

SYD086 Glendenning: 2 Glendenning Road

Addendum Archaeological Technical
Report – Response to Heritage NSW
RtS

LGA: Blacktown City Council

Report to LCI Artelia Group

October 2025



 artefact

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EXECUTIVE SUMMARY

Virtus Heritage previously produced reports for an SSD (SSD - 73761707) submission for development at 2 Glendenning Road, Glendenning NSW 2761 (Lot 2 DP1137162) in 2024 and 2025. These reports were produced for LCI Consultants for the proposed development of the Glendenning Road Data Centre, including the construction and operation of three (3) data centre buildings and associated vegetation clearance, access changes, landscaping, fencing and infrastructure, services and utilities.

Artefact Heritage have been engaged by LCI Consultants to respond to Response to Submission comments made by Heritage NSW as part of the SSD submission. This addendum ATR functions as a response to Submission queries and comments from Heritage NSW for the proposed works and results of the finalised Aboriginal Cultural Heritage Assessment Report, appended technical report and consultation log and Archaeological Research Design and Methodology for Aboriginal cultural heritage for the proposed SSD application (SSD-73761707).

This report was prepared to address the following objectives:

- Review of existing knowledge: Review of previous archaeological works and the results of a search of the Aboriginal Heritage Information Management Systems (AHIMS) database.
- Review of the landscape context: Desktop assessment of the archaeological implications of the landscape features (soil landscapes, historic land use, geomorphic character, and natural resources) relevant to the study area
- Summary and discussion of the local and regional archaeological character of Aboriginal land use and its material traces based on the finds of the previous two steps
- Complete a site visit to the study area to ground truth the background research and outcomes of the Virtus assessment and obtain additional information related to landscape features including additional geotechnical assessment
- Update the archaeological significance assessment of any Aboriginal objects that will be impacted by the proposed works
- Update the impact assessment of any Aboriginal objects that will be impacted by the proposed works

The results of this addendum Archaeological Technical Report have produced the following results, table and figure adjustments for the study area:

- An updated interpretation of archaeological potential and site locations within the study area represented in a new artefact potential and site locations map (Figure 64) included in Section 5.0 'Discussion and analysis' of this report.
- An updated impact assessment of likely harm to AHIMS sites within the study area has been included as a new table in Section 6.0 'Impact Assessment' of this report.
- An updated table of site card extents and recommendation for the updating of site cards within the AHIMS systems has been included in Section 8.0 'Conclusion' of this report.

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1.0 INTRODUCTION

1.1 Project Introduction

Virtus Heritage previously produced the following reports for an SSD (SSD - 73761707) submission for development at 2 Glendenning Road, Glendenning NSW 2761 (Lot 2 DP1137162) in 2024 and 2025:

- Aboriginal Cultural Heritage Assessment Report (ACHAR)
- Archaeological Assessment (Appendix A of the ACHAR)
- Consultation records (Appendix B of the ACHAR)
- Archaeological Research Design and Methodology (ARDM) for Aboriginal cultural heritage.
- Historical Heritage Assessment (HHA)
- Historical Archaeological Research Design and Excavation Methods

These reports were produced for LCI Consultants for the proposed development of the Glendenning Road Data Centre, including the construction and operation of three (3) data centre buildings and associated vegetation clearance, access changes, landscaping, fencing and infrastructure, services and utilities.

Artefact Heritage (hereby Artefact) have been engaged by LCI Consultants to respond to Response to Submission (RtS) comments made by Heritage NSW as part of the SSD submission. This addendum ATR functions as a Response to Submission queries and comments from Heritage NSW for the proposed works and results of the finalised ACHAR, appended technical report and consultation log and Archaeological Research Design and Methodology for Aboriginal cultural heritage for the proposed SSD application (SSD-73761707).

The study area is located at Woodstock Avenue at Lot 2 DP1137162 and extends across the suburbs of Glendenning and Rooty Hill. The study area is within the Blacktown Local Government Area (LGA) and the Parish of Rooty Hill within the County of Cumberland. The study area is within the boundaries of the Deerubbin Local Aboriginal Land Council (LALC). 2 Glendenning Road, Glendenning is developed land (with warehouses to the western portion) and the East is current undeveloped but heavily impacted by previous and surrounding works and to the East and within proximity to the road surface of Woodstock Avenue. Eastern Creek is located approximately 70 metres east at its closest point to the study area.

1.2 Heritage NSW response to submission

Heritage NSW RtS

RtS responses and where addressed in this report

Aboriginal community consultation

- | | |
|---|---|
| <p>1. Section 3 of the ACHAR states that "All consultation with Registered Aboriginal Parties undertaken by LCI Consultants and Virtus Heritage is documented in greater detail in Appendix B", however, Appendix B has not been provided. Please provide a copy of the consultation log and all consultation documentation including:</p> <p>A. Evidence that the Stage 1 letter requesting registration of interest in the project was sent out to all potential Aboriginal cultural heritage knowledge holders (groups or individuals) who were identified during the stage 1 Agency notification process.</p> <p>B. Evidence that the Stage 4 draft ACHAR and Draft Archaeological Research Design and Methodology (ARDM) was provided to all RAPs.</p> <p>C. Copies of all RAP responses received in relation to the above consultation.</p> | <p>Not addressed in this ATR addendum.</p> <p>Consultation is included as Appendix B of the Virtus ACHAR – to be provided separately. The consultation log does not list all of the agency and Rol emails, but copies of those emails have been included as part of the appendix.</p> |
|---|---|

Evidence of the above-mentioned correspondence is required to assist in Heritage NSW's evaluation of the adequacy and completeness of the consultation process. This evidence can comprise of copies of all dated email records with all relevant email addresses shown and/or delivery / read receipts and may be provided to Heritage NSW separately for our review/records.

Aboriginal sites, areas of potential and impact assessment

- | | |
|--|---|
| <p>2. The ACHAR does not define the boundary/extent of Aboriginal sites within and/or overlapping with the Project area. While we understand that Aboriginal site boundaries are somewhat arbitrary, without defining individual site extents it is unclear how it can be determined that a site will be subject to total harm versus partial harm, how exclusion zones will be established in relation to Aboriginal sites and how unimpacted areas of high and moderate Aboriginal archaeological potential will be recorded and managed beyond the life of the current project. To address this:</p> <p>A. Please define site boundaries and clarify how they have been determined as per Requirements 6 and 7 of the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (Code of Practice; DECCW 2010).</p> <p>B. Please update Figure 9 (Updated Areas of Archaeological Potential and Sites Recorded During Survey) or provide a new figure which includes polygons of all Aboriginal sites (both valid and destroyed) across the project area to provide greater clarity regarding the association between sites and the areas assessment to be of moderate and high potential and to support the impact assessment</p> | <p>Artefact Heritage conducted an addendum technical report (this report) to reassess the Aboriginal site boundaries in relation to the study area. The complexity of the location of existing and destroyed artefact sites is included in Section 2 and Section 3 of the report.</p> <p>A. Original site boundaries overtime prior to destruction have been included in updated Figure 16. Original site boundaries and extents have been determined through AHIMS site cards and previous reports. The updated site extents have been determined through interpretation of AHIPs and historical disturbance of the site and reflected in Figure 64. AHIMS site cards will be updated to reflect the current boundaries</p> <p>B. An updated site boundary has been included as Figure 64. Due to the level of destruction within the study area only two portions of survey units have identified artefacts and the ridgeline elevated landform contains moderate</p> |
|--|---|

Heritage NSW RtS	RtS responses and where addressed in this report
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presented which indicates partial harm to some sites and total harm to others.	potential for truncated artefact bearing residual soils
C. Please clarify how the unimpacted areas of high and moderate Aboriginal archaeological potential will be recorded and managed beyond the life of the current project. For example, will these untested areas of 'Moderate' and 'High' potential be registered on the Aboriginal Heritage Information Management System (AHIMS) as Potential Archaeologically Deposits [PAD] and/or will existing site cards be updated to include the updated sensitivity mapping (i.e. capture these areas of potential within the existing registrations).	C. Updated recommendations have been provided in Section 7 and 8

Management and Mitigation Measures

3. Please update the impact assessment in the ACHAR (i.e. 'Summary of Likely Harm' sub-table in Table 7) and in the Archaeological Assessment (i.e. Tables 17 and 18 in Section 9.3) to identify whether AHIMS 45-5-0474 will be subject to direct/indirect and total/partial harm in accordance with Requirement 11 of the Code of Practice. We note that the registered point location for the site is ~3.5m south of the project boundary however, information presented in the Archaeological Assessment indicates that the area of moderate potential identified across 'Survey Unit 3' may be attributed to AHIMS 45-5-0474 as the only registered Aboriginal site associated with Survey Unit 3 (see Table 14, Figure 26 and Figure 53).	An updated impact assessment (Table 7: Artefact 2025 update of likely harm) is included in Section 6 Impact assessment of this report. AHIMS site cards will be updated to reflect the level of destruction and reposition that have occurred on the sites within the study area (Table 8).
4. Please update Section 5.2 of the Archaeological Research Design and Methodology (ARDM) to provide additional information relating the timing, process and roles and responsibilities surrounding the identification/definition of exclusion zones. For example, at what stage will it be possible to define exclusion zones to provide certainty over whether an area/Aboriginal site will be impacted or avoided, how will the exclusion zone/s be mapped (i.e. will this be in the form of an updated impact assessment following provision of final designs or will this occur in the field at the time of preparing to undertake works) and who will be responsible for defining exclusion zones.	Artefact sites have been mapped in updated Figure 64, mitigation measures have been discussed in Section 6.0 of the report. This question is addressed in the Artefact Heritage 2025 Addendum Historical Archaeological Assessment submitted as part of the RtS. The only location where Aboriginal objects are located within proximity of proposed works is part of the slope with potential washed down isolated finds (see Figure 66). After the opportunity for community collection in the area of isolated finds there is no need for archaeological excavation for Aboriginal objects or the establishment of exclusion zones.
5. Please provide additional information in relation to the location of the proposed historical archaeological excavations (as mentioned on pg.27 of the ARDM) and how they interact with the areas of Aboriginal archaeological sensitivity and known Aboriginal sites identified in the ACHAR. For example, the proposed historical excavations are only located in areas assessed to be of low Aboriginal archaeological potential and hence no Aboriginal archaeological testing is required/proposed. Where historical test excavations are proposed within areas of moderate or high Aboriginal archaeological potential, additional consideration of the suitability of proposed management measures may be required.	This question is addressed in the Artefact Heritage 2025 Addendum Historical Archaeological Assessment submitted as part of the RtS. The Addendum historical archaeological assessment 2025 has found that due to the extensive subsurface impact and land clearing which has removed historical archaeological potential within the study area. No historical excavations are proposed across the study area. In addition, this addendum report has updated the Aboriginal site extents to the ridgeline and part of the slope as indicated in Figure 64, and

found that archaeological excavation for
Aboriginal objects is not required.

1.3 Aims and objectives of this addendum ATR

The aim of this addendum ATR is to address the response to submission comments from HNSW on the Virtus finalised reports regarding Aboriginal Archaeology.

To achieve this aim, the following objectives are included in this report:

- Review of existing knowledge: Review of previous archaeological works and the results of a search of the Aboriginal Heritage Information Management Systems (AHIMS) database.
- Review of the landscape context: Desktop assessment of the archaeological implications of the landscape features (soil landscapes, historic land use, geomorphic character, and natural resources) relevant to the study area
- Summary and discussion of the local and regional archaeological character of Aboriginal land use and its material traces based on the finds of the previous two steps
- Complete a site visit to the study area to ground truth the background research and outcomes of the Virtus assessment
- Update the archaeological significance assessment of any Aboriginal objects that will be impacted by the proposed works
- Update the impact assessment of any Aboriginal objects that will be impacted by the proposed works

1.4 Limitations and constraints

Background research completed to inform the development of this report was limited to existing and publicly accessible sources of information. The findings of archaeological assessments cited in the report were not independently verified except where inconsistencies within the documents were identifiable. Historical (non-Aboriginal) heritage has not been assessed as part of this study. The preparation of this report did not include assessment of intangible Aboriginal heritage values. A complete survey was not conducted for this RtS; a site visit was conducted and additional information on the soil and landscape to confirm and understand the results of the Virtus 2025 survey and site assessment. Artefact Heritage had access only to the finalised Virtus reports to interpret for the RtS comments.

1.5 Authors and contributors

This report was prepared by Katherine Douglas (Graduate Heritage Consultant, Artefact Heritage) and Dr Stephen Gapps (Historian, Artefact Heritage). Management and review were provided by Samuel Sammut (Senior Heritage Consultant, Artefact Heritage), Dr Samantha Higgs (Archaeology Team Leader, Artefact Heritage) and Josh Symons (Technical Executive, Artefact Heritage). Mapping was provided by Mike Douglas (Geographic Information System Officer, Artefact Heritage). A summary of the authors, contributors and their role are provided in Table 1: below.

Table 1: Summary of authors and contributors.

Authors and Contributors	Qualifications	Experience	Tasks
Josh Symons (Technical Executive)	Bachelor of Arts (Hons), Prehistoric and Historical Archaeology	20+ years	<ul style="list-style-type: none"> Quality control Technical support
Dr Samantha Higgs (Archaeology Team Leader)	Bachelor of Arts (Hons), Prehistoric and Historical Archaeology PhD, Archaeology	20+ years	<ul style="list-style-type: none"> Technical review Management input
Mike Douglas (GIS Officer)	Bachelor of Arts North American Archaeology Master of Science Geology Master's Certificate in GIS Science	20+ years	<ul style="list-style-type: none"> Preparation of mapping GIS support
Sammuel Sammut (Senior Heritage Consultant)	Bachelor of Arts (Honours) Master of Archaeological and Evolutionary Science	4+ years	<ul style="list-style-type: none"> Project Management
Katherine Douglas (Heritage Consultant)	Bachelor of Arts (Honours - Archaeology)	1+ year	<ul style="list-style-type: none"> Background research Report preparation

2.0 ARCHAEOLOGICAL CONTEXT

2.1 AHIMS search

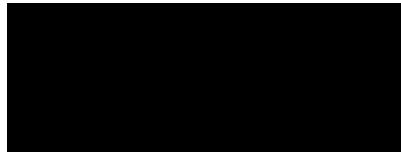
NOTE: The location of Aboriginal sites is considered culturally sensitive information. It is advised that this information, including the AHIMS data appearing on mapping below must be removed from this report if it is to enter the public domain.

An extensive search of the Aboriginal Heritage Information Management System (AHIMS) was undertaken on 25 August 2025 (Client Service ID: 1036560) to determine the location of Aboriginal sites in relation to the current study area. The search area was defined as 3km x 3km to inform the characterisation of the local archaeological context. The AHIMS search parameters were as follows:

GDA, Zone 56

Buffer

Number of sites



The extensive AHIMS search identified a total of 75 AHIMS sites within the search area, in a larger search area than was conducted under Virtus' AHIMS search on 27 May 2024. According to AHIMS centroids there are five AHIMS sites that are still valid and located within the study area and one AHIMS centroid within 3.5 metres of the study area (further information on the location of the AHIMS sites is included in Section 2.1.1 below). There was one pair of duplicate sites identified by the extensive search. One site from this duplicate pair has been omitted from the following discussion of the results:

- AHIMS ID 45-5-4438 and AHIMS ID 45-5-4490

Figure 1: AHIMS extensive search area

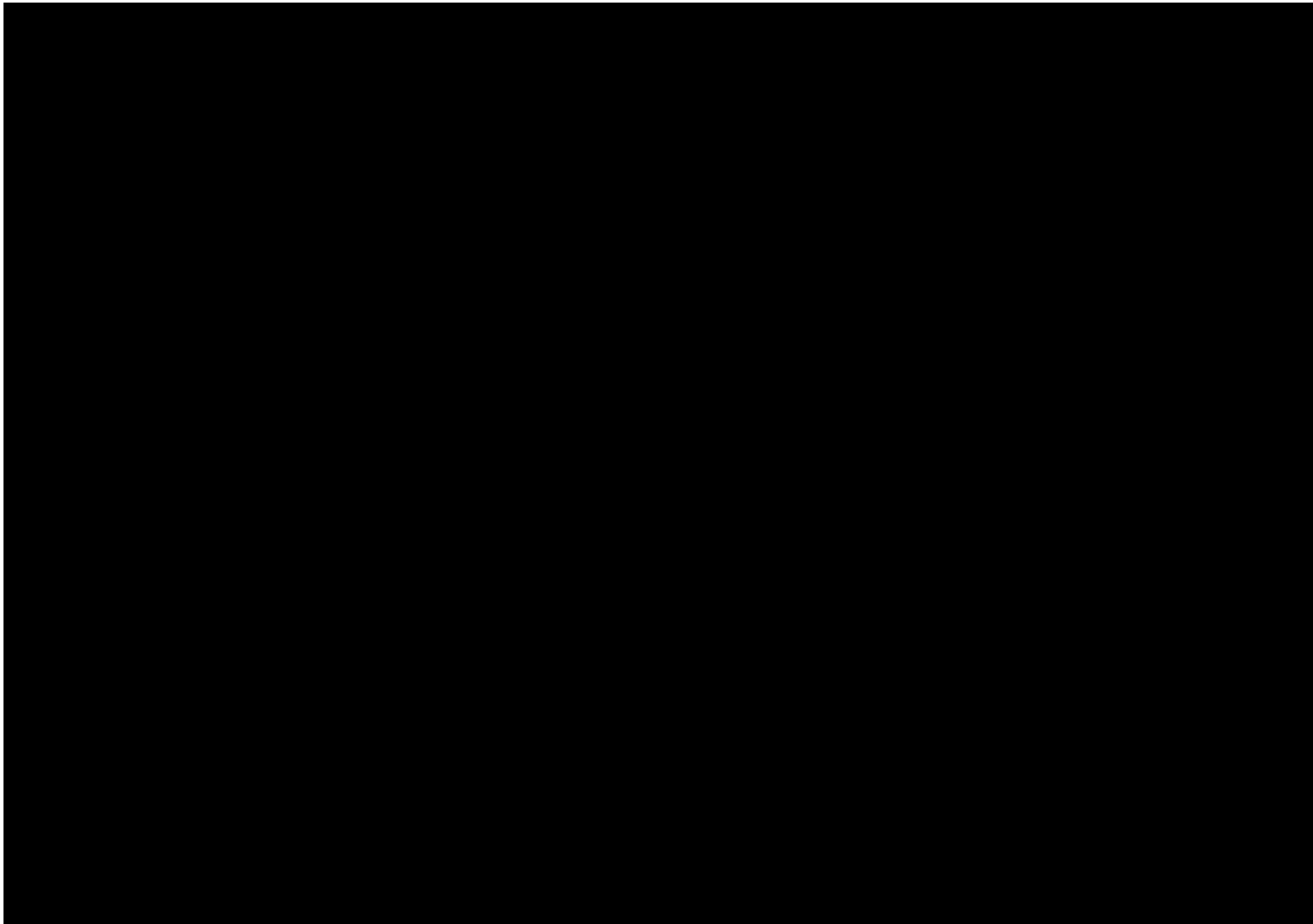
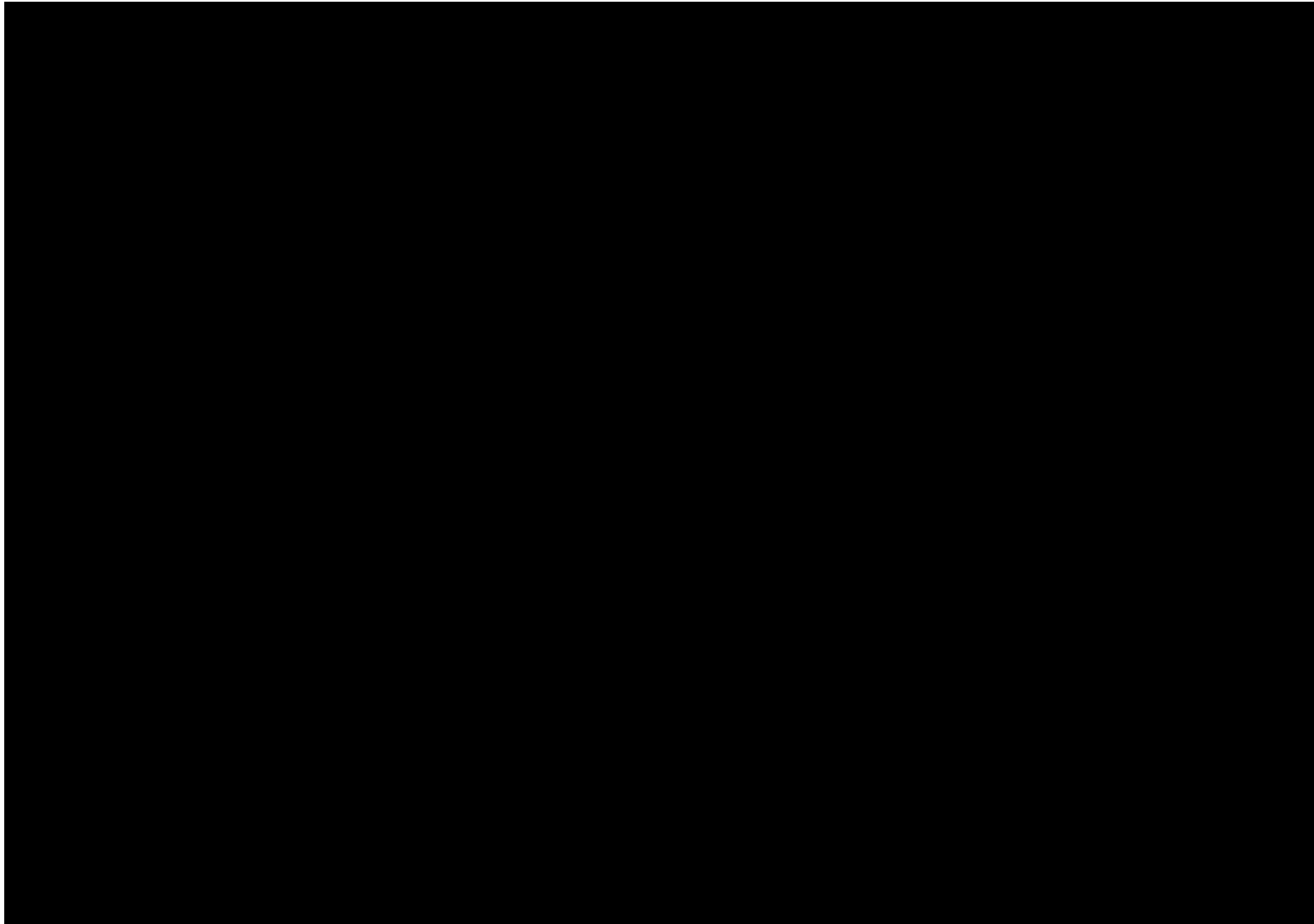


Figure 2: AHIMS detail centroids – details of inconsistencies with the centroids detailed in Section 2.1.1 below



2.1.1 AHIMS sites confirmed located within the study area

After interpretation of the site it has been updated that only five sites were within the boundaries of the study area, including a PAD registered in 2008 which has a centroid approximately 716 metres outside of the study area boundary.

