
Alspec Industrial Business Park

221-227 and 289-317 Luddenham Road, Orchard Hills, NSW Preliminary Aboriginal Cultural Heritage Assessment

Prepared for HB+B Property Pty Ltd
March 2022

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3 March 2022

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Executive Summary

HB+B Property Pty Ltd is seeking an amendment to the *Penrith Local Environment Plan 2010* for the land known as Alspeck Industrial Business Park, 221-227 and 289-317 Luddenham Road, Orchard Hills, NSW (Lot 1 DP 1099147; Lot 242 DP 1088991, Lots 1, 2, 3, 4 DP520117, Lot 1 DP396972, Lot 24 DP331426, Lot 2 DP219794) (hereafter 'study area'). A conceptual masterplan has been developed, and proposes to rezone ~144 hectares (ha) of rural and residential land to industrial and other uses. As part of the rezoning process, EMM Consulting Pty Ltd (EMM) has been engaged by HB+B Property Pty Ltd to undertake a preliminary Aboriginal cultural heritage assessment (pACHA), to provide an initial consideration of Aboriginal heritage associated with the study area.

The pACHA included Aboriginal consultation, implementing an alternative approach with targeted community members. The preliminary survey had four local organisations involved in the field investigation.

Desktop analysis of the region indicates that cultural materials would be dominated by various densities of stone artefacts either on the surface or shallowly buried in the upper soil profile. They are predominantly found in close proximity to major water courses, such as South Creek (immediately to the east of the study area) and an unnamed tributary (situated in the northwest corner of the study area). Historical disturbance plays a significant role in the preservation of cultural materials, and the study area has received localised impacts from agricultural and pastoral activities.

A site inspection of an accessible portion of the study area ground-truthed three previously documented Aboriginal sites. Of which cultural material was observed at two - Luddenham 2 (#45-5-3774) and Luddenham 3 (#45-5-4390). A third site (Luddenham Road 1 (#45-5-3773) could not be relocated, but no significant disturbance was observed, and it is assumed to still be present on the site. A further isolated Aboriginal object was identified in the vicinity of a ridgeline in the south of the study area. In addition, the ridgeline to the south of the study area, and localised areas within 200m of the unnamed tributary to the northwest, and the eastern edge closest to South Creek were all considered to have potential for cultural materials to be present. No site specific areas of cultural value were identified by the Aboriginal participants. Although a number of areas were identified for further investigation of tangible values (ie archaeological investigations).

Overall, the findings did not identify any significant tangible or intangible values that would affect the proposed rezoning. With the possible exception of the eastern edge of the study area, cultural materials observed were indicative of ephemeral use of the locale and was frequently disturbed by historical activities. Based on regional archaeological models, the areas closest to South Creek have increasing potential for significant densities of cultural materials, but currently none are documented in close proximity to the study area. Regardless, cultural materials are present, and a strategy to address this is detailed in Section 7.2 of the report.

Based on the findings of this pACHA, the following recommendations should be adopted:

- There are no areas of cultural materials or intangible values identified that would require the proposed amendment to the *Penrith Local Environment Plan 2010* to be reconsidered. The proposed amendment may proceed on cultural heritage grounds.
- The investigations did identify areas where cultural materials were either observed and/or are expected to be present. These areas are predominantly within proposed riparian corridors and areas for environmental conservation, but several development activities are proposed within 200 m of South Creek and as such in areas of archaeological potential. As such, if any ground disturbance is proposed in these areas, an Aboriginal cultural heritage assessment or equivalent in accordance with Heritage NSW and/or best practice guidelines (eg *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW*) should be implemented. The findings of the assessment should guide future assessment and approval requirements for the activity (if any).

- If re-location of any element of the re-zoning and/or development are proposed outside the area assessed in this pACHA, further assessment of the additional area(s) should be undertaken to identify and appropriately manage Aboriginal objects/sites/places that may be in this additional area(s).
- A copy of the report should be lodged with Heritage NSW's AHIMS database, and each of the Aboriginal participants.

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1 Introduction

1.1 Overview

HB+B Property Pty Ltd is seeking an amendment to the *Penrith Local Environment Plan 2010* for the land known as Alspeck Industrial Business Park, 221-227 and 289-317 Luddenham Road, Orchard Hills, NSW (Lot 1 DP 1099147; Lot 242 DP 1088991, Lots 1, 2, 3, 4 DP520117, Lot 1 DP396972, Lot 24 DP331426, Lot 2 DP219794) (hereafter 'study area'). A conceptual masterplan has been developed and proposes to rezone ~144 hectares (ha) of rural and residential land to industrial and other uses. As part of the rezoning process, EMM Consulting Pty Ltd (EMM) has been engaged by HB+B Property Pty Ltd to undertake a preliminary Aboriginal cultural heritage assessment (pACHA), to provide an initial consideration of Aboriginal heritage associated with the study area.

The principle objectives of the report are to:

- identify Aboriginal cultural heritage places and landscapes within the study area;
- identify prospective conservation areas based on their heritage values;
- consult with Aboriginal stakeholder communities; and
- provide foundational information for future studies in the event that approvals under the *Environmental Planning and Assessment Act 1971* and/or *National Parks and Wildlife Act 1974* (NPW Act) are required.

These aims were achieved through the following tasks:

- liaison and consultation with key Aboriginal community members and knowledge holders to identify areas and places of cultural value within or in the vicinity of the project;
- compilation of existing environmental, historical, and archaeological information for the study area, by identifying and summarising known and previously recorded Aboriginal heritage places, cultural values areas and landforms of archaeological interest in its immediate surrounds. This included a review of previous reports and databases (such as AHIMS);
- determining if any Aboriginal objects, places, cultural values areas, or areas of archaeological potential are present (or are likely to be present) within the study area, as well as areas of existing disturbance, through ground-truthing;
- identifying the type, nature, and extent of any Aboriginal sites, objects, archaeological deposits, potential archaeological deposits, and cultural values areas within the study area;
- mapping the locations of known and potential Aboriginal sites, objects and deposits and cultural values areas identified;
- assessing the archaeological and cultural significance of the study area, including hierarchical consideration of all findings; and
- assessing and identifying heritage constraints and opportunities within the current masterplan, assist in the facilitation of the re-zoning and provide recommendations in relation to the conservation of Aboriginal heritage values and any pertinent preliminary management recommendations.

The report has been prepared in broad accordance with:

- *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011);
- *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (the Code; DECCW 2010a); and
- *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (ACHCRs; DECCW 2010b).

1.2 Study area

The study area comprises ~144 ha of rural residential land within the Penrith LGA (Figure 1.1). It includes parts of the suburbs of Orchard Hills and Luddenham. Lot 1 DP 1099147 encompasses the northern half of the study area and is characterised by small horse agistment paddocks, stables and other equine buildings. Lots 1, 2, 3, 4 DP520117, Lot 1 DP396972, Lot 24 DP331426, Lot 2 DP219794 make up much of the eastern boundary of the study area. The Bosna Croatia Club is located on Lot 1 DP396972 as is Luddenham oval and other sporting fields, while the remaining five lots along Luddenham Road are private residences. Lot 242 DP 1088991 makes up the southern half of the site and is used primarily for cattle pasture with residences along the eastern fringe. The study area is low relief hills and plains, featuring several small ponds and 3 larger dams, a small crest marked as Brown Hill in the south paddock, and is traversed by an unnamed tributary of South Creek in the north-west.

The Planning Proposal seeks to facilitate redevelopment of the land to enable the development of industrial warehouses at the site across three stages which will comprise the following (Plate 1.1):

- potential for thirty two (32) high-quality warehouse buildings across thirty two (32) lots, each accompanied with an ancillary office, associated parking and business identification signage for legibility and easy way-finding;
- landscaped internal estate roads including two roundabouts, a cul-de-sac and entry roads for improved amenity; and
- electrical easement an environmental conservation area, and an environmental zone and basins.

The proposed Outer Sydney Orbital (M9) also encompasses the western fringe, and while likely assessed as part of that development, nonetheless has been included here. The details of the proposed construction activities resulting from the rezoning is unknown, however it would likely result in surface and upper soil profile impacts (the common location of cultural materials) to significant portions of the study area.



Figure 1.1 Location of the Luddenham Road Precinct study area

1.3 Legislative context

There are several Commonwealth and State Acts (and associated regulations) that manage and protect Aboriginal cultural heritage. These are summarised in Table 1.1.

Table 1.1 Commonwealth and State legislation relevant to the project

Legislation	Description	Relevant to the project?	Details
COMMONWEALTH			
<i>Environment Protection and Biodiversity Conservation Act 1999</i>	Recognises sites with universal value on the World Heritage List (WHL). Protects Indigenous heritage places with outstanding heritage value to the nation on the National Heritage List (NHL), and significant heritage value on the Commonwealth Heritage List (CHL).	No	There are no Indigenous heritage places within the study area that are listed on the WHL, NHL, or the CHL.
<i>Native Title Act 1993</i>	Administers rights and interests over lands and waters by Aboriginal people. Provides for negotiation and registration of Indigenous Land Use Agreements (ILUAs). Often used in NSW to identify relevant stakeholders for consultation.	No	There are no active or finalised claims encompassing the study area.
<i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984</i>	Preserves and protects areas and objects of particular significance to Aboriginal people that are under threat from injury or desecration. On the application of an Aboriginal person or group, the Environment Minister may make a declaration to protect an area or object.	Yes	No such declaration is known to have been made for an area or object within the study area.
STATE			
<i>Environmental Planning and Assessment Act 1979</i>	Requires environmental impacts, including to Aboriginal heritage, to be considered in land use planning. Provides for the development of environmental planning instruments, including State Environmental Planning Policies and Local Environmental Plans.	Yes	The master-planning and rezoning of the study area is being undertaken to allow development to occur. Each development subsequently undertaken would require various assessments and/or approvals under this Act.
<i>National Parks and Wildlife Act 1974</i>	Provides blanket protection for all Aboriginal objects and declared Aboriginal places. Includes processes and mechanisms for development where Aboriginal objects are present, or where Aboriginal Places are proposed for harm.	Yes	The master-planning and rezoning of the study area is being undertaken to allow development to occur. Each development subsequently undertaken would require various assessments and/or approvals under this Act.

Table 1.1 Commonwealth and State legislation relevant to the project

Legislation	Description	Relevant to the project?	Details
<i>Aboriginal Land Rights Act 1983</i>	Establishes Local Aboriginal Land Councils (LALCs). Allows transfer of ownership of vacant crown land to a Local Aboriginal Land Council. The Office of the Registrar, <i>Aboriginal Land Rights Act 1983 (ORALRA)</i> , registers Aboriginal land claims and maintains the Register of Aboriginal Owners. Often used in NSW to identify relevant stakeholders for consultation.	No	The study area is comprised of freehold land, and this Act is therefore not relevant.

1.4 Limitations

This report is based on existing and publicly available environmental and archaeological information (including AHIMS data) and reports relevant to the study area. Background research did not include any independent verification of the results and interpretations of externally sourced existing reports (except where the ground-truthing was undertaken).

The report further makes archaeological predictions based on these existing data and targeted ground-truthing, and which may contain errors depending on the accuracy of these third-party studies and the extent of ground-truthing (constrained to surface) investigations. Only a representative sample of the study area has been subject to limited ground-truthing investigations, and no sub-surface investigations were undertaken as part of the project.

This report does not consider historical (non-Aboriginal) or built heritage unless specifically indicated.

1.5 Authorship and acknowledgements

This report was prepared by Megan Sheppard Brennand (Archaeologist) and Greg Ho Sing (Archaeologist) who also completed the field assessment. The report was reviewed by Dr Alan Williams FSA MAACAI (National Technical Leader - Aboriginal Heritage).

EMM would like to thank HB+B Property Pty Ltd (Danny Kataieh) and representatives of the local Aboriginal community for their participation and valuable contributions to this assessment.

2 Aboriginal consultation

Given the preliminary nature of the assessment, and the timing of the rezoning process, consultation was undertaken with a small number of key Aboriginal stakeholders in the region. This included:

- Deerubbin Local Aboriginal Land Council (Steve Randall);
- Darug Custodian Aboriginal Corporation (Justine Coplin; Tylah Blunden);
- Kamilaroi-Yankuntjatjara Working Group (Phil Kahn; Stefanie Naikar; Jedda Kahn); and
- Darug Tribal Aboriginal Corporation (John Reilly).

These organisations were involved in the field investigations (see Section 6). During the site inspection, discussion around any areas of cultural value or importance within and near the study area were sought. No site specific areas of cultural value were identified during the site inspection, although the importance of various environmental characteristics for past Aboriginal activity were highlighted, and these are discussed further in Section 4.3.

A copy of the report was provided to the Aboriginal stakeholders involved in late July 2020. A single set of comments was received from Darug Custodian Aboriginal Corporation (Appendix C). These raised concerns about the increasing number of Aboriginal stakeholder organisations in the region but concluded with support for the findings and recommendations of this report.

3 Existing environment

3.1 Key findings

- The study area is characterised by undulating Cumberland Plain topography that is widely documented to have been used by Aboriginal people in the past. There is no evidence of significant elevation, escarpments, or exposed sandstone, which constrains a range of archaeological site types.
- The study area is bounded by South Creek to the east, a major creek line that would have been attractive to Aboriginal people in the past. Other lesser creek lines and drainage surfaces extend across the study area, notably a tributary of South Creek to the northwest.
- Soil landscapes across the study area are generally dominated by shallow duplex or fabric contrast soil profiles. As such, it is considered cultural material where present is likely to be found on deflated surfaces and/or in the upper 1m of the soil profile.
- High levels of historic land use and disturbance has occurred over the last 200 years. These are dominated by agricultural, pastoral and agistment activities, which have resulted in de vegetation and modification of waterways (usually in the form of dams) across many parts of the study area.
- There is limited evidence of remnant vegetation present, with the possible exception of the established riparian corridors of the unnamed tributary in the northwest, and potentially the northernmost fringe of the study area.

3.2 Rationale

Understanding environmental context assists with predictions of archaeological potential, such as the likelihood of archaeological material being present in the landscape, its spatial distribution, and its preservation. Landscape features were an important factor for the choice of camping and transitory and ceremonial areas used by Aboriginal people. Similarly, these landscape features and historical land-use plays a role in the level of preservation and the integrity of archaeological sites.

A landscape consisting of suitable topography, hydrology, geology, and soils has strong links with natural resources that would have been available to, and sought after, by Aboriginal people. Flora and fauna would have provided food, tools, and ceremony (culturally modified trees); proximity to fresh water was necessary for life and growing crops, as well as gathering fish and eels. Landscape features, such as sandstone overhangs, were useful for shelter; stone artefacts were manufactured from raw stone material that was collected from quarry sites; and stone arrangements relied on the landscape.

3.3 Landform and topography

The study area is situated within the Sydney Basin bioregion and Cumberland subregion (Thackway and Cresswell 1995). The Cumberland subregion is characterised by low rolling hills and wide valleys in a rain shadow area below the Blue Mountains. Prominent landforms within the study area, as shown on Figure 3.1, include a single prominent ridge at the southern end sloping gently towards the creek in the northwest. Ridgelines and crests are broad (<200 m) with gentle slopes (>5%) receding to the valley floor north west of the study area which exhibits minimal topographic relief (<10 m) and is likely subject to flooding. Topography would not have dramatically impeded Aboriginal movements across the area, and elevated landforms near the creek would likely have been targeted for habitation (Section 5). There is no evidence of sharp relief or vertical escarpments across the site, and which then excludes certain archaeological site types (eg rockshelters).

3.4 Hydrology

The study area is located within the South Creek sub-catchment of the Hawkesbury-Nepean River:

- South Creek (6th order) flows north to south near (<300 m) the eastern boundary of the study area.
- A small unnamed tributary creek (4th order) runs through the north-west corner of the study area.
- Ephemeral waterways and drainage lines run across the study area feeding into South Creek. Multiple dams have been constructed to capture water runoff, although they may have been constructed in various depressions and relief (rather than water courses).

Access to water and the natural resources associated with it will have dominated the distribution of past habitation throughout the region. This is corroborated by previous archaeological works in the area and ethnographic accounts of the area. As such, areas in close proximity to these water sources have increased potential for cultural materials to be present.

3.5 Geology and soils

Soil landscapes and their boundaries provide pre-defined areas that are classified by several geographic features, and which are informative for the archaeological investigation. They provide localised information including landform patterns, soils, geology, rock outcrop percentage, land use and vegetation. This information provides another layer to categorise the landscape for the predictive model, additional to what a topographic description can provide. Soil landscape information builds on underlying geology and describes the depths of residual soils and colluvial soils and identifies areas that are characterised by erosion or skeletal soils and exposed bedrock versus those that may contain a deeper profile where cultural material may be buried.

The study area encompasses two soil landscapes (Figure 3.2), which are defined in the *Soil and Land Resources of the Hawkesbury-Nepean Catchment* (DECCW 2008), described below:

- Blacktown soil landscape: The majority of the study area comprises of the Blacktown soil landscape, encompassing the slopes and ridgelines. Geology typically consists of laminate shales and siltstone, with underlying sandstone of fine to medium grained quartz. Outcropping does not occur naturally on the surface however can become exposed as a result of extensive land use disturbances and/or accelerated erosion. Soils comprise up to 30 cm friable loam to clay loam (A1 Horizon), overlying various subsoils including a 10–30 cm of clay loam to silty clay loam hard-setting elluviation unit (A2 Horizon) and/or ~40–100 cm of light to medium clay (B2 Horizon). Silty clay to heavy clay usually occurs as deep subsoil above shale bedrock (B2 or C Horizon).

- South Creek soil landscape: The north-western margin of the study area encompasses a portion of South Creek soil landscape. These comprise undifferentiated Quaternary alluvium along the unnamed tributary. The soil landscape is highly active, comprising the present floodplain of the South Creek drainage network, valley flats and drainage depressions. Soils typically consist of very deep layered sediments over bedrock or relict soils. However, commonly these landscapes are often frequently inundated and flood prone, and visibility reflect swampy or soft ground.

In the case of both of the soil landscapes, cultural material is commonly constrained to the upper soil profile, the A1 or A2 horizon. And as such, only the upper parts of the soil profile – often prone to the greatest disturbances – have potential for cultural material to be present. the shallow nature of the topsoil (A1 horizon) deposits has important implications for the potential for and survivability of Aboriginal objects, as even minor disturbance and/or de vegetation will often result in the complete removal of the upper parts of the soil profile in which objects may occur.

3.6 Land use history and disturbance

The study area has a range of moderate to heavy disturbance from past and modern activities, and these would likely have had varying levels if impact on cultural materials (if present).

Early land use consisted of forestry and grazing in the wood and scrubland of the Cumberland Plain. Settlement expansion and the search for suitable agricultural land soon led to the establishment of Parramatta and Liverpool townships, driving the development of Sydney's west as a key area for pastoral and agricultural exploitation. Land use and associated disturbance of the study area has accelerated from the early 19th century onwards, with the study area included in an initial land grant of 1,070 acres issued in 1815 to Nicholas Bayly, a member of the NSW Corps, a permanent ground force regiment formed to relieve the NSW Marine Corps who had accompanied the First Fleet to Australia.

Due to the fertility of the soil, proximity to water and accessibility to the centres of Parramatta and Sydney CBD the area has been kept in steady use for agriculture, grazing and agistment since that time. The land has subsequently been heavily cleared and altered to suit these endeavours with the majority of native vegetation being cleared for grass or cropland. A series of aerial photographs extending back to 1947 (Appendix A) show how extensively the land has been cleared, leaving only narrow riparian corridors along south creek and the tributary in the north-west.

Construction of residential buildings, stables and other agricultural structures has resulted in significant areas of disturbance. Horse agistment began on the site in the 1960s and has spread across the entirety of the northern portion of the study area; and includes significant clearing, grading, and construction throughout. Other access roads, farm tracks and irrigation ditches also contribute to linear areas of high-level disturbance. By 1975, the current extent of the horse agistment construction had been reached and the site resembles its current state with few buildings added in the decades since, usage continues in the same manner till the current era further entrenching the impact in these areas.

It is evident in historical aerial photography that the area of bushland in the north-west of the study area is relatively modern as earlier aerial photographs are devoid of much of the vegetation now present (Appendix A). However, some older trees are present in historical imagery and remain in the riparian corridor, and as such disturbance through this area was variable; and the potential for older trees (upon which cultural modifications could occur) may be present.

The creation of dams has occurred throughout the various creek lines has heavily modified the natural path of water through the study area. Many of the aerial images, however, suggest that these dams were situated on opportunistic depressions and undulations, and do not necessarily represent previous creeklines.

More recent disturbance has included the construction of roadways (eg Luddenham road and Patons lane) and urban/industrial infrastructure. The area sees increasing change from rural to urban practises, with housing and industrial development encroaching into the locale. Key amongst these is the large-scale earth movement and clearing in the west of the study area and the installation of services, including high voltage transmission lines on the north-western boundary.

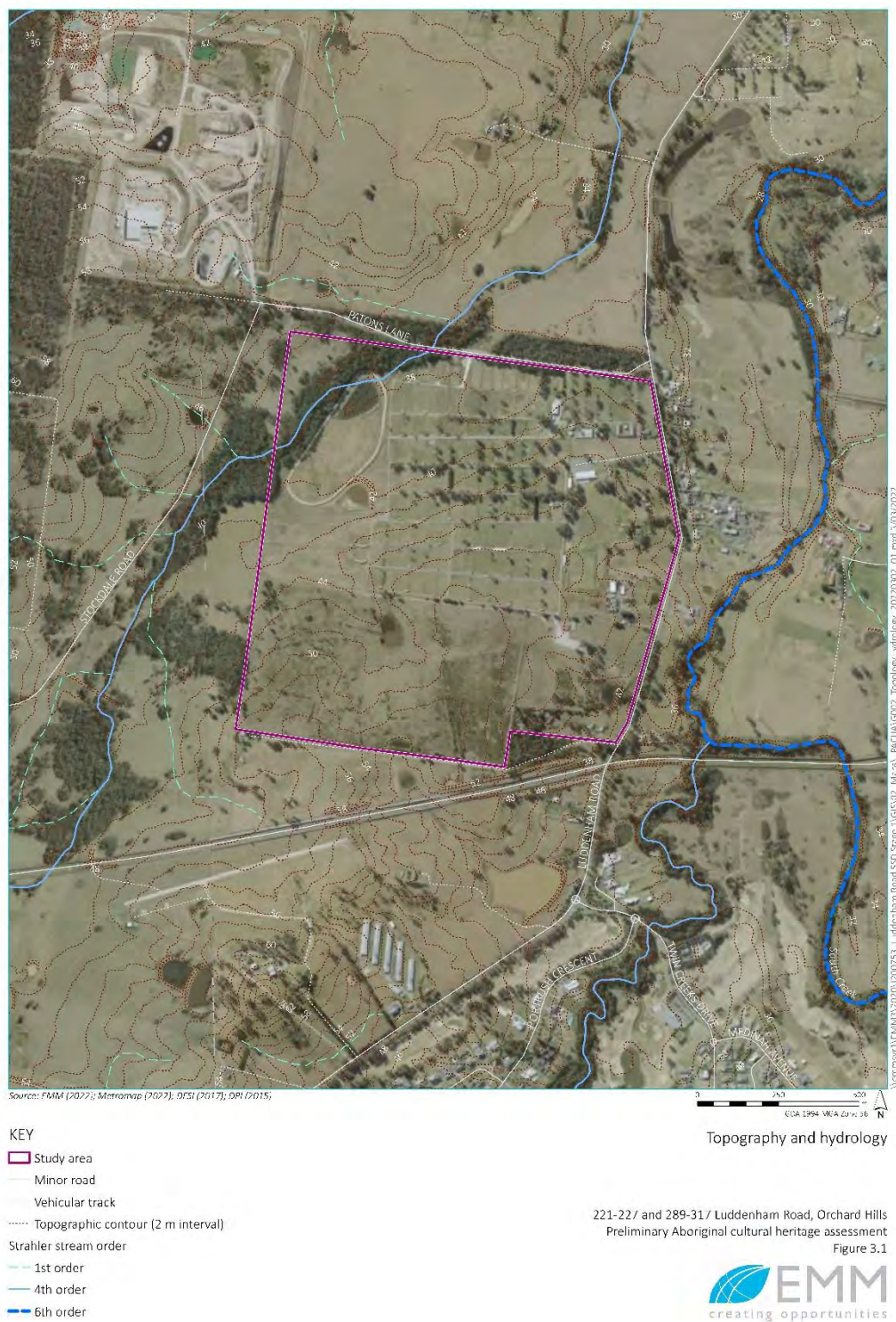
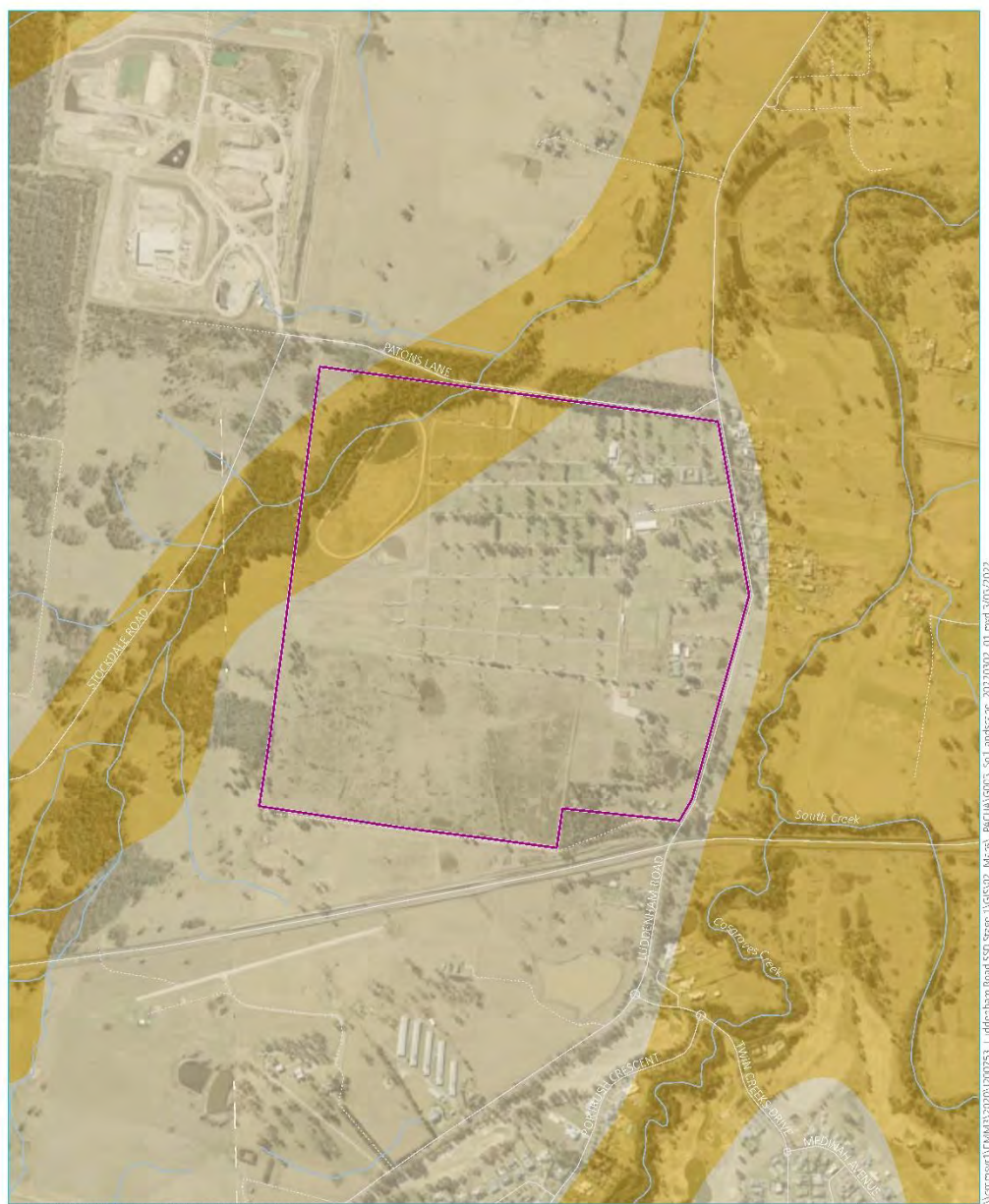


