

Aboriginal Objects Due Diligence Assessment

Appin (Part) Precinct Plan

Wollondilly Shire Local Government Area

Prepared for Walker Corporation Pty Ltd

Prepared by Niche Environment and Heritage | 16 December 2022



Acknowledgement of Country

We acknowledge to Traditional Owners of the many lands on which we live and work. We pay respects to First Nations Elders past and present and thank them for their continuing care of Country, culture and community.

Document control

Project number	Client	Project manager	LGA
5947	Walker Corporation	Sarah McGuinness	Wollondilly

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16 December 2022

Ms Nicole Topple
Senior Planner - Walker Corporation

Via email: [REDACTED]

Dear Ms Topple,

Re: Aboriginal Objects Due Diligence Assessment for Appin (Part) Precinct Plan Project (Niche ref #: 5947)

The results of this assessment indicate that Aboriginal objects occur within the activity area with the high potential for further Aboriginal objects to be present both on the surface and subsurface. The activity area contains numerous landscape features that are likely to indicate the presence of Aboriginal objects, as identified by the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* (DECCW 2010; the Due Diligence Code). The numerous existing Aboriginal Heritage Information Management System (AHIMS) registered sites within the activity area and those identified during the visual site assessment confirms this high potential.

The Due Diligence Code states that where a desktop and visual inspection has occurred and concluded that Aboriginal objects are present and/or likely within the activity area that cannot be avoided, further investigation and impact assessment is required.

Niche recommends the following measures be undertaken before development occurs on the land:

- Aboriginal community consultation is to be carried out in accordance with the (DECCW 2010) *Aboriginal Cultural Heritage Consultation Guidelines for Proponents 2010*.
- An Aboriginal Cultural Heritage Assessment (ACHA) will be required to fully assess the impact of the proposed works on Aboriginal objects and cultural heritage resources within the activity area. The ACHA is required to be completed in accordance with the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011).
- All new Aboriginal cultural heritage sites identified during the site inspection be registered through Australian Heritage Information Management System (AHIMS).
- An Aboriginal Heritage Impact Permit (AHIP) under Section 90 of the National Parks and Wildlife Act 1974 will be required for the identified Aboriginal objects if the proposed harm cannot be avoided.
- All subsequent Aboriginal cultural heritage assessments should be undertaken in accordance with the *Greater Macarthur Investigation Area: Archaeological Research Design and Management Strategy* prepared by AHMS (2017).

Please do not hesitate to contact me on [REDACTED] or via email: [REDACTED] if you would like to clarify details of this assessment.

Yours sincerely,



Sarah McGuinness
Heritage Consultant
Niche Environment and Heritage

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1. Introduction

1.1 The Proponent

Niche Environment and Heritage Pty Ltd (Niche) have been engaged by Walker Corporation ('the Proponent') to undertake an Aboriginal Objects Due Diligence Assessment (DD) in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* (DECCW 2010; 'The Due Diligence Code') to support the Appin (Part) Precinct Plan, a portion of land within the Appin (Part) Precinct Structure Plan of the Greater Macarthur Growth Area (GMGA), New South Wales (NSW) (Figure 1; hereafter referred to as the 'activity area'). The activity area is identified as a portion of land comprising 1,378ha within the AP and is roughly bound by the Nepean and Cataract rivers to the west, farmland to the south, Appin Road and Elladale Creek to the east, and Ousedale Creek to the north (Figure 2). The activity area is situated within the Wollondilly Local Government Area (LGA) and within the boundaries of the Tharawal Local Aboriginal Land Council (TLALC).

1.2 The proposed activity

Greater Sydney's population is projected to grow to approximately 6.1 million by 2041 – over a million more people than currently live in the region.

The NSW Government has identified Growth Areas as major development areas that will assist in accommodating this growth. The Greater Macarthur Growth Area (GMGA) is one such growth area and is a logical extension of the urban form of south-west Sydney. The GMGA is divided into precincts. The Appin Precinct and North Appin Precincts are the southernmost land release precincts of the GMGA. The goal is to deliver 21,000+ dwellings.

The land is to be rezoned and released for development to achieve this goal. A submission has been prepared by Walker Corporation Pty Limited and Walker Group Holdings Pty Limited (the Proponent) to rezone 1,378 hectares of land (the site) within the Appin Precinct from RU2 Rural Landscape to the following zones:

Urban Development Zone

Zone 1 Urban Development (UD)

Special Purposes Zone

Zone SP2 Infrastructure (SP2)

Conservation Zone

Zone C2 Environmental Conservation (C2)

The zonings are shown on the Appin (Part) Precinct Plan (the precinct plan). 'The precinct plan' will be incorporated into the State Environmental Planning Policy (Precincts – Western Parkland City) 2021 and contain the provisions (clauses and maps) that will apply to 'the site.' 'The precinct plan' envisages the delivery of 12,000+ new homes.

A structure plan has been prepared for the site and is shown on the Appin (Part) Precinct Structure Plan (the structure plan). It identifies staging and the first stage to be developed – Release Area 1. Release Area 1 is anticipated to deliver 3,500+ dwellings.

The submission is aligned with strategic land use planning, State and local government policies and infrastructure delivery. The development potential is tempered by a landscape-based approach that protects the environment and landscape values, shaping the character of new communities. A series of residential neighbourhoods are to be delivered within the landscape corridors of the Nepean and Cataract Rivers, supported by local amenities, transit corridors and community infrastructure.

The submission includes a hierarchy of plans. The plans and their purpose are summarised in Table 1.

Table 1: Title and Purpose of Plans


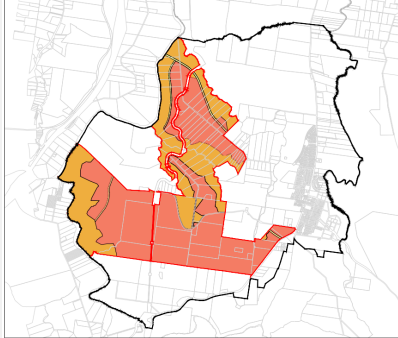
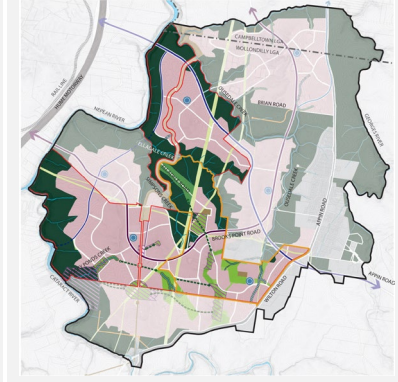
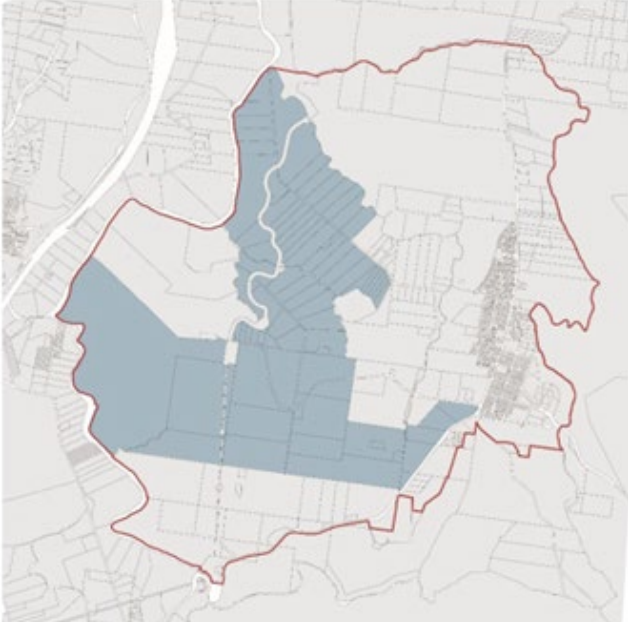
<p>(1) APPIN & NORTH APPIN PRECINCTS INDICATIVE PLAN</p> <p><i>Broader context and for information purposes only. It has no statutory weight. It identifies:</i></p> <ul style="list-style-type: none"> • Higher-order transport network • Centres hierarchy • School sites • Conservation areas • Residential areas <p><i>Cultural sites and connections</i></p>	<p>(2) APPIN (PART) PRECINCT PLAN (THE PRECINCT PLAN)</p> <p><i>It shows the land proposed to be rezoned and incorporated into a new schedule in the Western Parkland City SEPP 2021.</i></p> <p><i>The precinct plan contains the development provisions (clauses and maps) applicable to the site and is used in assessing development applications.</i></p>	<p>(3) APPIN (PART) PRECINCT STRUCTURE PLAN (THE STRUCTURE PLAN)</p> <p><i>Structure plan for the site, showing staging of release areas.</i></p> <p><i>Development is to be generally consistent with the structure plan. It illustrates land use components including (but not limited to):</i></p> <ul style="list-style-type: none"> • Low and medium-density residential • Retail and employment centres • School • Open space • Drainage network/basins <p><i>Transport network</i></p>
 <p>(21,000+ dwellings)</p>	 <p>(12,000+ dwellings)</p>	 <p>(12,000+ dwellings) (Inc. Release Area 1 - 3,500+ dwellings)</p>

