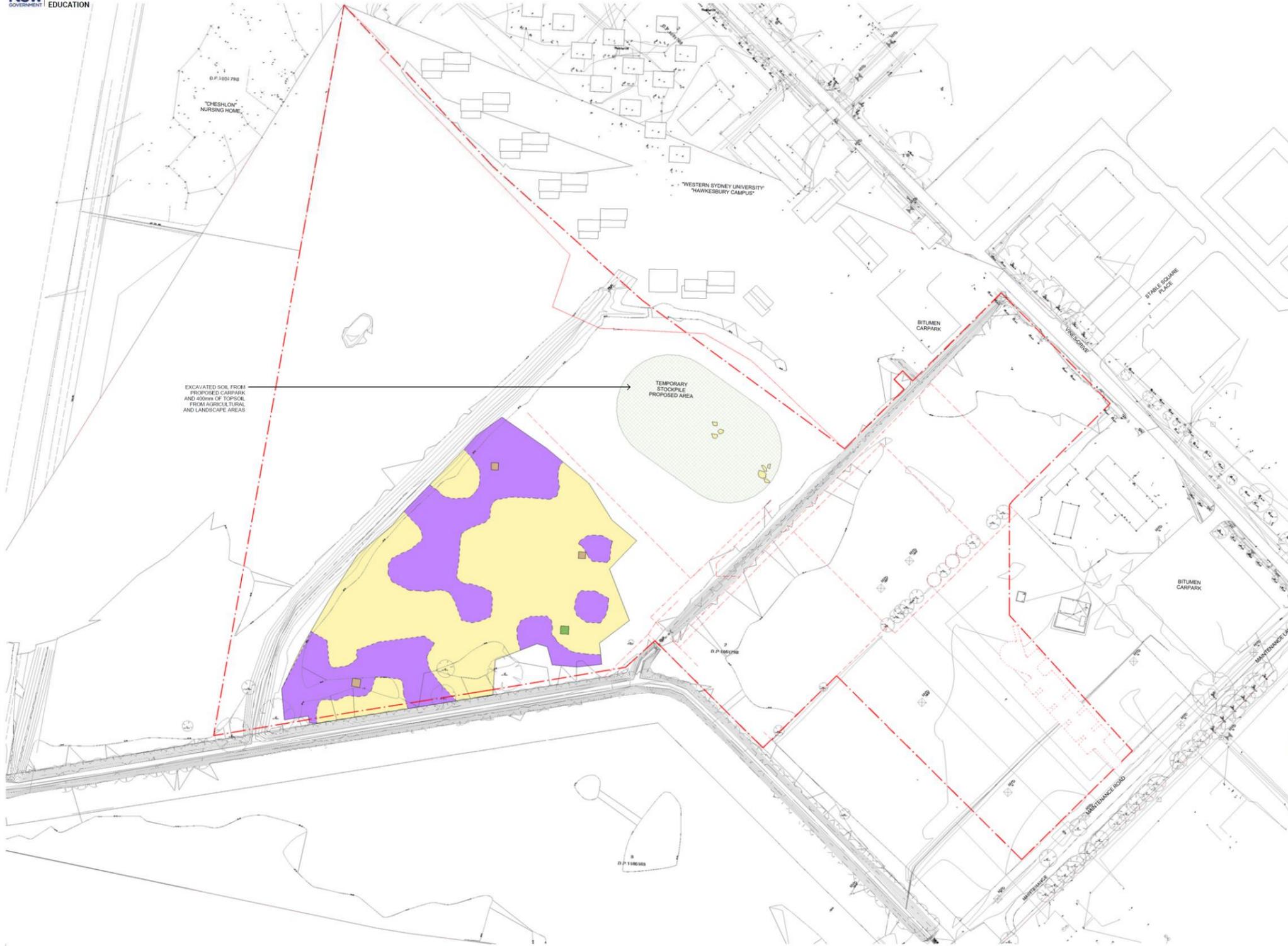
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Figure 4-2 Proposed Roof Plan.
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 CONSTRUCTIONS

- AREA SUITABLE FOR RETENTION ON SITE
- AREA REQUIRING PLACEMENT IN CONTAINMENT CELL AND/OR DISPOSAL (REFER TO SECTION 8.5 OF THE MAP)
- AREA REQUIRING DISPOSAL (REFER TO SECTION 8.3 OF THE MAP)
- AREA REQUIRING PLACEMENT IN CONTAINMENT CELL AND/OR DISPOSAL (REFER TO SECTION 8.5 OF THE MAP OF 2018A)
- LEASE LINE



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Drawing Title
 Demolition Plan

PRELIMINARY

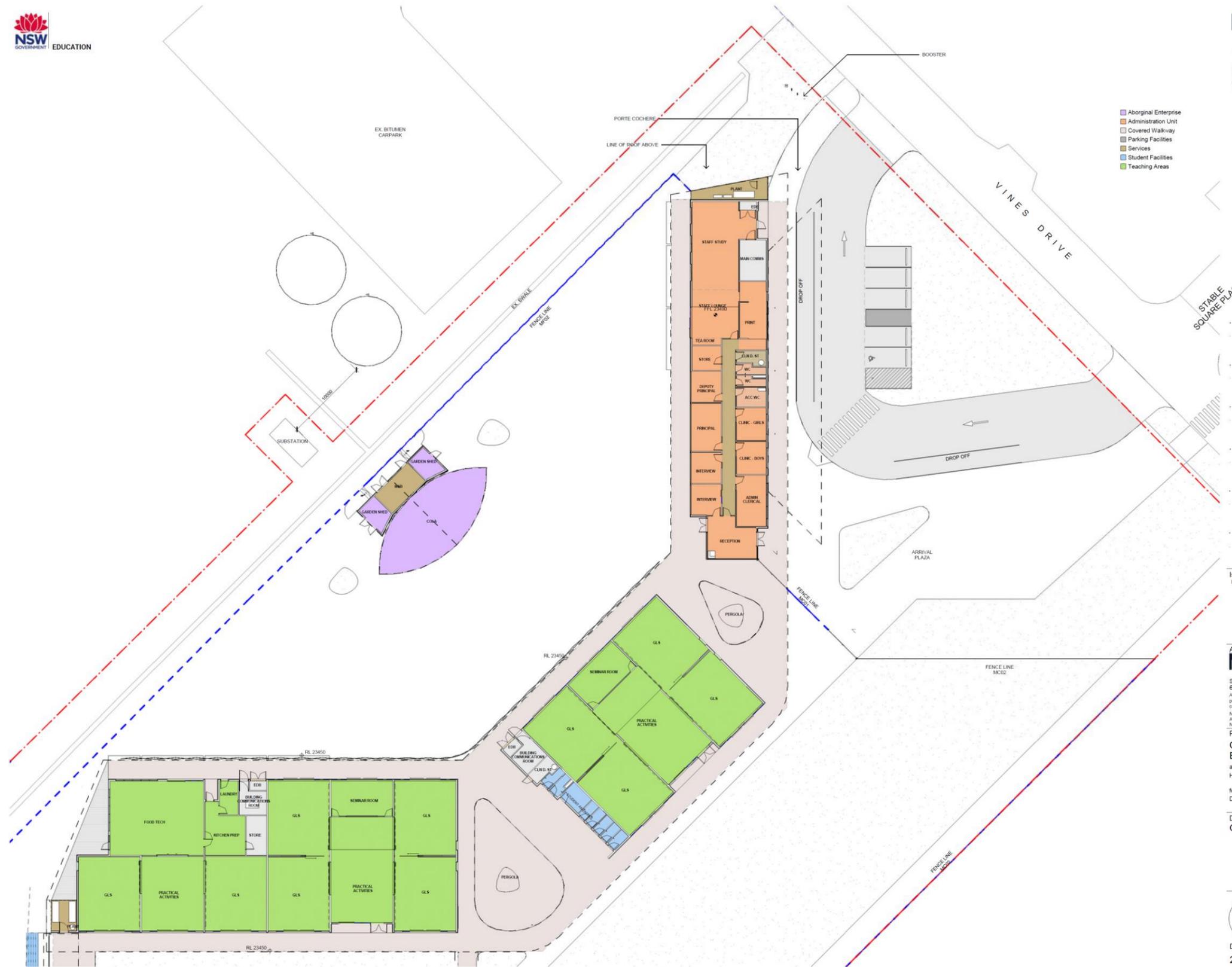
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Figure 4-3 Demolition Plan.
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- Aboriginal Enterprise
- Administration Unit
- Covered Walkway
- Parking Facilities
- Services
- Student Facilities
- Teaching Areas

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Drawing Title
 Ground Floor Part Plan 1

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Figure 4-4 Ground Floor Plan Part 1.
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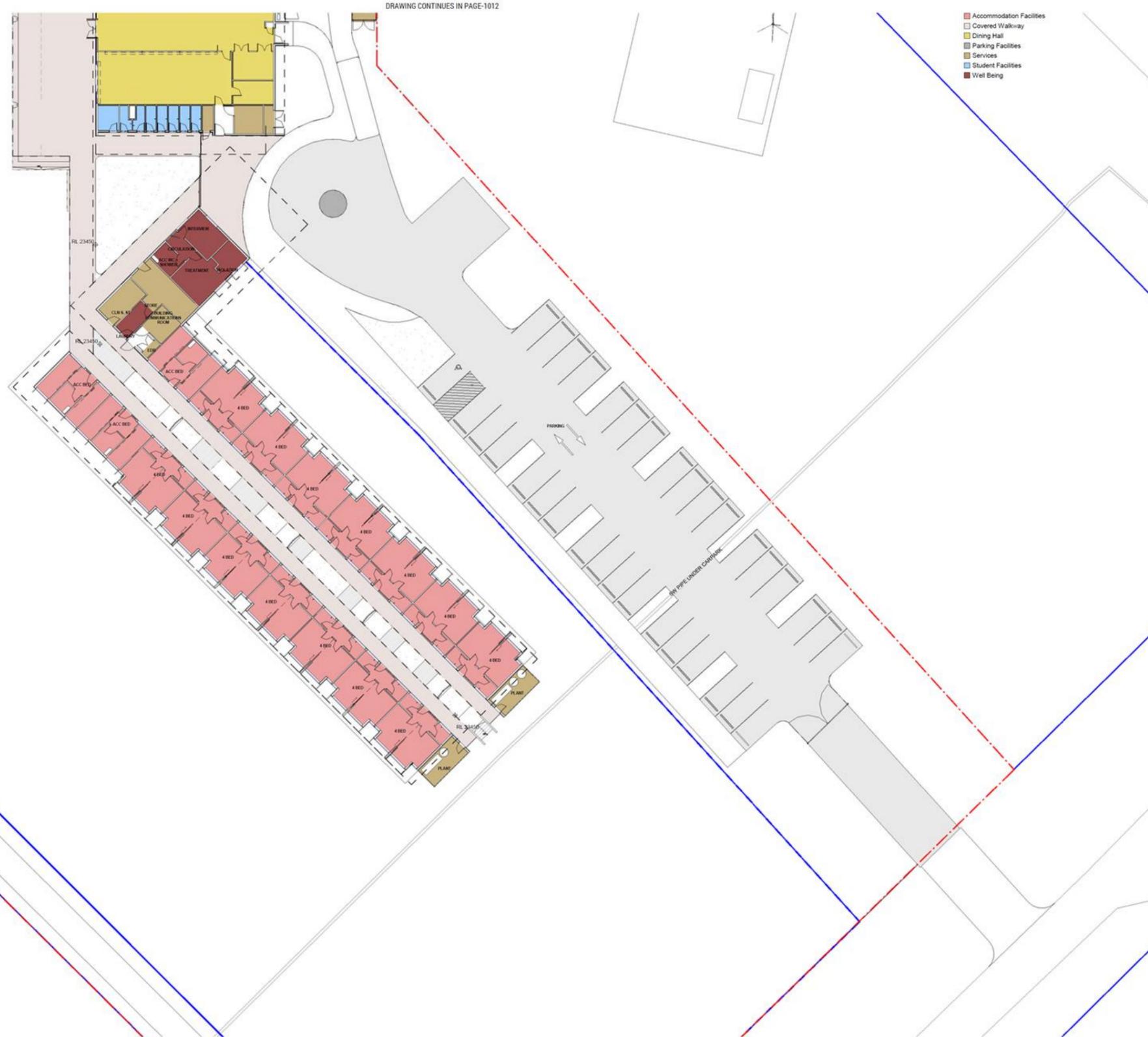


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Figure 4-5 Ground Floor Plan Part 2
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Drawing Title
 Ground Floor Part Plan 3

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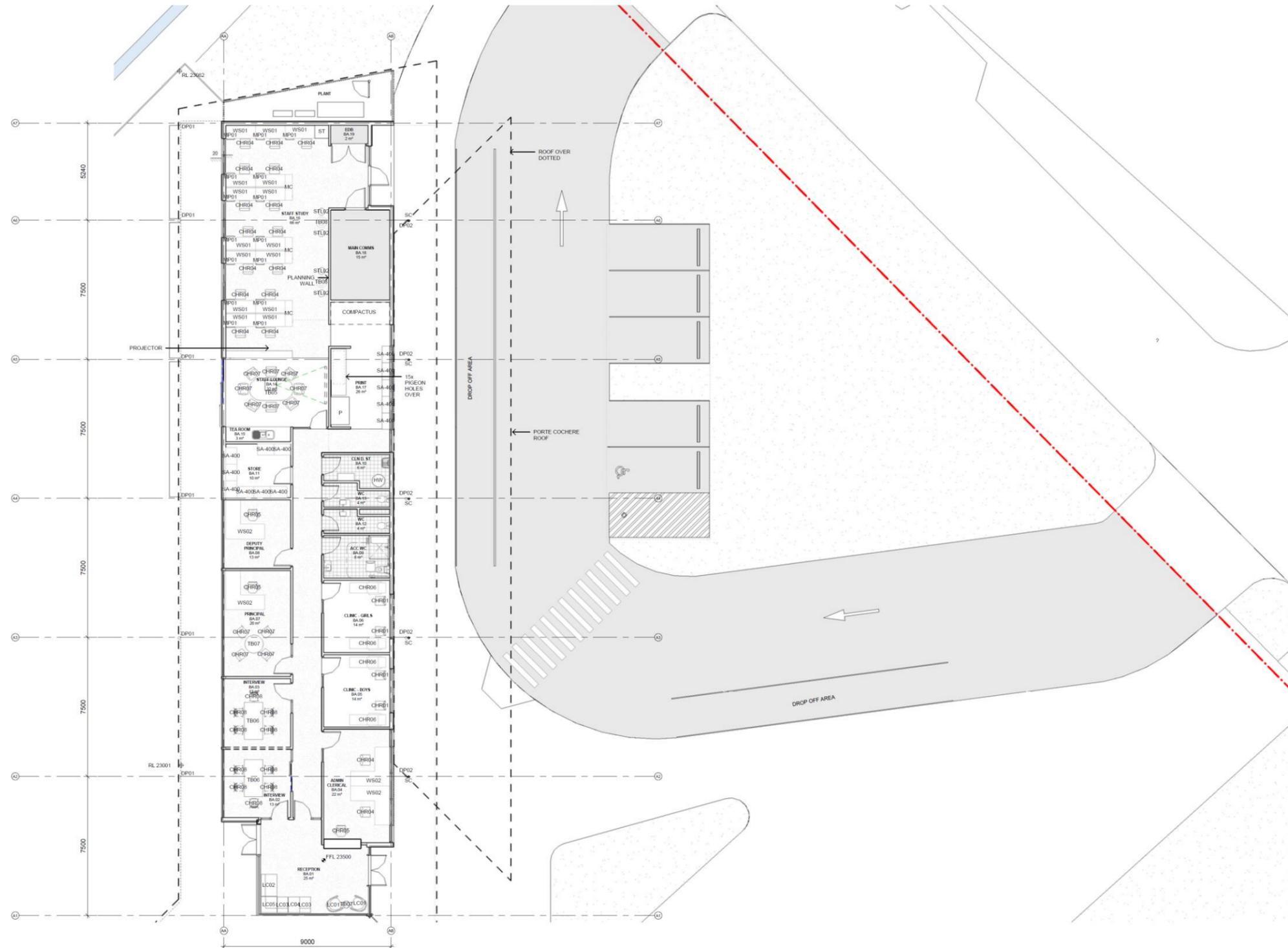
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Figure 4-6 Ground Floor Plan Part 3.
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 Block A Plan