2.1.1.1 AHIMS ID 45-5-0456 South East Plumpton 5 (SEP/5)

Point data provided by AHIMS locates AHIMS ID 45-5-0456 within the study area. The site was recorded in 1986 and is a lithic surface scatter. The site card notes that the site was located on a track forming an easterly extension of Woodstock Avenue. Although a map is not provided in this site card, the site cards for AHIMS ID 45-5-2461 and AHIMS ID 45-5-2462 indicate that this site is within the study area in a portion of the then proposed Woodstock Avenue Road extension and is inconsistent with the point data provided by AHIMS.

The site comprises of 60 stone artefacts. The scatter was predominantly comprised of silcrete flakes and cores with smaller quantities of chert and quartz. Artefacts included one bifacially flaked basalt pebble with anvil pitting, interpreted as a discarded edge-ground hatchet, one partially backed silcrete blade and one silcrete scraper.

The site card also identifies that seven large trees within 200m of this site had “symmetrical flake scars up to 60cm long” and was interpreted as potentially resulting from Aboriginal activity. The recorder notes that similar scarred trees were reported on the opposite side of Eastern Creek and presents this site as “part of a large site complex in this vicinity.”

Although Excel data provided by AHIMS records AHIMS ID 45-5-0456 as a valid site, the site card includes a copy of a s90 Consent to Destroy authorising destruction of Aboriginal objects for the “Proposed Road upgrade, Nurragingy Reserve, Blacktown”, dated to 14 March 2003. With the site numbers 45-5-456, 45-5-2462 ad 45-5-2461 handwritten on the S90 document.

McDonald found further artefacts attributed to this site in 1999, an updated site card was included as part of the report but was not lodged on AHIMS, approximate boundaries of 45-5-0456 have been included in Figure 18, Figure 20, Figure 21. Additional artefacts were located in McDonald 2005 and Brown 2008 which were not updated on the site card.

2.1.1.2 AHIMS ID 45-5-2776 – Glendenning Road 1

Point data provided by AHIMS locates AHIMS ID 45-5-2776 is located within the study area. The site was recorded in 2000 and is a lithic surface scatter comprising of one chert flaked piece and one mudstone flake. The site card notes that the chert artefact was located 25m northeast of Tower 26 associated with a transmission line upgrade, and the mudstone artefact was located 8m to the east of Tower 26.

A map of Tower 26 is provided with the site card and is inconsistent with the point data provided by AHIMS, placing this site approximately 100m further to the west of its mapped location, still located within the study area. This site is interpreted to form “part of a discontinuous artefact scatter along the broad spurline crest”

2.1.1.3 AHIMS ID 45-5-0483 – Southeast Plumpton 6 Rooty Hill (SEP/6)

Point data provided by AHIMS locates AHIMS ID 45-5-0483 within the study area. The site was recorded in 1985 and is a lithic artefact scatter. The site comprises of 16 artefacts in a 15m x 5m area. Five silcrete cores, a quartzite hammerstone and seven silcrete flakes with retouch or use wear were identified within the assemblage. This site was interpreted to form part of a larger site complex extended from Eastern Creek to the nearby ridgetop.

2.1.1.4 AHIMS ID 45-5-3622 – EC132k VPAD

Point data provided by AHIMS locates AHIMS ID 45-5-3622 within the study area (although the centroid is 716 metres northeast of the study area). The site was recorded in 2008 and is a 300-hectare Potential Archaeological Deposit which encompasses a portion of the current study area.

As part of the listing it was stated that management recommendations (and the justification for the large listing) centre on the precautionary principle that all areas within the PAD should be considered as having archaeological potential unless otherwise demonstrated (e.g. due to disturbance), rather than the converse assumption of such potential requiring demonstration.

2.1.1.5 AHIMS ID 45-5-0474 – Southeast Plumpton 4 Rooty Hill (SEP/4)

Point data provided by AHIMS locates AHIMS ID 45-5-0474 just south of the study area boundary. The site was recorded in 1985 following archaeological survey and consists of a lithic surface scatter. The site card states that 14 stone artefacts were identified on an eroded 10m x 5m area on a rise “200 metres west of Eastern” Creek. It is noted this location description is inconsistent with the point data provided by AHIMS, which locates the site approximately 135m west of Eastern Creek.

Artefacts identified included a silcrete core, two chert flakes, one showing usewear, and three quartz fragments. This scatter was interpreted as part of a complex (With SEP/3, SEP/4, SEP5 and SEP6) extending from Eastern Creek to the top of a low ridge. Additional assessment of reports indicates that the artefact scatter would have partially extended into the study area.

2.1.2 AHIMS sites in proximity to the study area

2.1.2.1 AHIMS ID 45-5-2461 – WNIF1

Point data provided by AHIMS locates AHIMS ID 45-5-2461 within the study area. The site was recorded in 1999 and is an isolated silcrete artefact on a midslope between AHIMS ID-0456 and AHIMS ID 45-5-2462. The site card includes a map of the site location (Figure 21). It is noted that the location description and map are inconsistent with the point data provided by AHIMS, which locates this site approximately 20m south of the study area.

The site card notes that the artefact was identified in a moderately disturbed location with moderate potential for intact subsurface deposit. Test excavation was recommended for AHIMS ID-0456 and AHIMS ID 45-5-2462, including the area around AHIMS ID 45-5-2461.

2.1.2.2 AHIMS ID 45-5-2462 – WN2

Point data provided by AHIMS locates AHIMS ID 45-5-2462 located within the study area. The site was recorded in 1999 and is noted on the site card as located at the base of a low ridge or alluvial flat “c. 50-80m west of Eastern Creek” on a track near the creek. The site card includes a map of the site location (Figure 21). It is noted the location description and map are inconsistent with the point data provided by AHIMS, which locates this site approximately 180m west of Eastern Creek outside of the study area along the road way.

The site comprises of 16 stone artefacts. Eight of these artefacts were recorded as eroding out of a 9m x 3m exposure and were interpreted as part of an *in situ* stratified deposit. Three artefacts were identified from soil piles dumped on the eastern side of the track running alongside Eastern Creek. The site card notes that it is difficult to determine the extent of this site to the south and west due to dense grass cover. This site was interpreted as located in a moderately disturbed location with moderate-high archaeological potential. Test excavation was recommended for this site.

2.1.2.3 AHIMS ID 45-5-0475

Point data provided by AHIMS locates AHIMS ID 45-5-0475 approximately 123m east of the study area. The site was recorded in 1985 following archaeological survey and consists of a lithic surface scatter. The location is noted on the site card as 10m from drinking water on the west bank of Eastern

Creek. However, the point data provided by AHIMS places the site on the east bank of Eastern Creek still located outside of the study area.

The location context of the site as listed on the site card includes “block-fractured silcrete lumps” within the site area. A total of seven artefacts were identified, including three demonstrating sharp retouch or signs of use. It is noted that the majority of the assemblage was identified near a gas pipeline. This site is interpreted as part of a complex extending from Eastern Creek to the top of a low ridge although the artefacts identified have been recorded separately from SEP/4, SEP/5 and SEP/6 (discussed above).

2.2 Public AHIP register search

A search of the public AHIP register was completed on 28 August 2025 to determine whether any portions of the study area are within the boundaries of an active AHIP (Aboriginal Heritage Impact Permit). No valid AHIPs were found within or near the study area. The closest AHIP was AHIP C0001962 located approximately 255m east of the study area. AHIP C0001962 was issued for the upgrade and widening of the Nurragingy Reserve fire trail for the applicant Blacktown City Council on 22 June 2016 and expired on 22 June 2020. This AHIP was issued for a nature reserve area within Nurragingy Reserve. AHIP 4314 was issued for works associated with the Blacktown Animal Rehoming Centre approximately 742m north of the study area for the applicant Blacktown City Council. This AHIP was issued on 19 August 2020 and expired on 19 February 2024. This AHIP was issued for works in a cleared area west of Eastern Creek, sharing a similar local context to the study area.

Additional permits are listed on AHIMS database (as detailed in Table 2 below) but were not accessible within the submitted AHIMS site cards. A request was sent to Heritage NSW who supplied the existing details of the permits as they appear in the AHIMS database, discussed below. Copies of the permits have been included in Appendix C.

Table 2: AHIMS search site conditions, permits and reports for sites within the study area

Site ID/ Site name	Site condition	Permits	Reports	Site location
45-5-2776 Glendenning Road 1	Valid	-	-	Within the study area
45-5-0456 South East Plumpton 5	Valid	942, 994, 1424	947, 1018, 4600	Within the study area
45-5-2462 WN2	Valid	1424, 2635	4600	Not located within the study area
45-5-2461 WNIF1	Valid	1424	4600	Not located within the study area
45-5-0483 Southeast Plumpton 6 Rooty Hill	Valid	940	1018	Within the study area
45-5-0474 Southeast Plumpton 4	Valid	941	1018	Within the study area

Table 3: Permit details on AHIMS

Permit	Year of Permit	Permit type	Further details
940	Application date 15/04/1998	S90 Consent to Destroy – Whole site - SEP/6 AHIMS ID 45-5-0483	A copy of the permit or evidence of its issue was not available from Heritage NSW but as detailed in Kohen 2001 the salvage works were undertaken.
941	Application date 15/04/1998	S90 Consent to Destroy – Whole site - AHIMS ID 45-5-0474	A copy of the permit or evidence of its issue was not available from Heritage NSW Note: Kohen 2001 states that the area was destroyed under permit 941, and the works were undertaken.
942	Application date 15/04/1998	S90 Consent to Destroy – Whole site AHIMS ID 45-5-0456	A copy of the permit was or evidence of its issue was not available from Heritage NSW but as detailed in Kohen 2001 the salvage works were undertaken.
994	Application date: 06/04/1999	Excavation Permit – AHIMS ID 45-5-0456	A copy of the permit or evidence of its issue was not available from Heritage NSW
1424	Approval 14 March 2003	S90 Consent to Destroy: Part of SEP5/ WN1 (NPWS# 45-5-456) – within the study area Part of WN2 (#45-5-2462) – not within the study area WNIF1 (#45-5-2461) – not within the study area	A copy of the permit was available on AHIMS. The consent for partial destruction of SEP/5 only included the new location of AHIMS site 45-5-0456 as listed by McDonald 2001 (Figure 24 – labelled as 45-5-0456).
2635	Application 11/01/2007	S90 Consent to Destroy – Partial SEP3 (INPWS # 45-5-0475) – outside of the study area WN2 – (NPWS #45-5-2462)	A copy of this permit was available on AHIMS. The boundaries of 45-5-0475 in the image don't align with the AHIMS or further mapping boundaries of the site

3.0 LANDSCAPE CONTEXT

3.1 Virtus summary of soils, geology hydrology and landform

Virtus 2025 details the soil and hydrology in Section 3.1 of the Archaeological Assessment detailing that the project area originally contained a low-ridge line and spur with gentle slopes. This topography is characteristic of Blacktown and South Creek soil landscapes. Virtus indicates that drainage lines within the project area once flowed from its slopes to tributaries of and to Eastern Creek, which is located 150m east of the project area. Therefore, the study area is situated in a landscape that is known to contain Aboriginal objects.

Virtus notes that the project area has been subject to heavy modification and disturbance through “vegetation clearance, poultry farming and agricultural work, substantial earthworks and landform modification, creek line modification, transmission lines, service and utility installation and industrial development.”

A northeast portion of the project area is within the South Creek soil landscape. This landscape is typically characterised by sloping alluvial plains, occasional terraces, floodplains, valley flats and drainage depressions of the channels on the Cumberland Plain. Similarly, the topography of this landscape is described as exhibiting gentle slopes of <5% and a local relief of <10m.

The South Coast Creek soil landscape present in the northeastern portion of the study area include seasonal waterlogging, permanently high-water tables, surface movement potential, water erosion hazard and flood hazard. The South Coast Creek landscape has been impacted through the modification of a spur and drainage line. This modified landform appears to be between 1 and 3m above the original terrain mapped in digital elevation models prior to 1990. The western portion of the project area contains existing commercial infrastructure including buildings and car parks and associated infrastructure.

Virtus indicates that tributaries of Eastern Creek were originally present in the northeast corner of the study area prior to 1950. The greater landscape of the study is characterised a tributary of the Hawkesbury River as Eastern Creek is part of the Hawkesbury-Nepean Catchment River System and feeds into a confluence 14km north of the study area. Virtus’s interpretation of the proximity to Eastern Creek is that although flooding events may contribute to movement and deposition of artefacts, focal aboriginal cultural material may be present within the study area particularly in the south and eastern edges of the study area in closer proximity to Eastern Creek.

3.1.1 Blacktown DCP mapping

The Blacktown Development Control Plan 2015 includes mapping of Archaeological sites and Archaeological Potential in the Blacktown LEP. The 2006 DCP was updated with an amendment extending the known archaeological site mapping into the study area as seen in Figure 4 below.

3.1.2 Geotechnical results summary – Virtus 2025

Geotechnical investigations were completed by AECOM 2023 and Martens 2024 and provided to Virtus Heritage on 25 September 2024 (Virtus 2025).

Virtus 2025 in Section 3.1 Geology and Soils of the Archaeological Assessment provided a preliminary geotechnical model which reviewed the existing ground investigation information to assess the anticipated ground conditions across the site (the current project area) and provides an

indication of the degree of impact from past land use and disturbance to original soil profiles that might contain Aboriginal objects.

Virtus stated (2025 p.29)

The test pit and borehole data indicate the absence of original A horizon soils, with residual B1-C3 stiff silty clay alluvium and residual soil units surviving ~1.3-3m below imported fills across the majority of the project area (Martens 2024). Alluvium has been identified on the site to depth of 9m. The alluvium consists of stiff to hard clay with some fine to coarse grained gravel, medium and high plasticity, with moderate to high shrink-swell potential' (AECOM 2023:18). The high clay content of the project area may have impacted the depositional condition of stone artefacts, if extant, and contributed to movement. If Aboriginal objects have survived north of CTP1 (AECOM 2023, as cited in Martens 2024), these objects are likely to have been significantly displaced through land use, earthworks and imported fill.

Based on the available borehole data, the survival of A horizon soils appears to be limited to the southern boundary within a ridge spur and slope. Artefacts in this area may be on the surface and buried, eroding down slope or displaced by earthworks and past land use.

3.2 Additional Geotechnical results Martens 2025

Martens 2025, Geotechnical Assessment Report Data Centre – 2 Glendenning Road, Glendenning NSW, report for LCI Consultants.

Martens undertook field investigations of the soil profile at 2 Glendenning Road, Glendenning in 2025 which included a walkover inspection, drilling of a total of 10 boreholes and standard penetration tests in the 10 boreholes. (Martens 2025a page 23)

A generalised understanding of the results includes the following:

Unit A: Fill comprising silty clay, encountered up to 3.0 mbgl. The fill was assessed as typically moderately to well compacted although some weaker layers were present. On the basis of no quality control testing certification being available, we have assumed for the purpose of this report that the fill was placed under 'uncontrolled' conditions.

Unit B: Alluvial soil encountered in the northern portion of the site

Unit C: Residual soil

Unit D: Weathered shale/ laminate, encountered from between 1.3 mbgl and 11.4Mbgl.

Martens 2025, Detailed Site Investigation Proposed Glendenning Road Data Centre 2 Glendenning Road, Glendenning NSW

Martens and Associates were engaged by LCI consultants to complete a detailed site investigation (DSI) of land in connection with a proposed data centre development at 2 Glendenning Road, Glendenning NSW. (Martens 2025n, p.23)

“Subsurface conditions: fill material was observed at most test pit location, except for several locations in the southern IA where residual soils were present at the ground surface. Fill soils typically consisted of red brown to orange or grey brown silty clay, with grey brown clayey silt at several locations, extending to depths ranging between 0.3m to >3.1m. Additionally, it was noted that the overall thickness of the fill horizon appeared to increase in northerly direction across the IA. Natural soils, either at the ground surface or directly underlying fill, consisted of residual clay soils comprising of red brown to orange silty clay.”

Martens stated that previous studies reporting on site history by AECOM (2023) indicated that there was imported fill introduced to the site between 2000 and 2005, and the entire site area was cleared of all vegetation and likely filled. Historic aeriels from that period indicate clearance and distribution of fill particularly in the eastern portion of the property (in proximity to the current study area and proposed works). The test pits within the boundary of the works are all silty clay and clay soil types and medium sized included gravels. Two of the test pits within and in proximity of the works boundary had trace metal, concrete and plastic. As discussed above the majority of the test areas within the northeastern corner of 2 Glendenning Road, Glendenning had inclusions (e.g. terracotta brick, asphalt, concrete etc) which indicate the fill and level of disturbance at the site, including plastics located metres under the surface level indicating the removal of soil profile within the study area and the potential for intact artefacts (Martens 2025b, pg. 24).

Anthropogenic materials were observed in fill materials at several test pit locations consisting of timber (TP223), metal fragments (TP217), concrete (TP204, TP218, TP226, TP228, and TP231), asphalt (TP231), brick fragments (TP2019, TP222, TP226, and TP231) and plastic (TP218, TP220, TP223, TP226, TP228 and TP231). Generally, observed inclusions were encountered at low volumes.

Figure 3: Martens 2025 Geotechnical Assessment results



© Martens & Associates Pty Ltd | E: info@martens.com.au | W: www.martens.com.au
 Project No: P2310014 | Map Set: MS02-401 | EPSG: 7856

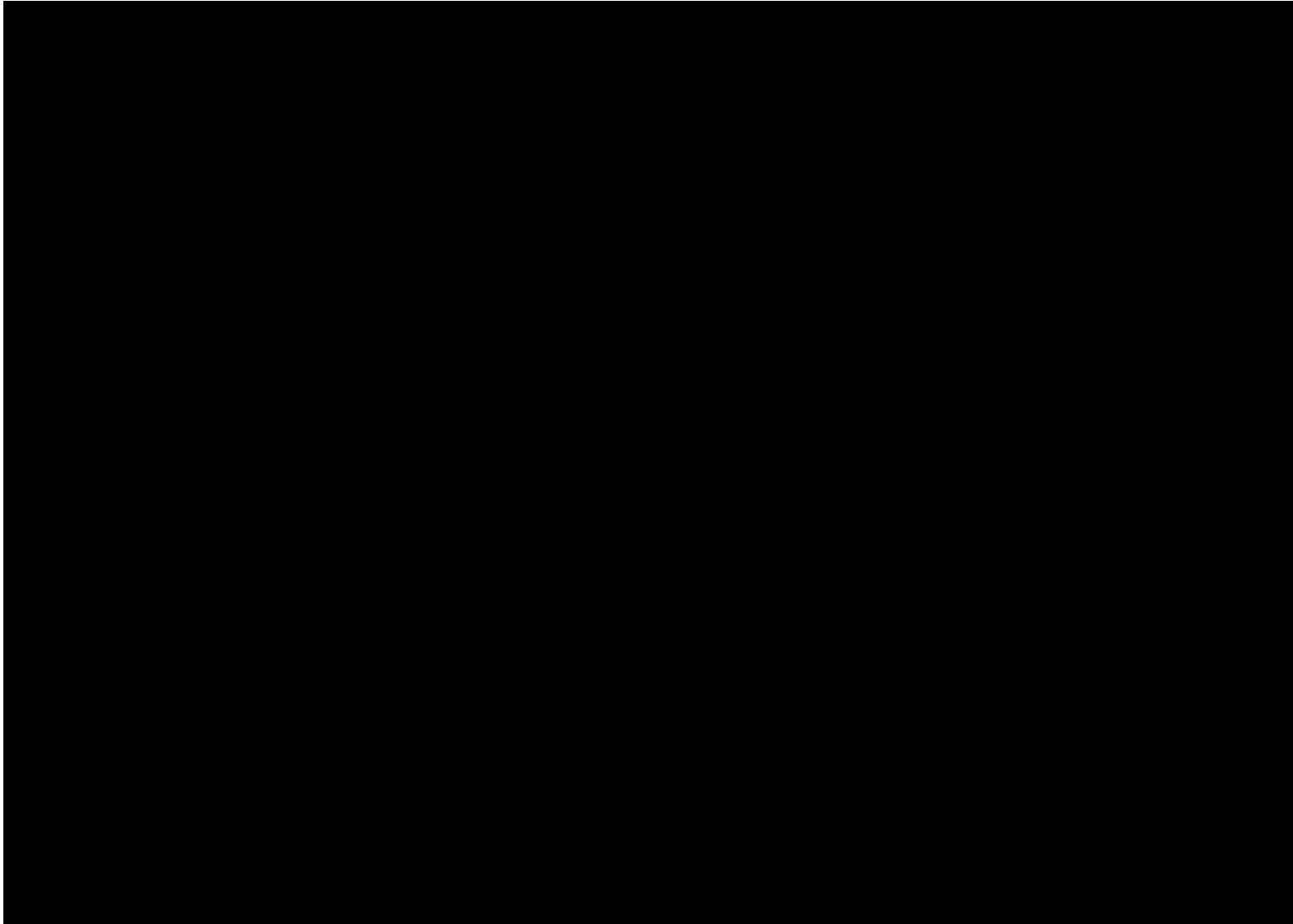
Map Title / Figure:
Sampling Plan

1:2500 @ A3
 Viewport A
 Notes:
 - Aerial from Nearmap (2024)
 - Cadastre from NSW Spatial Services Clip & Ship (2024)
 - Site Boundary from LTS survey (2024)



Map 03	Map
2 Glendenning Road, Glendenning NSW	Site
Proposed Data Centre Development	Project
Detailed Site Investigation	Sub-Project
Lehr Consultants International	Client
08/11/2024	Date

Figure 4 Blacktown DCP Archaeological sites and areas of significance in relation to the study area



3.3 Historic land disturbance and previous studies in the area

3.3.1 Virtus 2025 findings of historic land disturbance

In Section 3.4 Previous Land use history of Virtus 2025, the land disturbance of the study area was detailed. Dharug land use is discussed further in Section 4. An analysis of historical aerials, maps and photographs was undertaken on images from 1835, 1872, 1929, 1942, 1956, 1965, 1970, 1978, 1986, 1998, 2000, 2005, 2008, 2011 has been undertaken to examine past land use and the extent of disturbance within the project area (refer to Table 4 and Figure 5 to Figure 22 in Section 3.4 of the Archaeological Assessment Virtus 2025).

