APPENDIX A: ABORIGINAL ARCHAEOLOGICAL TECHNICAL REPORT

Upgrade to Dundas Public School
Lot 3 DP 610
85 Kissing Point Road
Dundas NSW
(Parramatta LGA)

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Archaeo*logical* Management & Consulting Group

Prepared for

The Department of Education (DoE)

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Cover Image
Dundas Public School, general showing works area.
AMAC Group, 22/08/2024, image 8233.

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Overview of Main Findings

A programme of archaeological test excavation was undertaken on 22nd and 23rd August 2024 within areas of the study site assessed as holding low to moderate potential for Aboriginal archaeological deposits or objects of cultural heritage significance (Section 5.0). The test excavation area was selected based on the proposed development footprint and predictive site modelling (Section 3.0). Areas previously assessed as having Major/ High disturbance were not archaeologically tested.

No Aboriginal objects or features of cultural or archaeological significance were identified during archaeological test excavation. The findings from test excavation indicate the site to be of nil archaeological significance. The A1 horizon (artefact bearing deposit) was largely absent, due to high erodibility of the Gymea soil landscape, crest landform, and agricultural cultivation activities during the 20th century.

Interpretation of the Results

The site contains a disturbed landscape from past agricultural activity. A remnant B soil horizon (gy2) was visible, however an intact A horizon was notably absent across all test trenches, it appears the area had been too heavily modified during agricultural activities in the early to mid-20th century. Recording of each test trench also displayed evidence of high erodibility most likely due to its position on a crest and the presence of the Gymea soil landscape, which may have also contributed to the degradation of the A1 soils over time. Although the study site is located within walking proximity to two fresh water creeks, it is perhaps its crest landform type that may have prevented occupation of the area and contributed to the absence of Aboriginal archaeological material.

Mitigation Measures

Mitigation Name	Aspect/ Section	Mitigation Measure	Reason for Mitigation Measure
Aboriginal Community Consultation	Ongoing	Consultation with the Registered Aboriginal Parties should continue throughout the duration of the site works. In accordance with the DECCW (2010c) guidelines, consultation of this project will be maintained via email to RAPs every 6 months.	Compliance with DECCW guidelines (2010c).
Heritage Induction	Prior to commencement of excavation work	As no further archaeological management of the project is required, it is recommended that a short heritage induction detailing stop works procedure for unexpected finds be included within any	Raising community cultural heritage awareness.

Mitigation Name	Aspect/ Section	Mitigation Measure	Reason for Mitigation Measure
		overarching future site induction for the construction phase of the project.	
Unexpected Finds Protocol (UFP)	Prior to commencement of excavation work	An Unexpected Finds Protocol should be prepared by a qualified archaeologist and remain in place for the duration of site redevelopment to mitigate and manage exposure of undocumented remains that may occur on the study site.	Providing protection to undocumented or unexpected archaeological remains which may be present on site.
Head Contractor/ Site Foreman	During construction phase	The head contractor and/ or site foreman is responsible for ensuring the Unexpected Finds Protocol is adhered to during all excavation works on site.	Providing protection to undocumented or unexpected archaeological remains which may be present on site.

1.0 INTRODUCTION

1.1 BACKGROUND

This Aboriginal Cultural Heritage Assessment Report (ACHAR) has been prepared to support a Review of Environmental Factors (REF) for the Department of Education (DoE) for the upgrade of the Dundas Public School (DPS) (the activity). The purpose of the REF is to assess the potential environmental impacts of the activity prescribed by State Environmental Planning Policy (Transport and Infrastructure) 2021 (T&I SEPP) as "development permitted without consent" on land carried out by or on behalf of a public authority under Part 5 of the Environmental Planning and Assessment Act 1979 (EP&A Act). The activity is to be undertaken pursuant to Chapter 3, Part 3.4, Section 3.37 of the T&I SEPP and in consideration of the stakeholder and community participation plan.

The proposed activity is for upgrades to the existing DPS at 85 Kissing Point Road, Dundas NSW 2117 (the site). The purpose of this report is to address the potential for Aboriginal objects and/or features of archaeological and cultural significance to be present on site, in addition to identifying any intangible cultural heritage significance which may be associated with the site through consultation with Aboriginal stakeholders.

This report has been written in accordance with *the Guide to Investigating, Assessing and Reporting on Cultural Heritage in New South Wales, Part 6 National Parks and Wildlife Act 1974* (OEH 2011).

1.2 SITE DESCRIPTION

DPS is located at 85 Kissing Point Road, Dundas. The school site is bound by Kissing Point Road to the north and Calder Road to the south. Kenworthy Street is located parallel to the site to the east as is Saint Andrews Street to the west. The site has an area of 1.99 ha and comprises 1 allotment legally known as Lot 3 DP 610.

The site currently comprises an existing co-education primary (K-6) public school with 9 permanent buildings, 6 demountable structures (1 demountable includes 2 classrooms), interconnected covered walkways, play areas, on-grade parking, sports court and green spaces with mature trees.

Majority of the buildings are 1 storey with only one 2-storey building being Building A (Admin/staff hub and amenities building). Buildings are clustered to the north of the site, with the southern part comprising of a large play area/informal sports oval and a sports court.

There are no registered sites within the study area of which the author is aware of.

1.3 SCOPE

This report forms the results of the programme of Aboriginal archaeological test excavation that was conducted, including the synthesis and analysis of information of which may contribute to our understanding of the site characteristics and local 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 (AMAC Group 2024).

1.4 AUTHOR IDENTIFICATION

The analysis of the archaeological background and the reporting were undertaken by Senior Archaeologist Kelly Strickland (B. AncHist Hons.) and Archaeologist Sarah Hannan (B. Arts, B. Science, M. Arch & Evo. Science), under the guidance of Dr Ivana Vetta (BA (Adv)(Hons), PhD), Heritage Director of AMAC Group.

Archaeological site investigations were undertaken by Benjamin Streat (BA, Grad Dip Arch Her, Grad Dip App Sc), Aboriginal Cultural Heritage Specialist and Kelly Strickland (B. AncHist Hons.), Senior Archaeologist of AMAC Group.

1.5 ACKNOWLEDGEMENTS

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

- School Infrastructure NSW
- Metropolitan Local Aboriginal Land Council
- Amanda Hickey Cultural Services
- Woka Aboriginal Corporation
- A1 Indigenous Services
- Widescope Indigenous Group
- Kamilaroi Yankuntjatjara Working Group
- Long Gully Cultural Services
- Corroboree Aboriginal Corporation
- Butucarbin Aboriginal Corporation
- Konanggo Aboriginal Cultural Heritage Services
- B. H. Heritage Consultants
- Waawaar Awaa Aboriginal Corporation
- Darug Custodians Aboriginal Corporation
- Wallanbah Aboriginal Site Conveyancing

1.6 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);
- Aboriginal Cultural Heritage Standards and Guidelines Kit (NPWS 1998);
- Australia ICOMOS 'Burra' Charter for the conservation of culturally significant places (Australia ICOMOS 1999, revised 2013);
- Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales, Part 6 National Parks and Wildlife Act 1974, (DECCW 2010b);

- Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales, Part 6 National Parks and Wildlife Act 1974, (DECCW 2010a);
- Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW, Part 6 National Parks and Wildlife Act 1974 (OEH 2011)
- Part 6; National Parks and Wildlife Act Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010c);
- Protecting Local Heritage Places: A Guide for Communities (Australian Heritage Commission 1999).

Figure 1.1 Aerial of study location.
Study area outlined in red. QGIS using Six Maps. LRS Online (accessed 26/03/2024).

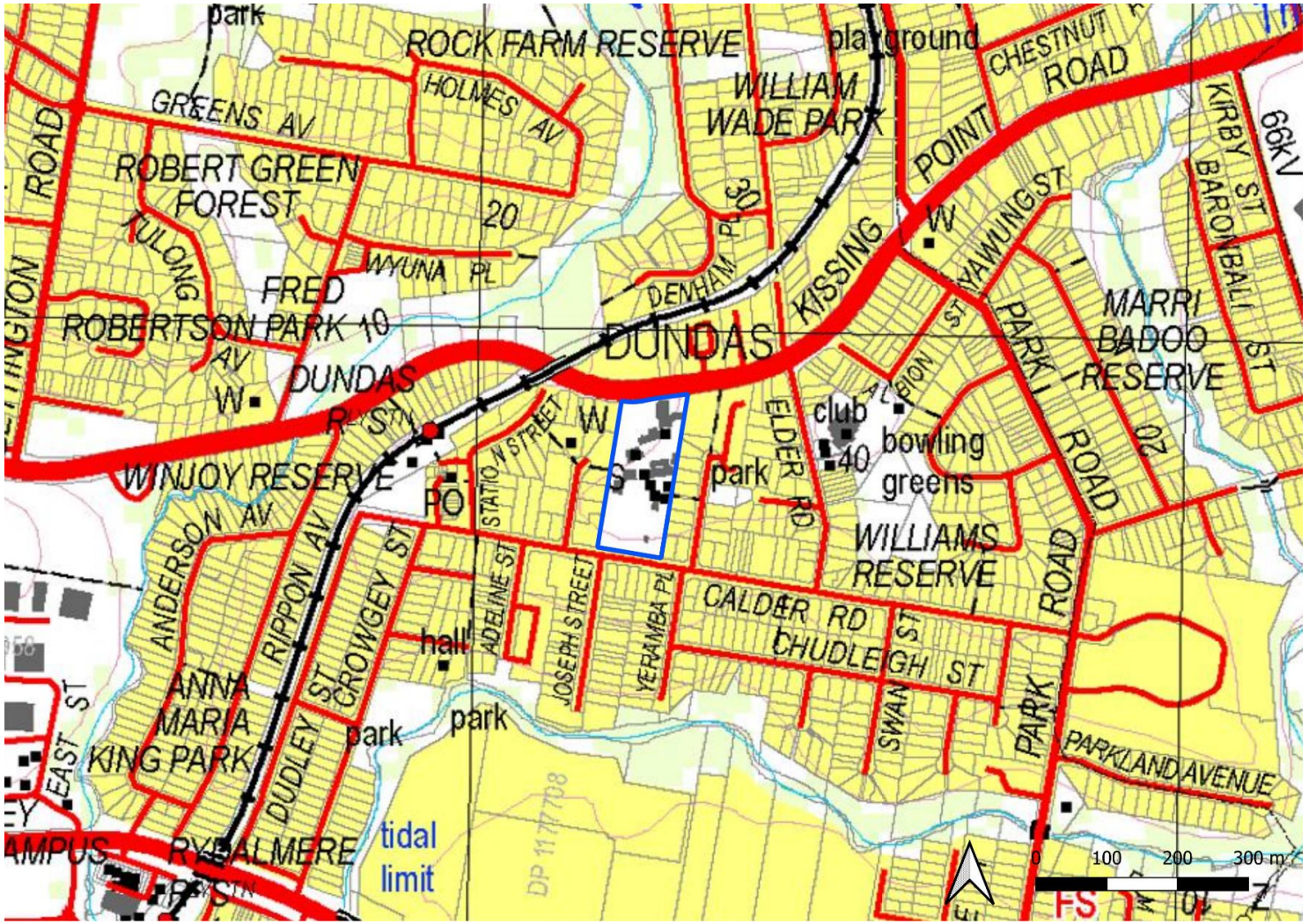

Figure 1.2 **Topographic map with site location.**
Study area outlined in dark blue. Six Maps. LRS Online (accessed 26/03/2024).

1.7 DESCRIPTION OF PROPOSED ACTIVITY

The proposed activity involves upgrades to the existing DPS, including the following:

- Creation of 6 new teaching spaces and 2 learning commons in a single-story building
- Installation of covered walkways connecting the new building to the existing school network
- Landscaping and external works around the new building and eastern entry
- Upgrades to site infrastructure and services to support the new building.

The intent of the activity is to increase the number of permanent teaching spaces (PTS) from 9 to 15 and students from 331 to 391.

Figure 1.3 below show the scope of works for the proposed activity.

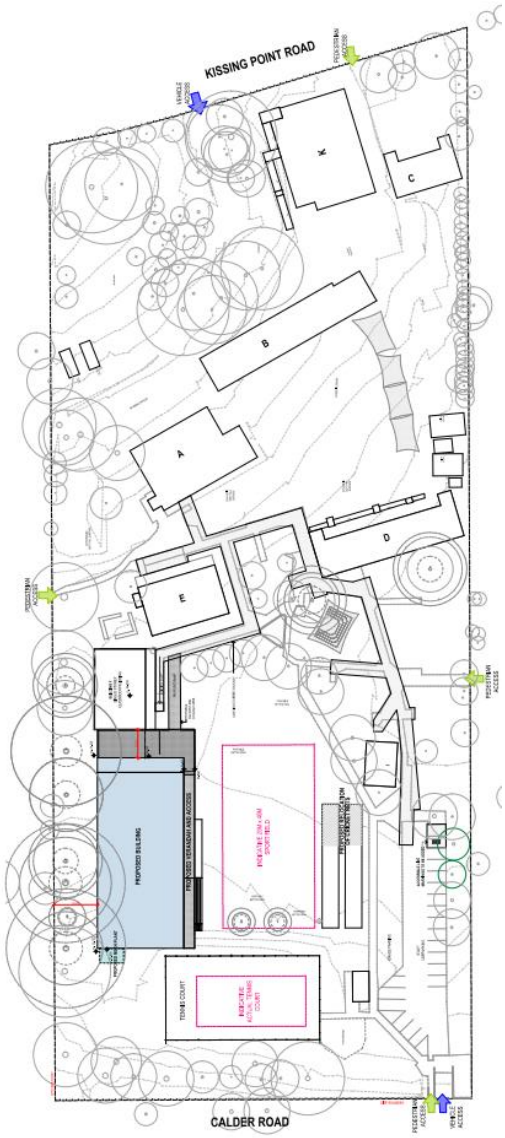

Figure 1.3 Proposed Scope of Works.
Fulton Trotter Architects, Proposed Site Plan (Rev P5).

2.0 ENVIRONMENTAL AND LANDSCAPE CONTEXT

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

2.1 TOPOGRAPHY

Dundas Public School is located within the township of Dundas and represents a built-up area and modified landscape. The site is positioned on a crest. The town is located on the northern side of the Cumberland Lowlands north of the confluence of the Parramatta River and Subiaco Creek. The study site lies approximately 3km north-east of the Parramatta town centre, 1.44km from the northern bank of the Parramatta River and 234m from the northern bank of Subiaco Creek. The study area extends over one topographic zone which consists of mostly flat (slope 1%) Quaternary terrace tops; terrace edges of the Parramatta River with low relief of up to 20m in the form of levees and splays, and elevations between 30m and 40m. Dependant on the site's original native vegetation coverage, of which there is no evidence, the site's position on a crest likely increased exposure to the natural elements (e.g.- wind) which may have made the area less desirable for long term occupation of the area or establishment of camp sites.

2.2 GEOLOGY AND SOILS

The geology of the study area consists of Quaternary alluvium of sand silt and gravel derived from the erosion of the Hawkesbury and Nepean sandstones and shale from the Wianamatta and Bringelly groups which are the dominant geological formations of the Sydney Basin. The nature of the alluvial deposit varies according to the lithology of its source and how far it has been transported.

The soil landscape map for the Penrith 1:100 000 map sheet shows that the study area lies on the Blacktown (bt) soil landscape (Hazelton et al, 1989; Figure 2.1). Analysis of the soil landscape during the test excavation field programme indicated that the location of the investigation area was consistent with the Gymea (gy) soil landscape. Predictive soil landscape maps show the Gymea soil profile in proximity to the study area, bordering around the Blacktown (bt) soil landscape (Figure 2.1). There is potential for Aboriginal objects to be present within the A horizons of both soil landscapes, B and C soil horizons tend to be sterile and less likely to contain artefactual evidence. A description of each soil profile is presented below.

2.2.1 Blacktown (bt) Soil Landscape

The Blacktown (bt) soil profile is located over much of the Cumberland Lowlands and the Moss Vale Tablelands as well as on the Woronora Plateau at Menai, Engadine, Sutherland, Caringbah and Darkes Forest. The geology is Ashfield

laminite and siltstone and Bringelly shale containing occasional claystone, laminite and coal. Soils are typically shallow to moderately deep red and brown podsols on crests and upper slopes and deeper yellow podsols and soloths on lower slopes along drainage lines. Soil acidity, ironstone and gravel shale fragments tend to increase with depth.

Table 2.1 Description of dominant soil material.

Dominant Soil Material	Soil Horizon	Description
bt1	A1 Horizon	Friable brownish-black loam to clay loam, can range from dark reddish brown to dark yellowish-brown. Blocky structure with rounded iron indurated fine gravel-sized shale fragments and charcoal fragments.
bt2	A2 Horizon	Hardsetting brown clay loam to silty clay loam, can range from dark reddish brown to dark brown. Weakly pedal structure with platy ironstone and gravel sized shale fragments as well as charcoal fragments.
bt3	B Horizon	Brown light- medium clay, can range from reddish brown to brown. Mottles of red, yellow and grey are common, increasing in depth. Strongly pedal polyhedral or sub angular blocky structure with fine coarse gravel sized shale fragments, these often occur in stratified bands.
bt4	B/C Horizon	Plastic light grey silty clay to heavy clay can range from greyish yellow. Mottles of red, yellow and grey are common. Moderate pedal polyhedral to sub angular blocky structure and smooth faced dense ped fabric, contains gravel sized shale fragments as well as strongly weather ironstone concretions and rock fragments are common.