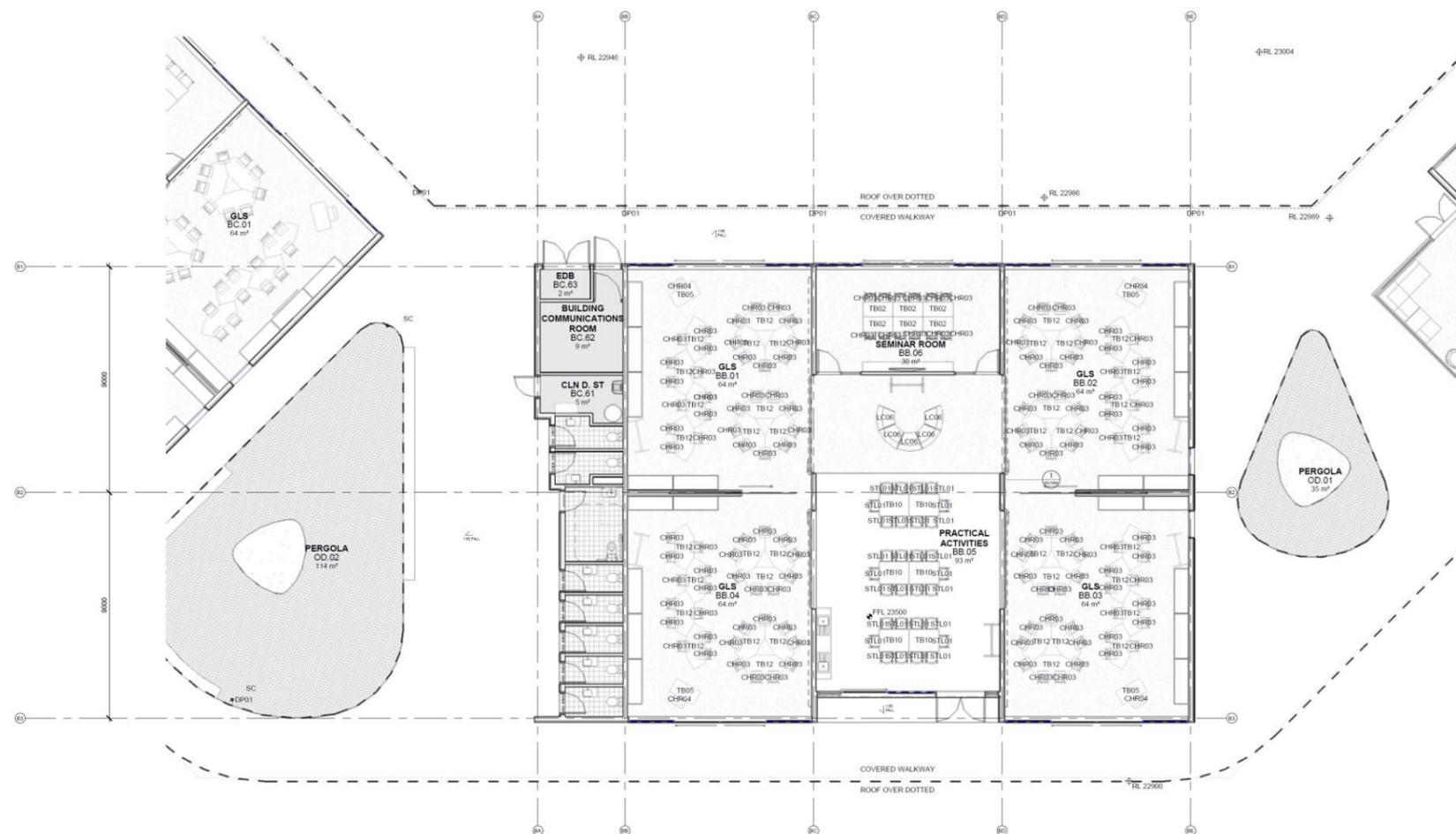
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Figure 4-7 Block A – Administration Building.
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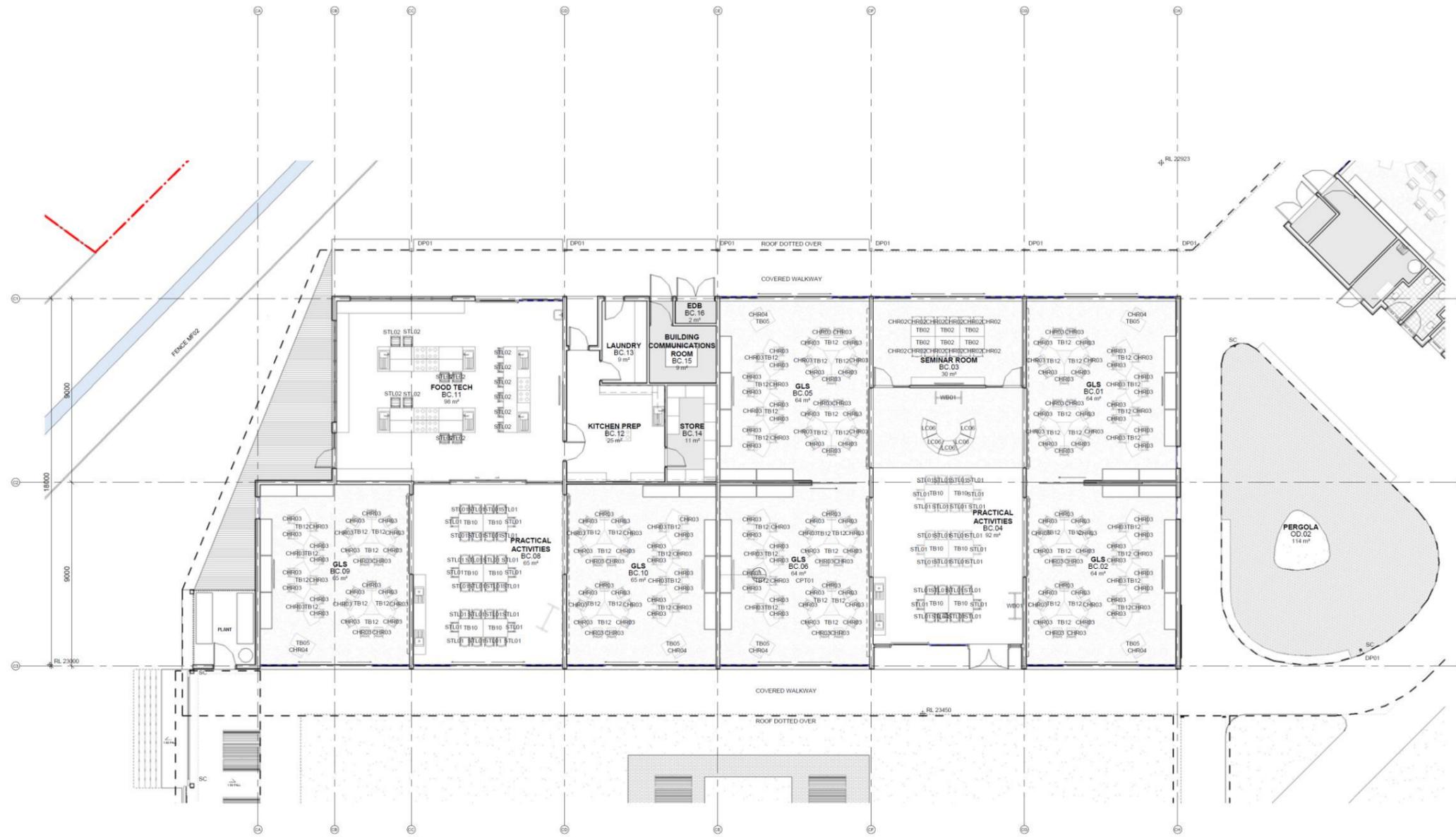
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 Block B Plan

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Figure 48 Block B Plan.
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Drawing Title
 Block C Plan

PRELIMINARY

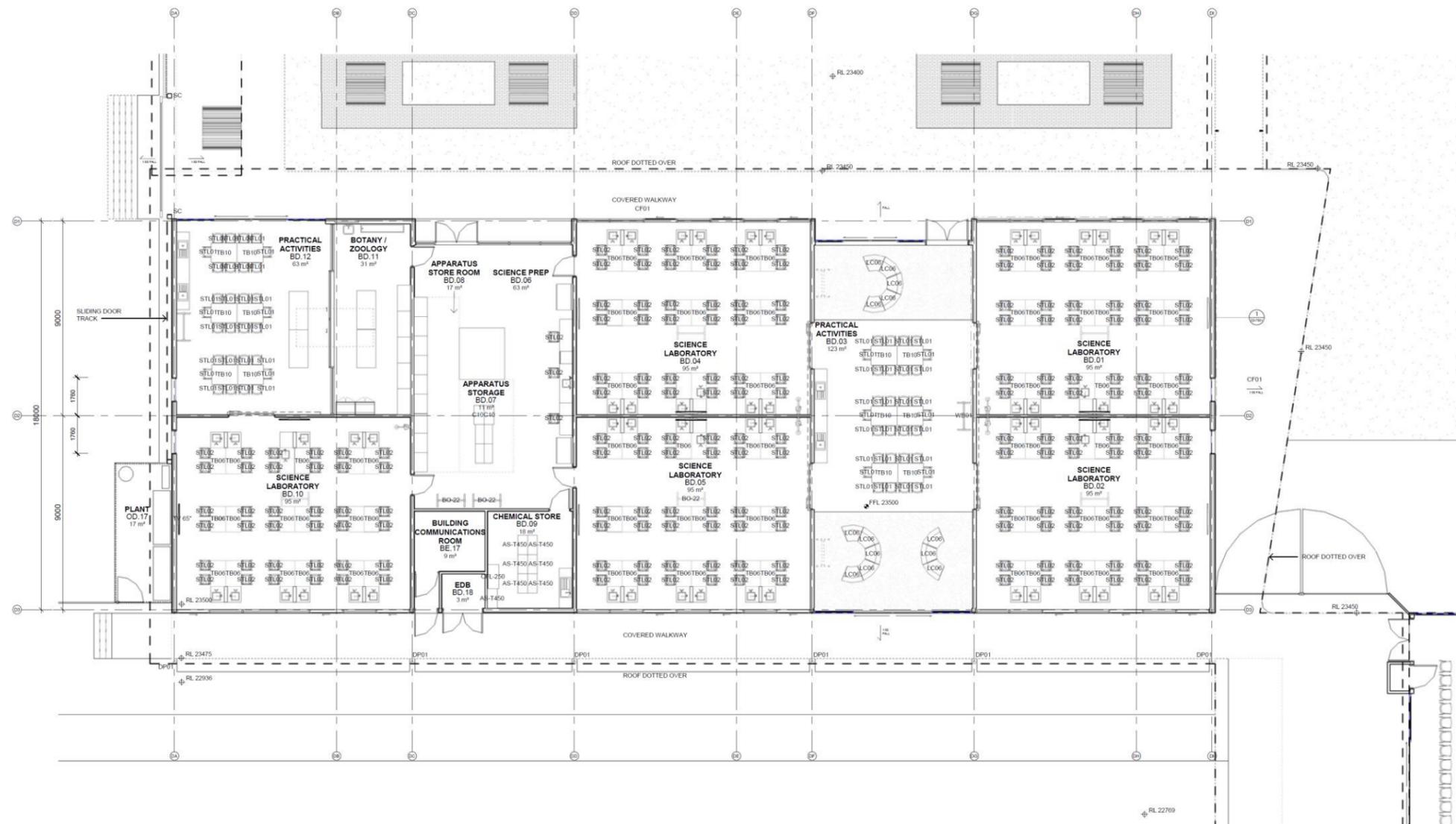
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Figure 49 Block C Plan.
 NBR & Partners Pty Ltd (31/03/2021). 20417-NBR-A-SSDA-1012.



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 Block D Plan

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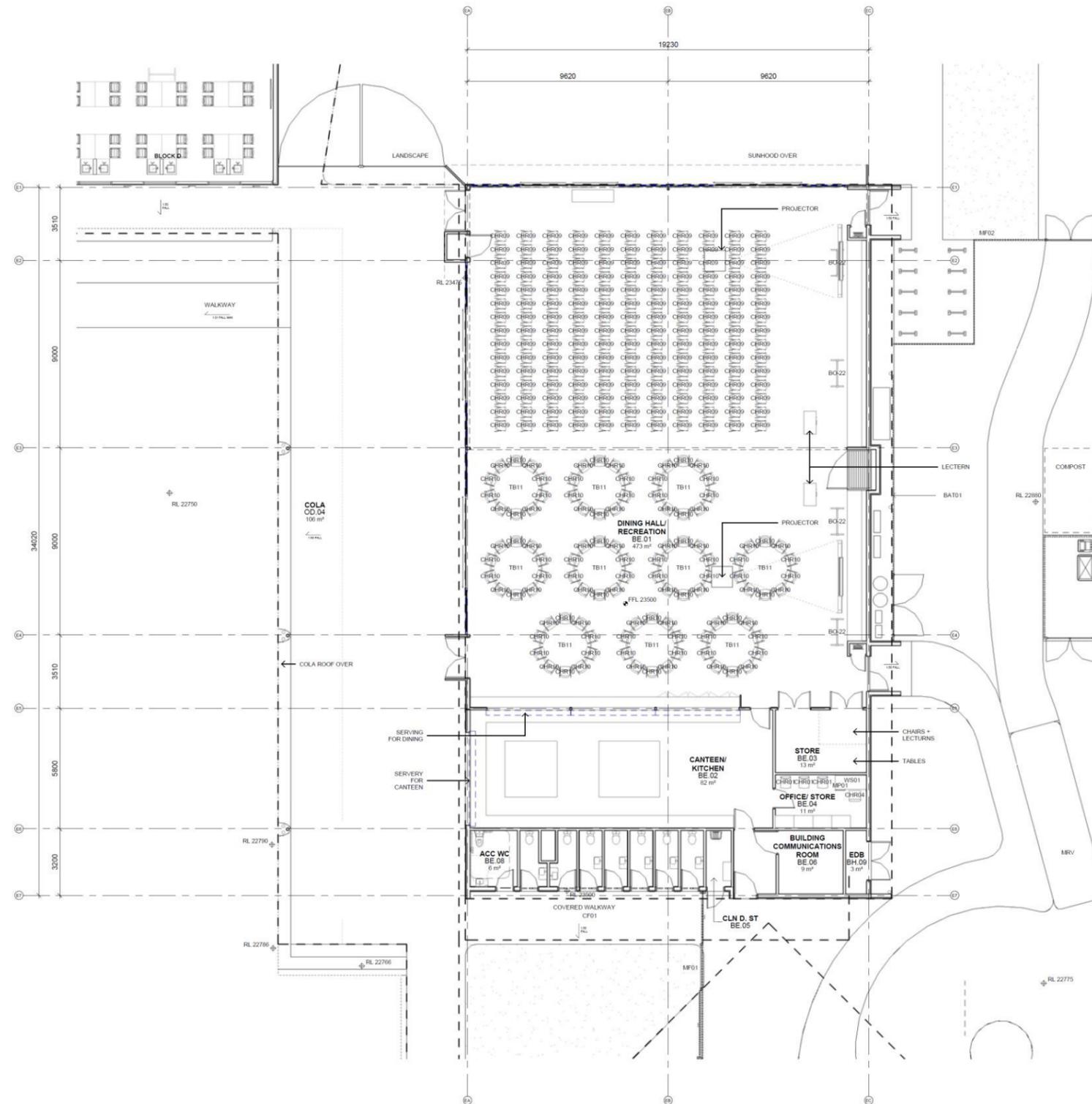
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Figure 4-10 Block D Plan.
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Drawing Title
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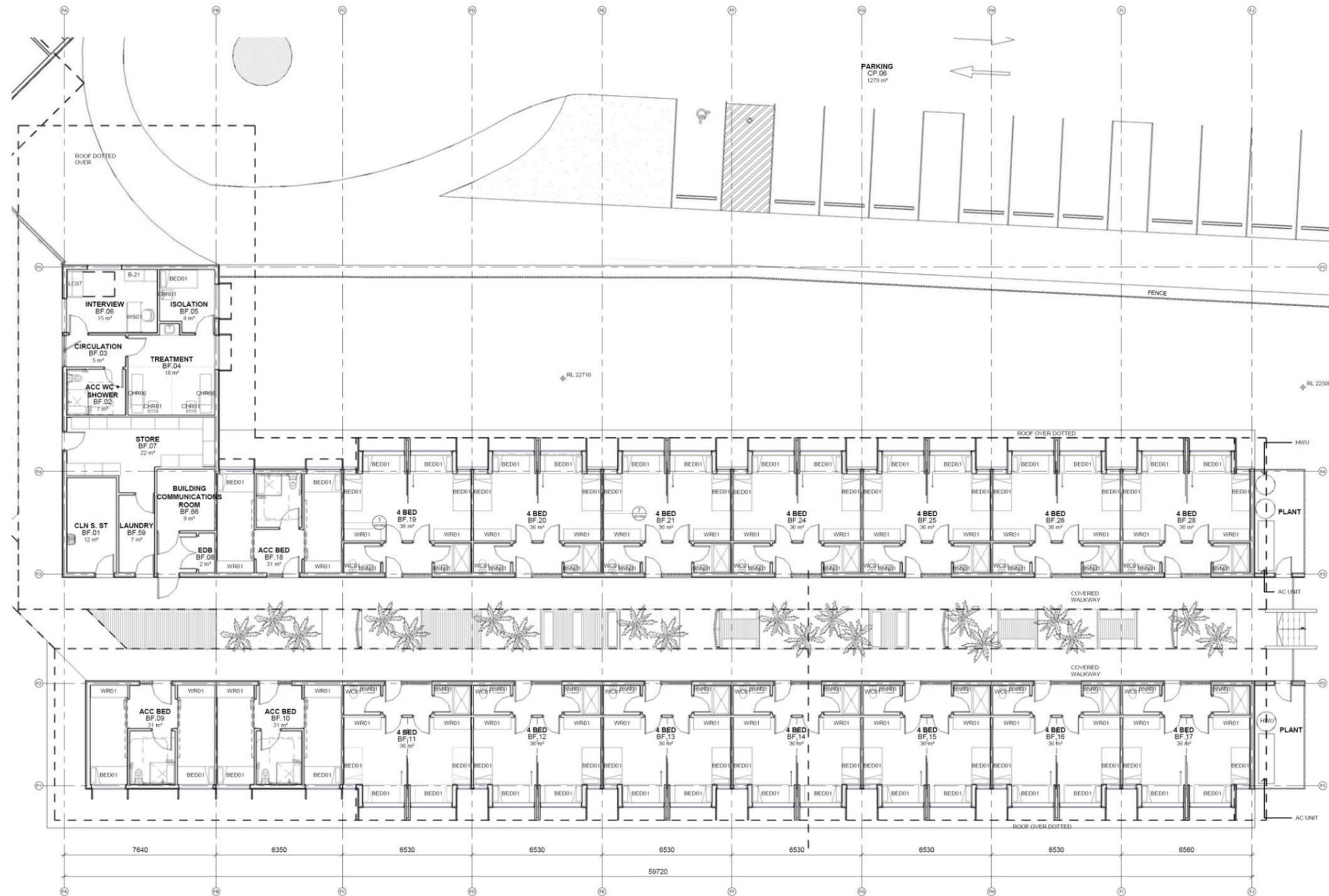
Date 31/03/2021 8:02:24 AM
 Scale 1 : 100 @ A1