Table 2: Appin (Part) Precinct – summary of key attributes

Location		Key Attributes	
Appin (Part) Precinct		Area	<ul style="list-style-type: none"> • Total - 1,378 ha • Walker – 1,248ha • Private Ownership – 94ha
		LGA	Primarily Wollondilly LGA
		Proposed Dwellings	12,000+
		Proposed Population	36,000+

1.3 Statutory controls

Table 3 below provides a summary of the statutory controls and guidelines that are used to guide the protection and management of Aboriginal cultural heritage in NSW.

Table 3: Statutory Controls

Control/ Guideline	Description
The <i>National Parks and Wildlife Act 1974</i> (NPW Act)	<p>The NPW Act is administered by Heritage NSW of the Department of Premier and Cabinet, is the primary legislation for the protection of some aspects of Aboriginal cultural heritage in NSW¹. Part 6 of the NPW Act provides specific protection for Aboriginal objects and declared Aboriginal places by establishing offences of harm.</p> <p>The Act provides that a person who exercises due diligence in determining that their actions will not harm Aboriginal objects has a defence against prosecution if they later unknowingly harm an object without an Aboriginal Heritage Impact Permit (AHIP).</p> <p>Anyone proposing to carry out an activity that may harm an Aboriginal object or a declared Aboriginal Place must investigate, assess and report on the harm that may be caused by the activity they propose.</p>
The <i>Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW</i> (DECCW, 2010) (The Due Diligence Code)	The Due Diligence Code sets out a process for individuals and organisations to follow to determine whether an Aboriginal object is likely to be harmed by an activity, whether further investigation is needed, and whether an AHIP is required.
<p><i>Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW</i> (OEH 2011).</p> <p><i>Aboriginal Cultural Heritage Consultation Requirements for Proponents</i> (DECCW 2010).</p> <p><i>The Code of Practice for Archaeological Investigation in NSW</i> (DECCW 2010).</p> <p><i>Applying for an Aboriginal heritage impact permit: guide for applicants 2010</i> (OEH 2011).</p>	These guidelines provide further guidance for undertaking investigation and impact assessment for Aboriginal cultural heritage in NSW.

1.4 Planning legislation

1.1.1 The Environmental Planning & Assessment Act, 1979

The NSW *Environmental Planning and Assessment Act 1979* (*The EPA Act*) establishes the framework for cultural heritage values to be formally assessed in the land use planning and development consent process and requires that environmental impacts are considered prior to land development; this includes impacts on heritage items. *The EPA Act* also requires that local governments prepare planning instruments (such as Local Environmental Plans) in accordance with the principles of the legislation to provide guidance on the level of environmental assessment required.

¹ For further information visit: <https://www.environment.nsw.gov.au/licences/achregulation.htm>

1.1.2 Wollondilly Development Control Plan 2016

The Wollondilly Development Control Plan (DCP) outlines detailed local provisions for all land within the Wollondilly LGA. Part 7 of the Wollondilly DCP states requirements and controls that apply to all development that may impact on Aboriginal heritage. Specifically, it states that:

An Indigenous heritage and archaeological report must be prepared for any development application on land which contains a known Aboriginal object or Aboriginal Place of heritage significance. The report must be prepared by a suitably qualified archaeologist. The report must be prepared in accordance with the Code of Practice for Archaeological Investigation of Aboriginal objects in NSW.” According to the DCP, a report may also be required for “a proposal (including sub-division) which affects primarily undeveloped land (irrespective of land size) and has the following site features: river frontage, creek line, sandstone exposures at ground level larger than 5m² sandstone cliff line or isolated boulder higher than 2m, disturbance to the roots, trunk, branches, of old growth trees, which are native to the Wollondilly Shire and greater than 150 years of age (Wollondilly DCP, 2016).

1.4.1 Wollondilly Local Environmental Plan (LEP) 2011

Clause 5.10 of the Wollondilly LEP (2011) outlines the controls for heritage conservation including the conservation of Aboriginal objects and Aboriginal Places of heritage significance. Part 2 outlines requirements that apply to all development that may impact on Aboriginal objects and Aboriginal Places of heritage significance. Specifically, Part 2 (f) (ii) states that development consent is required when subdividing land on which an Aboriginal object is located or that is within an Aboriginal Place of heritage significance.

1.4.2 Greater Macarthur 2040 interim plan 2018

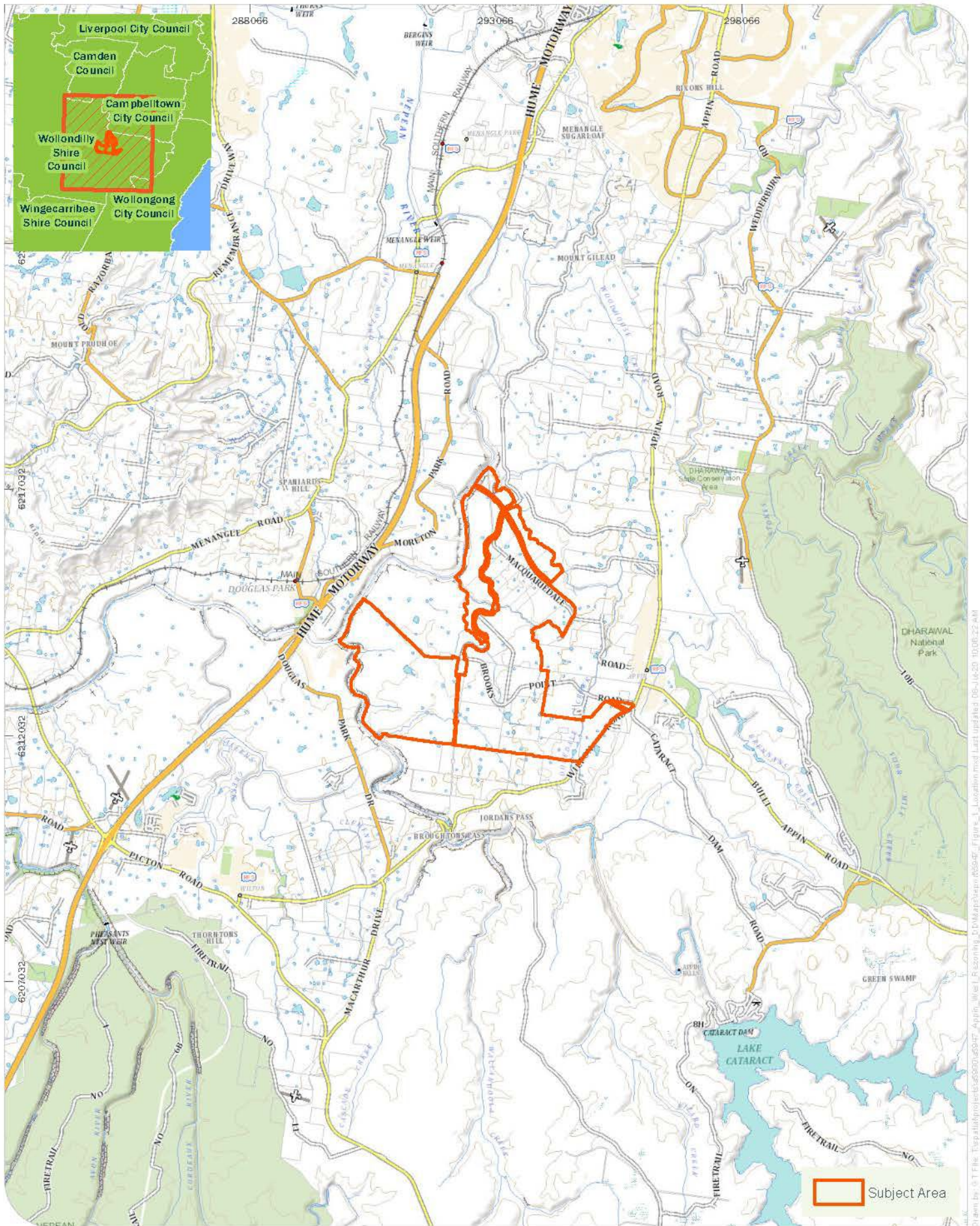
The GMGA centred around Campbelltown-Macarthur contains areas that have been identified and assessed as providing potential for urban development and growth within the precinct. This land use and infrastructure development plan is designed to balance growth within the GMGA and provide local jobs, education, recreation and housing opportunities while preserving significant cultural and environmental values of the area. The plan sets out a long-term vision for the precinct and provides the framework for two elements of the GMGA including the urban renewal of the rail corridor between Glenfield and Macarthur in the north of the GMGA, and the development of land release areas between Menangle Park and Appin in the south of the GMGA. The current activity area relates the later of these elements and has been identified as representing ‘Urban Capable Land’ (See DPE 2018: Figure 2).