Table 2.2 Expected Blacktown soil profile depth based on landform site type.

Crest
➢ up to 30cm of greyish brown loam **(bt1)** ➢ 10 - 20cm of brown clay loam **(bt2)** ➢ up to 100cm of brown mottled light clay **(bt3)** *N.B The total soil profile will not exceed 150cm, with the greyish loam (bt1) occasionally absent and the boundaries between the soil horizons generally clear.*

2.2.2 Gymea (gy) Soil Landscape

The Gymea (gy) soil landscape is extensively located across the Hornsby Plateau, along the foreshores of Sydney Harbour and the Parramatta and Georges River. The overall geology of the profile encompasses Hawkesbury sandstone, a medium to coarse grained quartz sandstone with minor shale and laminate lenses. The Gymea soil profile is shallow to moderately deep (30-100cm), consisting of yellow earths and earthy sands as well as siliceous sands along drainage lines (Hazelton et al, 1989).

Gy1 and gy2 are composed of coarse sand grains and have very low erodibilities as they are freely drained and are held together by high organic matter contents (gy1) and/or non-dispersive clays (gy2). However, gy3 is moderately erodible as it has a weakly coherent earthy fabric with low organic matter content. Gy4 is highly erodible as it is very low in organic matter and consists dominantly of fine sands in a clay matrix.

Table 2.3 Description of dominant soil material.

Dominant Soil Material	Soil Horizon	Description
Gy1	A1 Horizon	Loose, coarse sandy loam generally occurring as topsoil.
Gy2	B Horizon	Earthy, yellowish-brown clayey sand, commonly occurring as subsoil over sandstone bedrock (B horizon). Texture may change gradually to a light sandy clay loam with depth.
Gy3	B or C Horizons	Earthy to weakly pedal, yellowish-brown sandy clay, usually occurring as subsoil (B or C Horizon on coarse sandstone). Strongly weathered sandstone fragments are common throughout this layer.
Gy4	B and C horizons	Moderately to strongly pedal, yellowish-brown clay, occurring as subsoil on shale bedrock (B and C horizons). Red, orange and grey mottles are sometimes present at depth with shale and ironstone fragments throughout

Table 2.4 Expected Gymea soil profile depth based on landform site type.

Crest
➢ up to 30cm of loose, quartz sandy loam (gy1) ➢ overlies bedrock or <30cm of earth, yellowish brown clayey sand (gy2) ➢ Occasionally gy2 overlies up to 30cm of yellow earthy/ weakly pedal sand clay loam (gy3) *N.B Boundaries between soil materials are gradual. Total soil depth is less than 50cm.*

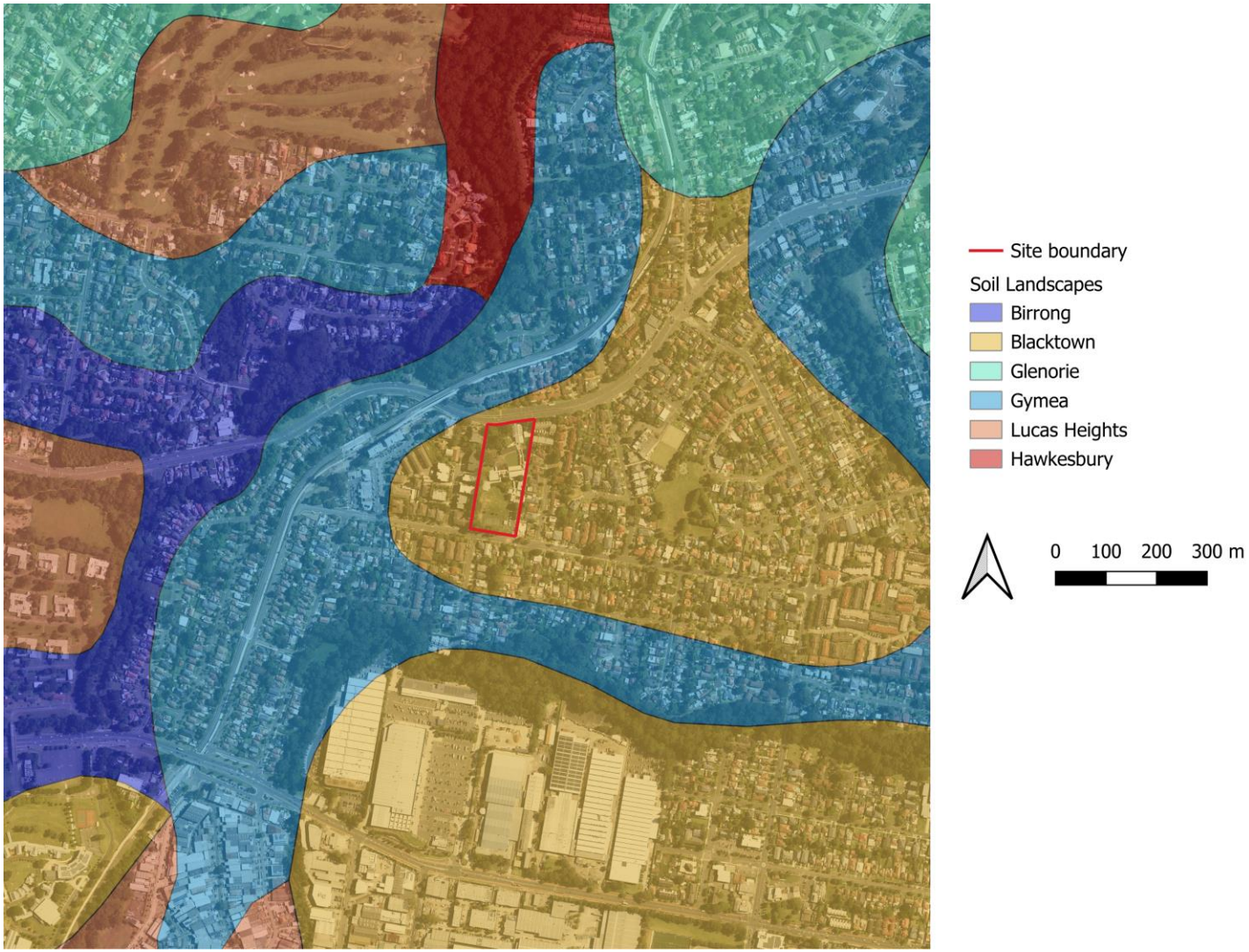

Figure 2.1 **Soil landscape showing study site outlined in red.**
Note that the site is located within the Blacktown profile on the soil landscape maps however is in close proximity to the Gymea soil landscape. NSW Government Sharing and Enabling Environmental Data in NSW (SEED), accessed 26/08/2024 and QGIS.

2.3 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 dry sclerophyll forests and woodlands that are associated with the Wianamatta and Bringelly Shale Groups. These vegetative communities principally contain Grey Box (*Eucalyptus hemipholia*), Forest Red Gum (*Eucalyptus teraticornis*), Sydney Blue Gum (*Eucalyptus saligna),* Spotted Gum (*Eucalyptus maculate*) and Blackbutt (*Eucalyptus pilularis*). Secondary populations of Cabbage Gum (*Eucalyptus amplifolia*), Broad Leaved Apple (*Angophora subvelutina*) and Narrow Leaved Apple (*Angophora bakeri*) may have existed along the banks of rivers and creeks in association with swamp communities of Swamp Sheoak (*Casuarina glauca*) and Tea Tree (*Melaleuca alternafolia*) (Hazelton et. al. p. 29 & 64).

Understory species included grasses, such as spear grass, shrub species such as Blackthorn, ferns including Bracken and vines such as Sarsparilla. This type of forest is typical of those located in podsoloc deposits. For the most part this indigenous vegetation has been cleared for grazing, urban residential and light industry land use throughout the Sydney Basin (Walker 1975, p. 11 – 13).). As the native vegetation has been extensively cleared and across the study site and its immediate surrounding environment, it is difficult to understand the extent of vegetation previously present on site and their subsequent type of use to promote occupation of an area, such as food resources, shelter or material sources.

2.4 WATERCOURSES

The study area is located within closest vicinity to Vineyard Creek, a second order stream, situated approximately 190m northwest of the site. Subiaco Creek is situated approximately 234m from the southern boundary of the site, and the Ponds Creek is 682m to the east. All three creeks form minor tributaries off the Parramatta River, a higher order stream. Parramatta River is 1.44km south of the study site.

These creek lines are known to have channelled Aboriginal activity to this area as an important resource within the landscape. The study site is considered to be within walking distance to several minor tributaries (Vineyard Creek, Subiaco Creek, Ponds Creek) of the Parramatta River. The proximity of several creek lines containing fresh water and food resources can be considered to increase the probability of ongoing occupation and nearby land use for hunting and gathering activities. Several lakes, reservoirs, and man-made ponds are also located in the wider surrounding landscape which has since modified water levels of the original rivers and creek lines.

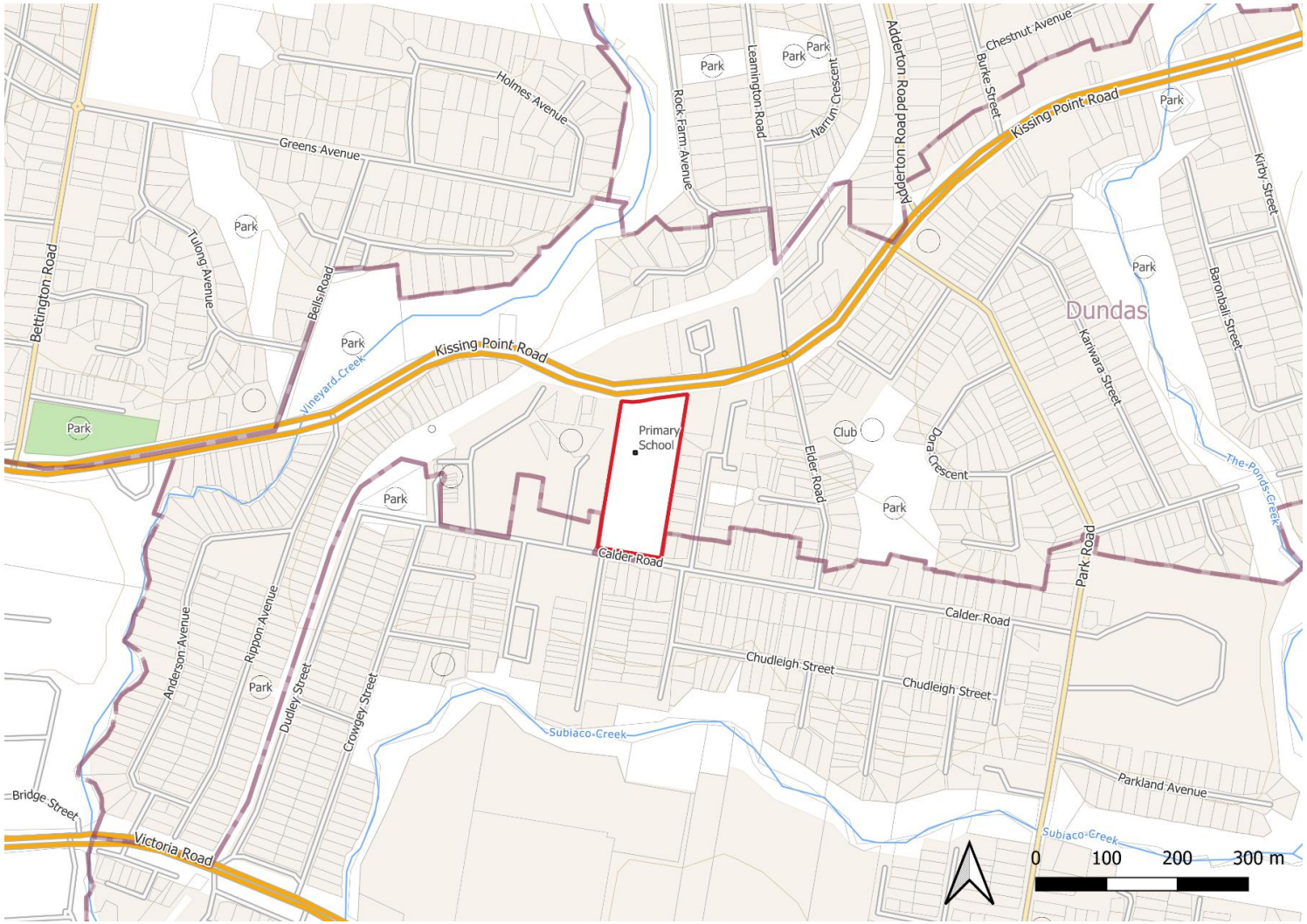

Figure 2.2 **Topography Map indicating extant watercourses in blue.**
QGIS using Six Maps, LRS Online (accessed 26/07/2023).

3.0 ARCHAEOLOGICAL CONTEXT

Background research consisted of an analysis and synthesis of existing archaeological data and predictive modelling to determine the nature of the potential archaeological and cultural heritage resource in the region. Searches were undertaken on the relevant databases outlined in Requirement 1 of the *Code of Practice* (DECCW 2010b).

3.1 ABORIGINAL AUSTRALIA

It is generally accepted that Aboriginal occupation of Australia dates back at least 40,000 years (Attenbrow 2002; Kohen et al 1983) and to as long as 60,000 years (Mulvaney and Kamminga 1999). 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 significant increase in evidence being deposited than was deposited as a result of the sparser prior occupation period. In addition, it is also true that the acidic soils which are predominate around the region do not allow for longer-term survival of sites (Hiscock 2008).

It is estimated that around 250 distinct languages were in use throughout the Australian continent at the time of contact. The exact number cannot be known for certain, however 250 is a conservative estimate. These languages fell within two language groups: the *Pama-Nyungan* and *Non Pama-Nyungan* languages. Knowledge of the different language groups in a given area is variable. Early European recordings noted the names of particular Aboriginal individuals and groups but were not always clear about which named groups represented a language rather than some other social grouping (Hardy and Streat 2008).

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

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

3.2 REGIONAL CHARACTER OF ABORIGINAL LAND USE

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.

The study area is located approximately 190m from Vineyard Creek, a second order water course. In the past the accessibility of permanent water and resources along the creek banks would have channeled Aboriginal movement and land use to this location and would have been a major resource of food and water. The study area lies in a zone which had natural resources that may have been exploited on either a regular or repeated basis. Reliable access to fresh water may have been present nearby to the study area due to the site's walking proximity to Vineyard Creek and Subiaco Creek.

Areas containing fresh water and sedentary food sources, coupled with the presence of other resources which may have been exploited or available on a seasonal basis, were more likely to be utilised by the local Aboriginal population. Concentrated and repeated occupation may be represented in areas that have reliable access to water and foods sources. These areas will possess a high archaeological potential (Goodwin 1999). This would suggest that Aboriginal land use of the study area was regular and repeated, and it is expected that this use would be reflected in the archaeological record.

3.3 PREVIOUS ARCHAEOLOGICAL STUDIES WITHIN THE VICINITY OF THE STUDY AREA

As part of the research process of this report, the library of archaeological assessments, which is maintained by Heritage NSW Offices was searched in addition to online library databases and search engines. No nearby previous Aboriginal assessments could be found that the author is aware of within the immediate vicinity of the study area. This absence of data is further demonstrated by the small quantity of AHIMS registered sites (Section 3.4) suggesting limited archaeological field investigations may have taken place across Dundas to date.

Presented below are summaries of archaeological assessments or archaeological testing programs which have been carried out in neighbouring suburbs such as Rydalmere, Rosehill and Parramatta. While some sites are up to 3km away from the study area and therefore may not share the same precise landform type or soil profile, they form sites that are in vicinity of minor tributaries connecting to the Parramatta River, or the Parramatta River itself, a key food resource for the earliest occupation of the Parramatta region. Evidence from archaeological excavations across the wider Parramatta district has demonstrated that artefact density is

expected to decrease with distance from the Parramatta River, the major tributary to which Vineyard Creek and Subiaco Creek connect to, which supports the prevailing predictive modelling of the region.

Australian Museum Business Services (2008), *Rosehill Recycled Water Scheme*

An archaeological assessment was conducted by Australian Museum Business Services as part of the Rosehill Recycled Water Scheme. From a total of seven trenches, seven Aboriginal archaeological objects were located within the study area. The densities of artefacts were very low, and all trenches indicated at least some element of disturbance from low to moderate, with one test trench being of high density and of moderate to high significance. The recommendations of this report were that there was no need for further archaeological excavation and a section 90 permit would be required for the development proceeding (AMBS 2008). This excavation did not identify archaeological and cultural material in the Parramatta Pleistocene Sand Terrace.

