

Appendix H

Aboriginal Cultural Heritage Assessment Report





Aboriginal Cultural Heritage Assessment Report

Powerhouse Ultimo Renewal Project
Draft Report: April 2022

Document Information

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Curio Projects 2022, *Aboriginal Cultural Heritage Assessment Report Powerhouse Ultimo Renewal Project*, prepared for The Department of Enterprise, Investment and Trade (CreateNSW).

Local Government Area

City of Sydney

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2	11 May 2022	D2		Sarah McGuinness	

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Relevant Abbreviations

Abbreviation/Term	Definition
ACHAR	Aboriginal Cultural Heritage Assessment Report
ATR	Archaeological Technical Report
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
ASIRF	Aboriginal Site Impact Recording Form
Code of Practice	DECCW 2010, Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales
Consultation Guidelines	DECCW 2010, Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010
DECCW	Department of Environment, Climate Change and Water (now Heritage NSW)
Due Diligence Code of Practice	DECCW 2010, Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW
EP&A Act	Environmental Planning and Assessment Act 1979
Guide to Investigating	OEH 2011, Guide to Investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW
Heritage Act	NSW Heritage Act 1977
Heritage NSW	Formerly OEH
ICOMOS	International Council of Monuments and Sites
LALC	Local Aboriginal Land Council
LGA	Local Government Area
NPW Act	NSW National Parks and Wildlife Act 1974
OEH	NSW Office of Environment and Heritage (now Heritage NSW)
PAD	Potential Archaeological Deposit
RAPs	Registered Aboriginal Parties
SHR	NSW State Heritage Register

Executive Summary

Curio Projects Pty Ltd (Curio) was commissioned by the Department of Enterprise, Investment and Trade (Create NSW) to support a State Significant Development (SSD) Development Application (DA) for alterations and additions to Powerhouse Ultimo at 500 Harris Street, Ultimo.

The Powerhouse Ultimo Renewal project comprises a transformative \$480-\$500 million investment by the NSW Government to create a new Creative Industries Precinct that is integrated into the operations of the existing Powerhouse Museum. The retention and renewal of Powerhouse Ultimo will deliver an international standard museum with new and refurbished spaces for museum operations, exhibitions, programs and associated industry and creative uses that will activate and engage audiences. It will deliver a programming focus on design and fashion, presenting exhibitions that showcase the Powerhouse Collection, international exclusive exhibitions and programs that support the design and fashion industries.

The Powerhouse Ultimo Renewal project is for the purposes of an 'information and education facility' with a capital investment value of more than \$30 million, and such is classified as State Significant Development (SSD) pursuant to Section 13(1) of Schedule 1 of State Environmental Planning Policy (Planning Systems) 2021.

The delivery of the new Creative Industries Precinct for Powerhouse Ultimo will occur in stages, comprising the following:

- Stage 1 – Concept DA establishing the planning, design, and assessment framework for the Powerhouse Ultimo Renewal Project including the indicative land uses, maximum building envelopes, general parameters for the future layout of the site, and strategies to guide the subsequent detailed design phases of the project including Urban Design Guidelines and Design Excellence Strategy.
- Architectural Design Competition – A competitive design process to critically analyse and provide design alternatives for the Powerhouse Ultimo Renewal project in accordance with the planning and development framework established for the site under the Concept DA. A winning design will be selected by a jury of experts and will inform the subsequent detailed design and assessment phase (Stage 2) of the project.
- Stage 2 – A Detailed DA confirming the ultimate architectural design and operation of Powerhouse Ultimo and assessing any associated planning and environmental impacts. This Detailed DA will seek consent for the detailed design, construction and operation of the proposed development and follows the same planning assessment and determination process as the Concept DA (Stage 1).

This Concept DA sets the vision for the renewal of Powerhouse Ultimo and the creation of the Powerhouse Creative Industries Precinct, with the detailed design, construction, and operation of the project to be sought at a separate and future stage (Stage 2).

Concept approval is sought for the following:

- A maximum building envelope for any new buildings and alterations and additions to existing buildings retained on the site.

- Use of the new spaces and built form as an 'information and education facility' including exhibition, education, and back of house spaces, and a range of related and ancillary uses to contribute to the operation of Powerhouse Ultimo.
- Endorsement of Urban Design Guidelines and a Design Excellence Strategy to guide the detailed design of the future building, internal spaces, and public domain areas that will be the subject of a competitive design process and a separate and future DA (Stage 2).
- An updated Draft Conservation Management Plan to ensure that future development occurs in a manner that is compatible with, and facilitates the conservation of, the heritage values of the site.
- General functional parameters for the future design, construction, and operation of buildings and uses on the site including the principles and strategies for the management of transport and access, flooding, sustainability, heritage and the like.

The ACHAR is required to inform an Environmental Impact Statement (EIS) which will be submitted to support a State Significance Development Application (SSDA) for the Project pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The Department of Planning and Environment (DPE) has issued Secretary's Environmental Assessment Requirements (SEARs) to the applicant for the preparation of an Environmental Impact Statement (EIS) for the proposed development. This report has been prepared having regard to the SEARs.

The study area is located within the boundaries of the Sydney City Local Government Area (LGA) and is located within the boundary of the Metropolitan Local Aboriginal Land Councils (LALC). This ACHAR has been prepared in accordance with relevant statutory guidelines including:

- OEH 2011, *Guide to Investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW*. (Guide to Investigating).
 - DECCW 2010, *Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales*. (Code of Practice).
 - DECCW 2010, *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*. (Consultation Guidelines).
- The Burra Charter, 2013, *Australian ICOMOS Charter for Places of Cultural Significance*. (Burra Charter).

This ACHAR documents the process of investigation, Aboriginal community consultation and assessment with regards to Aboriginal cultural heritage and Aboriginal archaeology, as undertaken for the Powerhouse Ultimo Renewal Project and study area, specific to the proposed development works. This includes background research and assessment of evidence and information concerning material traces of Aboriginal land use in the study area and surrounds, significance assessment of potential Aboriginal sites, places, landscapes and/or other values, as well as an impact assessment and management recommendations to assist Create NSW with their future responsibilities for Aboriginal cultural heritage within the study area.

The ACHAR conducted for the Project concluded that:

- The study area is located within the archaeologically sensitive landscape of the Ultimo portion of the Pyrmont Peninsula, situated along what would have been the original shoreline of Cockle Bay (now Darling Harbour) and to the east of the original course of Black Wattle Swamp Creek.
- Dominant Aboriginal site types within the local region include Potential Archaeological Deposits (PADs) and artefact sites (including isolated artefacts and artefact scatters) and these sites are the most likely types to be identified within the current study area.

- No Aboriginal sites are registered as being located within or directly adjacent to the study area, though several PAD sites are situated within 200m of the area.
- The study area is located within the GyMEA soil landscape unit. Aboriginal sites within this soil landscape are likely to be disturbed low-density artefact scatters that are highly prone to displacement due to erosion and landscape disturbance.
- Moderate to high levels of disturbance relating to the clearing of native vegetation and the construction of the existing buildings will have impacted the original soil profile across much of the study area resulting in the loss of topsoil. The potential for intact archaeological deposits below the upper levels of disturbance, however, is possible, particularly considering the favourable environmental context of the study area.
- The results of geotechnical investigations within the study area indicate that natural soil profiles of silty sand and sandy clay alluvial soil do exist below the disturbed upper layers, particularly within the western portion of the study area.
- Despite the disturbance from previous land use practices within the study area, natural soil profiles below the disturbed layers retain a moderate-to-high potential for preserving Aboriginal objects. These objects are expected to relate to use of the area during the last 7,000-1,000 years BP when sea levels had reached their current position, the coastal environment had stabilised, and the climate had become more akin to present conditions. The study area also has the potential to contain evidence of contact archaeology in the form of flaked glass artefacts.
- The nature, extent and significance of the potential Aboriginal archaeological resource within the study area, however, remains unknown.

Under the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH, 2011) and the Principles of Ecologically Sustainable Development, consideration has been given to whether there is sufficient scientific knowledge to evaluate the proposed impacts. Further investigation is required to determine if subsurface Aboriginal objects are present within the study area and to fully assess the impact of the proposed development on any potential Archaeological resources that may be present.

Based on the conclusions of this assessment the following recommendations are made:

Recommendation 1 –Stage 2 ACHAR

A secondary, Stage 2 ACHAR to be completed following finalisation of concept designs for the Project and when ground disturbing impacts are known. The Stage 2 ACHAR to be completed with Aboriginal community consultation and in accordance with the guidelines listed above.

The Stage 2 ACHAR will inform any future assessment requirements and/or Aboriginal archaeological test excavation (Recommendation 2).

Recommendation 2- Aboriginal Archaeological Test Excavation following completion of Stage 2 ACHAR

This Stage 1 ACHAR has determined that future assessment in the form of a Stage 2 ACHAR will be required as part of Stage 2 works (Recommendation 1) and that an Aboriginal archaeological test excavation may be required prior to ground works (to be confirmed during completion of Stage 2 ACHAR) to determine the nature, extent and significance of any sub-surface archaeological resources within the study area.

As an SSD, the Powerhouse Ultimo Renewal Project is exempt from the requirement to seek an Aboriginal Heritage Impact Permit (AHIP) under Section 90 of the *National Parks and Wildlife Act 1974* (NPW Act).

An Archaeological Research Design (ARD) and Methodology should be prepared following finalisation of Stage 2 Project concept designs to allow for the sub-surface archaeological excavations in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010). The program of Aboriginal archaeological excavation should be coordinated with the historical archaeological investigation works required for the development. Aboriginal test excavations should be undertaken in accordance with the ARD by appropriately qualified archaeologists and with participation of representatives of Registered Aboriginal Parties (RAPs) for the Project.

The results of the test excavations must be incorporated into the Stage 2 ACHAR or documented in an addendum document and supplied to the project RAPs for comment in accordance with *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, 2010).

Final decisions regarding the long-term management of any artefacts located during the test excavation process will require management under a Care and Control Agreement under s.85A(1)(c) of the NPW Act. The details of the Care and Control Agreement are to be decided upon in consultation/discussion with Project RAPs, Create NSW, Powerhouse Museum, and Curio Projects, prior to the conclusion of archaeological investigations within the study area.