Virtus states that the project area has been subject to the following impacts:

- Grazing
- Orchardry
- Vegetation clearance
- Fencing
- Poultry farming and other agricultural activities,
- Construction of dams
- Modification of drainage lines
- Service and utility installation (electricity, water)
- Substantial earthworks and land modification
- Construction of dwellings
- Industrial structures.

In summary, due to the impact of the ground disturbances within and adjacent to the study area, Virtus has summarised that it is likely that Aboriginal occupation deposits have been impacted and potentially removed from this history of previous land use, especially in the modified landforms to the north of the remnant low ridgeline and spur.

3.3.2 Additional resources demonstrating historical land disturbance

The results of historical aerial searches indicate that the entirety of the study area and adjacent landform have been subject to destruction and impact. The study area has been extensively impacted from 2001 up to 2025. The most extensive impacts are visible in the 2004 and 2007 historical aerials (Figure 9 and Figure 10). Aboriginal objects that remain within the study area are all within an extremely disturbed context and would have been pushed from further up the ridge line. It is noted that this disturbance has impacted the original soil profile as indicated in the geotechnical results. As indicated by Virtus artefacts have been located or at least relocated in the Virtus survey. Most artefacts recovered from the area and surrounds occurred prior to and including 2001 before considerable impact. Five artefacts were recovered during assessment of the southern ridgeline within the study area in 2005 (McDonald 2005), and eight artefacts recovered during assessment of the eastern electrical tower.

A total of only 6 artefacts were located during the Virtus survey within a specific area. The least impacted area is in the southern boundary of the site where trees have been retained during land clearance. Kohen details in the 2001 salvage of the site, soil removal and fill mainly within the southern portion of the study area, after the site was already disturbed in 2000.

The disturbance and history of the study area by Virtus 2025 with additional details of historical disturbance and historical aerials has been summarised in Table 4 detailed below. A selection of the historical aerials referenced in Table 4 have been included below.

Table 4: Historical disturbance and overall impact to the study area

Year	Disturbance/ history of the site
1835-1872	The project area is within grazing land of the Rooty Hill Station, which was transferred into the Church and School Corporation by 1829, then put up for sale in 1865. The project area was leased to Edward Weston around the mid-1800s.
1872	The project area fell within land sold to Walter Lamb, a grazier, around 1872. The description on the parish map of the time notes "Box Forest". This was later sold to his brother. A subdivision advertisement c.1894 depicts structure located in or near the project area. A 'cottage' is depicted on the creek side of Lot 60 (Virtus 2025: 22). The Lambs were known for grazing and orchardry.
1929	By the early 1920s, Hugh Williams Owen owned Lot 58, Lot 59 and the western portion of Lot 60. By 1929, a marker representing a structure and access way can be seen in the centre of the project area on maps of Glendenning. Probate packages indicated the property comprised a weatherboard cottage, three rooms and kitchen, iron roof, poultry houses, fencing and land clearing (Virtus Heritage 2024:28)
1942	The earliest aerial photograph of the project site depicts a dwelling and numerous outhouses and sheds, located in Lot 59 and the western portion of Lot 60. An access way can be seen linking the buildings to Glendenning Road. This corresponds with the structure and accessway depicted on the 1929 map (Figure 8 in Virtus Archaeological Assessment) and is the property owned by Hugh Williams Owen. There is no visible evidence of a cottage in the eastern portion of Lot 60, which appears unused. Agricultural infrastructure is present including fences, access tracks, plantings, a dams and modified drainage line. Minimal vegetation present within the project area around the eastern and southern perimeters towards Eastern Creek.
1947	The 1947 Historical aerial overlay (Figure 5) indicates a dwelling in the centre with outhouses and sheds.
1956	1956 historical aerial overlay (Figure 6). A house and agricultural infrastructure are still present within the study area including fences, access tracks, plantings, a dam and modified drainage line. Further modification and earthworks have occurred. Minimal vegetation present within the project area around the eastern and southern perimeters towards Eastern Creek.
1965	By 1965, a dam has been built in Lot 59 however there appears to be less structures in the cluster of buildings associated with the Owen family. The main structure, which was likely the weatherboard cottage is now not visible. A high-voltage transmission tower has been built in the centre of the eastern portion of Lot 60.
1970	By 1970, the dam and a few sheds remain, and the access track appears less prominent, suggesting that the property is not being regularly used as a residence.
c. 1970	The project area is depicted c.1970 from a slightly different aerial angle. The dam is apparent in the centre of the photo, with a scattering of sheds remaining from the Owen family. The transmission tower can be seen in the back, right-hand corner of the property and Glendenning Road runs along the foreground of the picture.
1978	Towards the end of the 1970s, fewer sheds remain, and the access track appear less prominent, suggesting that the property is not being regularly used as a residence.
1985	Kohen completes a survey of city of Blacktown/ Glendenning and lists the following sites which are relevant to the study area (Figure 18) <ul style="list-style-type: none"> - SEP/4 – 45-5-0474 - SEP/5-45-5-0456 – 60 stone artefacts found artefacts were all collected and removed from the site - SEP/6 -45-5-0483
1986	As indicated in the 1986 historical aerial (Figure 7) built structures have decreased since 1956. Three structures appear to remain on the site alongside the telecommunications tower and the dam. There is some evidence of material, possible dumping, in the far southeast corner of the project area. Continued increase in urbanisation in the surrounding landscape.

Year	Disturbance/ history of the site
1998	The project area exhibits signs of land clearing and earthworks in the 1998 historical aerial (Figure 8), including extensive modification of drainage lines on the margins of the project area. Parts of the project area, particularly the southern and western parameters, appear unchanged from 1956. Increased urbanisation can be identified within the surrounding landscape.
1999	<p>McDonald writes a report of a study area of the new road and some buffering. She notes the following sites (Figure 67 and Figure 21)</p> <ul style="list-style-type: none"> - WN1 – 45-5-0456 - this is the SAME as SEP/5 – she notes that it is a relocation of the site – It is stated in the report that the track has been bulldozed and imported material laid over the top – despite this McDonald survey located 6 silcrete artefacts within a 120-metre distance along the top of the low ridge. - WNIF1 – 45-5-2461 - WN2 – 45-5-2462 (the boundary of this is much different from what is the centroid for the AHIMS sites) – got an understanding of the boundary from her map in the report and on the AHIMS site card
2000	As indicated by Kohen (1985 and 2000) construction works had commenced in the project area. With the creation of new access tracks and earthworks associated with the construction of warehouse structures. Vegetation has covered some areas that have previously been cleared. Subsequent to this historical aerial, Kohen (2001) completed a site inspection, obtained an AHIP for investigations and destruction and undertook archaeological salvage.
2004	The 2004 Historical aerial (Figure 9) shows that the major area minus the ridgeline has been very disturbed and the grass profile stripped.
2005	Jo McDonald (2005) completed an archaeological assessment of the project area for Transmit Management Pty Ltd for a subsequent warehouse development at the southwestern portion of the site.
2006	Between 2005 aerial and 2006 the first warehouse structure is built and there is disturbance ranging down in the southwest corner and the southeast corner.
2007	The 2007 aerial (Figure 10) has the clearest definition of the extent of levelling and impact to the site. There is further paving surrounding the initial warehouse. There is land impact in the southern ridge line although the extant trees have not been removed.
2008	Photos from Brown (2008) archaeological survey of a proposed transmission line upgrade shows the degree of earthworks across the project area.
2009	Between 2008 and 2009 the new warehouse and landscaping is visible to the northeast of the area with all of the cementing and carparking and potential water or septic tank to the north available around it.
2010	2010 Historical aerial (No additional structures but it does seem like still some minor impact on the east side of the site. The grass to the southern ed has recovered from the clearance in 2007.
2011	In the 2011 Historical aerial (Figure 11) the eastern part of the project area appears to have experienced further earthworks and vegetation loss. Additional road works have occurred along Woodstock Avenue.
2016	In the 2016 historical aerial the death of the grass makes the track marks more visible but it doesn't appear that additional construction works have occurred within the study area.
2017 – 2024	The study area remains similar between 2017 and 2024.
2024	The 2024 aerial (Figure 12) has the geotechnical and borehole locations visible discussed in Section 3.1.1 of this report. Virtus conducted a site survey at the end of 2024, 6 artefacts were located within Survey Units 4 and 5 (discussed in Section 6 of the Virtus Archaeological Assessment 2025).
2025	The 2025 aerial (Figure 13) details the removal of the central warehouse. The southern smaller warehouse has also since been removed with the base fill still present. The area has been relatively tracked over again on the eastern side of the whole study area.

Figure 5: 1947 aerial overlay

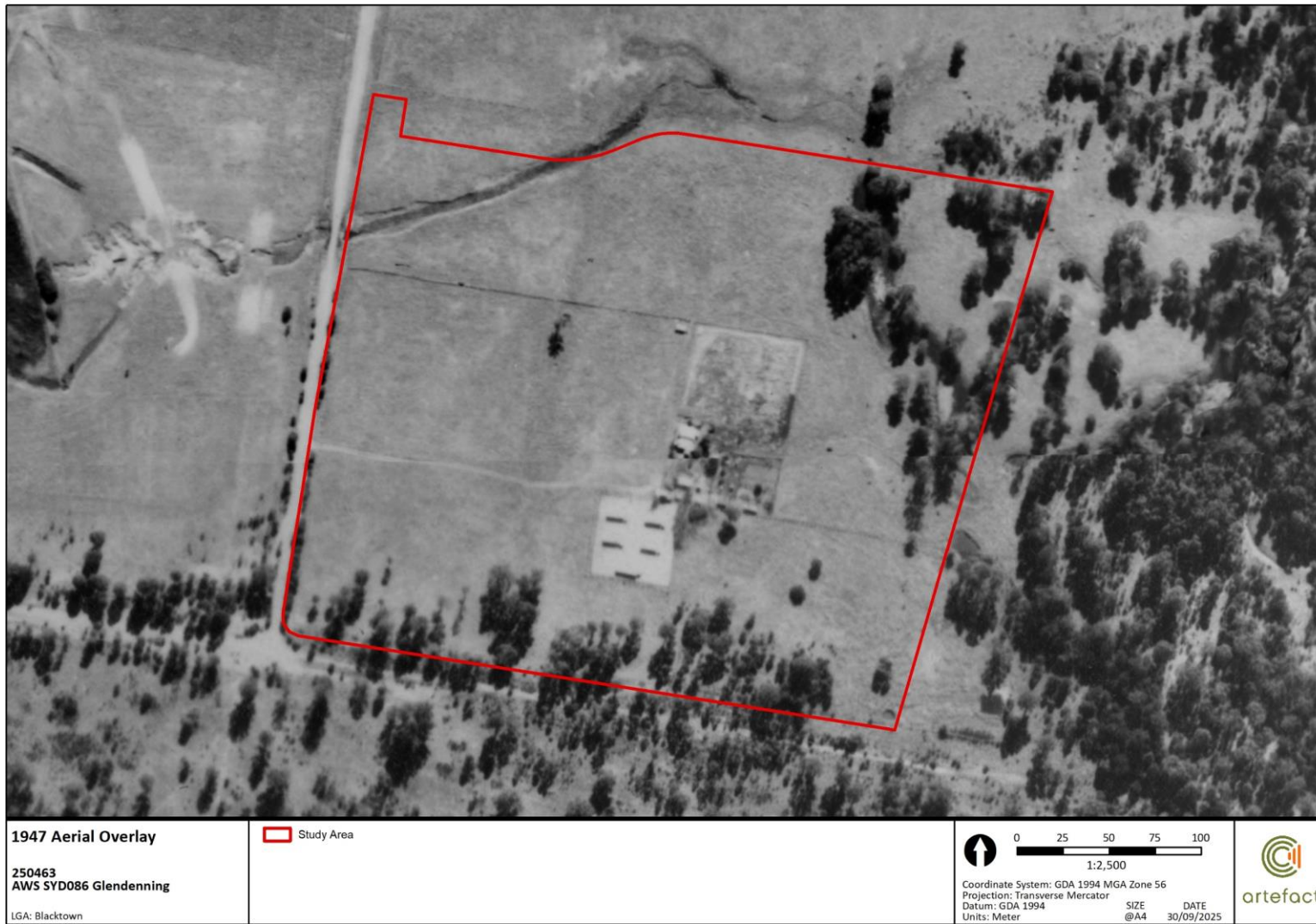


Figure 6: 1956 aerial overlay

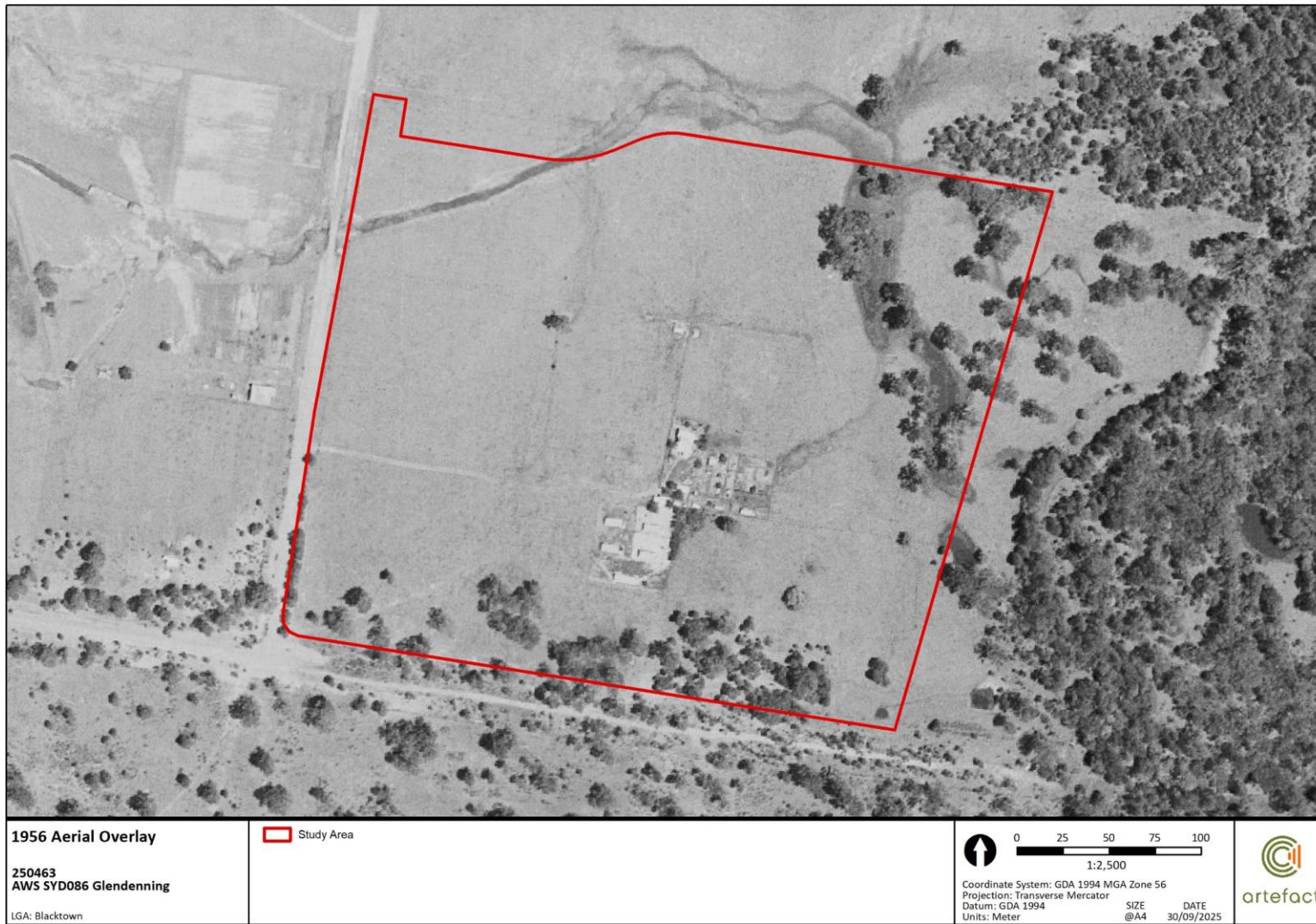


Figure 7: 1986 aerial overlay



Figure 8: 1998 aerial overlay



Figure 9: 2004 aerial overlay



Figure 10: 2007 aerial overlay



Document Path: C:\Users\MDouglas\OneDrive - Artefact Heritage Services Pty Ltd\GIS\GIS_Mapping\250463_AWS SYD086 Glendenning\MXD\250463_HistoricalOverlays_v1_300925.mxd

Figure 11: 2011 aerial overlay



Figure 12: 2024 aerial overlay



The locations of the georeferencing conducted in 2024 is visible in the study area boundary

Figure 13: 2025 aerial overlay



At the time of the Artefact site survey the southern warehouse has also been demolished and removed.

Figure 14: Topography and Hydrology map of the study area



3.4 Summary of previous studies within and around the study area

Virtus discusses the previous studies within and around the greater study area in Section 4.2 of the Archaeological Assessment (Virtus 2024). A summary of the reports relevant to this assessment has been included below. See the full contextual information for the previous reports around the study area in Virtus 2025. Specific report summaries in the interpretation of AHIMS site extents and level of destruction for the RtS have been included in Section 3.3.1 below.

Navin Officer 2000 report which established the AHIMS site 45-5-2776 was not accessible on AHIMS. Figure 17 details the difference between the AHIMS site centroid and the description of the two artefacts in the scatter's proximity to the transmission tower.

The below figures show the Virtus mapping of site extents and the updated extents of all works mapped within the area from accessible reports.