GML (2012) *7 – 9 Victoria Road, Parramatta*

Godden Mackay Logan during the course of historical archaeological excavations at 7 – 9 Victoria Road, approximately 2.7km southwest of the study site, recovered nine Aboriginal objects from within the study area. All artefacts were made of silcrete and were located in historically disturbed contexts, such as fill deposits within postholes and wells. No intact soil profiles or archaeological deposits were identified but demonstrated that Aboriginal archaeological evidence is sometimes present within historical archaeological layers of occupation. This excavation did not identify archaeological and cultural material in the Parramatta Pleistocene Sand Terrace (GML 2012).

AMAC Group (2014), *WSU Campus, 171 Victoria Road, Rydalmere NSW.*

An Aboriginal Cultural Heritage Assessment Report (ACHAR) was prepared by AMAC Group at 171 Victoria Road, Rydalmere, on the grounds of Western Sydney University's Parramatta Campus. The study area was within the north-eastern part of the campus near Railway Street. Situated approximately 1.1km southwest of the study site, the proposed development area primarily comprised an open car park area towards the university's eastern boundary, planned to be redeveloped into a new science facility. The development area was situated 95m west of Vineyard Creek, the same second order stream in closest vicinity to the current study site. Only 395m north of the Parramatta River, the Rydalmere site also lies on the alluvial flood plain of the Parramatta River, its topographic zone was associated with the Blacktown and Birrong soil landscapes.

Due to site's potential for partly intact artefact bearing soil profiles, a program of Aboriginal test excavation was undertaken in mid-2014 under the Code of Practice (DECCW 2010). Test excavation indicated that the A soil horizon (which is the soil horizon Aboriginal objects or deposits would be located in) was found to be either disturbed or absent. Of 15 test trenches, Aboriginal archaeological material was recovered from one trench (ATT8). This included two debitage broken silcrete flakes as well as one piece of unworked silcrete. These artefacts may relate to the occupation and use of the study site during the pre-settlement period. However, the disturbed nature of the site as seen in each test trench, indicated that the Aboriginal artefacts were not in-situ and recovered amongst modern material. Nothing found

during the testing program suggested an intact archaeological site was present, nor provided specific information on Aboriginal cultural activities within the area.

Comber Consultants (2015), *Parramatta North Urban Transformation*

Comber Consultants undertook an assessment as part of the proposed rezoning and planning controls for the urban transformation in North Parramatta, this included the Cumberland Precinct and Sports and Leisure Precinct situated approximately 3.2km west- of the study site. As the western boundary of the site sits adjacent to the Parramatta River, the area was considered to contain medium to high archaeological potential for intact evidence of Aboriginal occupation as parts of the site area contained higher evidence of unmodified landforms. Additionally, the study area was deemed to be of national significance for its cultural heritage. As such test excavation was proposed under an Aboriginal Heritage Impact Permit (AHIP) as well as further research and oral histories were planned to be undertaken as part of the consultation process (Comber 2015). A publicly available copy of the ACHAR report containing test excavation results could not be sourced at the time of report writing.

Urbis (2017), *Telopea Master Plan*

Urbis prepared a Heritage and Archaeological Assessment as part of the Telopea Master Plan. This report was a desktop study only to consider opportunities and constraints associated with both built heritage, archaeology and Aboriginal cultural heritage within the NSW Government's master planning area. No field program was undertaken as part of this study. The master planning study area is situated between 800m – 1.9km northeast of the current study site. The desktop study found that there were two registered Aboriginal sites located within the study area in proximity to the Ponds Creek, and an additional nine Aboriginal sites located in the vicinity of the study area (Urbis 2017). The two sites within the study area were noted as artefact scatters. Recommendations included that as Aboriginal sites have previously been identified in or within close proximity to both Sturt and Acacia Parks, and as both parks comprise relatively undisturbed land any works within the parks, any ground surface or sub-surface works will trigger the requirements for an impact assessment at a minimum (Urbis 2017). Some of the registered sites mentioned in this assessment appear to have been de-registered since publication of the assessment.

AMAC Group (2018), *32 Smith Street and 93-95 Phillip Street, Parramatta NSW*

An Aboriginal Cultural Heritage Assessment Report (ACHAR) and Aboriginal test excavation was undertaken by AMAC Group for a redevelopment at the site known as 32 Smith Street and 93-95 Phillip Street, Parramatta, approximately 2.9km southwest of the study site. The site contained an urban landscape, with 20th century buildings occupying the entire site footprint. No native vegetation was present on the study area, and the Parramatta River is situated only 150m to the north.

Preliminary reporting indicated that the study site fell within the Birrong soil landscape, as well as potential for evidence of the Parramatta Pleistocene Sand Sheet. Test excavations revealed that the sand sheet was not present, and the site was heavily disturbed with only a low density of Aboriginal objects (15) present among 18 test trenches. The low density meant salvage excavation was not required; however, the subsurface test excavation program did expand several test pits to recover a greater assemblage at the time of testing. The recovered

assemblage composed of debitage and broken flakes. Test excavation at the site found that the natural soil profiles differed dramatically across the site. A number of geological factors have contributed to this result and it appears that Phillip Street was formed on a levy with the study site containing a natural hollow, a former channel (possibly a prehistoric course of the Parramatta River) and a back swamp.

AMAC Group (2020), *85 - 97 Macquarie Street, Parramatta NSW*

An Aboriginal Cultural Heritage Assessment Report (ACHAR) and Aboriginal test excavation was prepared by AMAC Group at 85- 97 Macquarie Street, Parramatta. The proposed development was planned to significantly disturb the entire site footprint for new basement level construction. The site was located in the Parramatta CBD, approximately 3.2km southwest of the study site. The Macquarie Street site comprised an urban landscape with no native vegetation present, approximately 482m south of Parramatta River (major tributary) and within the Birrong soil landscape. Test excavation was conducted under An Aboriginal Heritage Impact Permit (AHIP) due the potential for exposure of the Parramatta Sand Sheet. A total of 11 Aboriginal artefacts mainly classified as debitage were identified during testing. This was considered a low density based on the study site area (2213m^2).

Niche (2020) *Aboriginal Test Excavation at Parramatta Square NSW*

A program of test excavation was undertaken by Niche at the rear of Parramatta Town Hall within the Parramatta Square site redevelopment, and in close proximity to AMAC Group's Macquarie Street excavation program. A similar distance south of the Parramatta River and a highly modified urban landscape, test excavation revealed that the Parramatta sand sheet proper was not present, however a similar soil profile (Birrong) to the AMAC Group Macquarie St excavation was located. The site was heavily disturbed, a low density of Aboriginal objects (11) were present from 10 test pits. Salvage excavations were additionally undertaken to allow development to proceed.

3.4 AHIMS SEARCH RESULTS

The Aboriginal Heritage and Information Management System Database (AHIMS) is an online database maintained by Heritage NSW Offices. This database comprises information regarding all the previously recorded Aboriginal archaeological sites registered with Heritage NSW. An AHIMS extensive 1km search was conducted on 23rd May 2024 (ID-894955). This search resulted two registered sites within 1000m of the study area. No registered sites were identified within the study area. A previous search, conducted on 18/07/2023 (ID-801230) had identified five sites. Three of these no longer appear within the search area and it was previously found that registered site 'Balgowlah Cave' (Site ID# 45-6-2939), was misplaced due to incorrect GPS coordinates. This site is located on Coral Street, Balgowlah, within the municipality of Northern Beaches Council.

An artefact scatter (ID#45-6-2570) was identified on the western side of Ponds Creek near Kissing Point Road as part of a 2002 survey. These appear to have been removed and deposited at the Australian Museum at the time of recording. This site was recorded in 1997 as part of an archaeological survey of Metropolitan Sydney. This study was restricted to survey only and did not include test excavation. It remains unclear whether this survey study was formally published.

The most common site type within earlier (2023) and current AHIMS searches were artefacts.

Table 3.1 AHIMS Search Results.

Site ID	Site name	Site status	Site features & type
45-6-2939	Balgowlah Cave	Valid	Artefact
45-6-2570	Kissing Point Rd	Valid	Artefact: open camp site

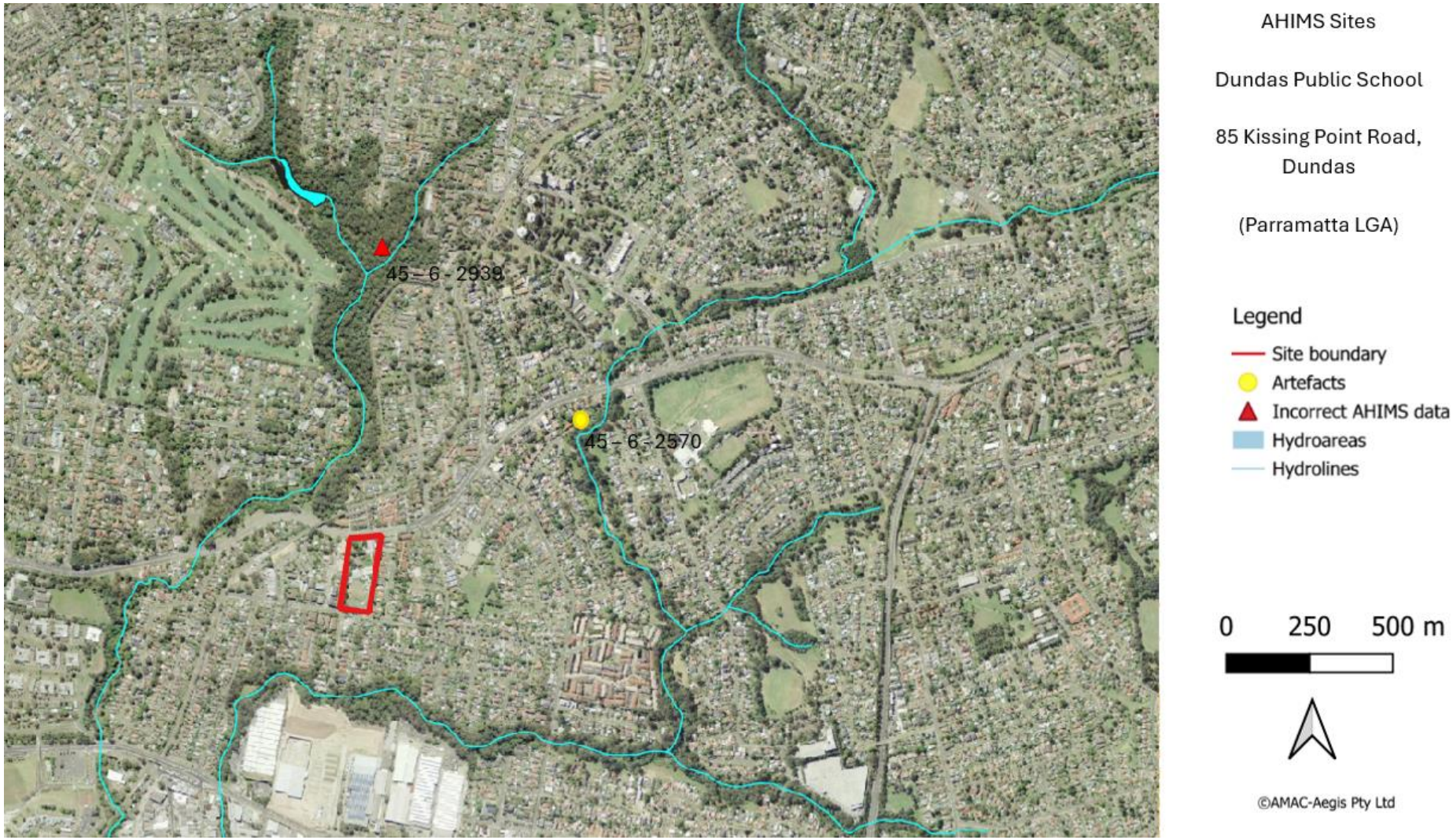

Figure 3.1 AHIMS Search Results.
AMAC Group. Six Maps. LRS Online (accessed 27/05/2024).

3.5 PREDICTIVE MODELLING

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

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

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

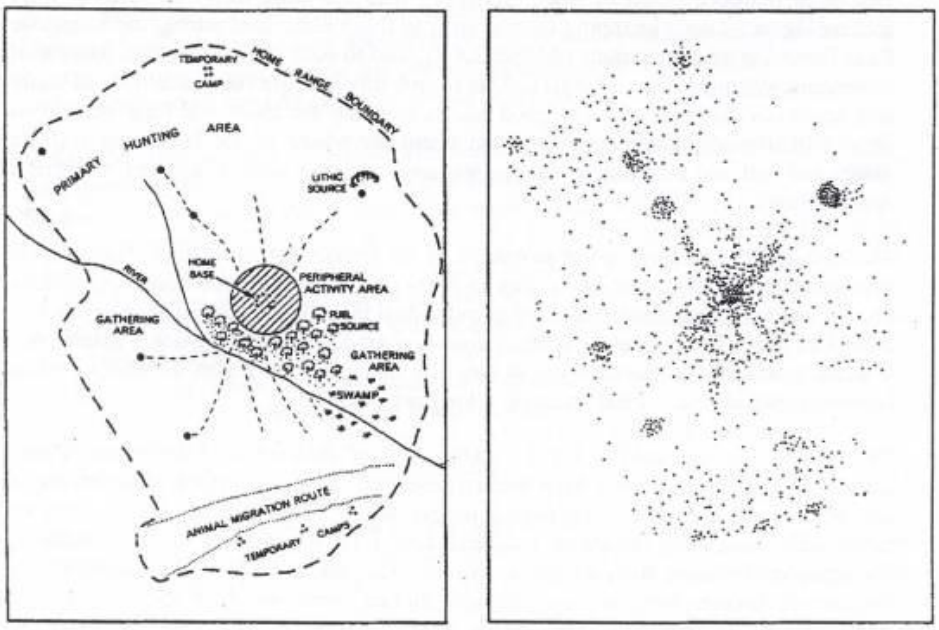

Figure 3.2 **Examples of forager settlement patterns.**
Foley (1981).

The principals behind this model have been incorporated into other predictive models such as that of McBryde (1976). McBryde's model is centred on the utilisation of food resources as a contributor to settlement patterns, specifically with reference to the predictability and reliability of food resources for Aboriginal people

within the immediate coastal fringe and/or hinterland zone, with migratory behaviour being a possibility. Resources such as certain species of animals, particularly; small marsupials and reptiles, plant resources and nesting seabirds may have been exploited or only available on a seasonal or intermittent basis. As such, archaeological sites which represent these activities whilst not being representative of permanent occupation may be representative of brief, possibly repeated occupation.

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

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

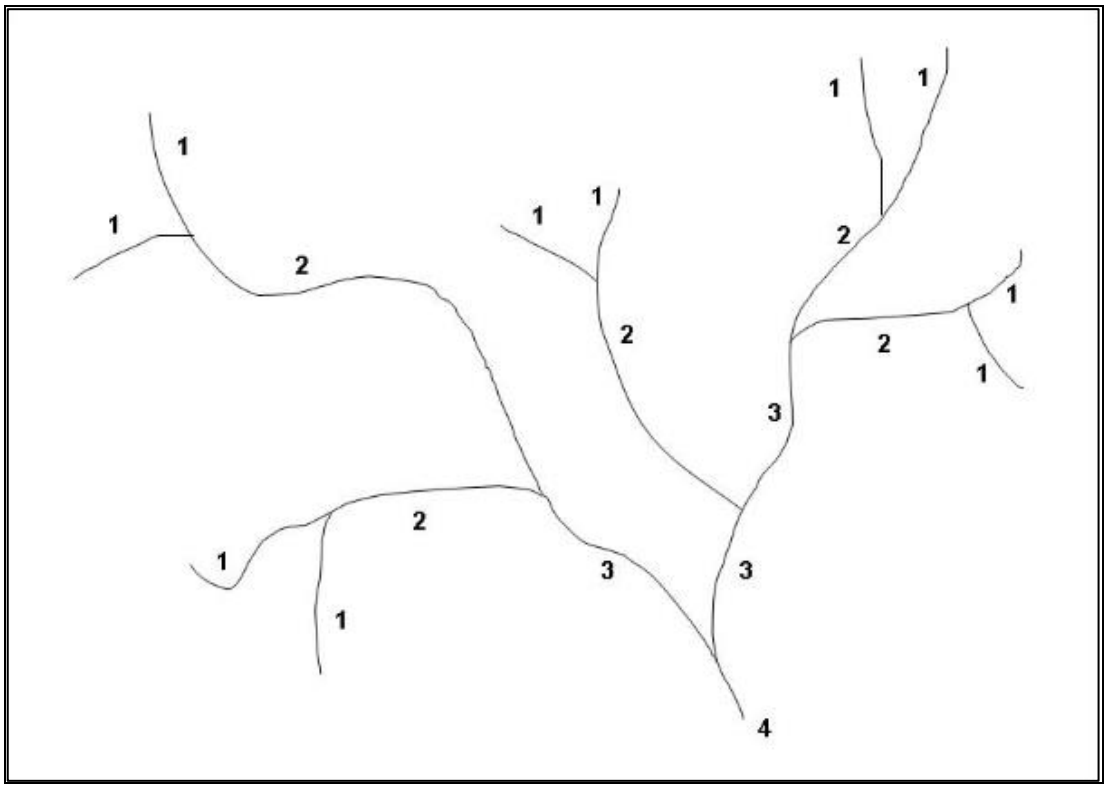

Figure 3.3 **Strahler's hierarchy of tributaries.**
Strahler (1957).