Recommendation 3 – Aboriginal Community Consultation

Create NSW should continue to consult with the identified Aboriginal stakeholders (RAPs) throughout the Project. The consultation outlined as part of this ACHAR is valid for six months and must be maintained by the Proponent for it to remain continuous.

Should Aboriginal community consultation be restarted as part of Stage 2 ACHAR assessment, the RAPs identified for this Stage 1 ACHAR be included in any future registration of Aboriginal stakeholders.

Recommendation 4 – Aboriginal Cultural Heritage Induction

Prior to commencement of future site works, site contractors should undergo an Aboriginal cultural heritage induction, to be lead/delivered by Project RAPs, to communicate the significance of site, deposits, and need to protect and conserve.

The induction material should include an overview of the types of sites to be aware of (i.e. artefact scatters or concentrations of shells that could be middens), obligations under the NPW Act, and the requirements of an archaeological finds' procedure (refer to Recommendation 2).

Recommendation 5- Aboriginal Heritage Interpretation

Potential options and opportunities for appropriate and feasible Aboriginal cultural heritage interpretation for the Powerhouse Ultimo Renewal Project will be developed in consultation between Create NSW, the Project RAPs and the Project archaeologists throughout the Project process, including both Stage 1 and Stage 2. Through the direct discussion between Project RAPs and the proponent, the consultation process and the review of the draft ACHAR, the identification of the most meaningful outcome for the Project can be established, with some examples already put forth including the possibility for a Keeping Place on site, as well as the reinstatement of natural vegetation and any other management and mitigative initiatives that may be discussed in future.

1. Introduction

1. Introduction

1.1. Purpose of this Report

Curio Projects Pty Ltd (Curio) was commissioned by the Department of Enterprise, Investment and Trade (Create NSW) to support a State Significant Development (SSD) Development Application (DA) for alterations and additions to Powerhouse Ultimo at 500 Harris Street, Ultimo.

The Powerhouse Ultimo Renewal is a transformative \$480-\$500 million investment by the NSW Government to establish a world-class museum that will significantly contribute to an important and developing part of Sydney. The renewal will see Powerhouse Ultimo deliver a programming focus on design and fashion, presenting exhibitions that showcase the Powerhouse Collection, international exclusive exhibitions and programs that support the design and fashion industries.

The Powerhouse Ultimo Renewal project is for the purposes of an 'information and education facility' with a capital investment value of more than \$30 million, and such is classified as State Significant Development (SSD) pursuant to Section 13(1) of Schedule 1 of State Environmental Planning Policy (Planning Systems) 2021.

The delivery of the new Creative Industries Precinct for Powerhouse Ultimo will occur in stages, comprising the following:

- **Stage 1** – Concept DA establishing the planning, design, and assessment framework for the Powerhouse Ultimo Renewal Project including the indicative land uses, maximum building envelopes, general parameters for the future layout of the site, and strategies to guide the subsequent detailed design phases of the project including Urban Design Guidelines and Design Excellence Strategy.
- **Architectural Design Competition** – A competitive design process to critically analyse and provide design alternatives for the Powerhouse Ultimo Renewal project in accordance with the planning and development framework established for the site under the Concept DA. A winning design will be selected by a jury of experts and will inform the subsequent detailed design and assessment phase (Stage 2) of the project.
- **Stage 2** – A Detailed DA confirming the ultimate architectural design and operation of Powerhouse Ultimo and assessing any associated planning and environmental impacts. This Detailed DA will seek consent for the detailed design, construction and operation of the proposed development and follows the same planning assessment and determination process as the Concept DA (Stage 1).

This Concept DA sets the vision for the renewal of Powerhouse Ultimo and the creation of the Powerhouse Creative Industries Precinct, with the detailed design, construction, and operation of the project to be sought at a separate and future stage (Stage 2).

Concept approval is sought for the following:

- A maximum building envelope for any new buildings and alterations and additions to existing buildings retained on the site.
- Use of the new spaces and built form as an 'information and education facility' including exhibition, education, and back of house spaces, and a range of related and ancillary uses to contribute to the operation of Powerhouse Ultimo.
- Endorsement of Urban Design Guidelines and a Design Excellence Strategy to guide the detailed design of the future building, internal spaces, and public domain areas that will be the subject of a competitive design process and a separate and future DA (Stage 2).

- An updated Draft Conservation Management Plan to ensure that future development occurs in a manner that is compatible with, and facilitates the conservation of, the heritage values of the site.
- General functional parameters for the future design, construction, and operation of buildings and uses on the site including the principles and strategies for the management of transport and access, flooding, sustainability, heritage and the like.

The ACHAR is required to inform an Environmental Impact Statement (EIS) which will be submitted to support a State Significance Development Application (SSDA) for the Project pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The Department of Planning and Environment (DPE) has issued Secretary's Environmental Assessment Requirements (SEARs) to the applicant for the preparation of an Environmental Impact Statement (EIS) for the proposed development. This report has been prepared having regard to the SEARs.

The study area is located within the boundaries of the Sydney City Local Government Area (LGA) and is located within the boundaries of the Metropolitan and La Perouse Aboriginal Land Councils (LALC). This ACHAR has been prepared in accordance with relevant statutory guidelines including:

- OEH 2011, *Guide to Investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW*. (Guide to Investigating).
- DECCW 2010, *Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales*. (Code of Practice).
- DECCW 2010, *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*. (Consultation Guidelines).

The Burra Charter, 2013, *Australian ICOMOS Charter for Places of Cultural Significance*. (Burra Charter).

This ACHAR has also been prepared with reference to the following documents relevant to the Project:

- Curio Projects 2021, *Powerhouse Ultimo Aboriginal Heritage Due Diligence Assessment Report*, prepared for Create NSW. 11 November 2020.
- Ethos Urban 2020, *Scoping Report Powerhouse Ultimo Renewal*, prepared for Create NSW. 3 December 2021.

1.2. Background

The Powerhouse Ultimo is Australia's contemporary museum (information and education facility) for the applied arts and sciences and industry development. The museum was established in 1881 in the Garden Palace which emerged from a history of 19th Century grand exhibition halls, including the Grand Palais in Paris. Powerhouse Ultimo has operated on the Ultimo site since 1988.

On 4 July 2020 the NSW Government announced that the Powerhouse Ultimo would be retained and renewed as the anchor of the Ultimo Creative Industries Precinct being developed as part of the NSW Government's Cultural Infrastructure Plan 2025+ (the Plan)¹. The Powerhouse Ultimo Renewal Project will complement the museum flagship Powerhouse Parramatta, Powerhouse Castle Hill and the Sydney Observatory. The Project represents a significant \$480-\$500 million investment by the NSW Government aimed at creating a world-class museum that will contribute to the cultural sector in inner Sydney. The Project aims to create a facility which supports the design and fashion industries in Sydney and enables the delivery of programs focused on design and fashion including

¹ NSW Government 2019

providing a space for the presentation of exhibitions that showcase the Powerhouse Collection and international exhibits.

In November 2020, Curio prepared an Aboriginal Heritage Due Diligence Assessment Report (DD) to inform development options and Create NSW's preparation of a Business Case for the Project. The report determined that, although no registered Aboriginal archaeological sites are recorded within the assessment area, the environmental context of the area combined with the rich Aboriginal history of the Ultimo Pyrmont Peninsula area means that there is a moderate to high potential for natural soil profiles and hence in situ Aboriginal archaeological deposits to occur within the Powerhouse Ultimo boundaries². A Scoping Report subsequently prepared for the Project in December 2021 by Ethos Urban and submitted on behalf of Create NSW requesting SEARs for the preparation of an EIS for a Concept Proposal for the Project³.

SEARs for the Project were issued on the 18 January 2022 (Application number SSD-32927319). Requirement 20 of the SEARs calls for the development of an ACHAR prepared in accordance with relevant guidelines, identifying, describing and assessing any impacts for any Aboriginal cultural heritage values associated with the study area of the Project site. The ACHAR is required to inform the EIS which will be submitted to support a SSDA.

1.3. Site Description

The study area for the Powerhouse Ultimo Renewal Project is located at 500 Harris Street, Ultimo, NSW on the south eastern edge of the Ultimo-Pyrmont Peninsula, approximately 500m south west of Darling Harbour and 2km southwest of Sydney Central Business District (CBD) within the City of Sydney Local Government Area (LGA; Figure 1-1). The study area is broadly defined by Harris Street, Omnibus Lane and a residential apartment block at 82 Mary Ann Street to the west; the William Henry Street Bridge to the north; the Goods Line to the east and Mary Ann Street to the south. The study area is situated within the boundary of the Metropolitan Local Aboriginal Land Council (LALC).

The study area comprises of six lots covering an area of approximately 2.37 hectares. The property is owned by the Museum of Applied Arts and Sciences Trust and includes the original Ultimo Power Station buildings, the Harwood Building, Office Building, Pumphouse (Old Boiler House), Engine Hall, Turbine Hall, New Boiler House, Switch House, former Ultimo Post Office and Wran Building (temporary exhibition hall opened in 1988). The Engine Room, Turbine Hall, New Boiler House, Office Building and Switch House form the principle remains of the former Ultimo Tramways Power House, remaining as the main group of interconnected buildings within the study area (Figure 1-2 and Figure 1-3). Some components of the buildings on the site are State heritage listed.

A description of the lots which form the study area is provided in Table 1-1.