Figure 15: Virtus boundaries included in Section 4 Archaeological Context of Virtus 2025

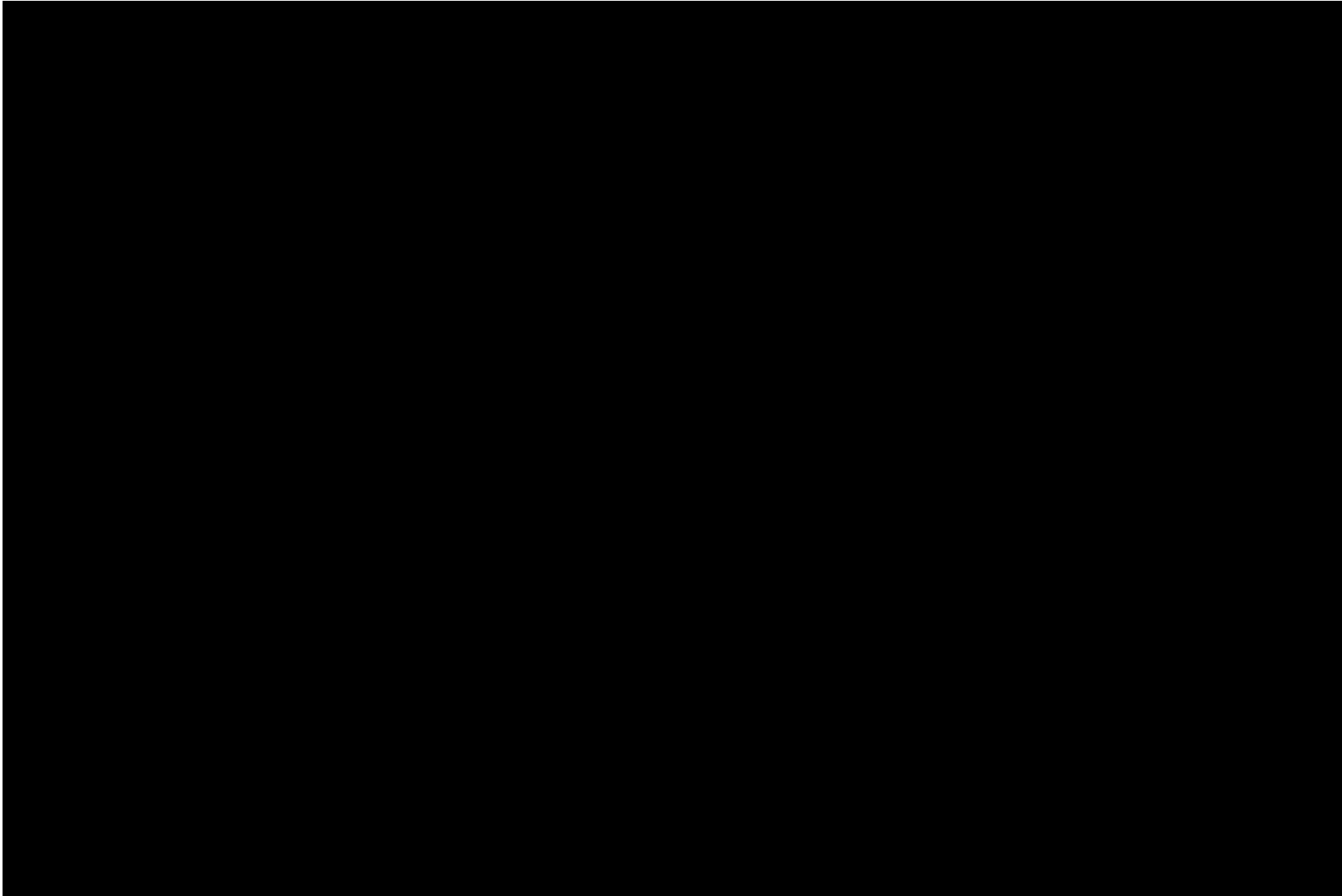


Figure 16: Summary of approximate site locations and identified artefacts organised by year and report diagrams

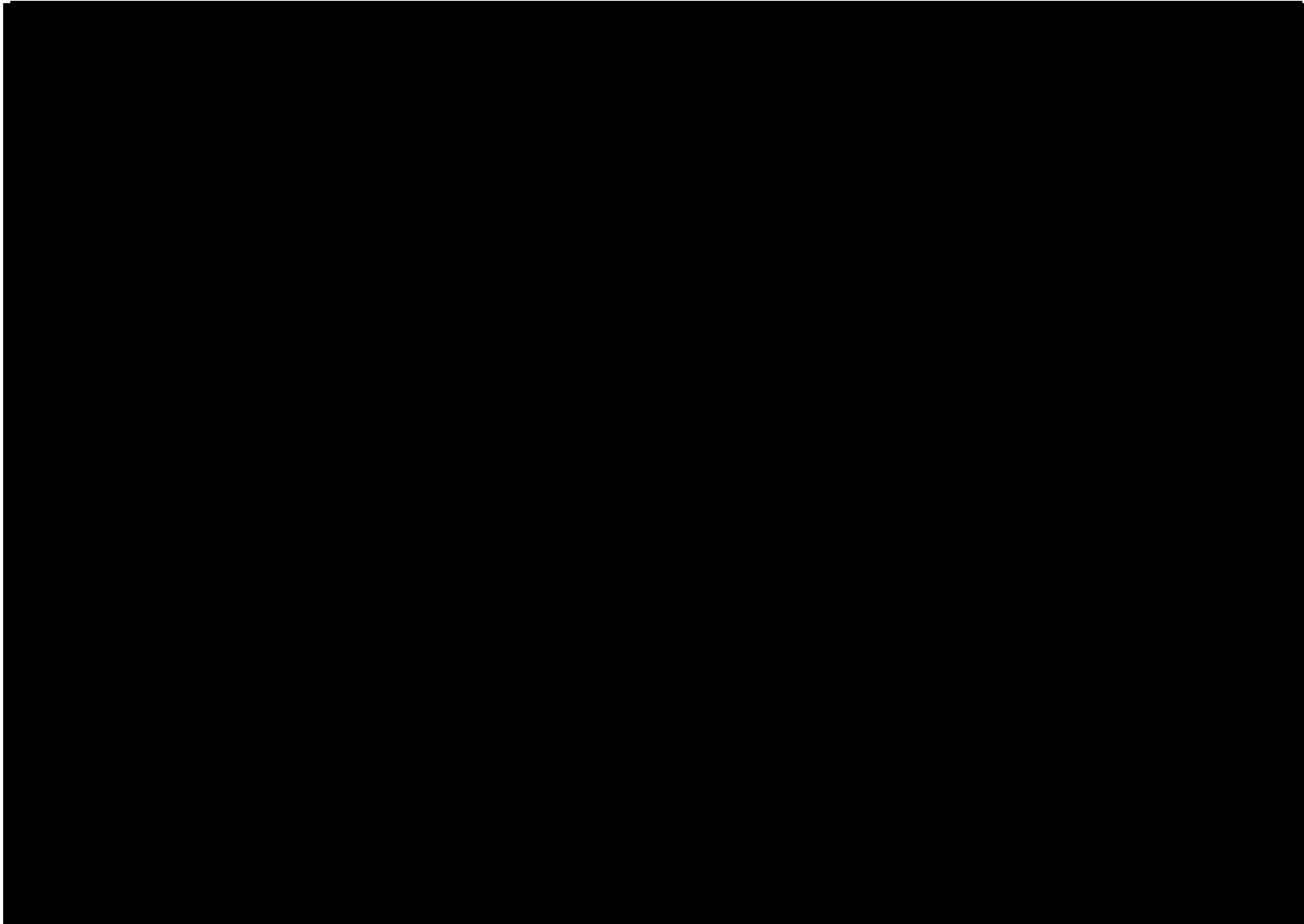
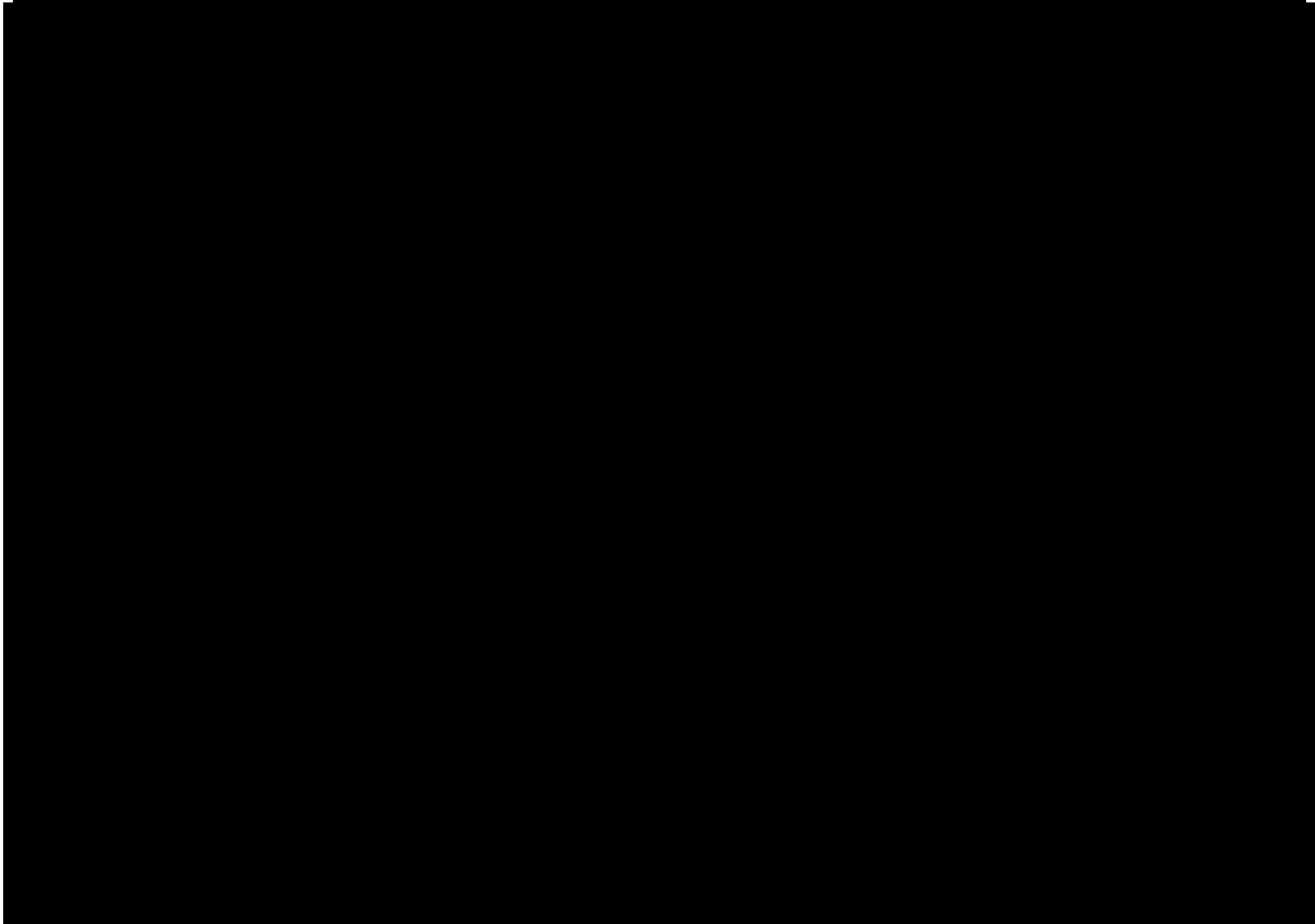


Figure 17: Navin Officer 2000 AHIMS ID 45-5-2776, map of incorrect artefact centroids



3.4.1 Summary of relevant previous reports in the study area

3.4.1.1 *Kohen 1985 Archaeological Survey of the project area and larger industrial estate*

A copy of the Kohen 1985 original survey of the study area is not available in grey literature or on AHIMS but has been referenced extensively in McDonald 1999 and Kohen 2001. This is the first known survey within and adjacent to the study area.

Kohen recorded and referred to the different artefact sites as a site complex comprising four sites (SEP 3,4,5 and 6) one of which consisted of 60 artefacts (SEP/5).

- SEP/3 -AHIMS ID 45-5-0475
- SEP/4 -AHIMS ID 45-5-0474
- SEP/5 -AHIMS ID 45-5-0456
- SEP/6 -AHIMS ID 45-5-0483

Kohen's work indicated that Aboriginal activity was focused on both sides of Eastern Creek in the vicinity of Woodstock Avenue and that the area was intensively used by the Darug people, perhaps constituting a major manufacturing site (Kohen 1985 p.23 and 31). The "site complex (SEP3, 4,5 and 6) probably represents what was originally a single continuous site extending from Eastern Creek to the top of the low ridge." (Kohen 1985 p.29, referenced in McDonald 1999) and the sites were assessed as being significant in the context of the archaeology of the western Cumberland plains.

Kohen already noted in 1985 that although the sites have been "subject to some disturbance and lie in part under an overhead transmission line and within a services corridor, it merits preservation." (Kohen 1985:33) Kohen further states that the complex of four sites (SEP/3, 4, 5 and 6) is 'significant in the context of the archaeology of the western Cumberland Plain' (Kohen 1985:29).

The subsequent map from Kohen 1985 (referenced in McDonald 1999) (Figure 18) does not provide an accurate size of the AHIMS sites, as they are much larger than what is referenced on the site card as detailed in Section 2.1.1. But as detailed below further artefacts were found in the areas overtime and the Kohen map provides an overall location of the site locations as they were registered in 1985.

Figure 18: Kohen 1985 (referenced in McDonald 1999) SEP/6, SEP/5 and SEP/4

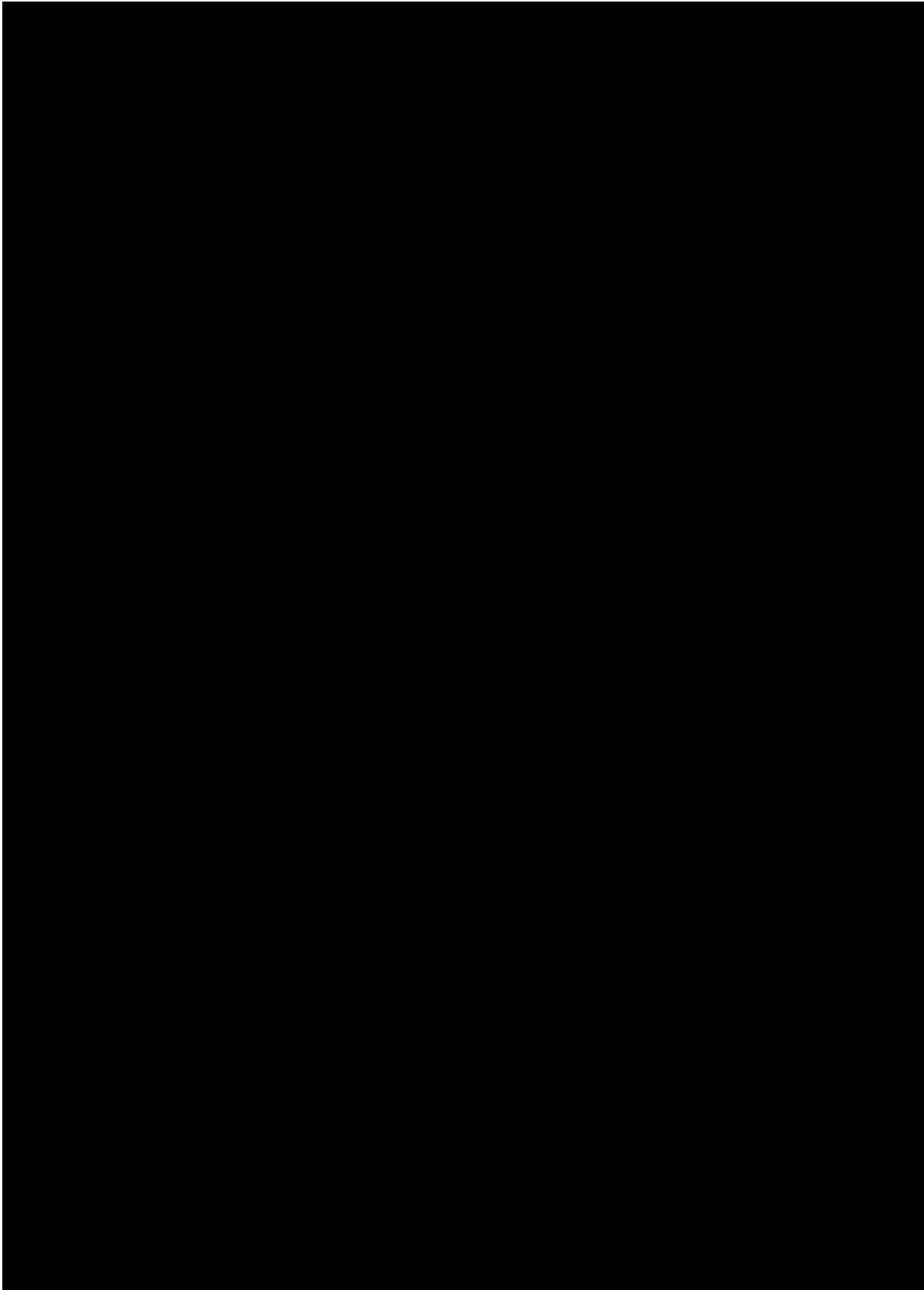
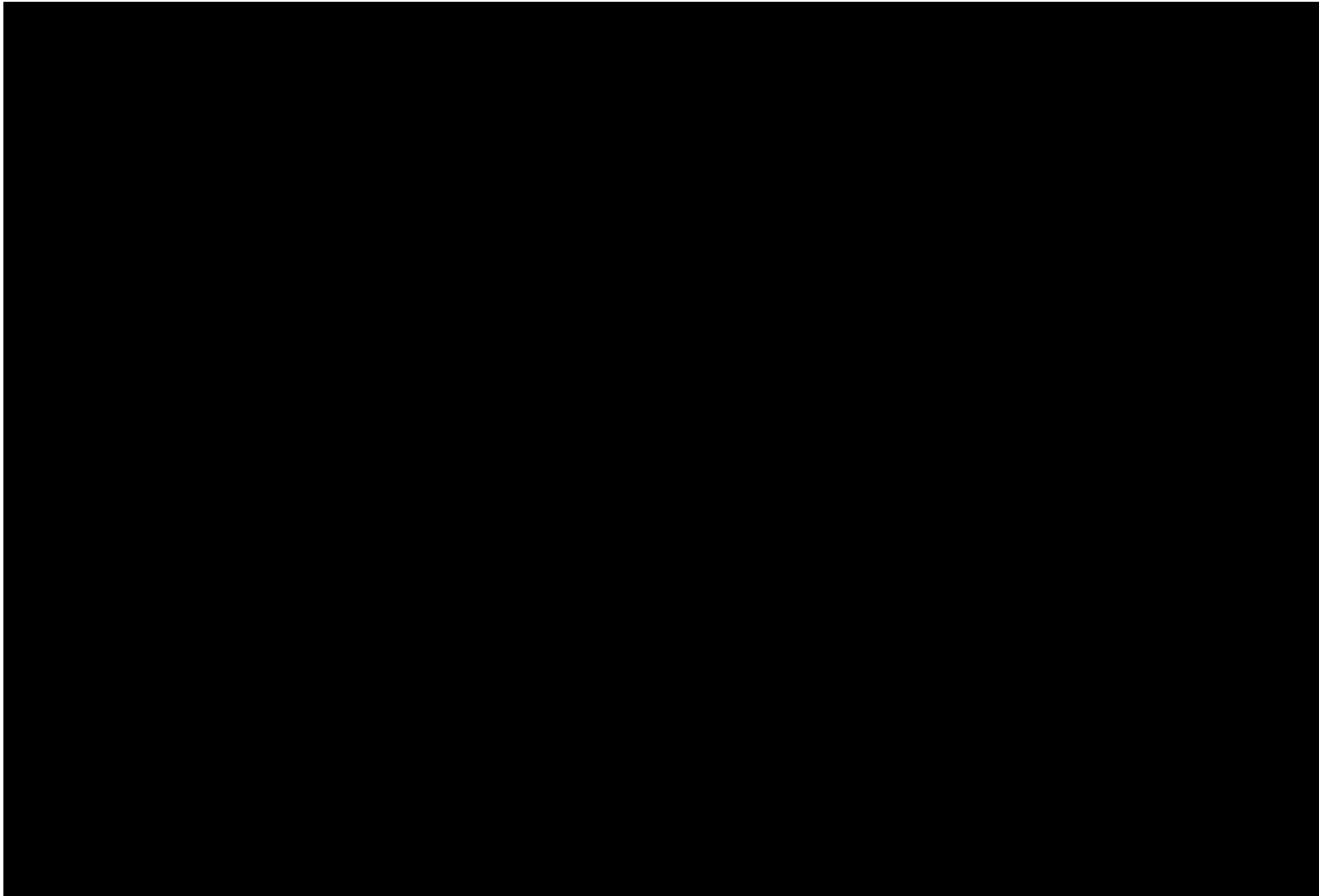
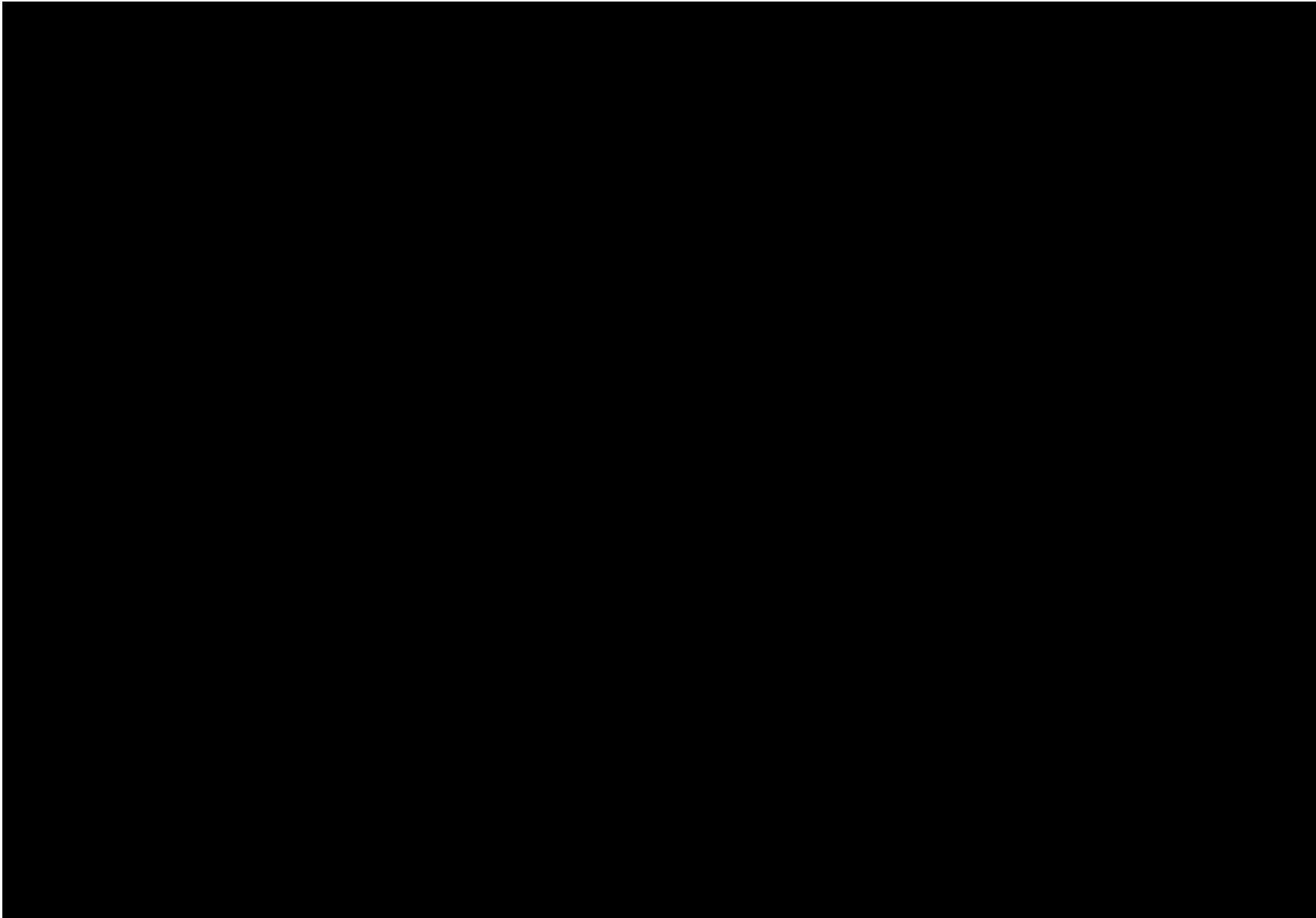


Figure 19: Kohen 1985 survey approximate site locations



Note: the boundaries are much larger than what was described on the AHIMS site cards, and have been determined off the illustrated boundaries of Kohen 1985 (Figure 18)

Figure 20: Connection between Blacktown DCP boundaries and Kohen 1985 SEP boundaries



3.4.1.2 Survey for Prehistoric Archaeological sites: proposed road into Nurragingy Reserve Blacktown, NSW. – Jo McDonald Cultural Heritage Management Pty Ltd 1999 report prepared for Blacktown city Council.