Drawing Reference 20417-NBR-S-A-SSDA-1014
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Figure 4-11 Block E Plan.
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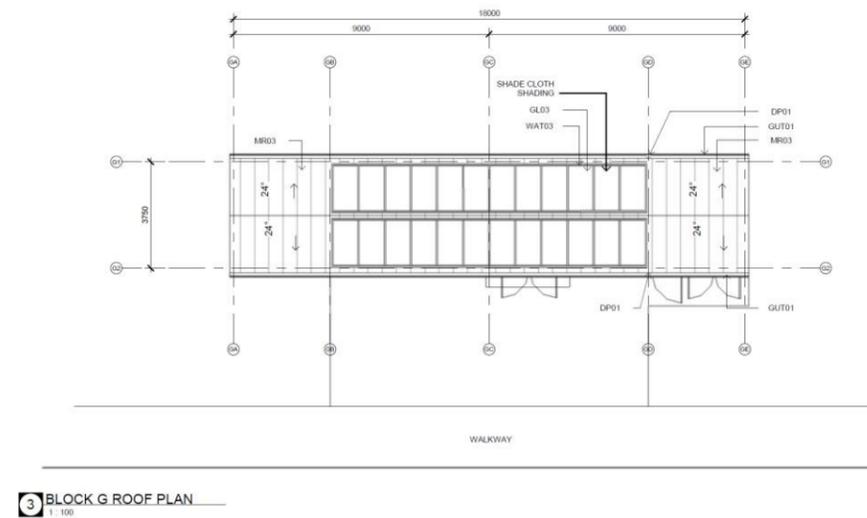
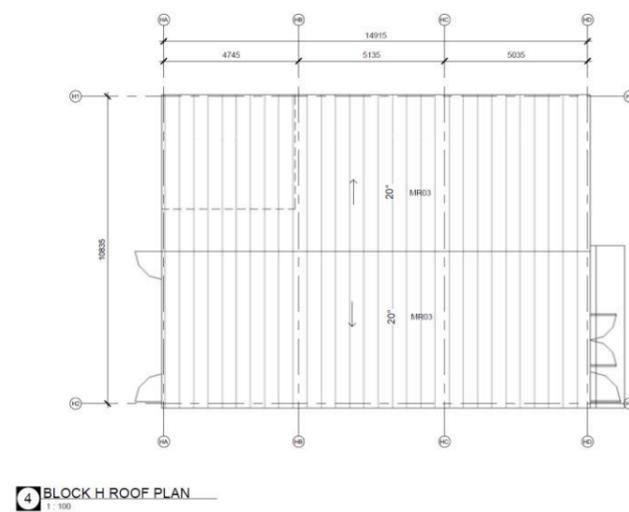
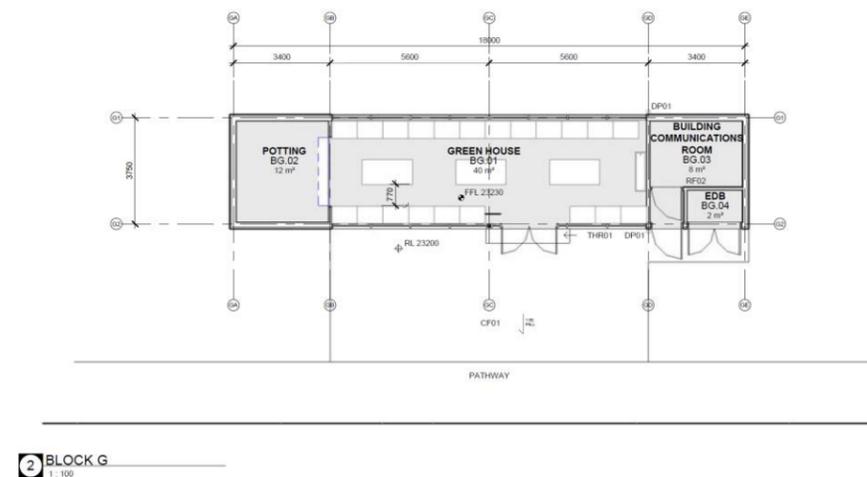
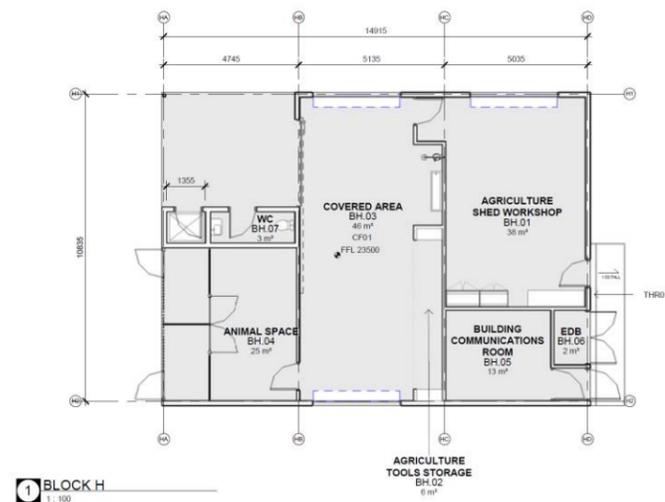
Drawing Title
 Block F Plan

PRELIMINARY

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Figure 4-12 Block F Plan.
 NBR & Partners Pty Ltd (31/03/2021). 20417-NBR-A-SSDA-1015.



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 Block G & H Plan

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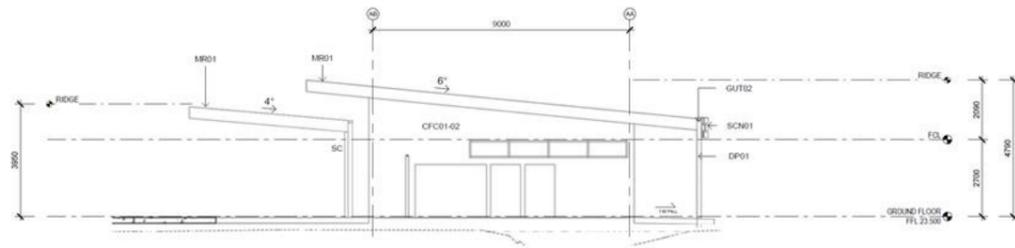
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Drawing Reference 20417-NBR-A-SSDA-1016
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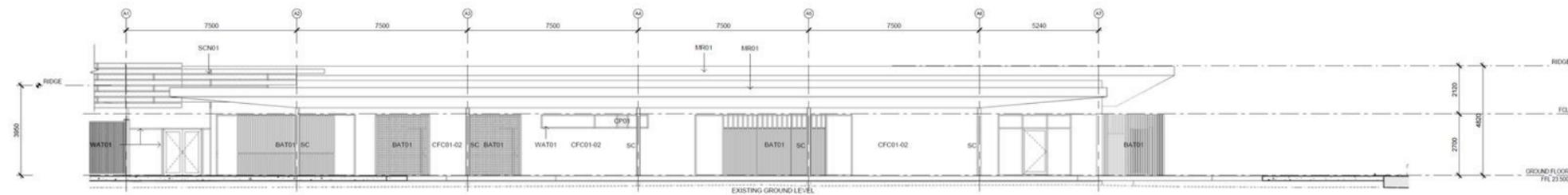
Figure 4-13 Block G & H Plan. NBR ARCHITECTURE Pty Ltd (31/03/2021). 20417-NBR-A-SSDA-1016.



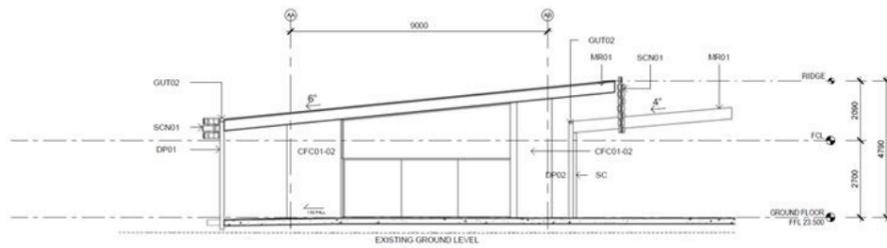
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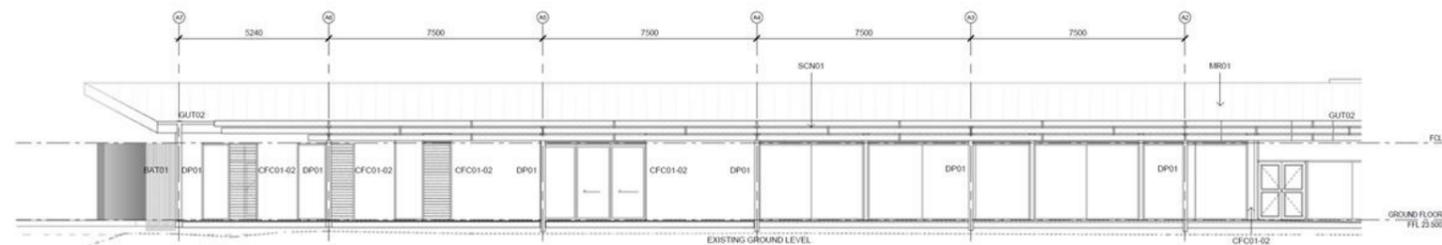
2 BLOCK A - NORTH ELEVATION 1
 1:100



3 BLOCK A - EAST ELEVATION 1
 1:100



4 BLOCK A - SOUTH ELEVATION 1
 1:100



1 BLOCK A - WEST ELEVATION 1
 1:100

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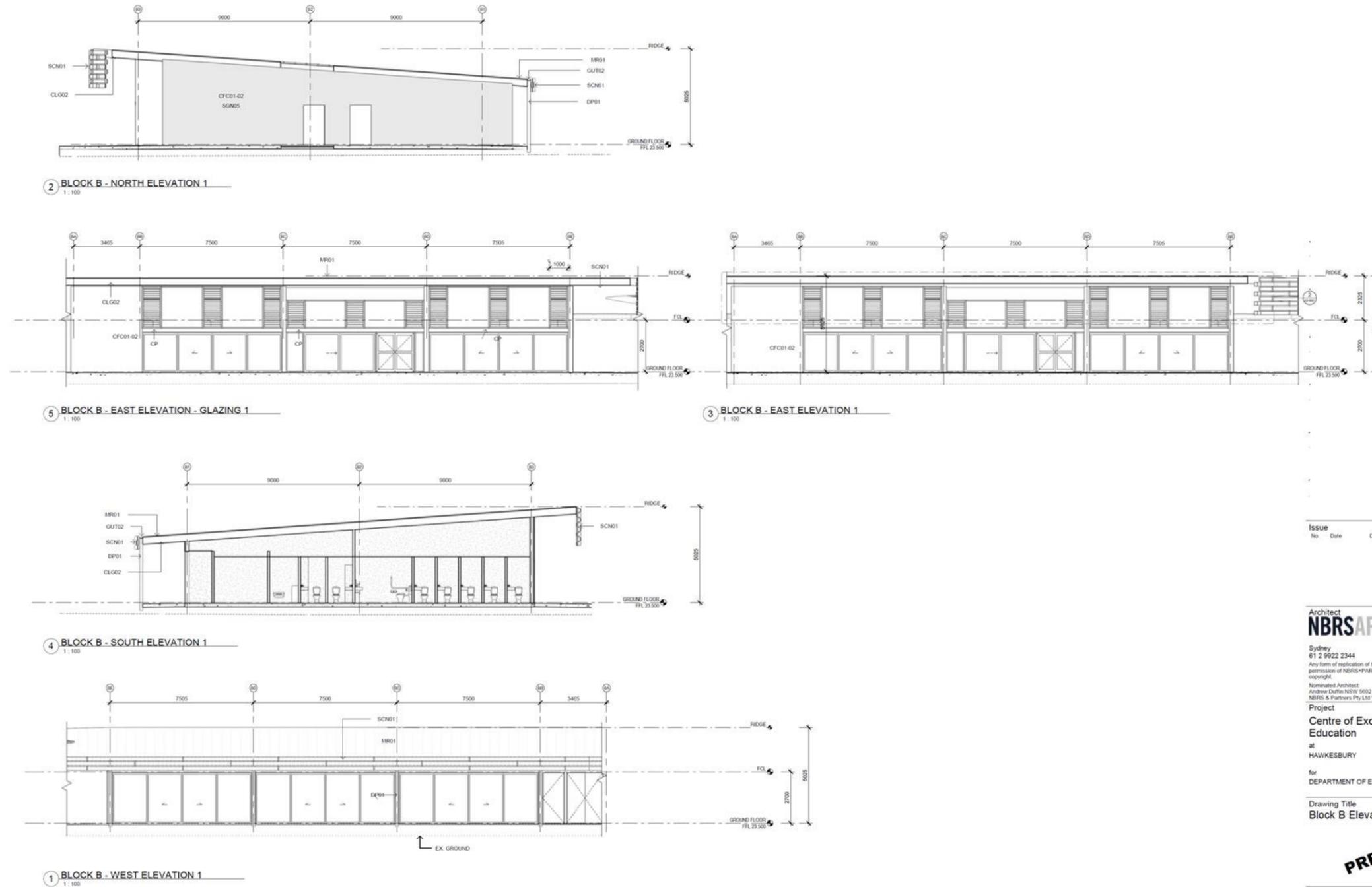
Drawing Title
 Block A Elevations