Figure 3.1 Elevation and hydrology of the study area



Source: FMM (2022); Metromap (2022); OFH (2019); DFS (2017)

KEY

- Study area
- Minor road
- Vehicular track
- Watercourse/drainage line
- Soil landscape
- Blacktown
- South Creek

Soil landscape

221-22/ and 289-31/ Luddenham Road, Orchard Hills
Preliminary Aboriginal cultural heritage assessment
Figure 3.2



Figure 3.2 Soil landscapes of the study area

4 Ethnographic context

4.1 Key findings

- The study area was occupied by the people of the Darug language group. While there is debate over the exact territory of Aboriginal groups prior to contact, the lands of the Darug covered most of the western Sydney region (Tindale 1974).
- Historical information provides several observations in relation to the early nineteenth century Aboriginal society, but no site-specific areas of activity within the study area.
- The Cumberland plain is a key centre of contact history including the Cumberland Plain War and Appin Massacre, Prospect Hill expeditions and early peace and reconciliation activities.

4.2 Local Background

Regional studies indicate that Aboriginal people first visited and occupied the Sydney Basin between ~45-35,000 years ago (ka) years ago. Populations remained low in the late Pleistocene and were focussed along the banks of major river systems, such as the Hawkesbury-Nepean River. After ~18 ka, there is an increasing archaeologically observed presence across the basin, including the initiation of a number of sites, such as Burrill Lake and Bass Point. Increasing numbers and diversity of sites in the last 10 ka, and especially the last 5 ka, suggests a significant population established across most environments of the basin; and it is during this time that the socio-economic and religious systems observed at contact likely developed.

Information about the socio-cultural structure of Aboriginal society prior to European contact largely comes from ethno-historical accounts made by colonial settlers. These accounts and observations were often made after significant social disruption due to disease and displacement. As a result, this information is often contentious, particularly in relation to language group boundaries. Therefore, it is likely that language group boundaries were far more diffuse and complex than the arbitrary demarcations drawn by colonial observers.

Over thirty separate Aboriginal groups populated the wider Sydney Basin in 1788 CE, each with their own country, practices, diets, dress, and dialects. We now know of these groups as 'clans' and each identified with broader cultural-linguistic groups known as 'tribes'. The study area sits within Darug clan country which extended from around Parramatta through to the Blue Mountains and from the Hawkesbury River in the north to Appin in the south. The many rivers acted as natural demarcation of this area and the flat terrain of the Cumberland Plain was favourable to the livelihood of the peoples.

"The inland clans fished for mullet and eels in rich lagoons, but much of their food came from yams dug out from the riverbanks and worms known as 'cah-bro' extracted from river driftwood. Colebee and Ballederry called these people the 'climbers of trees' after their practice of skilfully ascending gums in pursuit of animals, cutting footholds in the trunks with a stone axe." (Collins 1798)

The central location and ease of movement through this area thanks to suitable topography meant that Darug country was a frequented by travelling groups and used as a place of meeting. "Corroboree" the word for meeting and ceremony now associated with Aboriginal meetings in the modern era stems from the Darug language group (Troy 1994).

Environmental conditions in this region throughout the last 10,000 years were relatively stable and evidence suggests that population densities pre contact were high (Williams 2013). In the late eighteenth century smallpox and other European diseases are likely to have wiped out a significant percentage of Aboriginal peoples (>50%). In May 1789 William Bradley recorded the 'dreadful havoc' that smallpox had wrought amongst Aboriginal communities: 'we did not see a Canoe or a Native the whole way coming up the Harbour and were told that scarce any had been seen lately except laying dead in and about their miserable habitations' (Bradley 1969). Traditional burial practices broke down and clans merged as entire communities were taken by the virus (Hunter 1793). The impact of smallpox and other European diseases continued to ripple across the country, reducing communities in the Hunter 'from about 200, to 60' (Backhouse, 1843, p. 401). This is large scale decrease in population accounts the discrepancies seen between the distribution of archaeological remains and the ethnographic accounts of Aboriginal populations.

The Cumberland Plain was a point of first contact between many Aboriginal peoples and the Europeans, the same environmental factors that supported Aboriginal peoples also made for favourable lands for settlement and agriculture. The expedition by Governor Phillip to Prospect Hill in 1788 found the lands to the west more agreeable to farming than those of the Sydney Cove area and the township of Rose Hill (renamed Parramatta the following year) was established and settler colonialism rapidly expanded the European footprint in the area. Competition for resources quickly flared tensions, with violence escalating throughout the region. On 1 May 1801 Governor King issued a public order requiring that Aboriginal people around Parramatta, Prospect Hill and Georges River should be 'driven back from the settlers' habitations by firing at them'. King's edicts appear to have encouraged a shoot-on-sight attitude whenever any Aboriginal men, women or children appeared (Flynn 1997).

The conflicts and subsequent reprisals by both sides spread across the region and would eventuate in the Appin Massacre, 1816; these actions would come to be known as the Cumberland Plain war. The area was not only a site of conflict but also served as an important reconciliation place even as early as 1805 during a meeting organised by the reverend Samuel Marsden and the local tribes in a bid to cease the hostilities between settlers and Aboriginals.

Hostilities between certain groups remained many Aboriginal peoples continued to live a semi-traditional lifestyle or moved into a European lifestyle. Darug clans lived at an encampment on the Mamre Farm estate at South Creek in Orchard Hills, adjacent to the study area (north-west). The Reverend Marsden established the property in 1798 as a model farm for experimental crops and animal husbandry. The estate was over 1300 acres and an Aboriginal camp was situated on the opposite side of the creek, a few hundred metres from the homestead.

"....the South Creek Natives live on Charles Marsden's property 'Mamre', often staying at the junction of South Creek and Eastern Creek. In comparison with some other tribes, the South Creek Natives may be considered as half-domesticated, and they often assist in the agricultural operations of the settlers" (West 1835 in *A History of Aboriginal Sydney* website)

The first parcels of land granted to an Aboriginal person were to the north of the study area between Richmond Road and Plumpton Ridge along Bells Creek. Governor Macquarie granted this land to Colebee and Nurragingy in 1819. Colebee did not stay long but Nurragingy lived on the land and it remained in the family until 1920 when it was resumed by the Aboriginal Protection Board (Kohen 1986, p.27).

4.3 Information provided by Aboriginal stakeholder consultation

Comments from RAPs present were requested regarding the tangible and intangible Aboriginal cultural values within the study area. The following was discussed:

- the importance of the waterways, a focus on ridgelines, potential for scar trees in old growth vegetation and the potential for lithic resources, such as silcrete, to be present in the study area;
- Tylah Blunden commented on natural silcrete present in exposures in Lot 242 DP 1088991;

- John Riley drew attention to the significance of the creeks and their importance not only as occupation sites but also for the potential for burials to occur in these riparian zones; and
- Steven Randall discussed his previous experience and knowledge of Lot 2 DP 104958 to the west of the study area where a number of artefact sites have been identified. He described ridgelines as areas of particular archaeological sensitivity.

5 Archaeological context

5.1 Key findings

- A large number of previous archaeological studies have been undertaken within, or in close proximity to the study area. Of note are extensive works for Mamre Precinct and the Oakdale Estate situated to the south-east of the study area, these areas have undergone similar investigations and processes in order to change land use from rural to industrial zoning.
- These studies indicate that elevated areas – terraces, levee banks, low hills – adjacent third and fourth order creek lines formed a focus for past Aboriginal activity. Cultural material is found in a range of other environments but will often reflect transient use.
- Some 17 Aboriginal sites have been documented within the general area, of which three are within the study area. All previously recorded sites can be characterised as low density or isolated surface and/or subsurface stone artefacts.

5.2 Regional background

The first peopling of Australia occurred ~50 ka, and likely consisted of reasonably large groups of technologically advanced hunter-gatherers (Bradshaw et al. 2019; O’Connell et al. 2018). The peopling of the continent was rapid, with sites such as Devil’s Lair (WA), Warratyi (SA), and Lake Mungo (NSW) all occupied within a few thousand years of arrival (Bowler et al. 2003; Hamm et al. 2016; Turney et al. 2001). Genomic research has shown that following these initial explorations of the continent, regional populations or nomadic sedentism, was established by ~40 ka (Tobler et al. 2017). These small populations were highly mobile, but remained within a broad spatial geographic area, dictated in general by the nature of resources and water availability. In the case of some of the arid parts of the continent, mobility encompassed thousands of square kilometres (Gould 1977), while major riverine corridors such as the Murray River had near permanent settlements (Pardoe 1993).

In NSW, the earliest evidence of Aboriginal people are human remains recovered from the lunette in Lake Mungo and dating to ~42 ka (Bowler et al. 2003; O’Connell et al. 2018). The presence of red ochre covering the remains representing a society with significant cultural and symbolic complexity (Langley et al 2011). Near the coastal edge, the earliest populations were found at Cranebrook Terrace, near Penrith (Western Sydney). Here a handful of rudimentary stone tools were found in an alluvial unit, some 8m below the current surface, which were dated to ~40-45 ka (Williams et al. 2017). However, it is not until ~35 ka, that regional populations appear to have become established in the Sydney Basin, and which appeared to consist of small bands of people focussed mainly along major river systems, including the Hawkesbury-Nepean River, Georges River, and Hunter River (Hughes et al. 2014; Williams et al. 2012, 2014). These rivers formed key ecological refuges that hunter-gatherer groups used to survive major climatic events such as the Last Glacial Maximum (21±3 ka) – a cool and arid climatic period. Well-established archaeological models suggest populations experienced a major reduction in size (by as much as 60%), and settlement contraction and abandonment across much of the continent during this time (Veth 1993; Williams et al. 2013). Although recent research suggests that the story may be more complex than this (eg Tobler et al. 2017).

The terminal Pleistocene and early Holocene (~18-8 ka) was characterized by significant environmental change, notably the rapid inundation of much of the coastal shelf, resulting in the reduction of the continent by ~21% (~2 million km²) (Williams et al. 2018), in tandem with improving climatic conditions – the Holocene climatic optimum (Williams et al. 2015a, 2015b). More broadly, these conditions resulted in increasing population growth, expansion of ranging territories, increasing sedentism (longer patch residence time) and the beginnings of low-level food production (eg aquaculture), and ultimately the initiation of social and cultural groupings observed in the late Holocene (Williams et al., 2015b). Within the Sydney Basin, a large number of sites are first initiated during this time, including Burrill Lake (~20 ka), Bass Point (~17 ka), and Loggers Shelter in Mangrove Creek (~11 ka) (Bowdler 1970; Lampert 1971; Attenbrow 2004; AMBS 2006, p.87). More broadly, we see a much broader range of archaeological site types occurring, such as the Roonka Flat burial ground on the banks of the Murray River within which some 147 individuals were interred through the Holocene (Pate et al. 1998), and the increasing use of marine resources. Many of the previous refuges were subject to abandonment or a re-structuring of land use (Dortch 1979; Fitzsimmons et al., 2019). These activities suggest the ability to undertake large-scale movements to mitigate environmental distress was becoming increasingly difficult and was addressed through diversification of hunter-gathering behaviours and, at least in part, technological advances, and investment (Williams et al. 2015b).

The late Holocene saw significant population increase, with hunter-gatherers reaching their zenith of ~1.2 million at 0.5 ka, a tenfold increase on Pleistocene levels (Williams, 2013). Data suggests that the highest populations during this time were in the south-east of Australia. Williams et al. (2015) suggest that this increase was likely a result of intensification of earlier technological advancements, including hafting-technology, plant and seed processing, and localized landscape management (using fire), allowing climatic downturns to be successfully weathered. These included strong arid El Nino Southern Oscillation (ENSO) conditions between 4-2 ka, and increasingly turbulent climatic conditions during the Medieval Climatic Anomaly (1.3-1 ka) (generally wetter) and Little Ice Age (0.3-0.5 ka) (generally drier) (Williams et al. 2010, 2015b). A result of these denser populations was decreasing freedom of movement and the formation of strong classificatory kinship systems, complex cultural and symbolic landscapes based on geographic totemism (the 'Dreaming'), distinctive graphic art systems, land rights in the form of ritual property, and formalized exchange networks (Williams et al. 2015b). For the Sydney Basin, these conditions resulted in a significant increase in the archaeological visibility of past Aboriginal populations, with sites occurring in a much wider range of locations; and generally indicative of a more intensive use of the landscape.

5.3 Previous archaeological studies

A summary of previous archaeological studies close proximity, to the study area is included in the following sections.

5.3.1 Mamre Road Precinct Aboriginal Constraints Assessment (Artefact Heritage Services 2019)

Artefact Heritage Services (AHS) undertook a preliminary desktop constraints assessment for the Mamre Road Precinct for Mirvac in relation to one of their sites. The Mamre Road precinct is immediately southeast of the study area. Through this AHS, a number of similar tasks to those undertaken in this report were implemented. These included a search of the AHIMS database, which identified 21 sites within their study area – all identified as of various densities of stone artefacts. They highlighted #45-5-2552 and #45-2-2553 as two culturally modified trees present on the western edge of the study area, and comment on the general rarity of remnant vegetation in the study area.

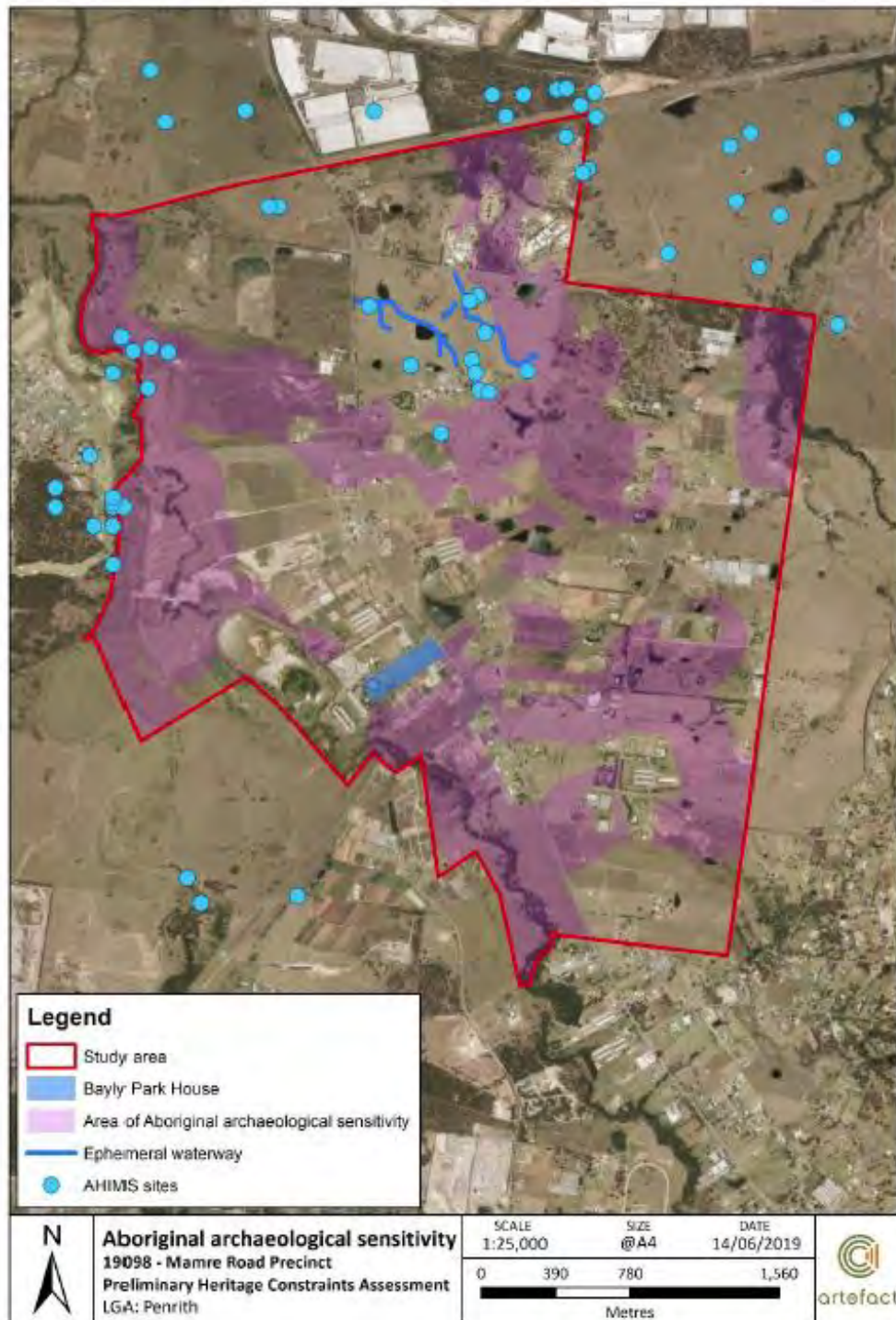
In terms of sensitivity, they utilised the information from DPIE's archaeological guidelines, and highlighted areas in close proximity to water, as well as areas where intact subsurface deposits were considered to survive. In contrast, areas that had experienced extensive ground disturbance, such as market gardens were deemed less archaeologically sensitive, while creeks, including ephemeral first order streams were assessed as a sensitive landform. Where surface artefact sites were recorded on AHIMS, these locations were deemed to have the potential for additional artefacts either on the surface or in subsurface deposit.

In addition, Artefact predicted that Aboriginal objects could be associated with the archaeological remains of Bayley Park House (dating from the early nineteenth century) (Plate 5.1). They based this assessment on a similar site in Oakdale where an axe head and Aboriginal objects were located in fill associated with an early nineteenth century homestead. However, there is currently no documentary evidence of Aboriginal people habiting in the vicinity of Bayley house in the 19th Century. In addition, site investigations of the house indicate it has been substantially modified, including concrete hard-stands across the front of the site, and earthworks to its rear.

5.3.2 Mamre Road, Kemps Creek (Artefact Heritage Services 2019b)

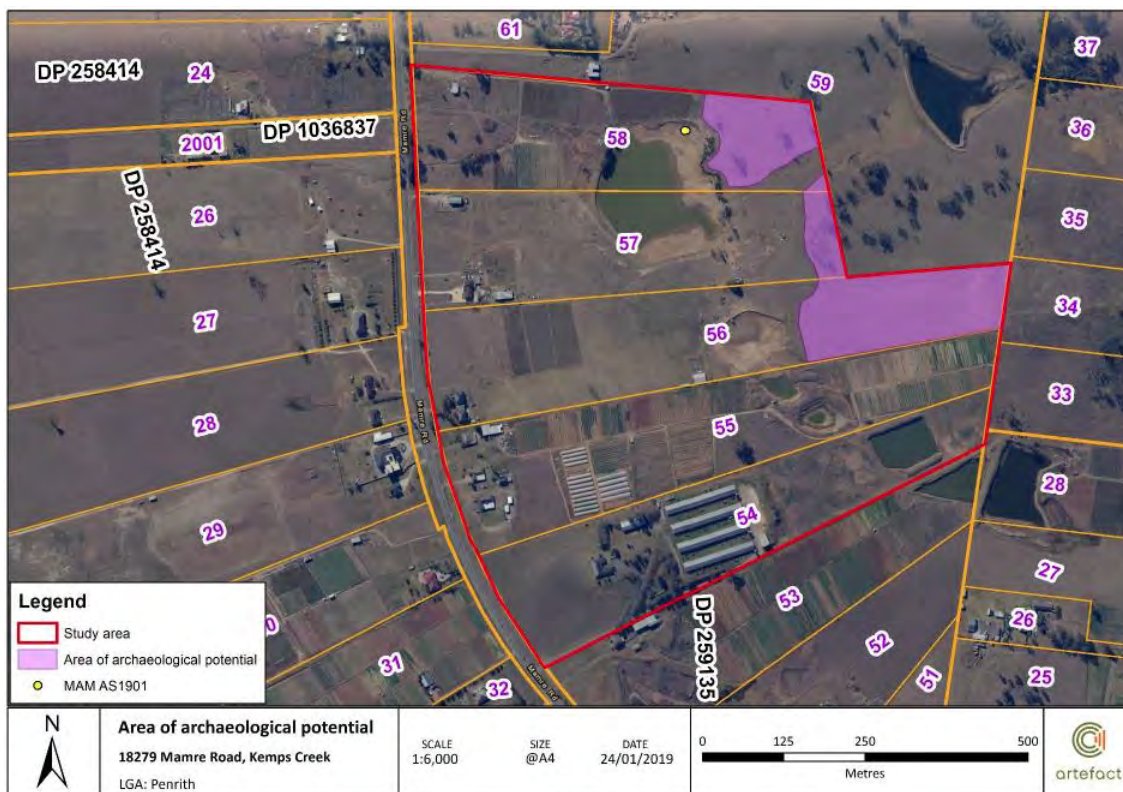
AHS undertook a due diligence investigation of Lots 54-58 DP 259135 Mamre Road, within the centre of the study area for Mirvac.

Investigations consisted of a background review and brief site inspection. These found a cleared and often moderately disturbed landscape, including creation of substantial rural dams. Soil profiles presented were generally shallow, with a topsoil often <20cm in thickness. These investigations identified an artefact scatter (MAM AS1901) and an area of archaeological potential. The artefact scatter consisted of thirteen artefacts adjacent a tributary on the edge of an artificially created dam. Artefacts included a ground edge axe, nine silcrete flakes, two IMTC flakes and a quartzite flake. Based on these findings, and guided by low disturbance, a large area of archaeological potential was identified throughout the study area (Plate 5.2).