Jo McDonald's 1999 report assessed the road extending into the western end of Nurragingy Reserve from Woodstock Avenue, which partially extends into the boundary of and in proximity to the southern portion of the current study area. McDonald summarised the results of the Kohen 1985 report to contextualise the greater study area and the finds of the 1999 survey. The existing road studied in 1999 was 500 metres in length and 2-3 metres in width the proposed road upgrade included widening the road to 6 metres in width and including a detention basin approximately 20 metres by 10 metres required immediately north of the road at the base of the slope.

The western end of the proposed road (in proximity to the current study area) is described as being located on a low ridge of approximately 40 metre elevation. McDonald stated that the road then sloped down to the east towards Eastern Creek before turning south on the alluvial flats and crossing Angus culvert to join up with the internal road network of Nurragingy Reserve. McDonald 1997 described the portion of Eastern Creek in proximity to the study area as a fourth order stream.

Notably, a figure included in the report (Figure 21) details known areas of archaeological significance which match the shape of the Blacktown DCP Archaeological sites mapping and 2006 update (Figure 20 and Figure 4). This connection indicates that the DCP 2006 area coincides with sites identified prior to 1999. Notably this area also matches the general area of the 1985 Kohen SEP sites as detailed above in Figure 18.

McDonald also references the Kohen 1985 identification of several scarred trees, McDonald was unable to relocate these trees assuming that the trees had appeared to have been removed. Extensive disturbance was observed within the survey. At the time of Kohen's survey in 1985, the track within the study area was fairly narrow and had undergone little disturbance, other than some vehicle traffic wear and limited sheet wash erosion. McDonald details that *"the track was bulldozed in the late 1980's and then upgraded in 1996/7 when an imported sandy deposit was lain over the track, presumably as a road base.... The only part of the study area that appears undisturbed, or at least not recently disturbed, is the area either side of the present track, although the eastern margins of the track north of the car park have had piles of soil dumped on them"* (McDonald 1999, p.20).

Survey results of the McDonald 1999 included the identification of two areas of artefact concentration and one isolated find (Figure 21). It was stated that while they are probably all part of one extensive archaeological landscape, or site complex, the three grouped sites were separated into the differing landscape units for the sake of clarity of recording.

One artefact scatter, WN1, comprises the relocation of a site previously recorded by Kohen in 1985 (Site SEP/5: NPWS# 45-5-456) while the isolated find (WNIF1) and the second artefact scatter (WN2) are both new recordings.

WN1 – 45-5-0456

The McDonald 1999 survey noted that the 60 artefacts recorded by Kohen in 1985 on and adjacent to the track were all collected and removed from the site and since this first recording the track had been bulldozed and imported material laid over the top. The McDonald survey recorded six silcrete artefacts within a 120-metre distance along the top of the low ridge. All these artefacts were located along the eroding margins of the track. Four artefacts were found within a 10-metre radius of one another.

There is a copy of the AHIMS site update for 45-5-0456 included as an appendix in the McDonald 1999 report which was never uploaded to AHIMS.

WNIF1 –45-5-2461

The isolated artefact was found in between the two artefact scatters WN1 and WN2. Because it was recovered from a different landscape unit to both these sites it was considered more appropriate (according to NPWS criteria) to record it as an isolated find. It is however, interpreted as being art of the larger site complex that includes WN1 and WN2.

WN2 – 45-5-2462

This site comprises all 16 artefacts located in landscape unit 3 (Figure 67), the alluvial flats. The major concentration of artefacts was identified directly to the southeast of the study area. McDonald states that site WNS has also been affected by bulldozing and subsequent filling. Yet the site may also extend to the east where artefacts were found eroding from the other side of the track.

Conclusions

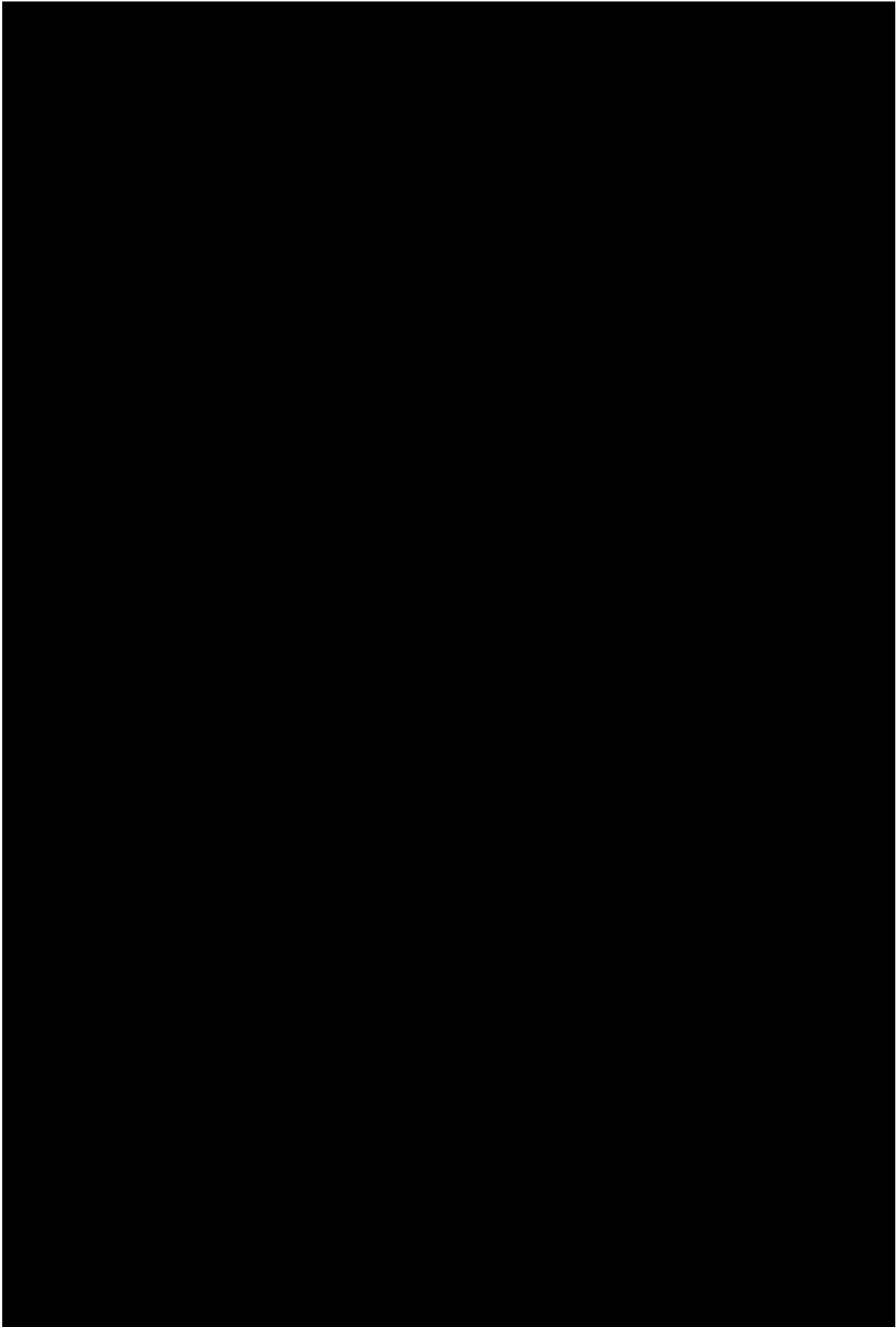
McDonald determined that as the northern margin of the track was entirely overgrown it was difficult to assess how far this site extended and how intact these deposits may be. According to Kohen's original recording the first artefacts noted of site SEP/5 were located to the north of the track (Kohen 1985:22) suggesting the site did originally extend in the western direction. McDonald updated the site extents accordingly (Figure 24).

The potential for intact deposits associated with sites WN1 and WN2 was considered moderate, however, the disturbances these sites have suffered since Kohen's initial survey certainly reduces their potential to contribute to our archaeological knowledge of the local region. Items 9-23 on the below map were attributed to WN2.

The conclusions of this report stated that some sub-surface testing would be required to better assess the significance of the site complex, further testing was conducted in 2001 (detailed in Section 3.4.1.4).

Figure 21 below provides an indication of the location of the artefact clusters which does not align with the AHIMS site centroids. This figure indicates that most of the artefacts were located within the road corridor which has since been widened and formalised. Figure 21 and a formalised version of the site extents (Figure 24) from the 2001 test excavation has been used to indicate the site extents in the summary of artefact sites map (Figure 16).

Figure 21: Location of sites recorded/ located during the McDonald 1999 survey



3.4.1.3 Kohen 1999, 2000 AND Salvage 2001

The Kohen and Knight 2001 salvage report was commissioned by Lovegrove Oxley consultants Pty. Ltd. Three studies of the study area occurred between 1985 and 2001 they were as follows:

- Kohen J.L. 1985. An archaeological survey of industrial land in the City of Blacktown. Report for Blacktown City Council
- Kohen J.L. 1989. An archaeological study of an Aboriginal Site Complex at Glendenning Road, Plumpton. Report prepared for Mr R. Rowe
- Kohen 1997. Aboriginal Site at Glendenning Road, Plumpton: a review. Report prepared for transit

All of the above listed reports were unavailable on AHIMS. It is stated in the Kohen 2001 salvage report that during the additional surveys conducted between 1989 and 2000 additional artefacts were located at SEP4 (45-5-0474) and SEP 6 (45-5-0483) which more realistic to the size of the artefact scatters in the above 1985 map, but the exact locations were not known (Figure 19).

Kohen 2001 states that with consent from NSW National Parks and Wildlife Services, sites SEP/4, SEP/5 and SEP/6 (NPWS 45-5—456, 45-5-484 and 45-5-473) were destroyed. As discussed above in Section 2.2, the details of three permits have been attributed to the sites in AHIMS (permit 940, 941 and 942) but the actual permit details were not accessible or signed. A total of 131 stone artefacts were recovered, and it was stated that the artefacts would be lodged with the Australian Museum in Sydney. According to Kohen there is nothing north of the easement line for concern.

The process of confirmed salvage and monitoring procedures was listed as follows (Kohen and Knight 2001, p.7), and were included in plans within the report, a combination of the plans and written description of works have been utilised to develop Figure 22 (the original plans from the 2001 report have been included in Appendix A - Figure 68 and Figure 69).

- An east-west transect 250 metres long was established between transmission line towers on north side as far as batter and extending down the slope. Artefacts were collected every 5 metres along transect ie. 0-5 metres, 5-10 metres, etc.
- An examination of stockpiled earth at the western end of the area, as it was being redistributed, was carried out.
- Surface collections were undertaken over the bulldozed area at south-eastern end of the site.
- Surface collections were undertaken in the grassed areas at south-western corner of the study area (site SEP/6 covered over by earthworks).
- Monitoring and collection was carried out after spreading of the stockpile of soil at the eastern end of the study area.

Results of the 2001 salvage

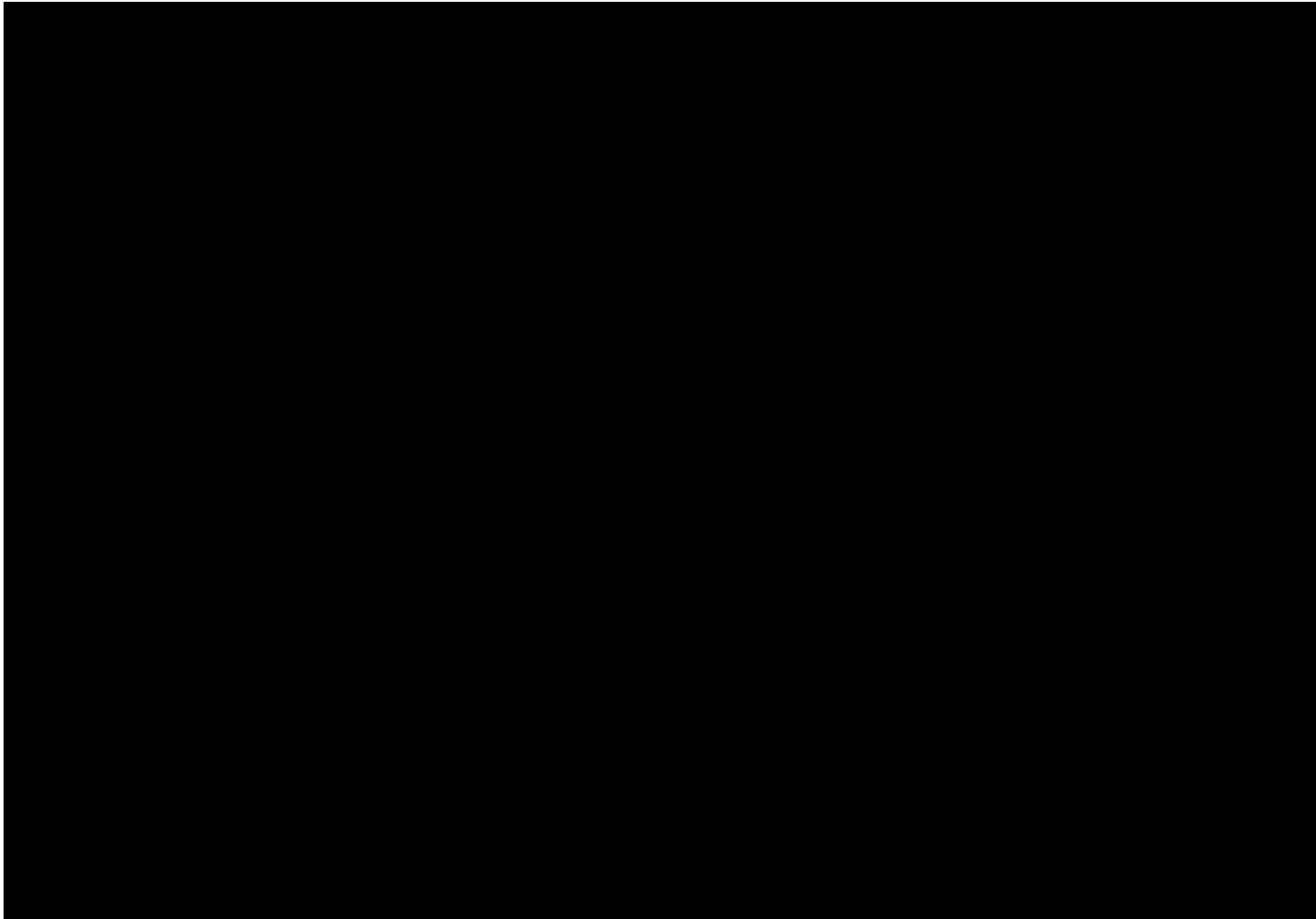
- 33 artefacts were recovered on 26 out of the 50 5 metre intervals along the transect.
- Seven artefacts were recovered from the southwestern corner of the property (adjacent to SEP/4 and SEP/6), and 12 artefacts were recovered from the western soil stockpile adjacent to site SEP/5
- A total of 52 artefacts were collected from the bulldozed area near the western end of the site.

- While monitoring the removal and subsequent spread of the soil stockpile at the eastern end of the site, it became clear that the soil present was not just derived from the bulldozed area immediately to the west. This stockpile contained building waste, cement, tiles and glass none of which would have occurred in the adjacent area. However, 27 artefacts were recovered from this mound, including a broken edge-ground axe head, a retouched flake and a utilised flake.

Sites SEP/4, SEP/5 and SEP/6 (NPWS 45-5-0456, 45-5-0484 and 45-5-473) were deemed destroyed and according to the patterns below and subsequent impact to the site in 2004 and 2007, it is unlikely that any *in situ* deposits remain although additional artefacts were located and attributed to 45-5-0456 in later reports. This would be an indication that artefacts are moving around the area and down the slope subject to disturbance and removal of the soil profile. Artefacts were salvaged and the area attributed to 45-5-0474 was bulldozed.

Although the soil stockpile is located on the SEP/3 (outside of the study area) the Kohlen 2001 report does not state that the site has been destroyed or given consent to destroy under these works.

Figure 22: Kohen 2001 salvage areas



This map is based off the Kohen 2001 diagrams for salvage (included in Appendix A - Figure 68 and Figure 69). the transect diagram does not match the verbal description – note the description of 250 metre transect has been included and extended in this map)

3.4.1.4 Jo McDonald Cultural Heritage Management Pty Ltd 2001 - Subsurface test excavation for prehistoric archaeological sites: Nurragingy Reserve Blacktown, Report prepared for Blacktown City Council

Jo McDonald and Anthony Barham conducted a test excavation of the road to the south of the study area in 2001 at the conclusion of assessments of the area in 1999 (detailed above in Section 3.3.1.2)

McDonald discusses the existing disturbance of the site in previous surveys

- An initial phase of disturbance associated with construction of the track, prior to the survey in 1985 by Kohen.
- An upgrading of the track in the late 1980's using bulldozer
- Track upgrading in 1996/97 when significant quantities of medium to coarse calcareous sandstone were laid along the route, especially in Terrain Units 1 and 2.

The test excavation report finalises the general locations of archaeological potential assessed by McDonald in 1999. Test Pits 30, 31 and 34 and 35 were in Terrain Unit 5, results yielded a disproportionate number of artefacts. It was suggested that the artefacts are located close to surface within sediments forming a very thin and heavily bioturbated and disturbed veneer over basal clays on the plateau. It confirmed that material originally described by Kohen in 1985 for site 45-5-0456 was an open surface scatter. Artefacts were in small randomly located pockets but were mostly intrinsically linked to a shallow soil profile.

No salvage report was included on AHIMS but the road has been widened and formalised after the test excavations work was completed.

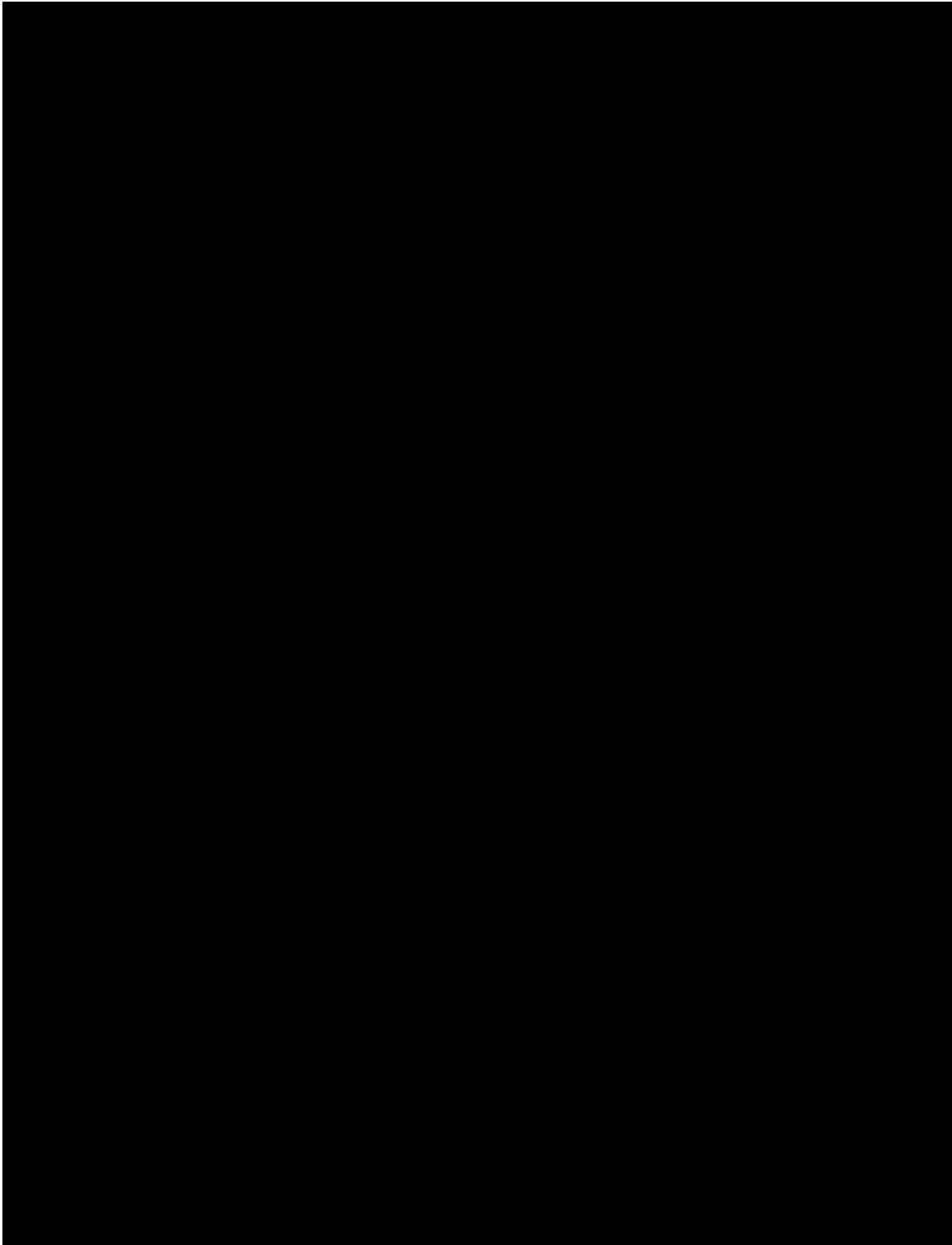
Figures of the study area, noted areas of Archaeological potential according to 1999 survey works and exact location of the test pits from the McDonald 2001 report have been included in Appendix A and

Figure 23 below which informed the below map indicated artefacts located in the study area (Figure 24). Artefacts were identified in all but two test pits (TP16 and TP34).