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Figure 4-14 Block A Elevations.
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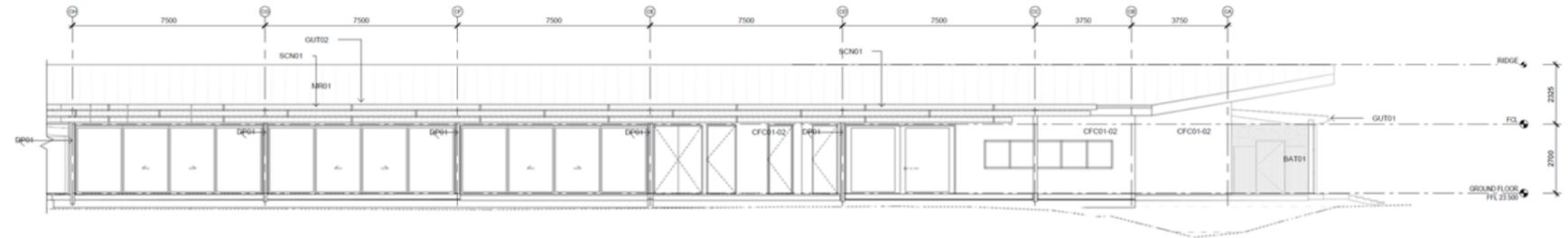
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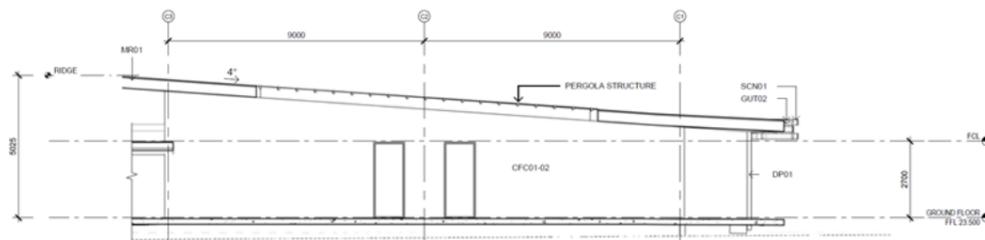
Figure 4-15 Block B Elevations.
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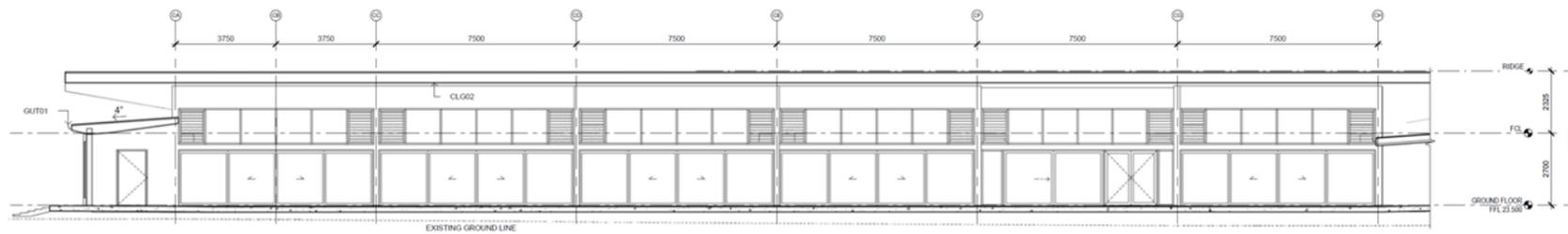
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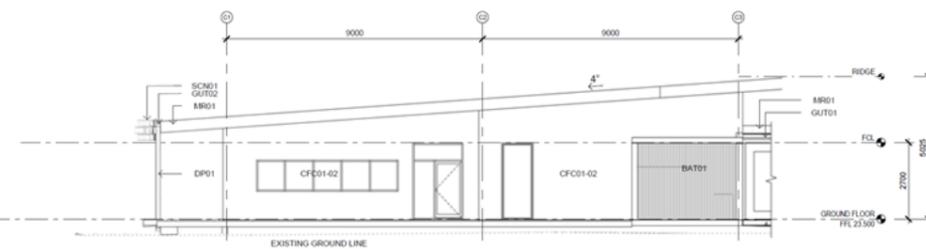
1 BLOCK C - NORTH ELEVATION 1
 1:100



2 BLOCK C - EAST ELEVATION 1
 1:100



3 BLOCK C - SOUTH ELEVATION 1
 1:100



4 BLOCK C - WEST ELEVATION 1
 1:100

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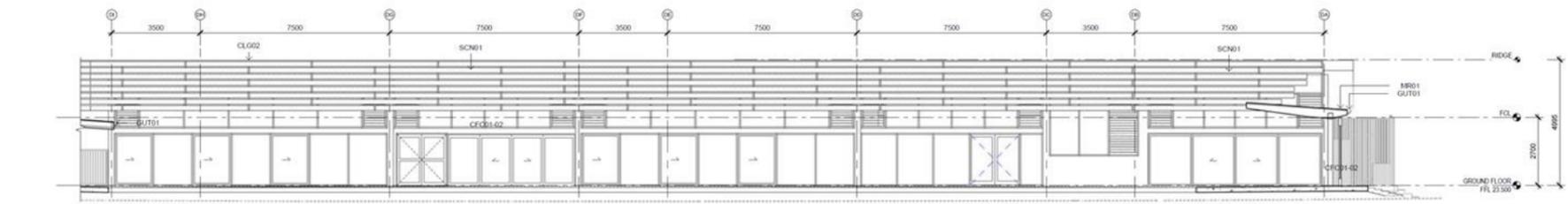
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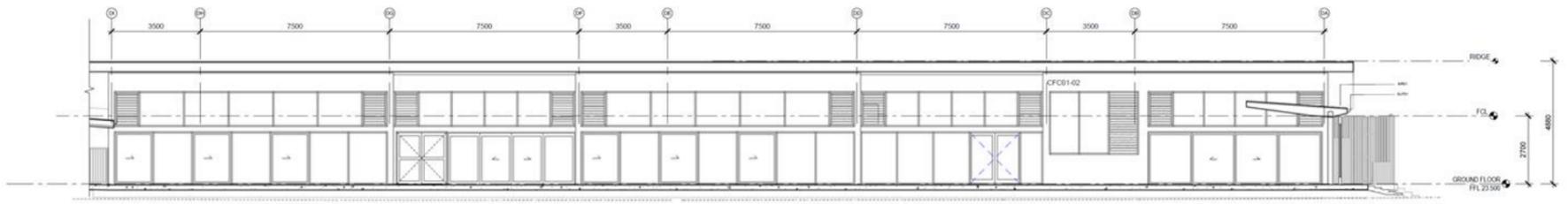
Figure 4-16 Block C Elevations.
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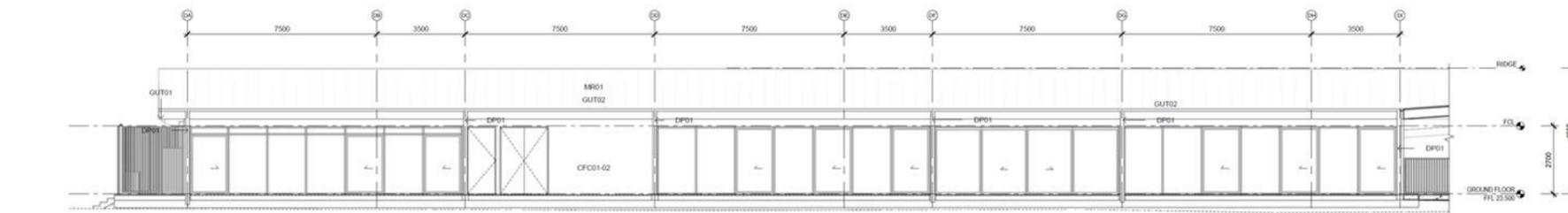
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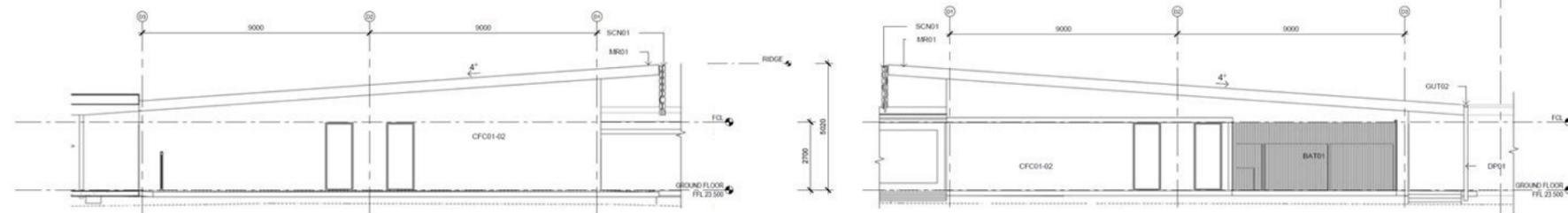
1 BLOCK D - NORTH ELEVATION 1
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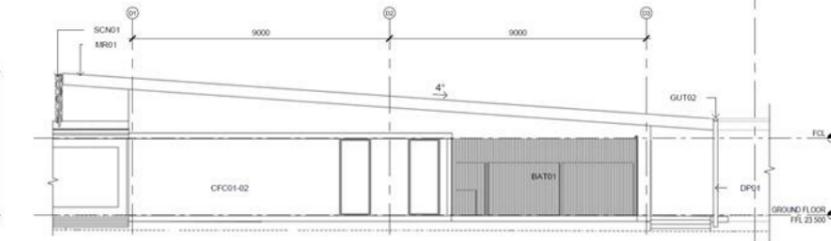
5 BLOCK D - NORTH ELEVATION GLAZING 1
 1:100



3 BLOCK D - SOUTH ELEVATION 1
 1:100



2 BLOCK D - EAST ELEVATION 1
 1:100



4 BLOCK D - WEST ELEVATION 1
 1:100

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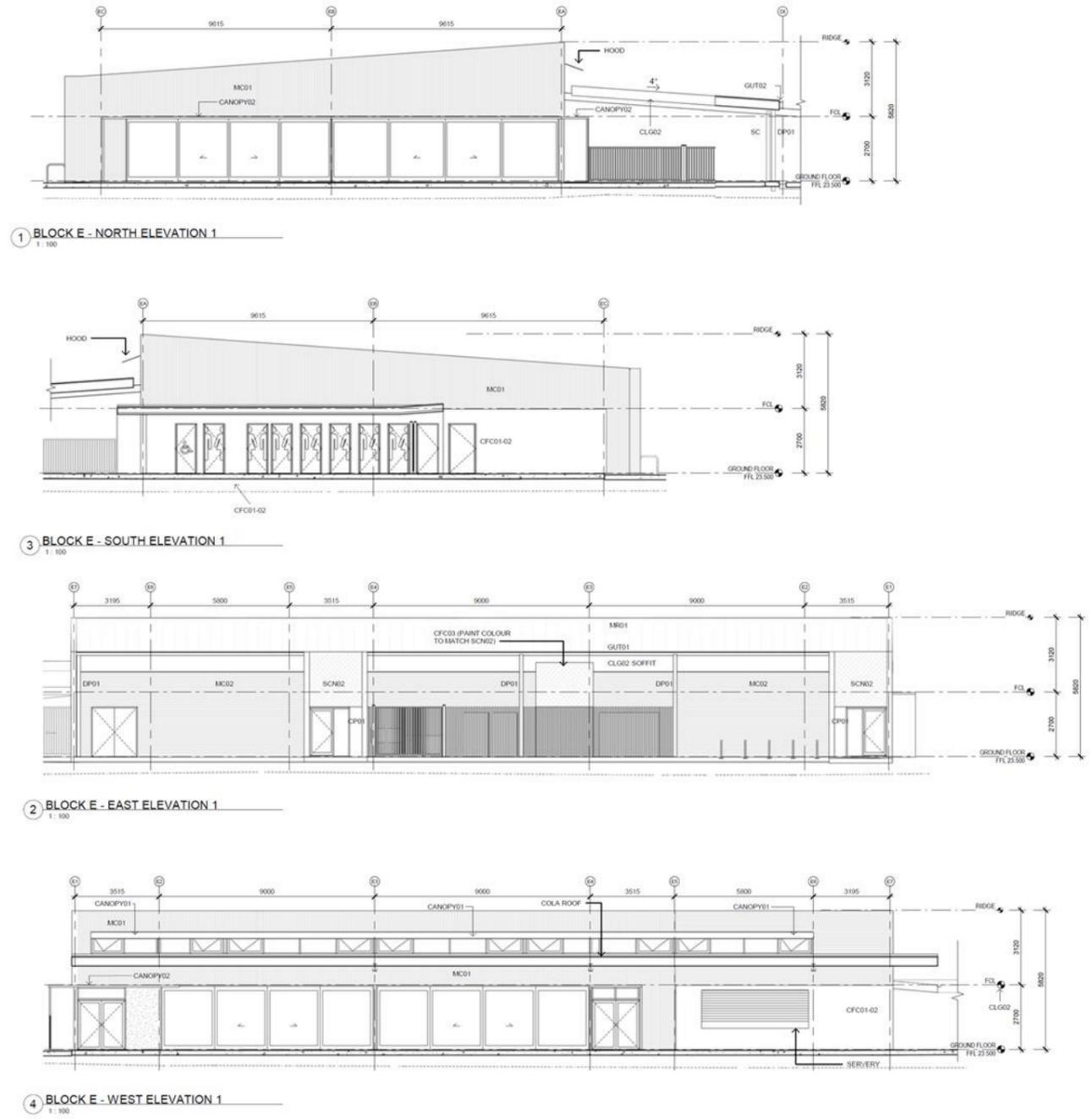
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Figure 4-17 Block D Elevations.
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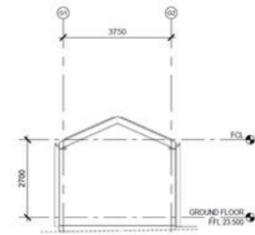
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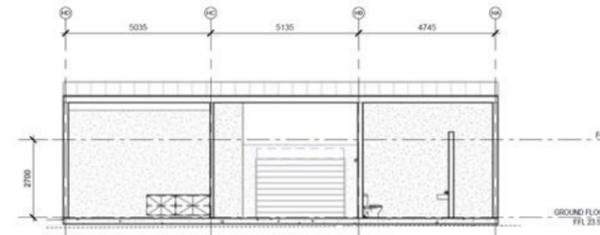
Figure 4-18 Block E Elevations.
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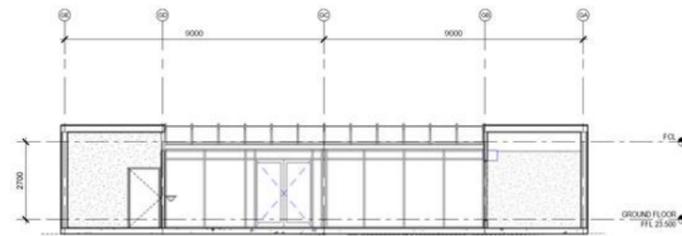
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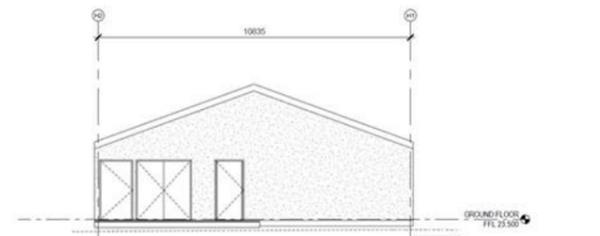
1 BLOCK G - ELEVATION 1.1
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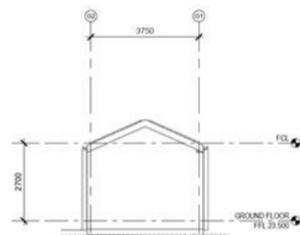
5 BLOCK H - NORTH ELEVATION 1
 1:100



