URBIS

ABORIGINAL OBJECTS DUE DILIGENCE ASSESSMENT

Explorer Street, Eveleigh, NSW
Gadigal Land

Prepared for
DEPARTMENT OF PLANNING AND ENVIRONMENT
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We acknowledge, in each of our offices, the Traditional Owners on whose land we stand.

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EXECUTIVE SUMMARY

Urbis has been engaged by the Department of Planning and Environment ('the proponent') to conduct an Aboriginal Objects Due Diligence Assessment (ADD) of Explorer Street, Eveleigh, NSW, legally referred to as Lots 21 and 22, DP 835061, and Lot 122 DP 1030021 ('the subject area').

Urbis understands that the subject site will be subject to a rezoning proposal based on a new Urban Design Study and Master Plan which are currently under preparation.

The ADD was undertaken to investigate whether any known Aboriginal objects or Aboriginal places are located within the subject area, or whether any unknow Aboriginal objects are likely to occur in the subject are, which may need conservation provisions to be included in the Planning Proposal request.

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.
- 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.
- Highly developed urban sites still have the potential to retain natural soils below imported fill/structures and between footings in locations where the natural soil profile is naturally deep enough to have survived these impacts. Unless the historical impacts have extended below the level of the natural topsoil such as basement car parks, wholesale excavation, quarrying etc potential for remnant natural soil profiles to exist within highly developed urban sites still exists.
- The most likely site type to occur in the vicinity of the subject area according to the results of the AHIMS search are Potential Archaeological Deposits and artefact sites.
- The subject area is located on the southern lower slope of a saddle connecting hills to the east and west. The topographical context of the subject area is not therefore considered to be archaeologically sensitive.
- According to the available data and mapping, the subject area is situated on the southern edge of the Blacktown soil landscape, just transitioning into the Tuggerah soil landscape. The Blacktown soils characterised by shallow to moderately deep soils, while the Tuggerah soils are associated with deep, sandy soils. Recent archaeological excavations within the vicinity suggest that the boundaries between the two soil landscapes are not accurately mapped and therefore it is not entirely clear on which soil landscape the subject area is located on. Due to the sensitivity of the Tuggerah soil landscape for Aboriginal objects, further soil testing and geotechnical data is required to confirm the soil landscape of the subject area.
- The nearest watercourse to the subject area is Shea's Creek, which is located approximately 1 km south-east. The hydrology of the subject area is not therefore considered to be archaeologically sensitive.
- The subject area has been extensively cleared through historical disturbance and therefore has nil-low potential for the retention of culturally modified trees.
- The northern portion of the subject area has been subject to high levels of disturbance in association with its incorporation within the Eveleigh Railway Workshops complex from the mid-20th century, whereas the southern portion of the subject area has been subject to moderate-high levels of disturbance resulting from its residential development throughout the late 19th and 20th centuries. There is therefore greater potential for archaeologically sensitive, intact soil profiles within the southern portion of the subject area.
- Previous geotechnical investigations have confirmed that the northern portion of the subject area contains a layer of fill, although this does not preclude the potential for natural soils at depth.

Based on the above conclusions, Urbis recommends that geotechnical investigations be undertaken prior to any works which would disturb the ground surface. The following table outlines recommended actions subject to the outcome of these investigations.

Scenario	Action
Geotechnical investigations confirm the presence of the Tuggerah Soil Landscape within the footprint of the proposal.	▪ An update to this ADD should be prepared. ▪ The updated ADD should make recommendations as to whether an Aboriginal Cultural Heritage Assessment (ACHA) will be required in accordance with Part 6 of the *National Parks and Wildlife Act 1974* (NPW Act) and Part 5 of the *National Parks and Wildlife Regulation 2019* (NPW Reg). Note: A minimum 14-16 weeks is required for completion of the ACHA process. This includes a mandated 12 weeks of consultation with the Aboriginal community, and additional time for the review of documentation, drafting of the ACHA report and coordination of a site inspection.
Geotechnical investigations confirm the presence of both the Blacktown and Tuggerah Soil Landscapes within the footprint of the proposal.	▪ An update to this ADD should be prepared. ▪ The updated ADD should make recommendations as to whether an Aboriginal Cultural Heritage Assessment (ACHA) will be required in accordance with Part 6 of the *National Parks and Wildlife Act 1974* (NPW Act) and Part 5 of the *National Parks and Wildlife Regulation 2019* (NPW Reg). Note: A minimum 14-16 weeks is required for completion of the ACHA process. This includes a mandated 12 weeks of consultation with the Aboriginal community, and additional time for the review of documentation, drafting of the ACHA report and coordination of a site inspection.
Geotechnical investigations confirm the presence of the Blacktown Soil Landscape within the footprint of the proposal.	▪ No further archaeological assessment is required. ▪ A copy of this ADD should be kept as evidence of the Due Diligence Process having been applied to the subject area. ▪ The proposed development may proceed in line with the Unexpected Archaeological Finds Procedure and Human Remains Procedure outlined below. **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

Scenario	Action
	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 the Department of Planning and Environment ('the proponent') to conduct an Aboriginal Objects Due Diligence Assessment (ADD) of Explorer Street, Eveleigh, NSW, legally referred to as Lots 21 and 22, DP835061, and Lot 122 DP 1030021 ('the subject area') (Figure 1 and Figure 2). The ADD was undertaken to investigate whether development of the subject area will harm 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 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.
- Site 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 at Explorer Street, Eveleigh, and is legally referred to as Lots 21 and 22, DP 835061 and Lot 122 DP 1030021. The subject area covers approximately 2.3 Ha. and comprises 46 residential townhouses constructed c. 1990. It is bound by the rail corridor and Eveleigh Railway Workshops to the north, Explorer Street to the south, Australian Technology Park to the east and workshops and Erskineville Station to the west.

1.2. PROPOSED WORKS

The proposal for Explorer Street, Eveleigh comprises the rezoning and anticipated redevelopment of the site to deliver new social and affordable housing, along with better parks, streets and amenities.

The Master Plan provides for:

- Demolition of all existing housing stock;
- Civil works including the re-routing of internal access roads, new service routes and underground parking;
- Excavation works for two levels of basement parking;
- Construction works to provide three new multi-storey residential flat buildings, which together provide approximately 394 new units of housing (including 30% social housing); and
- Landscaping to provide new public parks and grounds.

The preferred design option in the Master Plan is illustrated below (Figure 4).