1.5 Objectives

The aim of the assessment is to assess whether Aboriginal objects and/or Places are present and/or are likely to occur within or in close proximity to the activity area and, if present, whether they may be harmed by the proposed works and if further investigation is required.

1.6 Assessment methodology

This DD follows the process outlined in Plate 1.



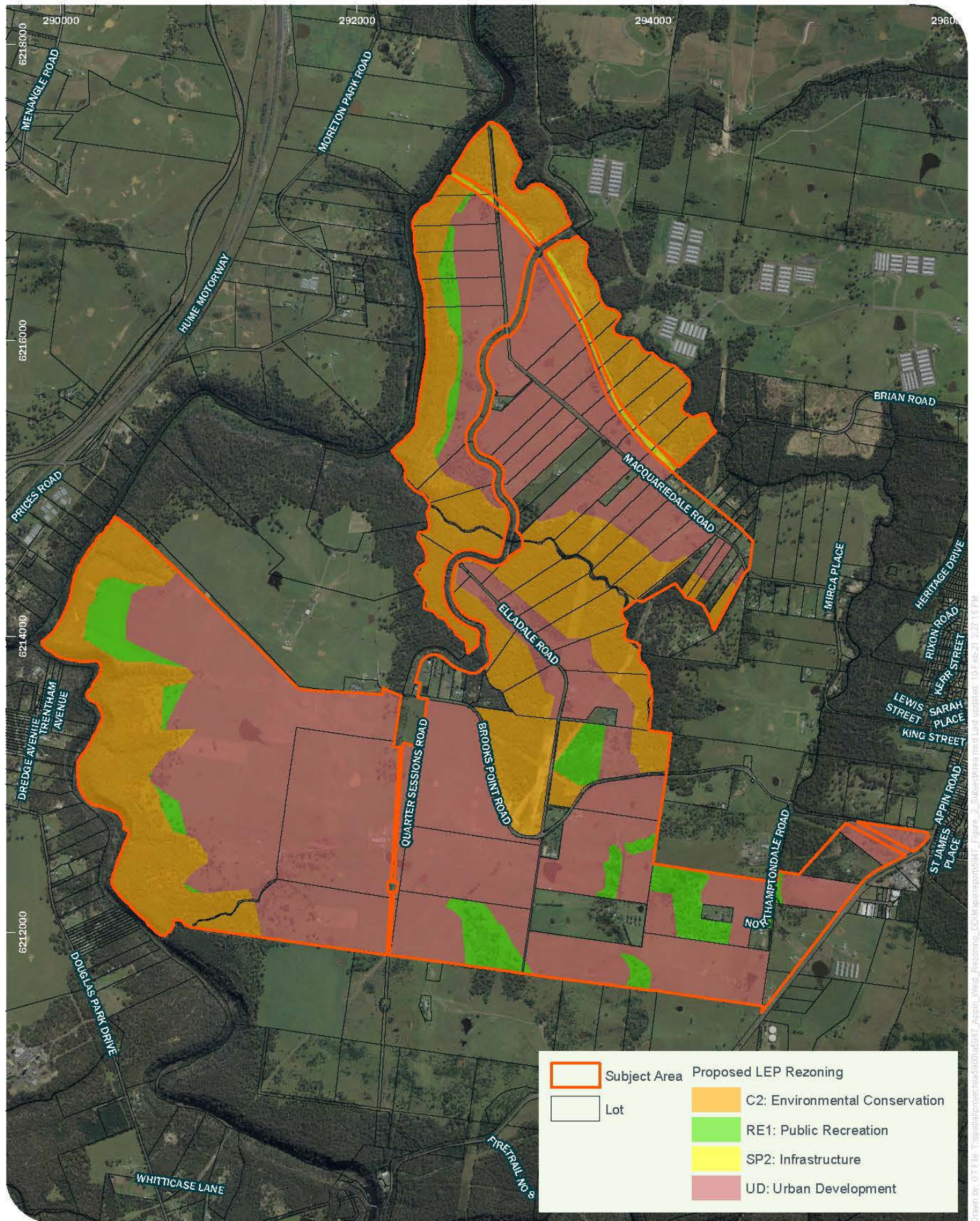
Subject Area



Niche PM: Sarah McGuinness
Niche Proj. #: 5947
Client: Walker Corporation Pty Ltd