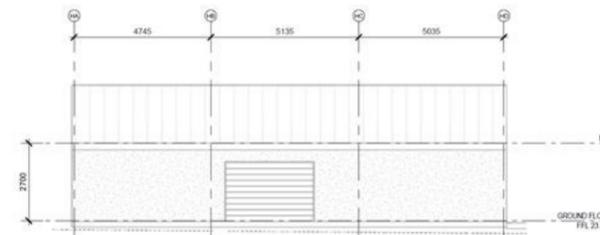
2 BLOCK G - ELEVATION 2.1
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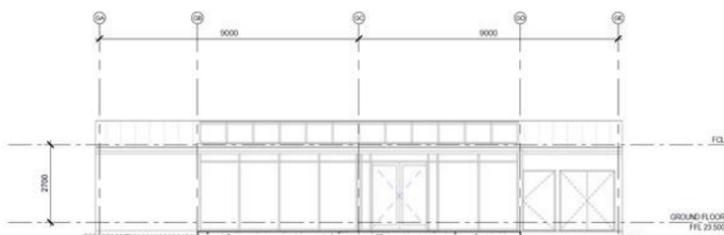
6 BLOCK H - EAST ELEVATION 1
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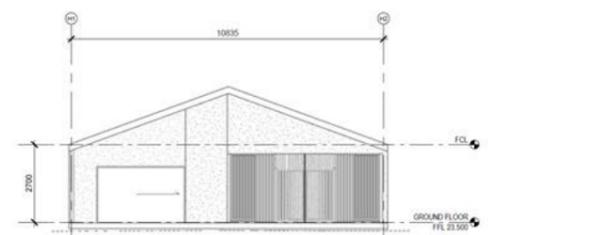
3 BLOCK G - ELEVATION 3.1
 1:100



7 BLOCK H - SOUTH ELEVATION 1
 1:100



4 BLOCK G - ELEVATION 4.1
 1:100



8 BLOCK H - WEST ELEVATION 1
 1:100

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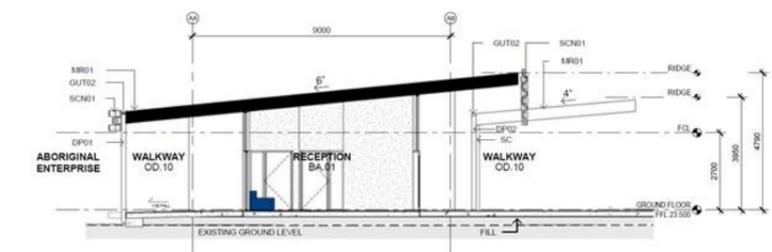
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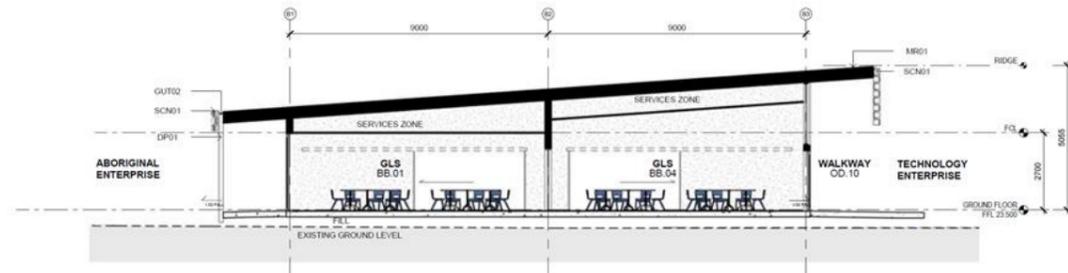
Figure 4-20 Block G & H Elevations.
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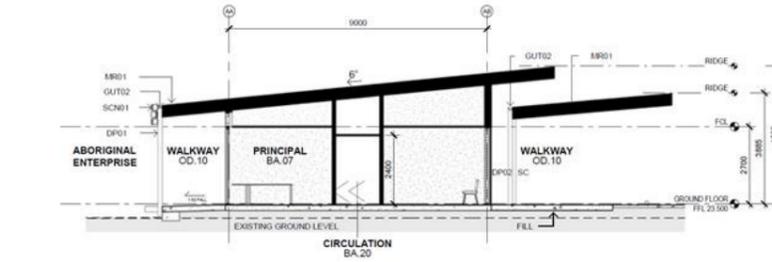
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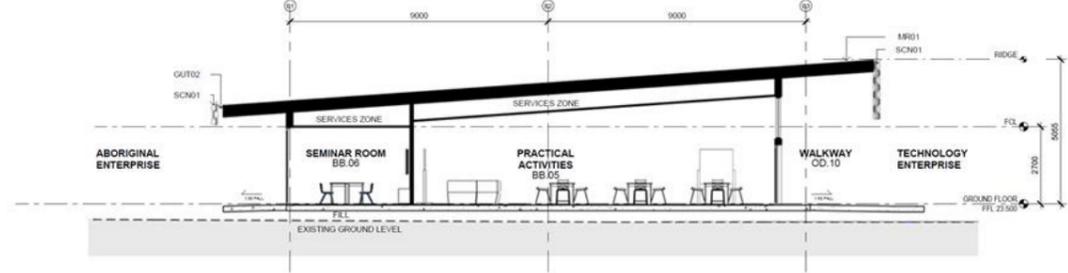
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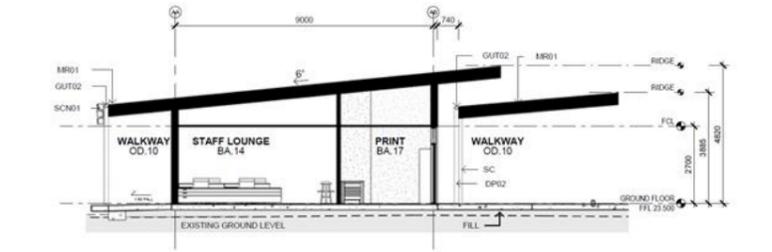
4 Block B - Section 1.1
 1:100



3 Block A - Section 2.1
 1:100



5 Block B - Section 2.1
 1:100



2 Block A - Section 3.1
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 Block A & B Sections

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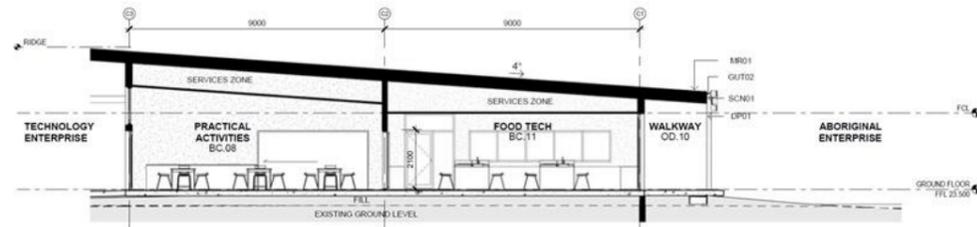
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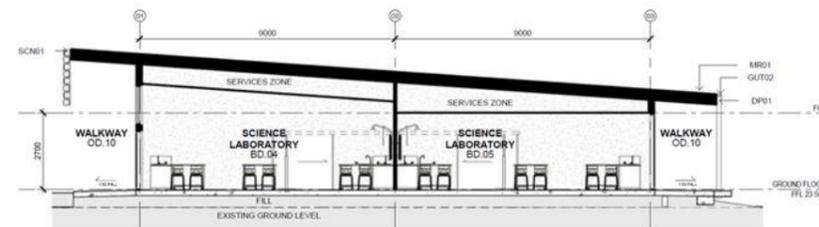
Figure 4-21 Block A & B Sections.
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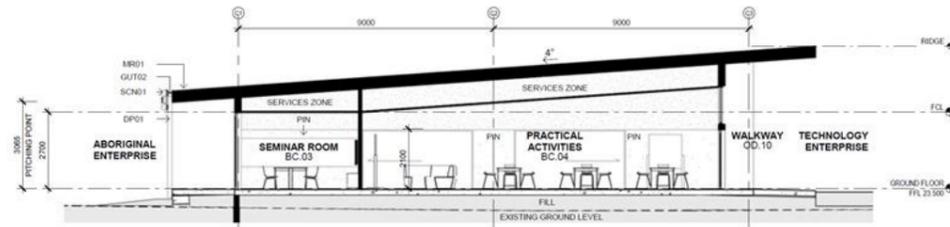
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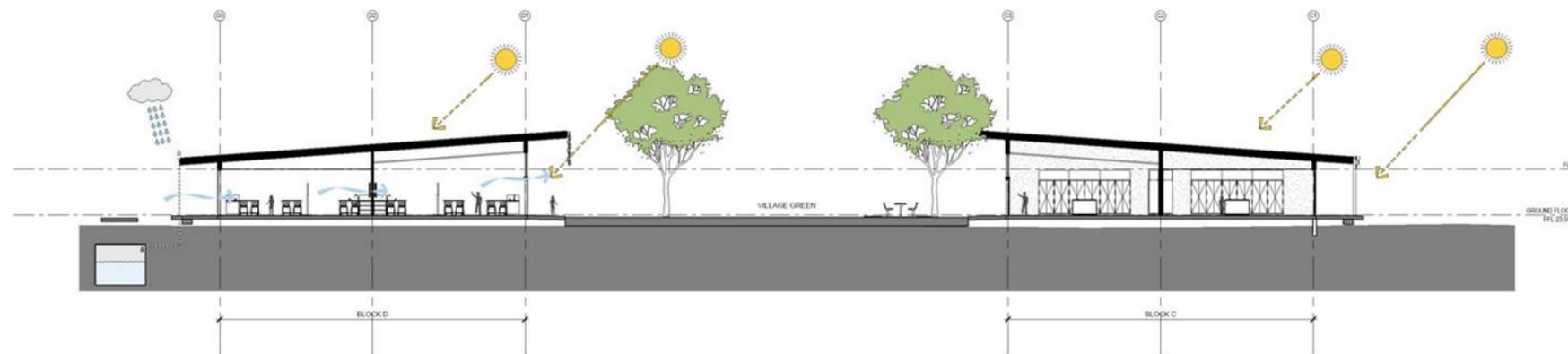
1 Block C - Section 1.1
 1:100



5 Block D - Section
 1:100



2 Block C - Section 2.1
 1:100



4 ESD Principals
 1:100

Figure 4-22 Block C & D Sections.
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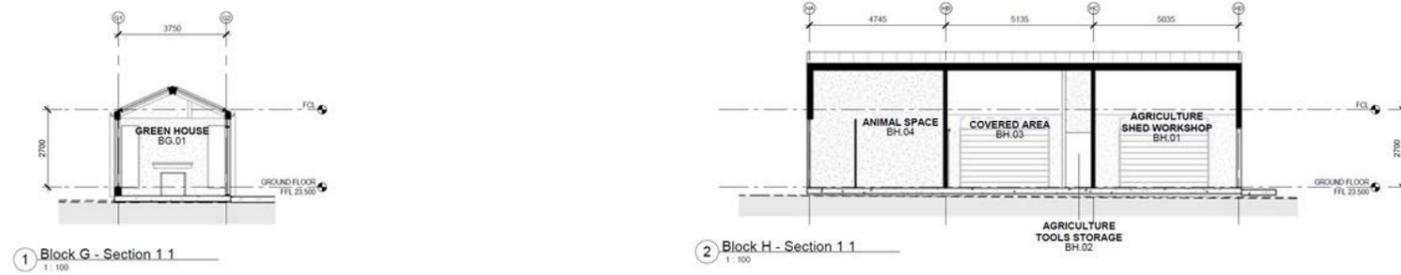
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 Block C & D Sections

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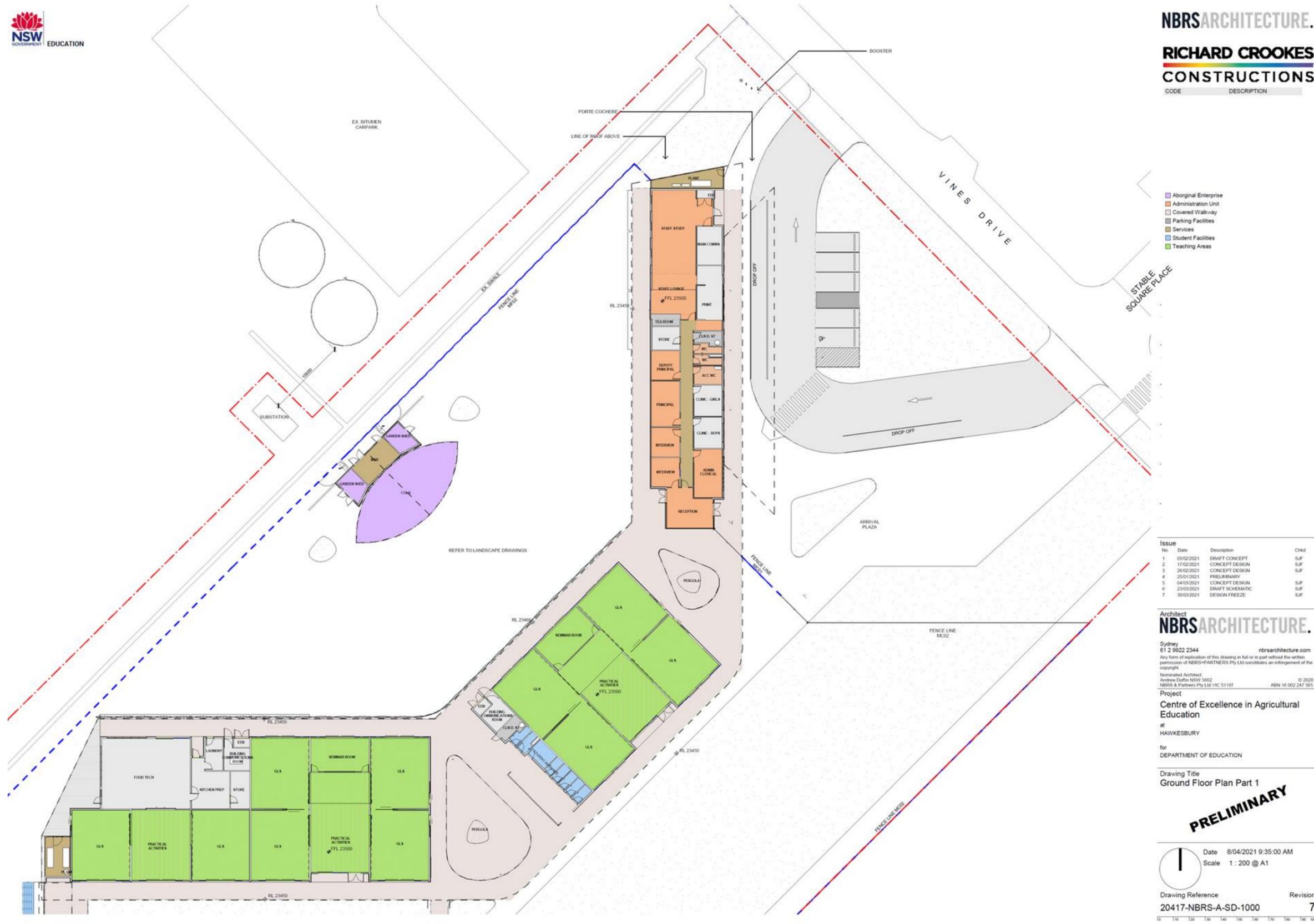
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 Block G & H Sections

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Figure 4-24 Block G & H Sections.
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CODE DESCRIPTION