Source: Artefact (2019)

Plate 5.1 The results of a desktop review of the precinct by Artefact



Source: Artefact (2019b)

Plate 5.2 Map of archaeological finds based on a due diligence investigation of a portion of Mamre Road, Kemps Creek

5.3.3 Mamre South Precinct State Significant Development (Biosis 2019a)

Biosis (2019a) prepared an Aboriginal cultural heritage assessment (ACHA) for a State Significant Development (SSD) at 657-769 Mamre Road, Kemps Creek to the south-east of the study area. Their study included both surface and sub-surface investigations, and consultation with 19 Aboriginal organisations.

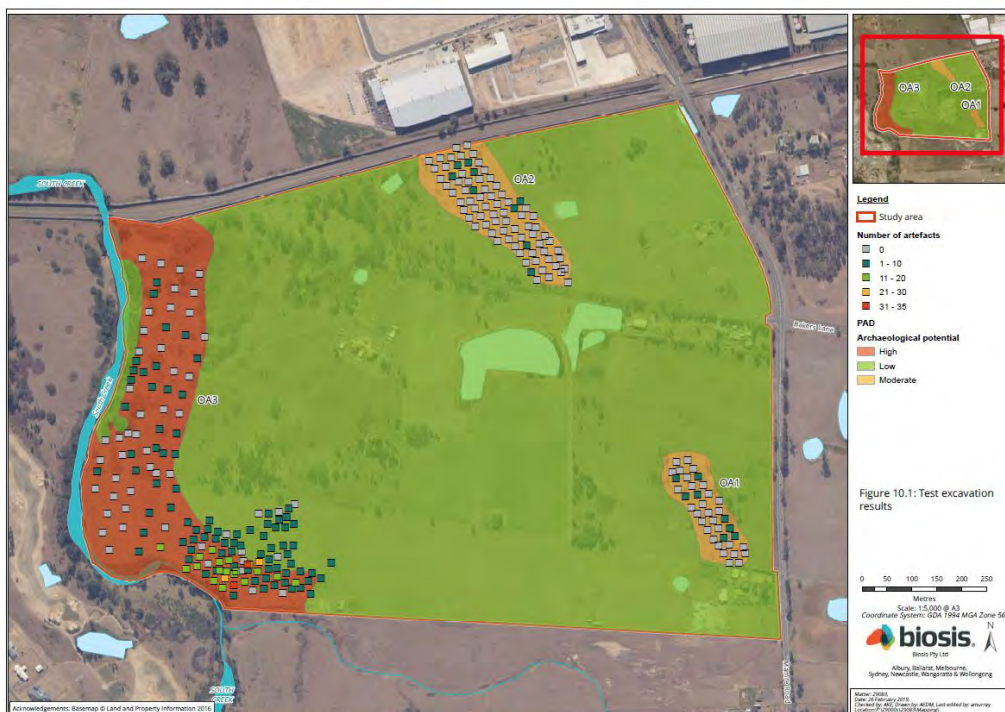
The assessment identified nine Aboriginal sites (MSP-01 to MSP-11 inclusive), all consisting of various densities of stone artefacts (Plate 5.3). Of note was their identification of MSP-02 (#45-5-5188), located in the south-west of the site, on a high point some 100 m from South Creek. Excavations across the site recovered 691 artefacts, of which 666 were recovered from MSP-02 (Plate 5.4). These artefacts were characterised as of late Holocene age, dominated by silcrete raw materials and a higher than average proportion of formal tool types. While excavations demonstrated that much of the site exhibited a ≤ 30 cm soil profile, occasional test pits in MSP-02 extended to 80 cm. Although even in these locations, artefacts were primarily found within the upper 40 cm (~98%).

All of the identified sites were within proposed impacts, and various management recommendations were outlined, including archaeological salvage of MSP-02 and surface collection of several other sites.



Source: Biosis (2019a)

Plate 5.3 Map of Aboriginal sites identified by Biosis at Mamre South Precinct



Source: Biosis (2019a)

Plate 5.4 Map of test excavations identified at Mamre South Precinct. Excavations suggest a generally low-density artefact scatter with the exception of MSP-02

5.3.4 Mamre West Precinct, Orchard Hills (Biosis 2019b)

Biosis (2019b) prepared an ACHA primarily for a proposed channel re-alignment associated with a State Significant Development adjacent the Erskine Park Business Park at 585-649 Mamre Road, Orchard Hills, south-east of the study area. This report primarily included both survey and test excavations. Some 56 test pits were undertaken, and ultimately 13 Aboriginal sites were identified. These consisted of low-density artefact scatters, isolated Aboriginal objects, and potential archaeological deposits.

The sites consisted of generally 10-40 artefacts identified along the alignment often across large areas. Of note was the identification of a glass artefact observed at MWP-AD7, and which was considered to represent a post-contact find. The excavations recovered few artefacts, with most containing between 1-5 artefacts. These were dominated by silcrete and quartz raw materials.

Recommendations in the report indicate that the majority of the sites were destroyed as part of the project.

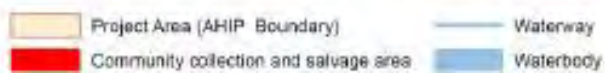
5.3.5 St Mary's Wastewater System Augmentation (Jacobs 2015)

Jacobs conducted salvage excavation at seven archaeological sites scheduled to be impacted by proposed wastewater works (Ophir Street and East St Clair carriers) at St Mary's (Plate 5.5). These works were undertaken in accordance with Aboriginal Heritage Impact Permit C0000501. These sites, all stone artefact scatters, were located within the riparian corridor of Ropes Creek, approx. 6 km north-east of the study area.

Excavations, undertaken with participation of the Aboriginal community, included initial small test pits at each of the identified sites, followed by expansion of up to 10 m² where thresholds were met. Ultimately, this amounted to some 106 m² of excavation. In general, the excavations found a shallow (~30 cm) duplex soil profile. These works recovered 2,128 artefacts, with average densities of 19.57/m², although these were skewed by the findings of 1,346 objects (53.85/m²) at #45-5-0559 (Plate 5.6), and values of <10/m² were more consistently observed along the alignment. #45-5-0559 was situated on a low to mid-level rise, which was in contrast to the low-lying topography across much of the study area. Findings at this site included a wide variety of artefact types, all indicative of a late Holocene age (5-0 ka) and was dominated by silcrete raw materials (88%) (Plate 5.7).

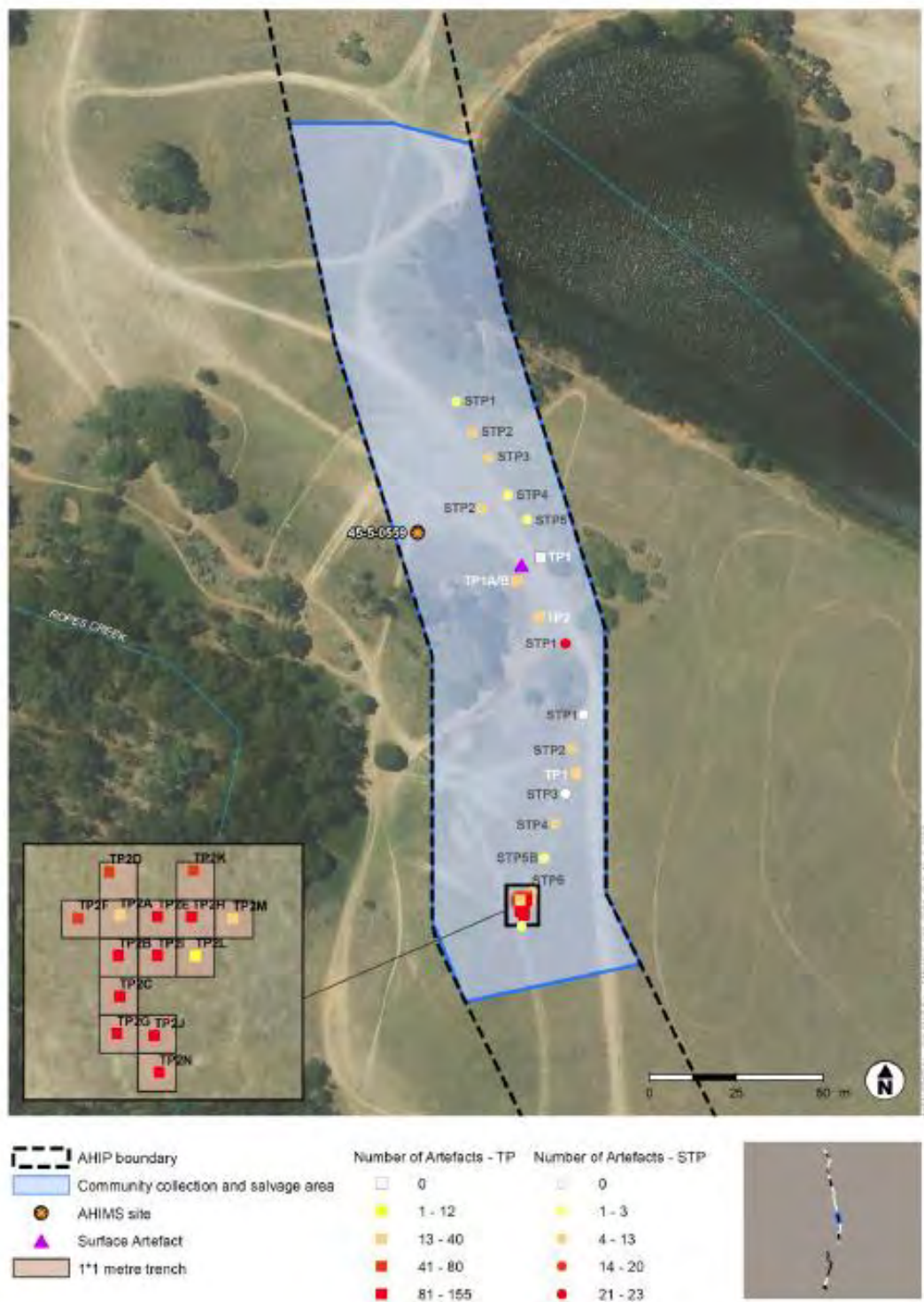
The study concluded (Jacobs 2015: 48):

- silcrete is the most common and apparently preferred raw material at all assemblages as evidenced by the sizeable distances material has travelled in some cases (for example, greater than 10 km from raw material source), the high quality nature of silcrete raw material for flaking purposes, the relative low incidence of cortex in the assemblage, and the high frequency of use of silcrete for stone tool curation in the region;
- low rise and low-high slope landforms are the more common and preferred landforms for flaking and stone tool curation;
- artefact densities in the context of the third order stream was dependant on the landscape to contain intact deposits on preferable (elevated) landforms;
- variation in the frequencies of modified artefacts could be related to the differing square metre excavations for each project, ie the bigger the excavation the bigger the frequency variations; and
- artefact typology and mean weight at all assemblages is consistent with the Australian Small Tool Tradition and late Holocene assemblages.



Source: Jacobs (2015)

Plate 5.5 Map of salvage excavations identified at seven location at St Mary's

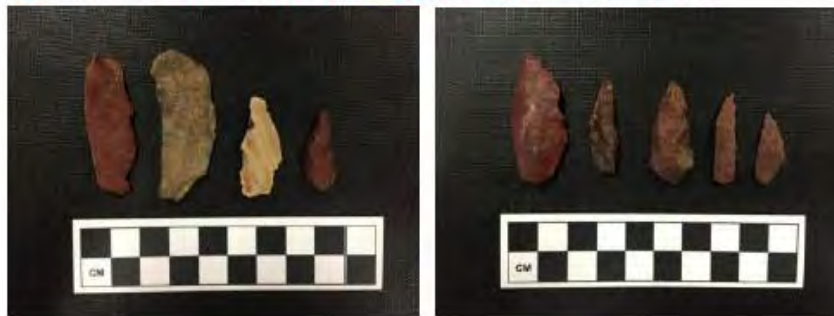


Source: Jacobs (2015)

Plate 5.6 Excavations at #45-5-0559, a significant artefact scatter found as part of the study



Figure 3-13 AHIMS ID: 45-5-0559, T2 TP2A-N (Photograph by Joseph Brooke, 6 February 2015)



Source: Jacobs (2015)

Plate 5.7 Photographs of the excavations and artefact examples from #45-5-0559. Note the shallow soil profile, despite being in close proximity to Ropes Creek

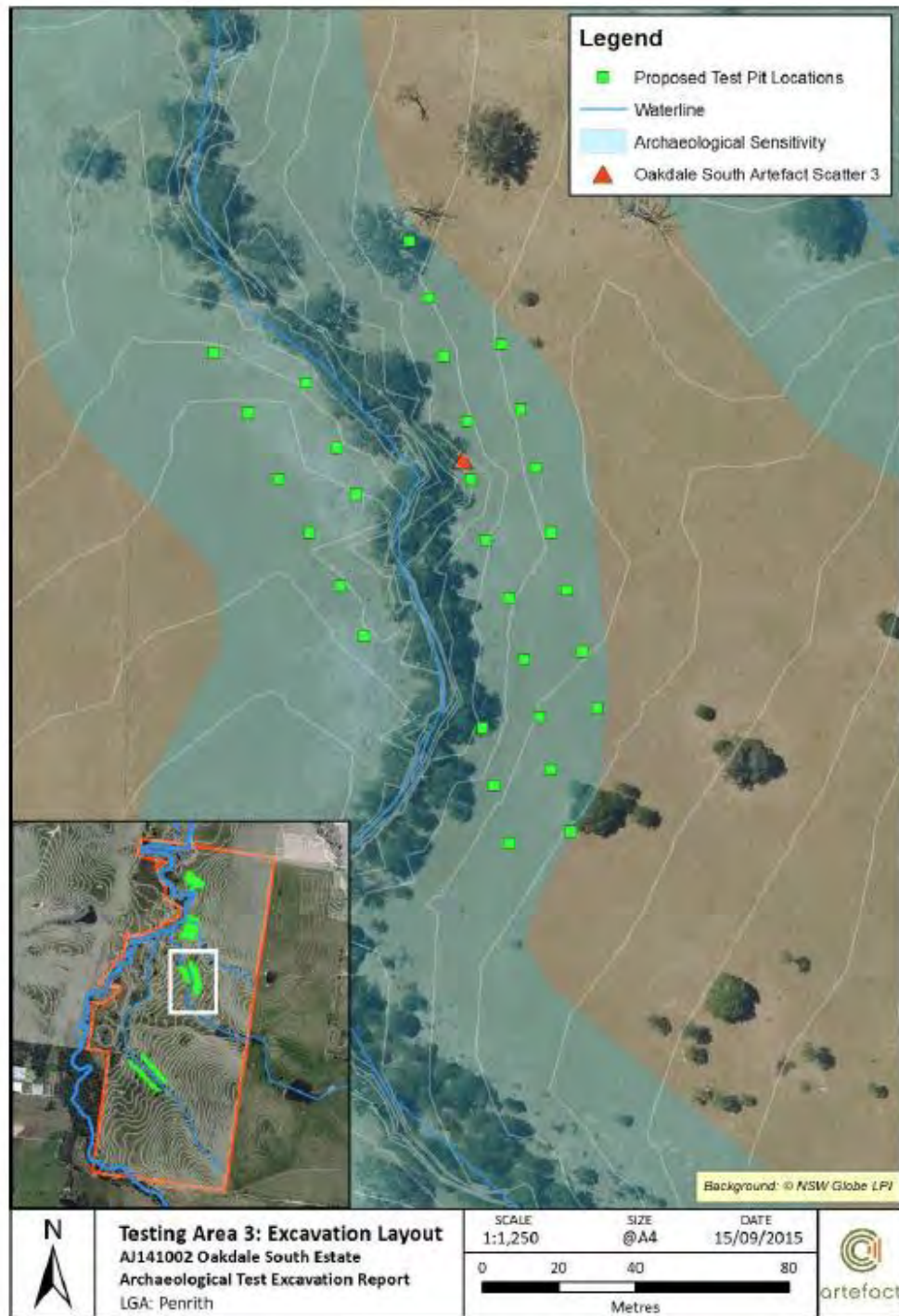
5.3.6 Oakdale South Estate (Artefact 2015) and Oakdale West Estate (Artefact 2017)

Oakdale precinct is a development of industrial properties to the south-of the study area and within many of the same landforms. Oakdale West lies to the west of Ropes creek and Oakdale South lies to the south-east of a small tributary of Ropes Creek. Findings by Artefact’s test excavation at Oakdale South in 2015 are applicable to the study area and offer a model of the archaeological potential within the precinct.

The Oakdale South investigations included a series of test excavations conducted within areas identified as of archaeological significance. These included tributaries to Ropes Creek and in proximity to previously identified sites. A total area of 27.5 m² was excavated and identified a soil profile commonly about 60 cm in depth. These soil profiles were consistent with a shallow duplex or fabric contrast soil, demonstrating a pale grey loam topsoil (A1 horizon) grading into a hard brown orange clay subsoil (B2 horizon). Some 341 artefacts were retrieved during test excavation primarily from the upper 20 cm and resulting in an overall artefact density of 12.29 artefacts/m².

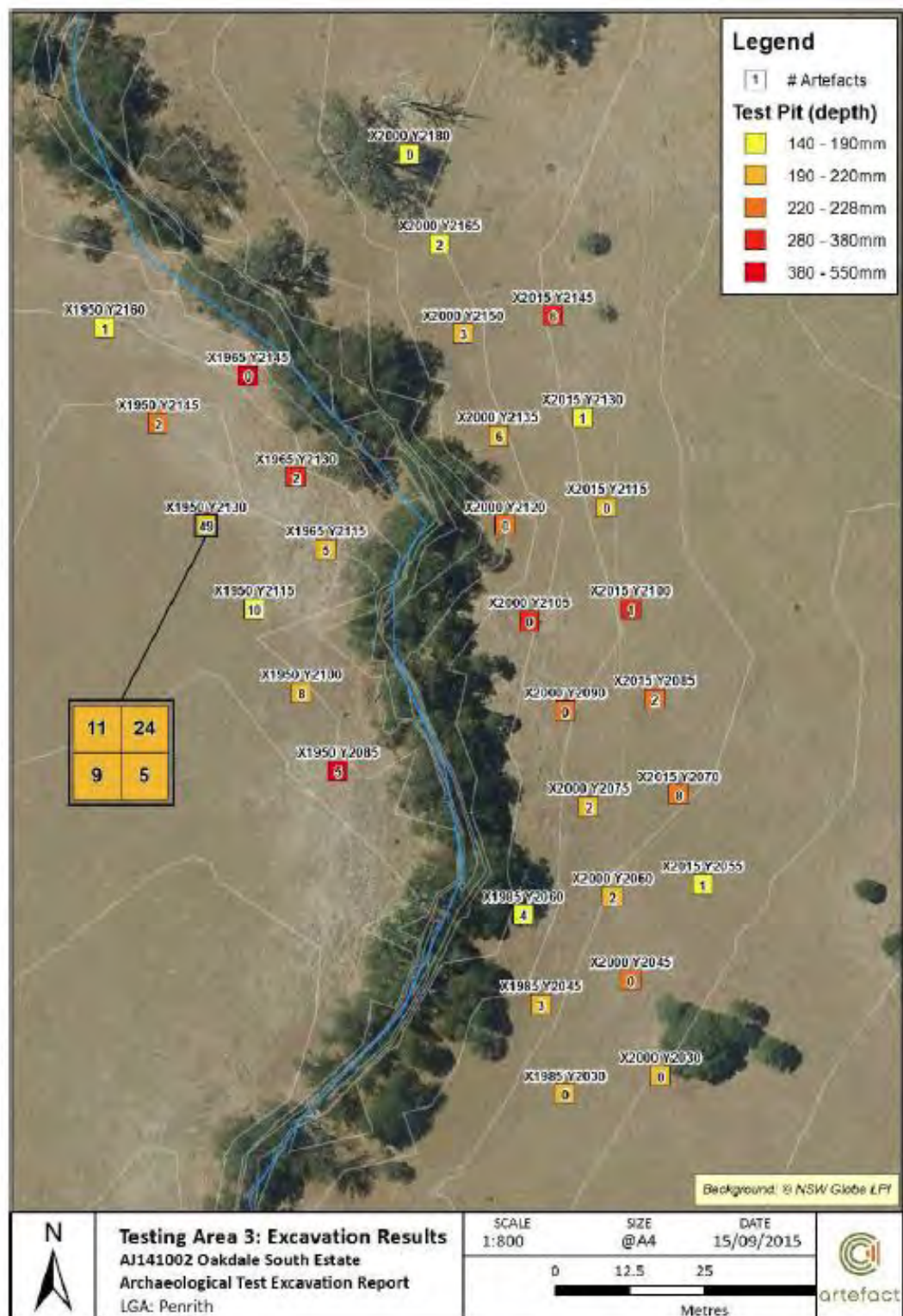
The report concluded that the results reflected a transient use of the region by Aboriginal people in the past, with only testing area 3 revealing higher densities (Plate 5.8 and Plate 5.9). Specifically, some 49 artefacts were recovered from a single test pit, although other densities were generally <10/m².

A subsequent stage of work was undertaken for Oakdale West Estate. This consisted of a desktop review and field survey of the site and documented eight sites all consisting of artefact scatters and/or isolated Aboriginal objects. In general, descriptions suggest none of these sites exceeded 5 artefacts in a single locale, and most were in disturbed locations. However, the sites were primarily adjacent Ropes Creek, and the report ultimately identified a large area of archaeological sensitivity along this tributary (Plate 5.10).



Source: Artefact (2015)

Plate 5.8 Testing area 3 undertaken along a tributary of Ropes Creek



Source: Artefact (2015)

Plate 5.9 Archaeological results of testing area 3 undertaken along a tributary of Ropes Creek



Source: Artefact (2017)

Plate 5.10 Archaeological results of at Oakdale West Estate

5.3.7 Oakdale Central (GML 2013, 2015)

GML conducted test excavations along Ropes Creek within the Oakdale Central precinct situated north-east of the study area. Following earlier stages identifying archaeological targets, their work consisted of 109 test pits primarily adjacent the Ropes Creek.

Some 285 stone artefacts were recovered from 54 test pits. The artefacts were dominated by silcrete raw material (88%) and were indicative of late Holocene activity in the region. A subsequent salvage program was undertaken at two locales, Oakdale Central 2 and 3 (#45-5-4328, #45-5-4329), at which a further 589 lithics were recovered. These consisted of 370 stone artefacts and some 228 of non-diagnostic fragments. In addition to the stone artefacts, four burnt features were identified. One of these was considered to reflect a hearth or cooking feature, and which was dated to the last thousand or so years (1161 ± 21 and 909 ± 29 ^{14}C BP). Further radiocarbon samples from scattered charcoal within the soil profile further suggested occupation may have extended to at least 4,000 years ago.

5.4 AHIMS data

The Aboriginal Heritage Information Management System (AHIMS) database is managed by Heritage NSW and includes the location and description of Aboriginal objects and sites previously recorded through academic research and cultural resource management. EMM conducted a search of the AHIMS register on 23 February 2022. The search covered an area of approximately 5 km² centred on the study area.

The aim of the search was to identify if any Aboriginal sites or places are registered within the study area; and to aid the predictions for the study area from the frequency and distribution of Aboriginal site types in the broader landscape. The results of the AHIMS data is presented in Table 5.1, and provided in full in Appendix B. Sites are predominantly located along South Creek and are typically associated to previous studies. Of note are the extensive studies undertaken for the Oakdale developments south-east of the study area, and from the Orchard Hills, including the Mamre South precinct works by Biosis (2019a) and due diligence investigations along Mamre Road by Artefact (2019b). A cluster of sites situated just south of Bakers Lane relate to due diligence and/or assessment investigations by Urbis and Dominic Steele Consulting Archaeologist, but neither report was available at the time of this AHS.

Overwhelmingly, these sites are dominated by surface and/or sub-surface stone artefact sites. Descriptions of the size and density of these sites are limited but were provided generally appear to indicate isolated objects or very small numbers (<10). They are often found occurring on deflated and/or disturbed surfaces, which is in part the result of better visibility in these environments.

The AHIMS search identified sixty nine (69) registered Aboriginal sites in the search area (Table 5.1). Of these three are located within the study area (Appendix B):

- Luddenham Road 1 (45-5-3773) – a cluster of six silcrete artefacts in a 100 m² exposures near a small dam on the western edge of the study area; and considered of low significance by the assessment that identified them (GML Heritage 2009);
- Luddenham Road 2 (45-5-3774) – an isolated silcrete flake found on a dirt track east of a large dam in the southern portion of the study area; and considered of low significance by the assessment that identified them (GML Heritage 2009);
- Luddenham Road 3 (45-5-4390) – a silcrete flaked piece situated on disturbed ground in the southern portion of the study area and considered of low significance. This site was recorded as part of an earlier assessment of the site by RPS in 2014 for EG Property Group, which also identified the unnamed tributary in the northwest of the study area as having archaeological potential (Appendix B). (Note, this report is not listed in the AHIMS database, and is therefore unavailable for review).