Table 1-1: Description of Lots contained within study area

Lot/DP	Description	Owner
Lot 1 DP 631345	Ultimo Power House, Harris Street forecourt, café and southern carpark	The Trustees of the Museum of Applied Arts and Sciences
Lot 1 DP 781732	Wran Building	The Trustees of the Museum of Applied Arts and Sciences

² Curio 2021

³ Ethos Urban 2021

Lot/DP	Description	Owner
Lot 3 DP 631345	Harris Street forecourt	The Trustees of the Museum of Applied Arts and Sciences
Lot 37 DP 82234	Harris Street forecourt	The Trustees of the Museum of Applied Arts and Sciences
Lot 1 DP 770031	Former Ultimo Post Office	The Trustees of the Museum of Applied Arts and Sciences
Lot 3 DP 216854	Harwood Building	The Trustees of the Museum of Applied Arts and Sciences

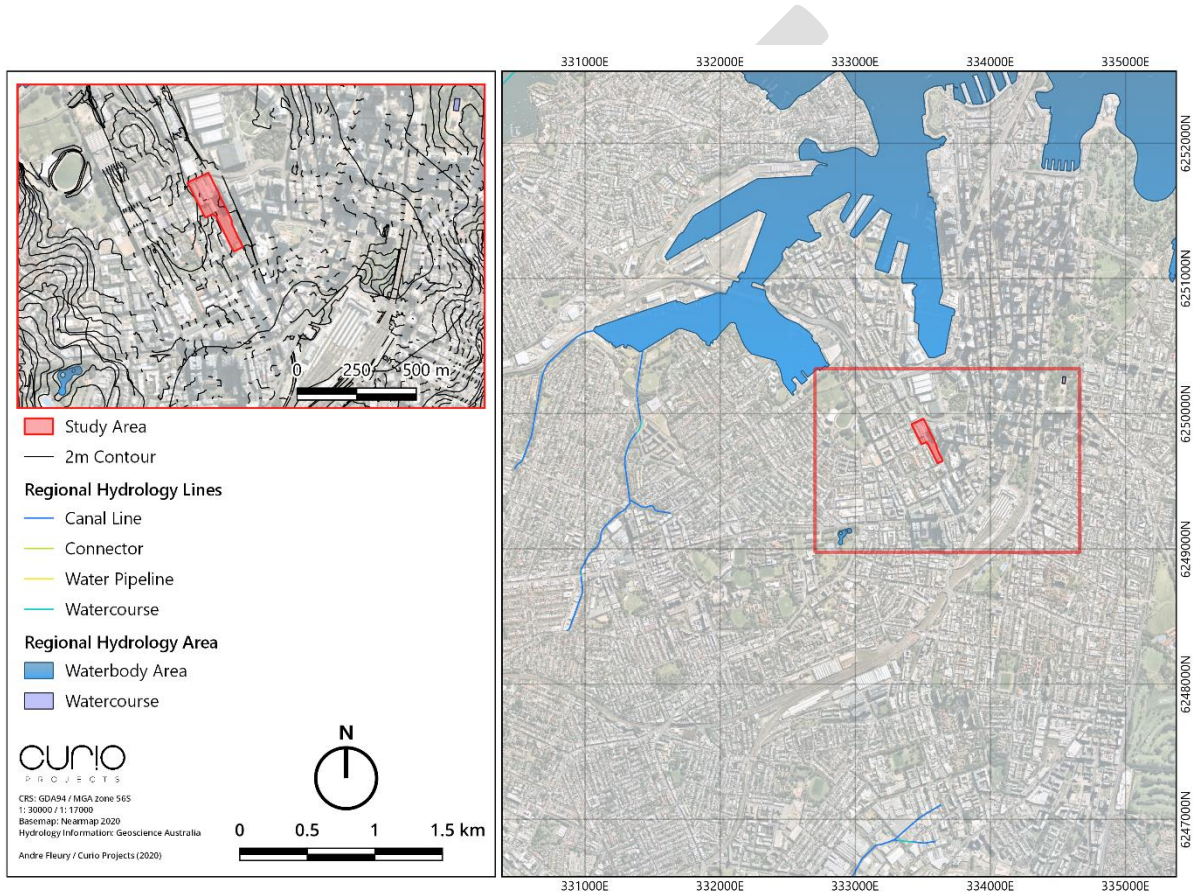


Figure 1-1: Regional Context (Source: Curio 2022)



Figure 1-2: Aerial view showing key built elements of the study area and its immediate surrounds
(Source: Ethos Urban, 2022)

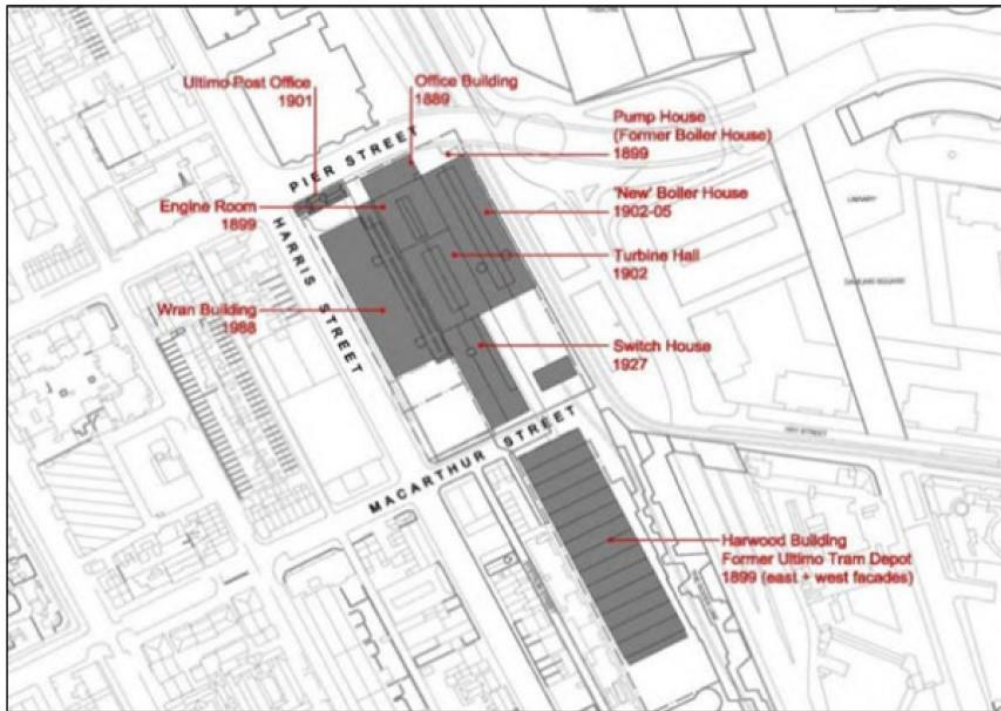


Figure 1-3: Plan of the study area showing key elements and their original date of construction
(Source: TKD Architects, Nov 2018)

1.4. Overview of Proposed Development

This Concept DA sets the vision for the renewal of Powerhouse Ultimo and the creation of the Powerhouse Creative Industries Precinct, with the detailed design, construction, and operation of the project to be sought at a separate and future stage (Stage 2).

Concept approval is sought for the following:

- A maximum 'loose-fit' building envelope enabling a new building fronting Harris Street and the renewal of the Wran building to the north and the Power House main building.
- Use of the new spaces and built form as an 'information and education facility' including exhibition, education, and back of house spaces, and a range of related and ancillary uses such as office and co-working spaces, creative industry studios, retail facilities and public domain.
- Endorsement of Urban Design Guidelines and a Design Excellence Strategy to guide the detailed design of the future building, internal spaces, and public domain areas that will be the subject of a competitive design process and a separate and future DA (Stage 2).

General functional parameters for the future design, construction, and operation of buildings and uses on the site including the principles and strategies for the management of transport and access, flooding, sustainability, heritage and the like.

Create NSW are in the process of undertaking an architectural design competition for the delivery of the Project. As the Project is in the early planning and design stages, a conceptual layout and design have not been formalised.

The Project will involve the expansion and upgrade of exhibition and public spaces and the development of new connections to the Goods Line and adjacent precincts such as the future Tech

Central. No substantive works or changes in use are proposed for the Harwood Building located between Macarthur Street and Mary Ann Street within the study area. The Project, however, will include works to the existing heritage listed Ultimo Power House and former Ultimo Post Office buildings (both listed on the NSW State Heritage Register), to facilitate their ongoing adaptive reuse for the Powerhouse Museum, and will also include new built form that is compatible with existing heritage items across the site.

The development will also comprise of a range of related and ancillary uses including the creation of office and co-working spaces, creative industry studios, retail facilities and public domain. The largest portion of the works will likely relate to the conservation and refurbishment of the Ultimo Power House building within the study area. More substantial alterations/ additions and new construction would be undertaken in locations within the study area which are less constrained by heritage factors, such as the Harris Street site frontage and forecourt. It is anticipated that any new or altered built form will comply with the relevant building height and floor space development standards applicable under the Sydney Local Environmental Plan (LEP) 2012 while also being compatible with the heritage significance of the Former Ultimo Post Office and Ultimo Power House.

1.5. Assessment Requirements

The Department of Planning, Industry and Environment (DPIE) have issued SEARs to the Department of Premier and Cabinet for the preparation of an EIS for the Project. The EIS must meet the minimum form and content requirements as prescribed by Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation) and the SSD Guidelines. This report has been prepared having regard to the key issues and assessment requirements for Aboriginal cultural heritage as defined in the SEARs and as outlined in Table 1-2.

Table 1-2: Aboriginal cultural heritage requirement in Project SEARs

SEARs Requirement	Where Addressed
20. Aboriginal cultural heritage Provide an Aboriginal Cultural Heritage Assessment Report prepared in accordance with relevant guidelines, identifying describing and assessing any impacts for any Aboriginal cultural heritage values on the site.	This report (ACHAR)

This report also addresses the Strategic Policy and Technical Guidelines as outlined in Table 1-3.

Table 1-3: Relevant Policy and/or guidelines

Policy or Guideline	Where Addressed
Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW	Entire report. See notes in Section 2.1.4
Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010	Section 3
Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW 2010	Entire report. See notes in Section 2.1.4

1.6. Limitations and Constraints

This report has been prepared using the available historical data and documentation available for the study area and surrounds, including relevant archaeological reports and assessments.

This report does not include assessment of non-Aboriginal heritage values or archaeology, nor any non-heritage related planning controls or requirements.

1.7. Investigators, Contributors and Acknowledgements

This report has been prepared by Marika Low (Archaeologist, Curio Projects), Mikhailia Chaplin (Archaeologist, Curio Projects) and Sarah McGuinness (Senior Archaeologist and Cultural Heritage Specialist, Curio Projects), with review by Sarah McGuinness. Table 1-4 presents a complete list of the project team, including qualifications, affiliation and role in the project. Details of all Registered Aboriginal Parties (RAPs) for the Project are presented in Section 3.