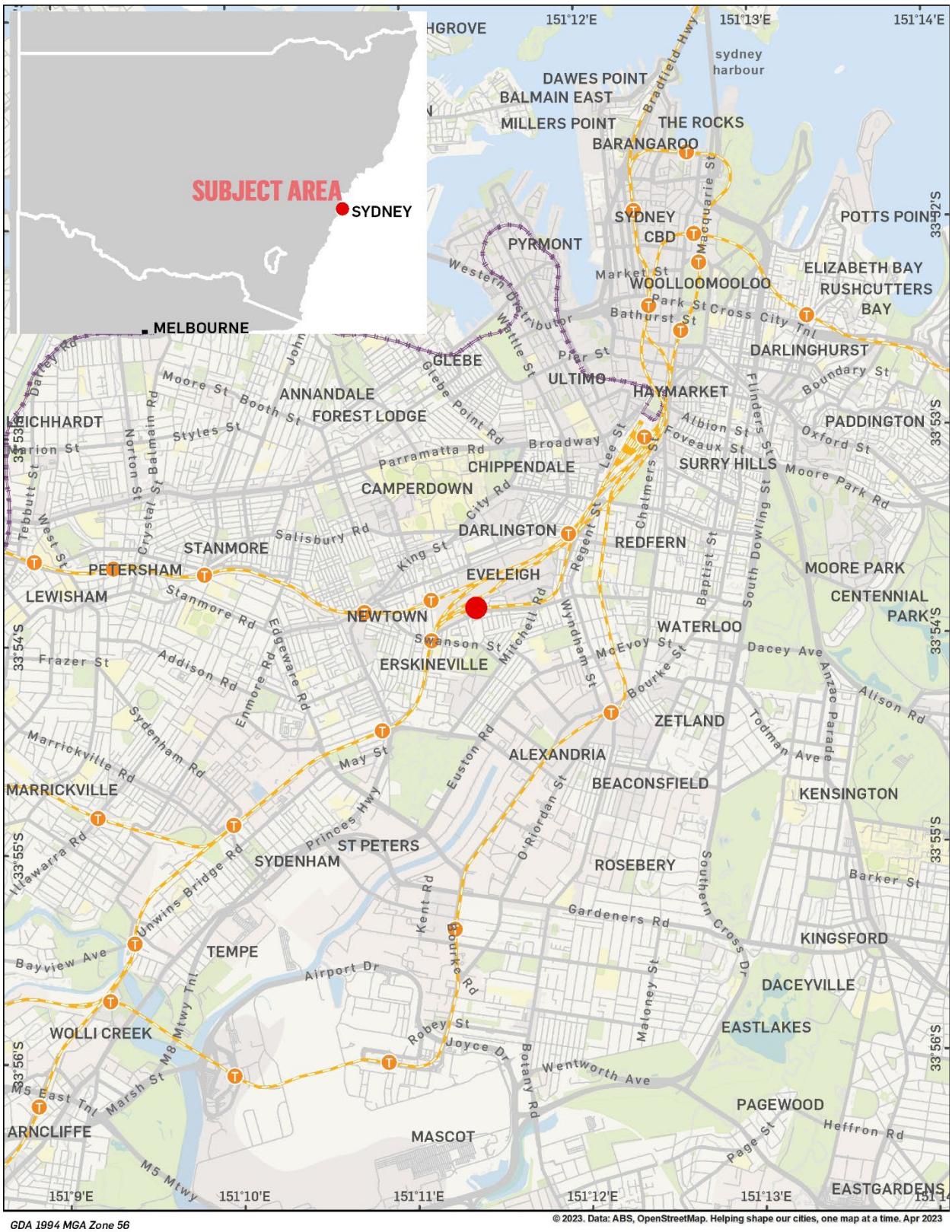

Figure 1 – Regional location

Figure 2 – Location of subject area

8 The generic due diligence process

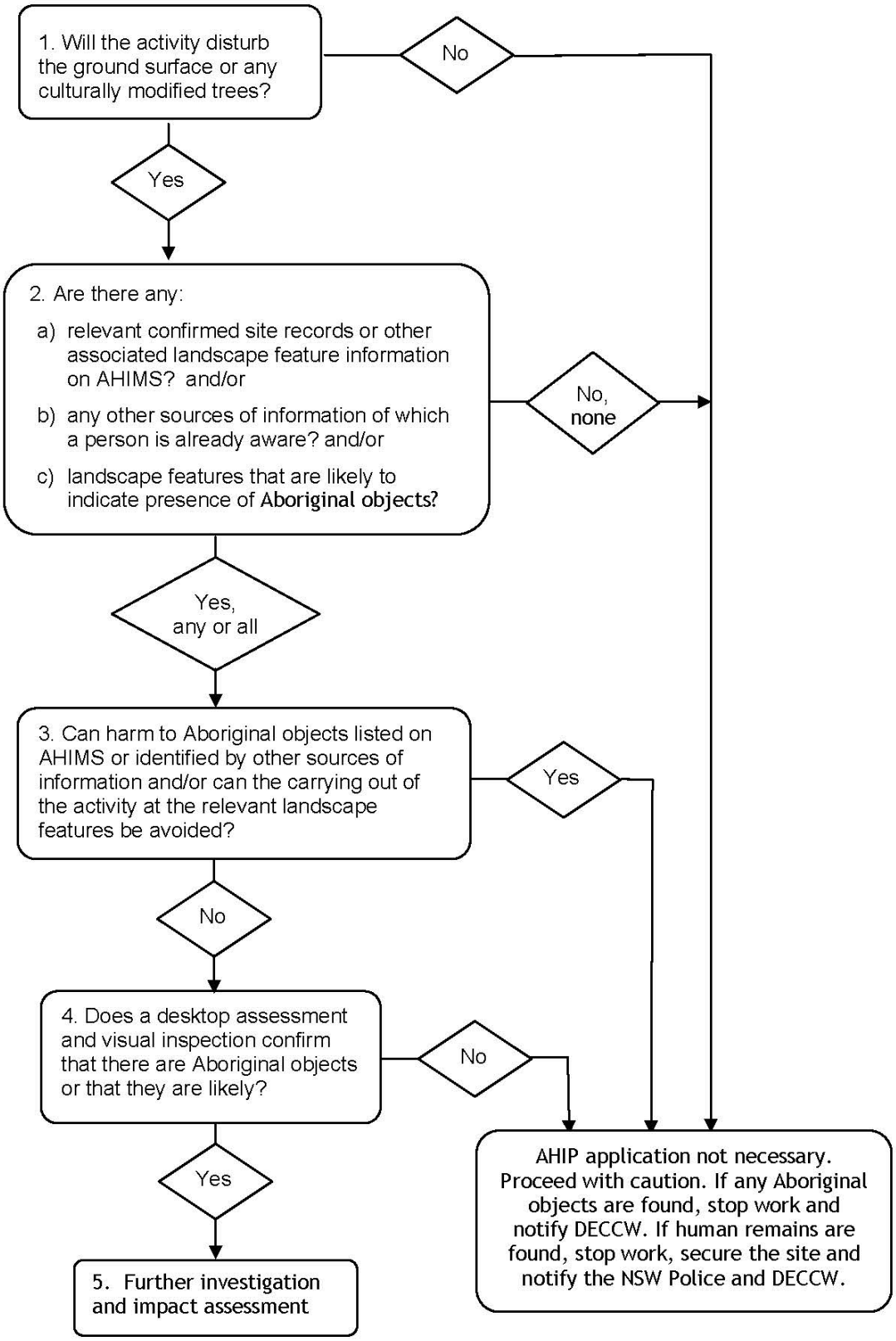

Figure 3 – Generic due diligence assessment

Source: DECCW, 2010

Figure 4 - Preferred option for the Master Plan.

Source: WMK

1.3. AUTHORSHIP

The present report has been prepared by Kirsten Downey (Consultant Archaeologist) with review and quality control undertaken by Alexandra Ribeny (Senior Archaeologist) and Sam Richards (Associate Director, Archaeology).

1.4. LIMITATIONS

The ADD was undertaken to investigate the potential for Aboriginal cultural heritage to be retained within the subject area and to ascertain whether further investigation is required under the Due Diligence Code. 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.

This ADD is limited to desktop assessment. Field inspection was not considered necessary given the total lack of ground surface visibility resulting from existing structures.

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:

1. The harm was authorised by an Aboriginal Heritage Impact Permit (AHIP) (s.87(1)).
2. 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. Sydney Local Environmental Plan 2012

The *Environmental Planning and Assessment Act 1979* (EP&A Act) requires each LGA to produce a Local Environment Plan (LEP). The LEP identifies items and areas of local heritage significance and outlines development consent requirements.

The subject area falls within the City of Sydney Local Government Area (LGA) and is subject to the Sydney Local Environmental Plan 2012. Under Section 5.10(2) of the Sydney Local Environmental Plan 2012, 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 ADD was undertaken to determine whether or not Aboriginal archaeological resources are present within the subject area.

2.1.4. Sydney Development Control Plan 2012

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 City of Sydney and is subject to the Sydney Development Control Plan 2012. Under Section 3.9.3 Archaeological assessments it states that:

(1) An archaeological assessment is to be prepared by a suitably qualified archaeologist in accordance with the guidelines prepared by the NSW Office and Environment and Heritage.

(2) For development proposals in Central Sydney, refer to the Central Sydney Archaeological Zoning Plan to determine whether the development site has archaeological potential.

(3) An archaeological assessment is to be submitted as part of the Statement of Environmental Effects for development applications affecting an archaeological site or a place of Aboriginal heritage significance, or potential archaeological site that is likely to have heritage significance.

(4) An archaeological assessment is to include:

(a) an assessment of the archaeological potential of the archaeological site or place of Aboriginal heritage significance;

(b) the heritage significance of the archaeological site or place of Aboriginal heritage significance;

(c) the probable impact of the proposed development on the heritage significance of the archaeological site or place of Aboriginal heritage significance;

(d) the compatibility of the development with conservation policies contained within an applicable conservation management plan or conservation management strategy; and Sydney DCP 2012 - December 2012 3.9-4

(e) a management strategy to conserve the heritage significance of the archaeological site or place of Aboriginal heritage significance.