Three sites are also located along the eastern boundary of the study area;

- Luddenham Road AFT 2 (45-5-5408) – Low density artefact scatter
- Luddenham Road AFT 3 (45-5-5409) – Low density artefact scatter
- Luddenham Road IF 1 (45-5-5410) – An isolated artefact

These sites were recorded alongside Luddenham Road in an archaeological assessment undertaken by Kelleher Knightingale Consulting (KNC) in 2020 (this report is not listed in the AHIMS database, and is therefore unavailable for review).

Table 5.1 **Aboriginal site types in the search area**

Site feature	Number	Percentage
Artefact		
Undefined artefact scatter	42	60.9
Open campsite	9	13
Isolated Object	14	20.3
Low density scatter	2	2.9
Potential Archaeological Deposit	2	2.9
Total	69	100

5.5 Site predictions

Based on the distribution of sites and finds by previous investigations and the AHIMS data, a number of predictions in relation to cultural material within the study area can be developed.

At a generic level, the criteria as outlined in Heritage NSW's *The Due Diligence Code of Practice* (DECCW 2010) can be utilised, which includes:

- within 200 m of waters;
- located within a sand dune system;
- located on a ridge top, ridgeline or headland,
- located within 200 m below or above a cliff face; or
- within 20 m of, or in, a cave rockshelter or cave mouth; and
- is on land that is not disturbed land.

The data presented in Sections 2 to 5 are not significantly different from these criteria. However, they can be further refined. Of note is that while cultural material is often found in the vicinity of water, it is more commonly located on third and fourth order creeks, and less so on smaller tributaries. As such, cultural material would be more likely found on the edges of the study area adjacent South Creek, rather than the drainage channels within the study

area. The unnamed tributary to the north is a larger creek and would also have potential for cultural materials to be present. It is worth highlighting that the drainage, flood channels, and dams may be the result of land clearance and may not reflect a pre-contact tributary. Further, significant cultural material along these tributaries appears to be found on elevated areas – terraces, levee banks, low hills – with much less evidence of people on flats or floodplains associated with the creek. In addition, AHIMS sites have been registered along the ridgeline in the south of the study area. This ridgeline continues north to south through Lot 242 DP 1088991 and evidence suggests it has high potential for further cultural material.

Cultural material is likely to be dominated by various densities of surface and/or sub-surface stone artefacts. These will generally be found in numbers of <10 and often as isolated objects. Overwhelmingly, these stone artefacts are dominated by silcrete raw materials (usually >80%) which are likely being sourced from known raw material outcrops in the Blacktown, Riverstone and Plumpton Ridge areas. In most cases, the artefact typologies, and occasional chronological dating, suggests these materials are primarily dating to the last few thousand years.

Land clearance and development have had a significant impact on the potential for archaeological deposits to occur within the study area. Aerial photographs dating to the mid twentieth century demonstrate the extent to which this land has been cleared for farming, pastoralism and other activities. The intensity of activity has increased in recent years with horse agistment, market gardens and establishment of some industry. Due to extensive vegetation clearance for pastoral use and the low frequency of culturally modified trees in the vicinity of the study area, it is unlikely for this site type to survive in the study area.

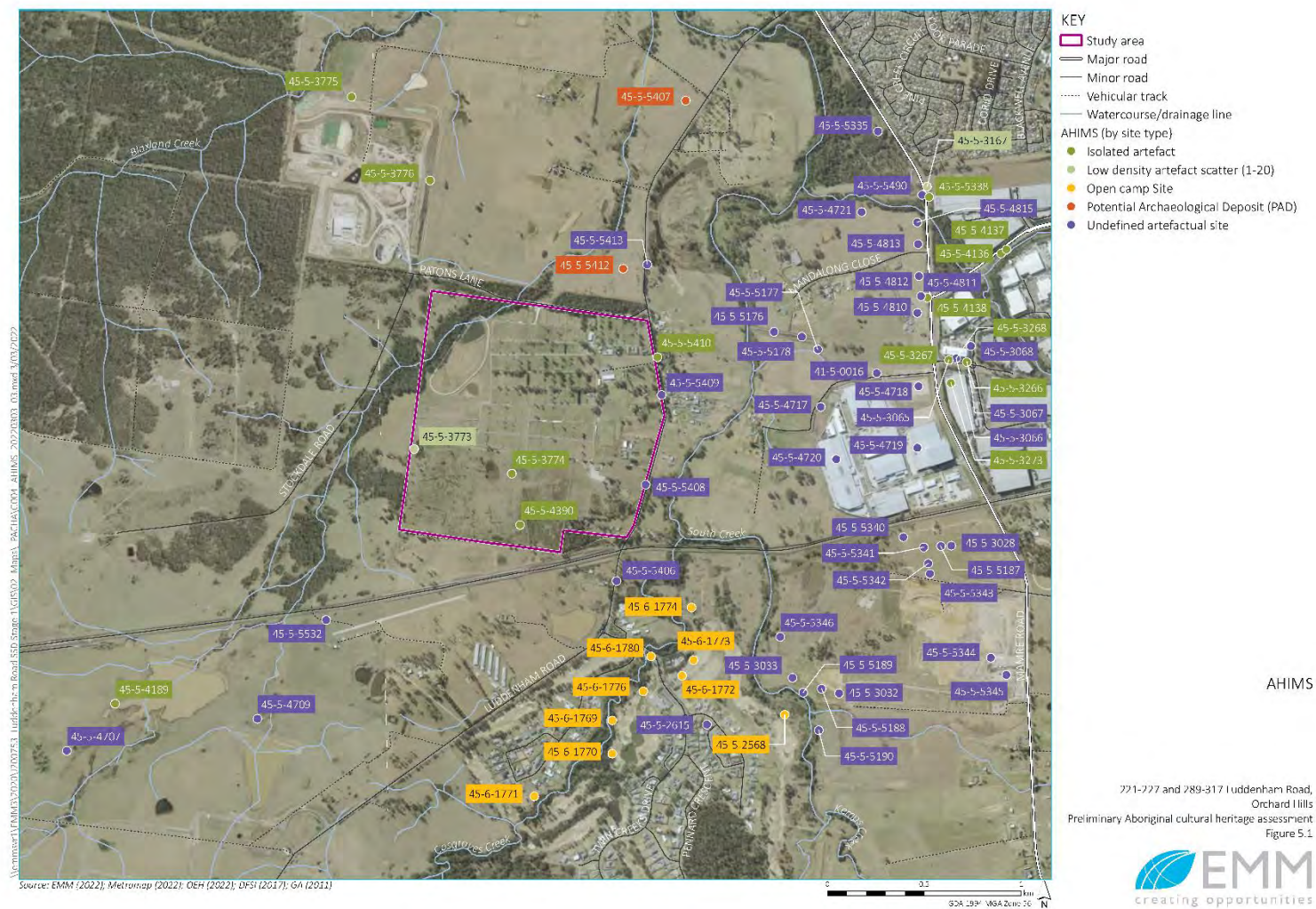


Figure 5.1 AHIMS sites

6 Site inspection

6.1 Key findings

- The study area was inspected to validate the desktop analysis results. Survey was dictated by landowner access permission and encompassed a wide range of landforms and environments across the study area. Eastern portions of the study area were only identified late in the re-zoning process, and were not accessible to site inspection during the development of this report.
- The locations of previously recorded Aboriginal sites were ground-truthed, including the relocation of Luddenham 2 and 3 (45-5-4773; 45-5-4390);
- Previously unrecorded isolated artefacts were located in the southern portion of the study area along exposures from machinery and vehicle tracks.
- Levels of disturbance varied significantly throughout the study area. There are few areas where historical activities have not had an impact. Stables and agistment paddocks have resulted in significant ground surface disturbance to any culturally bearing soil profile in the north, whereas pastoral activities to the south demonstrate lesser impacts. Significant modification of waterways was observed throughout the study area, and this will have likely affected many of the more significant deposits potentially present within the study area.

6.2 Results

The survey team comprised of EMM archaeologist Greg Ho Sing, and four RAP representatives - Tylah Blunden, John Reilly, Steve Randall, and Jedda Khan. Data from the field investigation was recorded with digital tablets using recording forms created by EMM on the Survey123 application for ArcGIS (Esri© software). The digital tablets had a location accuracy of up to ± 3 m which is similar to hand-held non-differential GPS units (~ 5 m). The Survey123 forms allowed for site location, details and representative photographs to be linked together, preventing post-fieldwork issues around data integrity.

The inspection had access to the majority of the site with the only inaccessible areas those currently stabling horses. The survey confirmed that the landscape of the study area was composed of low rolling hills, especially in the southern sector (Lot 242 DP 1088991); and which has been levelled in the northern sector (Lot 1 DP 1099147) for the construction of stables and agistment pastures (Plate 6.1 and Plate 6.2). It was considered that this northern area encompassed by horse agistment has low potential for cultural materials to remain (if ever present).

The team also investigated the horse track area adjacent to the unnamed tributary which contains the power transmission lines. This area was highly disturbed due to extensive earthworks and vehicle movements to create the horse track, power transmission infrastructure and the large dam (Plate 6.3 and Plate 6.4). The area of the horse track to the north-west of the study area retains very little intact soil profile and no vegetation.

While visibility was fairly poor across much of the study area, observations were consistent with the soil landscape mapping. Specifically, that significant parts of the study area had lost the upper topsoil (A1 horizon) (Plate 6.5) and the potential for deeply buried cultural material was less likely (Plate 6.5). Topsoil was however sporadically present, especially at the base of slopes and along the various depressions/water courses within the study area. Of note was the presence of extensive natural silcrete – a documented raw material source used by Aboriginal people in the past. Although, the size and quality of the silcrete observed would have been generally unsuitable for stone artefact production.

South Creek lies to the east of the site and a small unnamed tributary of South Creek runs to the west and through the north-west corner of the site. The area of the small tributary to South Creek in the north-west appears to reflect a highly active environment (Plate 6.6 and Plate 6.7). While the immediate corridor is prone to scouring and flooding that may affect the survivability of cultural materials, areas slightly further away (~100-200 m, especially to the west) appeared less disturbed and more conducive to retaining cultural materials. These areas are considered to have some potential for containing cultural materials. The area to the east of the creek line is partly within the horse track and power transmission footprint and has been subject to localised impact. The vegetation along this corridor was generally composed of relatively young swamp oak (*Casuarina Glauca*), some 15 cm in diameter. Some older growth trees were noted in the area and investigated for possible cultural modification, but none was observed. Although not all parts of the corridor were inspected. Some impacts from the establishment of Patons Lane to the creek was also observed.

Overall, the site inspection indicated that the study area has been subjects to a range of moderate to heavy ground disturbance. This is especially the case throughout the central and northern part of the study area utilised for horse agistment and ancillary infrastructure, which has evidence of earthworks and levelling of the landscape. The southern portion of the study area is less disturbed, but the ridge has been subject to soil erosion, likely the result of devegetation over the last few hundred years. Localised patches of intact soil profile were observed. It was commented by RAPs that the crest of Brown hill should be the subject of further investigation in the future. Similarly, parts of the north-west corner of the site, associated with the tributary, retained portions of intact soil profile and remnant vegetation that has some potential for cultural material to be present.

6.2.1 Sites identified

As part of the site inspection, the three previously recorded Aboriginal sites were revisited, as well as additional cultural materials observed (Figure 6.1).

Specifically, two small flakes were discovered in the location of the artefact scatters previously identified as #45-5-3774 and #45-5-4390. These were both found in association with the crest of Brown Hill and is considered an area that warrants further investigation. The artefacts where spread across an area of ~100 m and suggest a low-density artefact scatter across this landform. AHIMS site 45-5-3773 was re-inspected but could not be relocated due to extensive ground cover. In addition to previously recorded sites, a further large silcrete core was discovered on the lower slope near a large dam in the east of Lot 242 DP 1088991, and identified as 'Luddenham Road 4' (Plate 6.10). This was similarly located broadly in association with the crest of Brown Hill. All three artefacts were found in disturbed contexts, notably vehicle tracks. The stone flakes were found on a farm access track, while the core from a recently ploughed paddock. The location and context of these artefacts is consistent with the location of sites throughout the wider area where subsurface assemblages are shallow and often brought to the surface by vehicles and erosion.

Overall, the findings appear to indicate the crest and surrounds of Brown Hill to the south of the study area have the potential for further surface and subsurface cultural materials. Further, the lesser disturbance in these parts of the site increase the potential for buried cultural materials. In contrast, areas to the north of the study area, with the possible exception of the tributary in the north-west, have been more extensively impacted by historical activities.



Plate 6.1 Horse agistment stables and paddock areas (south-west facing)



Plate 6.2 Built areas in Lot 1 DP 1099147 (east facing)



Plate 6.3 South sector Lot 242 DP 1088991 showing machinery tracks (east facing)



Plate 6.4 Western boundary of the study area near horse track area (south facing)



Plate 6.5 **Exposures on crest of Brown Hill (west facing)**



Plate 6.6 **Young swamp oaks in the flood area of the unnamed tributary to south creek, rubbish dumping is extensive in this area. (south facing)**



Plate 6.7 Stand of larger, perhaps remnant, trees in the north west corner of the study area. (north facing)



Plate 6.8 A silcrete flake associated with a previously documented site (ventral surface)



Plate 6.9 A silcrete flake associated with a previously documented site (dorsal surface)



Plate 6.10 A large silcrete multi-platform core found near Brown Hill

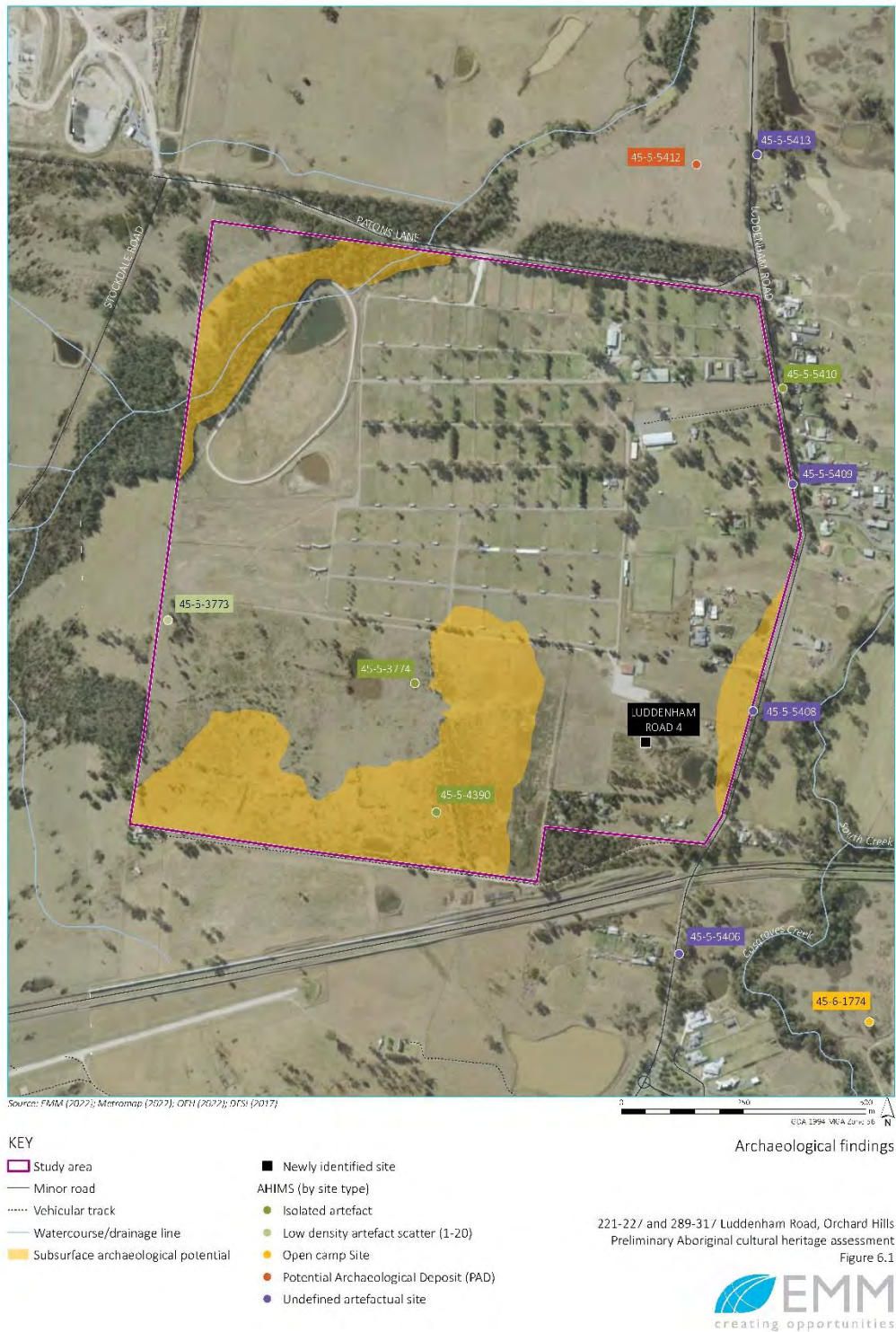


Figure 6.1 A summary of the archaeological sites and potential found within the study area.

7 Conclusions and recommendations

7.1 Key findings

- Desktop analysis of the region indicates that cultural materials would be dominated by various densities of stone artefacts either on the surface or shallowly buried in the upper soil profile. They are predominantly found in close proximity to major water courses, such as South Creek (immediately east of the study area) and the unnamed tributary (situated in the northwest corner of the study area). Historical disturbance plays a significant role in the preservation of cultural materials, and the study area has received localised impacts from agricultural and pastoral activities.
- A site inspection of a portion of the study area ground-truthed three previously documented Aboriginal sites. Cultural material was observed at two of these - Luddenham 2 (#45-5-3774) and Luddenham 3 (#45-5-4390). A third site (Luddenham Road 1 (#45-5-3773) could not be relocated, but no significant disturbance was observed, and it is assumed to still be present on the site. A further isolated Aboriginal object was identified in the vicinity of a ridgeline in the south of the study area (Luddenham Road 4). In addition, the ridgeline to the south of the study area, and localised areas within 200 m of the unnamed tributary to the northwest and South Creek to the east were considered to have potential for cultural materials to be present.
- No site specific areas of cultural value were identified by the Aboriginal participants. Although a number of areas were identified for further investigation of tangible values (ie archaeological investigations).
- Overall, the findings did not identify any significant tangible or intangible values that would affect the proposed rezoning. Where cultural materials were observed, they were indicative of ephemeral use of the locale, and frequently disturbed by historical activities. However, cultural materials are present, and a strategy and recommendations are presented to manage Aboriginal heritage through subsequent stages of the project.

7.2 Management strategy

As outlined in Sections 3 to 6, the cultural resource of the study area is reasonably well understood both from regional models and the works carried out as part of this pACHA. It demonstrates that cultural material is primarily composed of surface and/or buried stone artefacts in proximity to ridgelines and water courses. With the possible exception of the banks of South Creek, the cultural materials of the region generally show only ephemeral use of the region characterised by low densities of stone artefacts. Along the fringes of South Creek, and which likely intersect with activities on the eastern edge of the study area, increasingly dense and/or significant stone artefact materials may be expected. Our findings outlined here align with these broader models, revealing only a small number of isolated Aboriginal objects across the site, noting that access to the eastern edge was not available at the time of this report. Further, ground-truthing has shown that significant parts of the study area have been subject to extensive disturbance that will have significantly affected or removed cultural materials if present.

Overall, the findings here indicate that the ridgeline to the south (Brown Hill) of the study area, parts of the north-west corner of the site encompassing an unnamed tributary, and the eastern edge closest to Eastern Creek have the potential for further cultural materials to be present. For the most part, these are considered likely to be of generally low densities and dominated by silcrete raw materials. A raw material type commonly used only in the last few thousand years. Such sites are generally considered of low significance, reflecting a background scatter of thousands of years of transient use by Aboriginal people. There is some potential that more extensive and/or significant surface and/or buried stone artefact materials would be encountered in the vicinity of South Creek. These would similarly be dominated by past activities extending over the last few thousand years.

For the purposes of rezoning, the pACHA identified no highly significant or sensitive cultural materials or values within the study area. The study area is heavily disturbed, and where present cultural materials are common to the region and indicative of low intensity or ephemeral use. Based on regional models, areas along the eastern edge adjacent South Creek may contain increasingly significant cultural materials, but currently there is no evidence of their presence. Since, the pACHA did identify cultural materials, as well as areas of archaeological interest – several suggested by the Aboriginal participants – further investigation and management following the re-zoning will be required. Specifically, it is recommended that an assessment is undertaken as part of any environmental assessment and approval process following the re-zoning. The assessment will be dictated by the approval framework, but commonly includes the need for an Aboriginal cultural heritage assessment in accordance with Heritage NSW guidelines, including the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW*, *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW*, *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, and *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*. These guidelines provide a framework for the detailed investigation of cultural materials and liaison with the Aboriginal community, as well as providing the necessary documentation to apply for Aboriginal Heritage Impact Permits (AHIPs) from Heritage NSW. Under the *National Parks and Wildlife Act 1974*, an AHIP must be obtained to allow harm or destruction of cultural material. In the case of projects being assessed under Division 4.7 and 5.2 of the *Environmental Planning and Assessment Act 1979*, while AHIPs are not required, investigation and assessment of cultural material still usually adopts significant elements of the guidelines above. Post-approval management in these types of projects will also typically adopt the intent of an AHIP in the form of a management plan that outlines how cultural heritage is to be managed during an activity.

7.3 Recommendations

Based on the findings of this pACHA, the following recommendations should be adopted:

- There are no areas of cultural materials or intangible values identified that would require the proposed amendment to the Penrith Local Environment Plan 2010 to be reconsidered. The proposed amendment may proceed on cultural heritage grounds.
- The investigations did identify areas where cultural materials were either observed and/or are expected to be present. These areas are predominantly within proposed riparian corridors and areas for environmental conservation, but several development activities are proposed within 200 m of South Creek and as such in areas of archaeological potential. As such, if any ground disturbance is proposed in these areas, an Aboriginal cultural heritage assessment or equivalent in accordance with Heritage NSW and/or best practice guidelines (eg *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW*) should be implemented. The findings of the assessment should guide future assessment and approval requirements for the activity (if any).
- If re-location of any element of the re-zoning and/or development are proposed outside the area assessed in this pACHA, further assessment of the additional area(s) should be undertaken to identify and appropriately manage Aboriginal objects/sites/places that may be in this additional area(s).

A copy of the report should be lodged with Heritage NSW's AHIMS database, and each of the Aboriginal participants.

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Abbreviations

ACHA	Aboriginal cultural heritage assessment
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal heritage impact permit
AHS	Aboriginal Heritage Study
BP	Before present (1950 CE)
CRM	Cultural resource management
DECCW (now DPC)	Department of Environment, Climate Change and Water
DPC	Department of Premier and Cabinet, which contains Heritage NSW
DPIE	Department of Planning, Industry and Environment
Ka	Abbreviation for thousands of years ago (eg 1 ka equals 1,000 years ago)
LALC	Local Aboriginal Land Council
LEP	Local Environmental Plan
pACHA	Preliminary Aboriginal cultural heritage assessment
NPW Act	National Parks and Wildlife Act 1974
OEH (now DPC)	Office of Environment and Heritage
LGA	Local government area
PAD	Potential Archaeological Deposit
RAP	Registered Aboriginal party

Glossary

Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010	Guidelines developed by DPIE to provide a framework formal Aboriginal community consultation undertaken as part of an assessment.
Aboriginal Heritage Impact Permit (AHIP)	The statutory instrument that the Secretary of DPIE issues under Section 90 of the <i>National Parks and Wildlife Act 1974</i> to allow the investigation, impact and/or destruction of Aboriginal objects. AHIPs are not required where project approval under the state-significant provisions of Division 4.7 and 5.2 of the <i>Environmental Planning and Assessment Act 1979</i> .
Aboriginal object	A statutory term defined under the <i>National Parks and Wildlife Act 1974</i> as ‘any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains’.
Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales	Guidelines developed by DPIE to provide a framework for the assessment, investigation, and management of Aboriginal heritage. Typically, the outputs of these guidelines are a formal assessment defined as an Aboriginal cultural heritage assessment (ACHA).
Department of Planning & Environment (DPE)	The regulatory body that oversees management of various Acts that provide the framework for the assessment, investigation, and management of Aboriginal objects, including AHIPs under the <i>National Parks and Wildlife Act 1979</i> .
Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales	Guidelines developed by DPIE providing an initial consideration of Aboriginal heritage requirements for a project quickly and efficiently prior to the implementation of more extensive assessment.
Environmental Planning and Assessment Act 1979	Statutory instrument that provides planning controls and requirements for environmental assessment in the development approval process. The Act is administered by the DPIE.
Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW	Guidelines developed by DPIE to provide the overall framework for assessing and managing Aboriginal heritage, and information on applying for AHIPs.
National Parks and Wildlife Act 1974	The primary piece of legislation for the protection of Aboriginal cultural heritage in NSW. Part 6 of this Act outlines the protection afforded to and offences relating to disturbance of Aboriginal objects. The Act is administered by DPIE.
Potential Archaeological Deposit (PAD)	An area assessed as having the potential to contain Aboriginal objects. PADs are commonly identified on the basis of landform types, surface expressions of Aboriginal objects, surrounding archaeological material, disturbance, and a range of other factors. While not defined in the <i>National Parks and Wildlife Act 1974</i> , PADs are generally considered to retain Aboriginal objects and are therefore protected and managed in accordance with that Act.