Location Map West Appin Rezoning - Due Diligence Assessment

Figure 1



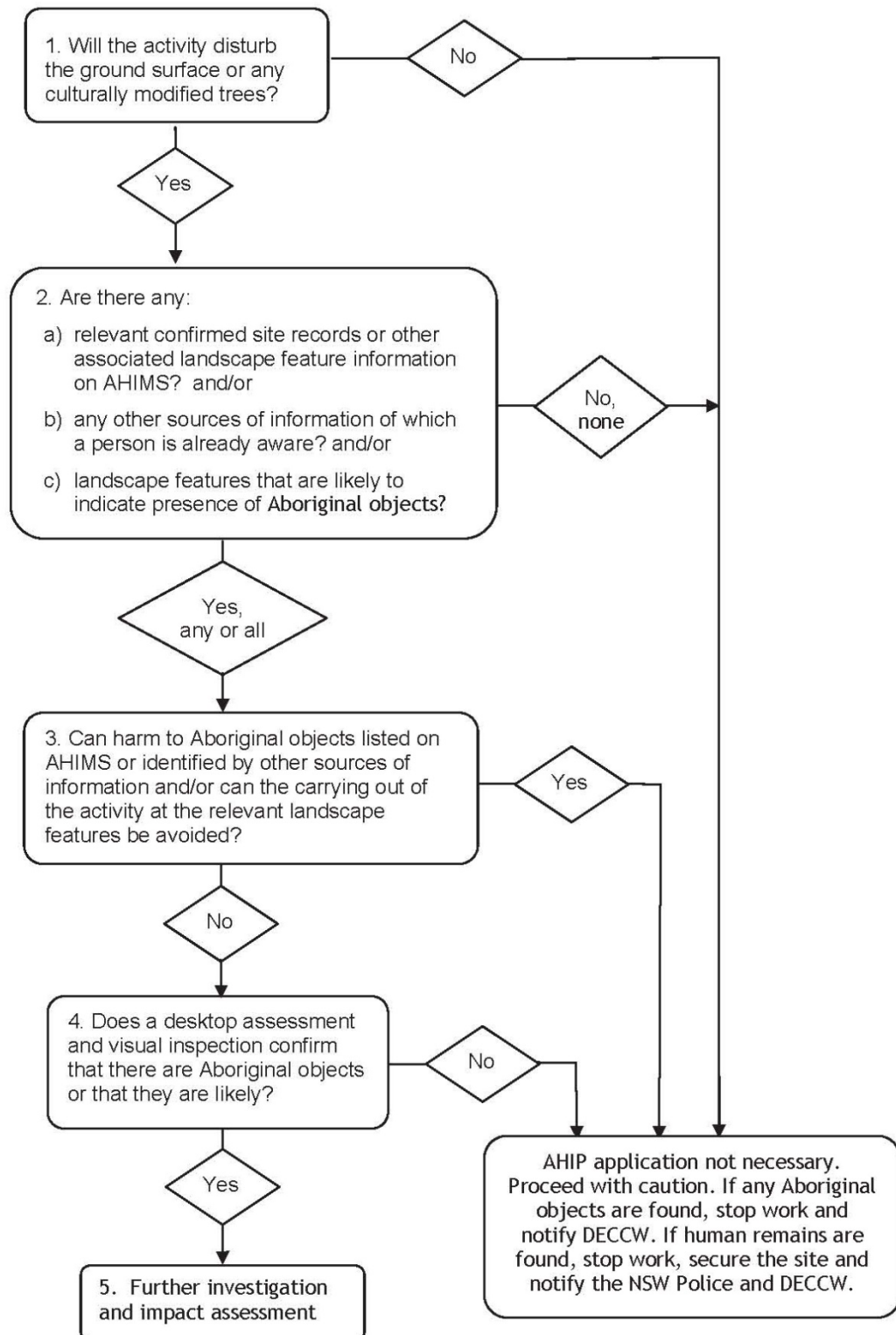


Plate 1: The due diligence assessment process

2. Aboriginal Objects Due Diligence Assessment

Is the proposed activity a low impact activity as defined by the Regulation?

No.

The activity of rezoning existing RU2 (Rural Landscape) land to UDZ (Urban Development Zone), C2 (Environmental Conservation) and SP2 (Special Infrastructure) land is not one of the low impact activities defined under section 80B of the *National Parks and Wildlife Regulation 2019* ('the Regulation').

Step 1 - Will the activity disturb the ground surface or any culturally modified trees?

No.

The activity of rezoning existing RU2 (Rural Landscape) land to UDZ (Urban Development Zone), and C2 (Environmental Conservation) land would not disturb the ground surface or any culturally modified trees.

Step 2a - Are there any relevant confirmed site records or other associated landscape feature information on AHIMS (or other heritage registers)?

Yes.

Heritage Registers

AHIMS

An extensive search of the AHIMS was conducted on 6 July 2020 (AHIMS Client Service ID #518141) covering the activity area for the following area at GDA Zone 56, Eastings: 290921 – 295661 and Northings: 6210928 – 6215026 with a buffer of 1000 m. An additional search was conducted on the 8 July 2020 (AHIMS Client Service ID #518737) to extend the data in the north of the search area for the following area at GDA Zone 56, Eastings: 290921 – 295661 and Northings: 6210928 – 6215026 with a buffer of 1000 m. See Attachment 1 for details of the search and Aboriginal cultural heritage sites within the search area.

A total of eighty-three (83) Aboriginal cultural heritage sites were identified within the wider search area. Nineteen (19) of these Aboriginal cultural heritage sites are located within the activity area (Figure 3). Table 2 provides a summary of the AHIMS sites located within the activity area while Table 3 provides an overview of the AHIMS sites associated with the wider region surrounding the activity area. Within the activity area, the most common site type is Open Camp Sites (n=9) followed by Shelter with Art (n=4) (Table 4). A burial site is also recorded on the southern boundary of the activity area. Within the wider search area, the most common site types recorded on the AHIMS database are similarly Open Camp Sites (n=27) and Shelter with Art (n=15) with Shelter with Deposit (n=9), Axe Grinding Grooves (n=7) and Scarred Trees (n=6) also particularly common (Table 5). No Aboriginal Places are recorded within the activity area or wider AHIMS search region.

It must be noted that care should be taken when using the AHIMS database to reach conclusions about site prevalence or distribution. The distribution of registered sites does not reflect patterns of occupation, but rather is often indicative of survey coverage and conditions.

Table 4: Summary of AHIMS sites within the activity area

AHIMS ID#	Site Name	Aboriginal Site Features
52-2-3582	WA09 West Appin	Open Camp Site
52-2-1933	Rocky Pond Creek Massacre/Burial;	

AHIMS ID#	Site Name	Aboriginal Site Features
52-2-1880	Brooks Point 5	Shelter with Art
52-2-3575	MDO1	Scarred Tree
52-2-3576	MDO2	Shelter with Deposit
52-2-3577	MDO4	Open Camp Site
52-2-3583	WA010	Axe Grinding Groove
52-2-3584	WA011 West Appin	Open Camp Site
52-2-1878 / 52-2-3634*	Brooks Point 3	Shelter with Art
52-2-1881	Brooks Point 6	Shelter with Art
52-2-1794 / 52-3-1795*	Rocky Ponds Creek IF	Open Camp Site
52-2-1796	BP-1; Brooks Point;	Scarred Tree
52-2-1924	Brooks Point 7	Shelter with Art
52-2-1877	Brooks Point 2	Axe Grinding Groove, Shelter with Deposit
52-2-1879	Brooks Point 4	Shelter with Deposit
52-2-2231	ACC2	Open Camp Site
52-2-2232	ACC1	Open Camp Site
52-2-2213	PICTON	Open Camp Site

* Duplicate recording

Table 5: Summary of AHIMS site features within the wider region surrounding the activity area

	Total	%
Open Camp Site	27	32.5%
Shelter with Art	15	18.1%
Shelter with Deposit	9	10.8%
Axe Grinding Groove	7	8.4%
Scarred Tree	6	7.2%
Shelter with Art and Deposit	5	6.0%
Shelter with Art and Artefact	3	3.6%
Potential Archaeological Deposit	2	2.4%
Axe Grinding Groove, Open Camp Site	1	1.2%
Axe Grinding Groove, Shelter with Deposit	1	1.2%
Axe Grinding Groove, Water Hole/Well	1	1.2%
Burial/s	1	1.2%
Midden	1	1.2%
Restricted site	1	1.2%
Shelter with Art, Shelter with PAD	1	1.2%
Shelter with Midden	1	1.2%
Stone Quarry	1	1.2%
Total	83	100%

Other heritage registers

Searches of the Australian World Heritage Database, the Commonwealth Heritage List, National Heritage List, State Heritage Register, State Heritage Inventory, the Wollondilly Local Environmental Plan (LEP) (2011), Campbelltown LEP (2015) and the Wollondilly Development Control Plan (DCP) (2016) were conducted on the 16 July 2020. Clause 5.10 of the Wollondilly LEP (2011) outlines the controls for Heritage conservation including the conservation of Aboriginal objects and Aboriginal places of heritage significance.

The searches concluded that there are two recorded historic heritage items of local significance (and listed in Schedule 5 of the Wollondilly LEP) within the activity area including Northhamptondale Group – House, Trees, Slab Farm, Outbuildings, Stables (I13) and Elladale (I11). Heritage Items of state and local significance that were identified adjacent to the activity area and/or in the wider region are summarised in Table 6 below.