- Aboriginal Enterprise
- Administration Unit
- Covered Walkway
- Parking Facilities
- Services
- Student Facilities
- Teaching Areas

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|-----------|------------|-----------------|-----|
| 1 | 05/02/2021 | DRAFT CONCEPT | SJF |
| 2 | 17/02/2021 | CONCEPT DESIGN | SJF |
| 3 | 26/02/2021 | CONCEPT DESIGN | SJF |
| 4 | 25/01/2021 | PRELIMINARY | SJF |
| 5 | 04/03/2021 | CONCEPT DESIGN | SJF |
| 6 | 23/03/2021 | DRAFT SCHEMATIC | SJF |
| 7 | 30/03/2021 | DESIGN FREEZE | SJF |

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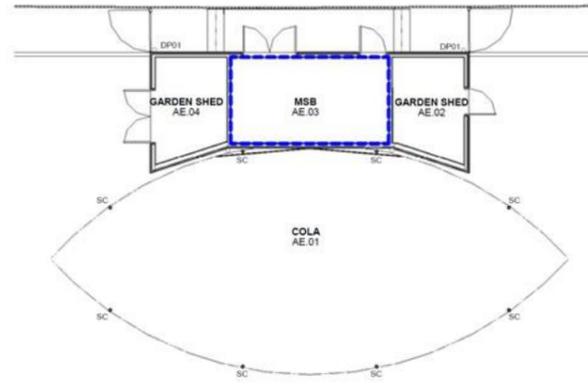
Figure 4-26 Ground Floor Plan Part 1.
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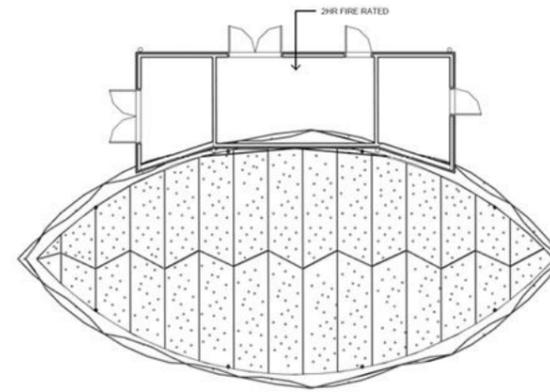
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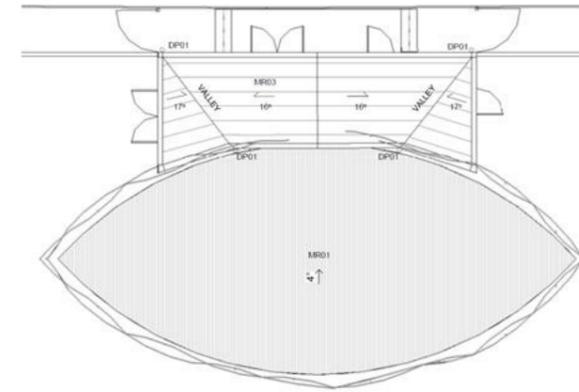
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|------|-----------------------|
| DP01 | |
| MR01 | METAL ROOFING TYPE 01 |
| MR03 | |
| SC | STEEL COLUMN |



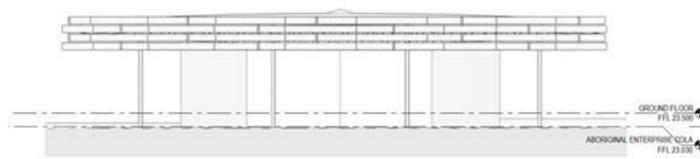
1 ABORIGINAL ENTERPRISE COLA
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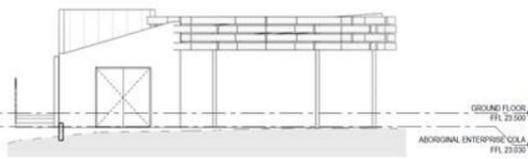
2 ABORIGINAL ENTERPRISE - RCP
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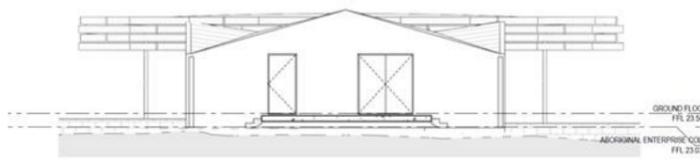
3 ABORIGINAL ENTERPRISE - ROOF PLAN
 1:100



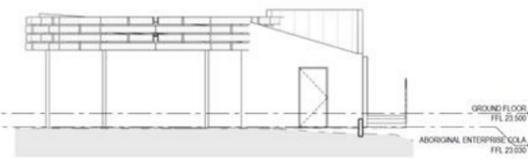
6 AE - SOUTH EAST ELEVATION
 1:100



7 AE - SOUTH WEST ELEVATION
 1:100



5 AE - NORTH WEST ELEVATION
 1:100



4 AE - NORTH EAST ELEVATION
 1:100

| Issue No. | Date | Description | Child |
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Sydney
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 Centre of Excellence in Agricultural Education
 at
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 for
 DEPARTMENT OF EDUCATION

Drawing Title
 Aboriginal Enterprise Plan

PRELIMINARY

Date 8/04/2021 9:35:53 AM
 Scale 1:100 @ A1

Drawing Reference
 20417-NBRS-A-SD-1017
 Revision
 1



Figure 4-27 Aboriginal Enterprise Plan.
 NBRS & Partners Pty Ltd (08/04/2021). 20417-NBRS-A-SD-1017, Rev. 1.

INDIGENOUS ENTERPRISE



Weaving paths and planted beds with native species and indigenous foods. The Yam Daisy to be propagated. Informal paths Native pastures for grain harvests. Indicative character

TECHNOLOGY ENTERPRISE



Flowering crops Agricultural influenced design. Vineyards Pergola structure integrated into trellis system. 'Cut Flower Gardens' Promenade hardscape Kitchens Gardens with small Orchard.

LEARNING SPACES



Village green with covered walkways and shade provided by trees. Outdoor spaces integrated with school curriculum. Outdoor informal learning rooms. Cafeteria breakout learning space.

MATERIALITY



Combination of paving materials along promenade. Tree detail in hardscape. Seamless transition from inside blocks to external surfaces. Educational paving features. Porous paving around tree pits. Earthy coloured gravels and decomposed granite.

DRAFT

| Issue | No. | Date | Description | Chkd |
|-------|------------|-----------------|-------------|------|
| A | 01/04/2021 | SCHEMATIC ISSUE | | AL |

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Landscape Architect
NBRARCHITECTURE.
 LANDSCAPE
 Level 3, 4 Glen Street, Milsons Point, NSW 2061 Australia
 T 61 2 9922 2344 F 61 2 9922 1308
 architects@nbsarchitecture.com www.nbsarchitecture.com
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Drawing Title
 Landscape Design and Character

Date 01/04/2021
 Scale 1:500 @ A1 1:1000 @ A3
 0 5 10 15 20 25 30m

Drawing Reference 20417-NBRSL-SK 004 Rev A

Figure 4-28 Landscape Design & Character.
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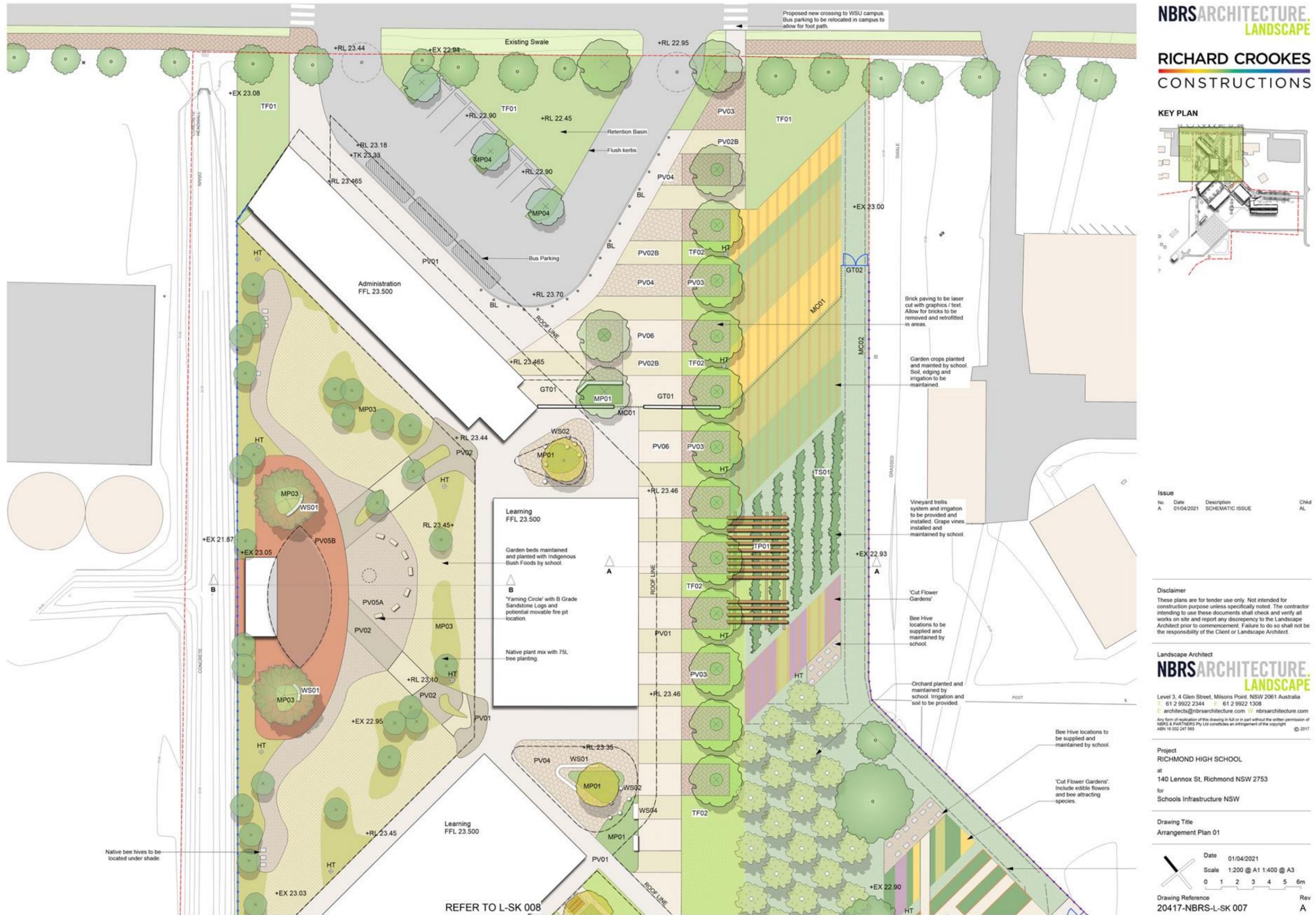
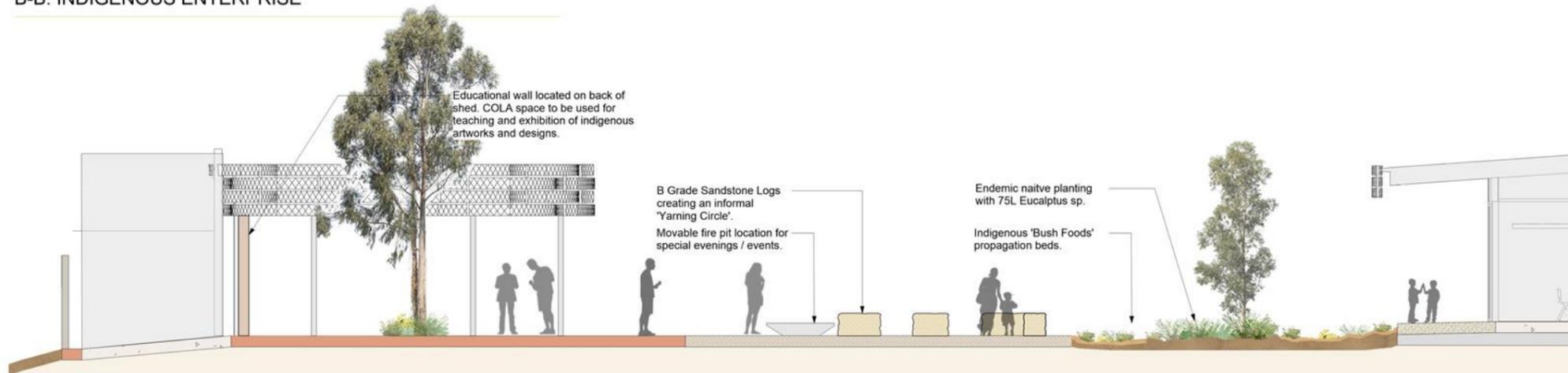


Figure 4-29 Arrangement Plan 1.
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A-A: TECHNOLOGY ENTERPRISE



B-B: INDIGENOUS ENTERPRISE



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|-----------|------------|-----------------|------|
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Landscape Architect
NBRSARCHITECTURE.
 LANDSCAPE
 Level 3, 4 Glen Street, Milsons Point, NSW 2061 Australia
 T 61 2 9922 2344 F 61 2 9922 1308
 architects@nbsarchitecture.com nbsarchitecture.com
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Drawing Title
 Landscape Sections

Date 01/04/2021
 Scale Refer to Drawing

Drawing Reference
 20417-NBRS-L-SK 011 Rev A

C-C: OUTDOOR LEARNING SPACES



Figure 4-30 Landscape Sections.
 NBRS & Partners Pty Ltd (01/04/2021). 20417-NBRS-L-SK011, Rev. A

PLANT SCHEDULE

TREES

| | | |
|---|----------------------------------|-----|
|  | Eucalyptus tereticornis-200LT | 17 |
|  | Eucalyptus moluccana-200LT | 3 |
|  | Quercus rubra-200LT | 8 |
|  | Pistacia chinensis-100L | 3 |
|  | Melaleuca stypheloides-100L | 14 |
|  | Eucalyptus spp.-75L | 75 |
|  | Orchard spp.-Installed by School | 105 |

PLANTING

-  **Native Planting 1800m2 (4 /M2)**
 - Hardenbergia violacea-150mm
 - Lomandra 'Tanika'-150mm
 - Poa labillardieri 'Essterdam'-150mm
 - Pennisetum alopecuroides-150mm
 - Themeda australis-150mm
-  **Endemic Indigenous Planting 500m2 (6 /M2)**
 - Acacia falcata-5L
 - Microlaena stipoides-150mm
 - Lomandra multiflora-150mm
 - Themeda australis-150mm
-  **Garden Planting 230m2 (5 /M2)**
 - Dianella revoluta-150mm
 - Lomandra 'Tanika'-150mm
 - Pennisetum setaceum 'Rubrum'-150mm
 - Philodendron 'Xanadu'-200mm
 - Trachelospermum jasminoides-150mm
 - Xanthorrhoea arborea-25lt
-  **Rain Gardens (Bio-retention) 140m2 (5 /M2)**
 - Carex appressa-150mm
 - Ficinia nodosa-150mm
 - Juncus usitatus-150mm
 - Lomandra longifolia-150mm

PLANTING PLAN



NBRARCHITECTURE.
LANDSCAPE

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| Issue | No. | Date | Description | Chkd |
|-------|------------|------|-----------------|------|
| A | 24/02/2021 | | DRAFT CONCEPT | AL |
| B | 01/04/2021 | | SCHEMATIC ISSUE | AL |

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Landscape Architect
NBRARCHITECTURE.
LANDSCAPE

Level 3, 4 Glen Street, Milsions Point NSW 2061 Australia
T 61 2 9922 2344 F 61 2 9922 1308
E architects@nbrsarchitecture.com V nbrsarchitecture.com
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Drawing Title
Planting Plan and Schedule



Drawing Reference 20417-NBRSL-SK 012 Rev B

Figure 4-31 **Planting Plan & Schedule.**
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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 (Figure 5.3).

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).

