Attachment 5 to Item 2.1.1.

Appendix 5 Aboriginal Heritage Due Diligence Assessment

Date of meeting: 18 April 2024
Location: Council Chambers or audio-visual link
Time: 12:30pm

AECOM Australia Pty Ltd
Gadigal Country
Level 21, 420 George Street
Sydney NSW 2000
PO Box Q410
QVB Post Office NSW 1230
Australia
www.aecom.com

+61 2 8008 1700 tel

ABN 20 093 846 925

11 August 2023

Matthew Causley
Director
SEED Projects

Dear Matthew,

Re: Aboriginal archaeological due diligence assessment for proposed residential development at Belmont Park Estate, 35 Grose River Road, Grose Wold, NSW

1.0 Introduction

AECOM Australia Pty Ltd (AECOM) was commissioned to undertake an Aboriginal archaeological due diligence assessment for a proposed residential development within the Belmont Park Estate, located at 35 Grose River Road, Grose Wald, NSW (the "Project area", Figure 1).

The purpose of this assessment is to identify potential impacts to Aboriginal heritage values as a result of the development and to provide Golden Vale Projects Pty Ltd with appropriate management advice. The contents of this letter report have been compiled with reference to Heritage NSW's *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW (DECCW, 2010)*. This code has been developed to assist proponents in exercising due diligence when carrying out activities that may harm Aboriginal objects.

2.0 Proposed Activity

The Kavanagh Family proposes a residential development across Lots 6, 7, 8 and 14 DP703300, located at 35 Grose River Road in the suburb of Grose Wold. Major impacts from the proposed development will likely include:

- Bulk cut and fill earthworks;
- Vegetation removal;
- Building and road construction;
- Installation of utilities through trenching; and
- Environmental rehabilitation works.

3.0 Relevant Legislation & Policy

3.1.1 National Parks and Wildlife Act 1974

The *National Parks and Wildlife Act 1974* (NPW Act), administered by Heritage NSW, is the primary legislation for the protection of Aboriginal cultural heritage in NSW. The NPW Act gives the Secretary of the Department of Premier and Cabinet (DPC) responsibility for the proper care, preservation and protection of 'Aboriginal objects' and 'Aboriginal places', defined under the Act as follows:

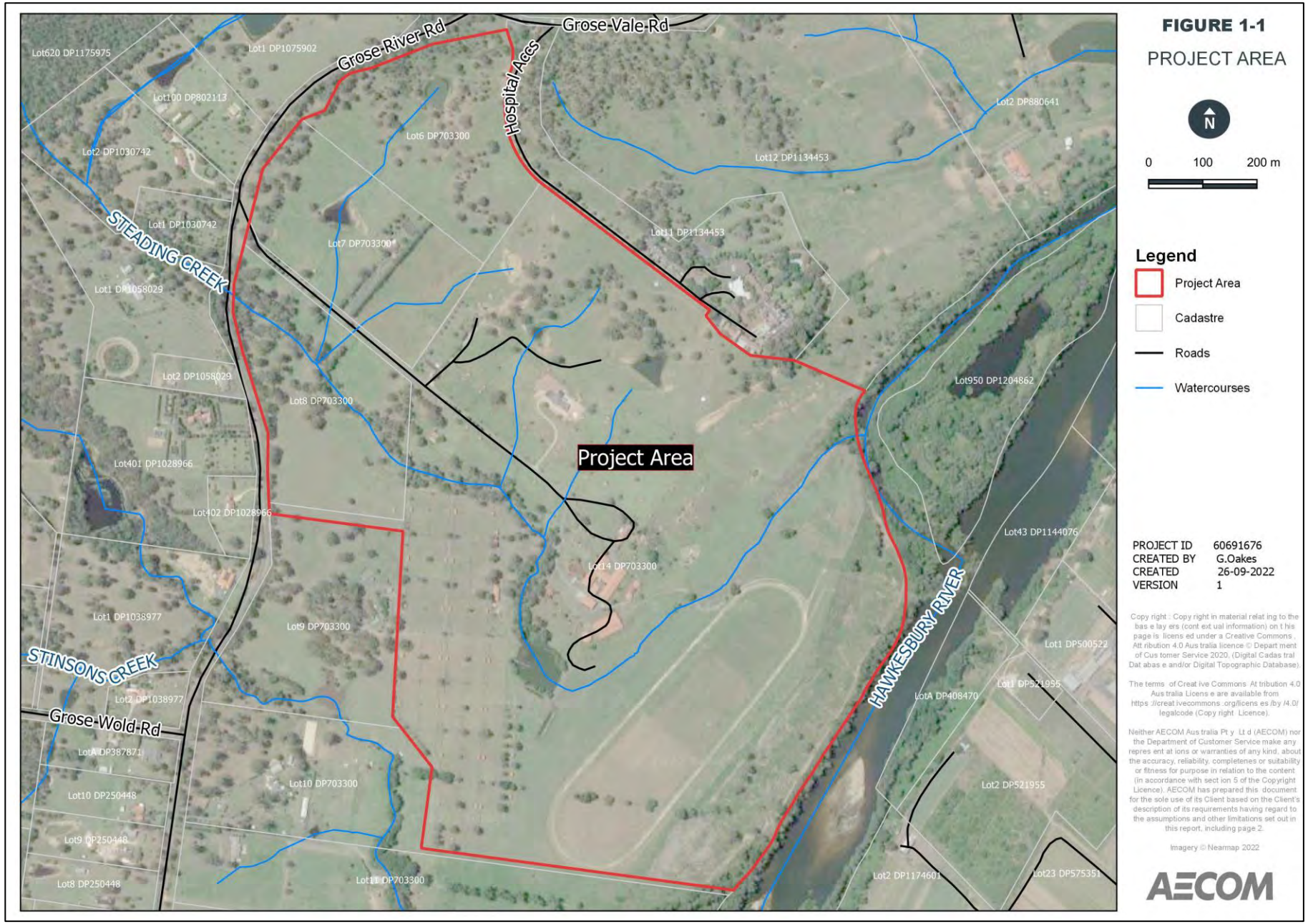
- an *Aboriginal object* is any deposit, object or material evidence (that is not a handicraft made for sale) relating to Aboriginal habitation of NSW, before or during the occupation of that area by persons of non-Aboriginal extraction (and includes Aboriginal remains).
- an *Aboriginal place* is a place declared so by the Minister administering the NPW Act because the place is or was of special significance to Aboriginal culture. It may or may not contain Aboriginal objects.