(5) If there is any likelihood that the development will have an impact on significant archaeological relics, development is to ensure that the impact is managed according to the assessed level of significance of those relics.

The ADD was undertaken to determine whether or not Aboriginal archaeological sites and places of Aboriginal heritage significance are present within the subject area.

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 6th April 2023. No items of Aboriginal Heritage within or in proximity to the subject area were identified.

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 SHR was completed on 6th April 2023. The search showed no Aboriginal heritage listings.

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 5.10 (2) of the Sydney LEP 2012 and Section 3 of the Sydney DCP 2012.
- Searches of the State Heritage Inventory and Australian Heritage Database did not identify any Aboriginal heritage items within the curtilage of the subject area.

Figure 5 – Heritage context

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 is possible to establish a general understanding of the customs, social structure, languages and beliefs of Aboriginal people (Attenbrow 2010).

At the time of arrival of the First Fleet in 1788 there were an estimated 1,500 Gadi people living in the area of Sydney, although numbers have never been accurately recorded. As their territory extended along the harbour foreshore, as well as the wooded hills and valleys behind it, the Gadi people were able to vary their diet with seafood and terrestrial foods, including edible plants and animals. Fish from the harbour were supplemented with shellfish and molluscs, including oysters, gathered from the foreshores and mudflats that characterised the natural shoreline of the harbour (Urbis 2016). The area inhabited by the Gadi includes the current subject area which is in close proximity to Shea's Creek which is now known as the Alexandra Canal.

Based on the above background, it is possible that similar evidence of Aboriginal occupation could be 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. No reports were found for the exact subject area. Summaries of the most pertinent reports to the subject area are provided below.

3.1.2.1. **Archaeological Reports from Local Area**

Numerous archaeological reports have been produced relating to the broader area around the present subject area. The most relevant to the specific conditions of the present subject area are summarised below.

Godden Mackay Pty Ltd and Austral Archaeology Pty Ltd, December 1997, POW Project 1995— Archaeological Investigation— Volume 2, Archaeology; Part 3—Aboriginal Archaeology, prepared for the South Eastern Sydney Area Health Service, Heritage Council of NSW and the NSW Department of Health

During a historical excavation at the Prince of Wales Hospital Aboriginal archaeological evidence was uncovered. The Aboriginal archaeological features included three hearths, burnt and unburnt manuports as well as a small number of flaked stone artefacts of white, banded indurated stone of unknown source. The Aboriginal archaeological investigations concluded that the site was a location of periods of short-term occupation. The report also suggests that while disturbance may impact the likelihood for Aboriginal archaeological materials to survive on the surface, *in situ* deposits may remain below structures and fill.

Godden Mackay Heritage Consultants, 1997. Angel Place Final Excavation Report.

Godden Mackay Heritage Consultants presented the results of a test excavation of AHIMS #45-5-2581, an open camp site identified adjacent to the central Sydney Tank Stream, containing fifty-four flaked stone artefacts recovered throughout the excavation. It is relevant to the present subject area due to both sites

having a similar urban environment and also suggests that disturbance related to previous development does not remove the potential for the retention of Aboriginal objects.

Dominic Steele Consulting Archaeology, 2002. Salvage Excavation Potential Aboriginal Site, 589-593 George Street, Sydney.

Dominic Steele Consulting Archaeology undertook an excavation report which provided the results of a salvage excavation for a potential midden site, AHIMS #45-6-2637. No associated Aboriginal archaeological features were found with the shell; and as such they were determined not to be of Aboriginal origin but to reflect European use of the site. The report provides precedent for determining origin of potential midden sites – concludes lack of correlated with Aboriginal objects suggests non-Aboriginal origins for shell deposits.

Dominic Steele Consulting Archaeology, 2002. Aboriginal Archaeological Assessment Report, the KENS Site.

Dominic Steele Consulting Archaeology were engaged to undertake an Aboriginal archaeological assessment report which evaluated the likelihood for Aboriginal archaeological deposits to be present within Kent, Erskine, Napoleon and Sussex Streets (KENS site). It concluded that the area would likely have been utilised by Indigenous people prior to European occupation and that this occupation may limit the potential for intact Aboriginal materials to be located on the surface. However, it also suggested that below imported fill associated with this occupation and development, subsurface evidence of Aboriginal utilisation of the area may occur. It is relevant to the present subject area as it suggests that while disturbance may impact the likelihood for Aboriginal archaeological materials to survive on the surface, in situ deposits may remain below imported fill.

Dominic Steele Consulting Archaeology, 2006. Aboriginal Archaeological Excavation Report, The KENS Site.

Dominic Steele Consulting Archaeology undertook an Aboriginal Heritage Assessment for the KENS sites presenting the results of excavation. A number of Aboriginal objects were recovered during excavation despite high levels of disturbance. It is relevant to the present subject area as it suggests that evidence of Aboriginal occupation can still be preserved even in areas heavily impacted by historical development.

Comber, J. 2009. Aboriginal Cultural Heritage Assessment Sydney Metro Network Stage 2.

Comber assessed the archaeological potential of proposed station sites across the Central-Westmead alignment for the Sydney Metro Network and suggested that test excavation should be undertaken at Paramatta and Rosehill. The results of the analysis supported the suggestion that sites in the region would be located on valley bottoms and shorelines. The report assessed the archaeological potential of suburbs in close proximity to the subject area (including Broadway Camperdown and Leichhardt) and concluded these areas were of little risk given the major development and environmental factors.

AMBS, 2010. Sydney Light Rail Extension Stage 1 Heritage Impact Assessment.

AMBS were engaged to conduct an Heritage Impact Assessment which focused on the Indigenous and non-Indigenous heritage on the Stage 1 Sydney light rail alignment. No Aboriginal sites, places or objects were identified, nor were any areas of potential, with specific reference to the impact of disturbance and development on the capacity to identify archaeological materials through survey. The report is relevant as both sites share proximity and a similar urban environment that has been subject to disturbance and development. It suggests Aboriginal occupation would most likely intensify around the creeks and rivers in the region.

Biosis, 2012. 445-473 Wattle Street, Ultimo: Proposed Student Accommodation Development Aboriginal Cultural Heritage Assessment Report

Biosis undertook an Aboriginal Cultural Heritage Assessment in relation to the potential for Aboriginal objects or areas of sensitivity in Ultimo. The report suggested that artefact bearing deposits may be present in alluvial soils below imported European fill. It is relevant through the proximity to the present subject area and similar urban environment. The report suggests artefact bearing soils may still be present despite the presence of development and imported fill.

Biosis, 2012. The Quay Project, Haymarket: Archaeological Report

Biosis undertook an Aboriginal Due Diligence Assessment in Haymarket, involving site survey. No Aboriginal objects or sites were identified, and it was determined that despite the likelihood of Aboriginal utilisation of the region prior to European occupation, disturbance related to this occupation will have removed any

remnant evidence of Aboriginal utilisation through removal of topsoil. It is of relevance through the proximity to the present subject area and similar urban environment. The report suggests that subsurface deposits in highly developed areas are unlikely due to the removal of topsoil during construction.

Biosis, 2012. The Quay Project, Haymarket: Aboriginal Cultural Heritage Assessment Final Report

Biosis undertook an Aboriginal Cultural Heritage Assessment resulting from the identification of intact topsoil during historic salvage excavations. Test excavation was undertaken, resulting in the identification of no artefacts and the confirmation of low archaeological potential of the area. One stone artefact was identified during the historic salvage excavation, in highly disturbed context. The report suggests that intact topsoil may remain even in urban, highly developed areas and Aboriginal objects may still occur in areas of high disturbance.

Godden Mackay Logan, 2014. 200 George Street, Sydney Aboriginal Archaeological Excavation.

Godden Mackay Logan undertook an Aboriginal archaeological excavation report for test excavation undertaken on an area of identified PAD at 200 George Street. No Aboriginal objects or sites were identified during test excavation. This is attributed to the pre-colonisation landscape and environmental conditions being unsuitable for Aboriginal occupation. While intact natural soils may be present within urban environments, they may not necessarily contain Aboriginal archaeological objects, with environmental and landscape factors playing a decisive role in Aboriginal utilisation of the land prior to European occupation.

