

The logo for URBIS, featuring the word "URBIS" in a bold, white, sans-serif font. The text is contained within a white square frame that is partially open on the right side. A white vertical line extends from the top of the frame down to the top of the page, and a white horizontal line extends from the right side of the frame across the top of the page.

URBIS

ABORIGINAL OBJECTS DUE DILIGENCE ASSESSMENT

89-151 OLD CASTLEREAGH RD,
CASTLEREAGH

Prepared for

COLLIERS INTERNATIONAL

5 October 2021

URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:

Associate Director Balazs Hansel, MA Archaeology, MA History, M. ICOMOS
Consultant Aaron Olsen, Dip Arts (Archaeology), BSc (Hons), MIP, PhD
Project Code P0023242
Report Number 01 Issued 5 October 2021

Urbis acknowledges the important contribution that Aboriginal and Torres Strait Islander people make in creating a strong and vibrant Australian society.

We acknowledge, in each of our offices the Traditional Owners on whose land we stand.

All information supplied to Urbis in order to conduct this research has been treated in the strictest confidence. It shall only be used in this context and shall not be made available to third parties without client authorisation. Confidential information has been stored securely and data provided by respondents, as well as their identity, has been treated in the strictest confidence and all assurance given to respondents have been and shall be fulfilled.

© Urbis Pty Ltd
50 105 256 228

All Rights Reserved. No material may be reproduced without prior permission.

You must read the important disclaimer appearing within the body of this report.

urbis.com.au

CONTENTS

Glossary	5
Executive Summary	7
1. Introduction	9
1.1. Subject Area	9
1.2. Proposed Works	9
1.3. Authorship	10
1.4. Limitations	10
2. Statutory Context	16
2.1. Heritage Controls	16
2.1.1. The National Parks and Wildlife Act 1974	16
2.1.2. Environment Protection and Biodiversity Conservation Act 1999	17
2.1.3. State Environmental Planning Policy (Penrith Lakes Scheme) 1989	17
2.1.4. Penrith Development Control Plan 2014	18
2.2. Heritage Lists & Registers	18
2.2.1. Australian Heritage Database	18
2.2.2. NSW State Heritage Inventory	19
2.3. Summary	19
3. Aboriginal Heritage Background	21
3.1. Archaeological Context	21
3.1.1. Past Aboriginal Land Use	21
3.1.2. Local Archaeological Reports	22
3.1.3. AHIMS Database	22
3.1.4. Conclusions Drawn from Archaeological Context	24
3.2. Environmental Context.....	25
3.2.1. Topography	25
3.2.2. Soil Landscape and Geology	25
3.2.3. Vegetation	25
3.2.4. Hydrology	27
3.2.5. Historical Ground Disturbance	27
3.2.6. Conclusions Drawn from Environmental Context.....	30
3.3. Visual Inspection	31
3.4. Predictive Model	32
3.4.1. Typical Site Types	33
3.4.2. Assessment of Archaeological Potential	34
3.5. Summary	37
4. Due Diligence Assessment	38
4.1. Overview of Due Diligence Process	38
4.2. Is the activity a low impact activity for which there is a defence in the regulations?	38
4.3. Step 1 – Will the activity disturb the ground surface?.....	39
4.4. Step 2a – Are there any relevant confirmed site records or other associated landscape feature information on AHIMS?	39
4.5. Step 2b – Are there any other sources of information of which a person is aware?	39
4.6. Step 2c – Are there any landscape features that are likely to indicate the presence of Aboriginal objects?.....	39
4.7. Step 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?	40
4.8. Step 4 – Does the Desktop Assessment and Visual Inspection Confirm that there are Aboriginal Objects or that they are Likely?	40
4.9. Outcome of Due Diligence Assessment	40
5. Conclusions and Recommendations	41

6. References	43
Disclaimer.....	44

Appendix A AHIMS Results

FIGURES

Figure 1 – Regional location	11
Figure 2 – Location of the subject area	12
Figure 3 – Generic due diligence assessment	13
Figure 4 – Proposed demolition works	14
Figure 5 – Proposed construction works)	15
Figure 6 – Historical heritage items	20
Figure 7 – Map of AHIMS sites in extensive search area	23
Figure 8 – Soil Landscapes and Hydrology.....	26
Figure 9 – Aerial photograph of subject area (outlined in red) from 1961 showing a natural waterway (dark green arrow), the portion of the subject area within 200m of water (blue shading) and the extant single storey cottage (purple arrow).	27
Figure 10 – Detail of map of the Parish of Castlereagh, 1951 (subject area outline in red)	28
Figure 11 – Aerial photograph of subject area (outlined in red), 1984; the arrow indicates the extant single storey cottage.....	28
Figure 12 – Aerial photograph of subject area (outlined in red), 1986; the arrow indicates the extant single storey cottage.....	29
Figure 13 – Aerial photograph of subject area (outlined in red), 1991; the arrow indicates the extant single storey cottage.....	29
Figure 14 – Exposed redeposited clay north-west of single storey cottage	31
Figure 15 – Mounding of soil at base of trees north-west of single storey cottage	31
Figure 16 – View west to single storey cottage	31
Figure 17 – View west of area south of single storey cottage	31
Figure 18 – Area of low-moderate archaeological potential (shaded orange) within area of proposed demolition works	36
Figure 19 – Area of low-moderate archaeological potential (shaded orange) within area of proposed construction works	36

TABLES

Table 1 – Summary of extensive AHIMS search (AHIMS Client Service ID: 622135).....	22
Table 2 – Indicative process for determining the potential presence of a site	32
Table 3 – Predictive Model	34

GLOSSARY

Term	Definition
Aboriginal cultural heritage	The tangible (objects) and intangible (dreaming stories, legends and places) cultural practices and traditions associated with past and present-day Aboriginal communities.
Aboriginal object	As defined in the NPW Act, any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises NSW, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains.
Aboriginal place	As defined in the NPW Act, any place declared to be an Aboriginal place (under s.84 of the NPW Act) by the Minister administering the NPW Act, by order published in the NSW Government Gazette, because the Minister is of the opinion that the place is or was of special significance with respect to Aboriginal culture. It may or may not contain Aboriginal objects.
AHIMS	Aboriginal Heritage Information Management System: a register of previously reported Aboriginal objects and places managed by the DPC
AHIP	Aboriginal Heritage Impact Permit. A permit issued under Section 90, Division 2 of Part 6 of the <i>NPW Act</i> .
Archaeology	The scientific study of human history, particularly the relics and cultural remains of the distant past.
Art	Art sites can occur in the form of rock engravings or pigment on sandstone outcrops or within shelters. An engraving is some form of image which has been pecked or carved into a rock surface. Engravings typically vary in size and nature, with small abstract geometric forms as well as anthropomorphic figures and animals also depicted. Pigment art is the result of the application of material to a stone to leave a distinct impression. Pigment types include ochre, charcoal and pipeclay.
Artefact	An object made by human agency (e.g. stone artefacts).
Code of Practice	<i>Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales</i> (DECCW, 2010).
DCP	Development Control Plan
DECCW	Department of Environment, Climate Change and Water NSW.
DPC	Department of Premier and Cabinet
EP&A Act	<i>NSW Environmental Planning and Assessment Act 1979</i> .

Term	Definition
Grinding Grooves	The physical evidence of tool making, or food processing activities undertaken by Aboriginal people. The manual rubbing of stones against other stones creates grooves in the rock; these are usually found on flat areas of abrasive rock such as sandstone.
Harm	As defined in the NPW Act, to destroy, deface, damage or move an Aboriginal object or destroy, deface or damage a declared Aboriginal place. Harm may be direct or indirect (e.g. through increased visitation or erosion). Harm does not include something that is trivial or negligible.
Isolated find	A single artefact found in an isolated context.
LALC	Local Aboriginal Land Council: corporate body constituted under the <i>Aboriginal Land Rights Act 1983</i> , having a defined boundary within which it operates.
LEP	Local Environment Plan.
Midden	Midden sites are indicative of Aboriginal habitation, subsistence and resource extraction. Midden sites are expressed through the occurrence of shell deposits of edible shell species often associated with dark, ashy soil and charcoal. Middens may or may not contain other archaeological materials including stone tools.
NPW Act	<i>National Parks and Wildlife Act 1974</i>
NPW Regulation	<i>National Parks and Wildlife Regulation 2019</i>
PAD	Potential archaeological deposit. A location considered to have a potential for subsurface archaeological material.
Scarred / Modified Trees	Trees which display signs of human modification in the form of scars left from intentional bark removal for the creation of tools, or which are carved for ceremonial purposes.

EXECUTIVE SUMMARY

The current report presents the results of an Aboriginal Objects Due Diligence Assessment (ADD) of 89-151 Old Castlereagh Rd, Castlereagh, legally referred to as Lots 2 and 19 DP1013504 ('the subject area'). The ADD was undertaken in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW, 2010) ('Due Diligence Code'), and included the following:

- Search of the Aboriginal Heritage Information Management System (AHIMS) register.
- Searches of statutory and non-statutory heritage listings.
- Analysis of previously conducted archaeological assessments in the vicinity of the subject area.
- Visual inspection of the subject area.
- Landscape analysis.
- Analysis of historical land use and its impact on the subject area.

The assessment concluded that:

- No Aboriginal objects or Aboriginal places are registered within the subject area or identified as being located within the subject area in previous studies.
- The majority of the subject area is located within 200m of a former natural waterway, indicative of likely past Aboriginal land use.
- However, quarrying is determined to have caused high levels of ground disturbance, eliminating any archaeological potential across most of the subject area.
- The construction of the main dwelling, associated sheds, structures and infrastructure is determined to have caused extensive disturbance to topsoil outside the quarried area, significantly reducing archaeological potential.
- Based on the assessment of the archaeological and environmental context, the subject area is determined to have **nil potential** for Aboriginal objects within the area impacted by the proposed works.
- Outside the quarried area the archaeological potential is determined to be low-moderate, but the works proposed for that area will not cause any disturbance below the already disturbed topsoil.
- The Due Diligence Code therefore does not require further archaeological assessment of the subject area.
- The SEARs nevertheless require preparation of an Aboriginal Cultural Heritage Assessment Report and consultation with Aboriginal people.

Based on the above conclusions, Urbis recommends the following:

- This ADD report should be kept as evidence of the Due Diligence Process having been applied to the subject area.
- Based on the above conclusions, Urbis recommends that the proposed works under the revised scope can proceed with the Archaeological Finds Procedure in place.
- A request should be filed with the Department of Planning, Industry and Environment to waive the Aboriginal heritage SEARs based on the outcome of the ADD.
- If a waiver is granted, the development may proceed with caution, subject to the following archaeological chance finds and human remains procedures being implemented and followed:

Archaeological Finds Procedure

Should any archaeological deposits be uncovered during any site works, the following steps must be followed:

1. All works within the vicinity of the find must immediately stop. The find must not be moved 'out of the way' without assessment.

2. The site supervisor or another nominated site representative must contact either the project archaeologist (if relevant) or Heritage NSW (Enviroline 131 555) to contact a suitably qualified archaeologist.
3. The nominated archaeologist must examine the find, provide a preliminary assessment of significance, record the item and decide on appropriate management measures. Such management may require further consultation with Heritage NSW, preparation of a research design and archaeological investigation/salvage methodology and registration of the find with the Aboriginal Heritage Information Management System (AHIMS).
4. Depending on the significance of the find, reassessment of the archaeological potential of the subject area may be required and further archaeological investigation undertaken.
5. Reporting may need to be prepared regarding the find and approved management strategies.
6. Works in the vicinity of the find can only recommence upon receipt of approval from Heritage NSW.

Human Remains Procedure

In the unlikely event that human remains are uncovered during the proposed works, the following steps must be followed:

1. All works within the vicinity of the find must immediately stop.
2. The site supervisor or other nominated manager must notify the NSW Police and Heritage NSW (Enviroline 131 555).
3. The find must be assessed by the NSW Police, which may include the assistance of a qualified forensic anthropologist.
4. Management recommendations are to be formulated by the NSW Police, Heritage NSW and site representatives.
5. Works are not to recommence until the find has been appropriately managed.

1. INTRODUCTION

Urbis has been engaged by Colliers International Project Management Pty Ltd ('Colliers') on behalf of Heliport Developers Pty Ltd & Sydney Helicopters Pty Ltd ('the Proponents') to conduct an Aboriginal Objects Due Diligence Assessment (ADD) of 89-151 Old Castlereagh Rd, Castlereagh, legally referred to as Lots 2 and 19 DP1013504 ('the subject area') (Figure 1 and Figure 2).

Urbis understands that although the planning pathway for the project is a local development application (DA), the project is subject to Planning Secretary's Environmental Assessment Requirements (SEARs). The issued SEARs require the following to be undertaken in relation to Aboriginal heritage:

- An assessment of potential impacts on Aboriginal cultural and archaeological heritage documented in an Aboriginal Cultural Heritage Assessment Report prepared in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010) and the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011).
- Consultation with Aboriginal people in accordance with *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010).

The ADD was undertaken as a preliminary investigation to determine whether development of the subject area will harm any Aboriginal objects or places that may exist within the subject area and determine whether the subject area presents any Aboriginal archaeological and heritage constraints. The ADD focusses on the proposed works as a priority, within a more general consideration of the subject area as a whole. The current report presents the results of the ADD.

The ADD followed the generic steps of the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW, 2010) ('Due Diligence Code') shown in Figure 3 below. The ADD included the following:

- Search of the Aboriginal Heritage Information Management System (AHIMS) register.
- Searches of statutory and non-statutory heritage listings.
- Analysis of previously conducted archaeological assessments in the vicinity of the subject area.
- Visual inspection of the subject area.
- Landscape analysis.
- Analysis of historical land use and its impact on the subject area.

1.1. SUBJECT AREA

The subject area is located approximately 3km north-west of the Penrith CBD and 50km west of the Sydney CBD. It is located within the City of Penrith Local Government Area (LGA) and within the boundaries of the Deerubbin Local Aboriginal Land Council (MLALC). The entire subject area is currently zoned T – Tourism.

The subject area encompasses approximately 1.64ha. It has a single frontage on Old Castlereagh Road to the south. It is bounded T – Tourism and P – Parkland zoned properties on all other sides. Current improvements include various warehouse buildings, storage sheds and office buildings, paved open parking areas, roadways, landscaping and a dam.

1.2. PROPOSED WORKS

The Proponents are seeking to develop a heliport within the subject area. It is understood that the proposed works (Figure 4 and Figure 5) will include:

- Demolition of two single storey sheds and integrated hardstand extending beyond the footprint of the sheds.
- Demolition of one small single storey shed and associated pavement.
- Removal of one inground tank.
- Removal of one flood light.