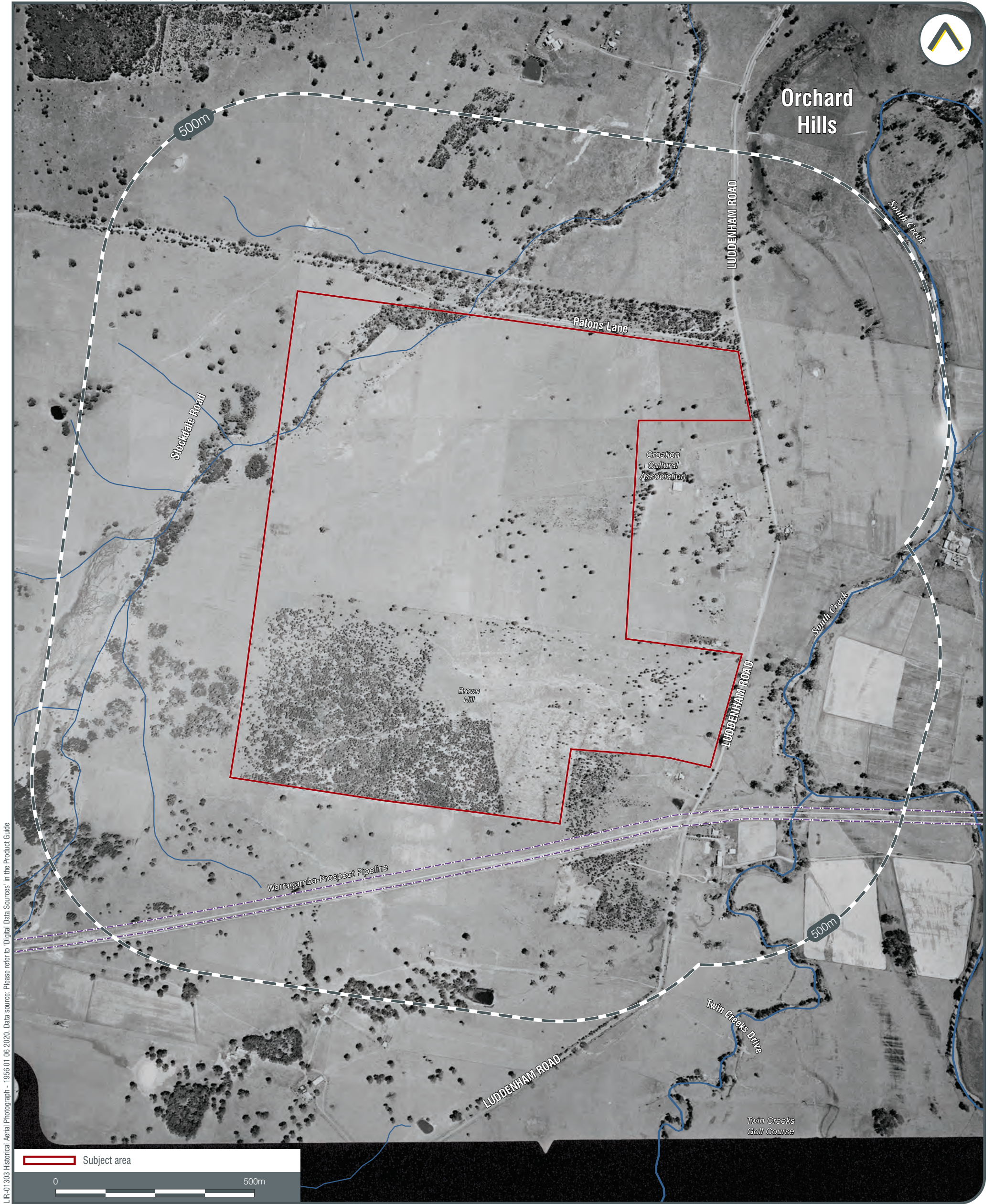
Appendix A

Historical aerial imagery



HISTORICAL AERIAL PHOTOGRAPH - 1947





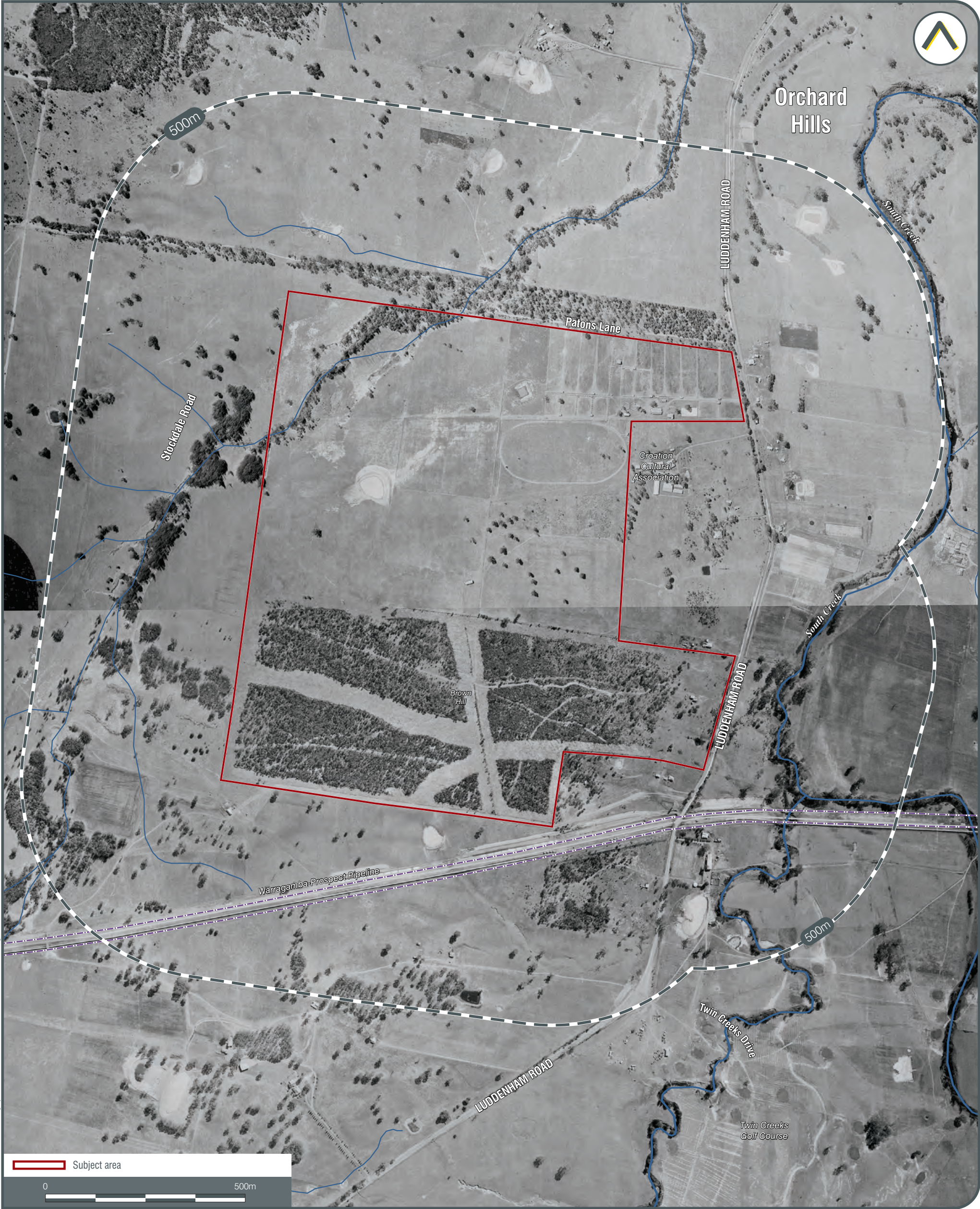
LIR-01303 Historical Aerial Photograph - 1956 01 06 2020. Data source: Please refer to 'Digital Data Sources' in the Product Guide

HISTORICAL AERIAL PHOTOGRAPH - 1956



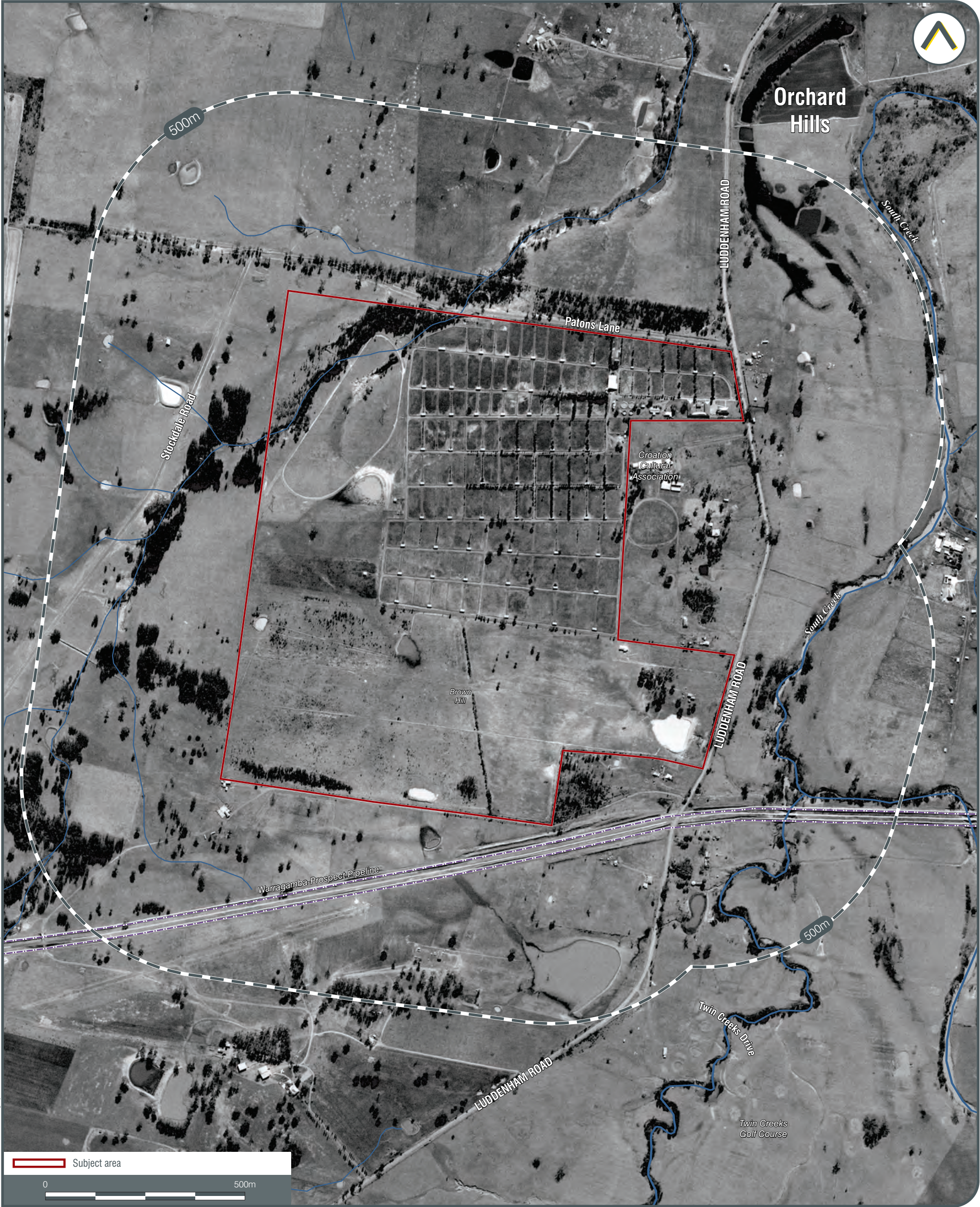
MAP 2





HISTORICAL AERIAL PHOTOGRAPH - 1965





HISTORICAL AERIAL PHOTOGRAPH - 1975



MAP 4





HISTORICAL AERIAL PHOTOGRAPH - 1984



MAP 5





HISTORICAL AERIAL PHOTOGRAPH - 1986



MAP 6





HISTORICAL AERIAL PHOTOGRAPH - 1994





HISTORICAL AERIAL PHOTOGRAPH - 2 0 0 9





HISTORICAL AERIAL PHOTOGRAPH - 2014





LIR-01303 Historical Aerial Photograph - 2017 01 06 2020. Data source: Please refer to 'Digital Data Sources' in the Product Guide

HISTORICAL AERIAL PHOTOGRAPH - 2017



MAP 12





HISTORICAL AERIAL PHOTOGRAPH - 2020





Appendix B

AHIMS database



Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville NSW 2220

Department of
Environment &
Climate Change NSW



Office Use Only

Site Number **45-5-3773**

Date received

Date entered into system **5/11/09** Date catalogued

Entered by (I.D.)

Information Access

☐ Gender/male ☐ Gender/female ☐ Location restriction ☐ General restriction ☐ No access

Office Use
Only

For Further Information Contact:

☐ Nominated Trustee

Title

Surname

First Name

Initials

Organisation

Address

Phone number

Fax

Client on
system

☐

☒ Knowledge Holder

Title

Surname

First Name

Initials

MR

RANDALL

STEVE

Organisation

DEERUBBIN LALC

Address

PO BOX 3184 MT DRUITT NSW 2770

Phone number

02 9832 2457

Fax

02 9832 2496

Client on
system

☐

Aboriginal Heritage Unit or Cultural Heritage Division Contacts

Geographic Location

Site Name **LUDDENHAM ROAD 1**

Easting

291493

Northing

6255058

AGD/GDA **GDA**

Mapsheet

PENRITH 1:100000

Zone **56**

Location Method **Non-Differential GPS**

Other Registration

Primary Recorder

Title

Surname

First Name

Initials

MR

PATTERSON

LYNDON

Organisation

GODDEN MACKAY LOGAN

Address

78 GEORGE ST REDFERN NSW 2016

Phone number

02 9319 4811

Fax

02 9319 4383

Client on
system

☐

Date recorded **14/09/2009**

Open Site

Landform

Slope
1 degrees

Landform Unit

- ☐ Beach
- ☐ Coastal rock platform
- ☐ Dune
- ☐ Intertidal flat
- ☐ Lagoon
- ☐ Tidal Creek

☐ Tidal Flat
☐ Cliff
☐ Crest
☐ Flat
☐ Lower slope
☐ Mid slope

☐ Upper slope
☒ Plain
☐ Ridge
☐ Tor
☐ Valley flat
☐ Levy

- ☐ Stream bank
- ☐ Stream channel
- ☐ Swamp
- ☐ Terrace
- ☐ Terrace flat

☐ Closed forest
☐ Grasslands
☐ Isolated clumps of trees
☐ Open forest
☐ Open woodland
☐ Scrub
☐ Woodland
☒ Cleared
☐ Revegetated
☐ N/A

Land use

- ☐ Conservation
- ☐ Established urban
- ☐ Farming-intensive
- ☐ Farming-low intensity
- ☐ Forestry
- ☐ Industrial
- ☐ Mining
- ☒ Pastoral/grazing
- ☐ Recreation
- ☐ Semi-rural
- ☐ Service corridor
- ☐ Transport corridor
- ☐ Urban expansion
- ☐ Residential

Water

Distance to permanent water source metres

Distance to temporary water source 50 metres

Name of nearest permanent water source SOUTH CREEK

Name of nearest temporary water UNAMED CREEK

Directions for Relocation

THE SMALL SCATTER IS LOCATED IN THE EXTREME NORTH WEST CORNER OF THE PROPERTY, NEXT TO A DAM, AT 289 LUDDENHAM ROAD, ORCHARD HILLS

Current Land Tenure

☒ Public National Park / other Government
Dept.

☐ Private

Primary report

I.D.	(I.D. Office Use only)
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[illegible]

Site Location Map

[illegible]

NPWS Aboriginal Site Recording Form - Site Information

page 3

General Site Information

Closed Site

Shelter/Cave Formation

- ☐ Boulder
☐ Wind erosion
☐ Water erosion
☐ Rock collapse

Rock Surface Condition

- ☐ Boulder
☐ Sandstone platform
☐ Silica gloss
☐ Tessellated
☐ Weathered
☐ Other platform

Condition of Ceiling

- ☐ Boulder
☐ Sandstone platform
☐ Silica gloss
☐ Tessellated
☐ Weathered
☐ Other platform

Shelter Aspect

- ☐ North
☐ North East
☐ East
☐ South East
☐ South
☐ South West
☐ West
☐ North West

Open Site

Site Orientation

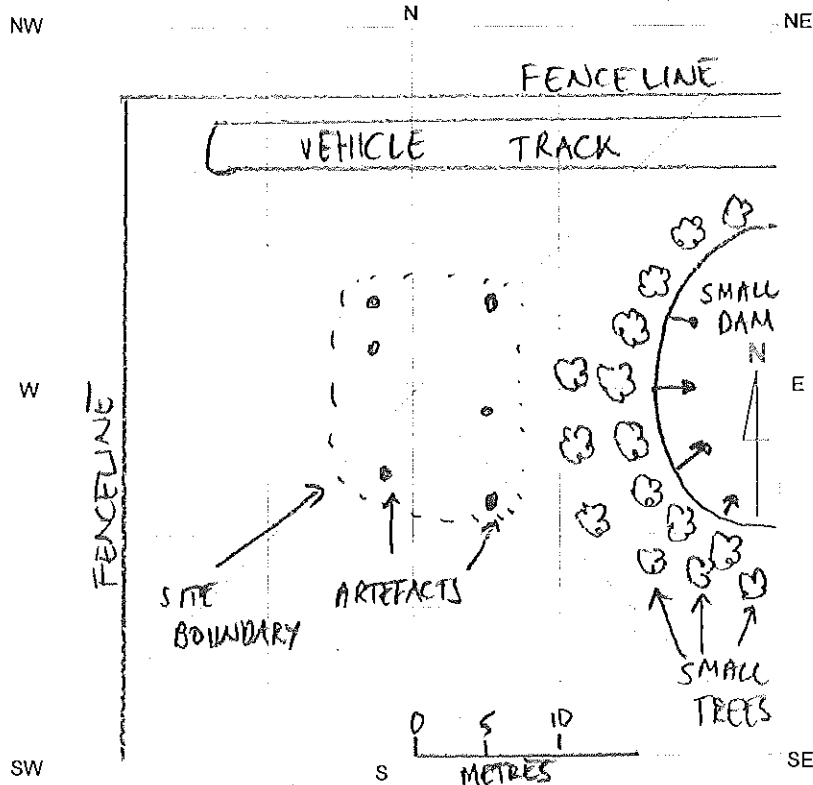
- ☒ N-S
☐ NE-SW
☐ E-W
☐ SE-NW
☐ N/A

Features

- ☐ 1. Aboriginal Ceremony & Dreaming
☐ 2. Aboriginal Resource & Gathering
☐ 3. Art
☒ 4. Artefact
☐ 5. Burial
☐ 6. Ceremonial Ring
☐ 7. Conflict
☐ 8. Earth Mound
☐ 9. Fish Trap
☐ 10. Grinding Groove
☐ 11. Habitation Structure
☐ 12. Hearth
☐ 13. Non Human Bone & Organic Material
☐ 14. Ochre quarry
☐ 15. Potential Archaeological Deposit
☐ 16. Stone Quarry
☐ 17. Shell
☐ 18. Stone Arrangement
☐ 19. Modified Tree
☐ 20. Water Hole

Site Plan

Indicate scale, boundaries of site, features



Site Dimensions

Closed Site Dimensions (m)

- Internal length
 Internal width
 Shelter height
 Shelter floor area

Open Site Dimensions (m)

- 10 Total length of visible site
 8 Average width of visible site
 80 Estimated area of visible site
 10 Length of assessed site area

Aboriginal Community Interpretation and Management Recommendations

Steve Randall, representative from the Deerubbin Local Aboriginal Land Council (DLALC) inspected the property on 14/09/2009. DLALC recommends the surface collection of cultural material before any development occurs on or near the sites. The letter from DLALC is attached to this site card.

Preliminary Site Assessment**Site Cultural & Scientific Analysis and Preliminary Management Recommendations**

The research potential of the site is considered to be low given the low artefact density, highly disturbed nature and the low integrity of the surrounding context. In terms of representativeness, the site is considered similar to other sites on the Cumberland Plain, as artefact scatters are frequent on both the plains and along creeks in the wider area. A search of the AHIMS data for previously registered sites within a 10 x 10km² search area revealed that there were 100 open camp sites, artefact scatters and isolated artefacts surrounding the subject site. This is also true of the wider Cumberland Plain as McDonald found artefact scatters and isolated artefacts comprised 92% of all known sites on the Cumberland Plain. Luddenham Road 1 is therefore considered common. The educational potential of the site is considered low given it consists of a total of six flakes and contains no finished tool types.

This section should only be filled in by the Endorsees

Endorsed by: ☐ Knowledge Holder ☐ Nominated Trustee ☐ Native Title Holder ☐ Community Consensus

Title	Surname	First Name	Initials
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Organisation	<input type="text"/>		
Address	<input type="text"/>		
Phone number	<input type="text"/>	Fax	<input type="text"/>

Attachments (No.)

- ☐ A4 location map
- ☐ B/W photographs
- ☒ Colour photographs
- ☐ Slides
- ☐ Aerial photographs
- ☐ Site plans, drawings
- ☐ Recording tables
- ☒ Other
- ☐ Feature inserts-No.

Comments

See report:
Godden Mackay Logan. 289 Luddenham Road, Orchard Hills Heritage Assessment. Report
Prepared for EG Property Group, October 2009.

Other: Cultural Heritage Report from Deerubbin LALC is attached to this site card.