Results and discussion of the test excavation were as below (McDonald 2001 page 58)

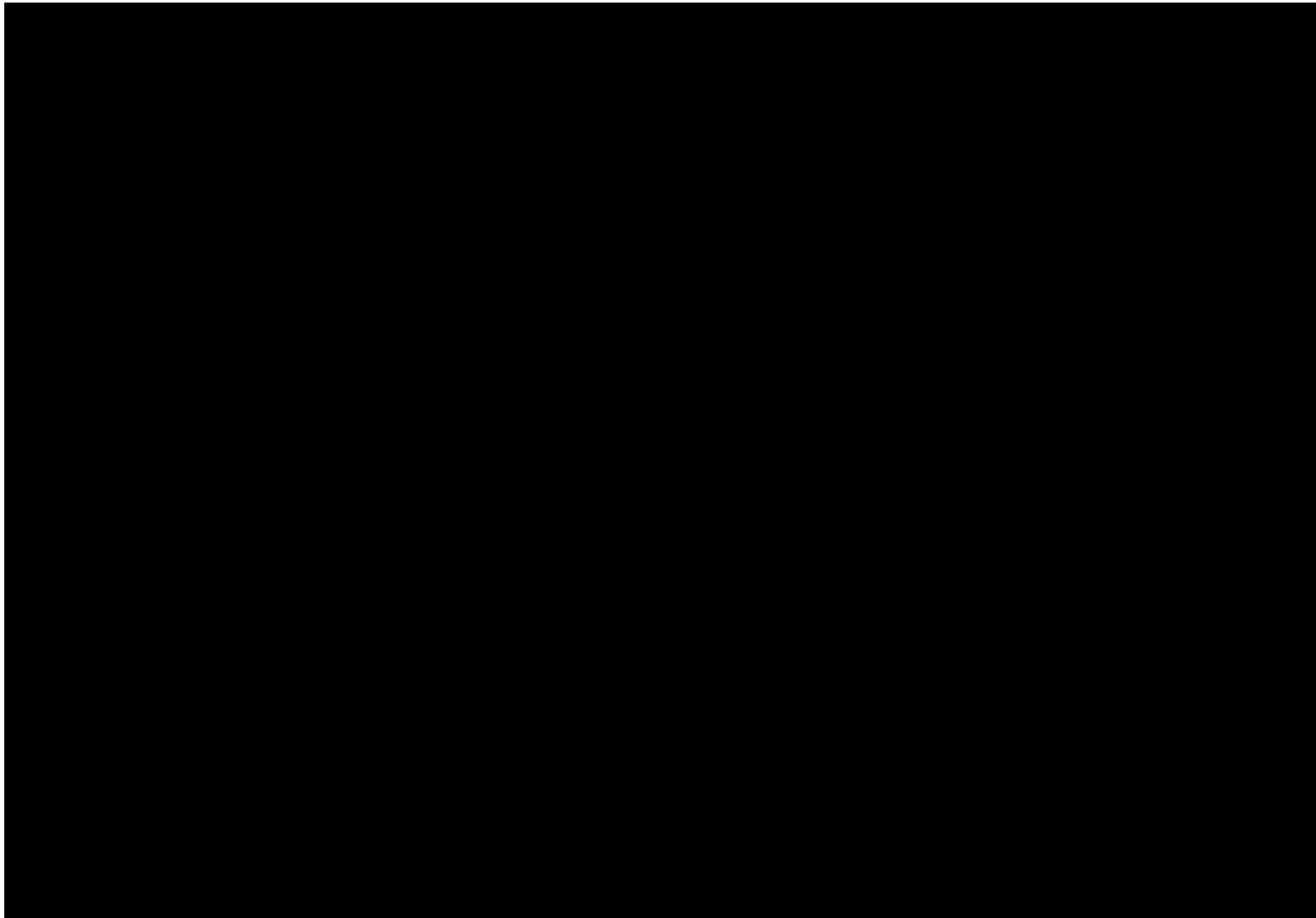
It is clear from the field stratigraphic observations that the proposed road improvement will for the most part impact only on deposits which area either a) already significantly disturbed, or b) remnants of primary archaeological horizons which are in situ but heavily vertically truncated. The stratigraphic observations concur with the lithics analysis in suggesting the artefacts recovered and analysed during this field programme area disturbed (and significantly damaged) sub population of original artefact assemblages present in the area. The identified truncation of profiles, admixing of upper A1 and A2 soil stratigraphy with truncated upper surfaces of basal clays, and recent relocation of artefacts entrained within dumped deposits at the site, all combine to constrain and reduce the scientific interpretative value of the artefact assemblage recovered and analysed during this study.

Figure 23: labelled in the report as ‘Aerial photograph of the study area showing previously identified areas of archaeological sensitivity’.



The study area boundary indicated in this map was included as the boundary for the Consent to Destroy Permit 1424, issued on March 2003.

Figure 24: McDonald 2001 artefact and site location based on the above figure



This matches the 1999 map also produced by McDonald. The WN1 doesn't fully match with the length of the 45-5-0456 description just a centroid as indicated in the 2001 report. The above figure 13 better indicates the locations of noted artefacts.

3.4.1.5 McDonald 2005 – Corner Woodstock Avenue & Glendenning Road, Glendenning: Indigenous Archaeology assessment

An assessment was undertaken of a portion of the current study area in 2005 (the southern boundary of the easement line (Figure 25). McDonald divided the study area into areas of high, moderate and low disturbance, as indicated in Figure 25. It was determined that half the land had low levels of existing impact whereas the remainder was moderately to highly impacted. During the survey areas of surface exposure was inspected closely, 95 percent of the study area had no effective surface visibility. The area was assessed to have high potential to contain intact archaeological materials as this strip of land was remnant of the landscape unit of high archaeological significance as determined by Kohen in 1985. Surface artefacts were identified where there was previous sub-surface disturbance which had resulted in stone artefacts being visible. It was determined that the land had AHIMS 45-6-0456, and that landscapes with low levels of existing land-use impact have high archaeological potential/ sensitivity because there is unlikely to have been major disturbance/ change to the context of indigenous archaeological sites. The assessed high potential for most of the land to contain intact archaeological deposits, meant that the identified archaeological site could be considered to affect the entire subject land.

McDonald stated that through previous work in the area any sites located within the works area would be part of what was once identified as a significant site complex and that most of the site has been destroyed by industrial developments in the vicinity. “Test excavation of the adjacent road widening identified the presence of intact subsurface materials on the margins of the road, and particularly in the subject land. At the time (JMCD CHM 2001: 57) it was noted that archaeological investigations of the *in situ* deposits on the northern side of the track had the potential to recover a more substantial assemblage.”

It was suggested that unconditional section 90 consent should be given for the Stage 1 warehouse. 5 artefacts were identified within the assessed area. Although permits for work in the area were suggested, no permits or AHIPs are noted on AHIMS but the warehouse proposed in the report was built between 2005 and 2006, over the location of artefacts 1 and 5 as referenced in Figure 25.

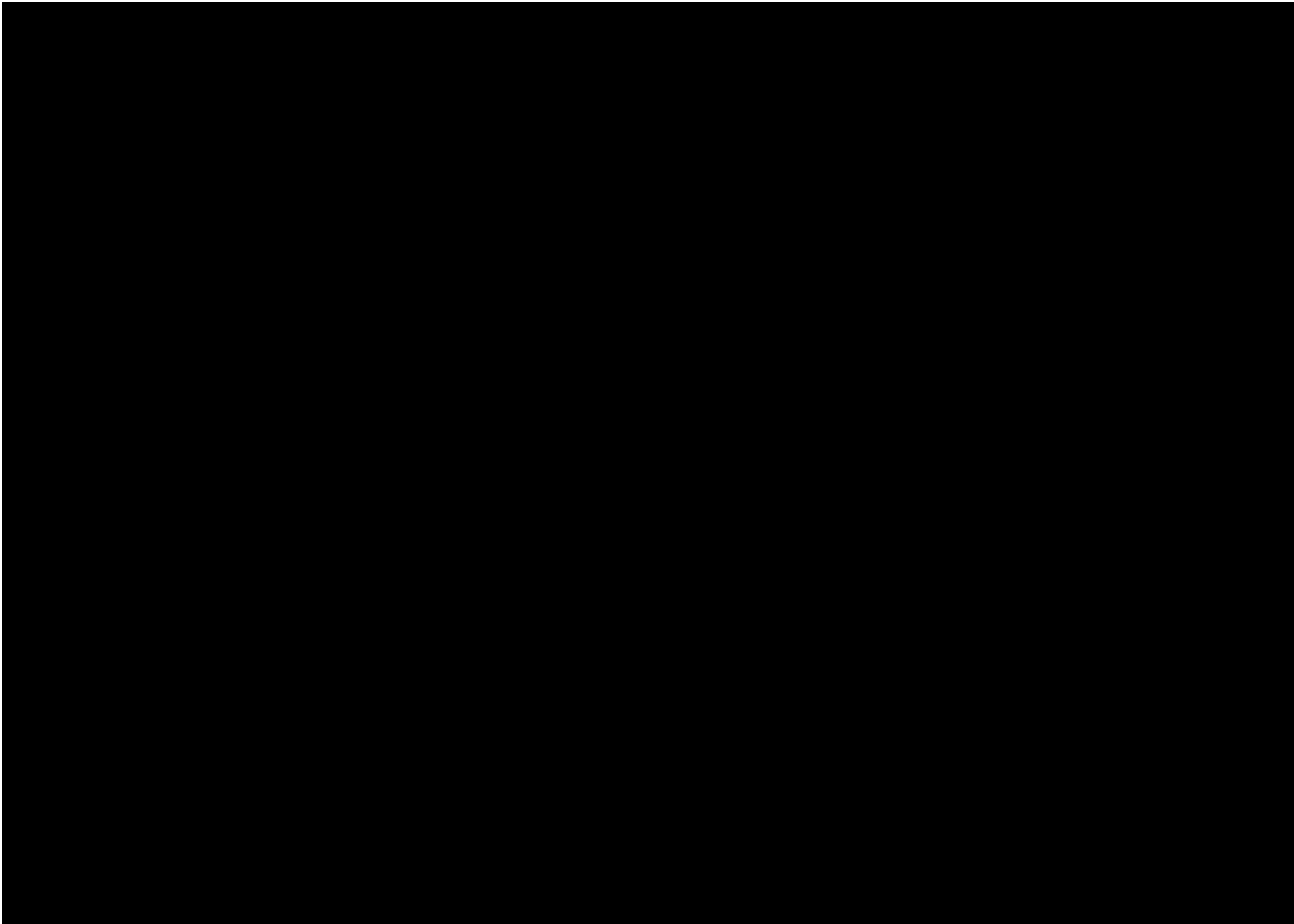
McDonald noted that the presence of artefacts were within the boundary of the AHIMS ID 45-5-456 (McDonald 2001 - Figure 24 in this report). The inspection found that artefacts were visible at surface wherever surface visibility allowed. The interpretation was that the identified archaeological site could be considered to affect the entire subject land within the southern boundary of the easement.

Original plans from the report have been included in Appendix A - Figure 73 to Figure 75.

The diagrams provided by McDonald do not fit within the boundary of the study area as they were not drawn to scale, therefore, the location of the five artefacts may be slightly off from their actual location. This is an ongoing issue for the project in attempting to determine accurate boundaries of the site as many of the diagram.

Most notably the ridgeline and slope was determined to have had low disturbance in 2005. In the recommendation for s90 permit it was stated that an unconditional section 90 permit should only be granted where the potential for intact archaeological deposit is low or moderate and that archaeological sub-surface excavation of AHIMS 45-5-456 should be a condition of any permit granted where potential for artefacts is good. As discussed in Section 3.3 Historical disturbance the aerial from 2007 indicates further disturbance in this area.

Figure 25: McDonald 2005 study area disturbance level interpretation and identified artefacts



3.4.1.6 Brown 2008 (Total Earth Care Pty Ltd) Aboriginal cultural heritage and archaeological assessment Proposed 132kV feeder power line between Glendenning and Quakers Hill. Report for Integral Energy

Brown completed an archaeological survey for Total Earth Care Pty Ltd in 2008 which extended into the transmission line to the east of the current study area boundary as part of an assessment for a second 132kV feeder to the Quakers Hill zone substation.

Brown stated that the southernmost 2-300 metres of the route has been subject to disturbance likely to have destroyed most Aboriginal cultural heritage material. Brown created a new PAD listing (Table 5) for the greater study area to incorporate both existing and new site listing. (Brown 2008, p.18).

The area of PAD was determined on the following”

- *A 150 metre buffer on either side of Eastern Creek (based on reasonable consensus derived from various predictive models and observable patterns in the area);*
- *A 100 metre buffer around known sites*
- *The inclusion of all previously listed PADs or areas of archaeological sensitivity mapped in other reports; and*
- *Additional adjustments on the basis of the cadastre to make the listing include all of any publicly owned lot that has archaeological potential ascribed to it and to exclude areas that have been heavily disturbed by industrial, housing or road development. This aspect of the listing explicitly addresses the fact that the Eastern Creek corridor has a long term public purpose including the conservation of cultural heritage values (As well as providing space for infrastructure easements).*

During the survey in 2008, eight stone artefacts were recorded at the foot of the large tower at the start of the large tower at the start of the existing 132kV power line (Figure 76).

It was suggested by Aboriginal stakeholders present during survey that the artefacts have been relocated to the site during the process of the destruction of areas to the north and west during recent industrial development (Leanne Watson, pers comm.).

Rather than imposing a new AHIMS listing Brown intended as part of the conclusions to attribute the material to the existing site listing AHIMS #45-5-0456 and have the current report linked to that site in the AHIMS database. Note that no such updates have been registered on AHIMS.

The site card states that “management recommendations (and the justification for the large listing) centre on the precautionary principle that all areas within the PAD should be considered as having archaeological potential unless otherwise demonstrated (e.g. due to disturbance), rather than the converse assumption of such potential requiring demonstration.”

The PAD and location of the eight recovered artefacts and areas of Archaeological potential have been included below (Figure 26)

Table 5: Table of significance of sites within the study area referenced in Brown 2008 (p.29)

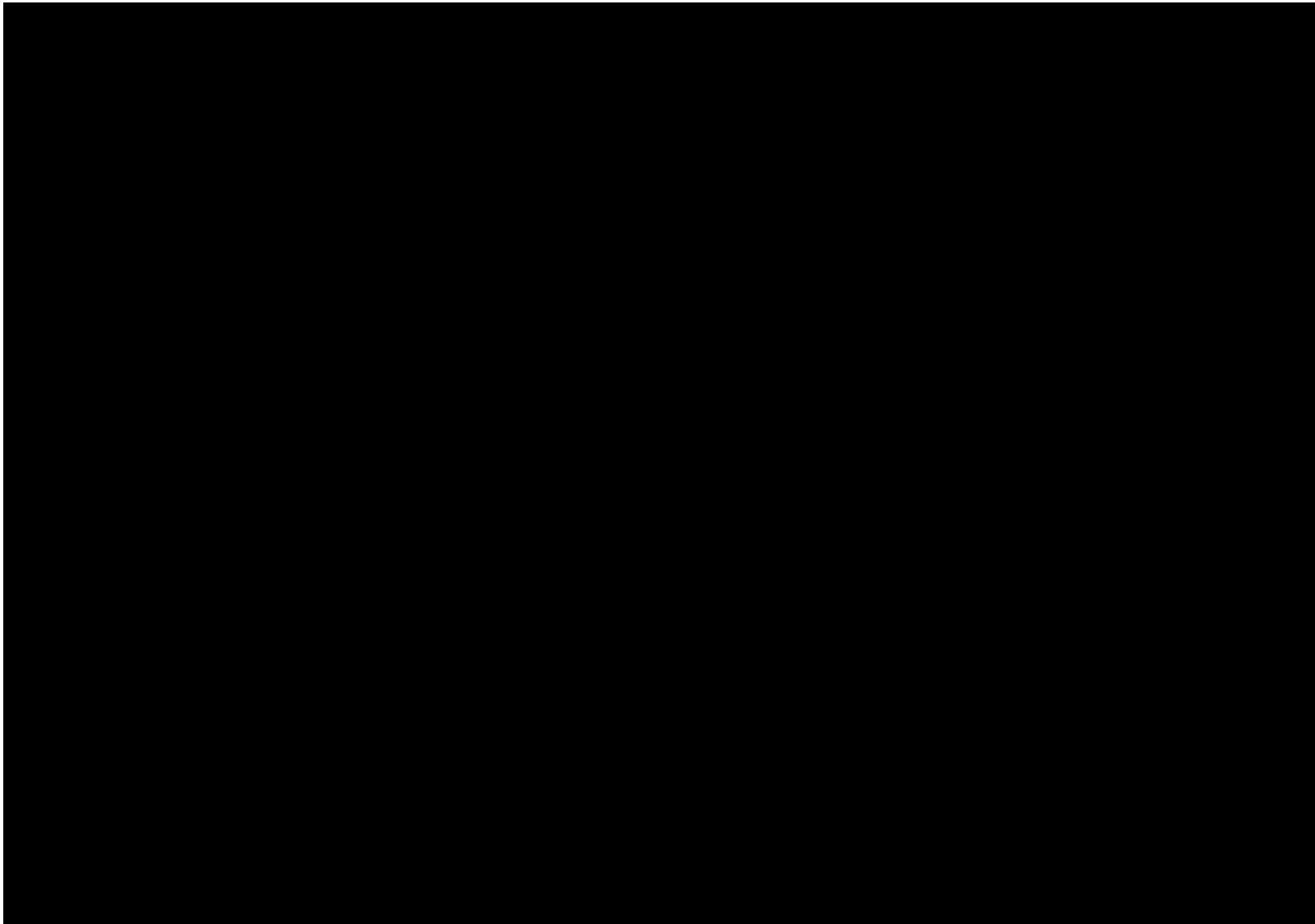
	Significance to contemporary Aboriginal people	Scientific or archaeological significance	Value as an educational and/ or recreational resource
EC132kvPAD	Likely to be high	High	High
Site Ec132kV-1: Attributed to AHIMS # 45-5-0456	=	Low	Low

3.5 Summary

Although the study area has been described as connected part of a larger site complex and numerous artefacts have been recovered over reports spanning from 1985, the study area has been subject to significant disturbance.

The artefacts recovered in 2005 and 2008 are still in areas of disturbance and a reflection of artefacts in removed contexts which have moved from the slope. The consent to destroy, salvage and industrial works in the study area and adjacent has caused extensive disturbance and removed the artefact bearing residual soils.

Figure 26: Brown 2008 PAD, archaeological potential and location of eight artefacts identified



4.0 SURVEY RESULTS

4.1 Virtus survey findings

Included in Section 6 pages 66 – 80 Virtus detailed the Survey and Results of their works in 2024. The survey strategy was said to include 'completion of an Aboriginal heritage site recording form for each Aboriginal site or Potential Archaeological Deposit identified, which included all information required to fill in an AHIMS site card.'

An additional site visit was undertaken on Tuesday 1 October 2024. Uncle Steve Randall (Deerubbin LALC) also attended site and shared his knowledge of Jo McDonald's work on Woodstock Avenue and the many sites in the local area.