Part 6 of the NPW Act provides specific protection for Aboriginal objects and places by making it an offence to harm them and includes a 'strict liability offence' for such harm. A 'strict liability offence' does not require someone to know that it is an Aboriginal object or place they are causing harm to in order to be prosecuted. Defences against the 'strict liability offence' in the NPW Act include the carrying out of certain 'Low Impact Activities', prescribed in Clause 58 of the *National Parks and Wildlife Amendment Regulation 2019* (NPW Regulation), and the demonstration of due diligence.

An Aboriginal Heritage Impact Permit (AHIP) issued under Section 90 of the NPW Act is required if impacts to Aboriginal objects and/or places cannot be avoided. An AHIP is a defence to a prosecution for harming Aboriginal objects and places if the harm was authorised by the AHIP and the conditions of that AHIP were not contravened. Applications for an AHIP must be accompanied by assessment reports compiled in accordance with the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH, 2011) and the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW, 2010b). Applications must also provide evidence of consultation with Aboriginal communities. Consultation is required under Part 8A of the NPW Regulation and is to be conducted in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW, 2010a). AHIPs may be issued in relation to a specified Aboriginal object, Aboriginal place, land, activity or person or specified types or classes of Aboriginal objects, Aboriginal places, land, activities or persons.

Section 89A of the NPW Act requires notification of the location of Aboriginal sites within a reasonable time, with penalties for non-notification. Section 89A is binding in all instances.

Figure 1-1 Project area



4.0 Data Sources

Information regarding the known and potential Aboriginal heritage values of the Project area was obtained from:

- A review of the landscape context of the Project area and surrounds;
- A review of existing Aboriginal Heritage Information Management System (AHIMS) data for land within and surrounding the Project area, obtained from Heritage NSW on 31 August 2022;
- A review of the findings of past Aboriginal heritage investigations within the local area; and
- A visual inspection of the Project area on 20 September 2022 by AECOM Principal Heritage Specialist Geordie Oakes.

5.0 Landscape Context

Consideration of the landscape context of the Project area is based on the proposition that the nature and distribution of Aboriginal archaeological materials are closely connected to the environments in which they occur. Environmental variables such as topography, geology, hydrology and the composition of local floral and faunal communities will have played an important role in influencing how Aboriginal people moved within and utilised their respective Country. Amongst other things, these variables will have affected the availability of suitable campsites, drinking water, economic[1] plant and animal resources, and raw materials for the production of stone and organic implements. At the same time, an assessment of historical and contemporary land use activities, as well as geomorphic processes such as soil erosion and aggradation, is critical to understanding the formation and integrity of archaeological deposits, as well as any assessments of subsurface archaeological potential.