- Removal of up to 10 trees.
- Reinstatement of grass turf in locations of removed hardstands and pavement.
- Installation of new concrete hardstand in location of existing concrete hardstands.
- Installation of new lighting as required for the final approach and take-off area ('FATO')

1.3. AUTHORSHIP

The present report has been prepared by Aaron Olsen (Urbis Consultant Archaeologist) with review and quality control undertaken by Balazs Hansel (Urbis Associate Director, Archaeology).

Aaron Olsen holds a Diploma of Arts (Archaeology) from the University of Sydney, a Bachelor of Science (Honours - First Class in Chemistry) and PhD (Chemistry) from the University of Newcastle and a Masters (Industrial Property) from the University of Technology Sydney. Balazs Hansel holds a Masters (History) and Masters (Archaeology and Museum Studies) from the University of Szeged (Hungary).

1.4. LIMITATIONS

The ADD was undertaken to investigate the potential for Aboriginal cultural heritage to be retained within the subject area that may be harmed by the proposed works. The ADD does not consider the impact of any works outside the proposed scope. The ADD will need to be updated to consider any changes to the proposed works.

Aboriginal community consultation was not undertaken as part of the ADD, nor was any assessment of significance of the subject area undertaken.

The ADD was limited to Aboriginal archaeological resources and does not consider historical archaeological remains or built heritage items.

Penrith City Council is currently proposing an amendment to the Penrith Lakes SEPP and preparing a draft Penrith Lakes Development Control Plan - Stage 1 (Draft DCP). The ADD may need to be updated to consider any changes to the Penrith Lakes SEPP or controls introduced by the Draft DCP if these are adopted.



GDA 1994 MGA Zone 56

© 2021. PSMA Australia Ltd, HERE Pty Ltd. ABS. Produced by Urbis Pty Ltd ABN 50 105 256 228, Sep 2021



Project No: P0023242
Project Manager: Balazs Hansel

● Subject Area

REGIONAL LOCATION
89-151 Old Castlereagh Road
Colliers International

Figure 1 – Regional location



GDA 1994 MGA Zone 56

© 2021. PSMA Australia Ltd, HERE Pty Ltd. ABS. Produced by Urbis Pty Ltd ABN 50 105 256 228, Sep 2021



Project No: P0023242

Project Manager: Balazs Hansel

Subject Area
 Contours
 Hydrology
 Permanent

Location of the Subject Area

89-151 Old Castlereagh Road
Colliers International

Figure 2 – Location of the subject area

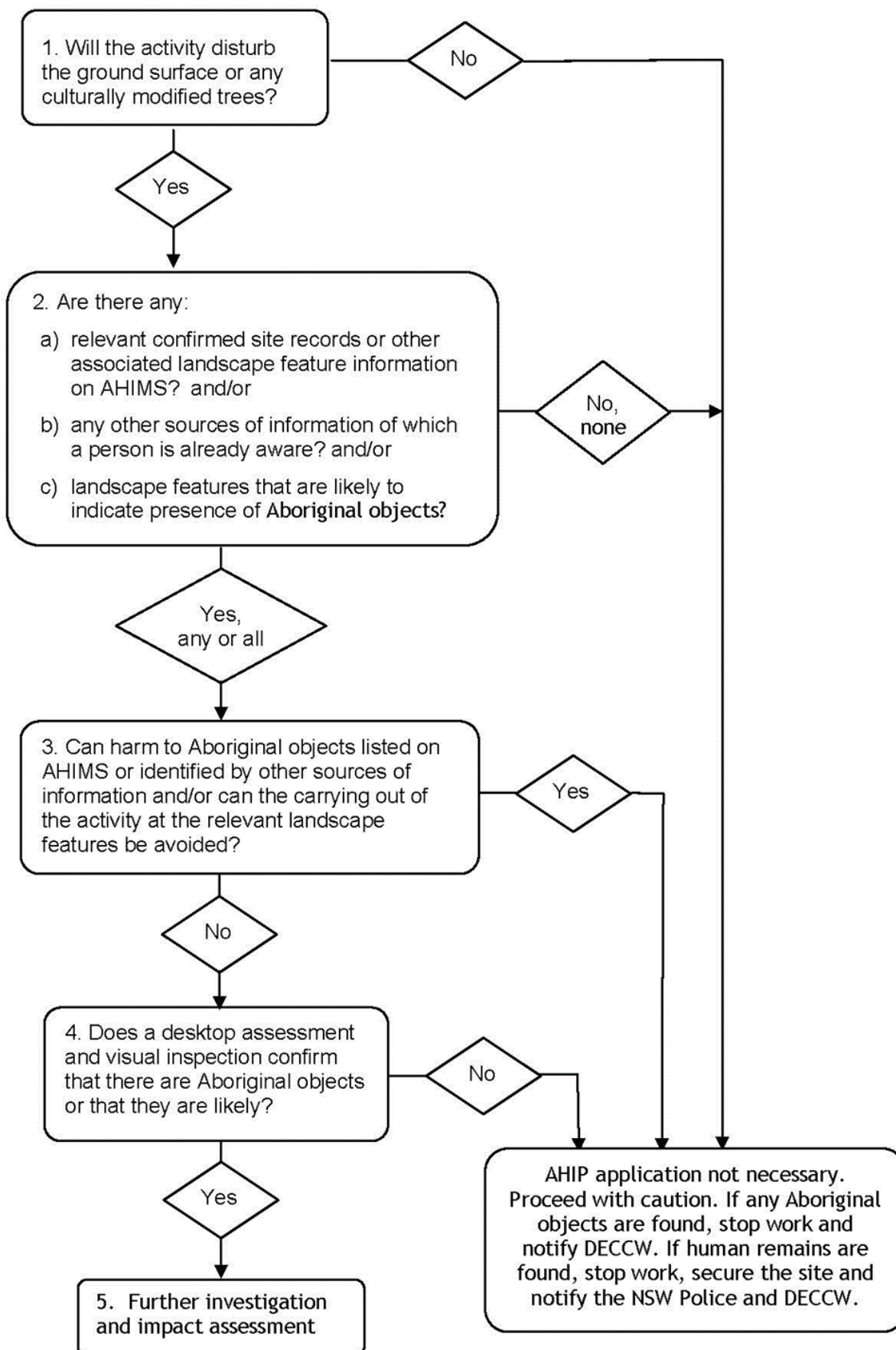


Figure 3 – Generic due diligence assessment
Source: DECCW, 2010

Item	Description	Date
1	ISSUED FOR CONSTRUCTION	2023-02-21
2	ISSUED FOR PERMITS SUBMITTAL	2023-02-21
3	ISSUED FOR CONSTRUCTION	2023-02-21

<p>EXTENT OF SURVEY PROPERTY BOUNDARY TO BE DEMOLISHED</p>	<p>NOTES: SEE INFORMATION, ISLAND LOCATIONS FROM FROM THE STATE OF PENNSYLVANIA DEPARTMENT OF REVENUE, DIVISION OF TAXES AND REVENUE, BOUNDARY SURVIVAL ACTIVITY.</p>
--	---

<p>WMK Architecture 17264 North Street Philadelphia, PA 19150-4071 Telephone: 215-261-1000 Fax: 215-261-1001 www.wmkarch.com</p>	<p>WMK</p>
---	-------------------

<p>Client STONEY HELICOPTERS</p>

<p>Project STONEY HELICOPTERS LOT 2 & 18 PENRITH LAKE, CASTLEBROUGH</p>

<p>Title DEMOLITION PLAN</p>

<p>Drawing No. S/1301</p>	<p>Issue P-2</p>
<p>Scale 1:1,500</p>	<p>Drawing Size A1</p>
<p>Drawn By 21060</p>	<p>Checked By AUDIOL</p>
<p>CAD Reference</p>	

<p>Approved/Checked By [Signature]</p>	<p>Date [Date]</p>
---	---------------------------------

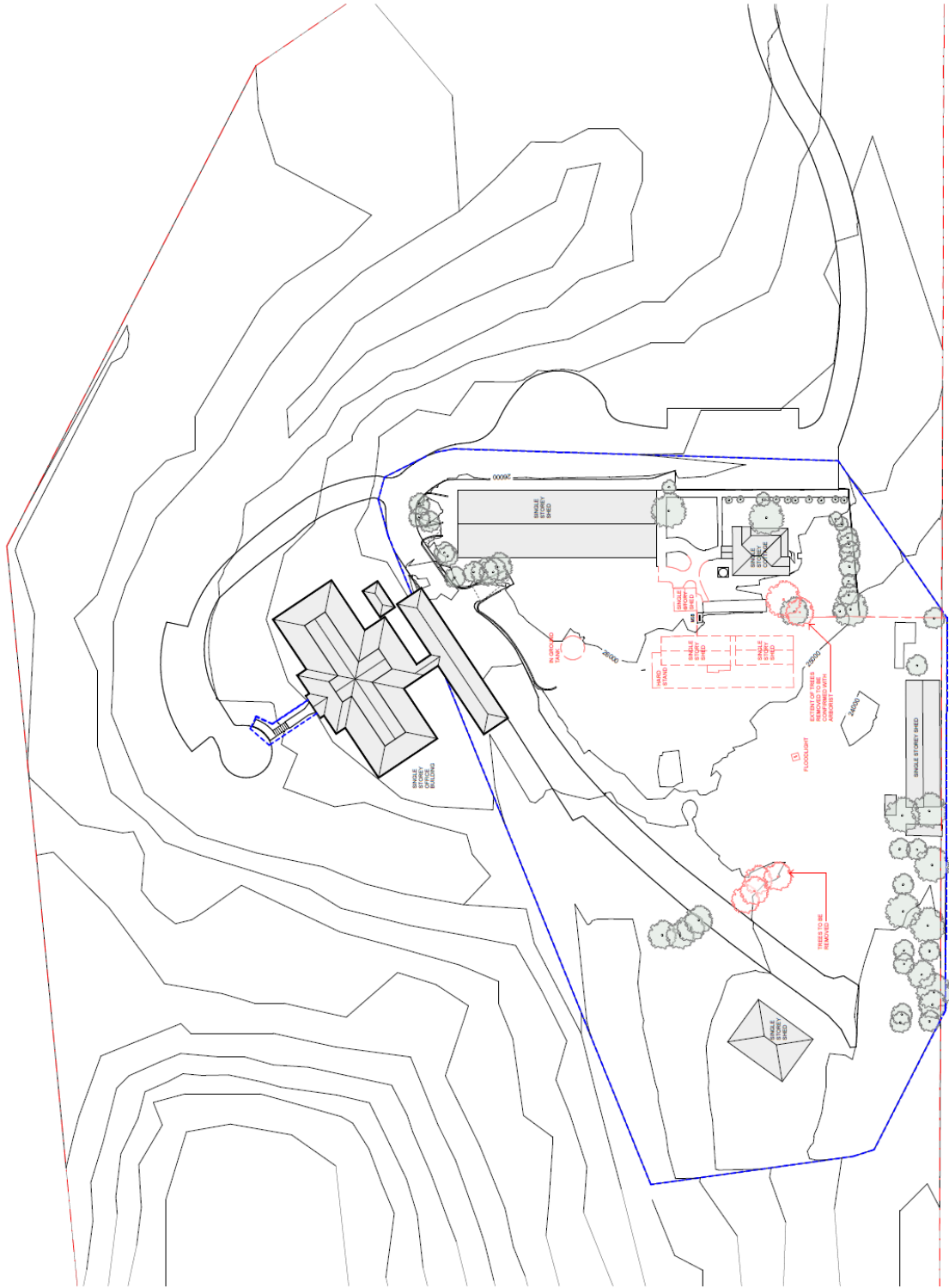


Figure 4 – Proposed demolition works
 Source: WMK Architecture

Item	Description	Date
1	DESIGN FOR CONSTRUCTION	20/01/2021
2	REVISED FOR APPROVAL	22/02/2021
3	FOR COMMENTS	23/02/2021
4	FOR COMMENTS	23/02/2021

<p>EXTENT OF SURVEY</p> <p>PROPERTY BOUNDARY</p> <p>HELICOPTER CLEARANCE ZONES</p>	<p>NOTES</p> <p>1. INFORMATION ON LAND LOCATIONS TAKEN FROM CAD AND INFERRED TO BE CORRECT AND PRELIMINARY. SHOWN AS INFORMATION ONLY. THIS INFORMATION IS NOT TO BE USED FOR ANY OTHER PURPOSES WITHOUT THE WRITTEN CONSENT OF WMK ARCHITECTURE.</p> <p>PRELIMINARY</p>
--	---

	<p>WMK Architecture</p> <p>10/100 WALKER STREET SYDNEY NSW 2000 PH: (61) 2 9550 1000 FAX: (61) 2 9550 1001 WWW.WMKARCHITECTURE.COM.AU</p>
--	--

<p>Client</p> <p>SYDNEY HELICOPTERS</p>	<p>Project</p> <p>SYDNEY HELICOPTERS LOT 2 & 19 PENRITH LAKE CASTLEBAGH</p>
---	--

<p>Title</p> <p>PROPOSED PLAN</p>	<p>Drawing No.</p> <p>S15002</p>	<p>Scale</p> <p>P2</p>
<p>Project No.</p> <p>21080</p>	<p>Drawn By</p> <p>AUTHOR</p>	<p>Issued Date</p> <p>21/01/2021</p>