Table 3.2 Relationship between landscape unit and site distribution for region.

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

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

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

- The pattern of watercourses and other landscape features such as ridge lines affected the ease with which people could move through the landscape

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

The Aboriginal Cultural Heritage Data Audit (DOP, 2005) produced the following table as part of the NSW Comprehensive Coastal Assessment Toolkit (DOP, 2005) which made the following statements outlined in Table 3.3 about the predictive location of Aboriginal sites in NSW. These statements support the conclusions drawn in the following predictive model established for the study area. The study makes one very important claim which is that Aboriginal Ceremonial or Dreaming Sites can only be identified by Aboriginal community knowledge.
All models state that the primary requirement of all repeated, concentrated or permanent occupation is reliable access to fresh water. Brief and possibly repeated occupation may be represented in areas that have unreliable access to ephemeral water sources, however these areas will not possess a high archaeological potential (Goodwin 1999).

Table 3.3 Aboriginal Cultural Heritage Data Audit, Predictive Modelling for Aboriginal Sites, NSW.

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

3.6 ARCHAEOLOGICAL PREDICITVE MODEL FOR THE STUDY AREA

Analysis of the environmental context has found that the study site is located approximately 190m from Vineyard Creek, a second order watercourse and thus can be identified as having potential for subsurface Aboriginal cultural deposits or materials.

It is important to acknowledge that the information provided in the Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW (DECCW 2010b, p.11-12) is, as with all predictive modelling, indicative. Aboriginal activity cannot be said to have ceased at a hard 200m from waters nor 20m from a cave or rock shelter and these parameters must be viewed as a guide. It must also be taken into account that the course of waterways changes over time and even ephemeral watercourses mark potential features that may have once influenced Aboriginal settlement patterns.

McDonald's modelling states that artefact density reduces as the distance from permanent water increases; it also states that the nature of the watercourse may influence artefact density, which may be reflected in the archaeological record (McDonald, 2002, 2005 and 2007). Jo McDonald prepared a predictive model for the Cumberland Plain based on work completed in the Rouse Hill Development Area which states that regardless of landform type, artefact density increased, and site types were more varied within close vicinity of higher order creeks, as opposed to less permanent water sources. Repeated use of landforms was apparent, with stratigraphic evidence of knapping identified and estimated to between 4,000 and 1,000 BP.

The artefact density will only decrease at or about 200m from waters but not cease entirely. More recent publications focusing on artefact distribution patterning on the Cumberland Plain, such as Owen and Cowie's study from a large-scale excavation site in East Leppington (2017), still demonstrated the presence of less dense occupation areas containing Aboriginal archaeological material at greater distance to waterways (Owen & Cowie 2017). Similar to the study area, this archaeological evidence was identified across rural land historically subject to crop cultivation, which has since been extensively developed for new housing (Owen & Cowie 2017). Based on the study area's environmental context and predictive modelling of the Cumberland Plain, open artefact scatters or isolated artefacts seem the most likely potential archaeological site type for the study site.

Table 3.4 gives an indication of the likelihood of certain site types being located within the study area. Historical aerials have been inspected to assess the potential of natural or anthropogenic alteration of watercourses. As these are inconclusive, further assessment, in accordance with the Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW (DECCW 2010b) was recommended.

Table 3.4 Potential site types associated with the study area.

Site Type	Study Site	Likelihood
Open Artefact Scatters	A higher order watercourse, Vineyard Creek is located within the vicinity of the study area.	Likely within undisturbed parts of the study area.
Isolated Artefacts	Higher order streams are located within the landscape units represented in the study area, chiefly Vineyard Creek and Subiaco Creek.	Likely within undisturbed parts of the study area.
Grinding Grooves	Boulders of sandstone or outcrops can occur in the landscape units, generally on watercourses, which are absent from the study site. It is therefore considered unlikely that Grinding Grooves will be located within the study area as the landform is not consistent.	Unlikely
Stone Resource Sites	Rock outcrops of suitable flaking material are almost absent from the soil landscape represented within the study area.	Unlikely
Scarred Trees	Trees of sufficient age do not appear to remain within the study area due to past extensive land clearance. It is therefore considered unlikely that scarred/ modified trees will be located within the study area.	Unlikely
Sandstone Shelters	The soil landscapes of the study area do not contain sandstone overhangs.	Unlikely
Burials	There is an unknown potential for burials within the study site.	Unlikely
Ceremonial Sites	Consultation with relevant Aboriginal parties is taking place, no ceremonial site have been identified during the community consultation process.	No ceremonial sites have been identified as part of community consultation

3.7 LAND USE HISTORY AND DISTURBANCE FACTORS

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

The archaeological potential of the site is based on the level of previous disturbance that has occurred. The Code of Practice (DECCW 2010b) defines disturbed land as:

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

This definition is based on the types of disturbance as classified in The Australian Soil and Land Survey Field Handbook (CSIRO 2010). The following

is a scale formulated by CSIRO (2010) of the levels of disturbances and their classification.

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

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

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

3.7.1 Land Use History and Disturbance

Background research indicates that past European land use has led to extensive land clearing for early agricultural activities and urban development. The study area initially formed part of a 100 acres land grant given to James Elder in August 1833 (NSW LRS Vol 4226-188). The wider grant was subdivided into smaller allotments by the Elder family after 1881 (NSW LRS Vol 516-177); the study site formed Allotment 3 of that subdivision. Apart from a partial resumption for road frontage in 1965 (NSW LRS Vol 4226-188), the study site forms the same piece of land subdivided in 1881.

Historic aerial photographs indicate that following subdivision, the study site was developed for cultivation activities. The 1943 aerial shows a few small buildings, presumably sheds, running along the western boundary (Figure 3.4). The study site was resumed by the government in September 1950 to form a new school site (NSW LRS Vol 4226-188).

Dundas Public School was originally opened in 1869 further northwest on Spurway Street (now Stewart Street). The new school was relocated and reopened in its present location in the early 1950s. The 1955 aerial photograph shows only a few school buildings in the northeast corner of the site (Figure 3.5). The school footprint expanded over the following decades in response to increased residential development in surrounding areas (Figure 3.5-Figure 3.8). No significantly deep excavations have been undertaken on the site with the standing buildings being predominately one storey with associated services, pathways, and outbuildings. The northern side of the study has significantly higher disturbance due to the excavation, grading, and levelling required for the installation of those buildings.

Analysis of the information provided about the Aboriginal land use of the site, its proximity to a second order watercourse (Vineyard Creek) and assessment of land use history, the study area is assessed as predominately containing Major/High (8) disturbance landscape, with one less developed area considered Moderately (5) disturbance. It has been assessed that sub-surface Aboriginal objects with potential conservation value have a low-moderate probability of being present within the moderately disturbed areas.

Figure 3.4 **Extract of 1943 aerial showing study site (red outline).**
NSW LRS, Historical Imagery (accessed 19/07/2023).

Figure 3.5 **Extract of 1955 aerial showing study site (red outline).**
NSW LRS, Historical Imagery (accessed 19/07/2023).

Figure 3.6 **Extract of 1965 aerial showing study site (red outline).**
NSW LRS, Historical Imagery (accessed 19/07/2023).

Figure 3.7 **Extract of 1986 aerial showing study site (red outline).**
NSW LRS, Historical Imagery (accessed 19/07/2023).

Figure 3.8 **Extract of 1994 aerial showing study site (red outline).**
NSW LRS, Historical Imagery (accessed 19/07/2023).

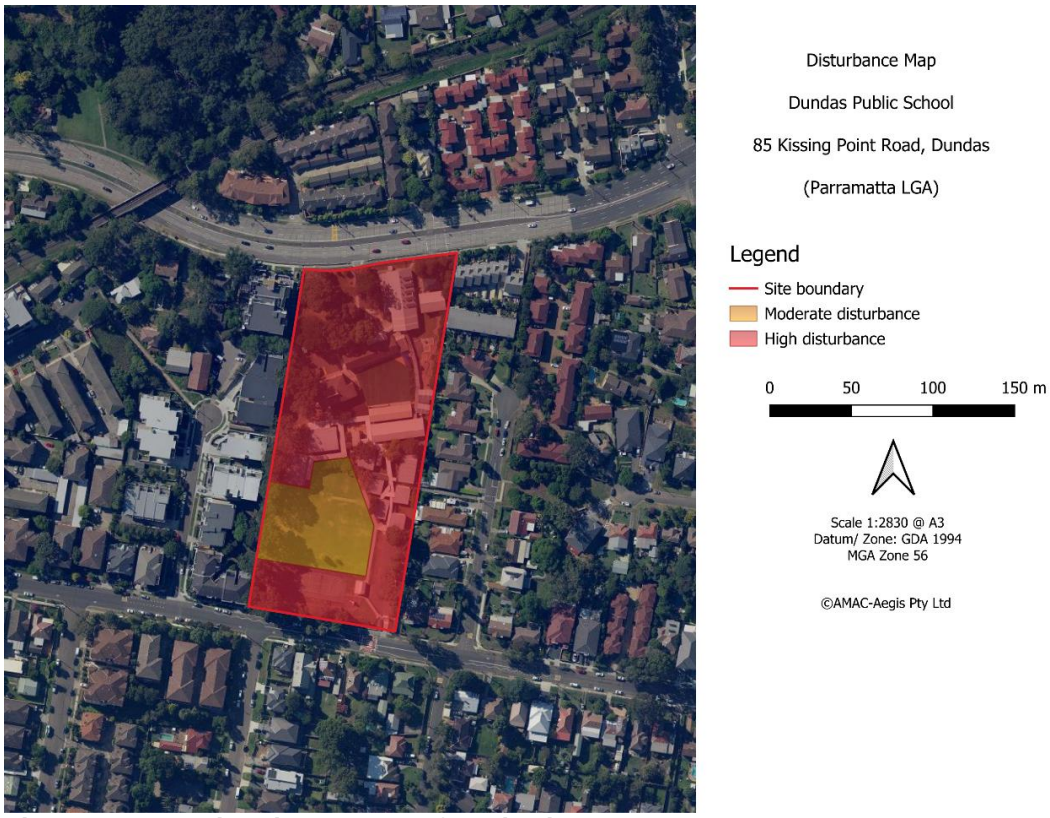

Figure 3.9 **Disturbance map of study site.**
Red indicates high disturbance – Orange moderate disturbance. QGIS using Six Maps, LRS Online (accessed 26/07/2023).

4.0 FIELD METHODS AND RESULTS

As part of the ACHAR development process, a Research Design and Test Excavation Methodology document was developed by AMAC Group and supplied to all registered stakeholders for review and comment in June 2024. The test excavation methodology was developed per the guidelines under the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b).

The methodology and proposed test excavation program was supported by those registered stakeholders, and no modifications were proposed during the statutory review period. Refer to Section 3.0 of the Aboriginal Cultural Heritage Assessment Report (ACHAR) for a detailed description of community consultation for this project.

A copy of the Test Excavation Methodology as provided to the registered stakeholders in June 2024 is presented in Section 4.3. The test excavation methodology was adhered to for the duration of the field programme.

4.1 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 or regional prehistory of the area. The results of test excavation aid in the formalisation of appropriate management recommendations and conservation goals for the proposed development and any archaeological material recovered.

The methodology presented in the following sections of the report (Section 4.2 – Section 4.4) considers 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; and
- The impact of the proposed development on any Aboriginal archaeological material that may be present.

4.2 JUSTIFICATION OF TEST EXCAVATION UNDER THE CODE OF PRACTICE

As detailed in the *Code of Practice* (DECCW 2010b). 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.

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; or
- in areas known or suspected to be conflict or contact sites.

Therefore the site is excluded from the definition of harm and as such will not require test excavation under an Aboriginal Heritage Impact Permit, and can be completed under the *Code of Practice* (DECCW 2010b).

As set out in the *Code of Practice* (DECCW 2010b):

> 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.

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.

'Enough information' is defined as obtaining a sample that 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 site daily, 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 Practice* (DECCW 2010b).

4.3 FIELD METHODS

Test excavation was undertaken over two days in August 2024. The test excavation program was conducted under the *Code of Practice* (DECCW 2010b). The proposed development footprint does not encompass the whole study site, with some development locations identified within areas previously assessed as highly disturbed (AMAC Group 2023). Therefore, the test excavation program focused on working within areas assessed as moderately disturbed as these locations contained increased potential to retain intact, natural artefact bearing soil profiles.

Due to the smaller size of the proposed development, the testing program involved excavation of 8 test trenches (50cm x 50cm) situated evenly across the planned development footprint to obtain information and data that could systematically determine a distribution pattern and/or density pattern within a localised scale of the site. Test excavation was situated around the west and north boundaries of the school's sports oval. In line with the test excavation methodology, a total of three

transects were used to cover the proposed development footprint among the areas of higher archaeological potential (Figure 4.1). Transects 1 and 2, orientated north-south, were situated on the western side of the sports oval and spaced 10m apart from each other. Three test trenches were placed on each north-south transect, and each pit was spaced 15m apart to allow for even testing distribution across the proposed development footprint. Transect 3 was situated at the northern boundary of the sports oval, orientated east-west to suit the proposed development footprint. Offset from the extant classroom building (Building F), two test trenches were placed 10m apart along Transect 3.

Evidence of contemporary modification and truncation of the upper topsoil layers were noted across all 8 test trenches predominantly producing a reformed topsoil layer as opposed to evidence of a natural unmodified A horizon. Test excavation revealed no subsurface Aboriginal objects or archaeological features. Manual excavation ceased within each test trench upon the exposure of a sterile B/ C horizon. Most notable was that test excavation revealed evidence of the Gymea (gy) soil landscape (see Section 5.4). Due to the high sand composition of the soil matrix, wet sieving was not required for the testing program. All excavated material was dry sieved using a 5 mm aperture wire-mesh sieve.

Section 5.2 contains a written summary of all excavated test trenches, including transect location, excavation depth and stratigraphic description of the soils observed during testing. Profile and section photographs of each test trench are also documented in Section 5.3. Scaled section plans were drawn on the rear of each context recording sheet following completion of each trench. A copy of the field context sheets is provided in Appendix 10.1.

4.3.1 Excavation Team

The test excavation program was carried out by Kelly Strickland and Benjamin Streat (AMAC Group) in association representatives from the following Registered Aboriginal Parties (RAPs):

Organisation	Contact
A1 Indigenous Services	[redacted]
Amanda Hickey Cultural Services	[redacted]
Kamilaroi Yankuntjatjara Working Group	[redacted]
Woka Aboriginal Corporation	[redacted]

Due to the small scale of the test excavation programme, not all the registered stakeholders were able to participate in the field excavation phase. However, all stakeholders (14 groups) were notified of the planned testing program and invited to express their interest in participation (refer to Section 3.0 in ACHAR). Only five registered stakeholder groups responded to the offer of participation in the field programme. The four above groups were selected based on availability on the scheduled test excavation days, subcontractor insurances and active Working With Children Check (WWCC).

4.3.2 Care and Control Agreement

As no Aboriginal objects were found during test excavation, a care and control agreement for this site is not required.

Figure 4.1 **Plan showing excavation test trench locations, as recorded on site.**
Transect 1= blue; Transect 2= yellow; Transect 3= orange.
AMAC Group (2024). QGIS using Six Maps, LRS Online (accessed 30/08/2024).