Key observations from a review of the landscape context of the Project area are presented in Table 1.

Table 1 Review of landscape context of the Project area

Environmental Variable	Key Observations
Topography	The Project area's topography encompasses multiple landforms including multiple spur crests and associated slopes, as well as incised creek channels, flats and terraces associated with watercourses located both within and adjacent to the Project area. Slopes range from areas of level terrain (0-1%) on terraces, to very steep terrain (56-100%) around ridge crests. Elevations across the Project area vary significantly, with the highest elevation, 79 m AHD, located within the very northern extent of the site, associated with a ridgeline, and the lowest elevation found, 4 m AHD associated with the Hawkesbury River.
Hydrology	Two watercourses are of relevance to the Project area. Steading Creek is located directly within the Project area, flowing roughly through its centre before turning sharply northward to flow around a large river terrace located in the southern part of the Project area and into the Hawkesbury River. Steading Creek rises in the southern part of Grose Vale, approximately 1.5 km north of the Project area, and is fed by multiple 1st order drainage lines from surrounding ridgelines. As it passes through the Project area, it's a variably incised 2nd order stream. The other watercourse of relevance is the Hawkesbury River which forms the Project area's southeastern boundary where it's a 120 m, tide-dominated, estuary that flows in a south-easterly direction from its junction with the Nepean River west of Richmond to Broken Bay. The Hawkesbury River regularly experiences major flooding events with floodwaters often rising to around 15 m AHD and in one event in 1867 reaching 19.68 m (The Gazette, 2022). Such extreme flood events would almost certainly submerge land within the Project area lying adjacent to the Hawkesbury River including the large terrace landform.

[1] I.e., edible and/or otherwise useful (e.g., medicine, clothing)

Environmental Variable	Key Observations
	Existing archaeological survey data for the Cumberland Plain indicate a strong trend for the presence of open artefact sites along watercourses, specifically, on creek banks and 'flats' (i.e., flood/drainage plains), terraces and bordering lower slopes (Kohen 1986). Although this distribution pattern can be attributed in part to geomorphic dynamics and archaeological sampling bias, with extensive fluvial erosion activity along watercourses resulting in higher levels of surface visibility and, by extension, concentrated survey effort, an occupational emphasis on watercourses is supported by the results of numerous subsurface investigations (e.g., AECOM 2013b, 2015; AMBS 2000; Craib et al. 1999; GML 2012; Jo McDonald CHM 2001, 2003, 2005a, 2006a, 2006b, 2007, 2009a, 2009b). Collectively, these investigations have demonstrated that assemblage size and complexity tend to vary significantly in relation to stream order and landform, with larger, more complex assemblages concentrated on elevated, low gradient landform elements adjacent to higher order watercourses (≥3rd order). Outside of these contexts, surface and subsurface artefact distributions have typically been found to be sparse and discontinuous and are often referred to as 'background scatter'.
Geology	Reference to the 1:100,000 Geological Map Sheet for Penrith (9030) indicates that the surface geology of the Project area comprises a combination of Hawkesbury Sandstone (Rh), sands and gravels of the Lowlands Formation (Qhap), and the Middle Triassic Wianamatta Group's three constituent formations – Bringelly Shale (Rwb), Minchinbury Sandstone (Rwm) and Ashfield Shale (Rwa). Hawkesbury Sandstone (Rh) has been mapped in association with the western side of Steading Creek. A medium to coarse-grained quartz sandstone with minor shale and laminate lenses, Hawkesbury Sandstone weathers cavernously to form overhangs (i.e., rockshelters) but also occurs as flatted-topped outcrops (platforms) and isolated boulders (McDonald 2008). The Lowlands Formation (Qhap) consists of a large sand body that forms a broad dissected terrace of varying widths that sits adjacent to the Hawkesbury River around Richmond featuring basal gravels, sand, silt and clay. Within the Project area, its mapped as a *c.*500 m wide geological feature spreading out from the Hawkesbury River and encompassing about a third of the Project area. In the very northern extent of the site, associated with the ridgeline, Bringelly Shale (Rwb), the Minchinbury Sandstone (Rwm) and the Ashfield Shale (Rwa), are mapped. Deposited in a swampy alluvial plain, the Bringelly Shale (Rwb) has been described as a "complex formation of different lithologies" (Bembrick et al., 1991: 17). The formation includes a range of lithologies including claystone, siltstone, laminate, sandstone, coal, carbonaceous claystone and tuff (Bembrick et al., 1991: 25). The Ashfield Shale, meanwhile, consists of a "sequence of dark-grey to black, sideritic claystone - siltstone which grades upwards into a fine sandstone - siltstone laminate" (Bembrick et al., 1991: 17). The formation has a minimum thickness of 44.6 m and maximum thickness of 61.6 m (Bembrick et al., 1991: 17). Separating the Ashfield Shale and Bringelly Shale is the Minchinbury Sandstone (Rwm) consists of a thin but persistent unit of fine to medium-grained quartz-lithic sandstone (Bembrick et al., 1991: 24).
Soils	Soils within the Project area have been mapped by Bannerman and Hazelton (1990) as belonging to the Luddenham (lu) and Freemans Reach (sc) Soil Landscapes with the latter occupying land around the Hawkesbury River and the former mapped across the Project area's slopes. Soils of the Luddenham landscape are formed on Wianamatta Group shales with dominant soil materials comprising dark brown silty loams and silty clay