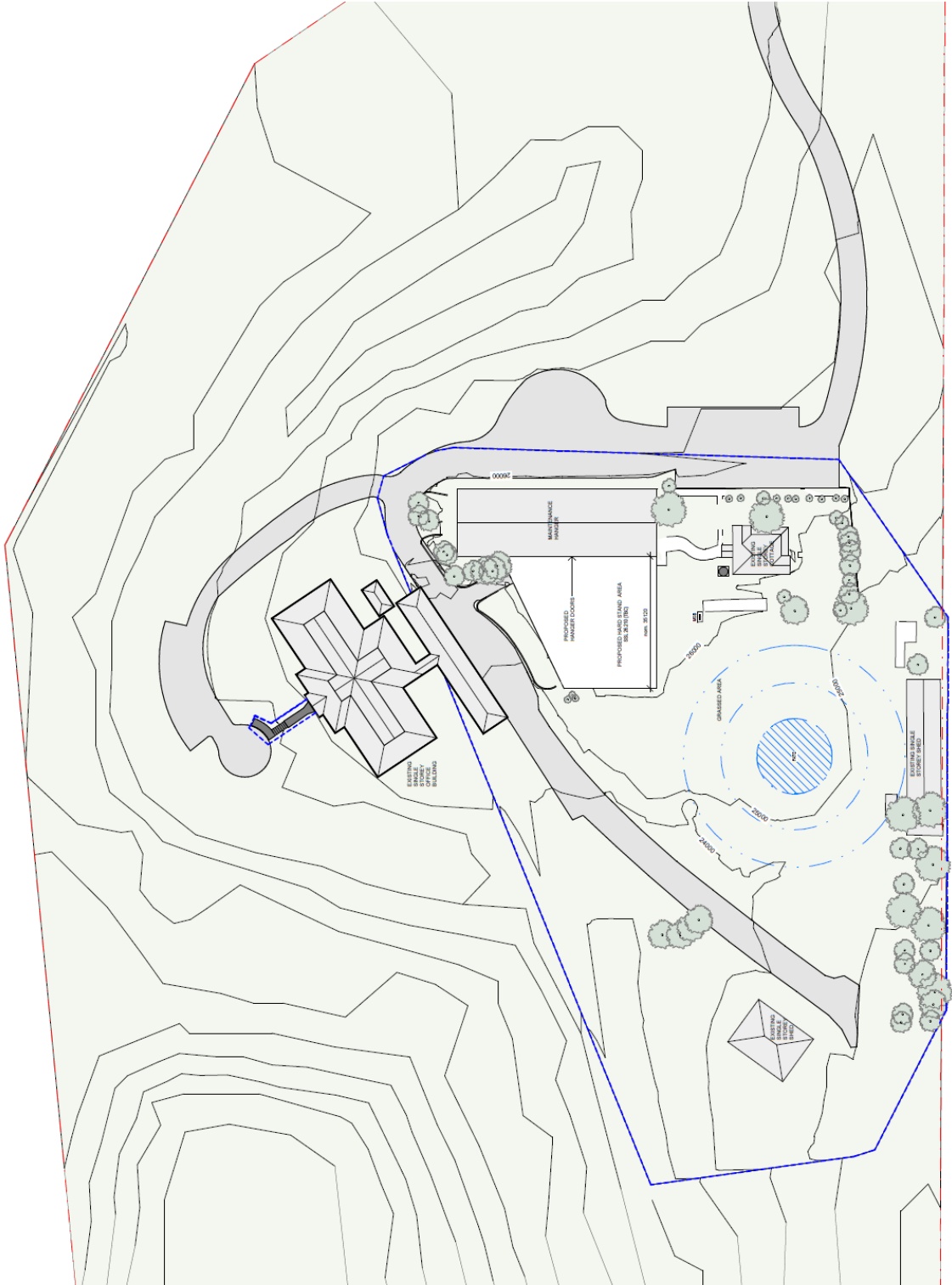


Figure 5 – Proposed construction works)

Source: WMK Architecture

2. STATUTORY CONTEXT

2.1. HERITAGE CONTROLS

The protection and management of Aboriginal cultural heritage items, places and archaeological sites within New South Wales is governed by the relevant Commonwealth, State or local government legislation. These are discussed below in relation to the present subject area.

2.1.1. The National Parks and Wildlife Act 1974

Management of Aboriginal objects and places in NSW falls under the statutory control of the *National Parks and Wildlife Act 1974* (NPW Act). Application of the NPW Act is in accordance with the *National Parks and Wildlife Regulation 2019* (NPW Reg).

Section 5 of the NPW Act defines Aboriginal objects and Aboriginal places as follows:

Aboriginal object means any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains.

Aboriginal place means any place declared to be an Aboriginal place under section 84 of the NPW Act.

The NPW Act provides statutory protection for Aboriginal objects, defining two tiers of offence against which individuals or corporations who harm Aboriginal objects or Aboriginal places can be prosecuted. The highest tier offences are reserved for knowledgeable harm of Aboriginal objects or knowledgeable desecration of Aboriginal places. Second tier offences are strict liability offences - that is, offences regardless of whether or not the offender knows they are harming an Aboriginal object or desecrating an Aboriginal place - against which defences may be established under the *National Parks and Wildlife Regulation 2009* (NSW) (the NPW Regulation).

Section 86 of the NPW Act identifies rules and penalties surrounding harming or desecrating Aboriginal objects and Aboriginal places. These are identified as follows:

- (1) *A person must not harm or desecrate an object that the person knows is an Aboriginal object*

Maximum penalty:

- (a) *in the case of an individual—2,500 penalty units or imprisonment for 1 year, or both, or (in circumstances of aggravation) 5,000 penalty units or imprisonment for 2 years, or both, or*

- (b) *in the case of a corporation—10,000 penalty units.*

- (2) *A person must not harm an Aboriginal object.*

Maximum penalty:

- (a) *in the case of an individual—500 penalty units or (in circumstances of aggravation) 1,000 penalty units, or*

- (b) *in the case of a corporation—2,000 penalty units.*

- (4) *A person must not harm or desecrate an Aboriginal place.*

Maximum penalty:

- (a) *in the case of an individual—5,000 penalty units or imprisonment for 2 years, or both, or*

- (b) *in the case of a corporation—10,000 penalty units.*

- (5) *The offences under subsections (2) and (4) are offences of strict liability and the defence of honest and reasonable mistake of fact applies.*

- (6) *Subsections (1) and (2) do not apply with respect to an Aboriginal object that is dealt with in accordance with section 85A.*
- (7) *A single prosecution for an offence under subsection (1) or (2) may relate to a single Aboriginal object or a group of Aboriginal objects.*
- (8) *If, in proceedings for an offence under subsection (1), the court is satisfied that, at the time the accused harmed the Aboriginal object concerned, the accused did not know that the object was an Aboriginal object, the court may find an offence proved under subsection (2).*

Section 87 (1), (2) and (4) of the NPW Act establishes defences against prosecution under s.86. The defences are as follows:

- The harm was authorised by an Aboriginal Heritage Impact Permit (AHIP) (s.87(1)).
- Due diligence was exercised to establish Aboriginal objects will not be harmed (s.87(2)).

Due diligence may be achieved by compliance with requirements set out in the NPW Regulation or a code of practice adopted or prescribed by the NPW Regulation (s.87(3)).

The present ADD follows the Due Diligence Code and aims to establish whether any Aboriginal objects would be harmed by the proposed redevelopment of the subject area, consistent with s.87(2) of the NPW Act.

2.1.2. Environment Protection and Biodiversity Conservation Act 1999

In 2004, a new Commonwealth heritage management system was introduced under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The EPBC Act protects any items listed in the National Heritage List (NHL) and the Commonwealth Heritage List (CHL).

The National Heritage List (NHL) is a list of natural, historic and Indigenous places of outstanding significance to the nation. It was established to protect places that have outstanding value to the nation.

The Commonwealth Heritage List (CHL) was established to protect items and places owned or managed by Commonwealth agencies. The Australian Government Department of Sustainability, Environment, Water, Population and Communities (DSEWPC) is responsible for the implementation of national policy, programs and legislation to protect and conserve Australia's environment and heritage and to promote Australian arts and culture. Approval from the Minister is required for controlled actions which will have a significant impact on items and places included on the NHL or CHL.

2.1.3. State Environmental Planning Policy (Penrith Lakes Scheme) 1989

The subject area is encompassed by the State Environmental Planning Policy (Penrith Lakes Scheme) 1989 (the 'Penrith Lakes SEPP'). The Penrith Lakes SEPP identifies items and areas of local heritage significance and outlines development consent requirements.

Under Section 28(1) of the Penrith Lakes SEPP, development consent is required for:

- (a) *demolishing or moving any of the following or altering the exterior of any of the following (including, in the case of a building, making changes to its detail, fabric, finish or appearance)—*
 - (i) *a heritage item,*
 - (ii) *an Aboriginal object,*
 - (iii) *a building, work, relic or tree within a heritage conservation area,*
- (b) *altering a heritage item that is a building by making structural changes to its interior or by making changes to anything inside the item that is specified in Schedule 5 in relation to the item,*
- (c) *disturbing or excavating an archaeological site while knowing, or having reasonable cause to suspect, that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed,*
- (d) *disturbing or excavating an Aboriginal place of heritage significance,*
- (e) *erecting a building on land—*

- (i) on which a heritage item is located or that is within a heritage conservation area, or
 - (ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance,
- (f) subdividing land—
- (i) on which a heritage item is located or that is within a heritage conservation area, or
 - (ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance.

The ACHA was undertaken to determine whether or not Aboriginal archaeological resources are present within the subject area.

Penrith City Council is currently proposing an amendment to the Penrith Lakes SEPP. The proposed amendment is currently on exhibition until 26 September 2021. If the amendment is implemented, the ADD may need to be updated to consider any changes to the Penrith Lakes SEPP in relation to Aboriginal cultural heritage.

2.1.4. Penrith Development Control Plan 2014

The EP&A Act requires each LGA to produce a Development Control Plan (DCP). Not all LGAs provide information regarding Aboriginal cultural heritage and specific development controls to protect Aboriginal cultural heritage. The subject area is encompassed by the Penrith Development Control Plan 2014.,

Section 7.2 of the Penrith Development Control Plan 2014 addresses Aboriginal cultural heritage. This section identifies the following objective:

To preserve items and sites of Aboriginal archaeological significance located within the City of Penrith.

The following controls relating to Aboriginal cultural heritage are stated in Section 7.2C of the Penrith DCP 2014:

- 1) *If the development, including subdivision, but not strata subdivision, is on land identified as potentially archaeologically sensitive, an archaeological investigation is required with the development application. The Office of Environment and Heritage should be contacted for advice on survey needs and requirements.*
- 2) *Despite (a) above, an archaeological assessment is required if the site area is 5 hectares or more. The archaeological assessment should determine whether or not Aboriginal archaeological resources are present on the site, and where appropriate, identify management principles to be implemented.*
- 3) *The requirements stated in (a) and (b) above will not apply to developments where there is no: a) disturbance of the soil, or b) construction works on the land. For the purposes of this section, any internal or external works to an existing building is not deemed to be construction work.*

The present report is prepared to determine whether or not Aboriginal archaeological resources are present within the subject area and, if appropriate, identify management principles to be implemented, in fulfilment of the controls of Section 7.2C of the Penrith DCP 2014.

Penrith City Council is currently preparing a draft Penrith Lakes Development Control Plan - Stage 1 (Draft DCP). The Draft DCP was on public exhibition from 21 April until 19 May 2021. If adopted, the Draft DCP will replace the current Penrith DCP 2014 as the statutory planning instrument that applies to the subject area. The ADD may need to be updated to consider any controls introduced by the draft DCP in relation to Aboriginal cultural heritage.

2.2. HERITAGE LISTS & REGISTERS

A review of relevant heritage lists and registers was undertaken to determine whether any Aboriginal cultural heritage items are located within the curtilage of, or in proximity to, the subject area.

2.2.1. Australian Heritage Database

The Australian Heritage Database is a database of heritage items included in the World Heritage List, the National Heritage List (NHL), the Commonwealth Heritage list (CHL) and places in the Register of the National

Estate. The list also includes places under consideration, or that may have been considered, for any one of these lists.

A search of the Australian Heritage Database was undertaken on 13 September 2021. The search did not identify any heritage items within the curtilage of the subject area.

2.2.2. NSW State Heritage Inventory

The State Heritage Inventory (SHI) is a database of heritage items in NSW which includes declared Aboriginal Places, items listed on the SHR, listed Interim Heritage Orders (IHOs) and items listed of local heritage significance on a local council's LEP.

A search of the SHI was undertaken on 13 September 2021. The search did not identify any heritage items within the curtilage of the subject area.

2.3. SUMMARY

The statutory context of the subject area is summarised as follows:

- The present ADD follows the Due Diligence Code and aims to establish whether any Aboriginal objects would be harmed by the proposed development of the subject area, thus addressing s.87(2) of the NPW Act, Section 28(1) of the Penrith Lakes SEPP and Section 7.2C of the Penrith DCP 2014.
- Searches of the State Heritage Inventory and Australian Heritage Database did not identify any heritage items within the curtilage of the subject area.



GDA 1994 MGA Zone 56

© 2021. PSMA Australia Ltd, HERE Pty Ltd. ABS. Produced by Urbis Pty Ltd ABN 50 105 256 228, Sep 2021



Project No:P0023242
 Project Manager: Balazs Hansel

- Subject Area
- Hydrology
- Item - General
- Contours

Historical Heritage Items
 89-151 Old Castlereagh Road
 Colliers International

Figure 6 – Historical heritage items

3. ABORIGINAL HERITAGE BACKGROUND

An assessment of Aboriginal cultural heritage within a particular subject area requires an understanding of the archaeological and environmental contexts in which the area is situated. The following is a review and analysis of those contexts for the present subject area.

3.1. ARCHAEOLOGICAL CONTEXT

A summary of background research for Aboriginal cultural heritage resources within and around the subject area is provided below, including search results from the Aboriginal Heritage Information Management System (AHIMS) and consideration of previous archaeological investigations pertinent to the subject area.

3.1.1. Past Aboriginal Land Use

Due to the absence of written records, much of our understanding of Aboriginal life pre-colonisation is informed by the histories documented in the late 18th and early 19th century by European observers. These histories provide an inherently biased interpretation of Aboriginal life both from the perspective of the observer but also through the act of observation. The social functions, activities and rituals recorded by Europeans may have been impacted by the Observer Effect, also known as the Hawthorne Effect. According to the Observer/Hawthorne Effect, individuals will modify their behaviour in response to their awareness of being observed. With this in mind, by comparing/contrasting these early observations with archaeological evidence, it is possible to establish a general understanding of the customs, social structure, languages and beliefs of Aboriginal people (Attenbrow 2010).

The archaeological record provides evidence of the long occupation of Aboriginal people in Australia. Current archaeological establishes occupation of the Australian mainland by as early as 65,000 years before present (BP) (Clarkson et al. 2017). The oldest generally accepted date for a site in the Sydney region is 17,800 BP, recorded in a rock shelter at Shaw's Creek (Nanson et al. 1987), approximately 7.5km north of the present subject area. Older occupation sites along the now submerged coastline would have been flooded around 10,000 years BP, with subsequent occupation concentrating along the current coastlines and rivers (Attenbrow 2010).