Table 6: Summary of heritage listings within the wider region of the activity area

Heritage Register	Items in the activity area	Items within wider region of the activity area
Australian World Heritage Database	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> N/A
Commonwealth Heritage List	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> N/A
National Heritage List	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> N/A
State Heritage Register	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Windmill Hill Group (SHR No: 01931) Upper Canal System (Pheasants Nest Weir to Prospect Reservoir) (SHR No: 01373)
Schedule 5 of Wollondilly LEP	<ul style="list-style-type: none"> Northhampton- dale Group – House, Trees, Slab Farm, Outbuildings, Stables (I13) Elladale (I11) 	<ul style="list-style-type: none"> Stone Ruin (A4) Upper Nepean Scheme – Broughton Pass Weir (I15) Windmill Hill Group (Brennan’s Farm, Larkin’s Farm and Winton’s Farm) (I17) St Mary’s Towers (I71) Stone Cottages (I70) Mountbatten Group – house, chapel and garden building (I72) Upper Nepean Scheme – Upper Canal (I16) Houses, 6, 8 and 10 Cowper Street (I69) Appin Public School and Schoolmaster’s Residence (I8) Shop (former) (I6) Appin Inn (I4) Courthouse and Gaol (former) (I2) St Mark’s Anglican Church and Graveyard (I9) Weatherboard cottage (I10) St Bede’s Catholic Church and Graveyard (I12)
Schedule 5 of Campbelltown LEP	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Upper Canal (ID# I01373)
Development Control Plan	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> N/A

Figure 3: AHIMS sites in or near the activity area (Source: Walker Corporation, BCD and Niche)

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Step 2b - Are there any other sources of information of which a person is already aware?

Yes.

The Appin Massacre

The early decades of the 19th century saw significant unrest and often open hostilities between local Aboriginal groups and European settlers in the Appin region and the wider Cumberland Plain.

The activity area was at the frontline of some of the hostilities. In 1814, three soldiers killed a Gundungara boy who was taking maize from a field on the Lachlan Vale Estate. One of the soldiers was speared and killed in response, leading to a series of retaliation attacks and atrocities across the region including the killing and mutilation of a Gundungara woman and three children. Following the revenge killing of a stock keeper and his wife in Bringelly, Governor Macquarie visited the area and declared that justice had been satisfied and all attacks were to cease (Karskens, 2015).

Hostilities did not end with this proclamation, and the men who had killed the Gundungara woman and children were speared by Gundungara warriors on the Lachlan Vale estate. This led Macquarie to establish an official party of armed civilians and local Aboriginal guides to search for the perpetrators. The party was unsuccessful, however later events in 1816 at Bringelly saw the Governor form a second party with military personnel. Three detachments of soldiers were sent out to roam the entire colony and to track down, capture or kill all Aboriginal people they encountered, including women and children. Macquarie ordered any bodies to be hung from trees to better strike fear into the survivors (Karskens, 2015).

The detachment under Captain Wallis headed towards the Appin district, where they encountered Gundungara warriors Bitgully and Yelloming on John Kennedy's Teston farm. Both warriors were on a wanted list, but Kennedy convinced Wallis that they had been removed from the list and were there to protect the farm from hostile attack. Wallis then left to search other farms in the area but returned to Lachlan Vale in the early morning of 17 April 1816 following a tip off that Aboriginal people were camped on the estate. The detachment encountered an abandoned campsite, with still burning fires. One of the soldiers heard a child's cry, so the detachment immediately formed a line rank and pushed through the deep bush towards the noise. The line of soldiers opened fire ahead of them and the Aboriginal men, women and children fled to their deaths over the 60m high precipitous gorge of the Cataract River. Others were wounded or shot dead by the detachment (Karskens, 2015).

The official records suggest that 14 bodies were identified following the massacre, including those of warriors Durelle and Cannabayagal. The bodies of the warriors were strung up in trees on a hill on the Lachlan Vale estate. A later account by William Byrne suggests that the official death toll from the massacre is likely to be much higher. He also recounted that three bodies were strung up on McGee's Hill and that their heads were removed and sent to Sydney and later Scotland (Karskens, 2015).

Oral History

The location of burials associated with the Appin massacre, likely to be those of Durelle and Cannabayagal have long been considered to be located [REDACTED] (Figure 3). Oral histories passed down since the period of the massacre indicate that the burials are [REDACTED]. The site card for the burials Rocky Ponds Creek/Brook's Point (AHIMS ID#52-2-1933) details this oral history and situates the site [REDACTED] (Attachment 1 – AHIMS Extensive Search and site cards).

Previous heritage assessments within or relevant to the activity area

As part of the *A Plan for Growing Sydney* project, the Department of Planning and Environment (DPE) undertook an investigation to assess the potential for greenfield development south and south-west of Campbelltown-Macarthur region (i.e. the Greater Macarthur Investigation Area [GMIA]) including the current activity area (DPE 2017). A preliminary analysis identified an area potentially suitable for future urban development. As part of the project, Archaeological and Heritage Management Solutions Pty Ltd (AHMS) was commissioned by DPE to undertake an Aboriginal Heritage Gap Analysis of the GMIA in order to develop a regional study, characterise the cultural heritage values of the area and identified areas requiring further investigation. The results of this study are of relevance to the current activity area as they contribute to the archaeological record of the region and assists in establishing a predictive model for the nature and distribution of Aboriginal sites. The key findings of the study that are of relevance to the current project and activity area are summarised below (DPE 2017):

- Historically the area is associated with early agricultural expansion outside of Sydney with large pastoral estates established throughout Appin.
- Environmentally the area is dominated by the Cumberland Plain sub-region and the Sydney Cataract sub-region. The area contains key waterways such as the Nepean, Cataract and Georges Rivers which are recognised to be associated with a high potential for yielding significant cultural sites. In areas where dissecting sandstone is present, there is a high potential for shelter sites, engravings and axe grinding grooves.
- Several instances of early interaction between Aboriginal and European people are noted to have occurred around Menangle and Menangle Park (as recorded on AHMS ethnographic database).
- Based on a review of past assessments, Aboriginal cultural heritage site distribution patterns were found to be largely influenced (and limited) by the compliance-based assessments that have occurred in the area. Nevertheless, patterning indicates that sites are generally located within 200 m of larger river systems with sites greater than 500 m away rare and shelter sites are dominant.
- The archaeological predictive model developed for the region broadly states that:
 - Areas of high potential for Aboriginal objects/sites include: the banks of the Nepean, Cataract and Georges Rivers, and Allens, Elladale, Clemens, Cascade, Ousedale and Wallandoola Creeks.
 - The potential for locating significant cultural material in the above-mentioned locations is heightened by the fact that areas adjacent to these waterways and corridors are frequently elevated and remain largely undisturbed by development.
 - The potential for finding evidence for deeply stratified and early Aboriginal occupation in the area in association with these major river systems is demonstrated by results from excavations undertaken by AHMS along Georges River which revealed cultural materials on an elevated ridgeline at Moorebank dating to >20ka.
 - The integrity of some sites, particularly along the Nepean River, may have been affected by flooding events (DPE 2017).

Based on the outcomes and recommendations made in their assessment, AHMS developed a regional archaeological research design and management strategy for the GMIA (AHMS 2017). The document outlines a predictive model for the nature and distribution of Aboriginal sites for the region (see Section 3.2 for a more detailed discussion of predictive model) and sets out research questions for the GMIA area in general and sets out the requirements for all future assessments to be undertaken in the region to ensure adequacy and consistency.

Step 2c - Are there landscape features that are likely to indicate the presence of Aboriginal Objects?

Yes.

The following landscape features listed in the Due Diligence Code signify a high potential for the presence of Aboriginal objects:

- Within 200 m of waters, or
- Located within a sand dune system, or
- Located on a ridge top, ridge line or headland, or
- Located within 200 m below or above a cliff face, or
- Within 20 m of or in a cave, rock shelter, or a cave mouth.

Based on the desktop assessment and site inspection (Section 2, Steps 2a and 2b), the activity area contains the following landscape features that are likely to indicate the presence of Aboriginal objects, as identified by the Due Diligence Code:

- Within 200 m of waters.
- Located on a ridge top.
- Located within 200 m below or above a cliff face.
- Within 20 m of or in a cave, rock shelter, or a cave mouth.

The entire activity area is located within 200 m of waters, in proximity to ridge top/ ridge lines and associated with outcropping sandstone in the form of rock overhangs and shelters (Figure 4; Plate 2 to Plate 5). The Nepean River runs adjacent to the eastern boundary of the activity area and would have provided year-round reliable source of water. Furthermore, a number of non-perennial order drainage lines are located within the activity area which, according to White and McDonald (2010) gives the activity area a high potential of containing Aboriginal objects. Higher order drainage lines tend to have higher artefact densities and more continuous distributions than lower order drainage lines. Landforms with higher densities occur on terraces and lower slopes, and with sparse discontinuous scatters on upper slopes. Higher artefact densities tend to be within 50 m of 2nd order drainage lines. The presence of sandstone outcropping within the activity area in association with the Hawkesbury colluvial soils along the tributaries of the Nepean River represents an additional archaeologically sensitive landscape feature within the activity area (Plate 3). The presence of a number of existing AHIMS registered shelter sites within the activity area confirms the potential.