NPWS FEATURE RECORDING FORM - ARTEFACT

page 1

Site I.D.		Site Name	LUDDENHAM ROAD 1
First recorded date	14/09/2009	Importance	Contributes to primary site importance
No. of instances	1		
Recorded by	LP		
	Yes No		
Stone artefacts only	Yes		
Artefacts collected	No	Percentage of Non-stone Artefacts to Percentage of Stone Artefacts	
Permit issued	No	0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 90-100%	
		0-9%	

Feature Context & Condition

Scatter No. 1 Easting 2 9 1 4 9 3 Northing 6 2 5 5 0 5 8

Density	Dimensions	Yes No
(Artefact count per square metre) 0.009	10 Length (m) 8 Width (m) 0 Depth (m)	In situ No
		Stratified No

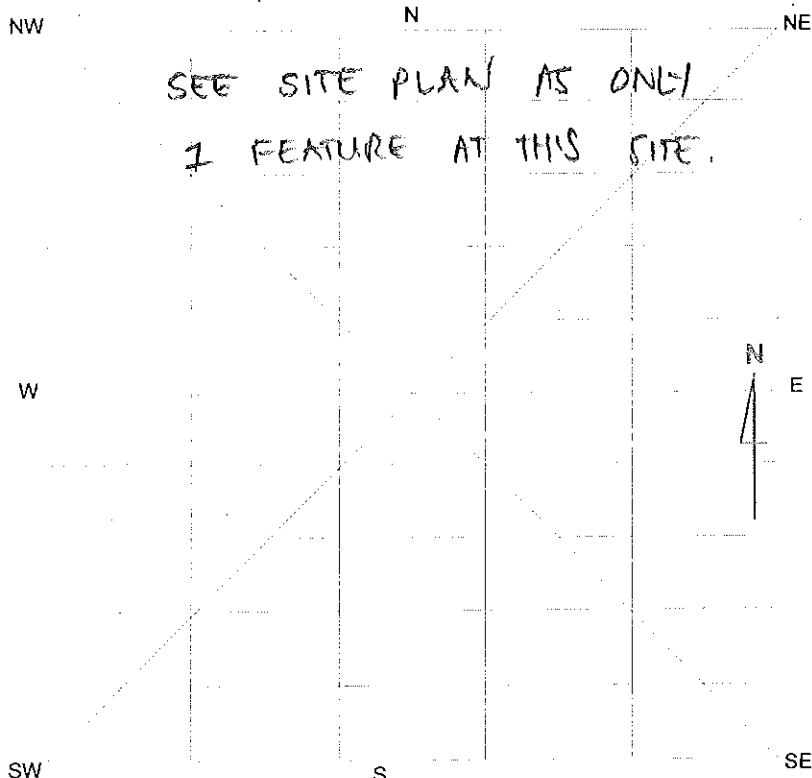
Feature Condition General Condition

- | | |
|--|--|
| <input type="checkbox"/> Very good | <input checked="" type="checkbox"/> Weathered |
| <input type="checkbox"/> Good | <input type="checkbox"/> Vehicle damage |
| <input checked="" type="checkbox"/> Poor | <input type="checkbox"/> Surface water wash |
| | <input type="checkbox"/> Fire damage |
| | <input checked="" type="checkbox"/> Erosion |
| | <input checked="" type="checkbox"/> Stock damage |
| | <input type="checkbox"/> Exposed archaeological material |

Recommended Action

- | | |
|--|---|
| <input type="checkbox"/> Boardwalk | <input type="checkbox"/> Revegetation |
| <input type="checkbox"/> Fencing | <input type="checkbox"/> Signage |
| <input type="checkbox"/> Closure to public | <input type="checkbox"/> Soil erosion control |
| <input type="checkbox"/> Continued inspection | <input type="checkbox"/> Track closure/re-routing |
| <input type="checkbox"/> Fire hazard reduction | <input type="checkbox"/> Additional recording |
| <input type="checkbox"/> Expert assessment | |
| <input type="checkbox"/> Meeting with land manager | |

Feature Plan (Indicate scale, location of instances)



Feature Environment

(Complete when feature environment differs to site environment, use attributes from cover card, p. 2)

	Land form
	Land form unit
	Slope
	Vegetation
	Land use

Water

Distance to permanent water source		metres
Distance to temporary water source		metres

Name of nearest permanent water source

Name of nearest temporary water

NPWS FEATURE RECORDING TABLE - ARTEFACT

page 2

Stone Artefact

Instance No.	Recording Date	Artefact Material	Artefact Type	Platform Surface	Platform Type	Termination	Cross Section	Length (mm)	Width (mm)	Thickness (mm)
1	14/09/2009	Silcrete	Flake	Flake scar	Wide	Feather	Irregular	15	10	6
2	14/09/2009	Silcrete	Flaked Piece	Faceted	Wide	Hinge	Low/Weak	16	9	4
3	14/09/2009	Silcrete	Flake	Flake scar	Wide	Feather	Irregular	20	13	6
4	14/09/2009	Silcrete	Flake	Flake scar	Focal	Hinge	Irregular	15	15	3
5	14/09/2009	Silcrete	Flaked Piece	Faceted	Wide	Feather	Irregular	9	8	2
6	14/09/2009	Silcrete	Flake	Flake scar	Wide	Feather	Irregular	11	8	4

Other Artefact Type

Instance No.	Recording Date	Artefact Material	Artefact Type	Description	Length (mm)	Width (mm)	Thickness (mm)
--------------	----------------	-------------------	---------------	-------------	-------------	------------	----------------

Material

Basalt	Clear glass
Chert	Ceramic
Fine grained siliceous	Porcelain
Granite	Tin can
Quartz	Wire
Quartzite	Nail
Sandstone	Button
Silcrete	Shell
Green glass	Bone
Amber glass	Wood
Amethyst glass	Resin

Artefact Description

Adze	Flake tool
Anvil	Flaked piece
Axe	Hammerstone
Backed blade	Manuport
Blade	Milling slab
Core	Mortar
Core tool	Muller
Cyclon	Nuclear tool
Distal fragment	Pirri
Eloura	Proximal fragment
Flake	Tula
	Other diagnostic type
	Modified
	Unworked

Platform Surface

Cortex
Flake scar
More than one flake scar
Faceted
Ground
Indeterminate
Bipolar

Termination

Feather
Hinge
Step
Outrepassé
Bipolar

Platform Type

Wide
Focal
Shattered
Indeterminate
Bipolar

Cross Section

High/strong
High/weak
Low/weak
Irregular

Comments:

All six artefact from the site were un-retouched waste flakes or flake fragments and not formal tool types.

20 OCT 2009



**Deerubbin
Local Aboriginal
Land Council**

5/271 Beames Avenue
PO Box 3184
Mt Druitt Village
NSW 2770 Australia

Ph: (02) 9832 2457
Fax: (02) 9832 2496
Email: Staff@Deerubbin.org.au
Web: <http://www.deerubbin.org.au>

Jeremy Spinak
EG Property Group Pty Ltd
Level 14, 345 George Street
SYDNEY NSW 2000

Our Reference: 2077

19 October 2009

**SUBJECT: PROTECTION OF ABORIGINAL CULTURAL HERITAGE
289 Luddenham Road, Orchard Hills (09- 0268)**

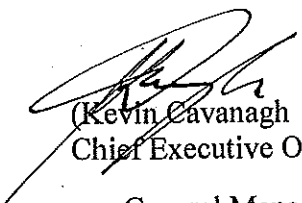
Dear Mr Spinak,

A representative of the Deerubbin Local Aboriginal Land Council (Steve Randall) inspected 289 Luddenham Road, Orchard Hills on 14 September 2009. An Aboriginal cultural heritage assessment was undertaken to evaluate the likely impact future development has on the cultural heritage of the land. Consulting archaeologist Lyndon Paterson of Godden Mackay Logan Heritage Consultants conducted a scientific survey at the same time.

Our representative reports that, Aboriginal cultural materials (in the form of stone artefacts, for example) were found in two areas that have been subject to intensive ground disturbance. These sites have been recorded (L1 & L2) and forwarded on to the Dept. of Environment, Climate Change & Water to be registered

Deerubbin LALC, recommends the surface collection of cultural material before any development occurs on or near the sites.

Yours Faithfully,


(Kevin Cavanagh
Chief Executive Officer)

c.c. General Manager – Penrith City Council
c.c. Miranda Firman – Aboriginal Heritage & Planning Officer, Dept. of Environment, Climate Change & Water
c.c. Lyndon Paterson - Godden, MacKay Logan Heritage Consultants

COPY



Figure 4.5 Silcrete artefacts from Luddenham Road 1.



Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville NSW 2220

Department of
Environment &
Climate Change NSW



Office Use Only

Site Number **45-5-3774**

Date received

Date entered into system **5/11/09** Date catalogued

Entered by (I.D.)

Information Access

☐ Gender/male ☐ Gender/female ☐ Location restriction ☐ General restriction ☐ No access

Office Use
Only

For Further Information Contact:

☐ Nominated Trustee

Title

Surname

First Name

Initials

Organisation

Address

Phone number

Fax

Client on
system

☐

☒ Knowledge Holder

Title

Surname

First Name

Initials

MR

RANDALL

STEVE

Organisation

DEERUBBIN LALC

Address

PO BOX 3184 MT DRUITT NSW 2770

Phone number

02 9832 2457

Fax

02 9832 2496

Client on
system

☐

Aboriginal Heritage Unit or Cultural Heritage Division Contacts

Geographic Location

Site Name **LUDDENHAM ROAD 2**

Easting **291997**

Northing **6254930**

AGD/GDA **GDA**

Mapsheet **PENRITH**

1:100000

Zone **56**

Location Method **Non-Differential GPS**

Other Registration

Primary Recorder

Title

Surname

First Name

Initials

MR

PATTERSON

LYNDON

Organisation

GODDEN MACKAY LOGAN

Address

78 GEORGE ST REDFERN NSW 2016

Phone number

02 9319 4811

Fax

02 9319 4383

Client on
system

☐

Date recorded **14/09/2009**

Open Site

Landform

☐ Mountainous
☐ Plain
☐ Rolling hills
☐ Steep hills
☒ Undulating plain

Slope
1 degrees

Landform Unit

☐ Beach

☐ Coastal rock platform

☐ Dune

☐ Intertidal flat

☐ Lagoon

☐ Tidal Creek

<input type="checkbox"/> Tidal Flat	<input checked="" type="checkbox"/> Upper slope
<input type="checkbox"/> Cliff	<input type="checkbox"/> Plain
<input type="checkbox"/> Crest	<input type="checkbox"/> Ridge
<input type="checkbox"/> Flat	<input type="checkbox"/> Tor
<input type="checkbox"/> Lower slope	<input type="checkbox"/> Valley flat
<input type="checkbox"/> Mid slope	<input type="checkbox"/> Levy

- ☐ Stream bank
- ☐ Stream channel
- ☐ Swamp
- ☐ Terrace
- ☐ Terrace flat

Vegetation

☐ Closed forest

☐ Grasslands

☐ Isolated clumps of trees

☐ Open forest

☐ Open woodland

☐ Scrub

☐ Woodland

☒ Cleared

☐ Revegetated

☐ N/A

Land use

☐ Conservation
☐ Established urban
☐ Farming-intensive
☐ Farming-low intensity
☐ Forestry
☐ Industrial
☐ Mining
☒ Pastoral/grazing
☐ Recreation
☐ Semi-rural
☐ Service corridor
☐ Transport corridor
☐ Urban expansion
☐ Residential

Water

Distance to permanent water source metresDistance to temporary water source 200 metres

Name of nearest permanent water source SOUTH CREEK

Name of nearest temporary water

Directions for Relocation

Enter the property 289 Luddenham Road from the road entrance, go past the modern house and through the gate behind the house, and go along the northern boundary fence of the property. Follow this track west until half way to the end and then turn left (south) along a small dirt track. The isolated artefact is located right next to the track about 200m south.

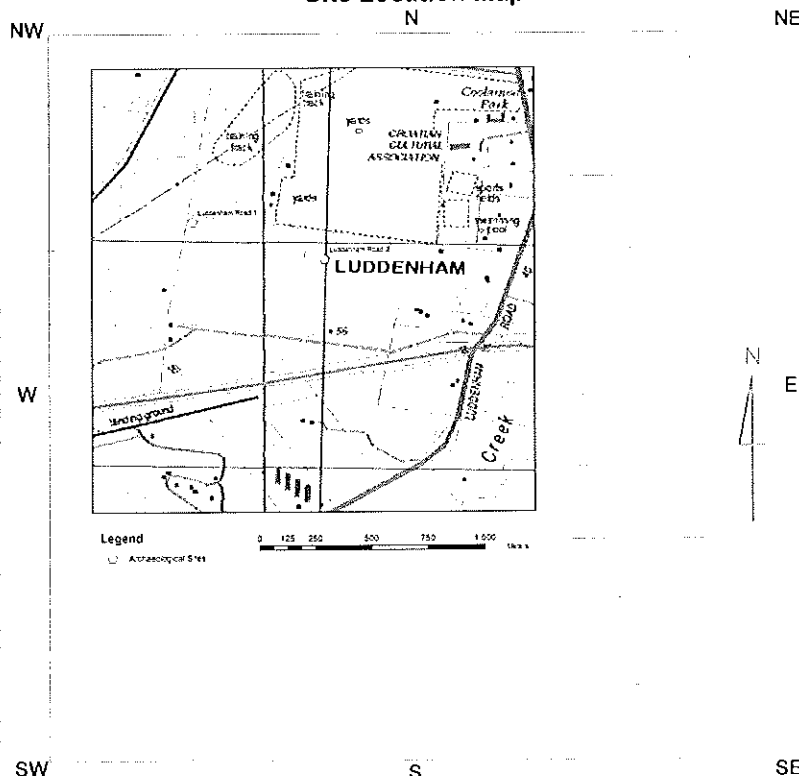
Current Land Tenure

☒ Public National Park / other Government
☐ Private Dept.

Primary report	I.D.	(I.D. Office Use only)
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[illegible]

Site Location Map



NPWS Aboriginal Site Recording Form - Site Information

page 3

General Site Information

Closed Site

Shelter/Cave Formation

- ☐ Boulder
☐ Wind erosion
☐ Water erosion
☐ Rock collapse

Rock Surface Condition

- ☐ Boulder
☐ Sandstone platform
☐ Silica gloss
☐ Tessellated
☐ Weathered
☐ Other platform

Open Site

Site Orientation

- ☒ N-S
☐ NE-SW
☐ E-W
☐ SE-NW
☐ N/A

Condition of Ceiling

- ☐ Boulder
☐ Sandstone platform
☐ Silica gloss
☐ Tessellated
☐ Weathered
☐ Other platform

Shelter Aspect

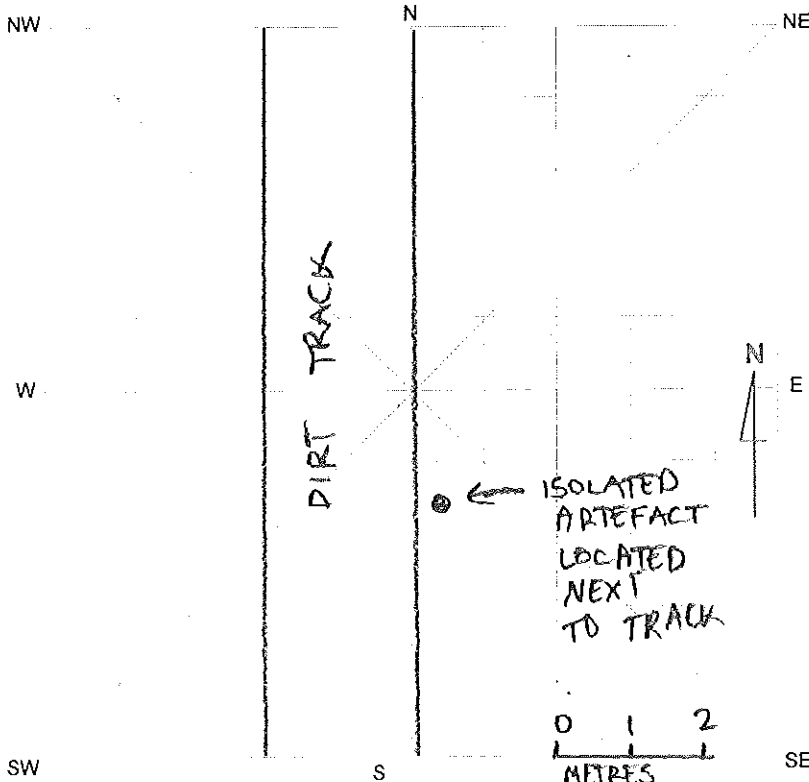
- ☐ North
☐ North East
☐ East
☐ South East
☐ South
☐ South West
☐ West
☐ North West

Features

- ☐ 1. Aboriginal Ceremony & Dreaming
☐ 2. Aboriginal Resource & Gathering
☐ 3. Art
☒ 4. Artefact
☐ 5. Burial
☐ 6. Ceremonial Ring
☐ 7. Conflict
☐ 8. Earth Mound
☐ 9. Fish Trap
☐ 10. Grinding Groove
☐ 11. Habitation Structure
☐ 12. Hearth
☐ 13. Non Human Bone & Organic Material
☐ 14. Ochre quarry
☐ 15. Potential Archaeological Deposit
☐ 16. Stone Quarry
☐ 17. Shell
☐ 18. Stone Arrangement
☐ 19. Modified Tree
☐ 20. Water Hole

Site Plan

Indicate scale, boundaries of site, features



Site Dimensions

Closed Site Dimensions (m)

- Internal length
 Internal width
 Shelter height
 Shelter floor area

Open Site Dimensions (m)

- 1 Total length of visible site
 1 Average width of visible site
 1 Estimated area of visible site
 1 Length of assessed site area

Aboriginal Community Interpretation and Management Recommendations

Steve Randall, representative from the Deerubbin Local Aboriginal Land Council (DLALC) inspected the property on 14/09/2009. DLALC recommends the surface collection of cultural material before any development occurs on or near the sites. The letter from DLALC is attached to this site card.

Preliminary Site Assessment**Site Cultural & Scientific Analysis and Preliminary Management Recommendations**

The research potential of the site is considered to be low given that it is a single artefact, the low artefact density, highly disturbed nature and the low integrity of the surrounding context. In terms of representativeness, the site is considered similar to other sites on the Cumberland Plain, as isolated artefacts are frequent on both the plains and along creeks in the wider area. A search of the AHIMS data for previously registered sites within a 10 x 10km² search area revealed that there were 100 open camp sites, artefact scatters and isolated artefacts surrounding the subject site. This is also true of the wider Cumberland Plain as McDonald found artefact scatters and isolated artefacts comprised 92% of all known sites on the Cumberland Plain. Luddenham Road 2 is therefore considered common. The educational potential of the site is considered low given it consists of a single flake and it is not a formal tool type.

This section should only be filled in by the Endorsees

Endorsed by: ☐ Knowledge Holder ☐ Nominated Trustee ☐ Native Title Holder ☐ Community Consensus

	Title	Surname	First Name	Initials
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Organisation	<input type="text"/>			
Address	<input type="text"/>			
Phone number	<input type="text"/>		Fax	<input type="text"/>

Attachments (No.)

- ☐ A4 location map
- ☐ B/W photographs
- ☒ Colour photographs
- ☐ Slides
- ☐ Aerial photographs
- ☐ Site plans, drawings
- ☐ Recording tables
- ☒ Other
- ☐ Feature inserts-No.

Comments

See report:
Godden Mackay Logan. 289 Luddenham Road, Orchard Hills Heritage Assessment. Report
Prepared for EG Property Group, October 2009.

Other: Cultural Heritage Report from Deerubbin LALC is attached to this site card.

NPWS FEATURE RECORDING FORM - ARTEFACT

page 1

Site I.D. Site Name

First recorded date Importance

No. of instances

Recorded by

Yes No

Stone artefacts only

Artefacts collected

Permit issued

Percentage of Non-stone Artefacts to Percentage of Stone Artefacts

0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 90-100%

Feature Context & Condition

Scatter No. Easting Northing

Density (Artefact count per square metre) Dimensions Length (m) Width (m) Depth (m)

In situ

Stratified

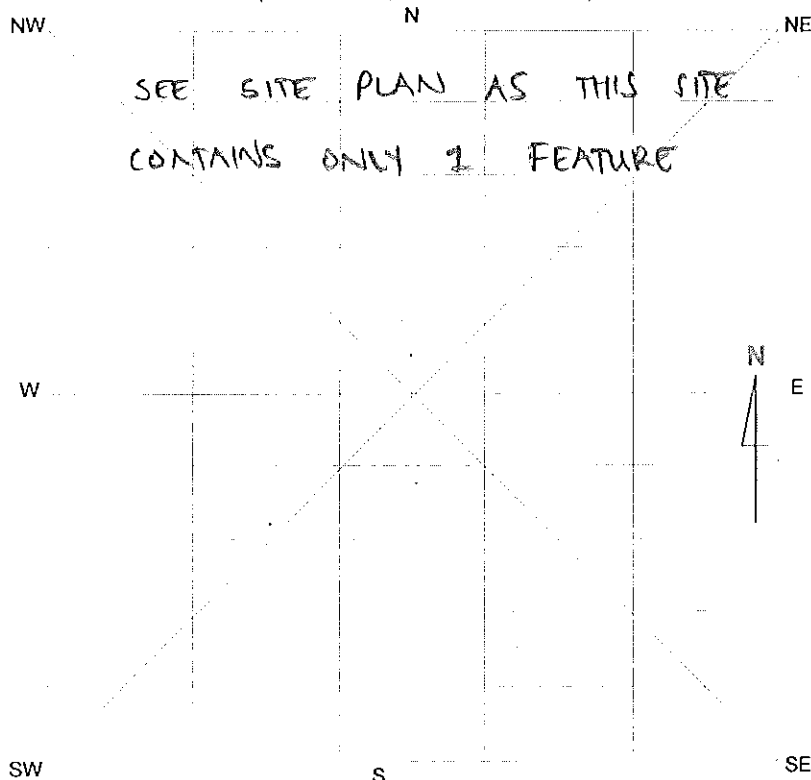
Feature Condition General Condition

- ☐ Very good
☐ Good
☒ Poor
- ☒ Weathered
☒ Vehicle damage
☐ Surface water wash
☐ Fire damage
☒ Erosion
☒ Stock damage
☐ Exposed archaeological material

Recommended Action

- ☐ Boardwalk
☐ Fencing
☐ Closure to public
☐ Continued inspection
☐ Fire hazard reduction
☐ Expert assessment
☐ Meeting with land manager
- ☐ Revegetation
☐ Signage
☐ Soil erosion control
☐ Track closure/re-routing
☐ Additional recording

Feature Plan (Indicate scale, location of instances)



Feature Environment

(Complete when feature environment differs to site environment, use attributes from cover card, p. 2)

Land form
 Land form unit
 Slope
 Vegetation
 Land use

Water

Distance to permanent water source metres

Distance to temporary water source metres

Name of nearest permanent water source

Name of nearest temporary water

page 2

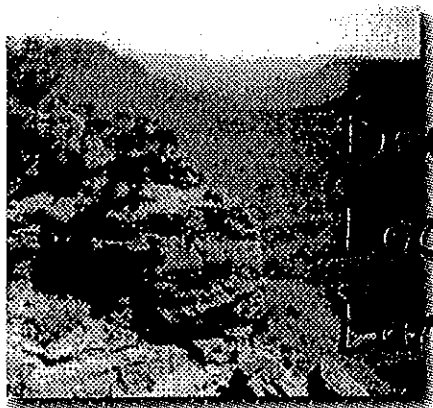
Stone Artefact										
Instance No.	Recording Date	Artefact Material	Artefact Type	Platform Surface	Platform Type	Termination	Cross Section	Length (mm)	Width (mm)	Thickness (mm)
1	14/09/2009	Silcrete	Flake	Flake scar	Wide	Feather	Irregular	10	17	16

Instance No.	Recording Date	Artefact Material	Other Artefact Type		Length (mm)	Width (mm)	Thickness (mm)
			Artefact Type	Description			
1	2023-10-27	Aluminum	Washer	Small flat washer	12	12	1.5
2	2023-10-27	Steel	Bolt	Hex head bolt	50	12	8
3	2023-10-27	Brass	Nut	Hex nut	12	12	4
4	2023-10-27	Aluminum	Bracket	L-shaped mounting bracket	30	20	3
5	2023-10-27	Steel	Plate	Rectangular plate	100	50	2
6	2023-10-27	Aluminum	Pin	Long pin	80	5	3
7	2023-10-27	Steel	Washer	Large flat washer	20	20	3
8	2023-10-27	Brass	Bolt	Hex head bolt	40	10	6
9	2023-10-27	Aluminum	Nut	Hex nut	10	10	3
10	2023-10-27	Steel	Bracket	U-shaped bracket	25	15	2
11	2023-10-27	Aluminum	Plate	Rectangular plate	80	40	1.5
12	2023-10-27	Steel	Pin	Short pin	30	4	2
13	2023-10-27	Brass	Washer	Small flat washer	10	10	1.5
14	2023-10-27	Aluminum	Bolt	Hex head bolt	30	8	5
15	2023-10-27	Steel	Nut	Hex nut	8	8	2.5
16	2023-10-27	Aluminum	Bracket	L-shaped mounting bracket	20	10	2
17	2023-10-27	Steel	Plate	Rectangular plate	60	30	1.5
18	2023-10-27	Brass	Pin	Long pin	60	4	2.5
19	2023-10-27	Aluminum	Washer	Large flat washer	15	15	2
20	2023-10-27	Steel	Bolt	Hex head bolt	20	6	4

Material	Artefact Description			Platform Surface	Termination
Basalt	Clear glass	Adze	Flake tool	Cortex	Feather
Chert	Ceramic	Anvil	Flaked piece	Flake scar	Hinge
Fine grained siliceous	Porcelain	Axe	Hammerstone	More than one flake scar	Step
Granite	Tin can	Backed blade	Manuport	Faceted	Outrepassé
Quartz	Wire	Blade	Milling slab	Ground	Bipolar
Quartzite	Nail	Core	Mortar	Indeterminate	
Sandstone	Button	Core tool	Muller	Bipolar	
Silcrete	Shell	Cyclon	Nuclear tool		
Green glass	Bone	Distal fragment	Pirri		
Amber glass	Wood	Eloura	Proximal fragment		
Amethyst glass	Resin	Flake	Tula		
			Other diagnostic type		
			Modified		
			Unworked		
				Platform Type	Cross Section
				Wide	High/strong
				Focal	High/weak
				Shattered	Low/weak
				Indeterminate	Irregular
				Bipolar	

[illegible]

20 OCT 2009



Deerubbin Local Aboriginal Land Council

5/271 Beames Avenue
PO Box 3184
Mt Druitt Village
NSW 2770 Australia

Ph: (02) 9832 2457
Fax: (02) 9832 2496
Email: Staff@Deerubbin.org.au
Web: <http://www.deerubbin.org.au>

Jeremy Spinak
EG Property Group Pty Ltd
Level 14, 345 George Street
SYDNEY NSW 2000

Our Reference: 2077

19 October 2009

SUBJECT: PROTECTION OF ABORIGINAL CULTURAL HERITAGE
289 Luddenham Road, Orchard Hills (09- 0268)

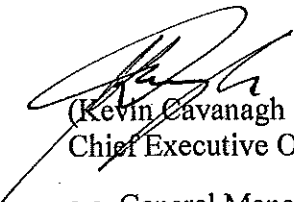
Dear Mr Spinak,

A representative of the Deerubbin Local Aboriginal Land Council (Steve Randall) inspected 289 Luddenham Road, Orchard Hills on 14 September 2009. An Aboriginal cultural heritage assessment was undertaken to evaluate the likely impact future development has on the cultural heritage of the land. Consulting archaeologist Lyndon Paterson of Godden Mackay Logan Heritage Consultants conducted a scientific survey at the same time.