Given the early contact with Aboriginal tribes in the Sydney region, more is known about these groups than those which inhabited regional areas. The Aboriginal population in the greater Sydney region at the time of European contact is estimated to have been between around 4000 and 8000 people. It is believed that the Darug (also spelt as Dharug or Daruk) people inhabited areas from the mouth of the Hawkesbury River west to Mount Victoria, taking in areas around Campbelltown, Liverpool, Camden, Penrith and Windsor (Tindale, 1974). The Darug have been described as a woodland people whose diet consisted primarily of hunted land animals, such as kangaroos and emus, and also yams and other roots (Flynn, 1997; Tench 1791). In describing his encounters with the Darug people living near the Hawkesbury River, Tench (1791) noted:

“...they depend but little on fish, as the river yields only mullets, and that their principal support is derived from small animals which they kill, and some roots (a species of wild yam chiefly) which they dig out of the earth”

The archaeological record is limited to materials and objects that were able to withstand degradation and decay. As a result, the most common type of Aboriginal objects remaining in the archaeological record are stone artefacts. Archaeological analyses of these artefacts in their contexts have provided the basis for the interpretation of change in material culture over time. Technologies used for making tools changed, along with preference of raw material. Different types of tools appeared at certain times, for example ground stone hatchets are first observed in the archaeological record around 4,000 BP in the Sydney region (Attenbrow 2010:102). The archaeological record attests to the use of ground edge stone axes by the Darug people in general vicinity of the present subject area (e.g. AHIMS ID# 45-5-5186). After European contact, Aboriginal people of the Cumberland Plain continued to manufacture tools, sometimes with new materials such as bottle glass or ceramics. There are several sites in Western Sydney where flaked glass has been recorded, for example at Prospect (Ngara Consulting 2003).

Based on the above background, it is possible that similar evidence of Aboriginal occupation is present within original and/or intact topsoils within the present subject area.

3.1.2. Local Archaeological Reports

Previous archaeological investigations may provide invaluable information on the spatial distribution, nature and extent of archaeological resources in a given area. While a number of reports relate to the Penrith Lakes area, none directly address the present subject area or area of impact.

3.1.3. AHIMS Database

The Aboriginal Heritage Information Management System (AHIMS) database comprises previously registered Aboriginal archaeological objects and cultural heritage places in NSW and it is managed by the Department of Premier and Cabinet (DPC) under Section 90Q of the NPW Act. 'Aboriginal objects' is the official term used in AHIMS for Aboriginal archaeological sites. The terms 'Aboriginal sites', 'AHIMS sites' and 'sites' are used herein to describe the nature and spatial distribution of archaeological resources in relation to the subject area.

A search of the Aboriginal Heritage Information Management System (AHIMS) was carried out on 14 September 2021 (AHIMS Client Service ID: 622135) for an area of approximately 5km x 5km. A summary of all previously registered Aboriginal sites within the extensive search area is provided in Table 1 and their spatial distribution is shown in Figure 7. The Basic and Extensive AHIMS search results are included in Appendix A. The results of the search are discussed below.

Table 1 – Summary of extensive AHIMS search (AHIMS Client Service ID: 622135)

Site Type	Context	Total	Percentage
Artefact Scatter	Open	30	79%
PAD	Open	3	8%
Artefact Scatter with Contact Site	Open	2	5%
Isolated Find	Open	2	5%
Isolated Find with PAD	Open	1	3%
Total		38	100%

It should be noted that the AHIMS register does not represent a comprehensive list of all Aboriginal objects or sites in a specified area as it lists recorded sites only identified during previous archaeological survey effort. The wider surroundings of the subject area and the region in general have been the subject of various levels and intensity of archaeological investigations during the last few decades. Most registered sites have been identified through targeted, pre-development surveys for infrastructure and maintenance works, with the restrictions on extent and scope of those developments.

The AHIMS search identified no Aboriginal objects or places within the subject area. In the broader search area, a total of 38 Aboriginal objects and no Aboriginal places are registered (see Table 1).

All confirmed sites within the broader search area (i.e. excluding potential archaeological deposits) include stone artefacts. The overwhelming majority of sites include artefact scatters 84% (n=32), with the remainder of confirmed sites including isolated finds 8% (n=3). The densities of artefact scatters vary from small scatters of as few as two objects up to hundreds of objects. The presence of two contact sites within the search area, alongside artefact scatters, is consistent with early European settlement in the area (see Section 3.2.5 below).

The distribution of sites in a landscape may be representative of the interaction between Aboriginal people and their environment. All identified sites within the search area are 'open context' sites, reflecting a lack of rock overhangs in the area. Evidently there are numerous sites associated with terrace above the Nepean River on which the present subject area is located.

The types and distribution of the sites in the area around the subject area indicate widespread land use by Aboriginal people for subsistence purposes. These results reinforce the generic model for the Cumberland Plain, which predicts that Aboriginal objects occur in higher frequency and density near waterways.



GDA 1994 MGA Zone 56

© 2021, PSMA Australia Ltd, HERE Pty Ltd. ABS. Produced by Urbis Pty Ltd ABN 50 105 256 228, Sep 2021



Project No: P0023242

Project Manager: Balazs Hansel

AHIMS Sites in Extensive Search area

89-151 Old Castlereagh Road
Colliers International

- Subject Area
- Artefact Scatter
- Contours
- Artefact Scatter with Contact Site
- Permanent
- Isolated Find
- - Ephemeral
- Isolated Find with PAD
- Hydrology
- PAD

Figure 7 – Map of AHIMS sites in extensive search area

3.1.4. Conclusions Drawn from Archaeological Context

The following conclusions are drawn from the archaeological background information, including AHIMS results and pertinent regional archaeological investigations:

- No Aboriginal objects or Aboriginal places are registered within the subject area.
- No previous studies have been identified that directly address the subject area or area of the proposed works.
- Numerous registered Aboriginal objects are associated with the terrace above the Nepean River on which the present subject area is located.
- The presence of contact sites near the subject area indicates Aboriginal land use overlapped with European settlement in the area.

3.2. ENVIRONMENTAL CONTEXT

The environmental context of a subject area is relevant to its potential for Aboriginal objects and places. Aboriginal objects may be associated with certain landscape features that played a part in the everyday lives and traditional cultural activities of Aboriginal people. Landscape features that are considered indicative of archaeological potential include rock shelters, sand dunes, waterways, waterholes and wetlands. Conversely, disturbance to the landscape after Aboriginal use may reduce the potential for Aboriginal objects and places. An analysis of the landscape within and near to the subject area is provided below.

3.2.1. Topography

Certain landform elements are associated with greater archaeological potential for Aboriginal objects and places. Areas that are located on a ridge top, ridge line or headland, located within 200m below or above a cliff face or within 20m of or in a cave, rock shelter or cave mouth are considered sensitive areas for Aboriginal objects and places.

The subject area has a generally flat topography, rising slightly towards the southern boundary. As discussed in Section 3.2.5 below, this local topography is due to past earthworks within the subject area. The higher ground on the southern boundary is the original elevation. The flat terrain is consistent with its location on a terrace of the Nepean River. The subject area is not associated with any of the archaeologically sensitive topographic features identified above.

3.2.2. Soil Landscape and Geology

Certain soil landscapes and geological features are associated with greater archaeological potential for Aboriginal objects and places. For example, sand dune systems are associated with the potential presence of burials and sandstone outcrops are associated with the potential presence of grinding grooves and rock art. The depth of natural soils is also relevant to the potential for archaeological materials to be present, especially in areas where disturbance is high. In general, as disturbance level increases, the integrity of any potential archaeological resource decreases. However, disturbance might not remove the archaeological potential even if it decreases integrity of the resources substantially.

The NSW Soil and Land Information System (SALIS) provides information on expected soil landscapes within NSW. The subject area is identified as being located entirely within the Richmond soil landscape (Figure 8). The Richmond soil landscape is described as residing on the generally flat Quaternary terraces of the Nepean and Georges Rivers. Underlying geology is Quaternary alluvium consisting of sand, silt and gravels derived from sandstone and shale. Soils are described as poorly structured orange to red clay loams, clays and sands. Deep acid non-calcic brown soils, red earths and red podzolic soils occur on terrace surfaces with earthy sands on terrace edges.

The location of subject area away from the terrace edge suggests the natural soils are likely to be clay loams, which are not conducive to burials.

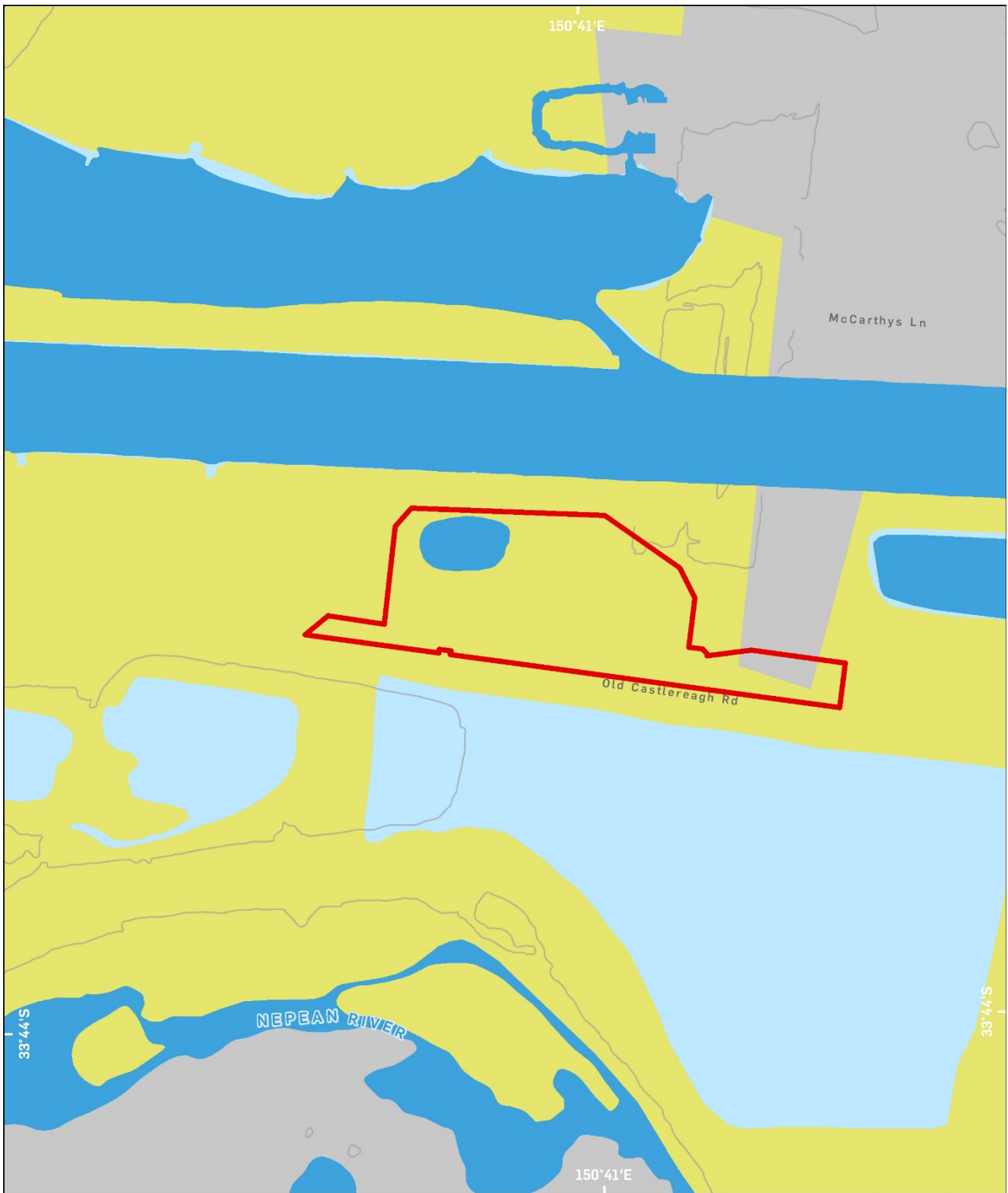
The deep soils associated with terrace surfaces of the Richmond soil landscape may somewhat mitigate the impact of ground disturbing activities on archaeological potential.

3.2.3. Vegetation

The presence of certain types of vegetation within in an area may be indicative of archaeological potential for certain site types, such as modified trees, or more generally of the habitability of an area for Aboriginal people.

Although the subject area includes numerous mature trees, it appears unlikely that the subject area currently includes any remnant vegetation that could include culturally modified trees due to historical land clearance (see Section 3.2.4 below).

Based on its location within the Richmond soil landscape, the natural vegetation of the subject area would likely have consisted of open forest. Original tree species would have included *Toona ciliata* (red cedar), *Ceratopetalum apetulum* (coachwood), *Melaleuca spp.* (paperbarks) and aquatic plants such as *Typha orientalis* (cumbungi), *Cyperus spp.* and *Phragmites australis* (common reed). The variety of floral and faunal species in the subject area could have been utilised by Aboriginal people for medicinal, ceremonial and subsistence purposes.



GDA 1994 MGA Zone 56

© 2021. PSMA Australia Ltd, HERE Pty Ltd, ABS, Produced by Urbis Pty Ltd ABN 50 105 256 228, Sep 2021



SOIL LANDSCAPES AND HYDROLOGY

89-151 Old Castlereagh Road
Colliers International

Project No: P0023242

Project Manager: Balazs Hansel

- Subject Area
- Permanent
- Alluvial (ALri)
- Alluvial (ALup)
- Disturbed Terrain (DTxx)
- Water
- Hydrology
- Hydrology 200m Buffer
- Contours

Figure 8 – Soil Landscapes and Hydrology

3.2.4. Hydrology

Proximity to a body of water is a factor in determining archaeological potential. Areas within 200m of the whole or any part of a river, stream, lake, lagoon, swamp, wetlands, natural watercourse or the high-tide mark of shorelines (including the sea) are considered sensitive areas for Aboriginal objects and places.

The subject area is located approximately 500m north of the current course of the Nepean River, on a terrace at a bend in the river (Figure 8). Typical of the terrace landform, the area around the present subject area likely included various channels cutting across the bend. An aerial photograph of subject area from 1961 (Figure 9) shows the meandering course of a natural waterway running in a south-east to north-west direction through subject area. The blue shading in Figure 9 indicates the portion of the subject area within 200m of that waterway. As is evident from Figure 9, the majority of the subject is within 200m of water and therefore the hydrology of the subject area is indicative of past Aboriginal land use.