4.4 TEST TRENCH SUMMARY

Test Trench No.	Transect	No. of Spits	Final depth (mm)	Description	No. Artefacts
1	1	4	270-300	Positioned on lowest slope of the test area. Mid to dark brown reformed topsoil comprising of a loam matrix with patches of weed vegetation and insect activity (spit 1). Overlying a compacted bleached light yellow – brown sandy matrix (B) with natural orange-brown clay peds, ironstone (<15mm) and charcoal (<5mm) inclusions (spit 2). Overlaying transitional layer of light yellow brown clayey sand with increasing compaction and orange clay content and decreasing quantity of ironstone inclusions (spit 3). Overlaying a firm, mottled sterile orange clay with decreasing ironstone inclusions (B/C). Excavation ceased part way through spit 4 due to exposure of sterile soil layer (Figure 4.2-Figure 4.5).	0
2	1	3	250	Highest elevation on Transect 1. High erosion location. Dry, firm dusty mixed light brown to bleached orange clayey sand mixed with reformed topsoil (spit 1). Overlaying bleached orange-brown dry and compact clayey sand (B) with ironstone inclusions (<15mm, spit 2). Overlaying transitional layer of bleached orange-brown clayey sand with increasing compaction and orange clay content and decreasing quantity of ironstone inclusions (spit 3). Excavation ceased at base of spit 3 following exposure of firm, mottled sterile orange clay with decreasing ironstone inclusions (B/C) (Figure 4.6-Figure 4.9).	0
3	1	4	350-360	Higher quantity of bioturbation compared to Test trench 1 and 2 on Transect 1. Highest position on Transect 1. High erosion location. Mid brown reformed topsoil comprising of a grainy loam matrix with minor patches of weed vegetation (spit 1). Overlying a compacted light yellow – brown sandy matrix (B) with natural orange-brown clay peds, ironstone (10 - 50mm) and charcoal (<5mm) inclusions (spit 2). Overlaying transitional layer of light yellow brown clayey sand with increasing compaction and orange clay content and decreasing quantity of ironstone inclusions and evidence of tree root activity (spit 3 - 4). Large concentration of charcoal fragments recorded in the northeast corner. Excavation ceased at base of spit 4 upon full exposure of firm, mottled sterile orange clay with decreasing ironstone inclusions (B/C).	0
4	2	5	450	Southernmost test trench on Transect 2. Higher position compared to Transect 1. Erosional location, patch weeds on surface. Reformed topsoil churned with loose orange-brown clayey sand (B) with small ironstone inclusions (<15mm, spit 1). Overlaying bleached orange-brown dry and compact clayey sand with ironstone inclusions (<15mm, spit 2 - 4). Spit 5 formed transitional layer of light yellow brown clayey sand with increasing compaction and orange clay content and decreasing quantity of ironstone inclusions. Excavation ceased at base of spit 5 upon full exposure of firm, mottled sterile orange clay with decreasing ironstone inclusions (B/C).	0
5	2	4	270	Deeper topsoil layer in this location compared to other test trenches on Transects 1 and 2. Mid brown reformed topsoil comprising of a grainy loam matrix with minor patches of weed vegetation (spit 1 - 2).	0

Test Trench No.	Transect	No. of Spits	Final depth (mm)	Description	No. Artefacts
				Overlying a compacted light yellow – brown sandy matrix (B) with natural orange-brown clay peds, large ironstone fragments (>30mm) and sandstone (<10mm) inclusions identified (spit 3-4). Sudden increase of orange clay matrix in spit 4, excavation ceased upon full exposure of firm, mottled sterile orange clay with decreasing ironstone inclusions (B/C).	
6	2	3	260-280	Highest elevation on Transect 2. Mid to dark brown reformed topsoil comprising of a loam matrix with patches of weed vegetation and insect activity (spit 1). Overlying a compacted bleached light grey/yellow – brown sandy matrix (B) with natural orange-brown clay peds, small ironstone inclusions (<10mm) and small root systems (spit 2). Overlaying transitional layer of grey- brown clayey sand with increasing compaction and orange clay content and decreasing quantity of ironstone inclusions (spit 3) and small tree roots. Excavation ceased at base of spit 3 upon full exposure of firm, mottled sterile orange clay with decreasing ironstone inclusions (B/C).	0
7	3	5	360-400	Deeper topsoil layer in this location compared to other test trenches on Transects 1 and 2. Higher moisture content. Mid brown redeposited topsoil comprising of a grainy loam matrix with minor patches of weed vegetation and small root systems (spit 1 - 2), larger ironstone fragments and increased sand content towards base of spit 2 (>50mm). Overlying a compacted light grey/yellow – brown sandy matrix (B) with natural orange-brown clay peds, ironstone inclusions (>10mm) and small root systems (spit 3). Overlaying transitional layer of grey- brown clayey sand with increasing compaction and orange clay content and decreasing quantity of ironstone inclusions (spit 4). Overlaying a firm, mottled sterile orange clay (B/C) with decreasing ironstone inclusions (spit 5). Excavation ceased part way through spit 5 due to exposure of sterile soil layer.	0
8	3	4	350-370	Deeper topsoil layer in this location compared to other test trenches on Transects 1 and 2. Higher moisture content. Mid brown redeposited topsoil comprising of a grainy loam matrix with minor patches of weed vegetation and small root systems (spit 1 - 2), larger ironstone fragments and increased sand content towards base of spit 2 (>50mm). Overlying a compacted light grey/yellow – brown sandy matrix (B) with natural orange-brown clay peds, ironstone inclusions (>10mm) and small root systems (spit 3). Overlaying transitional layer of grey- brown clayey sand with increasing compaction and orange clay content and decreasing quantity of ironstone inclusions (spit 4). Excavation ceased part way through spit 4 due to complete exposure of firm, mottled sterile orange clay (B/C).	0

ATT1

Figure 4.2 ATT1 – Start. Facing north.
AMAC Group, 22/08/24, image 8236.

Figure 4.3 ATT1 – Final, exposed B horizon. Facing north.
AMAC Group, 22/08/24, image 8248

Figure 4.4 ATT1 – Final, showing north section.
AMAC Group, 22/08/24, image 8256.

Figure 4.5 ATT1 – Final, showing east section.
AMAC Group, 22/08/24, image 8253.

ATT2

Figure 4.6 ATT2 – Start. Facing north.
AMAC Group, 22/08/24, image 8238.

Figure 4.7 ATT2 – Final, exposed B horizon. Facing north.
AMAC Group, 22/08/24, image 8258

Figure 4.8 ATT2 – Final, showing north section.
AMAC Group, 22/08/24, image 8263.

Figure 4.9 ATT2 – Final, showing west section.
AMAC Group, 22/08/24, image 8267.

ATT3

Figure 4.10 ATT3 – Start. Facing north.
AMAC Group, 22/08/24, image 8240.

Figure 4.11 ATT3 – Final, exposed B horizon. Facing north.
AMAC Group, 22/08/24, image 8271.

Figure 4.12 ATT3 – Final, showing north section.
AMAC Group, 22/08/24, image 8274.

Figure 4.13 ATT3 – Final, showing west section.
AMAC Group, 22/08/24, image 8279.

ATT4

Figure 4.14 ATT4 – Start. Facing north.
AMAC Group, 22/08/24, image 8242.

Figure 4.15 ATT4 – Final, exposed B horizon. Facing north.
AMAC Group, 22/08/24, image 8313.

Figure 4.16 ATT4 – Final, showing north section.
AMAC Group, 22/08/24, image 8315.

Figure 4.17 ATT4 – Final, showing north section detail.
AMAC Group, 22/08/24, image 8317.

ATT5

Figure 4.18 ATT5 – Start. Facing north.
AMAC Group, 22/08/24, image 8244.

Figure 4.19 ATT5 – Final, exposed B horizon. Facing north.
AMAC Group, 22/08/24, image 8305.

Figure 4.20 ATT5 – Final, showing north section.
AMAC Group, 22/08/24, image 8307.

Figure 4.21 ATT5 – Final, showing south section.
AMAC Group, 22/08/24, image 8311.

ATT6

Figure 4.22 ATT6 – Start. Facing north.
AMAC Group, 22/08/24, image 8246.

Figure 4.23 ATT6 – Final, exposed B horizon. Facing north.
AMAC Group, 22/08/24, image 8295.

Figure 4.24 ATT6 – Final, showing north section.
AMAC Group, 22/08/24, image 8297.

Figure 4.25 ATT6 – Final, showing west section.
AMAC Group, 22/08/24, image 8300.

ATT7

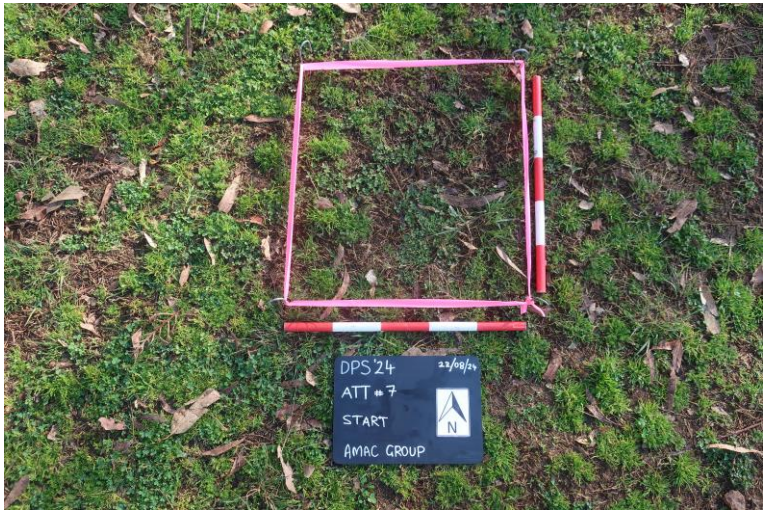

Figure 4.26 ATT7 – Start. Facing north.
AMAC Group, 22/08/24, image 8324.

Figure 4.27 ATT7 – Final, exposed B horizon. Facing north.
AMAC Group, 22/08/24, image 8340.

Figure 4.28 ATT7 – Final, showing north section.
AMAC Group, 22/08/24, image 8344.

Figure 4.29 ATT7 – Final, showing west section.
AMAC Group, 22/08/24, image 8341.

ATT8

Figure 4.30 ATT8 – Start. Facing north.
AMAC Group, 22/08/24, image 8326.

Figure 4.31 ATT8 – Final, exposed B horizon. Facing north.
AMAC Group, 22/08/24, image 8328.

Figure 4.32 ATT8 – Final, showing north section.
AMAC Group, 22/08/24, image 8332.

Figure 4.33 ATT8 – Final, showing west section.
AMAC Group, 22/08/24, image 8334.

4.5 STRATIGRAPHIC ANALYSIS

Preliminary desktop research identified that soil landscape mapping per the Soil Landscapes of Central and Eastern NSW (accessed via eSPADE 2.0) placed the study site within the Blacktown (bt) soil landscape. Physical test excavation revealed that the high sand content among the excavated soil profile is consistent with the Gymea (gy) soil landscape, the surrounding profile on the soil mapping sheet.

An unmodified A1 horizon, gy1, was not identified among any of the test pits. Instead, the six test trenches (ATT1 – ATT6) along the western boundary of the site (Transects 1 and 2) comprised a reformed topsoil with evidence of introduced loam and gravel, most likely related to cultivation activities known to have occurred across the site during the early to mid-20th century. Test trenches ATT7 and ATT8 (Transect 3) contained evidence of greater truncation and historical disturbance. It was apparent that the northernmost Transect 3 testing area contained redeposited topsoil and partly truncated the B horizon (gy2).

Table 4.1 Identified soils landscapes within the testing locations of the study site, as extracted from Chapman and Murphy (1989).

Dominant Soil Material	Soil Horizon	Description
gy2	B horizon	Earthy, yellowish-brown clayey sand. Commonly yellowish-brown clayey sand with apedal massive structure and porous earthy fabric. It commonly occurs as subsoil over sandstone bedrock (B horizon). Where it is exposed at surface it forms hard setting topsoil. Texture might increase to light sandy clay loam with depth. Sandstone, ironstone and charcoal fragments are common while roots are rare.
gy4	B/ C horizons	Commonly a yellowish-brown sandy clay or light clay with moderate to strong pedal structure and smooth or rough-faced ped fabric. Occurs as subsoil on shale bedrock (B and C horizons). Commonly yellow-brown colour but can vary from dark reddish-brown to light grey. Red, orange and grey mottles occasionally present at depth. Shale and iron fragments present, charcoal absent, roots are rare.

No Aboriginal archaeological objects, deposits or cultural material were located during test excavation. Excavation of the test trenches ceased once the sterility of the soil could be confirmed. For this site, manual excavation ceased upon exposure of the gy4 soil landscape, a yellowish clay with large orange mottles and ironstone inclusions (B/C soil horizon). The sandstone bedrock was not exposed among any of the test trenches.

5.0 ANALYSIS AND DISCUSSION

5.1 RESEARCH CONTEXT

The research questions are based on the information that has been gathered from previous excavations 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.

5.1.1 Archaeological Research Questions

- 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?

5.1.2 Response to Research Design Questions

No Aboriginal objects, features or cultural materials were located at the study site as a result of archaeological test excavation which removes the ability to respond to the majority of the archaeological research questions. Due to the absence of Aboriginal archaeological data and no identified Aboriginal cultural heritage sites, the study site does not need to be set aside for preservation of Aboriginal archaeological material.

5.2 ARCHAEOLOGICAL ANALYSIS AND DISCUSSION

The analysis of the environmental landscape, Aboriginal land use, archaeological context and predictive modelling indicated some probability for Aboriginal archaeological evidence in the form of open artefact scatters or isolated artefacts to be present within less disturbed areas of the study site. Test excavation did not reveal physical evidence of Aboriginal artefacts or cultural material, all test trenches excavated were found to be sterile.

The site contains a disturbed landscape from past agricultural activity. An intact A horizon was notably absent across all test trenches, it appears the area had been too heavily modified during agricultural cultivation activities in the early to mid-20th century. Recording of each of test trench also displayed evidence of high erodibility most likely due to its position on a crest and the presence of the Gymea soil landscape, which may have also contributed to the degradation of the A1 soils over time.

Although the study site is located within walking proximity to two fresh water creeks, it is perhaps its crest landform type that may have prevented occupation of the area and contributed to the absence of Aboriginal archaeological material. Crests have

higher exposure to weather elements such as wind which may have topographically made this locale less desirable for open camp sites resulting in longer occupation phases.

6.0 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; 2013) formulated in 1979 and based largely on the Venice Charter of International Heritage established in 1966. As part of the archaeological assessment for significance, a key step in the process is to assess the potential impact of a proposed activity to reflect the cultural significance or value of an object, site, or place in the recommendations for conservation, management, or mitigation.

As defined in the 'Burra Charter' (ICOMOS 1988) cultural significance is broken into four parts: aesthetic, historic, scientific, and social value for past, present, or future generations. Cultural significance is a concept which assists in understanding the value of (pre-) historical places as a means to enrich the present and be of value to future generations (ICOMOS 1988). The Burra Charter is considered best practice standard for cultural heritage management and conservation for archaeological and cultural significance for Aboriginal people in Australia. The social, historical, and aesthetic significance has been discussed within the Aboriginal Cultural Heritage Assess Report. This report subsequently assesses the scientific significance through the analysis of the archaeological remains.

6.1 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 1988).

Test excavation has demonstrated that the study site does not contain Aboriginal archaeological material which would contribute substantial data for future scientific research, or of archaeological value. The absence of Aboriginal archaeological material means that the site is not considered to contain scientific significance.

7.0 IMPACT ASSESSMENT

This section evaluates and discusses the potential archaeological impact of the proposed development (Section 1.6) in relation to results of the field site investigation phase.

7.1 POTENTIAL HARM AND AVOIDING, MINIMISING AND JUSTIFYING HARM TO ABORIGINAL OBJECTS AND CULTURAL HERITAGE

Construction activities for the proposed activity such as foundations and underground services will disturb the ground surface within parts of the study site previously assessed as holding low to moderate potential for Aboriginal objects or features of cultural heritage significance to the local Aboriginal community.

As the test excavation programme did not reveal any Aboriginal objects or features of cultural heritage or archaeological significance, the findings from the test excavation indicate the site to be of nil archaeological significance.

The proposed development works can proceed with caution as no harm is expected to occur to archaeological material. An Aboriginal Heritage Impact Permit (AHIP) is not required for this site. Heritage inductions and documentation such as Unexpected Finds Protocols should be in place during the construction phase to provide steps to minimising harm to any unexpected Aboriginal objects or archaeological material.

8.0 MANAGEMENT AND MITIGATION

8.1 ARCHAEOLOGICAL RESULTS

A programme of archaeological test excavation was undertaken on 22nd and 23rd August 2024 within areas of the study site assessed as holding low to moderate potential for Aboriginal archaeological deposits or objects of cultural heritage significance (Section 5.0). The test excavation area was selected based on the proposed development footprint and predictive site modelling (Section 3.0). Areas previously assessed as having Major/ High disturbance were not archaeologically tested.

No Aboriginal objects or features of cultural and archaeological significance were identified during archaeological test excavation. The findings from test excavation indicate the site to be of nil archaeological significance. The A1 horizon (artefact bearing deposit) was largely absent, due to high erodibility of the Gymea soil landscape, crest landform, and agricultural cultivation activities during the 20th century. Therefore, the proposed development should be allowed to proceed with caution with no further archaeological involvement required.

8.2 MITIGATION MEASURES

Mitigation measures are actions taken to minimise, avoid, or compensate for potential adverse effects on the environment. Based on the assessment of cultural heritage significance and test excavation results, the proposed activity can proceed with no further archaeological involvement or permit application (AHIP) to Heritage NSW.