Table 1-4: Investigators, Contributors and Acknowledgements

Person and qualifications	Affiliation	Role
Sarah McGuinness, Senior Archaeologist and Cultural Heritage Specialist BA	Curio Projects	Project Manager and Co-Author
Marika Low, Archaeologist (BA (Hons), PhD)	Curio Projects	Report Author
Mikhailia Chaplin, Graduate Archaeologist (BA, Archaeology & Ancient History)	Curio Projects	Community Consultation
Natalie Vinton, Director (BA (Hons) Archaeology and Palaeoanthropology)	Curio Projects	Quality Assurance and High Level Project Advice
Andre Fleury, Archaeologist (B. Hist, M Archaeological Science)	Curio Projects	GIS and Mapping

2. Relevant Statutory Context

2. Statutory Context

Aboriginal cultural heritage is governed in NSW by two primary pieces of legislation:

- *National Parks and Wildlife Act 1974* (NSW) (NPW Act)
- *Environmental Planning and Assessment Act 1979* (NSW) (EPA Act)

2.1. National Parks and Wildlife Act (NSW) 1974

The NPW Act, administered by the Aboriginal Heritage Regulation Section, Heritage NSW, of the NSW Department of Premier and Cabinet (DPC) (formerly known as the Office of Environment and Heritage – OEH), is the primary legislation that provides statutory protection for all 'Aboriginal objects' (Part 6, Section 90) and 'Aboriginal Places' (Part 6, Section 84) within NSW.

An Aboriginal object is defined through the NPW Act as:

"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."

The NPW Act provides the definition of 'harm' to Aboriginal objects and places as:

"...any act or omission that:

- (a) Destroys, defaces or damages the object or place, or*
- (b) In relation to an object – moves object from the land on which it had been situated, or*
- (c) Is specified by the regulations, or*
- (d) Causes or permits the object or place to be harmed in a manner referred to in paragraph (a), (b), or (c)*

The NPW Act also establishes penalties for 'harm' to Aboriginal objects and declared Aboriginal places, as well as defences and exemptions for harm. One of the main defences against the harming of Aboriginal objects and cultural material is to seek an Aboriginal Heritage Impact Permit (AHIP) under Section 90 of the NPW Act, under which disturbance to Aboriginal objects could be undertaken, in accordance with the requirements of an approved AHIP.

2.2. Native Title Act 1993

The Native Title Act 1993 provides the legislative framework to recognize and protect native title, which recognises the traditional rights and interests to land and waters of Aboriginal and Torres Strait Islander people. Under the Native Title Act, native title claimants can make an application to the Federal Court to have their native title recognised by Australian Law.

There are currently no native title claims or determinations in place for the study area.

2.3. Environmental Planning and Assessment Act 1979

The EP&A Act is an 'Act to institute a system of environmental planning and assessment for the state of NSW'. Dependent upon which Part of the EP&A Act a project is to be assessed under, differing requirements and protocols for the assessment of associated Aboriginal cultural heritage may apply.

Part 4, Division 4.1 of the EP&A Act identifies and defines State Significant Development projects (SSD) as those declared under Section 89C of the EP&A Act. SSD and State Significant Infrastructure projects (SSI), replace 'Concept Plan' project approvals, in accordance with Part 3A of this Act, which was repealed in 2011.

Where a project is assessed to be an SSD, the process of development approval differs, with certain approvals and legislation no longer applicable to the project. Of relevance to the assessment of Aboriginal heritage for a development, the requirement for an AHIP in accordance with Section 90 of the NPW Act is removed for SSD projects (EP&A Act, Section 89J).

The current Project will meet the criteria for SSDA, and therefore will be exempt from the provisions of the NPW Act which require an AHIP.

2.4. NSW Aboriginal Heritage Statutory Guidelines

In order to best implement and administer the protection afforded to Aboriginal objects and places as through the NPW and EPA Acts, the OEH (now part of Heritage NSW under the DPC) have prepared a series of best practice statutory guidelines with regards to Aboriginal heritage. These guidelines are designed to assist developers, landowners and archaeologists to better understand their statutory obligations with regards to Aboriginal heritage in NSW and implement best practice policies into their investigation of Aboriginal heritage values and archaeology in relation to their land and/or development. This report has been prepared in accordance with these guidelines, including:

- DECCW 2010(a), *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* (the Due Diligence Code of Practice)
- DECCW 2010(b), *Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales* (the Code of Practice)
- DECCW 2010(c), *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (the Consultation Guidelines)
- OEH 2011(a), *Guide to investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (the Guide to Investigating)
- OEH 2011(b), *Aboriginal Heritage Impact Permits, A Guide for Applicants*

2.5. City of Sydney Planning Documents and Policies

Aboriginal cultural heritage values have been considered and incorporated into a number of key strategic planning policies developed by the City of Sydney council in an effort to give prominence to the Aboriginal identity of the City of Sydney LGA. The *City of Sydney Plan 2036*⁵, *Sustainable Sydney 2030 Strategy*⁶, the *Eora Economy Development Plan*⁷ and the *Pymont Peninsula Place Strategy*⁸ together provide a structural approach to maintaining connections to Sydney's Aboriginal past, as

⁵ City of Sydney 2019

⁶ City of Sydney 2017

⁷ City of Sydney 2016

⁸ City of Sydney 2020

well as the living cultures of Aboriginal and Torres Strait Islander communities. This structural approach represents the 'Eora Journey', and is being achieved through:

- Recognition and reconciliation – across all City of Sydney strategic planning policies and community engagement projects.
- Design of the built environment – through strategic and sustainable planning policies and urban design regulations.
- Economic opportunities and prosperity – detailed in the Eora Economy Development Plan.
- Public art projects and cultural events – such as the Barani/Barrabagu (Yesterday/Tomorrow) and Eora Journey Harbour Walk Storytelling Report.
- The construction of a local Aboriginal knowledge and culture centre.

The predominant approach adopted by the City of Sydney council to Aboriginal cultural heritage is one based on the knowledge that 'the political, economic, social and cultural rights of the Aboriginal and Torres Strait Islander communities must be embedded in the city's economic, social, environmental and cultural change'.⁹

2.5.1. City of Sydney Local Environmental Plan 2012

Schedule 5 of the City of Sydney Local Environmental Plan (LEP; 2012) provides relevant information on locally listed heritage items, identifying items and areas of local heritage significance, and outlining consent requirements.

A search of the City of Sydney LEP 2012 was undertaken on 23 March 2022. The study area is situated within proximity to several locally-listed heritage items identified under the Sydney LEP, including the Glasgow Arms Hotel, terrace-house groups along Harris St and Macarthur St, the former Millinery House building, former National Cash Register building and the former Technological Museum/Sydney Technical College building in Harris Street.

The study area contains two heritage-listed buildings listed in Schedule 5 of the LEP. Details of these are provided in Table 2-1. The study area, however, is not identified as being located within a Heritage Conservation Area, though it is adjacent to and in the vicinity of the Harris St Ultimo Conservation Area.

Table 2-1: Heritage items listed in Schedule 5 of the LEP that are located within the study area

Name	Address	Lot DP	Significance level	LEP Listing number
Powerhouse Museum former warehouse buildings, including interiors	500 Harris Street, Ultimo	Lot 1, DP 631345	Local	I2031
Former Ultimo Post Office including interior	494 Harris Street, Ultimo	Lot 1, DP 770031	State	I2030

2.5.2. City of Sydney Development Control Plan 2012

The City of Sydney Development Control Plan (DCP) 2012 does not have a specific Aboriginal cultural heritage section. Controls relating to Aboriginal cultural heritage are mentioned in General Provisions – Section 3.9 Heritage. This section identifies the following objective: *"Ensure that heritage*

⁹ City of Sydney 2017, p.89

significance is considered for heritage items, development within heritage conservation areas, and development affecting archaeological sites and places of Aboriginal heritage significance.”¹⁰

Controls relating to Aboriginal cultural heritage from the City of Sydney DCP 2012 and the correlating section of this report are outlined in Table 2-2 below.

Table 2-2: Aboriginal cultural heritage controls in the City of Sydney DCP 2012

DCP Section	Text	Response
General Provisions, Section 3.9.3 – Archaeological Assessments	(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.	This ACHAR has been prepared to investigate any Aboriginal cultural objects and/or areas of significance for the study area.
General Provisions, Section 3.9.3 – Archaeological Assessments	(4) An archaeological assessment is to include: (a) an assessment of the archaeological potential of the archaeological site or place of Aboriginal heritage significance.	This ACHAR has been prepared to investigate any Aboriginal cultural objects and/or areas of potential for the study area.
General Provisions, Section 3.9.3 – Archaeological Assessments	(c) the probable impact of the proposed development on the heritage significance of the archaeological site or place of Aboriginal heritage significance.	A preliminary impact assessment has been completed as part of this ACHAR in Section 6.3.
General Provisions, Section 3.9.3 – Archaeological Assessments	(e) a management strategy to conserve the heritage significance of the archaeological site or place of Aboriginal heritage significance.	A preliminary consideration of management measures has been undertaken as part of this ACHAR in Section 7.

2.6. Objectives of Aboriginal Heritage Assessment

The objectives of the Aboriginal cultural heritage assessment for the Powerhouse Ultimo Renewal Project were to:

- Identify Aboriginal community members who can speak for the Country within which the Project is located.
- Involve the Aboriginal community in the cultural heritage assessment process, including consultation to determine their opinions with respect to the project and its potential ‘harm’ to their cultural heritage.
- Understand the number, extent, type, condition, integrity and archaeological potential of any potential Aboriginal heritage sites and places that may be located within the study area.
- Determine whether the potential Aboriginal sites and places are a component of a wider Aboriginal cultural landscape.