3.1.2.2. Summary

The above publications reveal the following in relation to the archaeological context of the local area:

- Evidence of Aboriginal occupation may be preserved even in areas heavily impacted by historical development.
- Subsurface evidence of Aboriginal occupation may occur beneath imported fill.
- Lack of correlated Aboriginal objects within Midden deposits suggests non-Aboriginal origins.

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 29 March 2023 (AHIMS Client Service ID: 768400) for an area of approximately 3 km x 3 km.

The AHIMS search identified 0 Aboriginal sites and 0 Aboriginal places within the subject area. In the broader search area, a total of 33 Aboriginal sites and 0 Aboriginal places are registered (see Appendix A). Four were recorded as 'not a site' which brough the total to 29 Aboriginal sites. This classification of 'not a site' is typically determined following test excavations which did not recover any subsurface artefact assemblages and consequently the previously applied site descriptions were annulled. Of the 29 valid sites a further two sites, AHIMS ID#45-6-3064 and AHIMS ID#45-6-3071, appear to be the same site registered twice. The below table takes these factors into consideration with the total number of sites discussed being 28.

A summary of all previously registered Aboriginal sites within the extensive search area is provided in Table 1 and Figure 6 and their spatial distribution is shown in Figure 7 and. Figure 8. 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: 768400)

Site Type	Context	Total	Percentage
PAD	Open	13	48%
Artefact Scatter	Open	9	32%

Site Type	Context	Total	Percentage
Aboriginal Resource and Gathering Site	Open	2	7%
Isolated Find	Open	1	3%
Midden with Artefact Scatter	Open	1	3%
Shelter with Art and Artefact Scatter	Open	1	3%
Shelter with Midden	Open	1	3%
Total		**28**	**100%**

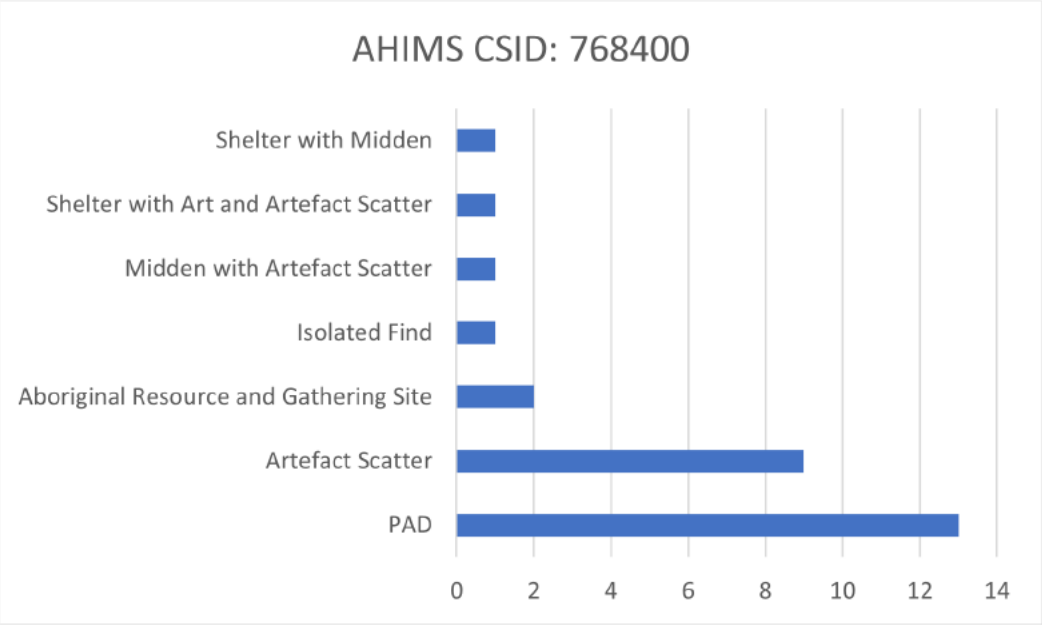

Figure 6 – Site types within the extensive search area (AHIMS CSID: 768400)

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 efforts. 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 restrictions on the extent and scope of those developments.

The most frequent registered Aboriginal sites within proximity of the subject area include Potential Archaeological Deposits (PADs) encompassing 48% of the assemblage (n=13) and Artefact Scatters encompassing 32% (n=9). The large number of PADs reflects an increasing number of archaeological investigations precipitated by intensifying development of the area in the last decade. PADs are generally designated by archaeologists within areas where there is no surface visibility to assess archaeological potential, but the results of background research, which considers the spatial distribution of sites, presence of archaeologically sensitive landscape features and levels of historical land use and disturbance, suggests there is potential for the retention of subsurface archaeological resources. A number of archaeological investigations within heavily disturbed contexts previously considered as PADs (GML 1998, Dominic Steele Consulting 2008) have yielded in situ evidence of Aboriginal occupation and knapping activities. In the event that PADs are further investigated and confirmed to include Aboriginal artefacts, they are reclassified as Artefact Scatters in recognition of the specific archaeological resource exposed. These factors explain the abundance of registered Aboriginal sites with PADs and Artefact Scatters within proximity of the subject area.

Figure 7 – Map of AHIMS sites in Extensive search area

Figure 8 – Map of AHIMS sites in proximity to subject 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:

- Disturbance resulting from European occupation reduces the potential for intact soil profiles to remain within urban sites.
- Highly developed urban sites still have the potential to retain natural soils below imported fill/structures and between footings in locations where the natural soil profile is naturally deep enough to have survived these impacts. Unless the historical impacts have extended below the level of the natural topsoil such as basement car parks, wholesale excavation, quarrying etc potential for remnant natural soil profiles to exist within highly developed urban sites still exists.
- The most likely site type to occur in the vicinity of the subject area according to the results of the AHIMS search are Potential Archaeological Deposits and artefact scatters/subsurface artefact assemblages.

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 is located on the southern lower slope of a saddle connecting hills to the east and west (Figure 9). The site descends gradually in a south to south-westerly direction towards Henderson Road. The topographical context of the subject area is not therefore considered to be archaeologically sensitive.

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 subject area is located within the Blacktown (bt) soil landscape (Figure 10), which is described as residing upon gently undulating rises on Wianamatta Group shales and Hawkesbury shale. Soils are described as shallow to moderately deep (<100 cm) Red and Brown Podzolic Soils (Dr3.21, Dr3.11, Db2.11) on crests, upper slopes and well-drained areas; deep (150-300 cm) Yellow Podzolic Soils and Soloths (Dy2.11, Dy3.11) on lower slopes and in areas of poor drainage.

According to the available data and mapping, the subject area is situated on the southern edge of the Blacktown soil landscape, just transitioning into the Tuggerah soil landscape. The Blacktown soils characterised by shallow to moderately deep soils, while the Tuggerah soils are associated with deeper, sandy soils. Recent archaeological excavations within the vicinity suggest that the boundaries between the two soil landscapes are not accurately mapped and therefore it is not entirely clear on which soil landscape the subject area is located on. Due to the sensitivity of the Tuggerah soil landscape for Aboriginal objects, further soil testing and geotechnical data is required to confirm the soil landscape of the subject area.

Based on the predicted soil landscape, the subject area may contain moderately deep soils which have the potential to retain Aboriginal objects.

3.2.3. 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 environment surrounding and including the subject area has been heavily modified since European occupation. There likely were watercourses within closer proximity to the subject area that have since been diverted and modified. The nearest watercourse to the subject area is Shea's Creek, which is located approximately 1 km southeast. The hydrology of the subject area is not therefore considered to be archaeologically sensitive.

3.2.4. 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.

The original vegetation associated with the Blacktown soil landscape would have included cleared tall open-forest (wet sclerophyll forest) and open-woodland (dry sclerophyll forest). The original woodland and open-forest in drier areas to the west were dominated by forest red gum E. tereticornis, narrow-leaved ironbark E. crebra and grey box E. moluccana.

As the subject area was cleared during historical development, culturally modified trees are not likely to be present. There is therefore low-nil possibility of *in situ* culturally modified trees being retained within the subject area.