Environmental Variable	Key Observations
	loam A horizons. B horizons comprise medium clays with strong structure and smooth-face dense ped fabric. A horizon pH levels range from moderately acid (pH5.0) to slightly acid (pH 6.5). Soils of the Freemans Reach soil occur discontinuously on either side of the Nepean and Hawkesbury rivers and form active floodplain with minor (<10 m) relief), scroll bars, terraces, levees and swamps. Dominant soils consist of brownish black sandy loam A horizons overlying reddish to yellowish brown sand that occur as stratified bands or lenses. A horizon pH levels range from weakly acidic (pH 4.0) to slightly acidic (pH 6.0).
Flora & Fauna	Native vegetation within the Project area has been extensively modified as a result of historical land use, particularly clearing for agricultural activities, with current vegetation consisting of isolated paddock trees and thin bands of trees along watercourses and roads as well as grasses/weeds. Historical clearance notwithstanding, existing native vegetation mapping for the Cumberland Plain suggests that the Project area would have supported Shale Sandstone Transition Forest, Shale Plains Woodland, Alluvial Woodland and Riparian Forest. A description of the nature and distribution of these vegetation communities is found in Tozer (2003).
Land Disturbance	Historical aerial photographs and field observations indicate that the Project area has been variously disturbed by historical land uses associated with agricultural practices. Section 6 provides detail on historical land disturbances within the Project area.

6.0 Historical Land Use

Historical aerial photographs provide a framework for assessing the nature and extent of post-European settlement land use activities and associated ground disturbance within the Project area. Aerials from the 1954 (Figure 2), 1961 (Figure 3), 1975 (Figure 4), 1984 (Figure 5), 1986 (Figure 6) and 1998 (Figure 7) indicate a range of activities and associated ground surface impacts. These include:

- Large-scale vegetation clearance across the Project area prior to 1955;
- Construction of a homestead on one of the terrace landforms in the centre of the site prior to 195;
- Construction of multiple farm building and associated agricultural activities, including damming, cropping and grazing, across the site prior to 1955;
- Creation of a large orchard adjacent to the Hawkesbury River on the large terrace around 1960;
- Conversion of the property to a horse stud around 1984 with a grid pattern of multiple paddocks being fenced with small feed lots evident;
- Construction of an oval shaped horse track on the large terrace adjacent to the Hawkesbury River in 1986 where the orchard was previously present;
- Construction of additional farm buildings and residences around 1986; and
- Construction of an additional residence in the centre of the site around 2018.

Figure 2 1954 aerial photograph of the Project area (Source: NSW Spatial Collaboration Portal 2022)

Figure 3 1961 aerial photograph of the Project area (Source: NSW Spatial Collaboration Portal 2022)

Figure 4 1975 aerial photograph of the Project area (Source: NSW Spatial Collaboration Portal 2022)

Figure 5 1984 aerial photograph of the Project area (Source: NSW Spatial Collaboration Portal 2022)

Figure 6 1986 aerial photograph of the northern Project area near Caddies Creek (Source: Nearmap 2022)

Figure 7 1998 aerial photograph of the northern Project area near Caddies Creek (Source: Nearmap 2021)

7.0 AHIMS

The AHIMS database, administered by Heritage NSW, contains records of all Aboriginal objects reported to the Director General of the Department of Premier and Cabinet in accordance with Section 89A of the *National Parks and Wildlife Act 1974*. It also contains information about Aboriginal places, which have been declared by the Minister to have special significance with respect to Aboriginal culture. Previously recorded Aboriginal objects and declared Aboriginal places are known as 'Aboriginal sites'.