Our representative reports that, Aboriginal cultural materials (in the form of stone artefacts, for example) were found in two areas that have been subject to intensive ground disturbance. These sites have been recorded (L1 & L2) and forwarded on to the Dept. of Environment, Climate Change & Water to be registered

Deerubbin LALC, recommends the surface collection of cultural material before any development occurs on or near the sites.

Yours Faithfully,


(Kevin Cavanagh
Chief Executive Officer)

c.c. General Manager – Penrith City Council
c.c. Miranda Firman – Aboriginal Heritage & Planning Officer, Dept. of Environment, Climate Change & Water
c.c. Lyndon Paterson - Godden, MacKay Logan Heritage Consultants

COPY



Figure 4.6 Silcrete artefact from Luddenham Road 2.



Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville NSW 2220



Office Use Only

Site Number

4 5 5 4 3 9 0

Date received / /

Date entered into system / /

Date catalogued / /

Entered by (I.D.)

Information Access

☐ Gender/male ☐ Gender/female ☐ Location restriction ☐ General restriction ☐ No access

For Further Information Contact:

☐ Nominated Trustee

Title

Surname

First Name

Initials

Organisation

Address

Phone number

Fax

☐ Knowledge Holder

Title

Surname

First Name

Initials

Organisation

Address

Phone number

Fax

Aboriginal Heritage Unit or Cultural Heritage Division Contacts

Geographic Location

Site Name L u d d e n h a m R o a d 3

Easting 2 9 2 0 4 1

Northing 6 2 5 4 6 6 7

AGD/GDA GDA

Mapsheet

Zone 56

Location Method Non-Differential GPS

Other Registration

Primary Recorder

Title

Surname

First Name

Initials

W r i g h t

G e o r g i a

Organisation

R P S

Address

Phone number

Fax

Date recorded 10/02/2014

Office Use Only

Client on system

☐

Client on system

☐

Client on system

☐

OPEN/CLOSE SITE ☒ Open Site

Site Context

Landform

- ☐ Mountainous
☐ Plain
☒ Rolling hills
☐ Steep hills
☐ Undulating plain

Landform Unit

- ☐ Beach
☐ Coastal rock platform
☐ Dune
☐ Intertidal flat
☐ Lagoon
☐ Tidal Creek

☐ Tidal Flat☐ Cliff☐ Crest☒ Flat☐ Lower slope☐ Mid slope☐ Upper slope☐ Plain☐ Ridge☐ Tor☐ Valley flat☐ Levy☐ Stream bank☐ Stream channel☐ Swamp☐ Terrace☐ Terrace flat

Slope

 degrees

Vegetation

- ☐ Closed forest
☐ Grasslands
☐ Isolated clumps of trees
☐ Open forest
☐ Open woodland
☐ Scrub
☐ Woodland
☒ Cleared
☐ Revegetated
☐ N/A

Land use

- ☐ Conservation
☐ Established urban
☒ Farming-intensive
☐ Farming-low intensity
☐ Forestry
☐ Industrial
☐ Mining
☐ Pastoral/grazing
☐ Recreation
☐ Semi-rural
☐ Service corridor
☐ Transport corridor
☐ Urban expansion
☐ Residential

Water

Distance to permanent water source metresDistance to temporary water source metresName of nearest permanent water source Name of nearest temporary water

Directions for Relocation

Located in south east portion of 289-317 Luddenham Road.
Located 200 metres north along and 20 metres east of track
running through property from track along E property
boundary.

Current Land Tenure

☐ Public National Park / other Government Dept.☒ Private

Primary report

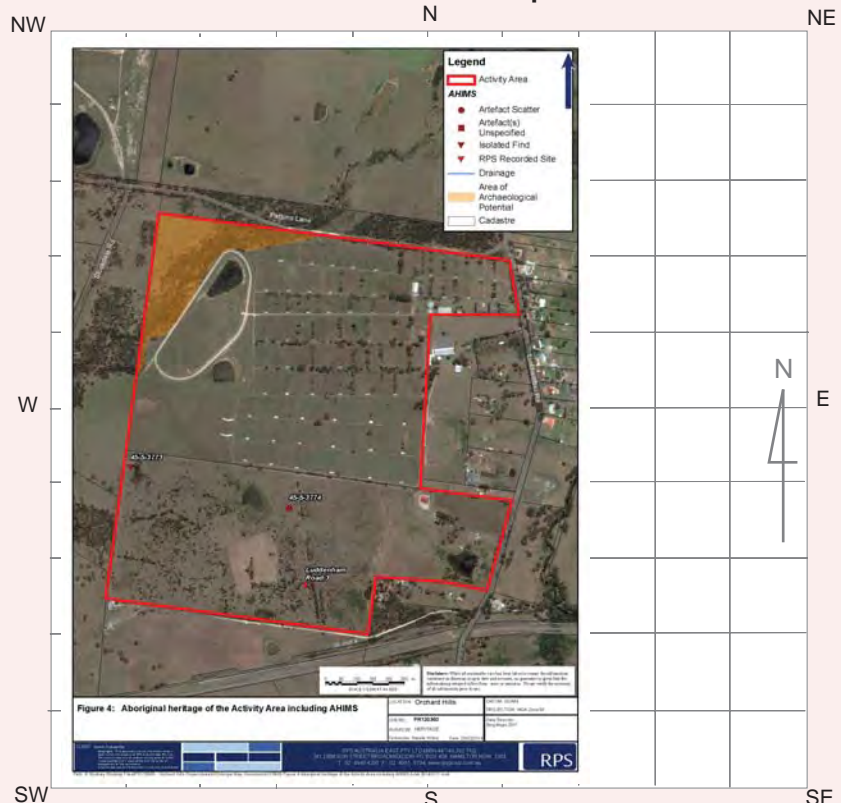
I.D. (I.D. Office Use only)

RPS (2014). Aboriginal Cultural Heritage Assessment

221-227 and 289-317 Luddenham Road, Orchard Hills.

Prepared for EG Property Group.

Site Location Map



General Site Information

Closed Site

Shelter/Cave Formation

- ☐ Boulder
- ☐ Wind erosion
- ☐ Water erosion
- ☐ Rock collapse

Rock Surface Condition

- ☐ Boulder
- ☐ Sandstone platform
- ☐ Silica gloss
- ☐ Tessellated
- ☐ Weathered
- ☐ Other platform

Condition of Ceiling

- ☐ Boulder
- ☐ Sandstone platform
- ☐ Silica gloss
- ☐ Tessellated
- ☐ Weathered
- ☐ Other platform

Shelter Aspect

- ☐ North
- ☐ North East
- ☐ East
- ☐ South East
- ☐ South
- ☐ South West
- ☐ West
- ☐ North West

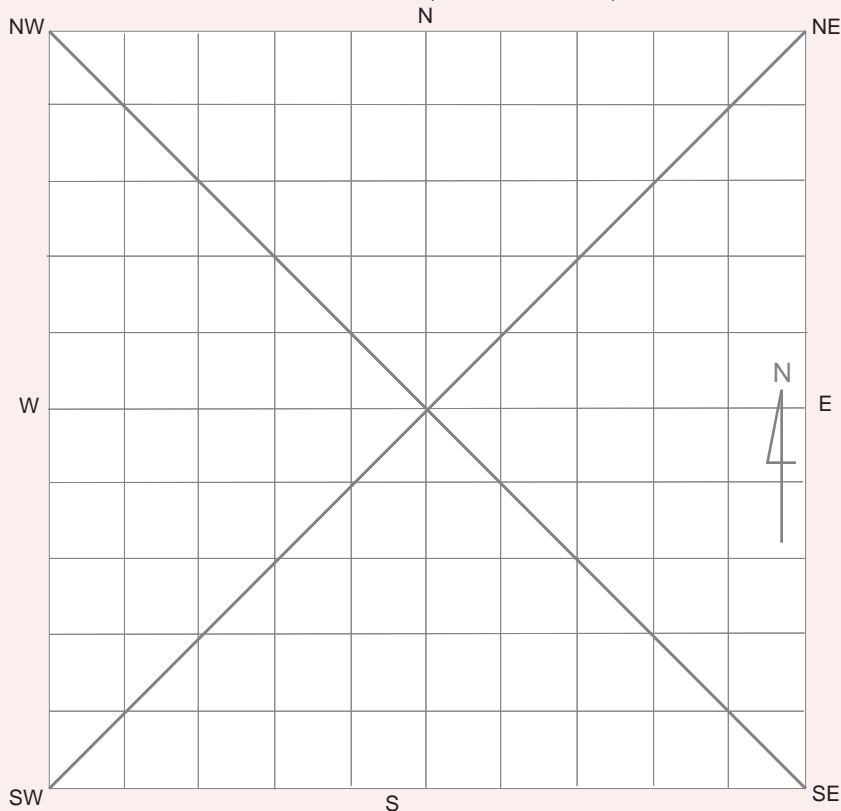
Open Site

Site Orientation

- ☐ N-S
- ☐ NE-SW
- ☐ E-W
- ☐ SE-NW
- ☒ N/A

Features

- ☐ 1. Aboriginal Ceremony & Dreaming
- ☐ 2. Aboriginal Resource & Gathering
- ☐ 3. Art
- ☒ 4. Artefact
- ☐ 5. Burial
- ☐ 6. Ceremonial Ring
- ☐ 7. Conflict
- ☐ 8. Earth Mound
- ☐ 9. Fish Trap
- ☐ 10. Grinding Groove
- ☐ 11. Habitation Structure
- ☐ 12. Hearth
- ☐ 13. Non Human Bone & Organic Material
- ☐ 14. Ochre quarry
- ☐ 15. Potential Archaeological Deposit
- ☐ 16. Stone Quarry
- ☐ 17. Shell
- ☐ 18. Stone Arrangement
- ☐ 19. Modified Tree
- ☐ 20. Water Hole

Site Plan Indicate scale, boundaries of site, features

Site Dimensions

Closed Site Dimensions (m)

- Internal length
- Internal width
- Shelter height
- Shelter floor area

Open Site Dimensions (m)

- Total length of visible site
- Average width of visible site
- Estimated area of visible site
- Length of assessed site area

The Deerubbin Local Aboriginal Land Council commented regarding Luddenham Road 3: "It is reported, that, because of high ground surface disturbance through market gardening and land clearing of the study area, one isolated find was located in the vicinity of site L2.

Deerubbin Local Aboriginal Land Council therefore, has no objection for the development of 289 Luddenham Road, Orchard Hill on the grounds of Aboriginal cultural heritage."

Archaeological significance: Luddenham Road 3 comprised an isolated red silcrete flaked piece located on an exposure measuring 7 by 10 metres created as a result of erosion and former rural land uses including grazing. This site type is frequently recorded in the local and regional landscape, and is similar to Luddenham Road 1 (AHIMS 45-5-3773) and Luddenham Road 2 (AHIMS 45-5-3774). The site does not contain a wide variety of raw materials or artefact types, and is such assessed to be of low rarity and representative value, and to be of low complexity. Due to the disturbances noted at the site, it is assessed to be of low integrity. Due to the number of similar recordings, low complexity and disturbances noted, the site is assessed to be of low research potential.

It is recommended that further impact assessment is undertaken should subdivision or similar development be proposed for 289-317 Luddenham Road.

Title

Surname

First Name

Initials

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[illegible][illegible]

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Organisation

[illegible]

Address

[illegible]

Phone number

[illegible]

Fax

[illegible]

☒ A4 location map
☐ B/W photographs
☒ Colour photographs
☐ Slides
☒ Aerial photographs
☐ Site plans, drawings
☐ Recording tables
☐ Other
☐ Feature inserts-No.

Site I.D.	<input type="text"/>	Site Name	<input type="text" value="Luddenham Road 3"/>
First recorded date	<input type="text" value="10/02/2014"/>	Importance	<input type="text" value="Contributes to primary site importa"/>
No. of instances	<input type="text" value="1"/>		
Recorded by	<input type="text" value="RPS"/>		
	Yes No		
Stone artefacts only	<input type="text" value="Yes"/>	Percentage of Non-stone Artefacts to Percentage of Stone Artefacts	
Artefacts collected	<input type="text" value="No"/>	0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 90-100%	
Permit issued	<input type="text" value="No"/>	<input type="text" value="0-9%"/>	

Feature Context & ConditionScatter No. Easting Northing **Density****Dimensions**

Yes No

(Artefact count per square metre)

Length (m) Width (m)

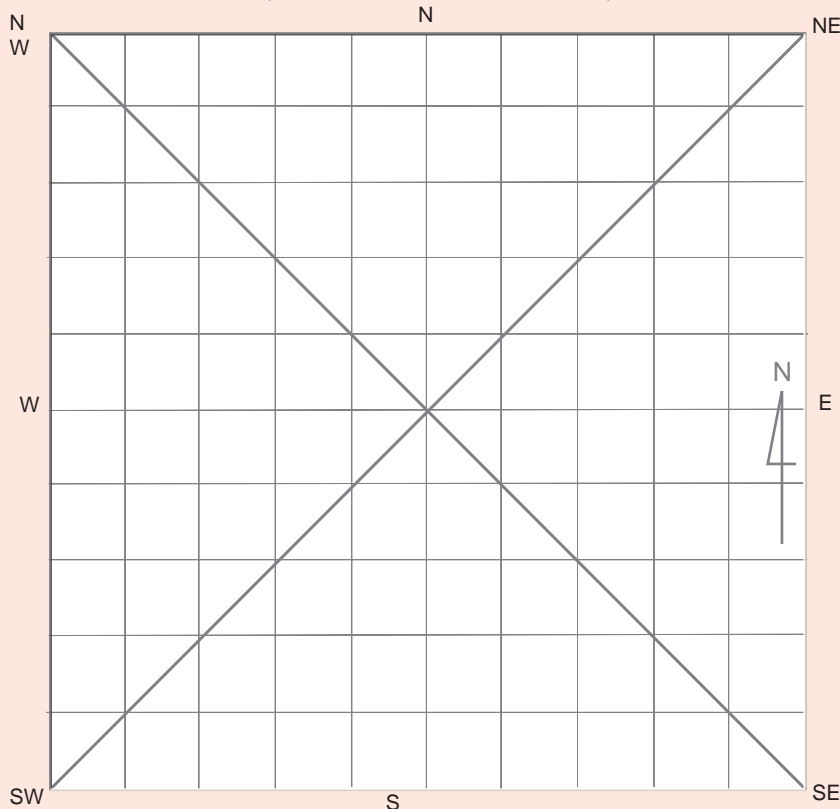
Depth (m)

In situ Stratified **Feature Condition****General Condition****Recommended Action**

- ☐ Very good
- ☐ Good
- ☒ Poor

- ☐ Weathered
- ☐ Vehicle damage
- ☐ Surface water wash
- ☐ Fire damage
- ☒ Erosion
- ☒ Stock damage
- ☐ Exposed archaeological material

- ☐ Boardwalk
- ☐ Fencing
- ☐ Closure to public
- ☐ Continued inspection
- ☐ Fire hazard reduction
- ☐ Expert assessment
- ☐ Meeting with land manager
- ☐ Revegetation
- ☐ Signage
- ☐ Soil erosion control
- ☐ Track closure/re-routing
- ☐ Additional recording

Feature Plan (Indicate scale, location of instances)**Feature Environment**(Complete when *feature* environment differs to *site* environment, use attributes from cover card, p. 2)

- Land form
- Land form unit
- Slope
- Vegetation
- Land use

WaterDistance to permanent water source metresDistance to temporary water source metres

Name of nearest permanent water source

Name of nearest temporary water

page 2

[illegible][illegible]

Material		Artefact Description		Platform Surface	Termination
Basalt	Clear glass	Adze	Flake tool	Cortex	Feather
Chert	Ceramic	Anvil	Flaked piece	Flake scar	Hinge
Fine grained siliceous	Porcelain	Axe	Hammerstone	More than one flake scar	Step
Granite	Tin can	Backed blade	Manuport	Faceted	Outrepasse
Quartz	Wire	Blade	Milling slab	Ground	Bipolar
Quartzite	Nail	Core	Mortar	Indeterminate	
Sandstone	Button	Core tool	Muller	Bipolar	
Silcrete	Shell	Cyclon	Nuclear tool		
Green glass	Bone	Distal fragment	Pirri		
Amber glass	Wood	Eloura	Proximal fragment	Platform Type	Cross Section
Amethyst glass	Resin	Flake	Tula	W	High/strong
			Other diagnostic type	Focal	High/weak
			Modified	Shattered	Low/weak
			Unworked	Indeterminate	Irregular
				Bipolar	

Luddenham Road 3 comprised an isolated artefact located on a low rise in the south eastern portion of 289-317 Luddenham Road. The artefact was a flake, with no evidence of retouch. The artefact was located in a disturbed context, on an exposure resulting from former land clearing and grazing. The artefact was located approximately 20 metres east of a track running SSE NNW through the property.

Site I.D.

Site Name

First recorded date

Importance

Aboriginal Information Recorded?

No. of instances

Recorded by

Feature description

No. of scars

No. of carved panels

Feature Condition

☐ Very good

☐ Good

☐ Poor

Condition

☐ Weathered

☐ Ringbarked

☐ Fire damage

☐ Vehicle damage

☐ Insects/termites

☐ Rot

☐ Limb fall

☐ Stock damage

Easting

Northing

Recommended Action

☐ Fencing

☐ Closure to public

☐ Continued inspection

☐ Expert assessment

☐ Fire hazard reduction

☐ Insect removal

☐ Meeting with land manager

☐ Rubbish removal

☐ Signage

☐ Tree health assessment

☐ Track closure/re-routing

☐ Additional recording

Feature environment (Complete when feature environment differs to site environment, use attributes from cover card, page 2)

Land form

Land form unit

Slope

Vegetation

Land use

Water

Distance to permanent water source

metres

Distance to temporary water source

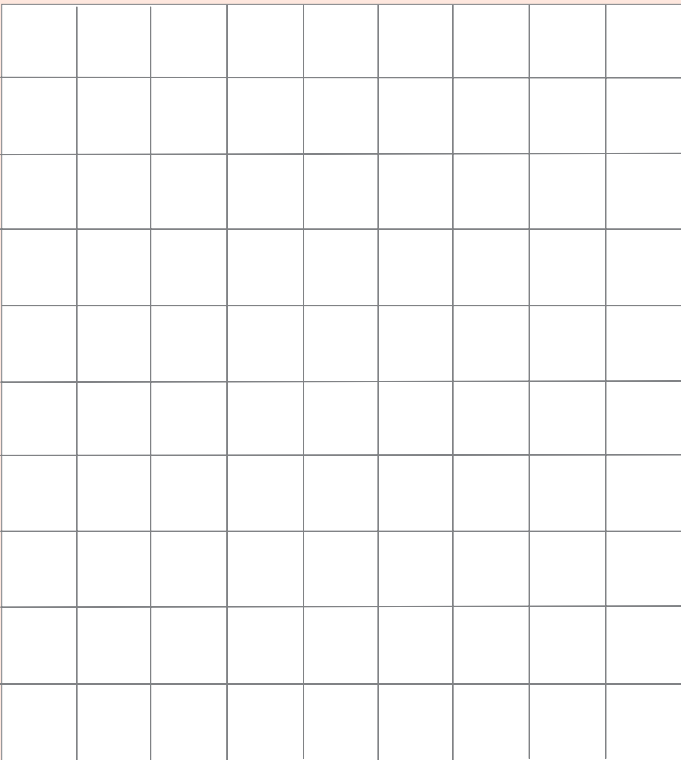
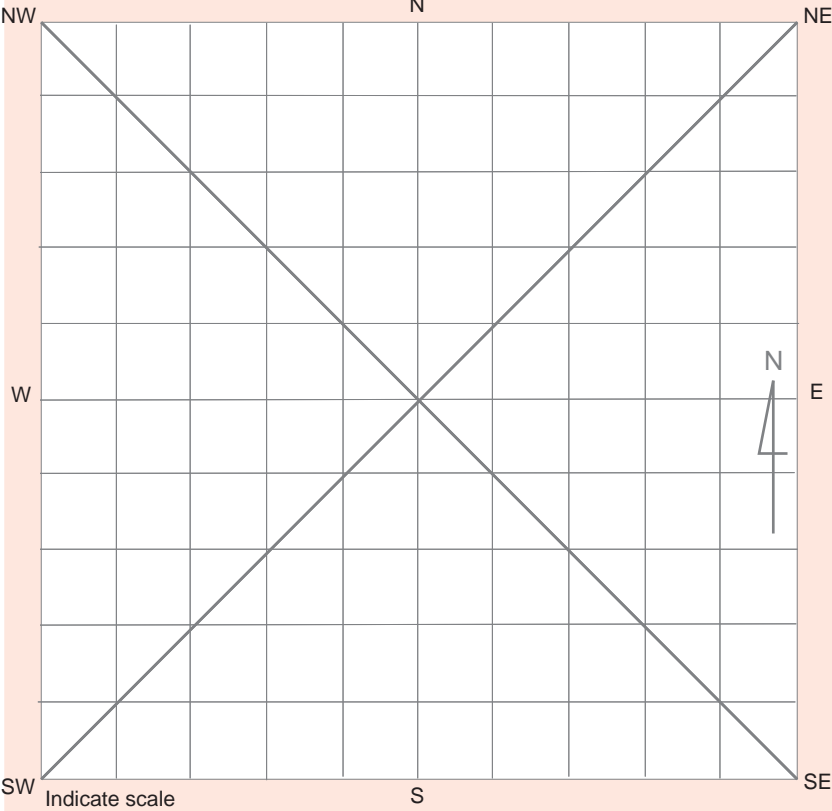
metres

Name of nearest permanent water source

Name of nearest temporary water

Feature Location Plan

Scar/Carved Panel Drawing



Attach additional drawings

page 2

[illegible]

Type of Tree	Tree Species	Living Status	Tree Status	Regrowth	Scar Shape	Carving Type	Axe Marks	Orientation
Carved Tree	Eucalypt	Dead	Standing	Yes	Oval	Linear	Metal	North East
Scarred Tree	Red Gum	Alive	Lying down	No	Rectangular	Geometric	Stone	East
Carved/Scarred Tree	Angotha	Dying	Partially felled		Square	Pictorial	Indeterminate	South East
			Subject to salinity		Round			South
			Not <i>in situ</i>		Other			South West
								West
								North West
								North

Site I.D. Site Name First recorded date / / Importance

Aboriginal Information Recorded?