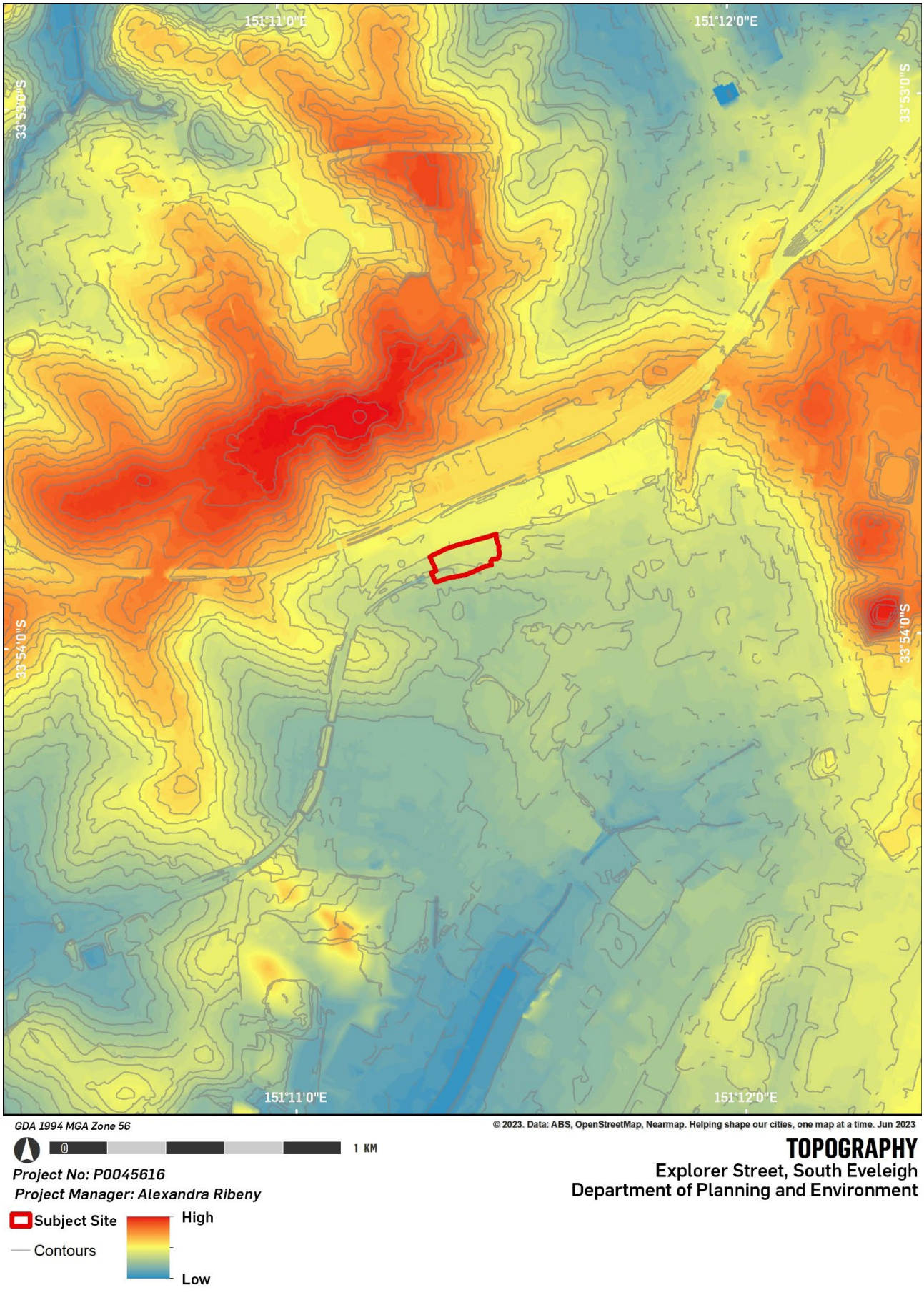

Figure 9 – Topography

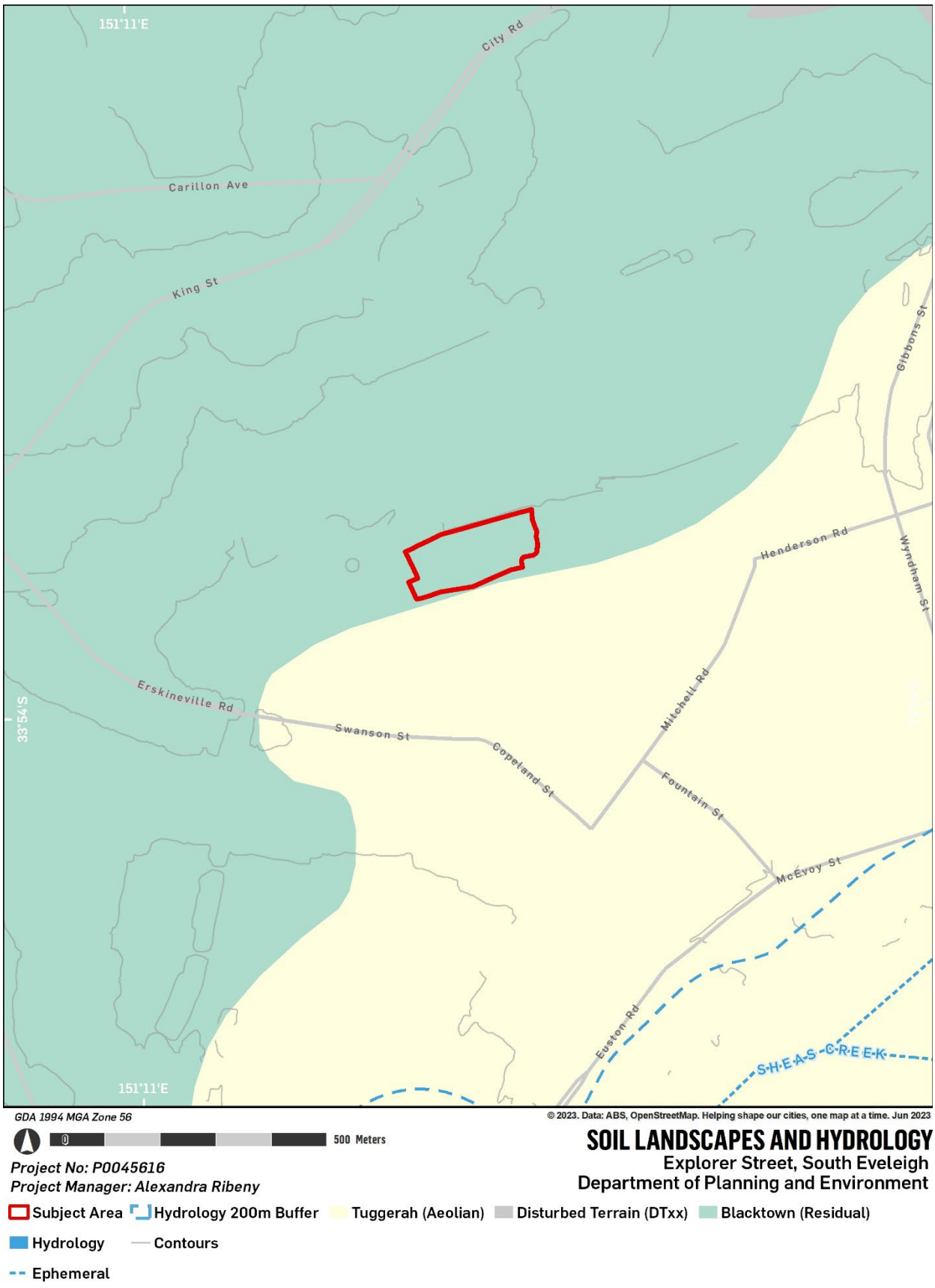

Figure 10 – Soil landscapes and Hydrology

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.

3.2.5.1. Historical Overview

The subject area was originally incorporated within John King's 1794 land grant and subsequently within the Waterloo Estate. During the period the land was used for dairying and wheat cropping purposes. These activities are likely to have resulted in low-moderate levels of disturbance.