The study area was separated into six survey units as detailed below:

- Survey area 1: Existing industrial infrastructure
- Survey area 2: northern project area boundary
- Survey Area 3: Land within 200m of Eastern Creek
- Survey Area 4: Moderately disturbed ridgeline and biodiversity zone
- Survey Area 5: Highly disturbed ridge line, spur and slope
- Survey Area 6: Highly disturbed terrain

Figure 27: Virtus Survey Units included in Section 6.3 of Virtus 2025 report p. 68



A summary of the Virtus 2025 results as detailed in Section 6 Survey and Results in the Archaeological assessment and summarised in Table 6 below:

Table 6: Summary of survey unit results

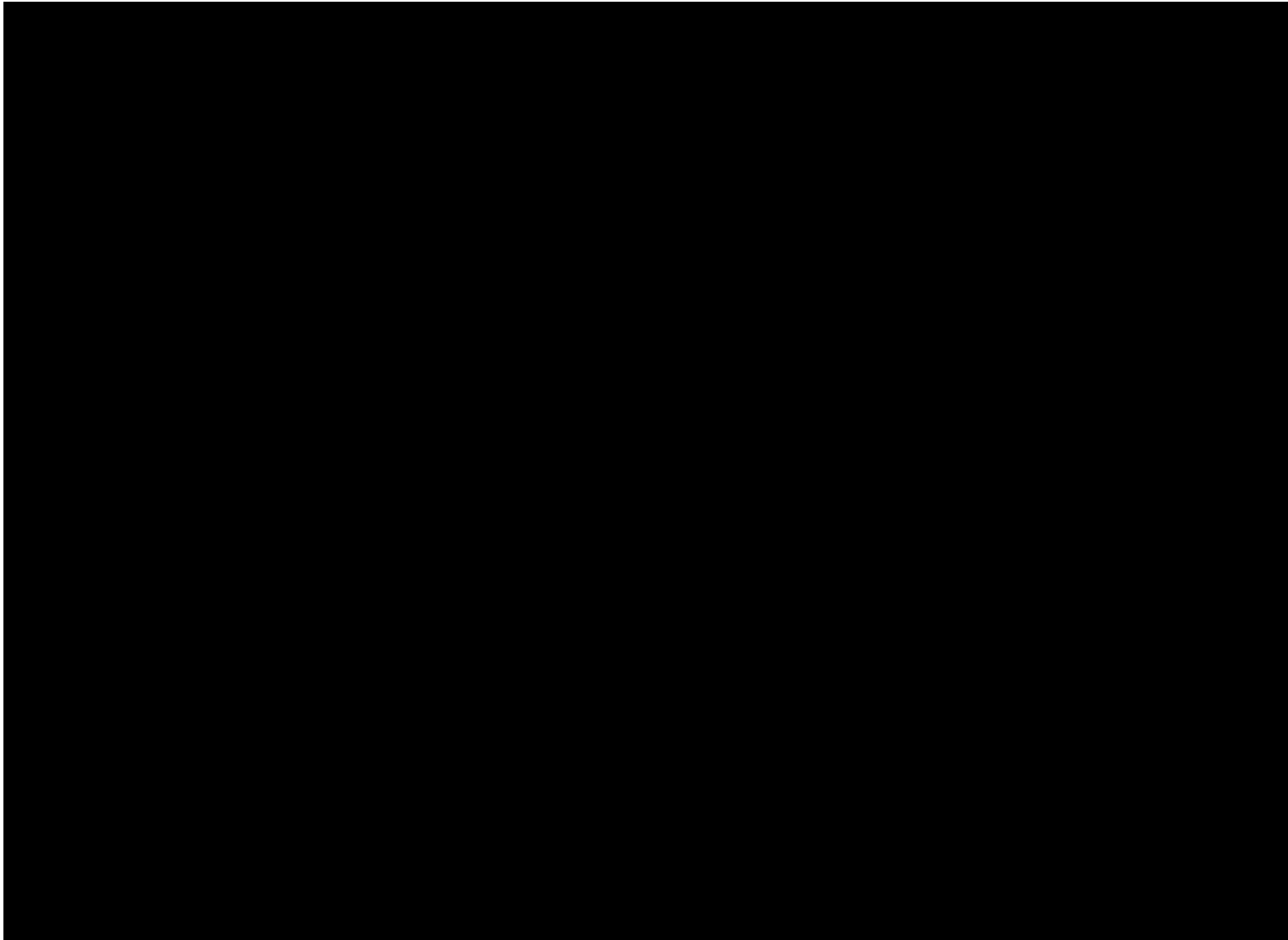
Survey Unit	Results
Survey Unit 1: Existing industrial infrastructure	<ul style="list-style-type: none"> no natural soils were observed Minimal ground surface visibility mostly concealed by concrete and existing buildings AHIMS 45-5-2776 an artefact scatter was previously recorded within this survey area – recorded location of this site is within survey 5 No AHIP associated with this site was identified on AHIMS Parts of the survey area was also previously mapped as having archaeological potential If artefacts survive in this area, they will most likely have low archaeological integrity due to being displaced by earthworks.
Survey Unit 2: northern project area boundary	<ul style="list-style-type: none"> Follows a modified and landscaped drainage channel and sandstone block retaining wall/ Ground surface visibility largely obscured by road base, concrete and overgrown vegetation within the survey area. Small areas of exposure reveal imported inclusions including blue metal, brick. Plastic and fill. No archaeological objects identified and has low archaeological integrity and retains a low potential for the presence of Archaeological materials.
Survey Unit 3: Land within 200m of Eastern Creek	<ul style="list-style-type: none"> Contained within an area of archaeological potential defined by Brown 2008 and identified through mapping attached to AHIMS site cards 45-5-3644 and EC132kVPADs. Extensive earthworks and disturbance including, past removal of previous drainage line, vegetation removal, vehicle use and introduced fill to create a modified level landform above the natural terrain. Visible soils contain introduced clays, blue metals, brick and gravels. Additionally, rehabilitation efforts were noted on the eastern slope possibly for stabilisation of the fill slope. It is not clear whether original soils containing artefacts may be mixed in with fill. Due to its proximity to Eastern Creek, Survey Area 3 is assessed to have moderate archaeological potential (moderate likelihood for Aboriginal objects to be present and low archaeological integrity due to the level and intensity of disturbance on the surface During the additional site inspection, one pink silcrete retouched flake (GDC06) was located within survey area 3, approximately 15 metres from previously recorded artefacts (GDC01-GDC05) within survey areas 4 and 5.
Survey Unit 4: Moderately disturbed	<ul style="list-style-type: none"> Incorporated part of McDonald CHM (2001) mapped 'area of high archaeological sensitivity'. This area was defined through artefact distribution, the presence of vegetation and the elevated ridge slope and

Survey Unit	Results
ridgeline and biodiversity zone	<p>spur landform and relatively intact soils. It was noted during survey that this area has established vegetation. Ground surface Visibility (GSV) is limited due to overgrown vegetation and leaf litter. In areas of exposure some inclusions were noted. Spoil heaps were noted in an eastern section of this survey area, east of the telecommunications tower.</p> <ul style="list-style-type: none">• AHIMS sites 25-2462 and 45-5-2461 were associated with this survey area and were not re-identified during this survey, most likely due to low visibility. A silcrete stone artefact (GDC04) was identified in proximity to 45-5-2462, 45-5-2461, 45-5-0456 and previous stone artefacts recorded by McDonald (2005) in this area and has been attributed to 45-5-0456 to be consistent with Brown (2008). Survey area 4 retains high archaeological potential (high likelihood of Aboriginal objects with moderate archaeological integrity).
Survey Unit 5: Highly disturbed ridge line, spur and slope	<ul style="list-style-type: none">• Survey area 5 holds low archaeological integrity, but a high likelihood for the presence of archaeological material to be identified out of context within this survey area (moderate archaeological potential). This area follows the erosion and disturbance exposures of the ridge spur and slope landform, comparatively to the more intact survey area 4. This survey area has section minimal vegetation coverage, with predominantly small pockets of grass clumps, and an area of overgrown vegetation. Extensive erosion was noted during survey. Imported soil inclusions were present within this area. Spoil heaps were noted in the southwest of this survey area. It includes transmission line towers.• No Aboriginal objects were visible at AHIMS site 45-4-0483, noting that this site is reported to have been buried with surface collection under AHIP 941, after unauthorised impacts/ However, four artefacts were identified in Survey Area 5 (GDC01, GDC02, GDC03, GDC04, and GDC05. In proximity to artefacts previously recorded by Brown (2008) and areas previously salvaged by Kohen (2001). The artefacts have been attributed to 45-5-0456 to be consistent with Brown (2008). These sites are out of context and likely eroded down slope.
Survey Unit 6: Highly disturbed terrain	<ul style="list-style-type: none">• Survey area 6 is in an area of highly disturbed terrain. Disturbances identified during survey and via background research include vegetation removal, generational agricultural use, imported fill deposits, vehicle damage, subsurface utilities, and illegal dumping. No previously recorded sits on the AHIMS database are within this area. No additional sites were identified during survey. This survey area retains low archaeological potential and low integrity.

4.1.1 Summary of Virtus survey results

- Survey areas 1, 2, 3 and 4 had minimal GSV (between 10 and 20) and effective coverage (1 - 5%) due to presence of concrete, road base and overgrown vegetation. Survey areas 5 and 6 had greater visibility (50%) and greater effective coverage (15-20%) due to erosion and previous land use disturbances.
- No mature trees were present within the project area; there was no evidence of scarring on any trees within the project area
- Survival of A horizon soils may be limited to small areas on the southern boundary within the ridge slope and spur landform.
- Six additional Aboriginal objects were identified during the archaeological assessment, mostly within erosional scars.
- As with stone artefacts identified within the project area by McDonald (2005), the stone artefacts during the survey were identified in areas that had previously been surveyed or salvaged indicated there remains as high likelihood of Aboriginal objects within parts of the project area that have been heavily disturbed.

Figure 28: Virtus artefacts located during 2024 survey (Virtus 2025)



4.2 Addendum site visit

A site visit was conducted on 3 October 2025, in attendance was Katherine Douglas (Graduate Heritage Consultant, Artefact Heritage) and Samuel Sammut (Senior Heritage Consultant, Artefact Heritage). The study area was surveyed under the same six survey area units as conducted by Virtus in 2024 for ease of comparison and to continue the Virtus 2025 assessment.

The Archaeological site visit was undertaken in accordance with the Code of Practice. The study area was entered by vehicle and then the survey undertaken on foot. A GPS enabled tablet was used to collect spatially logged field records. The coordinate system projection used for all recording was GDA 94 MGA 56. Photo scales were used for photographs where appropriate. The land surface, soil exposures, vegetation condition were observed and photographed with a scale.

Since the site visit was conducted by Virtus in 2024, two of the three warehouses located within the study area have been removed to the surface layer without cutting into the earth. Observation of the two warehouse areas indicated that the areas had been extensively impacted area with historically introduced fill.

As indicated in the historical aerials the study area has been heavily impacted by the process of soil removal and dumping of fill. This impact is visible across the entirety of the site except for survey area 4 which is up on the ridgeline. Some intact soil was visible in this area unlike the majority of the rest of the site, the soil profile is heavily covered by leaf cover which has impacted visibility of the site.

Due to high grasses in this area only part of the survey unit area could be walked through but it could be assessed from the fence line to see that it is the least impacted of the whole study area.

- Survey area 1: Existing industrial infrastructure
- Survey area 2: northern project area boundary
- Survey Area 3: Land within 200m of Eastern Creek
- Survey Area 4: Moderately disturbed ridgeline and biodiversity zone
- Survey Area 5: Highly disturbed ridge line, spur and slope
- Survey Area 6: Highly disturbed terrain

None of the artefacts noted by McDonald 2005, Brown 2008 or Virtus 2025 were relocated during the Artefact 2025 site visit.

4.2.1 Survey area 1 – Existing industrial infrastructure

Since Virtus's assessment of the study area the two southern warehouses on the western side of the study area have been removed (Figure 29 to Figure 34), and the base material was able to be assessed during the site visit. Both warehouses are characterised by a base of fill and clay the central warehouse has a large gouge in the surface (Figure 31) which further indicated the extent of clay and historical previous removal of any soil profile within the survey area of the study area. This further indicates that there will be no artefacts under the still extant warehouse to the north of the study area (Figure 37 and Figure 38). There is no potential for artefact bearing residual soils in this survey unit.

Figure 29: View east of fill after removal of central warehouse



Figure 30: View northeast of fill and lack of soil horizon



Figure 31: View of cut into warehouse footprint indicating no soil profile across the entirety of the warehouse footprint



Figure 32: View south towards retaining wall and remains of original warehouse on the lower ridgeline



Figure 33: View from the ridgeline warehouse foundation towards central warehouse footprint



Figure 34: View east of disturbed context and clay along ridgeline which has removed an intact soil profile



Figure 35: View of grate indicates subsurface water works under the cement foundations



Figure 36: view west to tower and easement across imported fill indicating a lack of soil profile within the study area



Figure 37: View of cement and foundation walls at removed southern warehouse



Figure 38: View of northernmost extant warehouse



4.2.2 Survey area 2 – northern project area boundary

This boundary is fully impacted by waterways, part of the area could not be assessed but like Virtus's interpretation of the site this portion of the study area is heavily disturbed and does not contain potential for intact soil deposits (Figure 39 and Figure 40).

Figure 39: view of water tank at north of property



Figure 40: view east of existing tree line and tall grasses



4.2.3 Survey area 3 - Land within 200m of Eastern Creek

The land within 200 metres of Eastern Creek was only partially accessible due to high grasses on the rise of the area. The eastern portion is extensively impacted with mounds of debris visible which is connected to the Kohen 2001 bulldozed area. This area also includes underground electrical works. The 2008 interpretation of the eastern portion of the site is based on the proximity to the Eastern creek and is a sweeping generalisation of the capacity for the whole study area and greater Glendenning area to contain artefacts not including an estimation of the level of impact to the study area including the substantial construction works occurring between 2001 and 2007. The uneven terrain matches the level of destruction visible in the historical 2007 aerial. This area is a potential cut and fill for the levelling of the greater study area and is disturbed in its proximity to the access way.

Figure 41: View north of the eastern boundary exposed earth



Figure 42: View north of powerline alignment and western elevation



Figure 43: View of artificial mound at the most northeastern corner of the study area



Figure 44: view of disturbed ground which appears to be the path for water runoff from the elevated survey unit 4 and 5



Figure 45: View of underground electrical works



4.2.4 Survey Area 4: Moderately disturbed ridgeline and biodiversity zone

Survey area 4 has the most potential for intact soil deposits of the entirety of the study area. As it is the highest point on the ridgeline it has been less visibly impacted in comparison to the rest of the site. This area is in closest proximity of the original determinations of 45-5-0456 and McDonald 2001 and 2005 interpretation of the site. The area was mostly covered with grass and leaf cover, but exposed patches indicated soil deposits.

The oldest trees within the study area are visible in this survey unit, as is visible in the historical aerial imagery these trees exist through the levelling and impacts to the sites from 2001 onwards, therefore this has the highest potential to contain artefacts, although there has been disturbance noted in McDonald 2005 and in the 2007 historical aerial (Figure 10).

Figure 46: visible soil on the ridge line



Figure 47: View of existing trees within the ridgeline – view east



Figure 48: View from outside of the study area northwest towards the grassed survey unit 4



Figure 49: View from outside of the study area north towards the grassed survey unit 4



Figure 50: view of southeast portion of the survey unit 4 towards



4.2.5 Survey Area 5: Highly disturbed ridge line, spur and slope

This survey area contains most of the artefacts identified between 2005 and 2024 within the study area. No artefacts identified by Brown (2008), or Virtus (2025) were relocated during this site visit.

Extends from the ridge line and slopes down indicating that any potential artefacts may have made their way down the slope. Any potential artefacts in this area would be isolated finds out of their context which would have come from further up the slope. This area doesn't contain much of a visible soil profile most of the area is packed clay only. Gouges in the clay further indicate the lack of a soil profile within this survey unit.

Figure 51: View north from the ridge line to the transmission tower slope



Figure 52: View southeast towards gravelled mound of transmission line tower



Figure 53: view of potentially imported gravels and clay



Figure 54: View of gravel types including non-artefactual silcrete



Figure 55: View of clay exposure and extensive sub surface impact within proximity to the transmission tower and in proximity to survey unit 4.



Figure 56: Artefact personnel indicating location of artefact from 2005 survey. No artefacts were relocated on site



Figure 57: view of baked clay on western side of the transmission tower in location of slope run off. Minimal potential for artefacts, no artefacts were identified during the site visit.



Figure 58: view south from slope towards ridgeline



4.2.6 Survey Area 6: Highly disturbed terrain

This survey area was only partially accessible due to high grasses in the area. The study area has been extensively flattened in addition to small mounds of clay and debris indicating that this area has been moved around. There is no potential for intact residual soils and artefactual remains in this portion of the study area.

Figure 59: view of metal remains within the disturbed context



Figure 60: view of clay and fill mounds covered by short grasses



Figure 61: View east across survey unit 6 towards survey unit 3



Figure 62: view south across the survey unit 6 disturbed terrain



5.0 DISCUSSION AND ANALYSIS

5.1 Summary of comparative findings and archaeological potential

Virtus organised the study area into Low, Moderate and High potential for aboriginal objects as detailed in Figure 63 of this report (Section 6.3 Virtus 2025) according to the findings of their site visit. A low archaeological potential was determined to be areas where displaced ex situ Aboriginal objects are possible.

The following connections to sites within the project area were established as Table 14 in Section 6.3 of survey results in the Archaeological Assessment. Artefact Heritage has produced an updated current site extents based on the additional site visit, historical aerials and records of destruction within the study area (Figure 64). Due to the level of disturbance in the study area, including the demolition of Warehouses that were extant at the time of Virtus's survey the archaeological potential of the area and therefore the fill underneath the buildings could be observed and no potential for artefact bearing deposits was identified.

Numerous artefacts have been recovered between 2005 and the Virtus survey conducted in 2024 within the areas established by Virtus as having archaeological potential. Being located on the slope from the ridge line, these recorded surface artefacts are out of context indicating that the artefacts have washed down the slope from the ridgeline. Therefore, while Aboriginal objects may be located within this area their lack of context indicates that there is no archaeological potential.

All other artefacts identified between 1985 and 2005 have been recovered under salvage, test excavations or are assumed destroyed due to the extent of historical disturbance and construction in their location. Therefore, an updated boundary of archaeological location and location of isolated out of context artefacts as well as the portion of the ridgeline which has been determined to have less disturbance and the potential for minimal A1 horizon soil has been recorded. This site boundary is included as a reflection of the following disturbance to the site discussed in this addendum report

- Historical aerial overlays indicating disturbance 2004 and 2007 (Figure 9 and Figure 10)
- Construction and formalisation of the roadways to the southern adjacent boundary.
- Martens 2025 detailed site investigation and geotechnical results reporting detailing the removal of all topsoil and introduction of fill with construction remains present.
- Consent to Destroy for AHIMS sites 45-50456, 45-5-0474, 45-5-0483 provided to Kohen 2001 (detailed in Section 3 of this addendum report)
- Increasing levels of destruction detailed in the reports detailed (in Section 3.4 of this addendum report).
- Construction of the three warehouses to the western boundary of the study area.
- Observations of site disturbance on the 3 October 2025 Artefact site visit (Section 4 of this addendum report)

The additional site visit and interpretation of historical aerials indicated the level of disturbance within the study area has removed the potential for artefacts to be present. The area of moderate potential on the eastern boundary of the study area was based on the EC132kV PAD and proximity to Eastern Creek but taking into account level of destruction (Figure 10) and Martens 2025 geotechnical assessment the level of fill and removal of soil has removed any archaeological potential. The area of moderate potential indicated by Virtus in the southwestern boundary of the study area has been heavily impacted by the construction of the southern warehouse built after McDonald assessment in

2005 and therefore no longer has potential for a soil profile that could contain intact archaeological deposits.

Artefacts have the potential to have moved down the slope evidenced by the artefacts identified by McDonald 2005, Brown 2008 and Virtus 2025. This boundary of this artefact scatter is referenced in McDonald 2005 and Brown 2008 as being connected to, and a reflection of, the artefact scatter 45-5-0456. During survey a minimal amount of soil was visible on the remaining portion of ridgeline,

Evidence of artefacts along the roadway during investigations by Kohen 1985 and subsurface testing by McDonald in 2001 and survey by McDonald in 2005 indicates that there is potential for minimal artefacts on this remnant ridgeline. As there will be no impact to this area by the proposed works no further assessment is required for this area (Figure 66).

Artefact locations included are presumed to be continually moving around and down the slope and were not re-identified during the Artefact Heritage site visit in 2025, although they have been included to indicate the area of potential artefact movement. Updated boundaries are illustrated in Figure 64 indicating the remnant ridgeline with truncated soil profile with potential for artefacts and the slope with artefact run off indicating disturbance in the area and constant artefact movement.