¹⁰ City of Sydney DCP 2012

- Understand how any potential physical Aboriginal sites relate to Aboriginal tradition within the wider area.
- Prepare a cultural and scientific values assessment for all identified aspects of Aboriginal cultural heritage associated with the study area.
- Determine how the proposed Project may impact any identified Aboriginal cultural heritage.
- Determine where impacts are unavoidable and develop a series of impact mitigation strategies that benefit Aboriginal cultural heritage and the proponent (in close consultation and discussion with the local Aboriginal community).
- Provide clear recommendations for the conservation for Aboriginal heritage and archaeological values and mitigation of any potential impact to these values.

3. Aboriginal Community Consultation

3. Aboriginal Community Consultation

Aboriginal community consultation is required for assessment of Aboriginal cultural heritage and should be undertaken in the early stages of project planning in order to best guide the development process.

This section documents the process of Aboriginal community consultation that has been undertaken for the ACHAR for the Powerhouse Ultimo Renewal study area. Aboriginal community consultation in accordance with OEH statutory guidelines *Aboriginal cultural heritage consultation requirements for proponents 2010*, was initiated for the Project on 11 February 2022.

Aboriginal people are recognised as the determinants of their own heritage. Therefore, the process of Aboriginal community consultation for the Project seeks to identify social and cultural values of the study area and its surrounds to the local Aboriginal community, in order to identify appropriate and respectful mitigation strategies for any identified impacts to Aboriginal heritage presented by the Project.

The objectives of Aboriginal community consultation, as stated in the OEH Consultation Guidelines is to:

Ensure that Aboriginal people have the opportunity to improve assessment outcomes by:

- *Providing relevant information about the cultural significance and values of the Aboriginal object(s) and/or place(s)*
- *Influencing the design of the method to assess cultural and scientific significance of Aboriginal object(s) and/or place(s)*
- *Actively contributing to the development of cultural heritage management options and recommendations for any Aboriginal object(s) and/or place(s) within the proposed project area*
- *Commenting on draft assessment reports before they are submitted by the proponent to the OEH*

3.1. Heritage NSW Consultation Guidelines Process

A complete log of all communications between Curio and Registered Aboriginal Parties (RAPs) for the Project has been maintained throughout the Project. This log will be appended to the final ACHAR as APPENDIX A – Aboriginal Community Consultation Log, with copies of any written correspondence to and responses from RAPs etc. to be included.

Cultural protocols with regards to RAP requests to censor, redact or omit sensitive cultural information from reports and correspondence have been observed throughout the consultation process. Therefore, some correspondence may be excluded from direct reproduction within this report if and when requested by Project RAPs.

The Aboriginal community consultation process in accordance with OEH Guidelines consists of four main stages:

- Stage 1** – Notification of project proposal and registration of interest
- Stage 2** – Presentation of information about the proposed project
- Stage 3** – Gathering information about cultural significance

Stage 4 – Review of draft cultural heritage assessment report

3.2. Stage 1 – Notification of Project Proposal and Registration of Interest

3.2.1. Identification of relevant Aboriginal stakeholders

The first step in undertaking the Aboriginal Cultural Heritage Assessment process for the study area, is the identification of the Aboriginal community members who can speak for Country in the area of the Project (Stage 1).

In February 2022, Curio on behalf of Create NSW, initiated a process of Aboriginal Community Consultation for the Project in accordance with statutory consultation guidelines. Stage 1 notifications identified the nature and location of the Powerhouse Ultimo Renewal Project. In accordance with Stage 1.2 of the consultation guidelines, letters were sent to the relevant statutory bodies on 11 February requesting names of Aboriginal people who may have an interest in the Project and hold knowledge relevant to determining the cultural significance of Aboriginal objects and places relevant to the study area. A summary of the results of the Stage 1 Agency notification process is provided in Table 3-1.

Table 3-1: Stage 1.2 Notification of Agencies

Agency	Response
Heritage NSW	A response was received on 22 February 2022 with a list of potential stakeholders who may have an interest in the Project.
Metropolitan Local Aboriginal Land Council (MLALC)	NA
The Registrar- Aboriginal Land Rights Act 1983	NA
The National Native Title Tribunal (NNTT)	NA
Native Title Services Corporation Limited (NTS Corp)	<i>The existence or otherwise of native title is quite separate to any matters relating to Aboriginal cultural heritage. In NSW, the National Native Title Tribunal has undertaken steps to remove itself from the formal list of sources for information about indigenous groups in development areas.'</i>
City of Sydney Council	NA
Greater Sydney Local Land Services (LLS)	<i>'...GS LLS feels that it is not a primary source of contact for First Nations (Aboriginal) communities or persons that may inform or provide comment on development or planning issues.</i> <i>GS LLS strongly recommends you contact Heritage NSW to seek their advice on all-inclusive contact lists of persons and organisations who 'speak for Country' and that may assist with your investigation.'</i>

A public notice advertising the Project was also placed in The Koori Mail and The Sydney Morning Herald on 11 February (consistent with Stage 1.3 of the Consultation Guidelines) (Figure 3.1), advising of the Project location and proposed development, and inviting registration from local Aboriginal people. Contact details for the First Nations Consultation Advisor appointed by Create NSW for the Powerhouse Ultimo Renewal Project were also provided during this stage.

All names compiled from Stage 1.2 of the process were then written to via email and/or registered post on 28 February 2022 inviting registration in the process of community consultation for the Project. Response was requested within 14 days of the date of the letter.

On behalf of Create NSW (the proponent)

Powerhouse Ultimo Renewal


Curio Projects (heritage consultants), on behalf of Create NSW seek registration from local Aboriginal and Torres Strait Islander community members with respect to a proposed development. The project site is Powerhouse Ultimo (see map for location), within the City of Sydney LGA.

The NSW Government is investing \$480-\$500 million to renew Powerhouse Ultimo to deliver expanded and refurbished exhibition and public space, connecting Powerhouse Ultimo to the Sydney CBD by re-orienting the museum to the Goods Line and adjacent dining, entertaining and cultural precincts.

The purpose of community consultation with Aboriginal and Torres Strait Islander community members is to assist Create NSW in the preparation of an Aboriginal Cultural Heritage Assessment Report (ACHAR) to support submission of a State Significant Development Application (SSDA) and to assist the NSW Department of Planning, Industry & Environment in their consideration and determination of the SSDA.

Powerhouse Ultimo is a museum (information and education facility) that has a capital investment value in excess of \$30 million and as such the Development Application (DA) is submitted to the Minister for Planning pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979*. The project will therefore be exempt from the requirements for an Aboriginal Heritage Impact Permit (AHIP) in accordance with Section 90 of the *NSW Parks and Wildlife Act 1974*.

Curio Projects invite local Aboriginal and Torres Strait Islander community members who hold cultural knowledge or information relevant to determining the significance of Aboriginal and Torres Strait Islander object(s) and/or places in the area of the Powerhouse Ultimo site, to register an interest to participate in a process of community consultation.



Please forward registrations to Curio Projects no later than 23rd of February 2022, via phone, email or mail to:

Mikhaila Chaplin, Curio Projects
5 Blackfriars Street, Chippendale NSW 2008
mikhaila.chaplin@curioprojects.com.au | (02) 8014 9800




Figure 3-1: Advertisement posted in The Koori Mail and The Sydney Morning Herald on 11 Feb 2022

3.2.2. Registered Aboriginal Parties

As a result of the Stage 1 consultation procedure a total of twelve Aboriginal groups became Registered Aboriginal Parties (RAPs) for the Project. A list of RAPs for the Project is provided in Table 3-2 below.

Table 3-2: Registered Aboriginal Parties

Organisation	Contact
A1 Indigenous Services	Carolyn Hickey
Aragung	James Eastwood
B.H. Heritage Consultants	Ralph Hampton
Butucarbin Heritage	Lowana Gibson
DNC	Paul Carroll
Darug Custodian Aboriginal Corporation	Justine Coplin
Gunjee Wong Cultural Heritage Aboriginal Corporation	Shayne Dickson
Jay Edwards	Jay Edwards
KYWG	Phil Khan
La Perouse LALC	NA
Metropolitan Local Aboriginal Land Council	NA
Tocomwall	Scott Franks

A copy of all Stage 1 correspondences is provided in APPENDIX A – Aboriginal Community Consultation Log.

3.3. Stage 2 and Stage 3

Each Project RAP was provided with written details of the proposed project and the draft proposed Aboriginal cultural heritage assessment methodology for the project (Stage 2 of the Consultation Guidelines). This letter was sent to all project RAPs on 14 March 2022. Requests were made for comment and/or review within 28 days of provision of the methodology document. A summary of responses is provided in Table 3-3 while full details of all comments, feedback and copies of written submissions have been included in APPENDIX A – Aboriginal Community Consultation Log.

Table 3-3: Responses to Stage 2 and 3

Organisation	Comment
A1 Indigenous Services	<i>I have reviewed the document and support the Information and Methodology.</i>

This consultation informed the development of the Project methodology (to be presented in APPENDIX C of the Final ACHAR), as well as informing the understanding of the social and cultural value and significance of the study area to project RAPs. All feedback was recorded and is summarised in this ACHAR.

The key responses and comments received about the Stage 2&3 project methodology included:

Table 3-4: Responses to Stage 2&3

Organisation	Comment
Aragung	Jamie commented during the site inspection about the connection of the study area to the land and the sea. He noted that the pumped sea water of the Powerhouse was like a vein connecting sea to country.

3.4. Stage 4 – Review of Draft Cultural Heritage Assessment Report

The draft ACHAR was provided to all project RAPs for review and comment in <insert date>. Project RAPs were provided a minimum of 28 days to review and provide comment on the draft ACHAR (Stage 4 of the Consultation Guidelines). Following RAP review, the ACHAR will be finalised, and RAP comment, feedback and discussion of cultural values will be recorded.

Table 3-5 provides a summary of submissions received from RAPs with regards to the Project. Full details of all comments, feedback and copies of written submissions have been included in APPENDIX A – Aboriginal Community Consultation Log.

Table 3-5: Responses to Stage 4

Organisation	Comment

4. Summary and Analysis of Background Information

4. Summary and Analysis of Background Information

This section summarises the environmental, historical and archaeological background and context for the Powerhouse Ultimo study area. This summary serves to place the study area and proposed development into an appropriate regional context. This background assessment has been undertaken in order to provide a holistic understanding of the cultural landscape within which the study area is located. This analysis has been prepared to focus on both the tangible, as well as intangible cultural heritage and Aboriginal history of the region and will assist with the development of appropriate mitigation measures, prior to any non-reversible impact to the study area, Aboriginal archaeology and cultural values and significance.