A search of the AHIMS database was undertaken on 31 August 2022 for a 20 x 20 km area centred on the Project area. A total of 201 Aboriginal archaeological sites were identified within the search area comprising 150 open artefact sites (i.e., artefact scatters or isolated artefacts), two with associated areas of Potential Archaeological PAD (PAD), 20 grinding groove sites, 15 rockshelters, four areas of PAD, three stone quarries, two art sites, two ceremony and dreaming sites, two habitation structures, two modified trees and one stone arrangement. Consideration of the locations of previously recorded sites indicates that none are located directly within the Project area, with the closest site – open artefact site "yarramundi 10" (45-5-0369) - located approximately 480 m south of the Project area.

8.0 Previous Aboriginal Heritage Investigations

The Aboriginal archaeology of land within and directly adjacent to the Project area has not previously subject to archaeological investigation. More broadly, the Redbank development to the north of the Project area has been subject to detailed investigation as have Aboriginal sites in Richmond and locally around the Hawkesbury River. The results of a selection of investigations are summarised in Table 2.

Table 2 Previous Aboriginal archaeological investigations in the vicinity of the Project area

Report	Project	Investigation type	Key findings
Dallas (1985)	Residential development in North Richmond	Archaeological survey	Archaeological survey was undertaken of land north of the Project area near Redbank Creek resulting in the identification of eight Aboriginal sites comprising five axe grinding groove sites and two open artefact sites (NR 1-8). All sites were identified associated with Redbank Creek.
Jo McDonald Cultural Heritage Management Pty Ltd (1997b)	Richmond water reuse project	Archaeological survey	Archaeological survey was undertaken of the proposed location of water infrastructure south of the Hawkesbury River. Stone artefacts were identified across the entire project area. One site, open artefact site RPW-1, was recorded comprising 19 stone artefacts and an area of PAD encompassing the entire development area.
Jo McDonald Cultural Heritage Management Pty Ltd (1997a)	Development of shopping centre	Test excavation and salvage excavation	Archaeological test excavation and salvage was undertaken across an area proposed for a shopping centre south of the Hawkesbury River. It comprised 79 x 1m² test pits and 52m² of salvage excavation resulting in the recovery of 12,344 stone artefacts. The assemblage comprised 9,615 heat shatters, 2,504 flaked artefacts, 61 pieces of unflaked stone, and 56 pieces that were unable to be effectively analysed due to manganese encrustation. The majority of the artefact assemblage was chert (65%), followed by silcrete (18%) and quartz (15%). The age of the site was uncertain with the assemblage not entirely consistent with Bondaian or Capertian technology.
Jo McDonald Cultural Heritage Management Pty Ltd (1998)	Richmond water reuse project	Test excavation	Archaeological test excavation was undertaken across previously recorded site RPW-1 comprising 40 x 1m² test pits. A total of 69 lithic items were recovered from the program of test excavation. The site was assessed as representing ‘background scatter’.
Kelleher Nightingale Consulting Pty Ltd (2008a)	North Richmond Release Area (Redbank development area)	Archaeological survey	Archaeological survey was completed across the Redbank development area resulting in the identification of three sites comprising three open artefact sites and one area of PAD. The assessment identified the riparian corridor of Redbank Creek as an area of high archaeological potential due to the presence of Hawkesbury sandstone exposures in close proximity to the creek and previously identified grinding grooves. Elevated areas adjacent to the riparian corridor were assessed as having moderate archaeological potential as they were conducive to the survival of Aboriginal objects whilst the slopes were assessed as having low archaeological potential due to gradient and erosion.
Kayandel Archaeological Services (2014)	Redbank development area	Test excavation	Archaeological test excavation was undertaken across site NR10 (45-5-4100) comprising 13 (50 cm x 50 cm) test pits on a slightly elevated crest. A total of 149 lithic items were recovered during the excavation consisting of 93 flaked artefacts and 51 heat shatters.

Report	Project	Investigation type	Key findings
			The assemblage was predominantly silcrete (66%), followed by silicified tuff (26%), then quartz (8%) with one artefact of silicified wood. The results of the assessment were found to support the predictive model that the medium level artefact densities found at NR10 reflect its proximity to 3rd and 4th order streams.
Kelleher Nightingale Consulting Pty Ltd (2015)	Redbank development area	Test excavation	Archaeological test excavation was undertaken at sites NR 5, NR 8 and NR PAD 1 comprising a total of 40 m² of excavation. Excavation at NR 5 recovered 80 artefacts from a total excavation area of 2.5/m², giving an overall mean artefact density of 32/m². Excavation at NR 8 recovered 85 artefacts from a total excavation area of 3.75m², giving an overall mean artefact density of 23/m². Excavation at NR PAD 1 showed the highest densities of the test program, recovering 355 artefacts from a total excavation area of 3.75 m², giving an overall mean artefact density of 94/m². Salvage excavation was recommended for sites NR 8 and NR PAD 1.
AAJV (2018)	Sydney Water Infrastructure	Test excavation	Archaeological test excavation was undertaken for a proposed wastewater pump station and associated pipelines to service the Redbank development near Redbank Creek. A two phased program of test excavation was completed with five 0.25 m² test pits initially completed, followed by an expansion of TP#3 to 1 m². A total of 20 stone artefacts were recovered from the site all forming part of a single site NR-IA1-18 (45-5-5077).