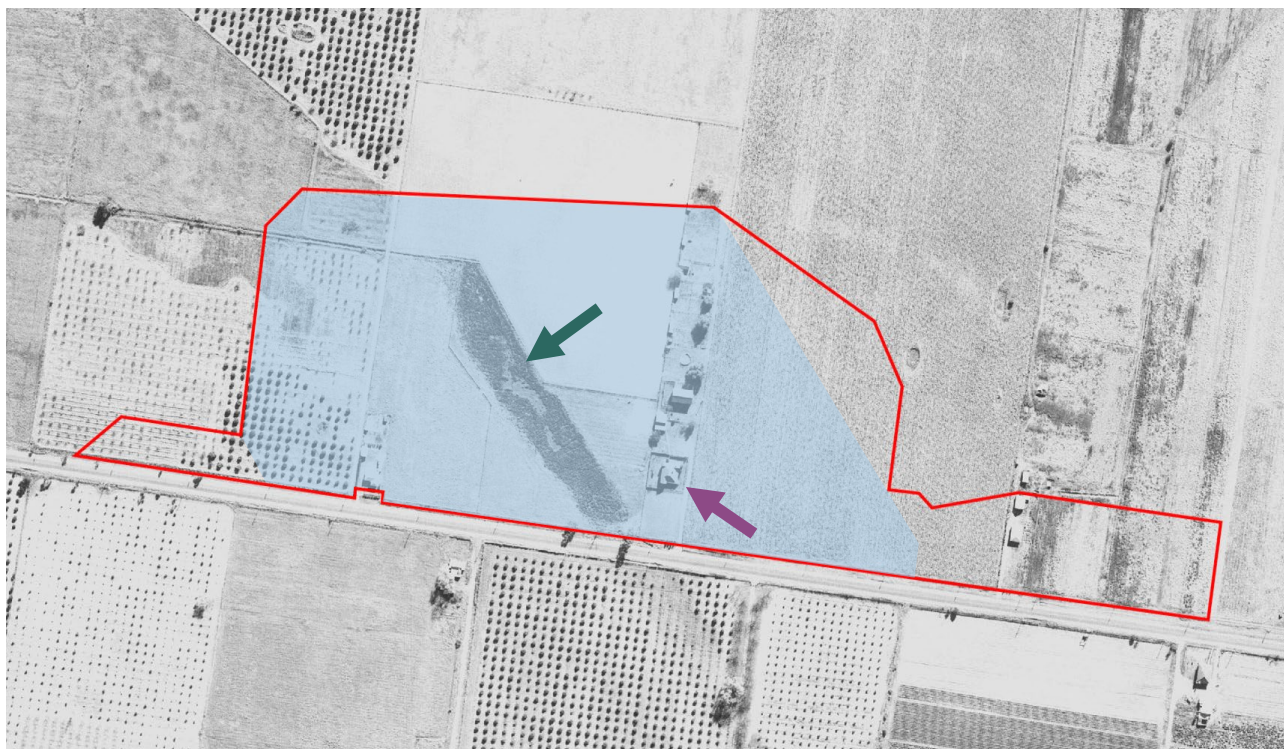


Figure 9 – Aerial photograph of subject area (outlined in red) from 1961 showing a natural waterway (dark green arrow), the portion of the subject area within 200m of water (blue shading) and the extant single storey cottage (purple arrow).

Source: NSW Government Spatial Services, Historical Imagery Viewer

3.2.5. Historical Ground Disturbance

Historical ground disturbance, either through human activity (e.g. soil ploughing, construction of buildings and clearing of vegetation) or natural processes (e.g. erosion), can reduce the archaeological potential of a site. Ground disturbance may reduce the spatial and vertical integrity of archaeological resources and expose sub-surface deposits.

European settlement in the Castlereagh and Penrith region began as early as 1800, with squatters taking up residence near the Nepean River (Campbell 1932:252). Governor King sanctioned settlement in the area and land grants followed in 1803 (Campbell 1932:252). As shown in a map of the Parish of Castlereagh from 1951 (Figure 10), the present subject area formed part of a 1300-acre land grant made to William Neate Champman, secretary to Governor King, in 1804 (Campbell 1932:259-260). Given the name “Lambridge Farm”, it was bought by John McHenry in 1829 (Campbell 1932:260).

It is evident from the aerial photograph of the subject area from 1961 (Figure 9) that farming continued within the subject area at least until the mid-20th century. It can be seen that the majority of the subject area was utilised as agricultural fields, with three evenly spaced narrow strips of buildings running perpendicular to Old Castlereagh Road. The single-storey cottage that currently remains within the subject area is indicated in Figure 9. The subject area had been cleared of most, if not all, natural vegetation by this time.

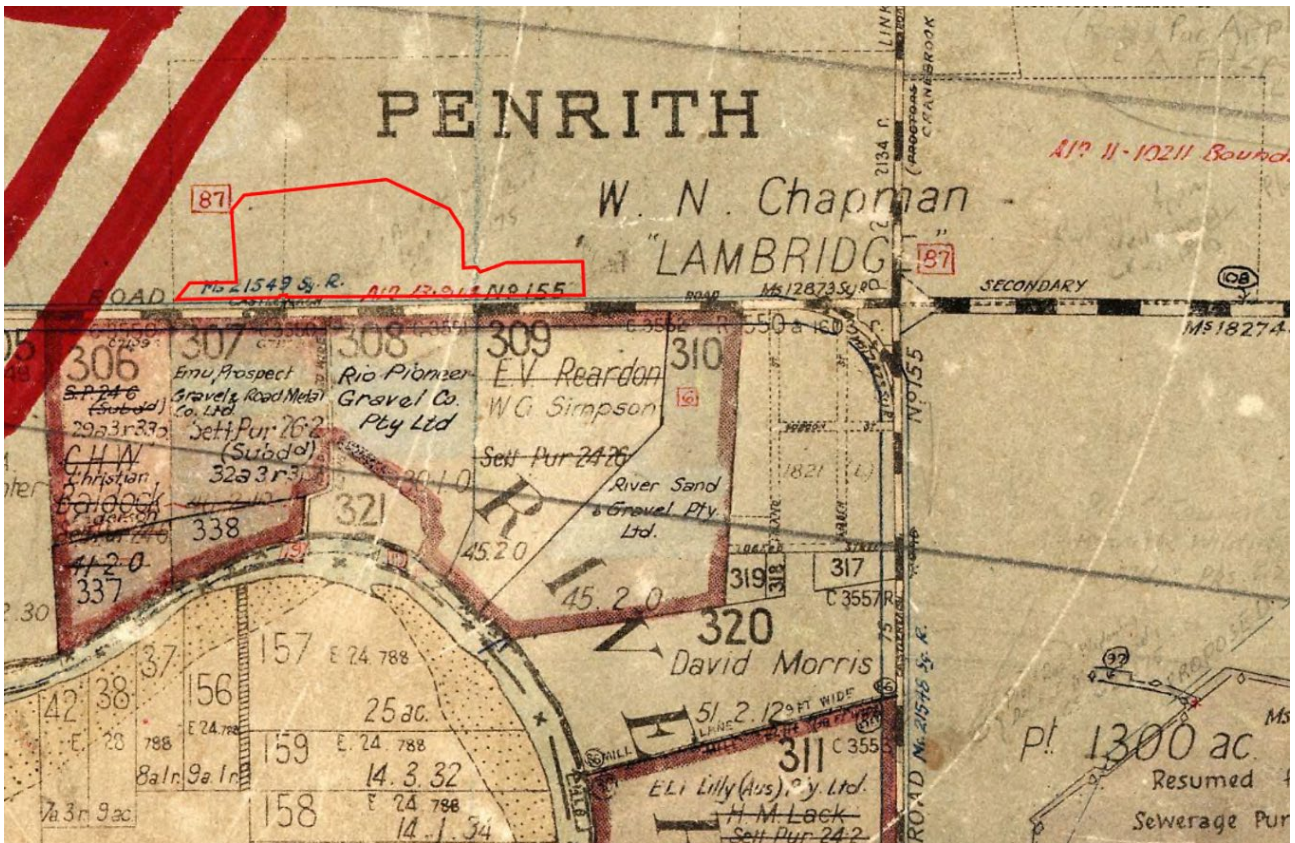


Figure 10 – Detail of map of the Parish of Castlereagh, 1951 (subject area outline in red)
 Source: NSWLRS Historical Parish Maps



Figure 11 – Aerial photograph of subject area (outlined in red), 1984; the arrow indicates the extant single storey cottage
 Source: NSW Government Spatial Services, Historical Imagery Viewer



Figure 12 – Aerial photograph of subject area (outlined in red), 1986; the arrow indicates the extant single storey cottage
Source: NSW Government Spatial Services, Historical Imagery Viewer

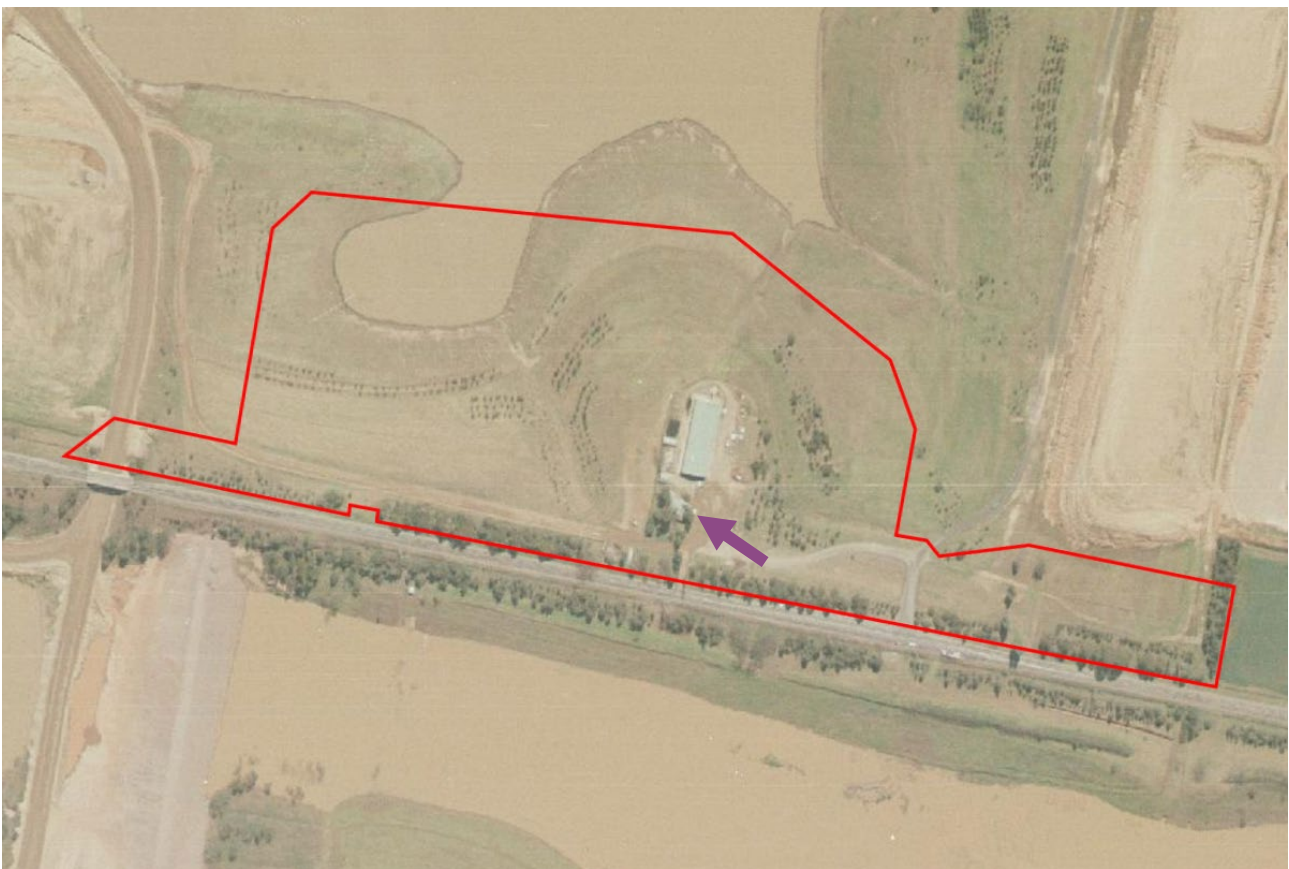


Figure 13 – Aerial photograph of subject area (outlined in red), 1991; the arrow indicates the extant single storey cottage
Source: NSW Government Spatial Services, Historical Imagery Viewer

By the mid-1980s the subject area had undergone a significant transformation. An aerial photograph of the subject area from 1984 (Figure 11) shows excavation works associated with the Penrith Lakes Scheme underway across the majority of the subject area. These excavation works would have caused high levels of ground disturbance to significant depths. The only parts of the subject area unaffected by the earthworks at this stage are along the southern boundary, a small portion jutting out from the southern boundary where the extant single-storey cottage is located, the north-western portion and the eastern portion (Lot 19 DP1013504). However, by 1986 (Figure 12) the earthworks have extended to include the north-western corner and eastern portion.

By 1991 the existing dam has been constructed in the north-western corner of the subject area. With the exception of the extant single-storey cottage, all earlier buildings have been demolished. The existing shed to the north of the single-storey cottage has been erected by this time. Replanting can be seen across subject area. Comparison of Figure 12 with a current satellite image of the subject area (Figure 2) shows that the further changes are confined the portion of the subject area impacted by earthworks. These changes include construction of a number of additional buildings and associated driveways.

It is evident that the subject area has been subjected to varying degrees of ground disturbance since the early 19th century. Agricultural activities and the construction of small residential and ancillary buildings up to the mid to late-20th century are likely to have caused moderate ground disturbance across the entire subject area. Subsequent earthworks associated with the Penrith Lakes Scheme caused high levels of ground disturbance across most of the subject area, eliminating any potential for Aboriginal objects to be retained. The construction of the main dwelling, associated sheds, structures and infrastructure is determined to have caused extensive disturbance to topsoil outside the quarried area, also significantly reducing the potential for Aboriginal objects to be retained.

3.2.6. Conclusions Drawn from Environmental Context

The following conclusions are drawn from the above assessment of the environmental context of the subject area:

- The majority of the subject area are located within 200m of a former natural waterway, indicative of likely past Aboriginal land use.
- Deep soils within the subject area may somewhat mitigate the deleterious effects of some lower impact ground disturbing activities.
- Quarrying is determined to have caused high levels of ground disturbance across most of the subject area, eliminating the potential for Aboriginal objects to be retained.
- The construction of the main dwelling, associated sheds, structures and infrastructure is determined to have caused extensive disturbance to topsoil outside the quarried area, significantly reducing archaeological potential.

3.3. VISUAL INSPECTION

A visual inspection of the subject area was undertaken by Balazs Hansel (Urbis Associate Director, Archaeology) on 13 September 2021.

No Aboriginal objects were identified during the visual inspection.