The archaeological characteristics and potential of an area are additionally defined through a range of factors, including stability of the soil matrix, underlying geology and land use history. There are four physiographic soil landscapes that have been defined as occurring within the activity area including the Blacktown residual, Luddenham erosional, Hawkesbury and Picton colluvial (Figure 4). Soil formation in the activity area has been affected by the underlying geology and natural geomorphic processes. Each soil landscape has distinct morphological and topological characteristics, with the result that the occupational history and archaeological potential of the area varies accordingly as follows (Hazelton and Tille 1990):

- Luddenham soil deposits are generally shallow (<100 cm) on crests; moderately deep (<150 cm) on upper and lower slopes and drainage lines. This soil landscape is likely to preserve Aboriginal objects in association with hillcrests and valleys with water sources nearby. Erosion may have impacted archaeological deposits, however, particularly in areas that have been cleared or grazed or along drainage lines depending on the speed of flow of water. Site types would likely include isolated artefacts, open camp sites and where suitable geology occurs, axe grinding grooves, rock engravings and shelters with art, artefacts and/or deposit (Plate 4).
- Blacktown soil deposits are generally shallow to moderately deep (<150 cm) and comprise of Red Podzolic Soils and Brown Podzolic Soils on crests, upper slopes and well drained areas, and deep (150-300 cm) Yellow Podzolic Soils on lower slopes and in drainage depressions and localised areas of poor

drainage. This soil landscape is known to preserve Aboriginal objects in association with hill crests, lower slopes and flats associated with good outlook and/or drainage lines. These site types are more likely to comprise isolated stone artefacts rather than more significant concentrations. This landscape is prone to localised erosion, which may impact the integrity of archaeological deposits (Plate 5).

- The Hawkesbury soil landscape is characterised by rugged, rolling to very steep hills on Hawkesbury Sandstone, with narrow crests and ridges, narrow incised valleys, steep side slopes with narrow rocky benches, broken scarps and boulders. Soils include Lithosols/Siliceous Sands, Earthy Sands, Yellow Earths, Yellow and Red Podzolic Soil as and Siliceous Sands. The most common site types associated with the Hawkesbury soil landscape type comprise of sandstone Shelters.

The geology of the wider Wollondilly area would additionally have provided a number of resources to Aboriginal people including silcrete, silicified wood, tuff, mudstone, quartz, quartzite and basalt. Suitable pebbles of hard, igneous rock for axes also occur along the Nepean River (JMCHM 2007:11). Silcrete is the most common raw material type used for stone tool making recovered from archaeological sites within the greater Wollondilly area and across the Cumberland Plain and the Cumberland Lowlands, with known sources including the St Marys Formation, Rickabys Creek gravels and terraces along the Nepean River.

Much of the activity area is currently zoned as C2 (Environmental Conservation) which means that the area has remained largely undeveloped in recent times. Portions of the activity area, however, have been cleared and used for grazing. The potential for in-situ Aboriginal objects is lower on land that has been disturbed by more recent European land use. For instance, major earthworks, construction of dwellings, dams, services and infrastructure may remove the archaeological potential while vegetation clearance, grazing and ploughing may damage or remove the integrity of any archaeological deposits within the top 30 cm of soil.



Plate 2: Example of water sources within the activity area



Plate 3: Example of sandstone overhangs and shelters within the activity area



Plate 4: Flat terrace located above a cliff face, with the Nepean gorge to the right of frame



Plate 5: Example of a ridgeline within the activity area

Figure 4: Soils, topography and hydrology (Source: Walker Corporation, BCD and Niche)

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Step 3 - Can the harm or the activity be avoided?

Yes.

The proposed activity transverses some archaeologically sensitive landscape features (refer to Step 2c) and existing Aboriginal cultural heritage sites are registered within the activity area (refer to Step 2a) (Figure 4). Aboriginal cultural heritage sites located in portions of the activity area that are proposed to remain zoned as C2 (Environmental Conservation) will not be harmed as a result of the proposed activity or any future works resulting from this (i.e. development).

A number of Aboriginal cultural heritage sites are located in areas to be rezoned for UDZ (Urban Development Zone). Any future works resulting from the proposed activity have the potential to impact these sites and archaeological sensitive landscapes.

Any preliminary assessments undertaken for this activity area such as this DD, can be used to inform potential layout plans for future development. This allows for consideration of avoidance of culturally and archaeologically sensitive areas.

Step 4 - Does a desktop assessment and visual inspection confirm that there are Aboriginal Objects or that they are likely?

Yes.

The desktop and visual inspection confirmed that Aboriginal objects and archaeologically sensitive landscape features are present within the activity area (Step 2a and Step 2c).

A visual site inspection was conducted by Sarah McGuinness (Niche Heritage Consultant), Layne Holloway (Niche Heritage Consultant), Wade Goldwyer (Niche Heritage Consultant) and Daniel Chalker (Cubbitch Barta Native Title Claimants Representative) on 20 to 24 July 2020. The photographic record from the visual site inspection is provided in Table 8 and Table 9. A comprehensive assessment of the entire activity area is required to further assess the archaeological and cultural heritage potential.

The inspection targeted areas within the activity area associated with previously recorded AHIMS sites and areas that contained potential archaeologically sensitive landscape features such as areas adjacent to the many creeks and water bodies that exist within the activity area as well as the numerous sandstone outcrops and overhangs present (Figure 5). All rock-overhangs encountered were inspected for evidence of suitability for past habitation such as evidence for art, surface artefacts and/or sediment accumulation/potential archaeological deposit.

Ground surface visibility across the activity area was generally low (<25%) with densely vegetated areas and thick pastoral grasses obscuring ground surface in most areas. Rare areas of exposure included erosional areas where the shallow soil profile has resulted in surface wash during periods of rain, or on exposed ridgetop and around constructed dams.

Disturbances across the activity area included widespread vegetation clearances, pastoral and agricultural impacts, construction of roads, tracks and easements and localised areas of earthworks including construction of houses and farming infrastructure (Plate 6 to Plate 8). The historic construction of the Upper Canal within a lot that runs through the centre of the activity area is also likely to have resulted in subsurface disturbances in the zones adjoining its construction.

The construction of a gas pipeline through the centre of the activity area is likely to have impacted the potential location of the graves associated with the Appin massacre (Figure 3).

Of note, the gorges and gullies within the activity area are in pristine condition, with no infiltration of weeds or evidence of cattle damage. The gullies are clear of introduced vegetation and are generally open forest with minimal leaf litter (Plate 9).



Plate 6: Example of formalisation of water drainage at Rocky Ponds Creek facing north-east



Plate 7: Example of earthworks for dam construction facing south



Plate 8: Vegetation clearance and use of the land as pasture, with thick pastoral grass growth facing north

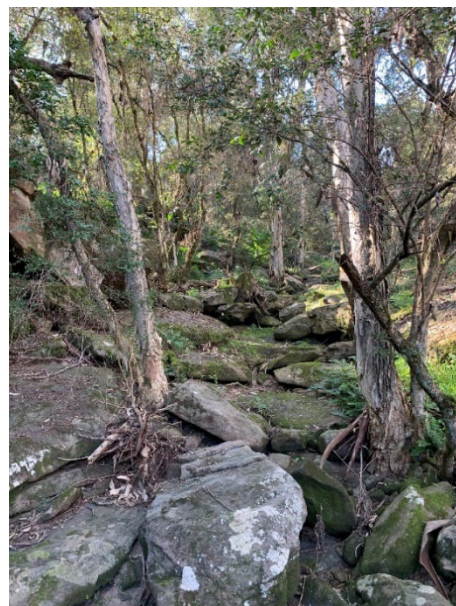


Plate 9: Example of a pristine gully (unnamed drainage line leading in the Cataract gorge)

AHIMS sites within the activity area targeted during the site inspection

Aboriginal cultural heritage sites recorded on AHIMS within the activity area were targeted during the site inspection (Figure 5). Details of the sites targeted during the inspection are provided in Table 8.