Mitigation Name	Aspect/ Section	Mitigation Measure	Reason for Mitigation Measure
Aboriginal Community Consultation	Ongoing	Consultation with the Registered Aboriginal Parties should continue throughout the duration of the site works. In accordance with the DECCW (2010c) guidelines, consultation of this project will be maintained via email to RAPs every 6 months.	Compliance with DECCW guidelines (2010c).
Heritage Induction	Prior to commencement of excavation work	As no further archaeological management of the project is required, it is recommended that a short heritage induction detailing stop works procedure for unexpected finds be included within any overarching future site	Raising community cultural heritage awareness.

		induction for the construction phase of the project.	
Unexpected Finds Protocol (UFP)	Prior to commencement of excavation work	An Unexpected Finds Protocol should be prepared by a qualified archaeologist and remain in place for the duration of site redevelopment to mitigate and manage exposure of undocumented remains that may occur on the study site.	Providing protection to undocumented or unexpected archaeological remains which may be present on site.
Head Contractor/ Site Foreman	During construction phase	The head contractor and/ or site foreman is responsible for ensuring the Unexpected Finds Protocol is adhered to during all excavation works on site.	Providing protection to undocumented or unexpected archaeological remains which may be present on site.

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APPENDICES

10.1 AHIMS SITE SEARCH RESULTS

Basic Search:

AHIMS Web Services (AWS)
Search Result

Your Ref/PO Number : Check Dundas
Client Service ID : 894941

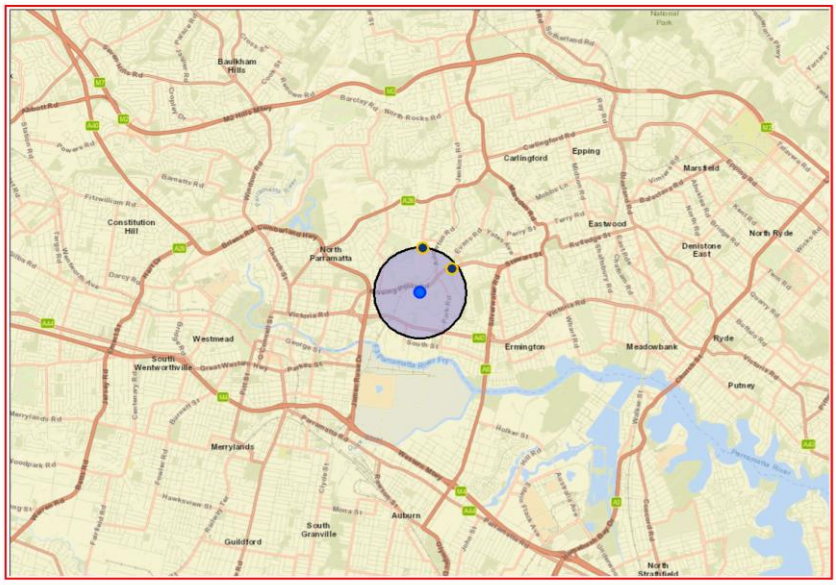
AMAC Group P/L
122c Percival Rd
Stanmore New South Wales 2048
Attention: Martin Carney
Email: amac@archaeological.com.au

Date: 23 May 2024

Dear Sir or Madam:

AHIMS Web Service search for the following area at Address : 85 KISSING POINT ROAD DUNDAS 2117 with a Buffer of 1000 meters, conducted by Martin Carney on 23 May 2024.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

2	**Aboriginal sites are recorded in or near the above location.**
0	**Aboriginal places have been declared in or near the above location. ***

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the NSW Government Gazette (https://www.legislation.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Heritage NSW upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Heritage NSW and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

Level 6, 10 Valentine Ave, Parramatta 2150
Locked Bag 5020 Parramatta NSW 2124
Tel: (02) 9585 6345

ABN 34 945 244 274
Email: ahims@environment.nsw.gov.au
Web: www.heritage.nsw.gov.au

Extensive Search:

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : Check Dundas
Client Service ID : 894955

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
45-6-2939	Balgowlah Cave	GDA	56	318280	6258780	Open site	Valid	Artefact : -		
	Contact	Recorders	Michael Guider					Permits		
45-6-2570	Kissing Point Rd	AGD	56	318820	6258140	Open site	Valid	Artefact : -	Open Camp Site	102196
	Contact	Recorders	Michael Guider					Permits		

**** Site Status**
Valid - The site has been recorded and accepted onto the system as valid
Destroyed - The site has been completely impacted or harmed usually as consequence of permit activity but sometimes also after natural events. There is nothing left of the site on the ground but proponents should proceed with caution.
Partially Destroyed - The site has been only partially impacted or harmed usually as consequence of permit activity but sometimes also after natural events. There might be parts or sections of the original site still present on the ground
Not a site - The site has been originally entered and accepted onto AHIMS as a valid site but after further investigations it was decided it is NOT an aboriginal site. Impact of this type of site does not require permit but Heritage NSW should be notified

Report generated by AHIMS Web Service on 23/05/2024 for Martin Carney for the following area at Address : 85 KISSING POINT ROAD DUNDAS 2117 with a Buffer of 1000 meters.. Number of Aboriginal sites and Aboriginal objects found is 2

This information is not guaranteed to be free from error omission. Heritage NSW and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

Page 1 of 1

10.2 AHIMS SITE CARDS

45-6-2939

[✓] New recording [ ] Additional Info

National Parks and Wildlife Service
Box 1967, Hurstville NSW 2220. Tel: (02) 585 6444
Standard Site Recording Form Revised 5/88

NPWS Code

1:250,000 map sheet:

AMG Grid reference (Full reference - please include leading digits): 250K 3|8|5|2|8|0 mE 25K; 250K 6|2|5|8|7|8|0 mN 25K (5/6)

Scale of map used for grid reference (Please use largest scale available): [ ] 25K, 50K (preferred) [ ] 100K [ ] 250K

1:25K, 50K, 100K map name: MAP 197 F9 33rd ED UBD SYDNEY STREET DIRECTORY

HEAD OFFICE USE ONLY:
NPWS Site no: 45-6-2939
Site types: Balgowlah Cave
Accessioned by: _____ Date: _____
Data entered by: _____ Date: _____

Owner/Manager Address: EDUCATION DEPT.

Site name: BALGOWLAH CAVE Locality/~~property name~~: BALGOWLAH

NPWS District: NORTH MET Region: CENTRAL

Reason for investigation: ARCHAEOLOGICAL SURVEY OF METROPOLITAN SYDNEY

Portion no:
Parish: MANLY COVE
COUNTY OF CUMBERLAND

Photos taken? yes
How many attached? None

How to get to the site (refer to permanent features, give best approach to site eg from above, below, along cliff (Draw diagram on separate sheet): Situated within the grounds of BALGOWLAH BOYS HIGH SCHOOL SYDNEY ROAD BALGOWLAH Access is via CORAL STREET (see Map overleaf)

Other sites in locality? yes
Are sites in NPWS Register? yes
Site Types include: ROCK ENGRAVINGS, shell middens

Have artefacts been removed from site? NO
By whom?
When?
Deposited where?

Is site important to local Aborigines? UNKNOWN
Give contact(s) name(s) + address(es)

Contacted for this recording? NO
(Attach additional information separately) If not, why not?

Verbal/written reference sources (including full title of accompanying report): PERSONAL INVESTIGATION ONLY
NPWS Report Catalogue #

Checklist surface visibility, damage/disturbance/ threat to site
Condition of site: DISTURBED — Slight vandalism and rubbish only. Floor of shelter appears to be undisturbed no signs of digging etc only limited graffiti on wall.

Recommendations for management & protection (attach separate sheet if necessary): ADVISE Manly Council and THE EDUCATION DEPT. AN excellent excavation prospect

Site recorded by: M. GULDER
Address/institution: PO BOX 666 LITHGOW NSW 2790
Date: 23rd June 1997

X

SITE POSITION & ENVIRONMENT | **OFFICE USE ONLY: NPWS site no:**

1. Land form a. beach/hill slope/ridge top, etc: Ridge side b. site aspect: Faces North c. slope:

d mark on diagram provided *or* on your own sketch the position of the site:

e. Describe briefly:

2 faint White Hand Stencils

f Local rock type: Hawkesbury Sandstone g Land use/effect: HIGH SCHOOL

2. Distance from drinking water: UNKNOWN Source: probably Burnt Bridge Creek

3 Resource Zone associated with site (estuarine, riverine, forest etc): FOREST

4 Vegetation:

5. Edible plants noted:

6 Faunal resources (include shellfish):

7. Other exploitable resources (river pebbles, ochre, etc):

Site type: Rock Shelter WITH ART

CHECKLIST TO HELP: length, width, depth, height of site, shelter, deposit, structure, element eg. tree scar, grooves in rock.

DEPOSIT: colour, texture, estimated depth, stratigraphy, contents-shell, bone, stone, charcoal, density & distribution of these, stone types, artefact types.

ART area of surface decorated, motifs, colours, wet, dry pigment, technique of engraving, no. of figures, sizes, patination.

BURIALS: number & condition of bone, position, age, sex, associated artefacts.

TREES. number, alive, dead, likely age, scar shape, position, size, patterns, axe marks, regrowth

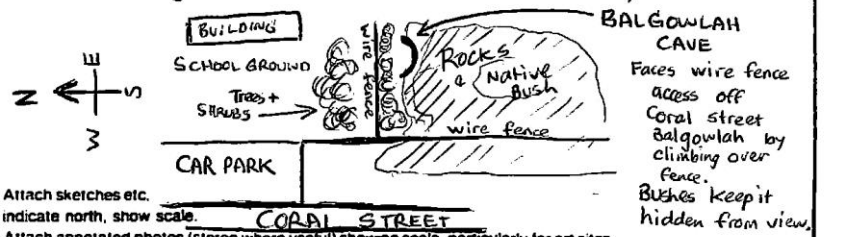
QUARRIES. rock type, debris, recognisable artefacts, percentage quarried.

OTHER SITES EG. structures (fish traps, stone arrangements, bora rings, mia mias), mythological sites, rock holes, engraved groove channels, contact sites (missions massacres cemeteries) as appropriate

DESCRIPTION OF SITE & CONTENTS.

Note state of preservation of site & contents. Do **NOT** dig, disturb, damage site or contents.

A small rock shelter facing north situated beneath a rocky knoll within the school grounds. 2 small white hand stencils are on the ceiling and several charcoal figures are on the wall. The hand stencils are genuine small in size probably childrens hands. They are faint but still clearly visible. The charcoal figures are a different matter, some are obviously quite recent however the others may well be aboriginal in origin. The floor is dry sandy soil. Rock Shelter is approx 4 metres long x 2 metres wide x 2 metres high. Balgowlah Cave is in remarkably well preserved condition an ideal excavation prospect. Probably due to it being well hidden from passersby.



Attach sketches etc. indicate north, show scale.

Attach annotated photos (stereo where useful) showing scale, particularly for art sites.

45-6-2570

[✓] New recording [ ] Additional Info

National Parks and Wildlife Service

Box 1967, Hurstville NSW 2220. Tel: (02) 585 6444
Standard Site Recording Form Revised 5/88

45-6-2570

1:250,000 map sheet: SYDNEY NPWS Code 45

AMG Grid reference (Full reference - please include leading digits): 250K 2 1 8 8 2 0 mE 25K | 250K 6 2 5 8 1 9 0 mN 25K (5/6)

Scale of map used for grid reference (Please use largest scale available): [ ] 25K, 50K (preferred) [ ] 100K [ ] 250K

1:25K, 50K, 100K map name: MAP 192 C12

HEAD OFFICE USE ONLY:
NPWS Site no: 45-6-2570
Site types: Open Camp site
Accessioned by: MRV Date: 11.6.97
Data entered by: Date: 12.11.97
Owner/Manager: Private Property
Address:

Site name: Kissing Pt Rd Locality/~~property name~~: DUNDAS

NPWS District: SYDNEY Region: CENTRAL

Reason for investigation: ARCHAEOLOGICAL SURVEY OF METROPOLITAN SYDNEY

Portion no:
Parish: COUNTY OF CUMBERLAND

Photos taken?
How many attached?

How to get to the site (refer to permanent features, give best approach to site eg from above below, along cliff (Draw diagram on separate sheet): Situated on western side of the Ponds Creek and South side of Kissing Point Rd nearest intersection is Kirby St on east side of creek. The first house on western side of the KissingPt Road bridge that crosses The Ponds Creek now occupies site.

Other sites in locality? YES Site Types include: OPEN CAMP SITES
Are sites in NPWS Register? YES

Have artefacts been removed from site? YES When?
By whom? SELF Deposited where? The Australian Museum

Is site important to local Aborigines? UNKNOWN
Give contact(s) name(s) + address(es)

Contacted for this recording? NO
(Attach additional information separately) If not, why not?

Verbal/written reference sources (including full title of accompanying report): Personal Investigation Only NPWS Report Catalogue #

Checklist: surface visibility, damage/disturbance/ threat to site

Condition of site: DESTROYED by House Construction

Recommendations for management & protection (attach separate sheet if necessary): Advise Parramatta City Council

Site recorded by: MICHAEL GUIDER Date: 7th May 1997
Address/institution: PO BOX 666
LITHGOW NSW 2790

SITE POSITION & ENVIRONMENT | **OFFICE USE ONLY: NPWS site no:**

1. Land form a. beach / hill slope / ridge top, etc: b. site aspect: c. slope:

d mark on diagram provided *or* on your own sketch the position of the site: e. Describe briefly:

f Local rock type: g Land use/effect: Private Home

2. Distance from drinking water: Source:

3 Resource Zone associated with site (estuarine, riverine, forest etc): Riverine / Forest

4 Vegetation:

5. Edible plants noted:

6 Faunal resources (include shellfish):

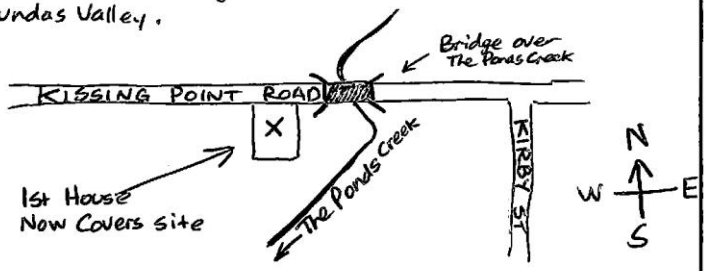
7 Other exploitable resources (river pebbles, ochre, etc): Volcanic Rock obtainable in Sir Thomas Mitchell Res Dundas Valley

Site type: Open Campsite

DESCRIPTION OF SITE & CONTENTS.
Note state of preservation of site & contents. Do NOT dig, disturb, damage site or contents.

Small open campsite on high ground above the western bank of the Ponds Creek. Stone artefacts mainly red silcrete but also included indurated mudstone and quartz.

It is quite possible this site was much larger even extending under area now covered by Kissing Point Rd. However the only evidence that suggests this is that artefacts were found near the footpath area as well as across the area now occupied by a private house. This site was discovered whilst the land was still a vacant lot. Strangely no volcanic rock was found in any of the sites beside The Ponds Creek. Although Volcanic rock was obtainable in nearby Dundas Valley.



CHECKLIST TO HELP: length, width, depth, height of site, shelter, deposit, structure, element eg. tree scar, grooves in rock.
DEPOSIT: colour, texture, estimated depth, stratigraphy, contents-shell, bone, stone, charcoal, density & distribution of these, stone types, artefact types.
ART: area of surface decorated, motifs, colours, wet, dry pigment, technique of engraving, no. of figures, sizes, patination.
BURIALS: number & condition of bone, position, age, sex, associated artefacts.
TREES: number, alive, dead, likely age, scar shape, position, size, patterns, axe marks, regrowth
QUARRIES: rock type, debris, recognisable artefacts, percentage quarried.
OTHER SITES EG. structures (fish traps, stone arrangements, bora rings, mia mias), mythological sites, rock holes, engraved groove channels, contact sites (missions massacres cemeteries) as appropriate

Attach sketches etc. eg. plan & section of shelter, show relation between site contents, indicate north, show scale.
Attach annotated photos (stereo where useful) showing scale, particularly for art sites.

10.3 TEST EXCAVATION – CONTEXT SHEETS

AMAC Group Aboriginal Archaeology Recording Form Dundas Public School, 85 Kissing Point Rd, Dundas NSW

Excavator	Recorded By	Date:	Area	Pit Number
Nick – AMCS	Kelly S	22/8/24	Rear – oval	1

Dimensions	Transect (GPS)	Location/Landform	Pit GPS:
0.5m x 0.5m [X] 1m x 1m [ ]	transect 1	crest	Waypoint: DPS24 Pit 1

Description of Pit: (e.g., Historical Features, Natural Features)

no historical features identified

Spit No.	Spit Depth (mm)	Soil Horizon	Notes e.g., Matrix, Colour (mottled), Horizontal boundary (diffuse, sharp, clear), texture (grainy, smooth, plasticine, spongy), Moisture (dry, moist), Compaction (loose, weak, firm,), Inclusions (grass roots, rocks, charcoal etc)	No. Artefacts (NPW)	No. of Buckets
1	50mm	Reformed topsoil	mid to dark brown loam, clear horizontal boundary, smooth to grainy texture, moist, loose topsoil, patches of vegetation (weeds), light tree roots / bioturbation. Insect activity	0	2
2	100	gy2	cream to grey/light brown sandy soil matrix, clear horizontal boundary, grainy texture, moist, firm compaction, inclusions of charcoal & ironstone fragments (<10mm size)	0	2
3	100	gy2 – gy4	transitional layer between A2 and B horizon. Increased compaction & increased clay matrix. Orange clay, moist, decreasing quantity of ironstone inclusions.	0	3
4	20–50	gy4	orange clay B horizon (gymea soil profile), decreasing ironstone content, absent of tree roots, dry.	0	3
5			Excavation ceased at exposure of gy4 (non-artefact bearing layer).		
6					
7					
8					

Additional Notes: (e.g., section collapse, contamination etc)

Southernmost test pit among excavation area on lowest slope.