4.1. Aboriginal Ethnohistory

Coast History and Heritage were commissioned to prepare a site specific Aboriginal ethnohistory for the Project, to inform the preparation of a CMP for the study area. For consistency, this section is drawn directly from the Coast document.

Recreating a sense of how Aboriginal people have lived around Tumbalong over the past few thousand years is difficult. The massive disruptions to Aboriginal life caused by the arrival of Europeans and the spread of the colony mean that we are often forced to rely on archaeological and historical records to supplement continuing community knowledge. The records are valuable, but have some important limitations. The historical records created by early Europeans in Sydney for example, provide a unique snapshot of Aboriginal life around the harbour. These are nonetheless taken from particular viewpoints. They missed more than they captured, and tried to explain what they saw by observation alone, while overlooking the very spiritual beliefs and cultural practices that influenced everything that Aboriginal people did. The legacy of this is far more than just a historical footnote, it has ongoing impacts today. For example, in areas like Ultimo in response to the seemingly basic question – who lived here?

Aboriginal people in Sydney related to the land through clans based around shared totems and a common male ancestor. Each clan probably had between 25 and 60 people, and these people had primary rights to their clan estate. The clan estates around the harbour were relatively well defined by early Europeans, and clan names literally referred to the people of each particular estate. As Governor Phillip wrote in 1790:

From 'the entrance of the harbour, along the south shore, to the cove adjoining this settlement [Tumbalong], the district is called Cadi, and the tribe Cadigal; the women Cadigalleon...The south side of the harbour from the above-mentioned cove to Rose Hill, which the natives call Parramatta, the district is called Wann, and the tribe Wanngal'.

What do we do with this information? According to early Europeans, and many later historians and archaeologists, these clan boundaries defined how Aboriginal people lived. Tumbalong, for example, was the 'boundary' between the Cadigal and Wanngal. But day to day, the Aboriginal people camped on both sides of Tumbalong and fishing its waters were smaller and more diverse groups (sometimes called 'bands') than entire clans. Women married into other neighbouring clans, so any family contained people from at least two different clans. Each individual had primary responsibilities to look after their own clan estate, but could also have responsibilities in other clan lands to which they were linked through parents,

grandparents or by marriage. This web of responsibilities was constantly being re-spun and reconfigured as senior people passed, as babies were born and as couples married. Caring for Country drove the movement of Aboriginal people, binding them closer to the land.

So while it is probably correct to say that Ultimo, on the western shore of Tumbalong is Wanngal land, we should remember that this land also had meaning to the Aboriginal people living across the saltwater clans of coastal Sydney who linked back to the Wanngal. Based on this, we should avoid the temptation to assume (as many early Europeans did) that any Aboriginal person observed in a particular area was necessarily 'from' that clan. This is very important to bear in mind when we look at how Aboriginal people lived around and on the waters of Tumbalong...

As early colonial images and descriptions in coastal Sydney show, fishing was a central part of Aboriginal life on the harbour. Both women and men fished, though women were more frequently and continually seen fishing from nawi (bark canoes), with a fire burning on a clay pad in the centre. Men carried their fishing spears with them at all times, while women carried their hooks and string fishing line (made from twined bark) in a small bark container that resembled (fittingly) the canoes from which they frequently fished. Their canoes were mobile fishing platforms. The low draught allowed easy access to shallow bays like Tumbalong where shellfish could be scooped out of the mud, opened on the fire, chewed up and eaten or spat into the water as burley. Unsuspecting fish were hooked or speared, and the process continued. Women fished all day in their canoes and into the night, when men also took spears and torches into the shallows of the harbour bays. It is likely that fish traps were also used in some areas.¹¹

In the 1790s, the survivors of the smallpox epidemic regrouped along old lines, perhaps drawing in more distant family connections to reconstitute their groups. They did so in a climate of trauma; of increasing dispossession as the Sydney colony grew; and of violent conflict. One documented incident took place west of the Powerhouse, possibly at the head of Iron Cove, a few months after Europeans arrived, when two convicts were speared and clubbed to death while gathering reeds for thatching roofs. These kinds of violent incidents were rarely unprovoked, and were often the result of unrecorded violence perpetrated by Europeans, as some acknowledged at the time. Although this frontier violence subsided around the harbour in the 1790s, the docks and huts around Tumbalong remained dangerous places for Aboriginal people. In 1817 for example, a young Aboriginal woman known to Europeans as Nanny Cabbage, was brutally attacked on the city shore of Tumbalong, and died of horrific injuries hours later without anyone acting on her desperate cries for help. The brutal reality of life for Aboriginal people in colonial Sydney makes it all the more remarkable that they were able to remain. This owed largely to the enduring strength of their cultural connections, coupled with an adaptability to changing circumstances. Most notably, Aboriginal people cultivated relationships with Europeans that were of benefit to them. Also, it is important to note the uneven pace at which different parts of Sydney were transformed by the

¹¹ Coast History and Heritage, 2022, *Aboriginal History Overview- Powerhouse Ultimo*, report for Create NSW, p4-

expanding colony. The pace of nineteenth century development along the bay and shore next to the Powerhouse influenced what Aboriginal people were able to do.

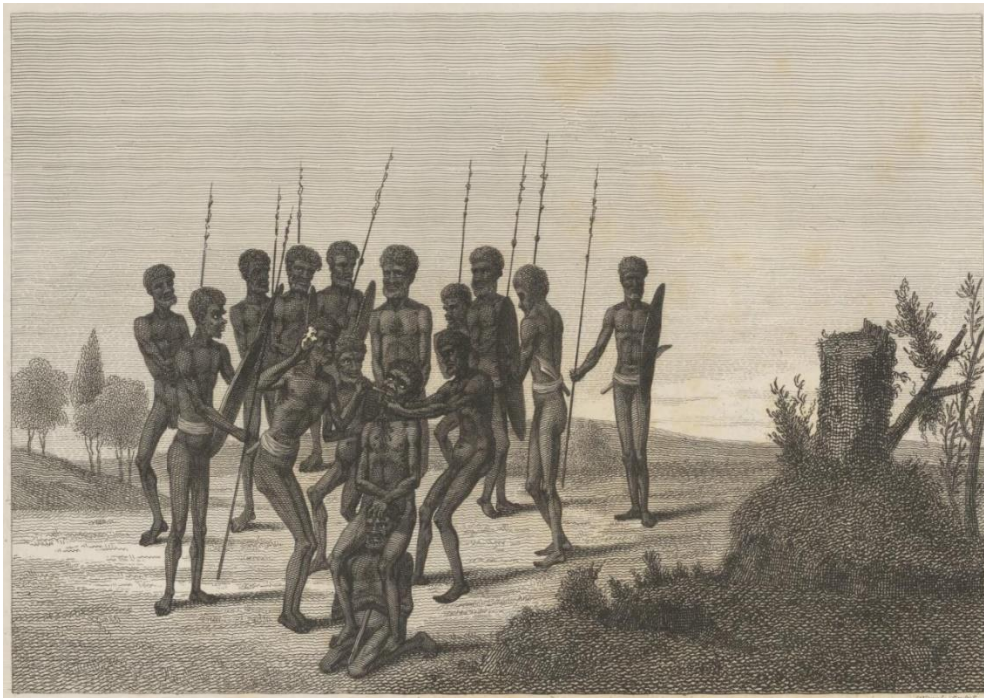


Figure 4-1: Yoo-long erah-ba-diang 1795 Farm Cove initiation ceremony: 'striking out the tooth'. Attributed to T Watling (artist), James Neagle (engraver) (Source: National Library of Australia, Neagle, James. (1798). Yoo-long erah-ba-diang. (S11111/22) Retrieved March 23, 2022, from <http://nla.gov.au/nla.obj-143787504>)

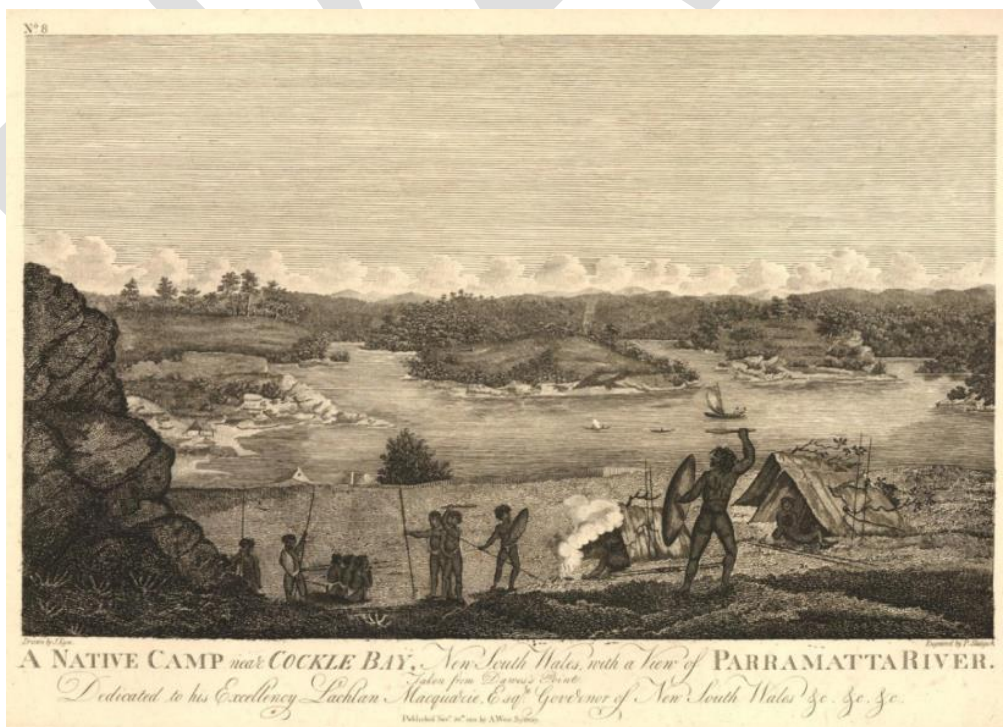


Figure 4-2: A Native Camp near Cockle Bay, New South Wales with a view of Parramatta River, taken from Dawes's Point [picture] / drawn by J. Eyre; engraved by P. Slaeger. (Source: State Library of NSW, File no. FL1790486)



Figure 4-3: Water colour by J. Lycett of Sydney from the North Shore, 1827 (Source: Dixon Galleries, State Library of New South Wales. Available from <https://archival.sl.nsw.gov.au/Details/archive/110324613>)

4.2. Post Invasion History

A broad summary timeline of the study areas history is provided in Table 4-1 based on information derived from Fitzgerald and Golder²⁸ and Curio 2022.