Figure 63: Virtus Areas of Archaeological Potential and Archaeological sites (Virtus 2025, p.79, Figure 53)

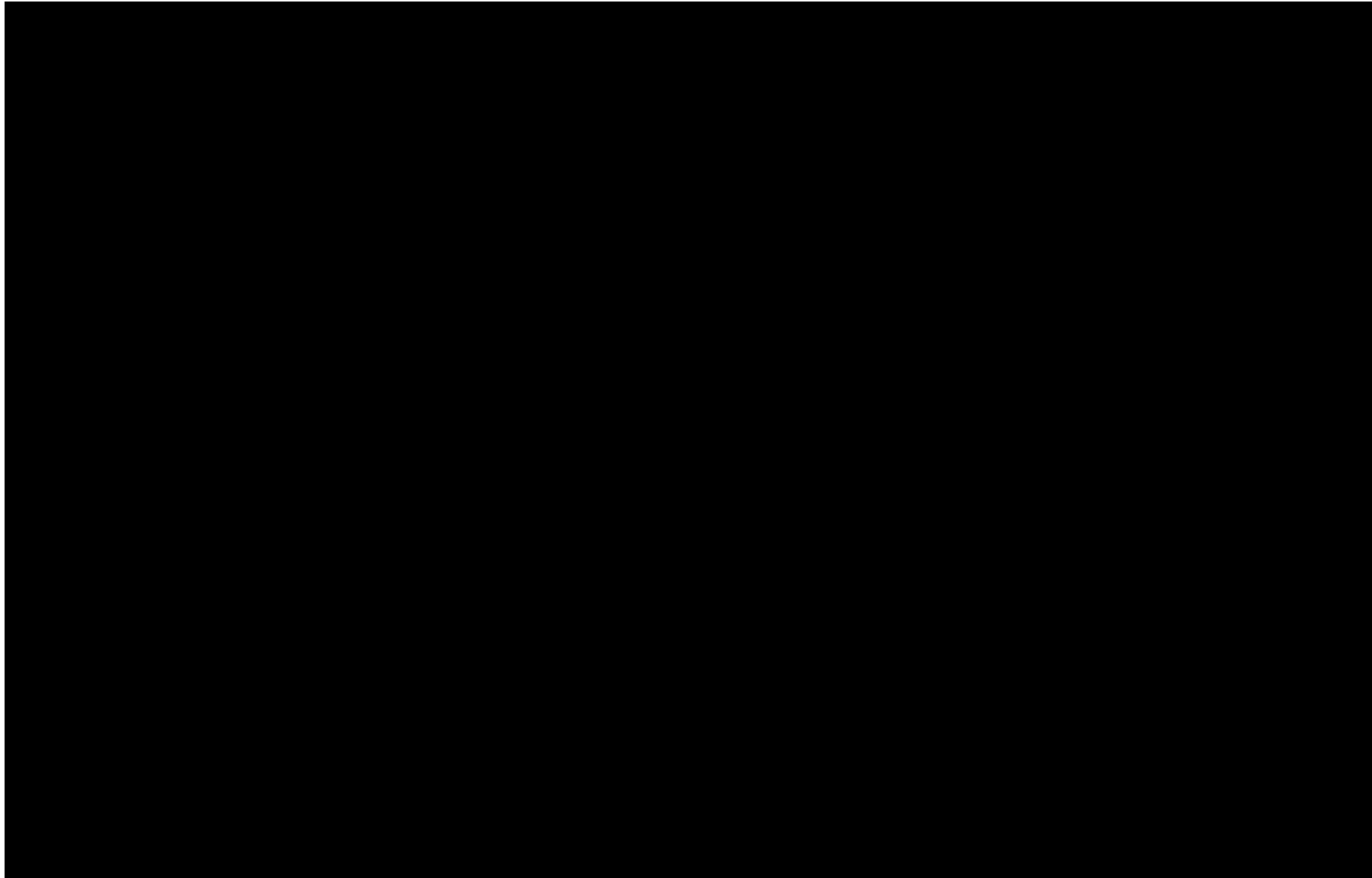
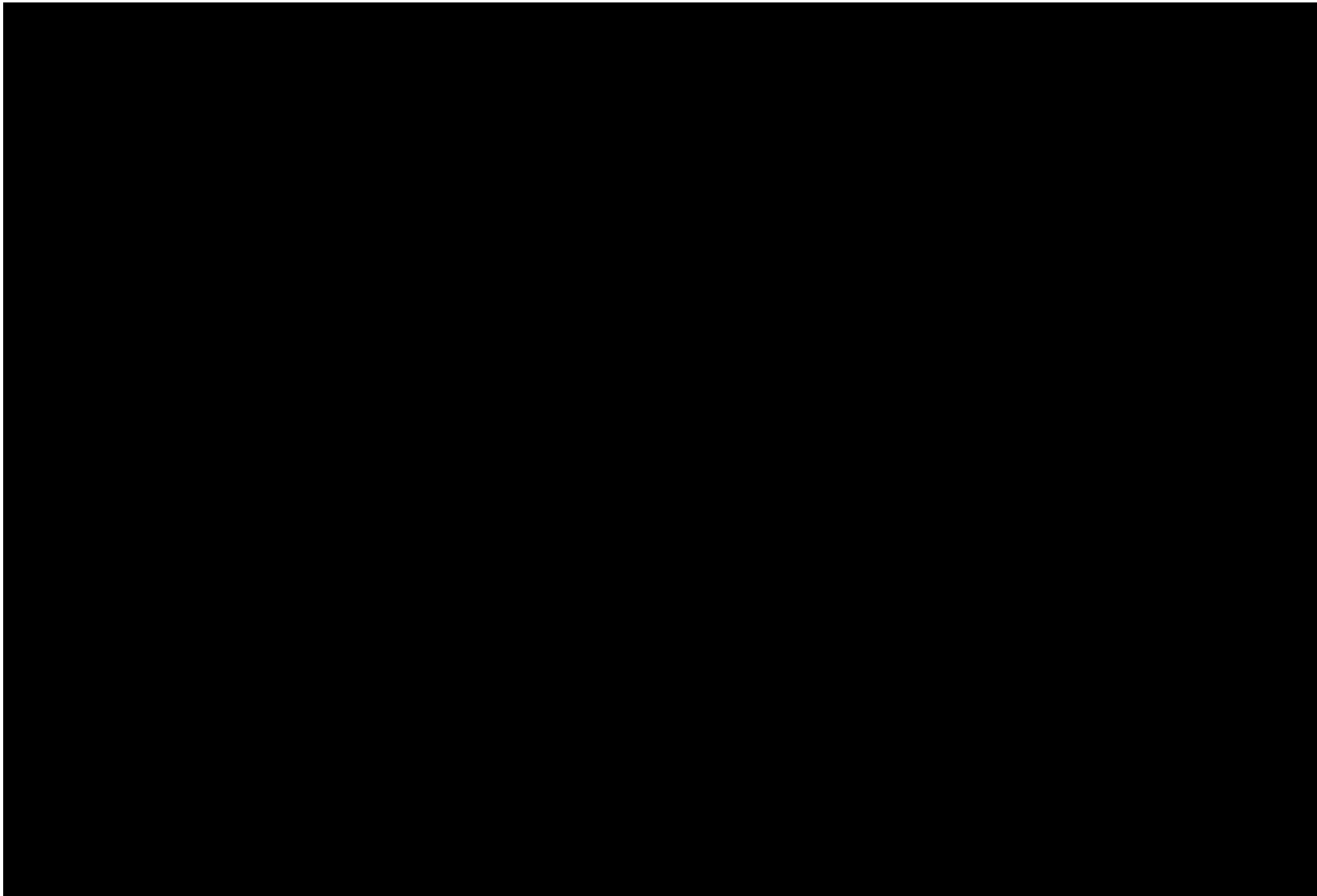


Figure 64: Updated artefact locations and archaeological potential mapping within the study area



Boundaries of artefact areas, including the ridgeline and the slope where artefacts had been identified, due to historical disturbance and erosion.

6.0 IMPACT ASSESSMENT

Figure 65: Virtus 2025 summary of likely harm (Table 18 of Virtus 2025 report)

Table 18. Summary of Likely Harm.

Site/Place/PAD	Type of Harm (direct/indirect/none)	Level of Harm (total/partial/ none)	Consequence of Harm (total loss of value/partial loss of value/no loss of value)
45-5-0483	Direct	Total	Total loss of value
45-5-2776	Direct	Total	Total loss of value
45-5-0456	Direct	Partial	Partial loss of value
45-5-2461	Direct	Partial	Partial loss of value
45-5-2462	Direct	Partial	Partial loss of value
Areas of sensitivity/archaeological potential			
Areas of low archaeological potential	Direct	Total	Total loss of value
Areas of moderate archaeological potential	Direct	Partial	Partial loss of value
Areas of high archaeological potential	Direct	Partial	Partial loss of value

AHIMS site 45-5-2776 as discussed in Section 2.1 of this report is in the wrong area and has likely already been harmed. It is unlikely that it is still in the study area and is either in an area not impacted by proposed works (the western transmission line) or where the central warehouse was original located which no longer exists. AHIMS ID 45-5-0474, 45-5-0456 and 45-5-0483 (SEP/4, SEP/5 and SEP/6) were destroyed with consent in 2001. These artefacts, particularly 45-5-0456 are continually referred to in ongoing reports between 2001 and 2008 as the AHIMS site card was not updated to detail the destruction. Some artefacts are located in the periphery of the AHIMS area and attributed to the study area boundary indicating a more complex or extensive site which has been summarised in its connection to the original AHIMS 45-5-0456 and is indicative of displacement and run off across the slope.

AHIMS ID 45-5-0474 was said to have been destroyed along with SEP/5 and SEP/6. The centroid is not on the study area, but the boundary may be according to the Kohen 1985 diagram (Figure 18 – not the boundary is much larger than the size described in the site card), the area has been extremely disturbed as determined through historical aerials and site visits and it is unlikely artefacts are still located there. As the site is not part of the works areas it should not be impacted

An updated table of proposed site impacts and site condition has been included below:

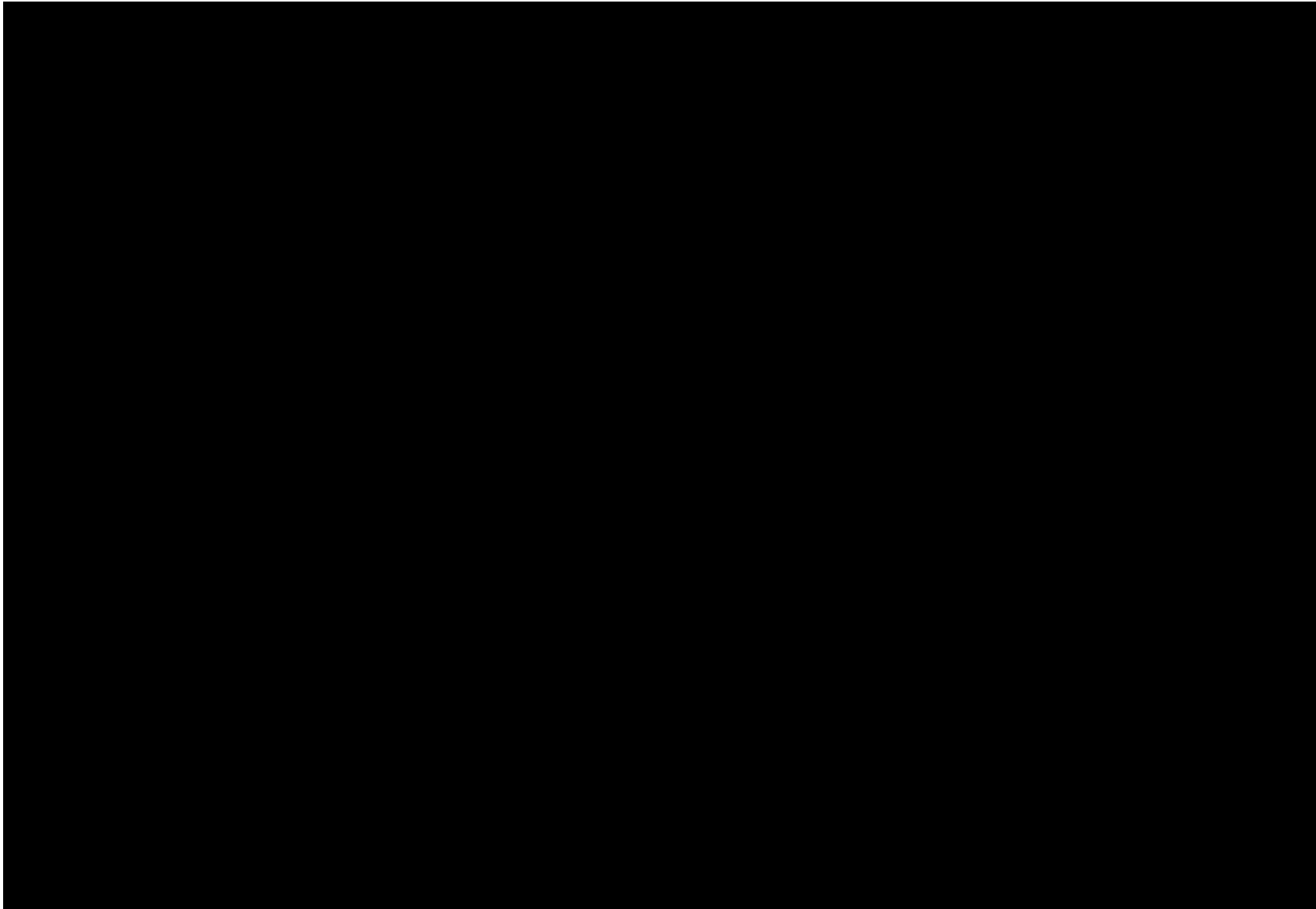
Table 7: Artefact 2025 update of likely harm

AHIMS site	Type of harm	Degree of harm	Consequence of harm
45-5-0483	No harm – assumed destroyed	No harm	<ul style="list-style-type: none"> This AHIMS site has been impacted by historical construction disturbance and was salvaged under a consent to destroy granted in 2001 to Kohen and Knight (AHIP 941). 2004 and 2007 aerials, geotechnical results and the site visit indicate that no intact soils remain in the area.
45-5-2776	No harm – assumed destroyed	No harm	<ul style="list-style-type: none"> Due to the inaccuracies of mapping the AHIMS site 45-5-2776 is likely already destroyed, it is within the boundary of salvage collections by Knight and Kohen 2001. the artefacts were not relocated during 2025 Artefact heritage site visit. It's location as mapped by AHIMS is located outside of the footprint of the proposed works
45-5-0456	Partial harm– assumed partial destroyed	Partial direct harm	<ul style="list-style-type: none"> The site has been logged as destroyed under AHIP 941 in the 2001 Kohen and Knight salvage report and under Permit 0461 in the initial AHIMS entry which most likely refers to the collection of the original 60 artefacts identified as part of the AHIMS site. The site was originally described in the AHIMS site card as being located on the road, and the 60 identified artefacts were collected. Subsequent artefact potential has been established to the west of the site extents in 1999 and 2001 which has also since been impacted by warehouse development. The additional artefacts located by McDonald 2005 and Brown 2008 attributed to 45-5-0456 in the report but not updated in the site card are partially located in an area of potential community collection and direct harm. The McDonald 2005, Brown 2008 artefacts, although attributed to AHIMS ID 0456, are within disturbed contexts and not within the original recovered boundaries The majority of the potential site located on the ridge slope is not included in the pathway of current works plans (Figure 63 Figure 66). The only remaining context for this site is located on the Southern ridgeline which is not included in the proposed works areas. Updated mapping establishes an area of potential including location of isolated artefacts which have washed down the hillslope (Figure 62) the buffer area of artefact.

AHIMS site	Type of harm	Degree of harm	Consequence of harm
45-5-2461	No harm – assumed destroyed	No harm	<ul style="list-style-type: none"> The Isolated Find recorded by McDonald in 1999 is assumed previously destroyed due to its listing on the roadway which has been extensively widened since the recording. The site card is still valid in AHIMS.
45-5-2462	No harm – assumed destroyed	No harm	<ul style="list-style-type: none"> No consequence of harm assumed to be destroyed and is located outside of the current study area. WN2 although meant to be potentially connected as part of a larger complex with WN1 and WNIF1 (which are partially within the study area) the actual boundary locations of WN2 artefacts were located outside of the study area along the road way and in proximity to Nurragingy Reserve (as indicated in Figure 21) and the road has since been widened and cemented.
45-5-0474	No harm	No harm	<ul style="list-style-type: none"> Assumed destroyed SEP/4 was detailed as destroyed and is in the location of the bulldozed works area for Kohen and Knight 2001. The centroid puts the scatter outside of the study area, but an overlay of a sketch made by Kohen 1985 places the scatter boundary partially within the study area
45-5-3622	N/A	N/A	<ul style="list-style-type: none"> The extent mapped within the study area was located to the southeast corner of the site boundary and a buffer of archaeological potential supplied on the eastern portion of the study area. This PAD was Based on subsequent disturbance this area of sensitivity is assumed to have been destroyed. Only a portion of the PAD overlaps the already established boundary of 45-5-0456 and updated site potential location.

The additional artefacts located by Virtus and Brown were not identified during the 2025 Artefact site visit indicating that these individual artefacts are displaced from the ridge and slope and are moving around the study area. Virtus discussed the consequence of the works to the AHIMS sites in the periphery of the study area in Table 18 Section 9.3 of the 2025 Virtus Archaeological Assessment. This description of values and degree of harm matches with the proposed works and updated site visit conducted by Artefact in 2025 that there is no loss of value to the sites located outside of the study area.

Figure 66: Project impact locations kept to the northern portion of the study area



CONCLUSION

6.1 Conclusion

Virtus (2025) stated that there:

has been sufficient study in the southern portion of the project area and that there is a high likelihood of Aboriginal objects with low archaeological integrity, i.e. Aboriginal objects have been displaced within fill and imported fill or eroded downslope. Aboriginal objects in these areas have cultural value but their archaeological value is limited to the object itself rather than the environmental and chronological data that could be obtained from a stratified archaeological deposit.

Archaeological test excavations undertaken by Jo McDonald (1999, 2001) and surface collections undertaken by Kohen (2001) have provided sufficient data to understand the archaeological values and significance of Aboriginal objects within areas mapped as having moderate and high archaeological potential an to inform planning decisions. As such, archaeological test excavations prior to EIS submission are not proposed.”

The study area is delineated by the elevation of the ridge and slope which assist a distinction between the rest of the study area and the locations with archaeological potential. The majority of the study area has not been assessed as having archaeological potential due to the destruction and ongoing disturbance on the site since 2001 as detailed in historical aerials detailed above (Figure 9 and Figure 10).

This adjusted assessment has found that area portion of AHIMS ID 45-5-0456 should be subject to community collection prior to the commencement of works – see Figure 66. The remainder of the area of proposed works requires no further archaeological investigation or mitigation and management with respect to Aboriginal heritage.

Virtus has prepared a detailed methodology for surface collection and community collection in Section 5 of the Archaeological Research Design. Section 5 also details precautions for salvage excavation, protocols for unexpected human remains and recording of artefacts recorded when onsite.

6.2 Response to Heritage NSW questions

6.2.1 Aboriginal community consultation

Aboriginal Community consultation is not addressed in this Archaeological Technical Report Addendum. Consultation is included Appendix B of the Virtus ACHAR – to be provided separately. The consultation log does not list all of the emails sent, but they have been included as part of the appendix.

6.2.2 Aboriginal sites, areas of potential and impact assessment

Figure 64 within this addendum report details the updated site boundaries of what remains on site after extensive construction impacts and destruction. This boundary line includes the less disturbed area on the ridgeline, which has previously been attributed to the AHIMS site ID 45-5-0456, but is not located within the original site boundaries. The majority of artefacts recorded from 2005 to 2008 are located within this area and appear to be the result of out of context isolated surface artefacts which

have been moving around the site, therefore Figure 62 contains both the artefacts recorded from 2005 onwards (which were not relocated during 2025 site visits) and a general boundary of where the artefacts have the potential to be located. It has been assessed that due to historical disturbance (discussed in Section 3.3 of this addendum report) and geotechnical assessment provided by AECOM 2023 and Martens 2024 that the majority of the study area does not contain potential for artefact bearing deposits and has been assessed as no potential for isolated finds.

Figure 16 indicates all approximate boundaries, scatters and isolated finds as they have been mapped within previous reports. A majority of the AHIMS sites were located outside of the boundary of the study area or extended outside of the study area. They have been organised by date of report or publication to indicate affects mapped on the study area.

AHIMS sites have consistently been misrepresented and moved around according to ongoing reporting and assessment within the study area. AHIMS centroids are not an accurate reflection of the site boundaries. The artefacts located and recorded by McDonald 2005 and Brown 2008 were discussed as being connected to 45-5-0456 indicating that the study area has been disturbed and isolated artefacts in disturbed contexts have moved down the slope from the ridge line. McDonald (1999 and 2001) indicated that AHIMS 45-5-0456 extended further than the original AHIMS boundary recorded by Kohen 1985. Updated mapping of site extents after destruction indicates only one portion of the study area which contains identified artefacts (which could not be relocated during the 2025 site update) this area will be recorded as a site boundary which will be partially impacted by the proposed works (See Figure 66).

Consent to destroy permits, historical aeriels and geotechnical results indicate that there is a lack of soil profile in the northern portion of the study area beyond the ridgeline meaning that there is no archaeological potential in this area and that Aboriginal objects are unlikely to be present.

6.2.3 Management and mitigation measures

In light of the updated assessment, the likelihood of harm Table 7 has been updated to reflect assumed destruction of the sites within the study area by previous archaeological excavation and development.

All site cards will be updated to reflect the destruction and previous reporting located within the study area to accurately reflect the condition and removal of artefact sites within the study area. Community collection is a mitigation measure that should be conducted in the areas of fill slope as they will be impacted by the proposed works (See Figure 66). No further management or mitigation measures are required for the site extents beyond the updating of the site cards. As the proposed works will not impact the area of truncated soil deposit along the ridgeline and higher up slope, no exclusion zones for this work is required due to the natural topographic delineation (Figure 14 and Figure 66).

6.2.3.1 Summary of site card extents

Table 8: Updated site card extents table within the study area

Site card extents	Updates
Site card extents within study area	
45-5-0483 – Southeast Plumpton 6 Rooty Hill	Site card to be updated as destroyed
45-5-0474 – Southeast Plumpton 4	Site card to be updated as destroyed

Site card extents	Updates
45-5-0456 – previously Southeast Plumpton 5 – WN1	Site card to be updated to include the area of less disturbed ridgeline and associated isolated finds (Figure 64) as well as the consent to destroy permit 941 and 1424. Whilst still subject to disturbance and soil removal as evidenced in aerials (Figure 9 and Figure 10) and discussed in section 3 this area appears to have a remnant truncated soil deposit with Aboriginal objects present in a disturbed context down slope. It is associated with artefacts from reports that were determined to be connected to the listing (McDonald 2005, Brown 2008). Site card updated according to the boundaries of the study area.
45-5-2776 – Glendenning Road 1	Site card to be updated as destroyed
Site card extents outside of the study area	
45-5-2461 – WNIF1	Site card to be updated as destroyed as per permit 1424
45-5-2462 – WN2	Site card to be updated as partially destroyed as per permit 1424

7.0 REFERENCES

AECOM (2023) Phase 1 Environmental Site Assessment, 2 Glendenning Road, Glendenning NSW 2761. 60694887 Revision B, 6 February 2023

Blacktown Development Control Plan 2015

Brown O, Total Earth Care Pty Ltd. 2008 Aboriginal cultural heritage and archaeological assessment. Proposed 132kV feeder power line between Glendenning and Quakers Hill. Report to Integral Energy.

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Jo McDonald CHM Pty Ltd 1999. Survey for prehistoric archaeological sites: proposed road into Nurragingy reserve, Blacktown, NSW. Reports to Blacktown City Council. Held at NSW NPWS.

Jo McDonald CHM Pty Ltd 2001. Subsurface testing for prehistoric archaeological sites: results of a field programme at the proposed access road into Nurragingy Reserve, Blacktown, NSW. Reports to Blacktown City Council.

Martens 2025a. Geotechnical Assessment Report, Data Centre – 2 Glendenning Road, Glendenning, NSW, report for LCI Consultants

Martens 2025b. Detailed Site Investigation Proposed Glendenning Road Data Centre 2 Glendenning Road, Glendenning NSW.

Virtus 2025, Archaeological Assessment Glendenning Road Data Centre 2 Glendenning Road, Glendenning, NSW. Report to LCI Consultants

APPENDIX A –AHIMS SITE PLANS AND ADDITIONAL MAPS

APPENDIX C – HERITAGE NSW PERMITS



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