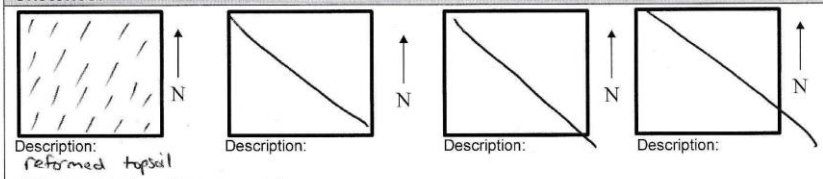
Sample Charcoal (C14)
Spit: not required

Sample Soil (TL / OSL)
Spit: not required.

Photographs:

Image	Notes	Dir	Image	Notes	Dir	Image	Notes	Dir

Sketches:



Description: reformed topsoil at excavation commencement.

Description:

Description:

Description:

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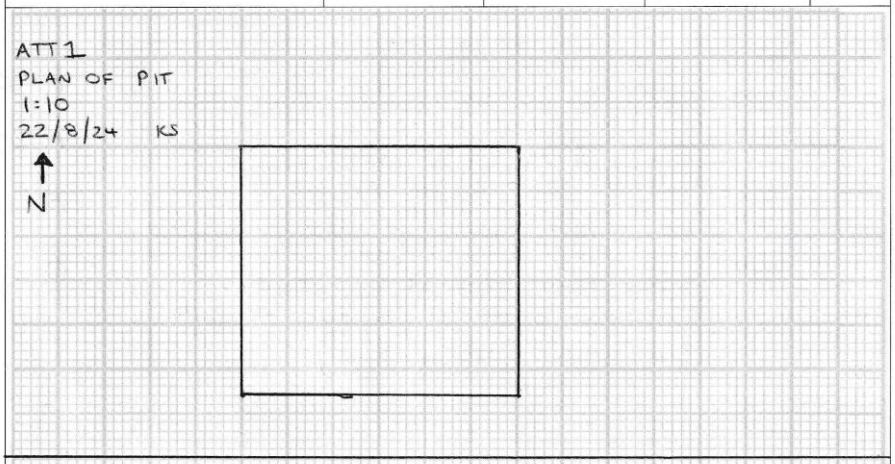
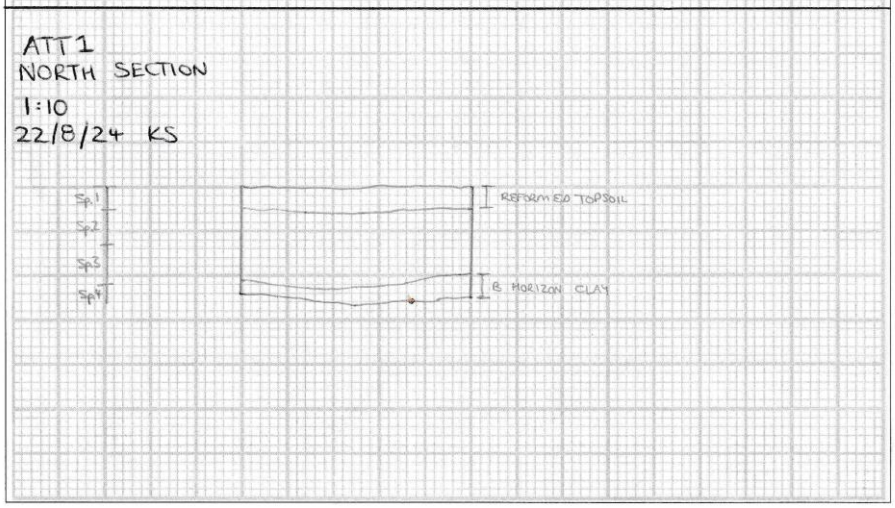
LEVELS			Pit No.	
Location of Datum: GPS waypoint taken.	**Level**	**RL (=HOI – Lvl)**	**Level**	**RL (=HOI – Lvl)**
	1.		**6.**	
Datum:	**2.**		**7.**	
Backsight (BS):	**3.**		**8.**	
Height of Instrument (HOI) (= Datum + BS):	**4.**		**9.**	
	5.		**10.**	





AMAC Group Aboriginal Archaeology Recording Form Dundas Public School, 85 Kissing Point Rd, Dundas NSW

Excavator	Recorded By	Date:	Area	Pit Number
Steve - WoKA		22/8/24	-	2

Dimensions	Transect (GPS)	Location/Landform	Pit GPS:
0.5m x 0.5m 1m x 1m x	ONE	CREST	Waypoint: DRS 24 PIT 2

Description of Pit: (e.g., Historical Features, Natural Features)

No

Spit No.	Spit Depth (mm)	Soil Horizon	Notes e.g., Matrix, Colour (mottled), Horizontal boundary (diffuse, sharp, clear), texture (grainy, smooth, plasticine, spongy), Moisture (dry, moist), Compaction (loose, weak, firm,), Inclusions (grass roots, rocks, charcoal etc)	No. Artefacts (NPW)	No. of Buckets
1	50	Recent + A1	Dry, dusty mixed A2 and reformed topsoil some ironstone and sandstone Bleached orange Brown	0	3
2	100	A2	Bleached orange brown compact clayey sand orange inclusions (ironstone)	0	4
3	100	A2/B1	Compact orange clay very few inclusions	0	4
4					
5					
6					
7					
8					

Additional Notes: (e.g., section collapse, contamination etc)

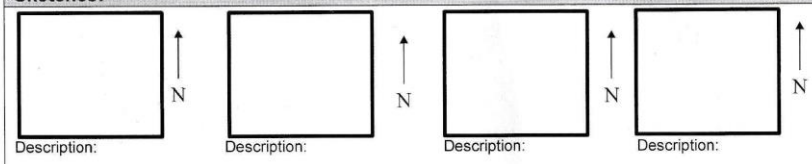
Sample Charcoal (C14)
Spit:

Sample Soil (TL / OSL)
Spit:

Photographs:

Image	Notes	Dir	Image	Notes	Dir	Image	Notes	Dir

Sketches:



Description: Description: Description: Description:

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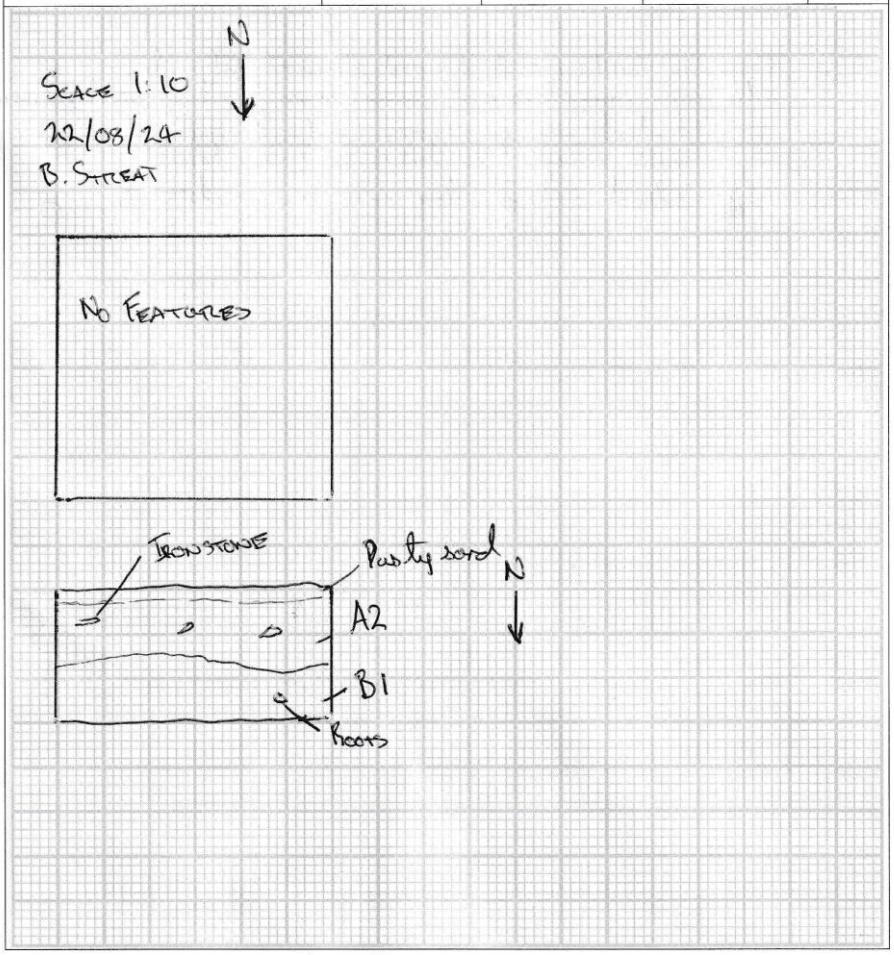
LEVELS			Pit No.	
Location of Datum:	Level	RL (=HOI – Lvl)	Level	RL (=HOI – Lvl)
	1.		6.	
Datum:	2.		7.	
Backsight (BS):	3.		8.	
Height of Instrument (HOI) (= Datum + BS):	4.		9.	
	5.		10.	



AMAC Group Aboriginal Archaeology Recording Form Dundas Public School, 85 Kissing Point Rd, Dundas NSW

Excavator	Recorded By	Date:	Area	Pit Number
Nick – AHCS	Kelly S	22/8/24	Rear oval	3

Dimensions	Transect (GPS)	Location/Landform	Pit GPS:
0.5m x 0.5m x 1m x 1m	TRANSECT 1	CREST	WAYPOINT: DPS24 TPIT 3

Description of Pit: (e.g., Historical Features, Natural Features)

NO HISTORICAL FEATURES IDENTIFIED.

Spit No.	Spit Depth (mm)	Soil Horizon	Notes e.g., Matrix, Colour (mottled), Horizontal boundary (diffuse, sharp, clear), texture (grainy, smooth, plasticine, spongy), Moisture (dry, moist), Compaction (loose, weak, firm,), Inclusions (grass roots, rocks, charcoal etc)	No. Artefacts (NPW)	No. of Buckets
1	50-60	REFORMED TOPSOIL	reformed topsoil with no grass due to tree canopy. highly eroded surface. Brown loam, diffused boundary, grainy texture, dry, weak compaction, gravel inclusions.	0	3.5
2	100	gy2	lighter grey brown Sandy silt clay with small clay nodules, diffused boundary, ironstone fragments (10-50mm), grainy, moist on exposure, weak compaction, insect activity.	0	3.5
3	100	gy2/gy4	brown to orange Sandy clay, diffused boundary, grainy texture, moist, firm compaction, charcoal & ironstone (10mm dia.), concentrated patch of charcoal in northeast corner.	0	4
4	100	gy2/gy4	transition from A2 - B horizon. Base of spit 4 contains orange mottled clay, diffused horizontal boundary,	0	4
5			Smooth - plasticine, moist on exposure, firm compaction, reduction in ironstone inclusions, tree roots throughout, Excavation ceased at exposure of B/C clay horizon.		
6					
7					
8					

Additional Notes: (e.g., section collapse, contamination etc)

Higher bioturbation compared to test pit 1 & 2 along transect 1. Gymea soil profile.

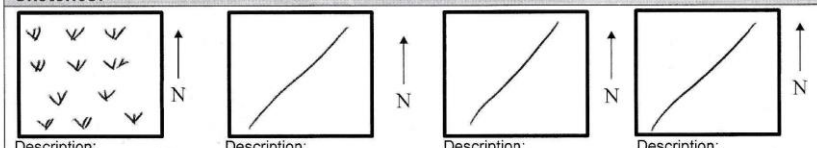
Sample Charcoal (C14)
Spit: Not required

Sample Soil (TL / OSL)
Spit: Not required

Photographs:

Image	Notes	Dir	Image	Notes	Dir	Image	Notes	Dir

Sketches:



Description: Reformed topsoil on exposure (spit 1)

Description:

Description:

Description:

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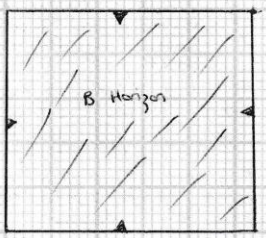
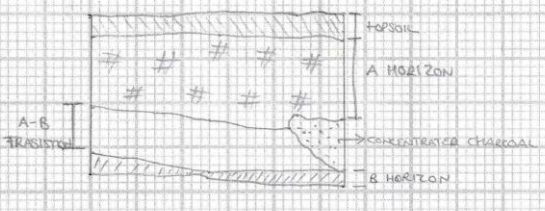
LEVELS			Pit No.	
Location of Datum: GPS used	Level	RL (=HOI – Lvl)	Level	RL (=HOI – Lvl)
	1.		6.	
Datum:	2.		7.	
Backsight (BS):	3.		8.	
Height of Instrument (HOI) (= Datum + BS):	4.		9.	
	5.		10.	

DPS '24
ATT 3
TRANSECT 1
1:10
22/8/24 KS

N



DPS '24
ATT 3
NORTH SECTION
1:10
22/8/24 KS



AMAC Group Aboriginal Archaeology Recording Form Dundas Public School, 85 Kissing Point Rd, Dundas NSW

Excavator	Recorded By	Date:	Area	Pit Number
Steve - WOKA	B.C.S	22/08/24	—	4

Dimensions	Transect (GPS)	Location/Landform	Pit GPS:
0.5m x 0.5m 1m x 1m	Two	Crest	Waypoint: DPS 24 Pit A

Description of Pit: (e.g., Historical Features, Natural Features)

Spit No.	Spit Depth (mm)	Soil Horizon	Notes e.g., Matrix, Colour (mottled), Horizontal boundary (diffuse, sharp, clear), texture (grainy, smooth, plasticine, spongy), Moisture (dry, moist), Compaction (loose, weak, firm,), Inclusions (grass roots, rocks, charcoal etc)	No. Artefacts (NPW)	No. of Buckets
1	50	A2	Loose, orange brown sandy clay, ironstone and small sandstone inclusions, some	0	2.5
2	100	A2	root activity to a shallow depth. Very dry". some insect activity	0	3
3	100	A2	" "	0	3
4	100	A2	~~Gto B1 Horizon~~	0	4
5	100	A2	" "	0	3
6			→ B1 Comfort orange clay		
7					
8					

Additional Notes: (e.g., section collapse, contamination etc)

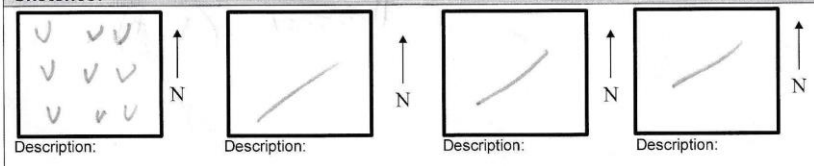
Sample Charcoal (C14)
Spit:

Sample Soil (TL / OSL)
Spit:

Photographs:

Image	Notes	Dir	Image	Notes	Dir	Image	Notes	Dir

Sketches:



Description: Description: Description: Description:

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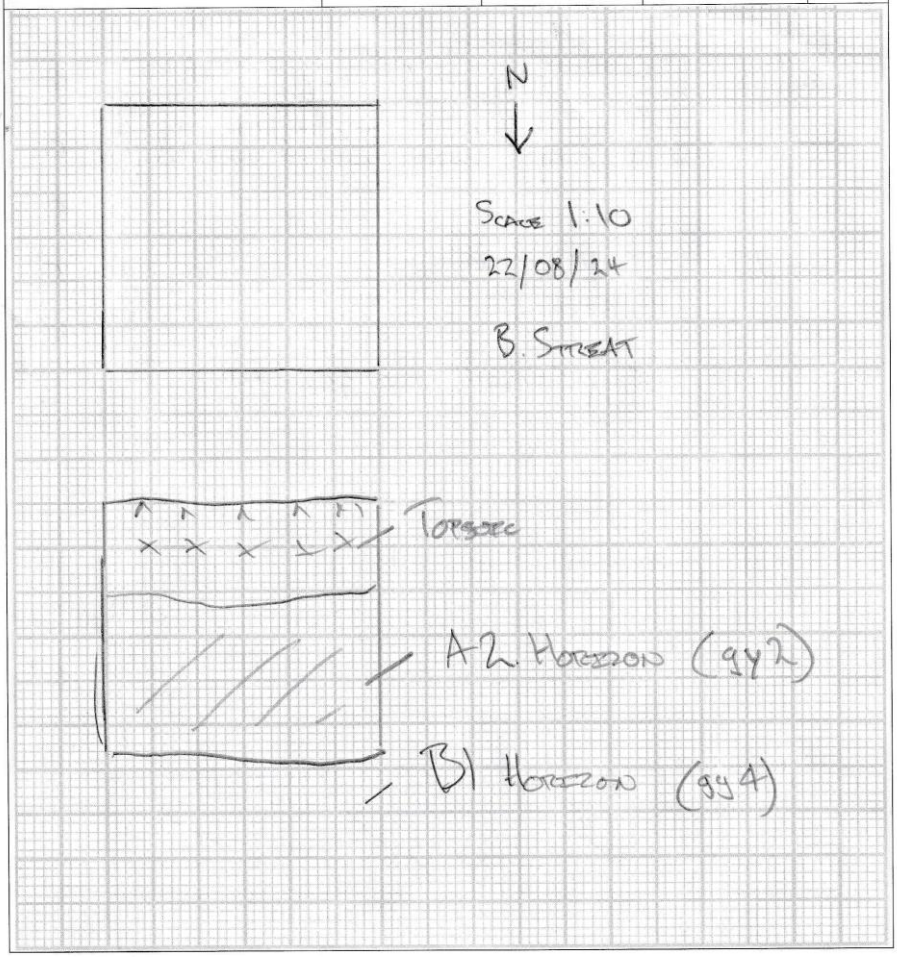
LEVELS			Pit No.	
Location of Datum:	Level	RL (=HOI – Lvl)	Level	RL (=HOI – Lvl)
	1.		6.	
Datum:	2.		7.	
Backsight (BS):	3.		8.	
Height of Instrument (HOI) (= Datum + BS):	4.		9.	
	5.		10.	