Table 7: Summary of site inspection results

AHIMS ID#	Site Name	Aboriginal Site Features	Summary
52-2-3582	WA09 West Appin	Open Camp Site	Not visited
52-2-1933	Rocky Pond Creek Massacre/Burial;	Burial/s	Location identified
52-2-1880	Brooks Point 5	Shelter with Art	Reidentified
52-2-3575	MDO1	Scarred Tree	Incorrect coordinates

AHIMS ID#	Site Name	Aboriginal Site Features	Summary
52-2-3576	MDO2	Shelter with Deposit	Outside of activity area
52-2-3577	MDO4	Open Camp Site	Not visited
52-2-3583	WA010	Axe Grinding Groove	Not visited
52-2-3584	WA011 West Appin	Open Camp Site	Not visited
52-2-1878 / 52-2-3634*	Brooks Point 3	Shelter with Art	Reidentified
52-2-1881	Brooks Point 6	Shelter with Art	Reidentified
52-2-1794 / 52-3-1795*	Rocky Ponds Creek IF	Open Camp Site	Not reidentified- low GSV
52-2-1796	BP-1; Brooks Point;	Scarred Tree	Reidentified
52-2-1924	Brooks Point 7	Shelter with Art	Reidentified
52-2-1877	Brooks Point 2	Axe Grinding Groove, Shelter with Deposit	Reidentified
52-2-1879	Brooks Point 4	Shelter with Deposit	Outside activity area
52-2-2231	ACC2	Open Camp Site	Removed under Care and Control Agreement
52-2-2232	ACC1	Open Camp Site	Isolated artefact identified at site
52-2-2213	PICTON	Open Camp Site	Not reidentified- low GSV

New sites identified within the activity area


A total of seven previously unrecorded Aboriginal cultural heritage sites were identified during the site inspection (Figure 5). These include one shelter with artefacts (WA-7 AHIMS ID# to be registered), two scarred trees (WA-2 AHIMS ID# to be registered and WA-6 AHIMS ID# to be registered) and four isolated artefacts (WA-1 AHIMS ID# to be registered, WA-3 AHIMS ID# to be registered, WA-4 AHIMS ID# to be registered and WA-5 AHIMS ID# to be registered). The sites were all identified on terraces above or within drainage lines and creek gullies. Details are provided below in Table 9.

Summary of Site Inspection



The results of the site inspection can be summarised as follows:


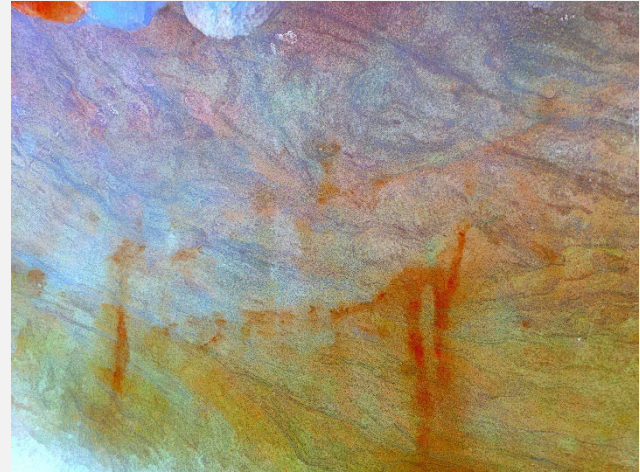
- Further consultation with the Aboriginal community in regard to the cultural significance of the activity areas landscape.
- There is high potential for Aboriginal objects within the subsurface and the surface of the entire activity area.
- Disturbance is variable across the activity area.
- Visibility is very low in the open paddocks and fields due to very thick growth of pastoral grasses.
- Visibility in the gullies and gorges is very good, with no infiltration of introduced vegetation.
- A comprehensive assessment of the entire activity area is required to further assess the archaeological and cultural heritage potential.



Table 8: AHIMS sites targeted during the site inspection

Site Name	AHIMS ID	Site Type	Description	Image Reference
ACC1	52-2-2232	Open camp site	<p>An isolated artefact was identified in the location of the site. The artefact is of similar typology as others recorded previously.</p> <p>Artefact: red silcrete flaked piece (Length-10 mm; Width- 8 mm; Thickness- 6 mm)</p>	 <p>Plate 10: ACC1 red silcrete flaked piece (AHIMS ID 52-2-2232)</p>
ACC2	52-2-2231	Isolated artefact- ground edge axe	Site not reidentified- site card indicates that the artefact was removed under a Care and Control agreement	NA
Rocky Ponds Creek 1	52-2-2213	Isolated artefact	Site not reidentified, thick grass growth and limited visibility	<p>Plate redacted for public exhibition</p> <p>Plate 11: general location of Rocky Ponds Creek 1 (AHIMS ID 52-2-2213)</p>
Mt Britain/ Rocky Ponds Creek	52-2-1933	Burials	<p>Probable location reidentified, bed stones as identified in the site card were not noted. The likely location is situated outside of the activity area, [REDACTED]</p> <p>The site inspection confirmed subsurface impacts in the general location of the site, with a pipeline easement running through the area.</p>	<p>Plate redacted for public exhibition</p> <p>Plate 12: estimated location of burials at Mt Britain/ Rocky Ponds Creek (AHIMS ID 52-2-1933), below blackberry growth facing north</p>

Site Name	AHIMS ID	Site Type	Description	Image Reference
Rocky Ponds Creek I.S	52-2-1794	Isolated artefact	Site not able to be reidentified during survey. Area subject to erosion through cattle movement and variations of GSV	<p>Plate redacted for public exhibition</p> <p>Plate 13: general location of Rocky Ponds Creek I.S. (AHIMS ID 52-2-1794) facing south-east</p>
MD01	52-2-3575	Scarred tree	Site not reidentified. GPS coordinates did not appear to be correct and the site description did not match the GPS location	NA
Rocky Ponds Creek 1	52-2-1795	Open camp site	Site not able to be reidentified during survey. Area subject to erosion through cattle movement and variations of GSV	NA
Brook's Point 4	52-2-1879	Shelter	Site not reidentified- fell outside of activity area boundary	NA
BP-1 Brook's Point	52-2-1796	Scarred tree	Site reidentified. Scar heavily regrown, almost completely grown over. The scar would not have been noticed if not marked by a waypoint	<p>Plate redacted for public exhibition</p> <p>Plate 14: BP-1 Brook's Point (AHIMS ID 52-2-1796) scarred tree (scar faces south-east) facing north-west</p>
MD04	52-2-3577	Open camp site	Site not reidentified- location not visited	NA
Brook's Point Road	52-2-1880	Shelter with art	Site in same condition as per site card	<p>Plate redacted for public exhibition</p> <p>Plate 15: Hand stencils in shelter Brook's Point Road (AHISM ID 52-2-1880)</p>

Site Name	AHIMS ID	Site Type	Description	Image Reference
				 <p>Plate 16: Hand stencils in shelter Brook's Point Road (AHISM ID 52-2-1880) enhanced with ID Stretch app</p>
Brook's Point 6	52-2-1881	Shelter with art	<p>Site in same condition as per site card. Large kangaroo motif in excellent condition (Plate 18).</p> <p>A second motif to the immediate east of the kangaroo is less clear and was recorded on the site card as indistinct (Plate 19). When enhanced with ID Stretch, the motif was more clearly defined (Plate 20). The motif is of red ochre, with charcoal infill. The figure appears to be four-legged and has features resembling a horn and an udder or pouch. It measures approximately 1.5 m in length.</p>	<p>Plate redacted for public exhibition</p> <p>Plate 17: Brook's Point 6 (AHIMS ID 52-2-1881) facing east</p> 