A comprehensive post-invasion history of the study area has been outlined in the CMP for the Project²⁹, with the ongoing Aboriginal ethnohistory of the study area in expanded form in the Aboriginal History Overview.³⁰ For detailed ethnohistory of the study area, please refer to these documents.

Table 4-1: Broad timeline of area history

Date / Time Period	Details
Pre 1770 to present	Aboriginal settlement
1770	Captain James Cook charts the east coast of Australia and claims it for England
January 1788	First Fleet arrived in Botany Bay
1803	Thirty-four acres of land east of Blackwattle Creek become known as Ultimo and was granted to John Harris the surgeon
1804	John Harris built a stately two-storey house on the rise overlooking Cockle Bay and Blackwattle Creek 'Ultimo House'

²⁸ Fitzgerald and Golder 1994

²⁹ Curio and Design 5, 2021

³⁰ Coast History and Heritage, 2022

Date / Time Period	Details
1818	John Harris had accumulated 233 acres (94 hectares) of land adjoining Pyrmont and parts of Haymarket
1820s	Industries established in Chippendale across Parramatta Street and abattoirs making use of Blackwattle Swamp
1754-1838	The rural estate of surgeon John Harris 'Ultimo Farm' until Harris's death in 1838
1831	Part of the Ultimo Estate facing Parramatta Street was sold off and small commercial buildings began to appear
1842	Ultimo incorporated into the City of Sydney
1840-1850s	Quarrying of stone in Ultimo particularly on the western side of the peninsula
1859	Subdivision of Ultimo
1860s onwards	Extensive rows of terrace housing and pubs built
1881	The museum was established in the Garden Palace
1899	Ultimo Powerhouse commissioned
1988- present	Operation of Powerhouse Ultimo within study area

4.3. Significant Aboriginal Places in the Surrounding Area

The area of Sydney Harbour is recognised to be highly significant to both Aboriginal and non-Aboriginal people as the location of first contact between the Eora and Europeans. A number of places of Aboriginal significance are located within the Sydney region including several that have been declared as Aboriginal Places under the NPW Act. The closest declared Aboriginal Places to the current study area include the Reef Beach Resting Place and the Guringai Resting Place – Quarantine Station situated approximately 10.4 km and 10.8 km to the north-east of the study area respectively. Both of these Aboriginal Places of significance are located on the Northern Beaches and are significant for containing the ancestral remains of Aboriginal people in addition to evidence of past Aboriginal occupation including campsites, burials and rock engravings.

In addition to the declared Aboriginal Places mentioned above, a number of additional locations are recognised as being significant for their Aboriginal history. The History Team at the City of Sydney Council, in conjunction with the City's Aboriginal and Torres Strait Islander Advisory Panel have developed the *Barani: Sydney's Aboriginal History* website which provides a range of resources relating to the history of people, places and events particularly in relation to Aboriginal history within the City of Sydney LGA³¹. One resource on the website maps out the places that hold historical associations for Aboriginal and Torres Strait Islander people and identifies places of significance within the Sydney area. According to this Map, the following places identified in Table 4-2 are located within approximately 1km of the current study area and are recognised to be of significance to the Aboriginal community.

Table 4-2: Early Contact places of significance as identified on the Barani Map Resource (Information derived from City of Sydney 2013, <https://www.sydneybarani.com.au/maps/>)

Place & distance from study area	Details
Darling Walk Midden, Darling Quarter, Sydney	<ul style="list-style-type: none"> Location of a midden situated on the eastern side of the original shoreline of Cockle Bay (Darling Harbor) in the Darling Quarter located to the west of Harbor Street between Bathurst and Liverpool Streets.

³¹ City of Sydney 2013

Place & distance from study area	Details
Approx. 200-500m to the north east	<ul style="list-style-type: none"> The site was identified during investigations of early colonial archaeology of the area by Comber Consultants³². The midden comprised mainly of Sydney cockle shells, Sydney rock oyster and mud whelk and some stone artefacts.
Blackwattle Creek Approx. 580m to the south west	<ul style="list-style-type: none"> Blackwattle Creek was originally a tidal watercourse which flowed from its swampy headwaters at Glebe and extended towards the lands within the current suburbs of Redfern and Waterloo. Prior to European settlement, the creek provided Sydney's Aboriginal people with a source of fresh water and a location for fishing and other activities. Following European settlement, the creek was heavily modified, and the location was inhabited by lower classes of the colony. Excavations at several locations along the original course of Blackwattle Creek have revealed evidence in the form of isolated artefacts and/or small artefact assemblages indicating short term sporadic use of the area by past Aboriginal groups³³. The presence of a flaked glass artefact from a site located on the corner of Mountain and Smail Streets at Ultimo (Mountain Street Ultimo; AHIMS ID# 45-6-2663) and situated approximately 500m to the southwest of the current study area, indicate that land adjacent to Blackwattle Creek continued following the arrival of Europeans and provides evidence for the adaptation and use of new European materials for the production of artefacts. These Aboriginal sites along Blackwattle Creek are important in providing evidence for how Aboriginal people lived adjacent to Blackwattle Creek and demonstrate the survival of archaeology despite two centuries of European modification to the land.
Lake Northam Approx. 950m to the south west	<ul style="list-style-type: none"> Lake Northam within Victoria Park is a remnant of Blackwattle Creek and recognised to be significant as a tangible reminder of the natural environment that was inhabited by Sydney's Aboriginal people prior to the arrival of Europeans. The location has subsequently been used in more recent times for social events and protests by the Aboriginal community including the Tent Embassy protest in 2000 and the Yabun festival which showcases Aboriginal and Torres Strait Islander culture.
Hyde Park South, Elizabeth Street, Sydney Approx. 1.1km to the east	<ul style="list-style-type: none"> The location of Hyde Park South is the estimate location of an Aboriginal gathering place that was used up until the mid-1820s as a ceremonial contest ground where Aboriginal people from Sydney, the Hunter and the Illawarra came together to resolve conflicts. The precise location of the gathering place is unknown but was described as being located somewhere between the road to Botany Bay and the Brickfields which places it somewhere near Hyde Park South.
Prince Alfred Park (Cleveland Paddocks), Surry Hills	<ul style="list-style-type: none"> Prince Alfred Park, previously known as Cleveland Paddocks, is the location of an Aboriginal camp that was used up until the mid-19th century. Following the arrival of Europeans, Sydney's Aboriginal groups

³² Comber Consultants 2012

³³ Mary Dallas 2003, Jo McDonald CHM 2005, Steele 2003

Place & distance from study area	Details
Approx. 1.2km to the south east	were pushed to the margins of the settlement away from Sydney Cove and their traditional camping grounds. Cleveland Paddocks was utilised by Sydney Aboriginal people until the development of the railway in 1855 when the area was subsequently used as a showground by the Agricultural Society. The location is significant for its association with early contact.

4.4. Brief Historical Development of the Study Area

The study area is located within land which had been granted to surgeon John Harris who in 1804 built a stately two-storey house on the rise overlooking Cockle Bay and Blackwattle Creek. In the 1840s the rural estate was gradually encroached by industry with abattoirs making use of Blackwattle Swamp. Throughout the 19th century, the landscape of Sydney was extensively modified. The foreshores of the harbour were reclaimed, and waterways situated within the inner suburbs, including Blackwattle Creek, were channelled for industrial use or diverted underground to enable residential development. The land was subdivided in 1859 to allow further development in the area. The Ultimo Powerhouse was commissioned in 1899 and constructed and variously modified throughout the late 19th and early 20th centuries. Powerhouse Ultimo has operated on the Ultimo site since 1988. An outline of the historical development of the study area is provided on Table 4-3.

Table 4-3: Historical development of the study area

Date	Details
Early 19 th century	Initial European vegetation and land clearance
Late 19 th century	Land reclamation activities in Darling Harbour
c.1844 – 1899	Two possible quarries located within study area bounded by Harris, Pyrmont, Macarthur and Mary Ann Streets and ceased to operate by at least 1899 (Figure 4-4)
1840s and 1850s	Construction of terrace houses at 554 and 556 Harris Street (located below the present Wran Building forecourt) (Figure 4-5), 519, 521,523 off Harris Street (south of the Boiler House Building) and 137 William Henry Street (beneath the Office Building and Engine Hall, Wran Building and an area outside of the Office Building).
1889	Construction of Office Building within study area
1899	Construction of the Ultimo Tram line along the eastern boundary of the study area
1899	Ultimo Powerhouse commissioned
1899	Construction of Pump House, Harwood Building and Engine Room within study area
1901	Construction of Ultimo Post Office within study area
1902-1905	Construction of 'New' Boiler Room within study area
1902	Construction of Turbine Hall within study area
ca. 1922	Demolition of terrace houses at 554 and 556 Harris Street (located below the present Wran Building forecourt) (Figure 4 4)
1927	Construction of Switch House within study area
1988	Construction of the Exhibition "Wran" Building as part of the redevelopment and adaptive reuse of the Ultimo Power Station