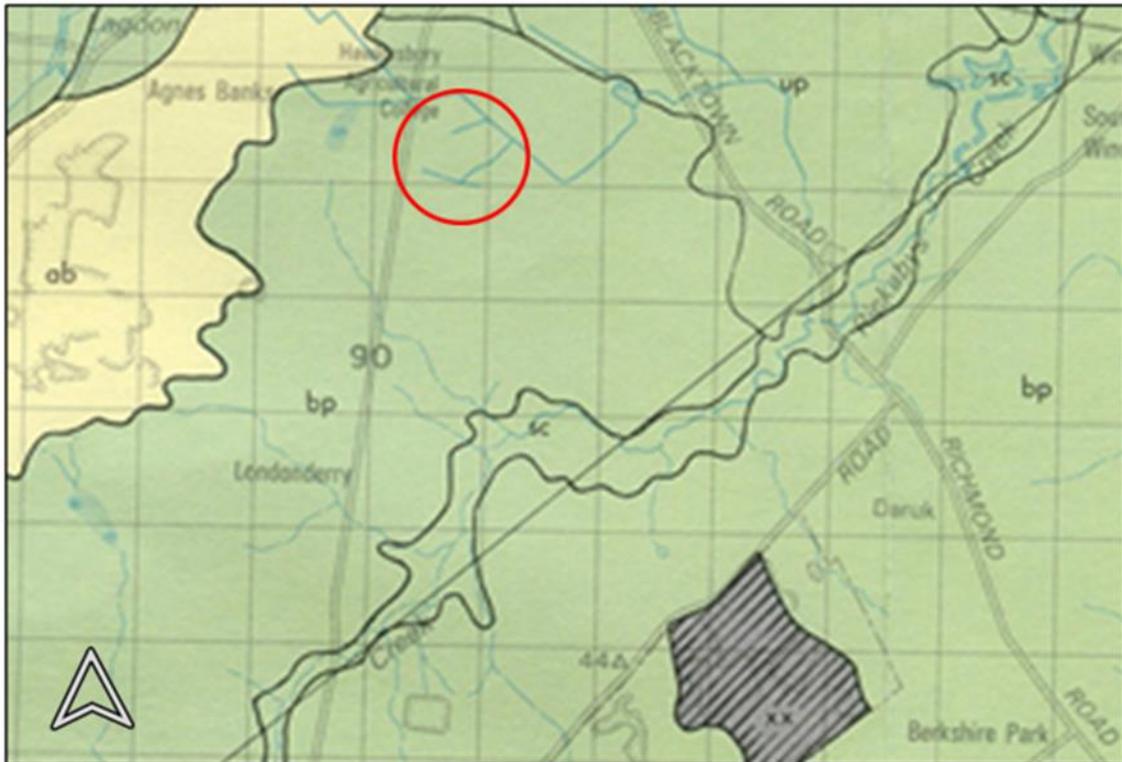


Figure 5-1 Study Area on Soil Map.
 Approximate Site location outlined in red and located in the Berkshire Park soil landscape (bp). Soil Landscapes of the Sydney 1:100 000 Sheet (Chapman & Murphy, 1989).

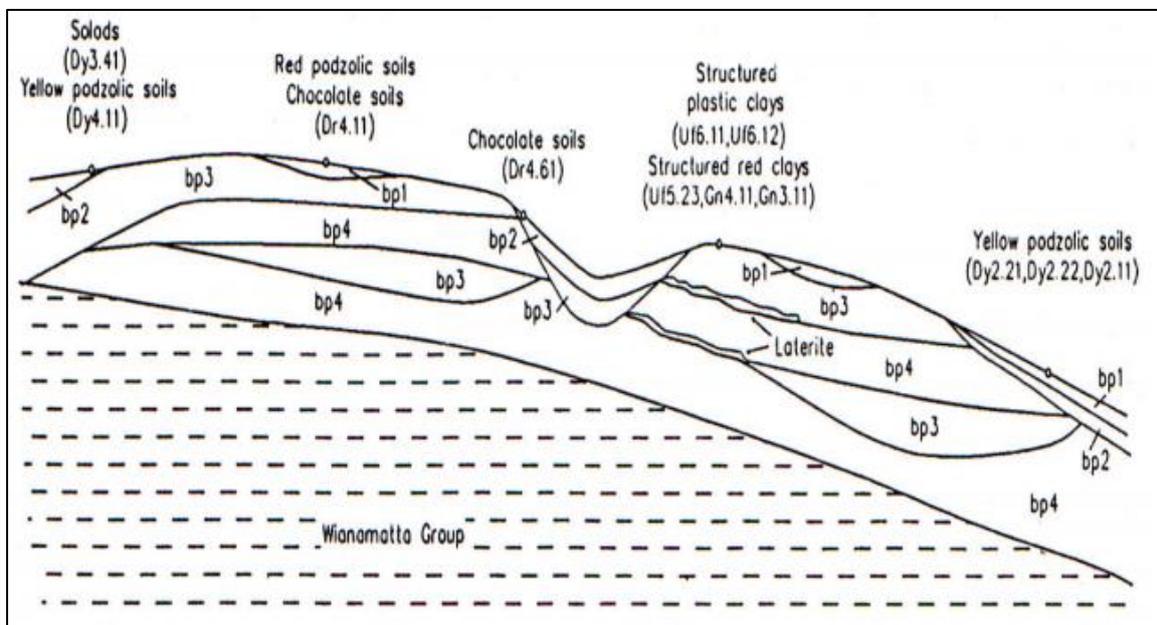


Figure 5-2 Cross Section of soil landscape illustrating relationships between landscape features and dominant soil materials.
 Soil Landscapes of the Sydney 1:100 000 sheet (Chapman & Murphy, 1989).

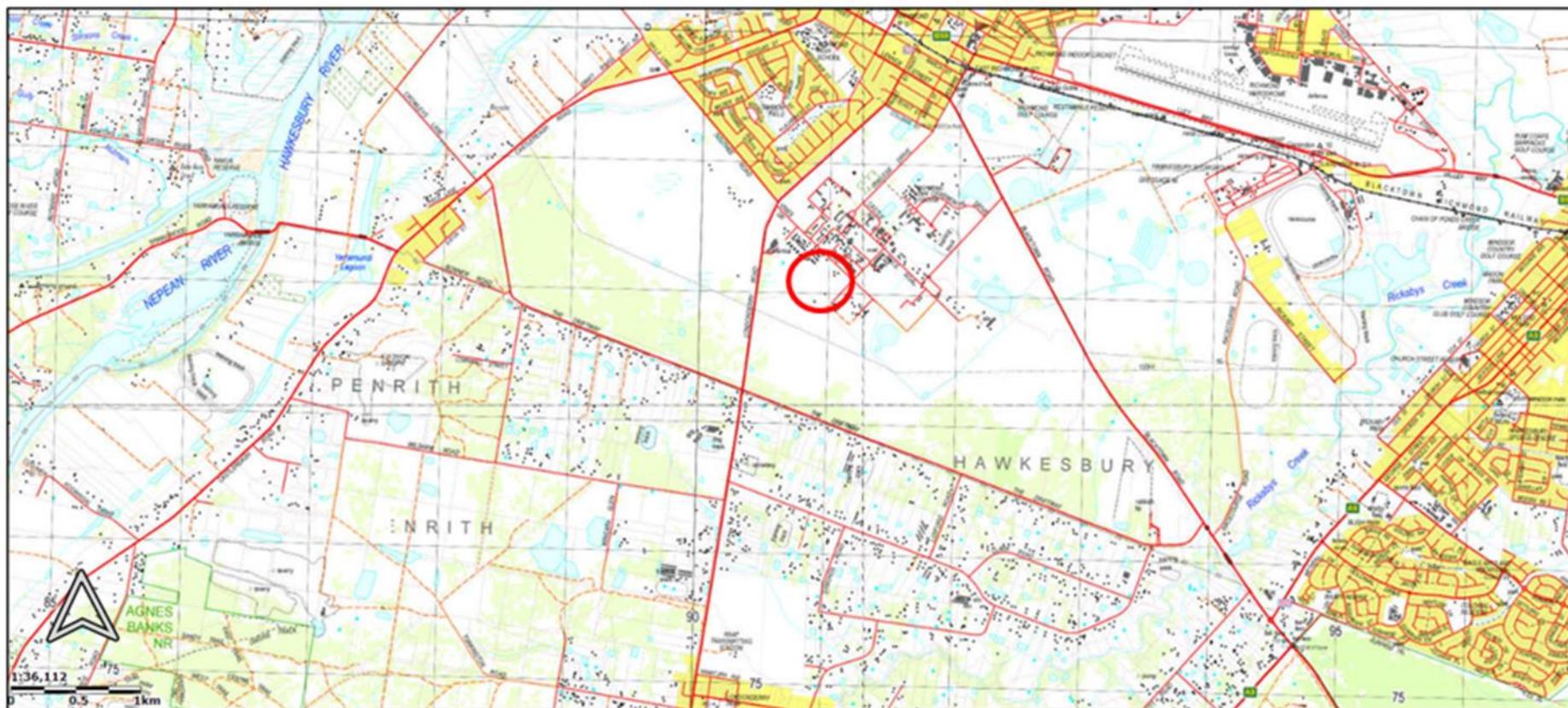


Figure 5-3 Topography Map indicating watercourses in blue.
Study site indicated in red circle. Six Maps, LPI Online (2021).

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 Heritage NSW 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 Heritage NSW 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:

- Heritage NSW archaeological assessment and excavation reports and cultural heritage assessments
- Heritage NSW 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 Heritage NSW 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 multi-platformed 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 PADs 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 AHIMS SEARCH RESULTS

The Archaeological Heritage and Information Management System Database (AHIMS) is located at the Heritage NSW Offices at Hurstville in New South Wales. This database comprises information about all the previously recorded Aboriginal archaeological sites registered with Heritage NSW. 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 30th March 2021 (ID 579679). 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

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



Figure 6-1 AHIMS Search Results.
AMAC Group (2021). Six Maps, LPI Online (accessed 31/03/2021).

6.4 OTHER SEARCH RESULTS

Results for other statutory databases searched are given below:

| Heritage Listings/ Register/ Other | Result |
|---|---------------|
| National Heritage List | Not Listed |
| Commonwealth Heritage List | Not Listed |
| NSW State Heritage Register | Not Listed |
| Register of Declared Aboriginal Places | Not Listed |
| National Native Title Register | Not Listed |

7.0 TEST EXCAVATION

In 2018, the study area was part of the SSDA Submission (SSD 8614) for the Hurlstone Agricultural High School (AMAC 2018) and has been subsequently superseded by the State Significant Development (SSD-15001460) for the new Centre of Excellence (CoE) Agricultural School.

Test excavation was undertaken in 2017 by Streat Archaeological Services in association with AMAC Group in response to the proposed Hurlstone Agricultural High School development (SSD 8614) 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 site's 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 |
|---|----------------------------------|
| Didge Ngunawal Clan | T. Laughton |
| Kamilaroi-Yankuntjatjara Working Group | P. Khan, P. Knight, & J. Currbec |
| Darug Custodian Aboriginal Corp. | T. Blunden |
| Amanda Hickey Cultural Services | A. De Zwart |
| A1 Indigenous Services | F. Ryan |
| Gunjee Wong Cultural Heritage Aboriginal Corp | B. Turrise |

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 archaeological test excavation resulted in no Aboriginal archaeological and cultural objects and/or deposits being located. The findings of that investigation were 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 the document.

The design for the State Significant Development (SSD-15001460) - Centre of Excellence (CoE) Agricultural School, at Western Sydney University (Hawkesbury Campus) comprises of 8 building blocks (Blocks A-H) that will include administration, boarding accommodation, learning facilities, science laboratories, recreational areas, greenhouse, and farming premises, as well as landscaping. No basement has been proposed. 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 located. 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 was therefore excluded from the definition of harm and as such did not require an Aboriginal Heritage Impact Permit (AHIP) and had been 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 Heritage NSW 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 had been 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 did have the potential to disturb any Aboriginal archaeological deposits and/or objects which could have been 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 was recommended a programme of test excavation be conducted before the development could 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 had been 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 m². 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 |

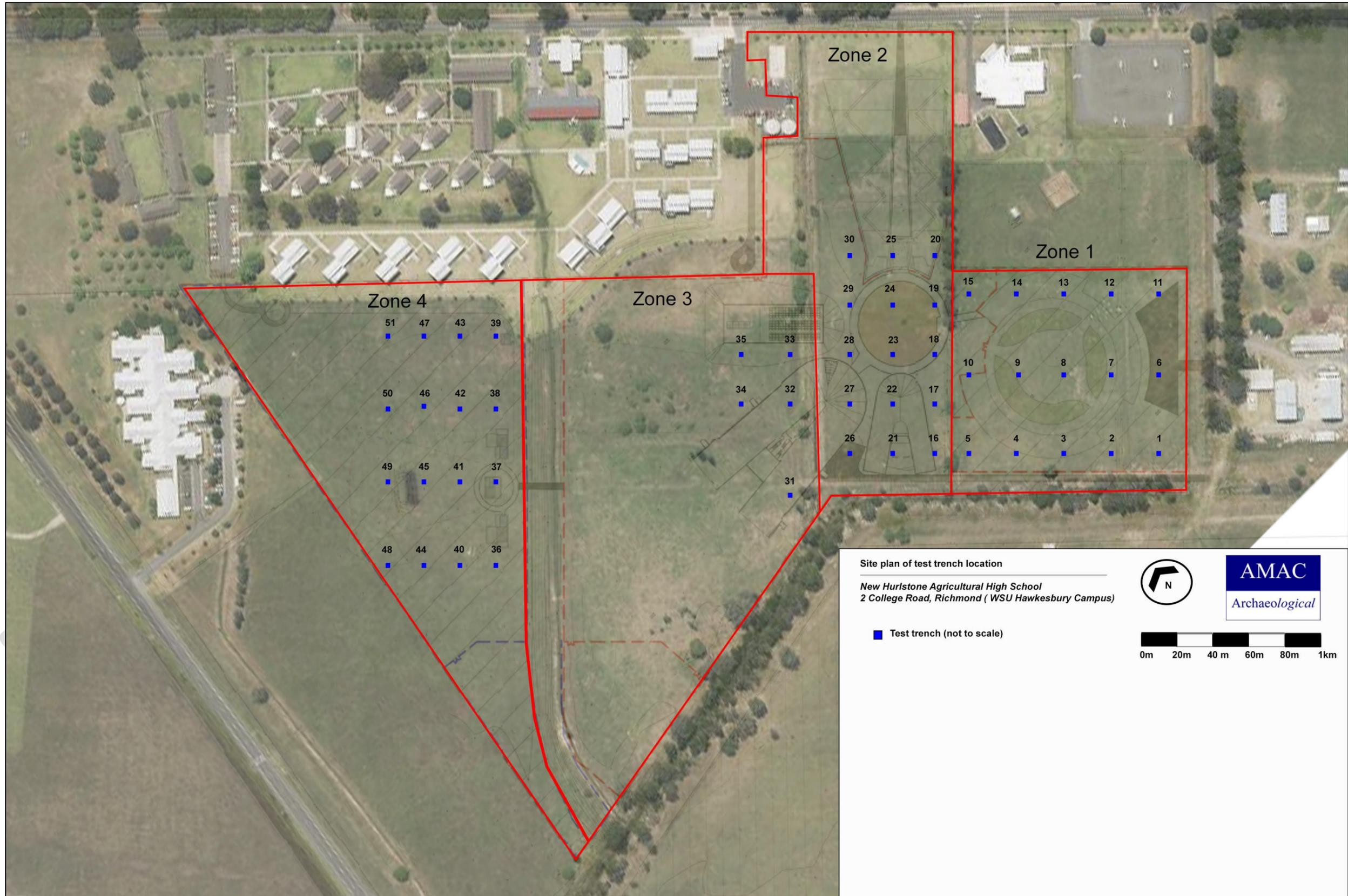


Figure 7-1 Site Plan with Aboriginal Test Trenches indicated in blue.
AMAC (2017).