The visual inspection found evidence of high levels of ground disturbance within the subject area. An exposed area approximately 60m north-west of the single storey cottage revealed no natural soil stratigraphy (Figure 14). Mounding around trees (Figure 15) near to the exposed soil profile also evidenced historical earthworks in the area. Both these areas are located within the area of high ground disturbance. No evidence of a high level of ground disturbance was observed in the immediate vicinity of the single storey cottage (Figure 16) or along the southern boundary (Figure 17).

The visual inspection confirms the desktop assessment of high levels of ground disturbance within the subject area, with localised areas of moderate ground disturbance.



Figure 14 – Exposed redeposited clay north-west of single storey cottage



Figure 15 – Mounding of soil at base of trees north-west of single storey cottage



Figure 16 – View west to single storey cottage



Figure 17 – View west of area south of single storey cottage

3.4. PREDICTIVE MODEL

A predictive model may be used to estimate the nature and distribution of evidence of Aboriginal land use in a subject area. A predictive model should consider variables that may influence the location, distribution and density of sites, features or artefacts within a subject area. Variables typically relate to the environment and topography, such as soils, landscape features, slope, landform and cultural resources.

The general process archaeologists employ to determine the likelihood of any particular site type (artefact scatter, shelter, midden etc) occurring within a given subject area requires the synthesis of information for general distribution of archaeological sites within the wider area including:

- Detailed analysis of previous archaeological investigations within the same region.
- Presence or absence of landscape features that present potential for archaeological resources (human occupation, use) such as raised terraces adjacent to permeant water.
- Analysis of the geology and soil landscape within the subject area which allows for a determination to be made of the type of raw material that would have been available for artefact production (silcrete, tuff, quartz etc) and the potential for the accumulation of archaeological resource within the subject area.
- Investigation of and determination of the level of disturbance/historical land use within the subject area which may impact on or remove entirely any potential archaeological material.

An indicative process of determining the likelihood of a given site occurring within a subject area is provided in Table 2 below.

Table 2 – Indicative process for determining the potential presence of a site

Likelihood	Indicative subject area context	Indicative action
High	Low level of ground disturbance in combination with at least one archaeologically sensitive landscape feature or Aboriginal object (either registered or newly identified) within the subject area.	Detailed archaeological investigation including but not limited to survey, test excavation and potentially (depending on density and/or significance of archaeological deposit) salvage excavation.
Moderate	Moderate level of ground disturbance in combination with at least one archaeologically sensitive landscape feature or Aboriginal object (either registered or newly identified) within the subject area.	Detailed archaeological investigation including but not limited to survey, test excavation and potentially (depending on density and/or significance of archaeological deposit) salvage excavation.
Low	High level of ground disturbance in combination with at least one archaeologically sensitive landscape feature or Aboriginal object (either registered or newly identified) within the subject area.	Employ chance finds procedure and works can continue without further archaeological investigation.
Nil	Complete ground disturbance (i.e. complete removal of natural soil landscape); or no archaeologically sensitive landscape features and no archaeological sites within subject area.	Employ chance finds procedure and works can continue without further archaeological investigation.

3.4.1. Typical Site Types

A range of Aboriginal site types are known to occur within New South Wales. Site types that are typically encountered in the Cumberland Plain are described below.

Art sites can occur in the form of rock engravings or pigment on sandstone outcrops or within shelters. An engraving is some form of image which has been pecked or carved into a rock surface. Engravings typically vary in size and nature, with small abstract geometric forms as well as anthropomorphic figures and animals also depicted. In the Sydney region engravings tend to be located on the tops of Hawkesbury Sandstone ridges where vistas occur. Pigment art is the result of the application of material to a stone to leave a distinct impression. Pigment types include ochre, charcoal and pipeclay. Pigment art within the Sydney region is usually located in areas associated with habitation and sustenance.

Artefact Scatters/Camp Sites represent past Aboriginal subsistence and stone knapping activities and include archaeological remains such as stone artefacts and hearths. This site type usually appears as surface scatters of stone artefacts in areas where vegetation is limited, and ground surface visibility increases. Such scatters of artefacts are also often exposed by erosion, agricultural events such as ploughing, and the creation of informal, unsealed vehicle access tracks and walking paths. These types of sites are often located on dry, relatively flat land along or adjacent to rivers and creeks. Camp sites containing surface or subsurface deposit from repeated or continued occupation are more likely to occur on elevated ground near the most permanent, reliable water sources. Flat, open areas associated with creeks and their resource-rich surrounds would have offered ideal camping areas to the Aboriginal inhabitants of the local area.

Bora / Ceremonial Sites are locations that have spiritual or ceremonial values to Aboriginal people. Aboriginal ceremonial sites may comprise natural landforms and, in some cases, will also have archaeological material. Bora grounds are a ceremonial site type, usually consisting of a cleared area around one or more raised earth circles, and often comprised of two circles of different sizes, connected by a pathway, and accompanied by ground drawings or mouldings of people, animals or deities, and geometrically carved designs on the surrounding trees.

Burials of the dead often took place relatively close to camp site locations. This is due to the fact that most people tended to die in or close to camp (unless killed in warfare or hunting accidents), and it is difficult to move a body long distance. Soft, sandy soils on, or close to, rivers and creeks allowed for easier movement of earth for burial; and burials may also occur within rock shelters or middens. Aboriginal burial sites may be marked by stone cairns, carved trees or a natural landmark. Burial sites may also be identified through historic records or oral histories.

Contact Sites are most likely to occur in locations of Aboriginal and settler interaction, such as on the edge of pastoral properties or towns. Artefacts located at such sites may involve the use of introduced materials such as glass or ceramics by Aboriginal people or be sites of Aboriginal occupation in the historical period.

Grinding Grooves are the physical evidence of tool making or food processing activities undertaken by Aboriginal people. The manual rubbing of stones against other stones creates grooves in the rock; these are usually found on flat areas of abrasive rock such as sandstone. They may be associated with creek beds, or water sources such as rock pools in creek beds and on platforms, as water enables wet-grinding to occur.

Isolated Finds represent artefactual material in singular, one off occurrences. Isolated finds are generally indicative of stone tool production, although can also include contact sites. Isolated finds may represent a single item discard event or be the result of limited stone knapping activity. The presence of such isolated artefacts may indicate the presence of a more extensive, in situ buried archaeological deposit, or a larger deposit obscured by low ground visibility. Isolated artefacts are likely to be located on landforms associated with past Aboriginal activities, such as ridgelines that would have provided ease of movement through the area, and level areas with access to water, particularly creeks and rivers.

Middens are indicative of Aboriginal habitation, subsistence and resource extraction. Midden sites are expressed through the occurrence of shell deposits of edible shell species often associated with dark, ashy soil and charcoal. Middens often occur in shelters, or in eroded or collapsed sand dunes. Middens occur along the coast or in proximity to waterways, where edible resources were extracted. Midden may represent a single meal or an accumulation over a long period of time involving many different activities. They are also often associated with other artefact types.

Modified Trees are evidence of the utilisation of trees by Aboriginal people for various purposes, including the construction of shelters (huts), canoes, paddles, shields, baskets and bowls, fishing lines, cloaks, torches and bedding, as well as being beaten into fibre for string bags or ornaments. The removal of bark exposes the

heart wood of the tree, resulting in a scar. Trees may also have been scarred in order to gain access to food resources (e.g. cutting toeholds so as to climb the tree and catch possums or birds), or to mark locations such as tribal territories. Such scars, when they occur, are typically described as scarred trees. These sites most often occur in areas with mature, remnant native vegetation. The locations of scarred trees often reflect an absence of historical clearance of vegetation rather than the actual pattern of scarred trees. Carved trees are different from scarred trees, and the carved designs may indicate totemic affiliation; they may also have been carved for ceremonial purposes or as grave markers.

Potential Archaeological Deposits (PADs) are areas where there is no surface expression of stone artefacts, but due to a landscape feature there is a strong likelihood that the area will contain buried deposits of stone artefacts. Landscape features which may feature in PADs include proximity to waterways, particularly terraces and flats near third order streams and above; ridge lines, ridge tops and sand dune systems.

Shelters are places of Aboriginal habitation. They take the form of rock overhangs which provided shelter and safety to Aboriginal people. Suitable overhangs must be large and wide enough to have accommodated people with low flooding risk. Due to the nature of these sites, with generic rock overhangs common particularly in areas with an abundance of sandstone, their use by Aboriginal people is generally confirmed through the correlation of other site types including middens, art, PAD and/or artefactual deposits.

3.4.2. Assessment of Archaeological Potential

The likelihood of the site types described in 3.4.1 above occurring within the present subject area is assessed in Table 3 below. The assessed archaeological potential in relation to the proposed works is mapped in Figure 18 and Figure 19.

Table 3 – Predictive Model

Site type	Assessment	Potential
Art	The subject area does not include any visible sandstone outcrops or rock overhangs that would be indicative of the potential for rock art (Section 3.2.1). The likelihood of any concealed rock overhangs or sandstone outcrops being present within the subject area is considered to be low.	Nil in areas subject to quarrying. Low in all other areas.
Artefact Scatters / Campsites	The majority of the subject area is located within 200m of a former natural waterway (Section 3.2.4), indicative of likely past Aboriginal use. High levels of historical ground disturbance across most of the subject area are likely to have significantly impacted the integrity of natural soil profiles, eliminating the potential for artefact scatters / campsites (Section 3.2.5). However, localised areas of moderate ground disturbance retain low-moderate potential for artefact scatters / campsites.	Nil in areas subject to quarrying. Low-Moderate in all other areas.
Bora / Ceremonial	The majority of the subject area is located within 200m of a former natural waterway (Section 3.2.4), indicative of likely past Aboriginal use. However, as bora / ceremonial sites are particularly susceptible to ground disturbance, the moderate to high levels of ground disturbance caused by historical activities across the subject area (Section 3.2.5) are likely to have eliminate or significantly reduced the potential for bora / ceremonial sites.	Nil in areas subject to quarrying. Low in all other areas.
Burials	Although the majority of the subject area is located within 200m of a former natural waterway (Section 3.2.4), the clay loams of the Richmond soil landscape in which the subject area is located area are not conducive to burials (Section 3.2.2).	Nil in areas subject to quarrying. Low in all other areas.

Site type	Assessment	Potential
Contact site	The subject area is located within an area of early European settlement (Section 3.2.5). High levels of historical ground disturbance across most of the subject area are likely to have significantly impacted the integrity of natural soil profiles, eliminating the potential for contact sites (Section 3.2.5). However, localised areas of moderate ground disturbance retain low-moderate potential for contact sites.	Nil in areas subject to quarrying. Low-Moderate in all other areas.
Grinding Grooves	The subject area does not include any visible sandstone outcrops that would be indicative of the potential for grinding grooves (Section 3.2.1). The likelihood of any concealed sandstone outcrops being present within the subject area is considered to be low.	Nil in areas subject to quarrying. Low in all other areas.
Isolated Finds	The majority of the subject area is located within 200m of a former natural waterway (Section 3.2.4), indicative of likely past Aboriginal use. High levels of historical ground disturbance across most of the subject area are likely to have significantly impacted the integrity of natural soil profiles, eliminating the potential for isolated finds (Section 3.2.5). However, localised areas of low-moderate ground disturbance retain moderate potential for isolated finds.	Nil in areas subject to quarrying. Low-Moderate in all other areas.
Midden	Although the majority of the subject area is located within 200m of a former natural waterway (Section 3.2.4), it is unlikely that the lower order stream that ran through the subject area would have been a significant source of shellfish that may have contributed to a midden. Furthermore, there are no middens registered within proximity to the subject area (Section 3.1.3).	Nil in areas subject to quarrying. Low in all other areas.
Modified Trees	The subject area is unlikely to retain any modified trees as historical development of the subject area has resulted in clearance of all vegetation (Section 3.2.3).	Nil in areas subject to quarrying. Low in all other areas.
PAD	The majority of the subject area is located within 200m of a former natural waterway (Section 3.2.4), indicative of likely past Aboriginal use. High levels of historical ground disturbance across most of the subject area are likely to have significantly impacted the integrity of natural soil profiles, eliminating the potential for archaeological deposits (Section 3.2.5). However, localised areas of moderate ground disturbance retain low-moderate potential for archaeological deposits.	Nil in areas subject to quarrying. Low-Moderate in all other areas.
Shelters	The subject area does not include any visible rock overhangs that would be indicative of the potential for shelters (Section 3.2.1). The likelihood of any concealed rock overhangs being present within the subject area is considered to be low.	Nil in areas subject to quarrying. Low in all other areas.

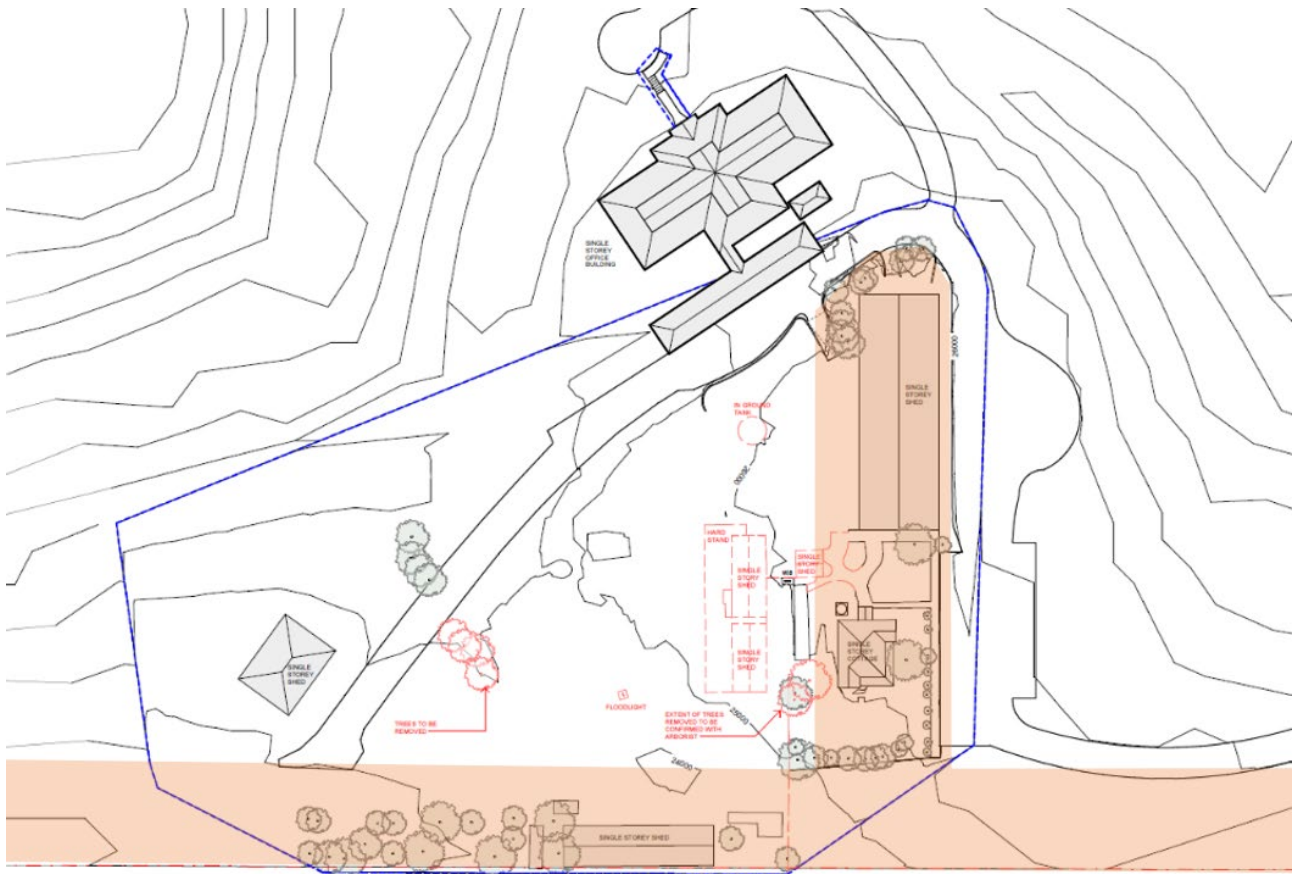


Figure 18 – Area of low-moderate archaeological potential (shaded orange) within area of proposed demolition works