9.0 Visual Inspection

A visual inspection of the Project area was undertaken on 20 September 2022 by AECOM Principal Heritage Specialist Geordie Oakes. The purpose of this inspection was to help establish whether the proposed works will, or are likely to, harm any Aboriginal objects/sites. During the visual inspection notes were taken regarding Ground Surface Visibility (GSV), Ground Integrity (GI, i.e. land condition), archaeological sensitivity and impact risk. Impact risk was determined on the basis of archaeological sensitivity, as well as the nature of proposed Project-related impacts. Results of the inspection included the following:

- No evidence of past Aboriginal occupation (i.e., Aboriginal objects/sites) was observed during the visual inspection.
- GSV across the Project area was, in general, poor due to the presence of thick vegetation (grass) cover. Areas of enhanced visibility were associated with access tracks and small erosion scours (Plates 1-2 – Appendix A).
- Consistent with examined aerials, the visual inspection indicated that land within the Project area has been variously disturbed by the following activities:
    - Vegetation clearance and associated areas of erosion;
    - Construction of residences, farm buildings, dams and roads/access tracks (Plates 3-4 – Appendix A);
    - Construction of a horse racing track on the large terrace adjacent to the Hawkesbury River (Plates 5-6 – Appendix A); and
    - Evidence of recent flooding was evident in the southern part of the Project area around the large terrace adjacent to the Hawkesbury River with reeds and grasses caught in the upper part of barbed wire fences (Plates 7-8 – Appendix A)
- Notwithstanding the above disturbances, land across the majority of the Project area was assessed as having moderate GI.
- A number of areas within the Project area were identified as archaeologically sensitive including several terraces and creek flats (Figure 8). These areas are considered likely to contain Aboriginal objects/sites in subsurface contexts (Plates 9-11) – Appendix A.

Figure 8 Areas of archaeological sensitivity

10.0 Key Findings

The key findings of this due diligence assessment are as follows:

- There are no registered Aboriginal sites within the Project area;
- No Aboriginal objects/sites were identified during the visual inspection component of this assessment; and
- Several areas within the Project area were assessed as archaeologically sensitive. These areas are considered likely to contain Aboriginal objects/sites in subsurface contexts.

Table 3 provides a summary of the key questions asked as part of the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW, 2010:10). Should the answer to Question 4 be 'yes', further investigation and impact assessment is required.

Table 3 Due diligence questionnaire

No.	Due Diligence Question	Response
1	*Will the activity disturb the ground surface (or culturally modified trees)?*	Yes
2a	*Are there any relevant confirmed site records or other associated landscape feature information on AHIMS?*	No
2b	*Are there any other sources of information of which a person is already aware?*	No
2c	*Are there any landscape features that are likely to indicate presence of Aboriginal objects?*	Yes, several terraces and creek flats
3	*Can harm to Aboriginal objects listed on AHIMS or identified by other sources of information and/or can the carrying out of the activity at the relevant landscape features be avoided?*	N/A
4	***Does a desktop assessment and visual inspection confirm that there are Aboriginal objects or that they are likely?***	***Yes***

11.0 Recommendations

On the basis of the above findings, the following recommendations are made:

1. Where impacts are proposed within areas of archaeological sensitivity, further investigation would be required. It is recommended that further investigation in these areas take the form of a formal archaeological survey, a program of subsurface testing and a program of Aboriginal community consultation in accordance with Heritage NSW guidelines. Where Aboriginal objects/sites are identified during further investigation, an AHIP would be required to allow impacts to these areas.
2. In the event that Aboriginal objects, including possible human skeletal material (remains), are identified at any point during the development, the procedures outlined in Appendix B should be followed

AECOM

Yours faithfully

Geordie Oakes
Principal Heritage Specialist
geordie.oakes@aecom.com

Direct Dial: +64 2 89340610
Direct Fax: +64 2 89340001

12.0 References Cited

AAJV. (2018). *North Richmond: Drinking Water and Wastewater Infrastructure Aboriginal Archaeological and Historic Heritage Due Diligence Assessment*. Unpublished report for Sydney Water Corporation.