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 |
| 14 | 1 | 3 | 25cm | A2 horizon: dull yellowish brown sandy silty clay loam overlaying; | 0 |

| Test Trench No. | Zone | No. Spits | Final depth | Description | No. Artefacts |
|-----------------|------|-----------|-------------|--|---------------|
| | | | | B horizon: hardsetting bright brown mottled sandy clay with ironstone nodules | |
| 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 |
| 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 |

| Test Trench No. | Zone | No. Spits | Final depth | Description | No. Artefacts |
|-----------------|------|-----------|-------------|--|---------------|
| 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 |
| 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 |

| Test Trench No. | Zone | No. Spits | Final depth | Description | No. Artefacts |
|-----------------|------|-----------|-------------|--|---------------|
| 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: Final Shot [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]



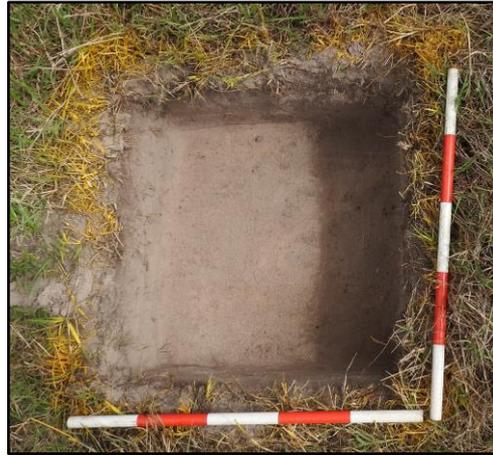
ATT12: Start Up [DSCN_1129]



ATT12: Final Shot [DSCN_1160]



ATT13: Start Up [DSCN_1130]



ATT13: Final Shot [DSCN_1165]



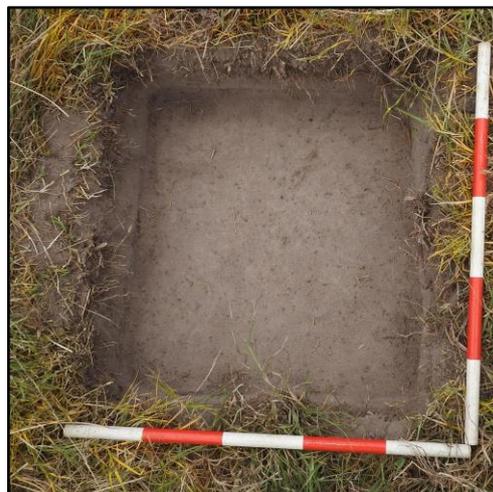
ATT14: Start Up [DSCN_1132]



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]



ATT25: Start Up [DSCN_1197]



ATT25: Final Shot [DSCN_1276]



ATT26: Start Up [DSCN1189]



ATT:26 Final Shot [DSCN_1249]



ATT27: Start Up [DSCN_1190]



ATT27: Final Shot [DSCN_1257]



ATT28: Start Up [DSCN_1192]



ATT28: Final Shot [DSCN_1259]



ATT29: Start Up [DSCN_1194]



ATT29: Final Shot [DSCN_1267]



ATT30: Start Up [DSCN_1195]



ATT30: Final Shot [DSCN_1272]



ATT31: Start Up [DSCN_1287]



ATT31: Final Shot [DSCN_1342]



ATT32: Start Up [DSCN_1285]



ATT32: Final Shot [DSCN_1253]



ATT33: Start Up [DSCN_1248]



ATT33: Final Shot [DSCN_1300]



ATT34: Start Up [DSCN_1291]



ATT34: Final Shot [DSCN_1306]



ATT35: Final Shot [DSCN_1297]



ATT36: Start Up [DSCN_1321]



ATT36: Final Shot [DSCN_1353]



ATT37: Start Up [DSCN_1318]



ATT37: Final Shot [DSCN_1347]



ATT38: Start Up [DSCN_1316]



ATT38: Final Shot [DSCN_1338]



ATT39: Start Up [DSCN_1314]



ATT39: Final Shot [DSCN_1334]



ATT40: Start Up [DSCN_1323]



ATT40: Final Shot [DSCN_1391]



ATT41: Start Up [DSCN_1328]



ATT41: Final Shot [DSCN_1387]



ATT42: Start Up [DSCN_1329]



ATT42: Final Shot [DSCN_1363]



ATT43: Start Up [DSCN_1332]



ATT43: Final Shot [DSCN_1357]



ATT44: Start Up [DSCN_1325]



ATT44: Final Shot [DSCN_1382]



ATT45: Start Up [DSCN_1326]



ATT45: Final Shot [DSCN_1404]



ATT46: Start Up [DSCN_1367]



ATT46: Final Shot [DSCN_1395]



ATT47: Start Up [DSCN_1368]



ATT47: Final Shot [DSCN_1400]



ATT48: Start Up [DSCN_1379]



ATT48: Final Shot [DSCN_1414]



ATT49: Start Up [DSCN_1375]



ATT49: Final Shot [DSCN_1421]



ATT50: Start Up [DSCN_1373]



ATT50: Final Shot [DSCN_1417]



ATT51: Start Up [DSCN_1371]



ATT51: Final Shot [DSCN_1423]

7.5.2 Stratigraphic Analysis

This section of the report is a summary of the soil profiles encountered. It aims to identify and ascertain the stratigraphic integrity of the site.

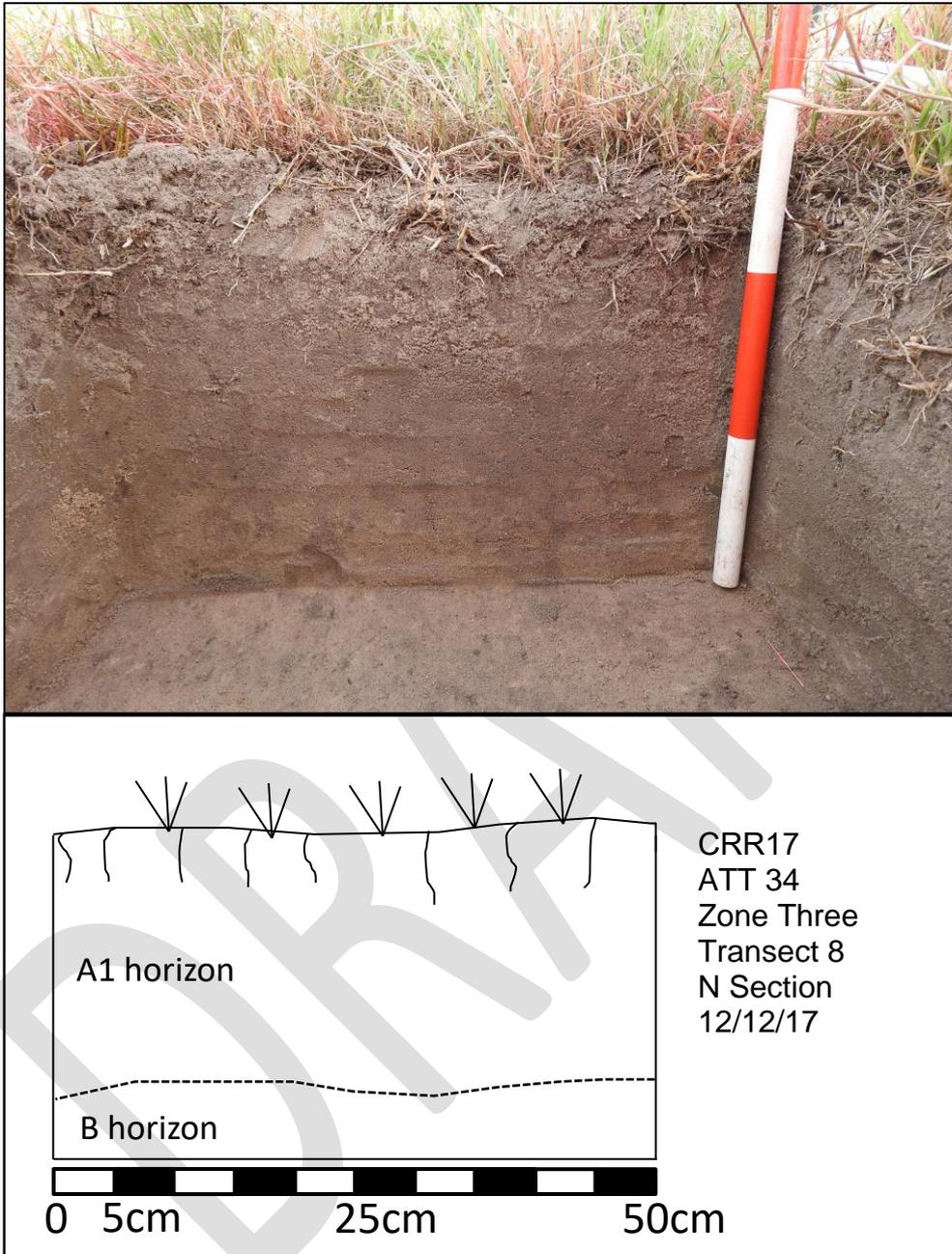
The soil landscape for the study area consists of the Berkshire Park (bp) Soil Profile. The geology of the study area consists of three depositional phases of Tertiary alluvial/colluvial origin. This includes the following sandstone and clay formations, St Mary's overlain by the Rickabys Creek gravel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

The 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).

- 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.

Test trenches remained relatively shallow with a maximum excavation depth of 55cm. Excavation of the test trenches ceased once the sterility of the soil could be confirmed.

7.5.3 Selected Section



7.6 DISCUSSION

A background analysis of the environmental and archaeological context, revealed that parts of the study area were likely to contain Aboriginal archaeological material, however, test excavation revealed no Aboriginal objects.

As the proposed development had intended to impact the entirety of the study area, all landscape units both identified as potentially disturbed and/or intact were tested as part of the programme of test excavation. All test trenches were found to be sterile and were excavated to a significant depth to confirm their sterility.

The results of this exercise should form the basis of decisions for ongoing management and further action of which further investigation is not warranted, however, caution is necessary.

7.7 RESEARCH CONTEXT

The research questions are based on the information that had been gathered from previous excavations within and within the vicinity of the study area as well as making an attempt to place the site in a regional context and offer some explanation for the activities that may have taken place within the study area.

7.7.1 Response to research questions

No artefacts were located as a result of the programme of test excavation therefore, the following research questions could not be addressed.

- Are archaeological or cultural materials present in the Holocene Age deposits?
- If so, how do these artefact densities compare at a local and regional level?
- Are rare or representative archaeological or cultural materials present?
- Are locally or regionally significant archaeological or cultural material present in the Holocene age deposits?
- Is it possible to assign a temporal framework to any of the excavated material?
- What was the nature and extent of the activity that took place within the study area and how does the study area compare with other sites in the immediate vicinity and similar landforms to the study area?
- What raw materials were chosen for the manufacture of stone implements?
- Is the area suitable to be set aside for preservation of Aboriginal archaeological material?

8.0 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.

The criteria for formulating significance values are set out below:

- a) An item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area)
- b) An item has strong or special association with the life or works of a person, or group of persons, of importance in the cultural or natural history of NSW (or the cultural or natural history of a local area)
- c) An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area)
- d) An item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons
- e) An item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area)
- f) An item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area)
- g) An item is important in demonstrating the principal characteristics of a class of NSW's: cultural or natural places; or cultural or natural environments (or a class of the local areas' cultural or natural places; or cultural or natural environments).

8.1 ARCHAEOLOGICAL SIGNIFICANCE

8.1.1 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.

8.1.2 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.

8.1.3 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.

8.2 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).

8.2.1 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).

See ACHAR Section 6.4 for the minutes included that relate to the historic value and cultural significance of the site.

On the 20th April 2021, an online virtual meeting was presented by members of the NSW Aboriginal Education Consultative Group Inc., Teachers, and Community members for the Centre of Excellence in Agriculture Education to inform all the Registered Aboriginal Stakeholders and other interested parties of the cultural ideas, strategies, and visions for the development's design layout, building use, agricultural plots, animal plots, accommodation centre, and village green. Topics discussed but not limited to included, the Aboriginal Enterprise and landscaping plans, wayfinding, primary art works, and heritage.

8.2.2 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 scientific significance has been as yet assigned to the study area by any participating Aboriginal Stakeholders.

8.2.3 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).

See ACHAR Section 6.4 for the minutes included that relate to the aesthetic value and cultural significance of the site.

On the 20th April 2021, an online virtual meeting was presented by members of the NSW Aboriginal Education Consultative Group Inc., Teachers, and Community members for the Centre of Excellence in Agriculture Education to inform all the Registered Aboriginal Stakeholders and other interested parties of the cultural ideas, strategies, and visions for the development's design layout, building use, agricultural plots, animal plots, accommodation centre, and village green. Topics discussed but not limited to included, the Aboriginal Enterprise and landscaping plans, wayfinding, primary art works, and heritage.

9.0 IMPACT ASSESSMENT

This section aims to evaluate and discuss the potential archaeological impact of the proposed development.

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.

| Site No. / Unit | Type of Harm | Degree of Harm | Consequence of Harm |
|-----------------|--------------|----------------|---------------------|
| N/a | N/a | N/a | N/a |

9.1 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.

9.2 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.

9.3 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.

9.4 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.

10.0 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 Council).

10.1 RECOMMENDATIONS

In 2018, the study area was part of the SSDA Submission (SSD 8614) for the Hurlstone Agricultural High School (AMAC 2018) application and had been subsequently withdrawn and superseded by the State Significant Development (SSD-15001460) for the new Centre of Excellence (CoE) Agricultural School.

The findings from the 2017 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 DPIE after issue of the development application plans (Figures 4.1–4.31).

- 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 upon approval of the State Significant Development application (SSD-15001460) and prior to construction commencing, in order to manage any unexpected Aboriginal archaeological and cultural constraints that may arise
- Archaeological test excavation conducted in 2017 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 4.1–4.31) 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
- DPIE, a qualified archaeologist and the participating RAPs are to be notified.

Should any human remains be located during the development, then the following should take place:

- All excavation in the immediate vicinity of any objects of deposits shall cease immediately;
- The NSW police and Heritage NSW Enviroline be informed as soon as possible;
- Once it has been established that the human remains are Aboriginal ancestral remains, DPIE, 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:

- Heritage NSW
- Mr S Randall, Deerubbin LALC
- Mr P. Khan, Kamilaroi-Yankuntjatjara Working Group
- Ms C. Everingham, Darug Aboriginal Cultural Heritage Assessments
- Ms C. Hickey, A1 Indigenous Service
- Ms. A. DeZwart, Amanda Hickey Cultural Services
- Mr A. & Mr T. Williams, Aboriginal Archaeological Services
- Ms J. Coplin, Darug Custodian Aboriginal Corporation
- Mr S. Hickey, Widescope Indigenous Group
- Mr P. Boyd & Ms L. Carroll, Didge Ngunawal Clan
- Ms C. Carroll, Gunjeewong Cultural Heritage Aboriginal Corporation
- Mr D. Dyer from Darug Aboriginal Land Care
- Mr Corey Smith, Cullendulla
- Ms Roxanne Smith, Murramarang
- Ms Janaya Smith, Biamanga
- Mr B. Smith from Goobah Developments
- Ms Jasmine Seymour, Aboriginal Education Consultative Group & Darug Woman Member Darug Custodians
- Mr Dewayne Trewlynn, Aboriginal Education Consultative Group
- Ms Jennifer Flood, Aboriginal Education Consultative Group, RHS/RAC
- Ms Kathie Medley, RHS Campus/RAC
- Ms Erin Wilkens, Darug Woman Member Aboriginal Education Consultative Group & Darug Custodian
- Ms Susan Price Member Aboriginal Education Consultative Group, Teacher NSW DoE & WSU Lecturer
- Ms Mel Stubbings, Merana Aboriginal Community Association for the Hawkesbury Incorporation.

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. |

| | |
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| 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. |
| Plastic | Describes soil material which is in a condition which allows it to undergo permanent deformation without appreciable volume change or elastic rebound and without rupture. |
| 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. |
| 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. |

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| LEVELS | | | Pit Number: | |
|---|-------|-----------------|-------------|-----------------|
| Location of Datum: | Level | RL (=HOI – Lvl) | Level | RL (=HOI – Lvl) |
| | 1. | | 6. | |
| Datum: | 2. | | 7. | |
| Backsight (BS): | 3. | | 8. | |
| Height Of Instrument (HOI) (= Dat + BS): | 4. | | 9. | |
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