Figure 19 – Area of low-moderate archaeological potential (shaded orange) within area of proposed construction works

3.5. SUMMARY

The assessments of the archaeological and environmental contexts of the subject area are summarised as follows:

- No Aboriginal objects or Aboriginal places are registered within the subject area or identified as being located within the subject area in previous studies.
- The majority of the subject area are located within 200m of a former natural waterway, indicative of likely past Aboriginal land use.
- However, quarrying is determined to have caused high levels of ground disturbance, eliminating any archaeological potential across most of the subject area.
- The construction of the main dwelling, associated sheds, structures and infrastructure is determined to have caused extensive disturbance to topsoil outside the quarried area, significantly reducing archaeological potential.
- Based on the assessment of the archaeological and environmental context, the subject area is determined to have **nil-low potential** for Aboriginal objects within the area impacted by the proposed works.
- Outside the quarried area the archaeological potential is determined to be low-moderate, but the works proposed for that area will not cause any disturbance below the already disturbed topsoil.

4. DUE DILIGENCE ASSESSMENT

4.1. OVERVIEW OF DUE DILIGENCE PROCESS

The NPW Act provides statutory protection for Aboriginal objects and places in NSW. Section 87 (2), Part 6 of the NPW Act ensures that a person who exercises 'due diligence' in determining that their actions will not harm Aboriginal objects has a defence against prosecution for the strict liability offence, outlined by Section 86 of Part 6 of the NPW Act, if they later unknowingly harm an object without an Aboriginal Heritage Impact Permit (AHIP).

The Due Diligence Code (DECCW, 2010) was developed to help individuals and/or organisations to establish whether certain activities have the potential to harm Aboriginal objects within a given proposed activity footprint. Following the generic due diligence process (Figure 3), which is adopted by the NPW Regulation, would be regarded as 'due diligence' and consequently would provide a defence under the NPW Act.

The due diligence process outlines a set of practicable steps for individuals and organisations to:

1. Identify whether or not Aboriginal objects are, or likely to be, present in an area.
2. Determine whether or not their activities are likely to harm Aboriginal objects (if present).
3. Determine whether an AHIP application is required to carry out the harm.

The present assessment follows the steps of the due diligence process and provides clear and concise answers. Where necessary the present assessment provides detailed description to every aspect of the due diligence code to ensure the compliance of the proposed development and assessment of any Aboriginal heritage constraints.

4.2. IS THE ACTIVITY A LOW IMPACT ACTIVITY FOR WHICH THERE IS A DEFENCE IN THE REGULATIONS?

NO.

The NPW Regulation removes the need to follow the due diligence process if the proposed activity is a low impact activity which is prescribed as a defence against prosecution for an offence under section 86(2) of the NPW Act. The following low impact activities are prescribed in the NPW Regulation:

- Certain maintenance work on land that has been disturbed.
- Certain farming and land management work on land that has been disturbed.
- Farming and land management work that involved the maintenance of certain existing infrastructure.
- The grazing of animals.
- An activity on land that has been disturbed that comprises exempt development or was the subject of a complying development certificate issued under the *Environmental Planning and Assessment Act 1979*.
- Certain mining exploration work on land that has been disturbed.
- Certain geophysical work.
- The removal of isolated, dead or dying vegetation, but only if there is minimal disturbance to the surrounding ground surface.
- Seismic surveying on land that has been disturbed,
- The construction and maintenance of ground water monitoring bores on land that has been disturbed.
- Environmental rehabilitation work including temporary silt fencing, tree planting, bush regeneration and weed removal, but not including erosion control or soil conservation works (such as contour banks).

It is important to note that this defence does not apply to situations where you already know there is an Aboriginal object and does not authorise harm to known Aboriginal objects.

The proposed works include demolition of two single storey sheds and integrated hardstand extending beyond the footprint of the sheds, demolition of one small single storey shed and associated pavement, removal of one inground tank, removal of one flood light, removal of up to 10 trees, reinstatement of grass turf in locations of removed hardstands and pavement, installation of new concrete hardstand in the location of the existing concrete hardstands and installation of new lighting as required for the final approach and take-off area ('FATO') (Section 1.2).

The proposed works are therefore not low impact activities for which a defence against prosecution under section 86(2) of the NPW Act is prescribed under the NPW Regulation.

4.3. STEP 1 – WILL THE ACTIVITY DISTURB THE GROUND SURFACE?

YES.

The proposed works include demolition of two single storey sheds and integrated hardstand extending beyond the footprint of the sheds, demolition of one small single storey shed and associated pavement, removal of one inground tank, removal of one flood light, removal of up to 10 trees, reinstatement of grass turf in locations of removed hardstands and pavement, installation of new concrete hardstand in the location of the existing concrete hardstands and installation of new lighting as required for the final approach and take-off area ('FATO') (Section 1.2).

It is understood that the demolition of existing buildings, pavement and hardstand will be down to the ground surface and that new installations will not significantly disturb the ground surface. However, the removal of the inground tank and tress will disturb the ground surface.

4.4. STEP 2A – ARE THERE ANY RELEVANT CONFIRMED SITE RECORDS OR OTHER ASSOCIATED LANDSCAPE FEATURE INFORMATION ON AHIMS?

NO.

There are no Aboriginal objects or Aboriginal places registered within the curtilage of the subject area (see Section 3.1.3). There is no information recorded in the AHIMS database about landscape features of relevance to the determining the presence of Aboriginal objects or Aboriginal places within the subject area (see Section 3.1.3).

4.5. STEP 2B – ARE THERE ANY OTHER SOURCES OF INFORMATION OF WHICH A PERSON IS AWARE?

NO.

The Due Diligence Code requires identification of any other sources of information, such as previous studies, reports or surveys, relevant to identifying the presence of Aboriginal objects within the subject area. No other sources of information have been identified that indicate the presence or likely presence of Aboriginal objects or Aboriginal places within the subject area (see Section 3.1.2).

4.6. STEP 2C – ARE THERE ANY LANDSCAPE FEATURES THAT ARE LIKELY TO INDICATE THE PRESENCE OF ABORIGINAL OBJECTS?

NO.

The Due Diligence Code specifies the following landscape features are indicative of the likely presence of Aboriginal objects: areas within 200 m of waters including freshwater and the high tide mark of shorelines; areas located within a sand dune system; areas located on a ridge top, ridge line or headland; areas located within 200m below or above a cliff face; and areas within 20m of or in a cave, rock shelter, or a cave mouth.

The Due Diligence Code further specifies that the above landscape features are of relevance only if the subject area has not been subjected to ground disturbance. According to the Due Diligence Code, land is disturbed if it has been the subject of a human activity that has changed the land's surface, being changes that remain clear and observable. Examples of disturbance include ploughing, construction of rural infrastructure (such as dams and fences), construction of roads, trails and tracks (including fire trails and tracks and walking tracks), clearing vegetation, construction of buildings and the erection of other structures, construction or installation of utilities and other similar services (such as above or below ground electrical infrastructure, water or sewerage pipelines, stormwater drainage and other similar infrastructure) and construction of earthworks.

The majority of the subject area is located within 200m of a natural waterway, indicative of likely past Aboriginal land use (see Section 3.2.4 above). However, the entire subject area has been impacted by moderate to high levels of ground disturbance due to quarrying, the construction and demolition of buildings and associated infrastructure and agricultural activities (Section 3.2.5). These activities have significantly impacted the integrity of natural soil profiles, greatly reducing archaeological potential (Section 3.2.5). Therefore, there are no landscape features likely to indicate the presence of Aboriginal objects due to historical ground disturbance.

4.7. STEP 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.

The Due Diligence Code specifies that this step only applies if the proposed activity is on land that is not disturbed or contains known Aboriginal objects. The desktop assessment confirmed that there are no Aboriginal objects listed on AHIMS or identified by other sources of information within the subject area (see Sections 3.1.2 and 3.1.3 above). Furthermore, historical development and utilisation of the subject area is determined to have caused high levels of ground disturbance across most of the subject area, with localised areas of moderate ground disturbance (see Section 3.2.5 above). As the proposed activity is on land that is disturbed and does not contain known Aboriginal objects, there is no need to consider this step in undertaking the ADD.

4.8. STEP 4 – DOES THE DESKTOP ASSESSMENT AND VISUAL INSPECTION CONFIRM THAT THERE ARE ABORIGINAL OBJECTS OR THAT THEY ARE LIKELY?

N/A.

The Due Diligence Code specifies that this step only applies if the proposed activity is on land that is not disturbed or contains known Aboriginal objects. The desktop assessment confirmed that there are no Aboriginal objects listed on AHIMS or identified by other sources of information within the subject area (see Sections 3.1.2 and 3.1.3 above). Furthermore, historical development and utilisation of the subject area is determined to have caused high levels of ground disturbance across most of the subject area, with localised areas of moderate ground disturbance (see Section 3.2.5 above). As the proposed activity is on land that is disturbed and does not contain known Aboriginal objects, there is no need to consider this step in undertaking the ADD.

4.9. OUTCOME OF DUE DILIGENCE ASSESSMENT

In accordance with the due diligence process described in the Due Diligence Code and outlined in Figure 3, the above assessment has determined that no further investigation is required for the subject area because the proposed activities will avoid archaeologically sensitive landscape features.

However, the outcome of the ADD does not automatically negate the issued SEARs in relation to Aboriginal heritage, which require preparation of an Aboriginal Cultural Heritage Assessment Report and consultation with Aboriginal people. Urbis therefore recommends that a request be filed with the Department of Planning, Industry and Environment to waive the Aboriginal heritage SEARs based on the outcome of the ADD.

If the waiver is granted, Urbis recommends that the proposed works may proceed with caution, subject to chance find procedures described in Section 5 below being implemented and followed.

5. CONCLUSIONS AND RECOMMENDATIONS

The present report was prepared to investigate whether development of the subject area has the potential to harm Aboriginal objects and/or places that may exist within the subject area. The assessment was undertaken in accordance with the Due Diligence Code, and included the following:

- Search of the Aboriginal Heritage Information Management System (AHIMS) register.
- Searches of statutory and non-statutory heritage listings.
- Analysis of previously conducted archaeological assessments in the vicinity of the subject area.
- Visual inspection of the subject area.
- Landscape analysis.
- Analysis of historical land use and its impact on the subject area.

The assessment concluded that:

- No Aboriginal objects or Aboriginal places are registered within the subject area or identified as being located within the subject area in previous studies.
- The majority of the subject area are located within 200m of a former natural waterway, indicative of likely past Aboriginal land use.
- However, quarrying is determined to have caused high levels of ground disturbance, eliminating any archaeological potential across most of the subject area.
- The construction of the main dwelling, associated sheds, structures and infrastructure is determined to have caused extensive disturbance to topsoil outside the quarried area, significantly reducing archaeological potential.
- Based on the assessment of the archaeological and environmental context, the subject area is determined to have **nil-low potential** for Aboriginal objects within the area impacted by the proposed works.
- Outside the quarried area the archaeological potential is determined to be low-moderate, but the works proposed for that area will not cause any disturbance below the already disturbed topsoil.
- The Due Diligence Code therefore does not require further archaeological assessment of the subject area.
- The SEARs nevertheless require preparation of an Aboriginal Cultural Heritage Assessment Report and consultation with Aboriginal people.

Based on the above conclusions, Urbis recommends the following:

- This ADD report should be kept as evidence of the Due Diligence Process having been applied to the subject area.
- Based on the above conclusions, Urbis recommends that the proposed works under the revised scope can proceed with the Archaeological Finds Procedure in place.
- A request should be filed with the Department of Planning, Industry and Environment to waive the Aboriginal heritage SEARs based on the outcome of the ADD.
- If a waiver is granted, the development may proceed with caution, subject to the following archaeological chance finds and human remains procedures being implemented and followed:

Archaeological Finds Procedure

Should any archaeological deposits be uncovered during any site works, the following steps must be followed:

1. All works within the vicinity of the find must immediately stop. The find must not be moved 'out of the way' without assessment.
2. The site supervisor or another nominated site representative must contact either the project archaeologist (if relevant) or Heritage NSW (Enviroline 131 555) to contact a suitably qualified archaeologist.

3. The nominated archaeologist must examine the find, provide a preliminary assessment of significance, record the item and decide on appropriate management measures. Such management may require further consultation with Heritage NSW, preparation of a research design and archaeological investigation/salvage methodology and registration of the find with the Aboriginal Heritage Information Management System (AHIMS).
4. Depending on the significance of the find, reassessment of the archaeological potential of the subject area may be required and further archaeological investigation undertaken.
5. Reporting may need to be prepared regarding the find and approved management strategies.
6. Works in the vicinity of the find can only recommence upon receipt of approval from Heritage NSW.

Human Remains Procedure

In the unlikely event that human remains are uncovered during the proposed works, the following steps must be followed:

1. All works within the vicinity of the find must immediately stop.
2. The site supervisor or other nominated manager must notify the NSW Police and Heritage NSW (Enviroline 131 555).
3. The find must be assessed by the NSW Police, which may include the assistance of a qualified forensic anthropologist.
4. Management recommendations are to be formulated by the NSW Police, Heritage NSW and site representatives.
5. Works are not to recommence until the find has been appropriately managed.