AECOM Australia Pty Ltd. (2013). *Lots 21 & 22, DP584915, Richmond Road, Marsden Park: Aboriginal Cultural Heritage Assessment Report*. Unpublished report for Winten (No. 26) Pty Ltd.

AECOM Australia Pty Ltd. (2015). *Archaeological Salvage of Open Artefact Site MPIP5 (45-5-3726)* (Vol. 5). Unpublished report for Winten (No. 26) Pty Ltd.

Australian Museum Business Services. (2000). *Mungerie Park Town Centre: Archaeological Salvage Excavations near Kellyville, Cumberland Plain, NSW*.

Bannerman, S. M., & Hazelton, P. A. (1990). *Soil Landscapes of the Penrith 1:100 000 Sheet*. Sydney: Soil Conservation Service of NSW.

Bembrick, C. S., Herbert, C., & Clark, N. R. (1991). Permo-Triassic Stratigraphy. In *Geology of the Penrith 1:100,000 Sheet 9030*. Sydney: Geological Survey of NSW, Department of Minerals and Energy.

Craib, J. ., Bonhomme, T., Mangold, G. R., & Williams, S. S. (1999). *Archaeological Salvage Excavations at Site RS1 (45-5-982), Regentville, Western Sydney: Final Report*. Unpublished report for TransGrid.

Dallas, M. (1985). *An Archaeological Survey of North Richmond*. Unpublished report for Gutteridge Haskins & Davey Pty Ltd.

GML Heritage Pty Ltd. (2012). *East Leppington Aboriginal Archaeological Technical Report*. Unpublished report for Stockland Development.

Jo McDonald Cultural Heritage Management Pty Ltd. (1997a). *Archaeological Salvage of Site RMI at Richmond, NSW: Test and Salvage Excavation Report*. Unpublished report for Restifa & Partners.

Jo McDonald Cultural Heritage Management Pty Ltd. (1997b). *Archaeological Survey of the Proposed Richmond Water Reuse Project, Richmond*. Unpublished report for Sydney Water.

Jo McDonald Cultural Heritage Management Pty Ltd. (1998). *Archaeological Test Excavations at Site RWP-1 (#NPWS 45-5-2404) Richmond Water Reuse Project, Richmond, NSW*. Unpublished report for Sydney Water.

Jo McDonald Cultural Heritage Management Pty Ltd. (2001). *Salvage Excavations of Six Sites along Caddies, Second Ponds, Smalls and Cattai Creeks in the Rouse Hill Development Area, NSW*. Unpublished report for Rouse Hill Infrastructure Consortium.

Jo McDonald Cultural Heritage Management Pty Ltd. (2003). *Archaeological Salvage Excavations at the proposed Xavier College: Site ADI 47+48 (NPWS #45-5-1048), Ninth Avenue, Llandilo, NSW*. Unpublished report for PMDL on behalf of the Catholic Education Office, Diocese of Parramatta, NSW.

Jo McDonald Cultural Heritage Management Pty Ltd. (2005). *Archaeological Salvage Excavation of Eight Archaeological Landscapes in the Second Ponds Creek Valley, Rouse Hill Development Area, NSW*. Unpublished report for Rouse Hill Infrastructure Pty Ltd and Landcom.

Jo McDonald Cultural Heritage Management Pty Ltd. (2006a). *Archaeological Salvage Excavation at the St Marys Project Eastern Precinct: Site ADI:EPI (NPWS #45-5-2994)*. Unpublished report for Lend Lease.

Jo McDonald Cultural Heritage Management Pty Ltd. (2006b). *Archaeological Salvage Excavation of the Colebee Release Area, Schofields, NSW: Volume 1*. Unpublished report for Medallist Gold Holdings Pty Ltd.

Jo McDonald Cultural Heritage Management Pty Ltd. (2007). *Salvage Excavation of Four*

Archaeological Sites in the Caddies Creek Precinct, Rouse Hill Regional Centre, NSW. Unpublished report for Lend Lease GPT (Rouse Hill) Pty Ltd.

Jo McDonald Cultural Heritage Management Pty Ltd. (2009a). *Archaeological Subsurface Investigations at the Cadden's Release*. Unpublished report for Landcom.

Jo McDonald Cultural Heritage Management Pty Ltd. (2009b). *Archaeological Subsurface Investigations at WP3 and WP4 - Western Precinct St Mary's Development Site,*. Unpublished report for Marylands Development Company.