No. of instances Recorded by **Feature Description****Type of Grinding Feature**

- ☐ Broad
- ☐ Narrow/point
- ☐ Hollow

Profile Shape

- ☐ 'U' shaped
- ☐ 'V' shaped
- ☐ Flat

Seed Species PresentRecording date / / **Groove Function****Dimensions****Smallest****Largest**Length (mm) Length (mm) Groove count Width (mm) Width (mm) Cluster count Depth (mm) Depth (mm) **Feature Context & Condition**Easting Northing **Dimensions of Whole Feature** Length (m) Width (m)**Feature Condition**

- ☐ Very good
- ☐ Good
- ☐ Poor

General Condition

- ☐ Weathered
- ☐ Vandalised

General Condition ctd

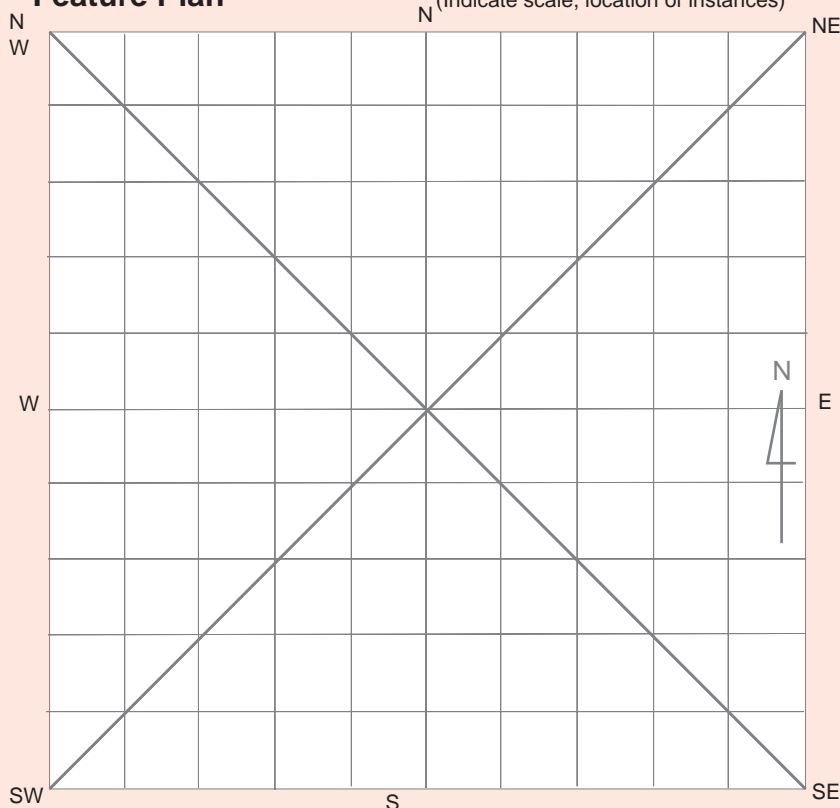
- ☐ Fire damage
- ☐ Surface water wash
- ☐ Graffiti
- ☐ Vehicle damage
- ☐ Erosion
- ☐ Stock damage

Recommended Action

- ☐ Boardwalk
- ☐ Cage/barrier/fencing
- ☐ Closure to public
- ☐ Continued inspection
- ☐ Expert assessment
- ☐ Graffiti removal
- ☐ Meeting with land manager
- ☐ Revegetation
- ☐ Rubbish removal
- ☐ Signage
- ☐ Erosion control
- ☐ Track closure/re-routing
- ☐ Additional recording

Feature Plan

(Indicate scale, location of instances)

**Feature Environment**(Complete when *feature* environment differs to *site* environment, use attributes from cover card, p. 2)

Land form

Land form unit

Slope

Vegetation

Land use

WaterDistance to permanent water source metresDistance to temporary water source metres

Name of nearest permanent water source

Name of nearest temporary water

Site I.D. Site Name First recorded date / / Importance Aboriginal Information
Recorded? No. of instances Recorded by **Feature Context
& Condition**Easting Northing Pigment ☐ Engraved ☐ Super-impositioning ☐**Artwork Condition**

- ☐ Very good
- ☐ Good
- ☐ Poor

General Condition

- ☐ Weathered
- ☐ Vandalised
- ☐ Surface water wash
- ☐ Mineralisation
- ☐ Graffiti
- ☐ Fire damage
- ☐ Insects/termites
- ☐ Erosion
- ☐ Stock
- ☐ Unstable structure

Recommended Action

- ☐ Boardwalk
- ☐ Cage/barrier/fencing
- ☐ Closure to public
- ☐ Continued inspection
- ☐ Dripline
- ☐ Expert assessment
- ☐ Fire hazard removal
- ☐ Graffiti removal
- ☐ Insect/bird nest removal
- ☐ Meeting with land manager
- ☐ Rubbish removal
- ☐ Signage
- ☐ Erosion control
- ☐ Track closure/re-routing
- ☐ Additional recording

Feature Environment(Complete when *feature* environment differs to *site* environment, use attributes from cover card, p. 2) Land form Land form unit Slope Vegetation Land use**Water**Distance to permanent water source metresDistance to temporary water source metresName of nearest permanent water source Name of nearest temporary water **Art Sketch Plan**

Sketch and number motif groups



Motif			Application Technique	Main Colour	Art Location	Condition
Anthropomorphic	Female	Marine-Other	Abraded	Black	All over shelter surfaces	Faded
Bird	Fish	Other	Drawn	Mauve *	ceiling	Stained
Bird Track	Foot	Pattern	Other	N/A	Floor	Mineralisation Evident
Canoe	Hand	Quadruped	Painted	Orange *	Mostly near largest sheltered space	V brant Colours
Circle	Jellyfish	Reptile	Pecked	Other	Mostly on out of the way surfaces	Unweathered
Contact material culture	Kangaroo	Rifle	Pigment & Engraved	Red *	Other	Weathered
Duck	Line	Shield	Stencilled	White *	Wall	
Eel	Lizard	Ship	Form	Yellow *		
Emu	Macropod	Snake	Fill			
Emu track	Macropod Track	Spear	Line			
European figure	Male	Wallaby	Line+ Fill			
			Other			
			Pattern			

[illegible]

Site I.D. Site Name First recorded date / / Importance Aboriginal Information
Recorded? No. of instances Recorded by **Feature Context
& Condition**Easting Northing **Dimensions of Whole Feature**

Length (m)

Width (m)

Depth (m)

Shell Distribution☐

Surface scatter

Distance to high water mark (m)

☐

Stratified deposit

☐

Mounded

Feature Condition☐

Very good

☐

Good

☐

Poor

General Condition☐

Weathered

☐

Vandalised

☐

Surface water wash

☐

Mineralisation

☐

Graffiti

General Condition ctd☐

Fire damage

☐

Vehicle damage

☐

Insects/termites

☐

Erosion

☐

Stock damage

☐

Unstable structure

☐

Exposed bone material

☐

Exposed archaeological material

Recommended Action☐

Boardwalk

☐

Cage/barrier/fencing

☐

Closure to public

☐

Continued inspection

☐

Expert assessment

☐

Fire hazard removal

☐

Graffiti removal

☐

Meeting with land manager

☐

Insect/bird nest removal

☐

Revegetation

☐

Rubbish removal

☐

Signage

☐

Erosion control

☐

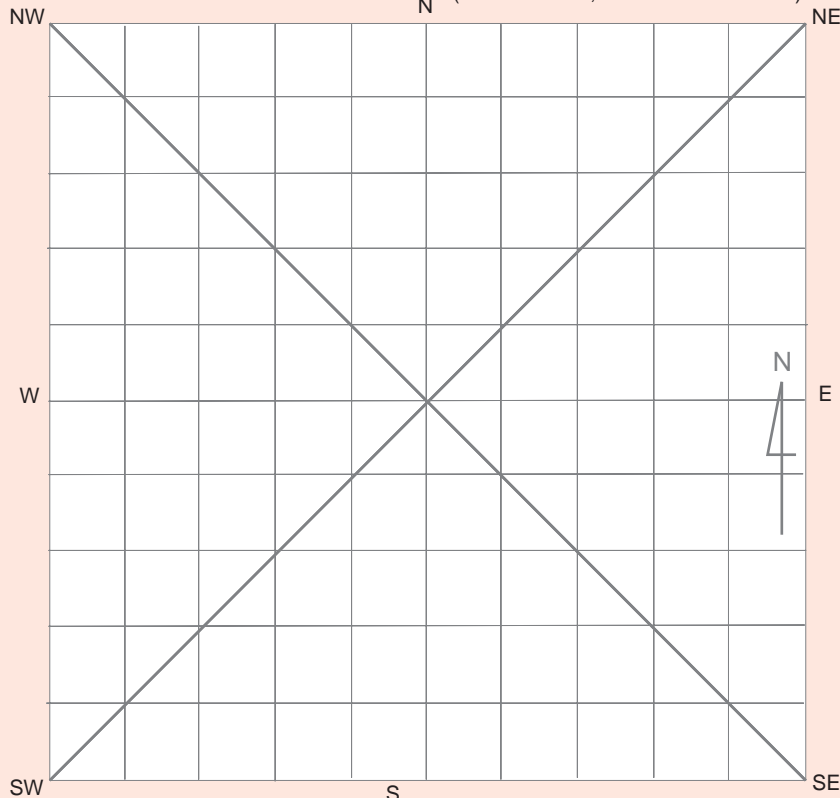
Track closure/re-routing

☐

Additional recording

Feature Plan

(Indicate scale, location of instances)

**Feature Environment**(Complete when *feature* environment differs to *site* environment, use attributes from cover card, p. 2)

Land form

Land form unit

Slope

Vegetation

Land use

WaterDistance to permanent water source metresDistance to temporary water source metres

Name of nearest permanent water source

Name of nearest temporary water

Instance No.	Recording Date	Shell Species	Species shell to % total of other shell
--------------	----------------	---------------	---

Species		Percentage of this Species Shell to Percentage Total of other Shell
Anadara	Nerita	0 – 9%
Bimbala	Ocean Snail	10 – 19%
Chiton	Periwinkle	20 – 29%
Cowrie	P	30 – 39%
Dog Cockle	Ribbed Cockle	40 – 49%
Duck Bill	Rock Oyster	50 – 59%
Limpit	Thiad	60 – 69%
Mud oyster	Triton	70 – 79%
Mutton Fish	Turban (large)	80 – 89%
		90 – 100%

Comments:



IFRAO 10 cm

NOVEMBER 2001





SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
41-5-0016	MNPAD01	GDA	56	293879	6255448	Open site	Valid	Artefact : -		
	Contact	Recorders				Biosis Pty Ltd - Wollongong,Biosis Pty Ltd - Wollongong,Mrs.Samantha Keats,Mrs.S		Permits	4655	
45-5-4709	SSP 3	GDA	56	290685	6253669	Open site	Valid	Artefact : -		103913,103914
	Contact	Recorders				Matthew Kelleher,Kelleher Nightingale Consulting Pty Ltd,Ms.Cristany Milicich		Permits	4302	
45-5-5532	SMWSA-AS5	GDA	56	291039	6254177	Open site	Valid	Artefact : -		
	Contact	Recorders				Doctor.Darran Jordan		Permits		
45-5-5342	MSP-07	GDA	56	294146	6254469	Open site	Valid	Artefact : -		
	Contact	Recorders				Biosis Pty Ltd - Wollongong,Mrs.Samantha Keats		Permits		
45-5-4138	MR3 (Prospect)	GDA	56	294142	6255835	Open site	Valid	Artefact : 1		
	Contact	Recorders				Doctor.Sandra Wallace,Artefact - Cultural Heritage Management - Pymont		Permits		
45-5-3167	Mamre Road 1	AGD	56	294034	6256217	Open site	Valid	Artefact : 2		
	Contact Searle	Recorders				Helen Brayshaw		Permits		
45-5-3268	Erskine Park Roadworks (EPR 2)	AGD	56	294184	6255333	Open site	Valid	Artefact : 1		
	Contact	Recorders				Doctor.Susan (left ahms) Mcintyre-Tamwoy		Permits		
45-5-5176	MWP-AD9	GDA	56	293351	6255660	Open site	Valid	Artefact : -		
	Contact	Recorders				Biosis Pty Ltd - Wollongong,Mrs.Samantha Keats		Permits		
45-5-3033	EPTA11	AGD	56	293340	6253690	Open site	Valid	Artefact : -		
	Contact	Recorders				Navin Officer Heritage Consultants Pty Ltd		Permits	2188	
45-5-3032	EPTA10	AGD	56	293580	6253610	Open site	Valid	Artefact : -		
	Contact	Recorders				Navin Officer Heritage Consultants Pty Ltd		Permits	2188	
45-5-4390	Luddenham Road 3	GDA	56	292041	6254667	Open site	Valid	Artefact : -		
	Contact	Recorders				Miss.Georgia Wright		Permits		
45-5-5341	MSP-06	GDA	56	294123	6254552	Open site	Valid	Artefact : -		
	Contact	Recorders				Biosis Pty Ltd - Wollongong,Mrs.Samantha Keats		Permits		
45-5-5406	Luddenham Road AFT 1	GDA	56	292537	6254379	Open site	Valid	Artefact : -		
	Contact	Recorders				Mr.Matthew Kelleher,Kelleher Nightingale Consulting Pty Ltd (Generic users)		Permits		
45-5-5410	Luddenham Road IF 1	GDA	56	292749	6255530	Open site	Valid	Artefact : -		
	Contact	Recorders				Mr.Matthew Kelleher,Kelleher Nightingale Consulting Pty Ltd (Generic users)		Permits		
45-5-5407	Luddenham Road PAD 2	GDA	56	292895	6256851	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	Contact	Recorders				Mr.Matthew Kelleher,Kelleher Nightingale Consulting Pty Ltd (Generic users)		Permits		
45-5-5187	MSP-01	GDA	56	294210	6254558	Open site	Destroyed	Artefact : -		
	Contact	Recorders				Biosis Pty Ltd - Wollongong,Biosis Pty Ltd - Wollongong,Mrs.Samantha Keats,Mrs.S		Permits		
45-5-3028	EPTA3	AGD	56	294160	6254370	Open site	Valid	Artefact : -		
	Contact	Recorders				Navin Officer Heritage Consultants Pty Ltd		Permits	2188	

Report generated by AHIMS Web Service on 23/02/2022 for Megan Sheppard Brennand for the following area at Lat, Long From : -33.8407, 150.7194 - Lat, Long To : -33.805, 150.7812.

Number of Aboriginal sites and Aboriginal objects found is 69

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.

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
45-5-3065	EPR1	AGD	56	294147	6255326	Open site	Valid	Artefact : -		
	Contact	Recorders			Doctor.Susan (left ahms) McIntyre-Tamwoy			Permits	2255	
45-5-3068	EPR7	AGD	56	294261	6255398	Open site	Valid	Artefact : -		
	Contact	Recorders			M McIntyre			Permits	2255	
45-5-4720	Mamre West Precinct - Archaeological Deposit 3 (MWP-AD3)	GDA	56	293670	6255005	Open site	Valid	Artefact : -		104138
	Contact	Recorders			Biosis Pty Ltd - Sydney,Biosis Pty Ltd - Wollongong,Mr.James Cole,Miss.Shannon Sn			Permits		
45-5-4136	MR1 (Prospect)	GDA	56	294522	6256063	Open site	Valid	Artefact : 1		
	Contact	Recorders			Doctor.Sandra Wallace,Artefact - Cultural Heritage Management - Pyrmont			Permits		
45-5-5177	MWP-AD11	GDA	56	293575	6255570	Open site	Valid	Artefact : -		
	Contact	Recorders			Biosis Pty Ltd - Wollongong,Mrs.Samantha Keats			Permits		
45-6-1769	Lec 3;	AGD	56	292410	6253470	Open site	Valid	Artefact : -	Open Camp Site	1345
	Contact	Recorders			Mary Dallas Consulting Archaeologists (MDCA)			Permits		
45-5-4718	Mamre West Precinct - Archaeological Deposit 2 (MWP-AD2)	GDA	56	294095	6255380	Open site	Valid	Artefact : -		104138,104145
	Contact	Recorders			Biosis Pty Ltd - Wollongong,Miss.Shannon Smith			Permits		
45-5-4810	Mamre West Precinct Isolated Find 1 (MWP-IF1)	GDA	56	294089	6255758	Open site	Valid	Artefact : -		104138
	Contact	Recorders			Biosis Pty Ltd - Sydney,Ms.Rebecca Morris			Permits		
45-5-4815	Mamre West Precinct Archaeological Deposit 5 (MWP-AD5)	GDA	56	294088	6256225	Open site	Valid	Artefact : -		104138
	Contact	Recorders			Biosis Pty Ltd - Sydney,Ms.Rebecca Morris			Permits		
45-5-4813	Mamre West Precinct Archaeological Deposit 6 (MWP-AD6)	GDA	56	294092	6256112	Open site	Valid	Artefact : -		104138
	Contact	Recorders			Biosis Pty Ltd - Sydney,Ms.Rebecca Morris			Permits		
45-6-1776	Lec 2;	AGD	56	292570	6253620	Open site	Valid	Artefact : -	Open Camp Site	1345
	Contact	Recorders			Mary Dallas Consulting Archaeologists (MDCA)			Permits		
45-5-5189	MSP-03	GDA	56	293501	6253805	Open site	Partially Destroyed	Artefact : -		
	Contact	Recorders			Biosis Pty Ltd - Wollongong,Biosis Pty Ltd - Wollongong,Mrs.Samantha Keats,Mrs.S			Permits		
45-5-5490	Mamre Road AFT 5	GDA	56	294115	6256366	Open site	Valid	Artefact : -		
	Contact	Recorders			Mr.Matthew Kelleher,Kelleher Nightingale Consulting Pty Ltd (Generic users)			Permits		
45-5-3776	Orchard Hills ISO2	GDA	56	291576	6256440	Open site	Valid	Artefact : 1		101683
	Contact	Recorders			Mr.John Appleton			Permits		
45-5-5344	MSP-09	GDA	56	294469	6253984	Open site	Valid	Artefact : -		
	Contact	Recorders			Biosis Pty Ltd - Wollongong,Mrs.Samantha Keats			Permits		
45-6-1771	Lec 5;	AGD	56	292010	6253080	Open site	Valid	Artefact : -	Open Camp Site	1345
	Contact	Recorders			Mary Dallas Consulting Archaeologists (MDCA)			Permits		
45-5-5188	MSP-02	GDA	56	293594	6253823	Open site	Destroyed	Artefact : -		
	Contact	Recorders			Biosis Pty Ltd - Wollongong,Biosis Pty Ltd - Wollongong,Mrs.Samantha Keats,Mrs.S			Permits		
45-6-1770	Lec 4;	AGD	56	292410	6253300	Open site	Valid	Artefact : -	Open Camp Site	1345

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
45-5-2615	Area D	AGD	56	292900	6253450	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>	1586	
45-5-4719	Mamre West Precinct - Archaeological Deposit 4 (MWP-AD4)	GDA	56	294089	6255064	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
45-5-4707	SSP 1	GDA	56	289702	6253505	Open site	Valid	Artefact : -		103913,103914
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>	4302	
45-5-5408	Luddenham Road AFT 2	GDA	56	292688	6254873	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
45-6-1780	Lec 1;	AGD	56	292610	6253800	Open site	Valid	Artefact : -	Open Camp Site	1345
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
45-5-5413	Luddenham Road AFT 4	GDA	56	292696	6256006	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
45-6-1773	Lec 7;	AGD	56	292830	6253780	Open site	Valid	Artefact : -	Open Camp Site	1345
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
45-5-3273	erskine park roadworks (EPR 7)	GDA	56	294262	6255398	Open site	Valid	Artefact : 1		
	<u>Contact</u> Searle	<u>Recorders</u>						<u>Permits</u>		
45-5-5340	MSP-05	GDA	56	294016	6254604	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
45-5-4189	RPS LTPAS01	GDA	56	289952	6253747	Open site	Valid	Artefact : 1		103913,103914
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>	4302	
45-5-5343	MSP-08	GDA	56	294155	6254417	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
45-5-5345	MSP-10	GDA	56	294548	6253896	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
45-5-4137	MR2 (Prospect)	GDA	56	294548	6256086	Open site	Valid	Artefact : 1		
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
45-5-3774	Luddenham Road 2	GDA	56	291997	6254930	Open site	Valid	Artefact : 100		
	<u>Contact</u> Deerubbin LALC	<u>Recorders</u>						<u>Permits</u>		
45-6-1772	Lec 6;	AGD	56	292770	6253700	Open site	Valid	Artefact : -	Open Camp Site	1345,97496
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>	1586	
45-5-4717	Mamre West Precinct - Archaeological Deposit 1 (MWP-AD1)	GDA	56	293591	6255274	Open site	Valid	Artefact : -		104138
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>		
45-6-1774	Lec 8;	AGD	56	292820	6254050	Open site	Valid	Artefact : -	Open Camp Site	1345,97496
	<u>Contact</u>	<u>Recorders</u>						<u>Permits</u>	1586	

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : J200753 luddenham

Client Service ID : 662022

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
45-5-3066	EPR2	AGD	56	294184	6255333	Open site	Valid	Artefact : -		
	Contact	Recorders	M McIntyre							
45-5-3067	EPR3	AGD	56	294240	6255315	Open site	Valid	Artefact : -		
	Contact	Recorders	M McIntyre							
45-5-3266	Erskine Park Roadworks (EPR 3)	AGD	56	294240	6255315	Open site	Valid	Artefact : 1		
	Contact	Recorders	Doctor.Susan (left ahms) McIntyre-Tamwoy							
45-5-5346	MSP-11	GDA	56	293382	6254091	Open site	Valid	Artefact : -		
	Contact	Recorders	Biosis Pty Ltd - Wollongong,Mrs.Samantha Keats							
45-5-2568	CGD5	AGD	56	293300	6253500	Open site	Valid	Artefact : -	Open Camp Site	98435
	Contact	Recorders	Dominic Steele Archaeological Consulting							
45-5-5178	MWP-AD10	GDA	56	293494	6255635	Open site	Valid	Artefact : -		
	Contact	Recorders	Biosis Pty Ltd - Wollongong,Mrs.Samantha Keats							
45-5-4721	Mamre West Precinct - Artefact Scatter 1 (MWP-AS1)	GDA	56	293802	6256278	Open site	Valid	Artefact : -		104138
	Contact	Recorders	Biosis Pty Ltd - Wollongong,Miss.Shannon Smith							
45-5-3773	Luddenham Road 1	GDA	56	291493	6255058	Open site	Valid	Artefact : 1		
	Contact Deerubbin LALC	Recorders	Mr.Lyndon Patterson							
45-5-4812	Mamre West Precinct Archaeological Deposit 7 (MWP-AD7)	GDA	56	294097	6255948	Open site	Valid	Artefact : -		104138
	Contact	Recorders	Biosis Pty Ltd - Sydney,Ms.Rebecca Morris							
45-5-5412	Luddenham Road PAD 1	GDA	56	292572	6255986	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	Contact	Recorders	Mr.Matthew Kelleher,Kelleher Nightingale Consulting Pty Ltd (Generic users)							
45-5-5409	Luddenham Road AFT 3	GDA	56	292769	6255335	Open site	Valid	Artefact : -		
	Contact	Recorders	Mr.Matthew Kelleher,Kelleher Nightingale Consulting Pty Ltd (Generic users)							
45-5-3267	Erskine Park Roadworks (EPR 1)	AGD	56	294147	6255326	Open site	Valid	Artefact : 1		
	Contact	Recorders	Doctor.Susan (left ahms) McIntyre-Tamwoy							
45-5-5190	MSP-04	GDA	56	293580	6253610	Open site	Valid	Artefact : -		
	Contact	Recorders	Biosis Pty Ltd - Wollongong,Mrs.Samantha Keats							
45-5-5335	Mamre Road AFT 3	GDA	56	293887	6256693	Open site	Valid	Artefact : -		
	Contact	Recorders	Mr.Matthew Kelleher,Kelleher Nightingale Consulting Pty Ltd (Generic users)							
45-5-3775	Orchard Hills ISO1	GDA	56	291170	6256869	Open site	Valid	Artefact : 1		101683
	Contact	Recorders	Fred Appleton							
45-5-4811	Mamre West Precinct Archaeological Deposit 8 (MWP-AD8)	GDA	56	294108	6255844	Open site	Valid	Artefact : -		104138
	Contact	Recorders	Biosis Pty Ltd - Sydney,Ms.Rebecca Morris							
45-5-5338	Mamre Road IF 1	GDA	56	294150	6256356	Open site	Valid	Artefact : -		
	Contact	Recorders	Mr.Matthew Kelleher,Kelleher Nightingale Consulting Pty Ltd (Generic users)							

Report generated by AHIMS Web Service on 23/02/2022 for Megan Sheppard Brennand for the following area at Lat, Long From : -33.8407, 150.7194 - Lat, Long To : -33.805, 150.7812.

Number of Aboriginal sites and Aboriginal objects found is 69

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.



AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : J200753 Iuddenham

Client Service ID : 662022

<u>SiteID</u>	<u>SiteName</u>	<u>Datum</u>	<u>Zone</u>	<u>Easting</u>	<u>Northing</u>	<u>Context</u>	<u>Site Status **</u>	<u>SiteFeatures</u>	<u>SiteTypes</u>	<u>Reports</u>
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**** 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 23/02/2022 for Megan Sheppard Brennand for the following area at Lat, Long From : -33.8407, 150.7194 - Lat, Long To : -33.805, 150.7812.

Number of Aboriginal sites and Aboriginal objects found is 69

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Appendix C

Aboriginal stakeholder comments

DARUG CUSTODIAN

ABORIGINAL CORPORATION



DARUG CUSTODIAN
ABORIGINAL
CORPORATION

PO BOX 81 WINDSOR 2756
PHONE: 0245775181 FAX: 0245775098
MOBILE: 0414962766 Justine
EMAIL: Justinecoplin@optusnet.com.au

Attention: EMM

Date: 05082020

Subject: 221-227 and 289-317 Luddenham Road, Orchard Hills

Dear Alan

We have received the 221-227 and 289-317 Luddenham Road, Orchard Hills , We would like to add that our sites are a complex and not all separate sites and recommend that the connections are interpreted throughout the project. Information gathered during these projects is of high significance, once our sites are gone there is no other evidence of the sites or connections. This area has shown in recent excavations and surveys that this is a Darug landscape and there are still numerous parts of our histories to be recorded. Darug people stayed in this area to present times, the oral histories of this area support the families staying here for thousands of years.

Within this document the amount of groups for consultation is high with many groups not from this area, we do not support personal profit groups and also do not support any input that they have into the recommendations.

Apart from the amount of out of the area groups. Darug Custodians support the recommendations in this Draft report.

Please contact us with all further enquiries on the above contacts.

Regards

Justine Coplin

We acknowledge and pay respect to the Darug people, the traditional Aboriginal custodians of this land.