6. REFERENCES

Attenbrow, V. 2010, *Sydney's Aboriginal Past, 2nd Edition*, University of New South Wales Press, Sydney: Australia.

Campbell, J.F. 1932, *Early Settlement on the Lower Nepean River, New South Wales. Penrith to the Hawkesbury River*, Royal Australian Historical Society Journal and Proceedings, Vol. XVIII, Part V, pp. 252-270.

Clarkson, C., Jacobs, Z., Marwick, B., Fullagar, R., Wallis, L., Smith, M., Roberts, R.G., Hayes, E., Lowe, K., Carah, X., Florin, S.A., McNeil, J., Cox, D., Arnold, L.J., Hua, Q., Huntley, J., Brand, H.E.A., Manne, T., Fairbairn, A., Shulmeister, J., Lyle, L., Salinas, M., Page, M., Connell, K., Park, G., Norman, K., Murphy, T. and Pardoe, C. 2017, *Human occupation of northern Australia by 65,000 years ago*, *Nature*, vol. 547, pp. 306-310.

Department of Environment Climate Change and Water, 2010a, *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales*.

Department of Environment, Climate Change and Water, 2010b, *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW, Hurstville, NSW*.

Nanson, G.C., Young, R.W., & Stockton, E.D. 1987, *Chronology and palaeoenvironment of the Cranebrook Terrace (near Sydney) containing artefacts more than 40,000 years old*. *Archaeology in Oceania*, 22 (2): 72-78.

National Parks and Wildlife Act 1974.

National Parks and Wildlife Regulations 2009.

Tindale, NB. 1974. *Aboriginal Tribes of Australia. Their Terrain, Environmental Controls, Distribution, Limits and Proper Names*. ANU Press, Canberra: Australia.

DISCLAIMER

This report is dated 5 October 2021 and incorporates information and events up to that date only and excludes any information arising, or event occurring, after that date which may affect the validity of Urbis Pty Ltd (**Urbis**) opinion in this report. Urbis prepared this report on the instructions, and for the benefit only, of COLLIERS INTERNATIONAL (**Instructing Party**) for the purpose of a Due Diligence Assessment (**Purpose**) and not for any other purpose or use. To the extent permitted by applicable law, Urbis expressly disclaims all liability, whether direct or indirect, to the Instructing Party which relies or purports to rely on this report for any purpose other than the Purpose, and to any other person which relies or purports to rely on this report for any purpose whatsoever (including the Purpose).

In preparing this report, Urbis was required to make judgements which may be affected by unforeseen future events, the likelihood and effects of which are not capable of precise assessment.

All surveys, forecasts, projections and recommendations contained in or associated with this report are made in good faith and on the basis of information supplied to Urbis at the date of this report, and upon which Urbis relied. Achievement of the projections and budgets set out in this report will depend, among other things, on the actions of others over which Urbis has no control.

In preparing this report, Urbis may rely on or refer to documents in a language other than English, which Urbis may arrange to be translated. Urbis is not responsible for the accuracy or completeness of such translations and disclaims any liability for any statement or opinion made in this report being inaccurate or incomplete arising from such translations.

Whilst Urbis has made all reasonable inquiries it believes necessary in preparing this report, it is not responsible for determining the completeness or accuracy of information provided to it. Urbis (including its officers and personnel) is not liable for any errors or omissions, including in information provided by the Instructing Party or another person or upon which Urbis relies, provided that such errors or omissions are not made by Urbis recklessly or in bad faith.

This report has been prepared with due care and diligence by Urbis and the statements and opinions given by Urbis in this report are given in good faith and in the reasonable belief that they are correct and not misleading, subject to the limitations above.

APPENDIX A

AHIMS RESULTS

Urbis Pty Ltd - Angel Place L8 123 Pitt Street

Date: 14 September 2021

Level 8 123 Angel Street
 Sydney New South Wales 2000

Attention: Aaron Olsen

Email: aolsen@urbis.com.au

Dear Sir or Madam:

AHIMS Web Service search for the following area at Datum :GDA, Zone : 56, Eastings : 282397.287 - 288065.317, Northings : 6263009.112 - 6268320.536 with a Buffer of 0 meters, conducted by Aaron Olsen on 14 September 2021.

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



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

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

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

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

Important information about your AHIMS search

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

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
45-5-5191	Museum Drive Penrith AFT 1	GDA	56	285973	6263538	Open site	Valid	Artefact : -		
	Contact	Recorders	Kelleher Nightingale Consulting Pty Ltd,Mr.Benjamin Anderson				Permits			
45-5-0318	Penrith Lakes 4	GDA	56	283031	6267186	Open site	Valid	Artefact : -	Open Camp Site	256,260,526,1018
	Contact	Recorders	Jim Kohen				Permits	3891		
45-5-3816	Emu Plains Rail Stabling Yards	GDA	56	284015	6263583	Open site	Destroyed	Artefact : 1		
	Contact	Recorders	Doctor.Alan Williams,Doctor.Alan Williams				Permits	3485		
45-5-3817	Emu Plains Rail Stabling Yards1	GDA	56	284138	6263601	Open site	Destroyed	Artefact : 1		
	Contact	Recorders	Doctor.Alan Williams,Doctor.Alan Williams				Permits	3282		
45-5-0591	Penrith Lakes 30	AGD	56	284230	6266400	Open site	Valid	Artefact : -	Open Camp Site	1064,102450
	Contact	Recorders	Jim Kohen				Permits	28		
45-5-0522	Penrith P/1	AGD	56	285520	6263940	Open site	Valid	Artefact : -	Open Camp Site	1018,102450,103155,103360
	Contact	Recorders	Jim Kohen				Permits			
45-5-2414	L1 (Penrith Lakeside Village)	GDA	56	286799	6266617	Open site	Valid	Artefact : -	Open Camp Site	102450,104180
	Contact	Recorders	Mary Dallas Consulting Archaeologists (MDCA),Biosis Pty Ltd - Wollongong,Mrs.Sai				Permits	939,1694,1803		
45-5-5238	Andrews Road PAD 1	GDA	56	286905	6264763	Open site	Destroyed	Artefact : -		104180
	Contact	Recorders	Biosis Pty Ltd - Wollongong,Biosis Pty Ltd - Wollongong,Mrs.Samantha Keats,Mrs.S				Permits	4518		
45-5-0328	Penrith Lakes 17	AGD	56	283617	6265596	Open site	Valid	Artefact : -	Open Camp Site	260,526,1018
	Contact	Recorders	Jim Kohen				Permits	28		
45-5-0330	Penrith Lakes 19	AGD	56	284496	6267442	Open site	Valid	Artefact : -	Open Camp Site	260,526,1018,102450
	Contact	Recorders	Jim Kohen				Permits	28		
45-5-0593	Penrith Lakes 32	AGD	56	286250	6267700	Open site	Valid	Artefact : -	Open Camp Site	11,526,1063
	Contact	Recorders	Jim Kohen				Permits	1067		
45-5-0334	Penrith Lakes 24	AGD	56	287257	6266581	Open site	Valid	Artefact : -	Open Camp Site	260,526,1018,102450
	Contact	Recorders	Jim Kohen				Permits			
45-5-3904	EPRSY 3(PAD)	GDA	56	284000	6263615	Open site	Destroyed	Artefact : -, Potential Archaeological Deposit (PAD) :-		103762
	Contact	Recorders	Doctor.Alan Williams,Doctor.Alan Williams,Ms.Georgia Burnett				Permits	3485		
45-5-5484	Emu Plains Railway AFT	GDA	56	284068	6263560	Open site	Valid	Artefact : -		
	Contact	Recorders	Mr.Matthew Barber,NGH Heritage - Fyshwick				Permits			
45-5-0366	Emu Plains Emu Plains 4	AGD	56	285107	6264253	Open site	Valid	Artefact : -	Open Camp Site	1018,102450,103155,103360
	Contact	Recorders	Jim Kohen				Permits			
45-5-0327	Penrith Lakes 16	AGD	56	285428	6266546	Open site	Valid	Artefact : -	Open Camp Site	260,526,1018,102450

Report generated by AHIMS Web Service on 14/09/2021 for Aaron Olsen for the following area at Datum :GDA, Zone : 56, Eastings : 282397.287 - 288065.317, Northings : 6263009.112 - 6268320.536 with a Buffer of 0 meters.. Number of Aboriginal sites and Aboriginal objects found is 38

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

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
	Contact	Recorders	Jim Kohen					Permits		
45-5-0290	The Island	AGD	56	285661	6263989	Open site	Valid	Artefact : -	Open Camp Site	260,526,1018,102450,103155,103360
	Contact	Recorders	Jim Kohen					Permits		
45-5-0319	Penrith Lakes 5	GDA	56	283157	6268242	Open site	Valid	Artefact : -	Open Camp Site	260,526,1018
	Contact	Recorders	Jim Kohen					Permits	3891	
45-5-0326	Penrith Lakes 15	AGD	56	285428	6266546	Open site	Valid	Artefact : -	Open Camp Site	260,526,1018,102450
	Contact	Recorders	Jim Kohen					Permits	28	
45-5-0331	Penrith Lakes 20	AGD	56	286325	6267478	Open site	Valid	Artefact : -	Open Camp Site	260,526,1018,102450
	Contact	Recorders	Jim Kohen					Permits	28,1067	
45-1-0219	Penrith Lakes 39	AGD	56	284930	6267150	Open site	Valid	Artefact : -	Open Camp Site	2446,102450
	Contact	Recorders	Jim Kohen					Permits		
45-5-0281	Cranebrook Creek, CC/1	AGD	56	285150	6266723	Open site	Valid	Artefact : -, Aboriginal Ceremony and Dreaming : -		260,526,1018,102450
	Contact	Recorders	Jim Kohen					Permits	28	
45-5-0314	Penrith Lakes 28	AGD	56	286325	6267478	Open site	Valid	Artefact : -	Open Camp Site	256,260,526,1018,102450
	Contact	Recorders	Jim Kohen					Permits		
45-5-2491	Coreeen Ave 1	AGD	56	287070	6263430	Open site	Partially Destroyed	Artefact : -	Open Camp Site	98259,102450,103155,103360
	Contact	Recorders	Helen Brayshaw,Tony Kondek					Permits	1367	
45-5-5470	Andrews Road PAD 1 Reburial	GDA	56	287428	6264919	Open site	Valid	Artefact : -		
	Contact	Recorders	Biosis Pty Ltd - Wollongong,Mrs.Samantha Keats					Permits		
45-5-3318	Western Sydney 6	GDA	56	287710	6264801	Open site	Valid	Artefact : 5		100554,102450
	Contact	Recorders	Navin Officer Heritage Consultants Pty Ltd					Permits		0
45-5-0530	Upper Castlereagh, UC/1	GDA	56	283035	6267149	Open site	Valid	Artefact : -	Open Camp Site	1018
	Contact	Recorders	Jim Kohen					Permits	3891	
45-5-0329	Penrith Lakes 18	AGD	56	283617	6265596	Open site	Valid	Artefact : -	Open Camp Site	260,526,1018
	Contact	Recorders	Jim Kohen					Permits	28	
45-5-0589	Penrith Lakes 29	AGD	56	284300	6266280	Open site	Valid	Artefact : -	Open Camp Site	1064
	Contact	Recorders	Jim Kohen					Permits	28	
45-5-0332	Penrith Lakes 21	AGD	56	284514	6266528	Open site	Valid	Artefact : -	Open Camp Site	260,526,1018,102450
	Contact	Recorders	Jim Kohen					Permits	28	

Report generated by AHIMS Web Service on 14/09/2021 for Aaron Olsen for the following area at Datum :GDA, Zone : 56, Eastings : 282397.287 - 288065.317, Northings : 6263009.112 - 6268320.536 with a Buffer of 0 meters.. Number of Aboriginal sites and Aboriginal objects found is 38

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

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
45-5-5311	River Road AS1	GDA	56	284756	6263365	Open site	Valid	Artefact : -, Potential Archaeological Deposit (PAD) :-		
	Contact	Recorders	Biosis Pty Ltd - Wollongong,Eco Logical Australia Pty Ltd - Sydney - Individual user Permits 4634,4731							
45-5-0282	Upper Castlereagh	GDA	56	282979	6267050	Open site	Valid	Artefact : -	Open Camp Site	260,1018
	Contact	Recorders	Jim Kohen Permits 3891							
45-5-0590	Penrith Lakes 31	AGD	56	284610	6266550	Open site	Valid	Artefact : -	Open Camp Site	1064,102450
	Contact	Recorders	Jim Kohen Permits 28							
45-5-4361	Peachtree Creek PAD	GDA	56	285590	6263560	Open site	Valid	Artefact : -, Potential Archaeological Deposit (PAD) :-		103360
	Contact	Recorders	Mr.Oliver Brown Permits 3664,3688							
45-5-2416	L-1;Penrith Lakeside Village;	GDA	56	286799	6266617	Open site	Valid	Artefact : -	Open Camp Site	102450
	Contact	Recorders	Mary Dallas Consulting Archaeologists (MDCA),Biosis Pty Ltd - Wollongong,Mrs.Sai Permits							
45-5-0335	Penrith Lakes 26	AGD	56	287274	6265667	Open site	Valid	Artefact : -	Open Camp Site	260,526,1018,102450
	Contact	Recorders	Jim Kohen Permits							
45-5-3319	Western Sydney 7 and PAD	GDA	56	287450	6264725	Open site	Valid	Artefact : 1, Potential Archaeological Deposit (PAD) :-		100554,102450
	Contact Searle	Recorders	Navin Officer Heritage Consultants Pty Ltd,Biosis Pty Ltd - Wollongong,Mrs.Samant Permits							
45-5-3317	Western Sydney 5	GDA	56	287679	6264900	Open site	Valid	Artefact : 1		100554,102450
	Contact Searle	Recorders	Navin Officer Heritage Consultants Pty Ltd Permits							

**** Site Status**

Valid - The site has been recorded and accepted onto the system as valid

Destroyed - The site has been completely impacted or harmed usually as consequence of permit activity but sometimes also after natural events. There is nothing left of the site on the ground but proponents should proceed with caution.

Partially Destroyed - The site has been only partially impacted or harmed usually as consequence of permit activity but sometimes also after natural events. There might be parts or sections of the original site still present on the ground

Not a site - The site has been originally entered and accepted onto AHIMS as a valid site but after further investigations it was decided it is NOT an aboriginal site. Impact of this type of site does not require permit but Heritage NSW should be notified