Kayandel Archaeological Services. (2014). *Proposed Residential and Seniors Living Development 108 Grose Vale Road, North Richmond, NSW Archaeological Test Excavation: NR10*. Unpublished report for J. Wyndan Prince.

Kelleher Nightingale Consulting Pty Ltd. (2008). *North Richmond Release Area, 108 Grose Vale Road: Aboriginal Heritage Assessment*. Unpublished report for North Richmond Joint Venture (NRJV).

Kelleher Nightingale Consulting Pty Ltd. (2015). *Redbank Housing Development, North Richmond, NSW Cultural Heritage Assessment Report*. Unpublished report for North Richmond Joint Venture.

Kohen, J. (1986). *Prehistoric Settlement in the Western Cumberland Plain: Resources, Environment and Technology*. Macquarie University, Sydney.

McDonald, J. (2008). *Dreamtime Superhighway: Sydney Basin Rock Art and Prehistoric Information Exchange*. Canberra: Australian National University Press.

NSW Department of Environment Climate Change & Water. (2010a). *Aboriginal Cultural Heritage Consultation Requirements for Proponents*. Department of Environment, Climate Change and Water.

NSW Department of Environment Climate Change & Water. (2010b). *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*. Department of Environment, Climate Change and Water.

NSW Department of Environment Climate Change & Water. (2010c). *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW*. NSW Department of Environment, Climate Change and Water.

NSW Office of Environment & Heritage. (2011). *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW*. Office of Environment and Heritage.

Tozer, M. (2003). The Native Vegetation of the Cumberland Plain , Western Sydney: Systematic Classification and Field Identification of Communities. *Cunninghamia*, *8*(1), 1–75.

Appendix A – Site Photos

Plate 1: View north of the northern part of the Project area (source: AECOM 2022)

Plate 2: View northeast showing an area of enhanced visibility (source: AECOM 2022)

Plate 3: View west showing farm buildings (source: AECOM 2022)

Plate 4: View southwest showing road and buildings (source: AECOM 2022)

Plate 5: View southwest showing race track (source: AECOM 2022)

Plate 6: View northeast of the race track (source: AECOM 2021)

Plate 7: View east from homestead across large terrace (source: AECOM 2022)

Plate 8: View southwest across the large terrace (source: AECOM 2022)

Plate 9: View southwest of the small terrace where the homestead is situated (source: AECOM 2022)

Plate 10: View southeast of creek flat (source: AECOM 2022)

Plate 11: View of grass build-up on the large terrace from recent flooding (source: AECOM 2022)

Appendix B – Management of Previously Unrecorded Aboriginal Objects

Management of Previously Unrecorded Aboriginal Objects

Should a suspected Aboriginal archaeological site be identified at any point during the development, the following standard procedure should be adopted:

1. All works must cease immediately in the area to prevent any further impacts to the site;
2. Notify the Project Manager;
3. Engage a suitably qualified archaeologist to determine the nature, extent and significance of the find and provide appropriate management advice. Management action(s) will vary according to the type of evidence identified, its significance (both scientific and cultural) and the nature of potential impacts; and
4. Prepare and submit an AHIMS site card for the site.

Human Skeletal Remains

In the event that potential human skeletal remains are identified at any point during the development the following procedure should be followed:

1. All work in the vicinity of the remains should cease immediately;
2. The location should be cordoned off - work can continue outside of this area as long as there is no risk of interference to the remains or the assessment of the remains;
3. Where it is instantly obvious from the remains that they are human, the Health, Safety, Environment and Community Manager (or a delegate) should inform the NSW Police by telephone (prior to seeking specialist advice)
4. Where uncertainty over the origin of the remains exists, a physical or forensic anthropologist should be commissioned to inspect the exposed remains *in situ* and make a determination of origin, ancestry (Aboriginal or non-Aboriginal) and antiquity (pre-contact, historic or modern):

- If the remains are identified as modern and human, notify NSW Police;

-If the remains are identified as pre-contact or historic Aboriginal, notify Heritage NSW; and

- If the remains are identified as historic (non-Aboriginal), notify Heritage NSW .

An Aboriginal community representative must be present where it is reasonably suspected burials or human remains may be encountered. If human remains are unexpectedly encountered and they are thought to be Aboriginal, the Aboriginal community must be notified immediately. Recording of Aboriginal ancestral remains must be undertaken by, or be conducted under the direct supervision of, a specialist physical anthropologist or other suitably qualified person. Archaeological reporting of Aboriginal ancestral remains must be undertaken by, or reviewed by, a specialist physical anthropologist or other suitably qualified person, with the intent of using respectful and appropriate language and treating the ancestral remains as the remains of Aboriginal people rather than as scientific specimens.