By 1875 the land to the north of the subject area had been selected for the Eveleigh Railway Workshops complex. The subject area remained peripheral to these developments and from c.1881 the site was subdivided and a network of streets established. Terrace housing had been constructed within the northern and southern portions of the subject area by 1894. Depending on whether these contained basement levels, residential development of the subject area would have resulted in a moderate-high degree of disturbance.

In c.1943 (Figure 11) the terrace housing within the northern portion of the subject area had been demolished to facilitate its incorporation within the Eveleigh Railway Workshops complex. A 1943 aerial photograph shows that this portion of the site was utilised for railway storage purposes. These activities would have resulted in high levels of disturbance, with excavation of natural soil profiles and the importation of fill, as well as levelling of the area for tracks.

In 1987 it was announced that the subject area would be resumed for social housing purposes. The decommissioning of this section of the rail corridor and construction of the existing dwellings within the northern portion of the subject area (Figure 14) will have resulted in moderate-high levels of disturbance. Following the demolition of the terrace housing within the southern portion of the site (Figure 12 & Figure 13), this area was reappropriated as recreational space (Figure 14) and so was subject to relatively low levels of disturbance in association with this phase.

In summary, the northern portion of the subject area has been subject to high levels of disturbance in association with its incorporation within the Eveleigh Railway Workshops complex from the mid-20th century, whereas the southern portion of the subject area has been subject to moderate-high levels of disturbance resulting from its residential development throughout the late 19th and 20th centuries.

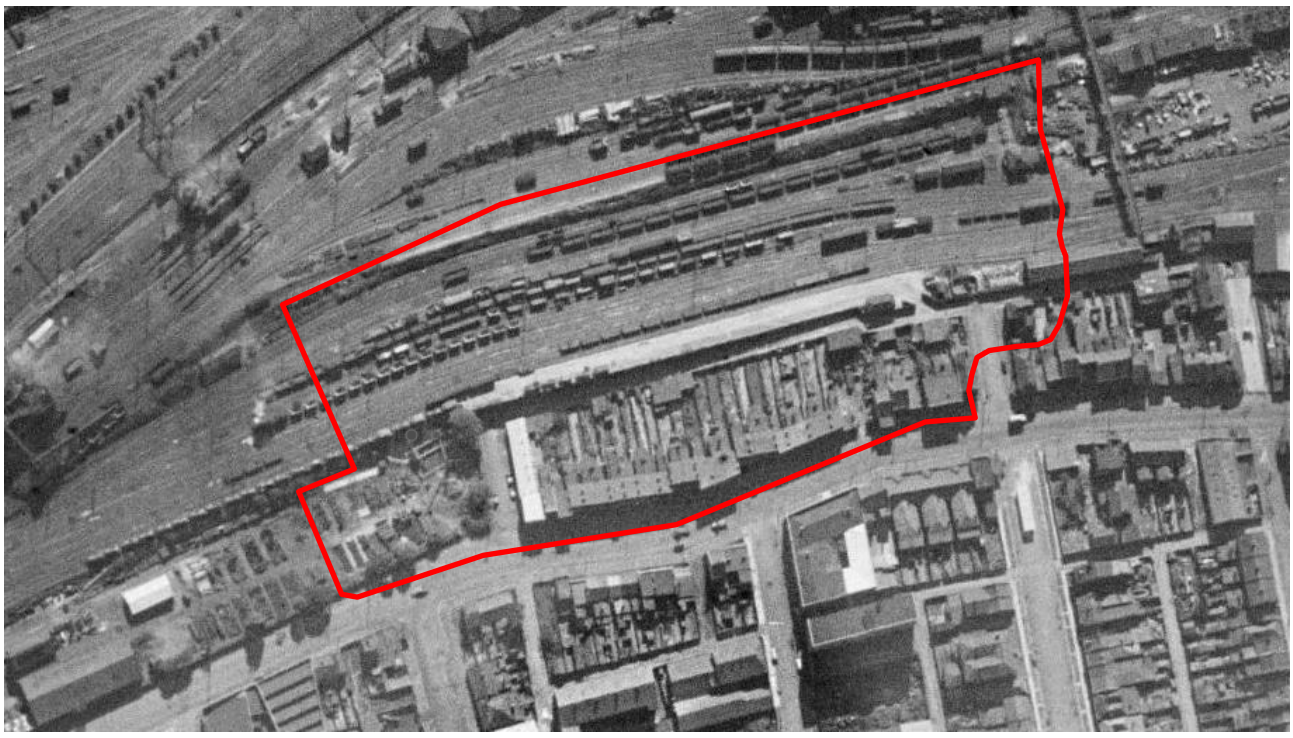

Figure 11 – 1943 aerial photograph showing the northern portion of the subject area was incorporated within the Eveleigh Railway Workshops whereas the southern portion containing terrace housing.

Source: NSW Government, Historical Imagery

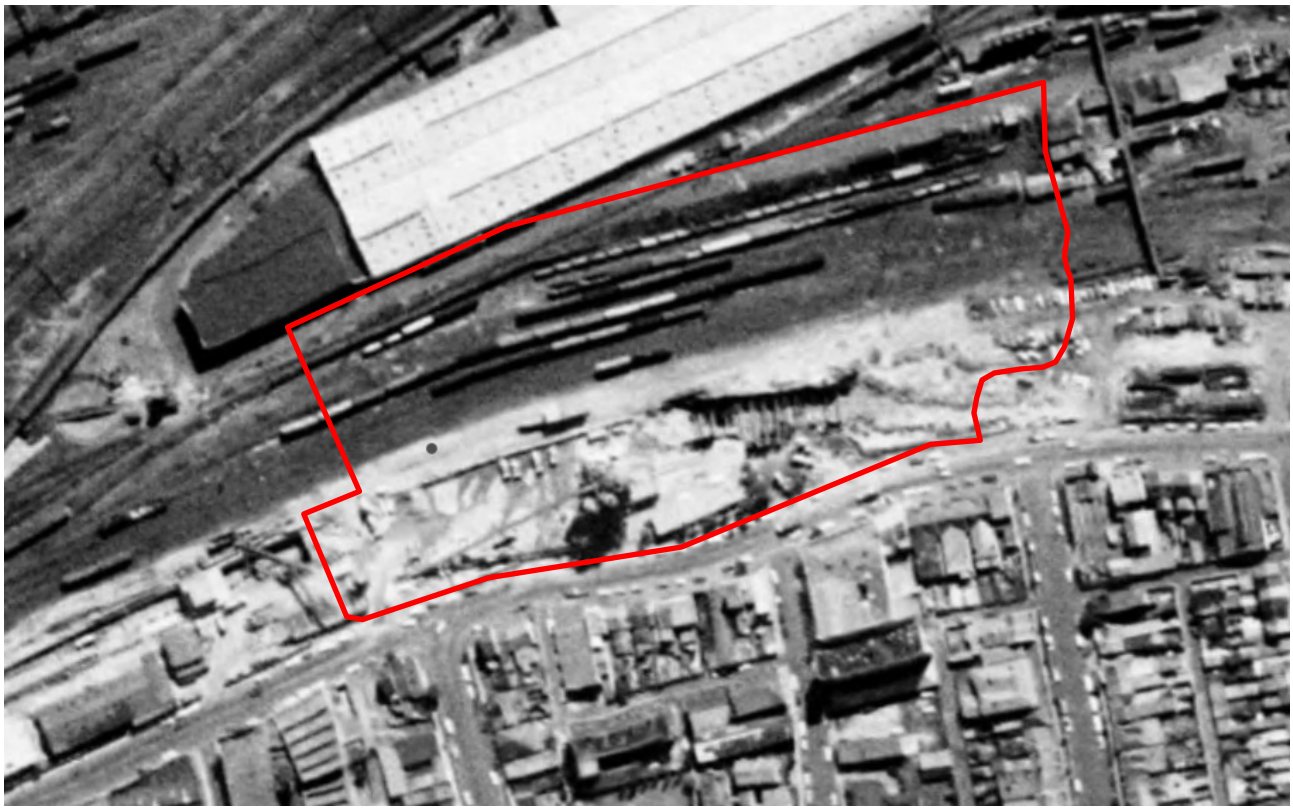

Figure 12 – 1975 aerial photograph indicating that the terrace dwellings within the southern portion of the subject area had been demolished by this time.