Site Name	AHIMS ID	Site Type	Description	Image Reference
				<p>Plate 18: Kangaroo motif on ceiling/rear wall of Brook's Point 6 (AHIMS ID 52-2-1881) shelter</p>  <p>Plate 19: Indistinct motif on eastern wall of Brook's Point 6 (AHIMS ID 52-2-1881) shelter</p>  <p>Plate 20: Same motif on eastern wall of Brook's Point 6 (AHIMS ID 52-2-1881) shelter above enhanced with ID Stretch app</p>

Site Name	AHIMS ID	Site Type	Description	Image Reference
Brook's Point 2	52-2-1877	Shelter with grinding grooves	Site in same condition as per site card. 24 artefacts identified within overhang (Plate 21 Plate 22 Plate 23)	<p>Plate redacted for public exhibition</p> <p>Plate 21: Site Brook's Point 2 (AHIMS ID 52-2-1877) facing east</p>  <p>Plate 22: Grinding grooves at eastern end of overhang Brook's Point 2 (AHIMS ID 52-2-1877)</p> 








Site Name	AHIMS ID	Site Type	Description	Image Reference
				Plate 23: Artefacts identified within overhang Brook's Point 2 (AHIMS ID 52-2-1877)
Brook's Point 3	52-2-1878	Shelter with deposit	Site in same condition as per site card	Plate redacted for public exhibition Plate 24: Site Brook's Point 3 (AHIMS ID 52-2-1878) facing west
Brook's Point 7	52-2-1924	Shelter with art and deposit	Site in same condition as per site card. Nine artefacts (Plate 26) located on PAD	Plate redacted for public exhibition Plate 25: Site Brook's Point 7 (AHIMS ID 52-2-1924) facing west  Plate 26: Artefacts within shelter Brook's Point 7 (AHIMS ID 52-2-1924)
WA09 West Appin	52-2-3582	Isolated artefact	Site not reidentified- location not visited	NA
WA09	52-2-3584	Open camp site	Site not reidentified- location not visited	NA
WA10	52-2-3583	Grinding grooves	Site not reidentified- location not visited	NA

Table 9: Previously unrecorded sites identified during the site inspection

Site Name	AHIMS ID	Waypoint	Site Type	Description	Location	Image
WA-1	Site to be registered	■■■■■ ■■■■■	Isolated artefact	Red silcrete core, 2 scars. Length-31 mm Width- 16 mm Thickness- 22 mm	Artefact located on the terrace above the Cataract River, where it intersects with a drainage line. Artefact located just within tree line	 <p>Plate 27: WA-1 red silcrete core</p>
WA-2	Site to be registered	■■■■■ ■■■■■	Scarred Tree	Ironbark tree- scar faces north. Scar is overgrown, approximately 20 cm of growth	Tree located on an un-named drainage line that leads into the Cataract River. It is located approximately 60 m to the east of site AHIMS ID 52-2-1796. A dirt farm track is located 15 m to the north of the tree	

Site Name	AHIMS ID	Waypoint	Site Type	Description	Location	Image
						Plate 28: WA-2 scarred tree (scar faces north)
WA-3	Site to be registered	■■■■■ ■■■■■	Isolated artefact	Black mudstone complete flake Length-21 mm Width-23 mm Thickness- 15 mm	Located on an exposed flat, just beyond tree line. Approximately 30 m north of a dirt farm track	 <p>Plate 29: WA-3 black mudstone complete flake</p>
WA-4	Site to be registered	■■■■■ ■■■■■	Isolated artefact	Black chert complete flake Length-33 mm Width-15 mm Thickness- 15 mm	Located on an exposed flat, just beyond tree line. Approximately 30 m north of a dirt farm track	 <p>Plate 30: WA-4 black chert complete flake</p>

Site Name	AHIMS ID	Waypoint	Site Type	Description	Location	Image
WA-5	Site to be registered	■■■■ ■■■■	Isolated artefact	Grey silcrete proximal flake Length-21 mm Width-23 mm Thickness- 15 mm	Located on a flat terrace above the southern side of the Ousedale Creek gully. Artefact situated in an area of exposure within tree line. Approximately 150 m east of the Upper Canal	 <p>Plate 31: WA-5 grey silcrete proximal flake</p>
WA-6	Site to be registered	■■■■ ■■■■	Scarred Tree	Living blackbutt tree with scar, scar facing NW. Scar measures 200 cm length X 21 cm width	Located mid-slope on the western bank of Ousedale Creek gully	 <p>Plate 32: WA-6 scar tree- scar faces NW</p>
WA-7	Site to be registered	■■■■ ■■■■	Shelter with artefacts and PAD	Sandstone overhang, south facing. Approximately 12	On northern bank of Elladale Creek gully, mid way up slope.	<p>Plate redacted for public exhibition</p> <p>Plate 33: WA-7 facing north-west</p>


Site Name	AHIMS ID	Waypoint	Site Type	Description	Location	Image
				m wide x 7 m deep x 10 m high. PAD approximately 5 m ²		
				Three artefacts identified: Quartz complete flake Length-14 mm Width-9 mm Thickness- 4 mm Quartz distal flake Length-13 mm Width-16 mm Thickness- 65 mm Quartz flaked piece Length-10 mm Width-8 mm Thickness-5 mm	Within the shelter dripline	 <p>Plate 34: WA-7 artefacts</p>

Figure 5: Results of site inspection (Source: Niche)

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Step 5 - Further investigations and impact assessment

Yes.

This assessment indicates that Aboriginal objects occur within the activity area with the potential for further Aboriginal objects to be present.

The activity area contains numerous landscape features that are likely to indicate the presence of Aboriginal objects, as identified by the Due Diligence Code. The entire area which may contain the proposed activities is located within 200 m of waters, in proximity to ridge top/ ridge lines and associated with outcropping sandstone in the form of rock overhangs and shelters. The Nepean River runs adjacent to the eastern boundary of the activity area and would have provided year-round reliable source of water; whilst a number of non-perennial order drainage lines are also located within the activity area that would have offered Aboriginal people with a range of plant and animal resources throughout the year. The presence of sandstone outcropping within the activity area in association with the Hawkesbury colluvial soils along the tributaries of the Nepean River would additionally have provided shelter and/or locations for the expression of cultural identity in the form of rock art. The numerous existing AHIMS registered sites within the activity area and those identified during the visual site assessment confirms this high potential. Further to this the activity area is within close proximity to a number of Historical Heritage Items and the location of the Appin Massacre, giving this area the potential to have contact archaeology as it is a known contact site.

The Due Diligence Code states that where a desktop and visual inspection has occurred and concluded that Aboriginal objects are present and/or likely within the activity area that cannot be avoided, further investigation and impact assessment is required.

In accordance with the relevant legislative codes and guidelines, and in compliance with the heritage controls outlined in Part 7 Section 7.2 of the Wollondilly DCP (2016), Niche recommends the following measures be undertaken before development occurs on the land:

- Aboriginal community consultation is to be carried out in accordance with the (DECCW 2010) *Aboriginal Cultural Heritage Consultation Guidelines for Proponents 2010*.
- An Aboriginal Cultural Heritage Assessment (ACHA) will be required to fully assess the impact of the proposed works on Aboriginal objects and cultural heritage resources within the activity area. The ACHA is required to be completed in accordance with the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011).
- All new Aboriginal cultural heritage sites identified during the site inspection be registered through Australian Heritage Information Management System (AHIMS).
- An Aboriginal Heritage Impact Permit (AHIP) under Section 90 of the National Parks and Wildlife Act 1974 will be required for the identified Aboriginal objects if the proposed harm cannot be avoided.
- All subsequent Aboriginal cultural heritage assessments should be undertaken in accordance with the *Greater Macarthur Investigation Area: Archaeological Research Design and Management Strategy* prepared by AHMS (2017).

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Attachment 1 – AHIMS Extensive Search and site cards

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Historical heritage
Conservation management
Community consultation
Archaeological, built and landscape values

Environmental management and approvals

Impact assessments
Development and activity approvals
Rehabilitation
Stakeholder consultation and facilitation
Project management

Environmental offsetting

Offset strategy and assessment (NSW, QLD, Commonwealth)
Accredited BAM assessors (NSW)
Biodiversity Stewardship Site Agreements (NSW)
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