AMAC Group Aboriginal Archaeology Recording Form Dundas Public School, 85 Kissing Point Rd, Dundas NSW

Excavator	Recorded By	Date:	Area	Pit Number
NICK	B.C.S	22/08/24		5

Dimensions		Transect (GPS)	Location/Landform	Pit GPS:
0.5m x 0.5m 1m x 1m	X	TWO	CREST	WAYPOINT: TPS 24 PIT 5

Description of Pit: (e.g., Historical Features, Natural Features)

N/A

Spit No.	Spit Depth (mm)	Soil Horizon	Notes e.g., Matrix, Colour (mottled), Horizontal boundary (diffuse, sharp, clear), texture (grainy, smooth, plasticine, spongy), Moisture (dry, moist), Compaction (loose, weak, firm,), Inclusions (grass roots, rocks, charcoal etc)	No. Artefacts (NPW)	No. of Buckets
1	50	TOPSOIL	Brown loamy reformed topsoil, roots from grass some bioturbation, inclusions present	0	3
2	100	TOPSOIL	" "	0	4
3	100	A2	loose orange brown, sand, clayey, ironstone and sandstone present, with fragments	0	4
4	20	A2	up to 200mm increasing with depth Clear horizon boundary.	0	2
5		B1	UNEXCAVATED		
6		B1	Compact orange clay, moist, ironstone inclusions		
7					
8					

Additional Notes: (e.g., section collapse, contamination etc)

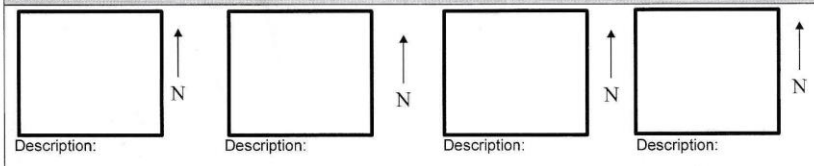
Sample Charcoal (C14)
Spit:

Sample Soil (TL / OSL)
Spit:

Photographs:

Image	Notes	Dir	Image	Notes	Dir	Image	Notes	Dir

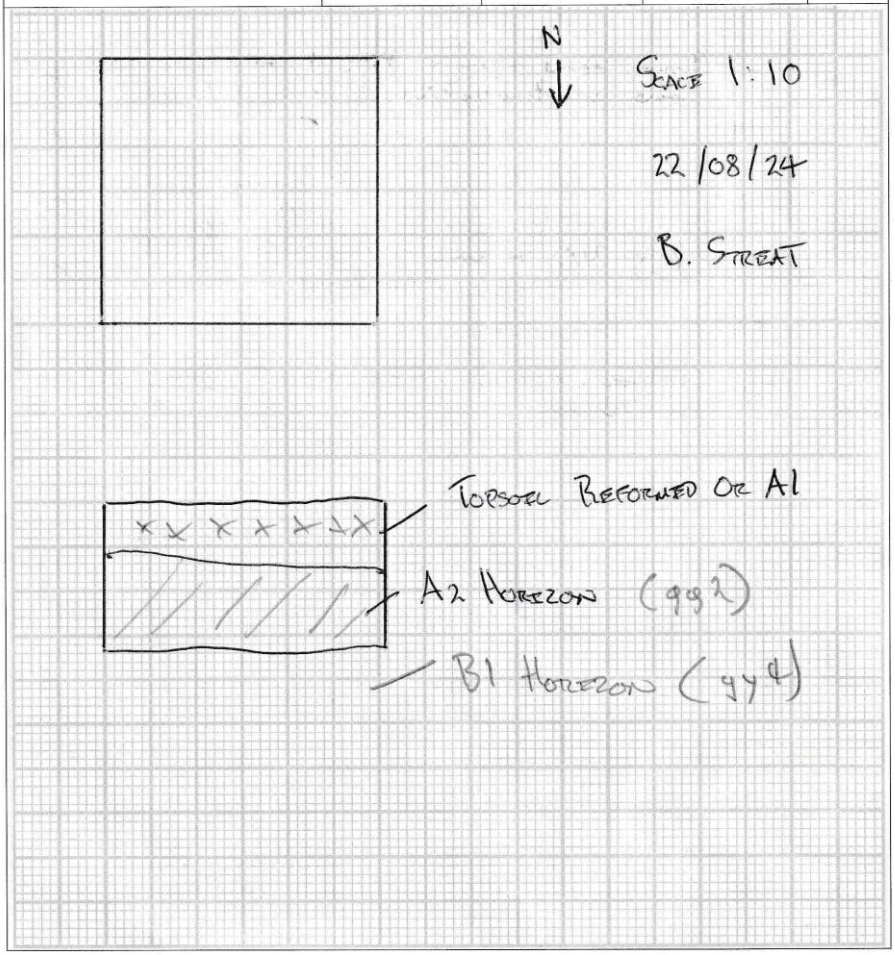
Sketches:



Description: Description: Description: Description:

Archaeo*logical* Management and Consulting Group | amac@archaeological.com.au | (02)95686093 | 0411727395

LEVELS			Pit No.	
Location of Datum:	Level	RL (=HOI – Lvl)	Level	RL (=HOI – Lvl)
	1.		6.	
Datum:	2.		7.	
Backsight (BS):	3.		8.	
Height of Instrument (HOI) (= Datum + BS):	4.		9.	
	5.		10.	



AMAC Group Aboriginal Archaeology Recording Form Dundas Public School, 85 Kissing Point Rd, Dundas NSW

Excavator	Recorded By	Date:	Area	Pit Number
Nick - AHCS	Kelly S	22/8/24	Rear oval	6

Dimensions	Transect (GPS)	Location/Landform	Pit GPS:
0.5m x 0.5m X 1m x 1m	Transect 2	CREST	WAY POINT: DPS24 PIT 6

Description of Pit: (e.g., Historical Features, Natural Features)

NO HISTORICAL FEATURES. NO NATURAL FEATURES IDENTIFIED.

Spit No.	Spit Depth (mm)	Soil Horizon	Notes e.g., Matrix, Colour (mottled), Horizontal boundary (diffuse, sharp, clear), texture (grainy, smooth, plasticine, spongy), Moisture (dry, moist), Compaction (loose, weak, firm,), Inclusions (grass roots, rocks, charcoal etc)	No. Artefacts (NPW)	No. of Buckets
1	50-60	Reformed topsoil	mid-dark brown loam, clear horizontal boundry, grainy-smooth, moist, weak compaction, weed / grass roots, gravel inclusions from introduction.		4
2	100	gy2	light grey to brown sandy silt, clear horizontal boundry, moist, weak compaction, ironstone fragments (50-100mm dia), small root systems, A horizon.		5
3	100-120	gy2/gy4	Transitional layer between A-B horizon, grey-brown to orange because of mottled clay, diffused boundary, grainy-plasticine texture, moist, firm compaction, tree roots (small),		5
4			reduction in ironstone quantity. Excavation ceased at point of complete exposure of orange clay across		
5			whole test pit.		
6					
7					
8					

Additional Notes: (e.g., section collapse, contamination etc)

Highest elevation on transect 2.

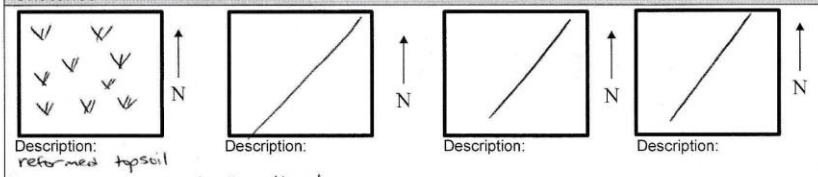
Sample Charcoal (C14)
Spit: NOT REQUIRED

Sample Soil (TL / OSL)
Spit: NOT REQUIRED

Photographs:

Image	Notes	Dir	Image	Notes	Dir	Image	Notes	Dir

Sketches:



Description: reformed topsoil on surface at start of spit #1

Description:

Description:

Description:

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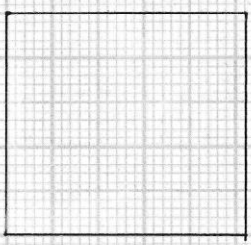
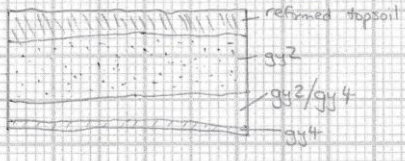
LEVELS			Pit No. 6	
Location of Datum: GPS used.	Level	RL (=HOI – Lvl)	Level	RL (=HOI – Lvl)
	1.		6.	
Datum:	2.		7.	
Backsight (BS):	3.		8.	
Height of Instrument (HOI) (= Datum + BS):	4.		9.	
	5.		10.	

DPS '24
ATT 6
22/8/24
1:10 KS

N



DPS '24
ATT 6
NORTH SECTION
1:10
22/8/24 KS



AMAC Group Aboriginal Archaeology Recording Form Dundas Public School, 85 Kissing Point Rd, Dundas NSW

Excavator	Recorded By	Date:	Area	Pit Number
Nick & Storm	Kelly S	23/8/24	Rear oval	7

Dimensions	Transect (GPS)	Location/Landform	Pit GPS:
0.5m x 0.5m 1m x 1m	Transect 3	CREST	Waypoint: DPS24 PIT 7

Description of Pit: (e.g., Historical Features, Natural Features)

No historical features.

Spit No.	Spit Depth (mm)	Soil Horizon	Notes e.g., Matrix, Colour (mottled), Horizontal boundary (diffuse, sharp, clear), texture (grainy, smooth, plasticine, spongy), Moisture (dry, moist), Compaction (loose, weak, firm,), Inclusions (grass roots, rocks, charcoal etc)	No. Artefacts (NPW)	No. of Buckets
1	50	redep. topsoil	redeposited topsoil, mid-dark brown loam, clear boundary, smooth-grainy texture, moist, weeds & small roots as inclusions.		3
2	100	red. top/ gy2	red. topsoil (as above) churned with redeposited gy2. Same profile as spit 1 but with large ironstone (100-200mm) fragments dispersed. Slightly higher sand content.		4
3	100	gy2	light grey/brown sandy silt with small quantity of clay, diffused boundary, grainy texture, moist, weak compaction, ironstone nodules (50-100mm), minor thin grass roots.		4
4	100	gy2/ gy4	A2 – B horizon transitional layer. Same as above description, with increasing orange clay nodules & ironstone inclusions.		4
5	10-40	gy4	orange clay, diffused horizontal boundary, plasticine texture, moist, ironstone fragments (100-200mm),		2
6			firm compaction, small quantity of tree roots (thin) Excavation ceased on complete exposure of gy4.		
7					
8					

Additional Notes: (e.g., section collapse, contamination etc)

Cymea soil profile identified.

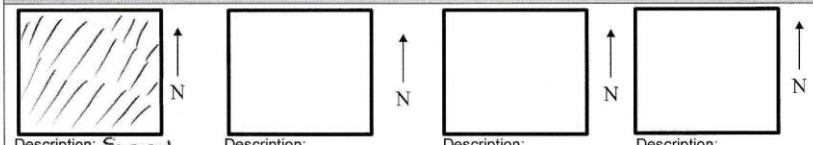
Sample Charcoal (C14)
Spit: Not required

Sample Soil (TL / OSL)
Spit: Not required

Photographs:

Image	Notes	Dir	Image	Notes	Dir	Image	Notes	Dir

Sketches:



Description: Exposed eroding topsoil on surface.

Description:

Description:

Description:

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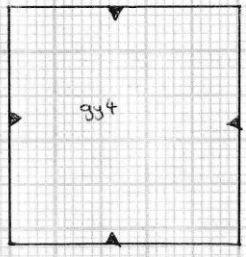
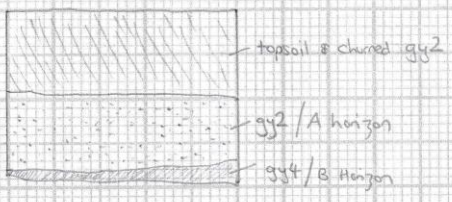
LEVELS			Pit No. 7	
Location of Datum: GPS USED	Level	RL (=HOI – Lvl)	Level	RL (=HOI – Lvl)
	1.		6.	
Datum:	2.		7.	
Backsight (BS):	3.		8.	
Height of Instrument (HOI) (= Datum + BS):	4.		9.	
	5.		10.	

DPS 24
ATT #7
1:10
23/8/24 KS

N



DPS 24
ATT #7
NORTH SECTION
1:10
23/8/24 KS



AMAC Group Aboriginal Archaeology Recording Form Dundas Public School, 85 Kissing Point Rd, Dundas NSW

Excavator	Recorded By	Date:	Area	Pit Number
Nick & Storm	Kelly S	23/8/24	Rear oval	8

Dimensions	Transect (GPS)	Location/Landform	Pit GPS:
0.5m x 0.5m 1m x 1m X	Transect 3	CREST	Waypoint: DPS24 PIT 8

Description of Pit: (e.g., Historical Features, Natural Features)

No historical features identified.

Spit No.	Spit Depth (mm)	Soil Horizon	Notes e.g., Matrix, Colour (mottled), Horizontal boundary (diffuse, sharp, clear), texture (grainy, smooth, plasticine, spongy), Moisture (dry, moist), Compaction (loose, weak, firm,), Inclusions (grass roots, rocks, charcoal etc)	No. Artefacts (NPW)	No. of Buckets
1	50	Redeposited topsoil	mid to dark brown loam, clear horizontal boundary, smooth - grainy texture, moist, weak compaction, ironstone & gravel inclusions		3
2	100	topsoil - gy2	topsoil transitioning to gy2 A horizon. Light brown sand with small clay content, grainy, moist, weak compaction longer ironstone inclusion from being turned & redeposited.		4
3	100	gy2	grey-brown sandy silt with small clay inclusions, diffused horizontal boundary, grainy texture, moist, weak compaction, ironstone inclusions throughout, small flecks of charcoal.		4
4	100-120	gy2/gy4	A2 horizon transitioning to B horizon clay. Brown-orange sandy clay, diffused horizontal boundary, grainy - plasticine texture, moist, firm compaction, charcoal flecks as inclusions, ironstone		4
5			inclusions decreasing in quantity & size. Excavation ceased at complete exposure of B horizon.		
6					
7					
8					

Additional Notes: (e.g., section collapse, contamination etc)

Gymea soil profile noted.

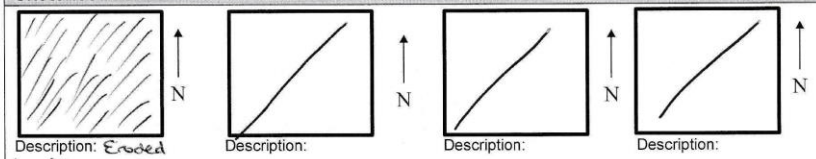
Sample Charcoal (C14)
Spit: Not required

Sample Soil (TL / OSL)
Spit: Not required

Photographs:

Image	Notes	Dir	Image	Notes	Dir	Image	Notes	Dir

Sketches:



Description: Eroded topsoil on surface (no grass)

Description:

Description:

Description:

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LEVELS			Pit No. 8	
Location of Datum: GPS USED	Level	RL (=HOI – Lvl)	Level	RL (=HOI – Lvl)
	1.		6.	
Datum:	2.		7.	
Backsight (BS):	3.		8.	
Height of Instrument (HOI) (= Datum + BS):	4.		9.	
	5.		10.	

DPS '24
ATT #8
1:10
23/8/24 KS

DPS '24
ATT #8
NORTH SECTION
1:10
23/8/24 KS