Source: NSW Government, Historical Imagery

Figure 13 – 1982 aerial photograph indicating that the southern portion of the subject area remained vacant at this time.

Source: NSW Government, Historical Imagery

Figure 14 – 1998 aerial photograph indicating that the subject area had been resumed for social housing purposes by this date.

Source: NSW Government, Historical Imagery

3.2.5.2. Geotechnical Investigations

Few geotechnical investigations have been undertaken for the subject area to date. Those which have been undertaken have been concentrated along the north-eastern boundary of the site and would thus reflect the historical disturbance pattern associated with the Eveleigh Railway Workshops.

In 2021 Coffey Services Australia Pty Ltd (Coffey) was engaged by NSW Land and Housing Corporation to prepare a Preliminary Site Investigation report for the subject area. This document summarised the findings of these earlier geotechnical investigations as follows:

> *It was concluded that industrial activities over the past 160 years have likely caused disturbance to the underlying soil profile. Soils across the site area are likely to comprise imported materials and may contain waste products from past industrial use. Many of the trees located within the park indicate poor soil conditions (stunted, lack vigour and numerous surface roots) at the time of reporting.*[1]

Note: Urbis was unable to obtain original copies of these investigations for the purpose of reconstructing the subsurface profile in this location.

Email correspondence[2] has subsequently confirmed that the tunnel which runs through the site was constructed using a 'cut and cover' method which would have disturbed the natural soil along the tunnel alignment. It was further confirmed that a layer of fill is present across the northern portion of the subject area, although this does not preclude the potential for natural soils at depth.

According to the available data and mapping, the subject area is situated on the southern edge of the Blacktown soil landscape, just transitioning into the Tuggerah soil landscape. The Blacktown soils characterised by shallow to moderately deep soils, while the Tuggerah soils are associated with deeper, sandy soils. Recent archaeological excavations within the vicinity suggest that the boundaries between the two soil landscapes are not accurately mapped and therefore it is not entirely clear on which soil landscape

[1] Coffey, 18 June 2021, *Preliminary Site Investigation: Explorer Street Precinct, South Eveleigh, NSW 2015*, p.10

[2] Email Correspondence, Tetra Tech Coffey, 15/05/2023

the subject area is located on. Due to the sensitivity of the Tuggerah soil landscape for Aboriginal objects, further soil testing and geotechnical data is required to confirm the soil landscape of the subject area.

Further geotechnical investigation is needed to confirm the level of disturbance and to identify which soil landscape is present within the subject area.

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 subject area is located on the southern lower slope of a saddle connecting hills to the east and west. The topographical context of the subject area is not therefore considered to be archaeologically sensitive.
- According to the available data and mapping, the subject area is situated on the southern edge of the Blacktown soil landscape, just transitioning into the Tuggerah soil landscape. The Blacktown soils characterised by shallow to moderately deep soils, while the Tuggerah soils are associated with deeper, sandy soils.Recent archaeological excavations within the vicinity suggest that the boundaries between the two soil landscapes are not accurately mapped and therefore it is not entirely clear on which soil landscape the subject area is located on. Due to the sensitivity of the Tuggerah soil landscape for Aboriginal objects, further soil testing and geotechnical data is required to confirm the soil landscape of the subject area..
- The nearest watercourse to the subject area is Shea's Creek, which is located approximately 1 km south-east. The hydrology of the subject area is not therefore considered to be archaeologically sensitive.
- The subject area has been extensively cleared through historical disturbance and therefore has nil-low potential for the retention of culturally modified trees.
- The northern portion of the subject area has been subject to high levels of disturbance in association with its incorporation within the Eveleigh Railway Workshops complex from the mid-20th century, whereas the southern portion of the subject area has been subject to moderate-high levels of disturbance resulting from its residential development throughout the late 19th and 20th centuries. There is therefore greater potential for archaeologically-sensitive, intact soil profiles within the southern portion of the subject area.
- Previous geotechnical investigations have confirmed that the northern portion of the subject area contains a layer of fill, although this does not preclude the potential for natural soils at depth.

3.3. 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 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.

3.3.1. 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.

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.

3.3.2. Assessment of Archaeological Potential

The likelihood of the site types described in 3.3.1 above occurring within the present subject area is assessed in Table 3 below. The assessed archaeological potential of the subject area is mapped in Table 3 below.

Table 3 – Predictive Model

Site Type	Assessment	Potential
Art	Art is typically associated with shelters, overhangs and across rock formations. The subject area is situated within the Blacktown soil landscape which is not associated with sandstone outcrops where art sites are commonly located. The likelihood of any art being present within the subject area is assessed as nil.	Nil
Artefact	Artefacts may be found in any environment previously used by Aboriginal people and represent 35% of all site features within the region around the subject area (Section 3.1.3). The subject area is situated within the Blacktown soil landscape which contains shallow to moderately deep soils. The northern portion of the subject area has undergone high historical ground disturbance from utilisation as the Eveleigh Railway Precinct and the southern portion moderate-high disturbance resulting from residential development. This disturbance has will likely have resulted in the partial or total removal of the natural soil profile. There is therefore low-moderate potential for Aboriginal objects to have been retained within intact soil profiles within the subject area.	Low-Moderate
Bora / Ceremonial	The high level of historical ground disturbance that has occurred across the subject area (Section 3.2.5) is sufficient to have removed any ceremonial rings. The likelihood of ceremonial rings being present within the subject area is negligible.	Low
Burial	Burials are typically associated with caves and rock overhangs, creek banks and soft, sandy soils. The subject area does not include any caves or rock overhangs (Section 3.2.2), is not located near a creek (Section 3.2.3) and is situated within the Blacktown soil landscape, which is not considered sensitive for burial sites. Additionally, the moderate-high level of historical disturbance is likely to have fully or partially removed the natural soil profile within the subject area. There is therefore low potential for the presence of burials.	Low
Earth Mound	The moderate to high level of historical ground disturbance that has occurred across the subject area is sufficient to have destroyed any earth mounds. The likelihood of earth mounds being present within the subject area is negligible	Low
Fish Trap	The subject area is not located near a waterway or coastline (Section 3.2.3) that would enable construction of a fish trap.	Nil
Grinding Groove	The subject site is situated within the Blacktown soil landscape which is not associated with sandstone outcropping where grinding grooves are located. Additionally, historical ground disturbance including clearing of the subject area has modified the landscape from its original form. The likelihood of any grinding grooves being present within the subject area is negligible.	Low

Site Type	Assessment	Potential
Midden	Shell deposits typically occur in close proximity to resource-bearing water, such as rivers and the ocean. The subject area is located approximately 1km from the closest natural water source. The likelihood of any midden deposits being present within the subject area is therefore negligible.	Low
Modified Trees	Historical aerial imagery (see Section 3.2.5) indicates that the subject area has been cleared of all native vegetation communities. There is nil potential for modified trees to be located within the subject area.	Nil

3.4. SUMMARY

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

- Highly developed urban sites still have the potential to retain natural soils below imported fill/structures and between footings in locations where the natural soil profile is naturally deep enough to have survived these impacts. Unless the historical impacts have extended below the level of the natural topsoil such as basement car parks, wholesale excavation, quarrying etc potential for remnant natural soil profiles to exist within highly developed urban sites still exists.
- The most likely site type to occur in the vicinity of the subject area according to the results of the AHIMS search are Potential Archaeological Deposits and artefact scatters/subsurface artefact assemblages.
- The subject area is located on the southern lower slope of a saddle connecting hills to the east and west. The topographical context of the subject area is not therefore considered to be archaeologically sensitive.
- According to the available data and mapping, the subject area is situated on the southern edge of the Blacktown soil landscape, just transitioning into the Tuggerah soil landscape. The Blacktown soils characterised by shallow to moderately deep soils, while the Tuggerah soils are associated with deeper, sandy soils. Recent archaeological excavations within the vicinity suggest that the boundaries between the two soil landscapes are not accurately mapped and therefore it is not entirely clear on which soil landscape the subject area is located on. Due to the sensitivity of the Tuggerah soil landscape for Aboriginal objects, further soil testing and geotechnical data is required to confirm the soil landscape of the subject area..
- The nearest watercourse to the subject area is Shea's Creek, which is located approximately 1 km south-east. The hydrology of the subject area is not therefore considered to be archaeologically sensitive.
- The subject area has been extensively cleared through historical disturbance and therefore has nil-low potential for the retention of culturally modified trees.
- The northern portion of the subject area has been subject to high levels of disturbance in association with its incorporation within the Eveleigh Railway Workshops complex from the mid-20th century, whereas the southern portion of the subject area has been subject to moderate-high levels of disturbance resulting from its residential development throughout the late 19th and 20th centuries. There is therefore greater potential for archaeologically sensitive, intact soil profiles within the southern portion of the subject area.

Previous geotechnical investigations have confirmed that the northern portion of the subject area contains a layer of fill, although this does not preclude the potential for natural soils at depth. Further geotechnical investigation is needed to confirm the level of disturbance and to identify which soil landscape is present within the subject area.

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. ASSESSMENT OF SUBJECT AREA

4.2.1. 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.

No activity is currently proposed for the subject area (see Section 1.2 above). In determining whether conservation provisions are required for the Planning Proposal, it is assumed that any Aboriginal objects within the subject area would be vulnerable to harm by any future works at the site. Therefore, for the purpose of the present assessment, the 'proposed activity' is assumed to impact all Aboriginal objects within the subject area and is therefore not a 'low impact activity'.

4.2.2. Step 1 – Will the activity disturb the ground surface?

YES.

No activity is currently proposed for the subject area (see Section 1.2 above). In determining whether conservation provisions are required for the Planning Proposal, it is assumed that any Aboriginal objects within the subject area would be vulnerable to harm by any future works at the site. Therefore, for the purpose of the present assessment, it is assumed that the 'proposed activity' would disturb the ground surface across the entire subject area.

4.2.3. 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 above). There is no information recorded in the AHIMS databased 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 above).

4.2.4. 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 were identified that indicate the likely presence of Aboriginal objects.

4.2.5. 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 subject 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.

While the subject area does not contain any landscape features which are indicative of likely past Aboriginal land use under the Due Diligence Code (see Section 3.2.1 above), it is located within the Blacktown soil landscape which consists of shallow to moderately deep soils. However, historical activities within the subject area, including clearing of vegetation, and the construction and demolition of buildings have caused clear

and observable changes to the ground surface (see Section 3.2.5). The landscape features of the subject area therefore do not indicate the likely presence of Aboriginal objects.

4.2.6. 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. There are no Aboriginal objects or Aboriginal places registered within the curtilage of the subject area (see Section 3.1.3 above). Furthermore, as discussed in Section 3.2.5, historical development and utilisation of the subject area is determined to have caused high levels of ground disturbance across the subject area. Step 3 of the Due Diligence process therefore does not apply for the present assessment.

4.2.7. 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. There are no Aboriginal objects or Aboriginal places registered within the curtilage of the subject area (see Section 3.1.3 above). Furthermore, as discussed in Section 3.2.5, historical development and utilisation of the subject area is determined to have caused high levels of ground disturbance across the subject area. Further geotechnical investigation is warranted to identify the level of disturbance and the nature and extent of the underlaying soils. Step 4 of the Due Diligence process therefore does not apply for the present assessment.

4.3. 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 archaeological investigation of the subject area is presently required. However, further geotechnical investigation is needed to confirm the level of disturbance and to identify which soil landscape is present within the subject area.

5. CONCLUSIONS AND RECOMMENDATIONS

Urbis has been engaged by the Department of Planning and Environment ('the proponent') to conduct an Aboriginal Objects Due Diligence Assessment (ADD) of Explorer Street, Eveleigh, NSW, legally referred to as Lots 21 and 22, DP835061 ('the subject area').

The ADD supports a Planning Proposal request, which seeks to amend the *Sydney Local Environmental Plan 2012*.

The ADD was undertaken to investigate whether any known Aboriginal objects or Aboriginal places are located within the subject area, or whether any unknow Aboriginal objects are likely to occur in the subject are, which may need conservation provisions to be included in the Planning Proposal request.

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.
- 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.
- Highly developed urban sites still have the potential to retain natural soils below imported fill/structures and between footings in locations where the natural soil profile is naturally deep enough to have survived these impacts. Unless the historical impacts have extended below the level of the natural topsoil such as basement car parks, wholesale excavation, quarrying etc potential for remnant natural soil profiles to exist within highly developed urban sites still exists.
- The most likely site type to occur in the vicinity of the subject area according to the results of the AHIMS search are Potential Archaeological Deposits and artefact scatters/subsurface artefact assemblages.
- The subject area is located on the southern lower slope of a saddle connecting hills to the east and west. The topographical context of the subject area is not therefore considered to be archaeologically sensitive.
- According to the available data and mapping, the subject area is situated on the southern edge of the Blacktown soil landscape, just transitioning into the Tuggerah soil landscape. The Blacktown soils characterised by shallow to moderately deep soils, while the Tuggerah soils are associated with deeper, sandy soils. Recent archaeological excavations within the vicinity suggest that the boundaries between the two soil landscapes are not accurately mapped and therefore it is not entirely clear on which soil landscape the subject area is located on. Due to the sensitivity of the Tuggerah soil landscape for Aboriginal objects, further soil testing and geotechnical data is required to confirm the soil landscape of the subject area.
- The nearest watercourse to the subject area is Shea's Creek, which is located approximately 1 km south-east. The hydrology of the subject area is not therefore considered to be archaeologically sensitive.
- The subject area has been extensively cleared through historical disturbance and therefore has nil-low potential for the retention of culturally modified trees.
- The northern portion of the subject area has been subject to high levels of disturbance in association with its incorporation within the Eveleigh Railway Workshops complex from the mid-20th century, whereas the southern portion of the subject area has been subject to moderate-high levels of disturbance resulting from its residential development throughout the late 19th and 20th centuries. There is therefore greater potential for archaeologically sensitive, intact soil profiles within the southern portion of the subject area.
- Previous geotechnical investigations have confirmed that the northern portion of the subject area contains a layer of fill, although this does not preclude the potential for natural soils at depth.

Based on the above conclusions, Urbis recommends that geotechnical investigations be undertaken prior to any works which would disturb the ground surface. The following table outlines recommended actions subject to the outcome of these investigations.

Scenario	Action
Geotechnical investigations confirm the presence of the Tuggerah Soil Landscape within the footprint of the proposal.	▪ An update to this ADD should be prepared. ▪ The updated ADD should make recommendations as to whether an Aboriginal Cultural Heritage Assessment (ACHA) will be required in accordance with Part 6 of the *National Parks and Wildlife Act 1974* (NPW Act) and Part 5 of the *National Parks and Wildlife Regulation 2019* (NPW Reg). Note: A minimum 14-16 weeks is required for completion of the ACHA process. This includes a mandated 12 weeks of consultation with the Aboriginal community, and additional time for the review of documentation, drafting of the ACHA report and coordination of a site inspection.
Geotechnical investigations confirm the presence of both the Blacktown and Tuggerah Soil Landscapes within the footprint of the proposal.	▪ An update to this ADD should be prepared. ▪ The updated ADD should make recommendations as to whether an Aboriginal Cultural Heritage Assessment (ACHA) will be required in accordance with Part 6 of the *National Parks and Wildlife Act 1974* (NPW Act) and Part 5 of the *National Parks and Wildlife Regulation 2019* (NPW Reg). Note: A minimum 14-16 weeks is required for completion of the ACHA process. This includes a mandated 12 weeks of consultation with the Aboriginal community, and additional time for the review of documentation, drafting of the ACHA report and coordination of a site inspection.
Geotechnical investigations confirm the presence of the Blacktown Soil Landscape within the footprint of the proposal.	▪ No further archaeological assessment is required. ▪ A copy of this ADD should be kept as evidence of the Due Diligence Process having been applied to the subject area. ▪ The proposed development may proceed in line with the Unexpected Archaeological Finds Procedure and Human Remains Procedure outlined below. **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).

Scenario	Action
	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

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7. DISCLAIMER

This report is dated 22 August 2023 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 Department of Planning and Environment **(Instructing Party)** for the purpose of an Aboriginal Objects 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).

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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.

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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