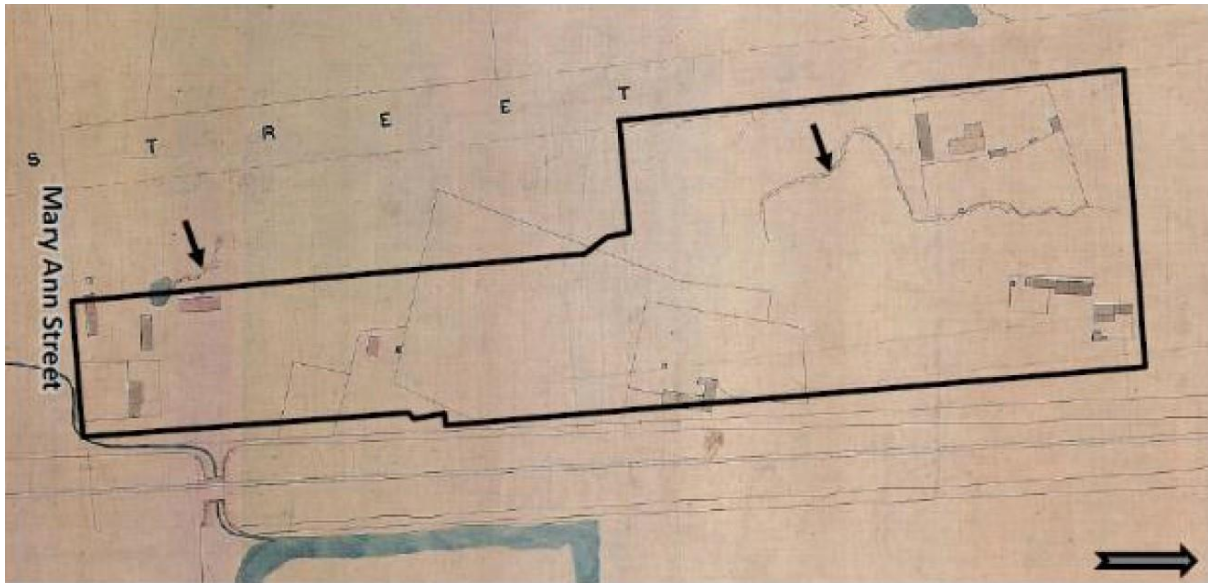


Figure 4-4: Detail of the Trigonometrical Survey of Sydney, 1855-1865, showing a number of timber (grey), stone (yellow), brick (pink) and iron (blue) buildings within the study area indicated. Black arrows indicating possible quarry locations. (Source: <http://atlas.cityofsydney.nsw.gov.au/maps/city-of-sydney-trigonometrical-survey-1855-1865-block-v1/> with AMBS additions 2018)



Figure 4-5: The houses at 554-556 Harris Street on 28 July 1922 with the power house behind, before demolition (Source: City of Sydney Archives NSCA CRS 51/992).

4.5. Physical Setting and Landscape Context

The physical setting of the study area, its natural resources, landforms, and wider landscape context has a significant influence over the nature, location, and form of Aboriginal occupational and use

patterns through their interactions with the environment, while also providing meaningful landscape settings for identifying and contextualising intangible heritage and connection to Country. The study area is situated within the Sydney Basin Bioregion, a large geographically and ecologically defined area which extends from Batemans Bay in the north to Nelson Bay on the central coast to Nowra in the south to Mudgee in the west. The Sydney Basin Bioregion forms the broad environmental context in which the physical setting and landscape context of the study area can be considered. The discussion below considers soils and geology and the hydrology landscapes and landforms of the study area, and the archaeological potential associated with these.

4.5.1. Soils and Geology

The geology and soils of a locale can provide information for the prediction and modelling of the nature and positioning of potential Aboriginal sites, for example, soil types capable of supporting vegetation/flora resources of importance to Aboriginal people (and the corresponding faunal resources that would utilise the vegetation), may provide clues to indicate Aboriginal use and occupation across a landscape.

The study area is situated entirely within the erosional GyMEA soil landscape unit. This soil landscape type commonly occurs throughout the Hornsby Plateau and along the foreshores of the Sydney Harbour and the Parramatta and Georges Rivers. GyMEA soil landscapes are defined by the following soils:

- Shallow to moderately deep (30-100cm) Yellow Earths and Earthy Sands in association with crests and benches.
- Shallow (<20cm) Siliceous Sands in association with leading edges of benches.
- Localised Gleyed Podzolic Soils and Yellow Podzolic Soils on shale lenses.
- Shallow to moderately deep (<100cm) Siliceous Sands and Leached Sands along drainage lines.

The characteristics the dominant soil horizons associated with the GyMEA soil landscape type are summarised in Table 4-4 below based on information derived from the Department of Planning, Industry and Environment (DPIE) eSpade resource. Soils within this soil landscape are associated with depths ranging from <20cm in association with leading edges of benches, and up to 100cm in association with crests, benches and along drainage lines. GyMEA soils are highly prone to erosion. Based on these characteristics, Aboriginal sites within the GyMEA soil landscape unit are likely to be disturbed low-density artefact scatters that are highly prone to displacement due to erosion and landscape disturbance.

Table 4-4: Key characteristics of soil horizons associated with GyMEA soil landscape unit (Source: DPIE eSpade resource available from <https://www.environment.nsw.gov.au/>)

Soil horizon	Description
A1 Horizon (gy1) – loose, coarse sandy loam	<ul style="list-style-type: none"> • Colour: ranges from brownish black (10YR 2/2) to bleached dull yellow orange (10YR 7/2) • Form: loamy sand topsoil • pH: sternly acidic (pH 4.0) to slightly acidic (pH 6.0) • Inclusions: small sandstone and platy ironstone fragments, charcoal fragments and roots are common
A2 Horizon (gy2) –	<ul style="list-style-type: none"> • Colour: yellowish-brown (10YR 6/8) and orange mottles are occasionally present with depth

Soil horizon	Description
Earthy, yellowish-brown clayey sand	<ul style="list-style-type: none"> Form: clayey sand pH: strongly acidic (pH 4.0) to slightly acidic (pH 6.5) Inclusions: sandstone, ironstone and charcoal fragments are common, roots are rare Other characteristics: commonly occurs as subsoil over sandstone bedrock (B horizon)
B or C Horizon (gy3) – Earthy to weakly pedal, yellowish-brown sandy clay loam	<ul style="list-style-type: none"> Colour: yellowish brown (10YR 5/8, 6/6, 6/8; 2.5Y 5/6, 5/4) while orange mottles may occur with depth Form: sandy clay loam pH: strongly acidic (pH 4.5) to slightly acidic (pH 6.0) Inclusions: Strongly weathered sandstone fragments common. Roots and charcoal fragments are rare Other characteristics: occurs as subsoil (B or C horizon) on coarse sandstone
B or C Horizon (gy4) – Moderately to strongly pedal, yellowish-brown clay	<ul style="list-style-type: none"> Colour: yellow brown (10YR 6/6) but can vary from dark reddish-brown (2.5YR 3/6) to light grey (7.5YR 8/1). Red, orange and grey mottles occasionally present at depth Form: sandy clay or light clay pH: strongly acidic (pH 4.0) to slightly acidic (pH 6.0) Inclusions: shale and ironstone fragments are often present, but charcoal fragments are absent, and roots are rare Other characteristics: occurs as a subsoil on shale bedrock (B and C horizons)

The alluvial Deep Creek soil landscape unit occurs to the east of the study area while the Disturbed Terrain soil landscape profile is mapped as occurring approximately 250m to the west of the study area. The Deep Creek soil landscape unit typically forms part of an aggrading landscape, and its archaeological potential is largely dependent upon the topographic and geomorphological characteristics in which it is situated.

The Disturbed Terrain soil profile is roughly corresponding to the areas of the foreshore that have experienced extensive modification relating to the reclaimed estuarine areas and adjacent landforms. The original soil profiles in these areas have been completely disturbed, removed, and/or buried as a result of the processes involved in the land reclamation activities. Landfill and reclamation activities involved the laying of man-made fill (dredged estuarine sand and mud, demolition rubble, industrial and household waste) over swamps and estuarine shores along the Sydney harbour foreshore. Eventually most disturbed areas are capped by artificial topsoil and are revegetated and/or covered by buildings, concrete or bitumen. Further detail regarding land reclamation at the current study area is discussed in Section 4.5.5 below. The archaeological potential of such areas is typically very low, however, in areas where fill was introduced and overlain on top of the original soil profile without significant ground disturbance, the potential for intact archaeological deposits remains.

The underlying geology of the study area is the Hawkesbury Sandstone geological unit which consists of medium to coarse grained quartz sandstone with minor shale and laminate lenses. A number of geologic elements and prominent landscape features associated with the Sydney Basin Bioregion in general, and the Hawkesbury Sandstone geological units in particular, are known to have been of importance to Aboriginal people, including, stone resources in terrace gravels and basalt outcrops, stone carving and axe grinding sites on sandstone and sandstone rock shelters. Most shell middens and archaeological deposits that have been recorded in the Port Jackson

(Sydney Harbour) region are associated with the Hawkesbury Sandstone geological unit, a result attributed to the fact that this underlying geology is associated with good preservation contexts as well as being highly visibility when compared to sites situated on shale or alluvium.³⁴ No raw material sources are known to occur within the vicinity of the study area and it is therefore presumed that Aboriginal people would have imported raw materials and/or stone artefacts (if present) into the area from more distant source locations.

4.5.2. Climate and Hydrology

The climate and hydrology of an area plays an important role in identifying not only areas of occupational, environmental, and archaeological potential, but also in understanding how deposits at a site are formed and/or impacted by hydrology. The effects of hydrology can range from the general availability of water in an area, through to flooding events. Hydrology can influence the original occupation of a space and associated deposition of cultural material, as well as play a part in post-depositional taphonomic processes. The hydrology associated with the study area is illustrated in Figure 4-18.

The Sydney Basin Bioregion lies on the east coast and encompasses a large portion of the catchments of the Hawkesbury-Nepean, Hunter and Shoalhaven river systems. This Bioregion is characterised by a temperate climate with warm summers and no dry season. Rainfall occurs throughout the year with higher rainfall and temperatures recorded along the coast compared to hinterland regions. The mean maximum temperature in summer in Sydney Harbour ranges between 24.8 and 20.5 °C and the mean minimum temperature during winter ranges between 10.5 and 17.3 °C.³⁵ These climatic conditions would have been favourable for human occupation with neither extreme summers nor winters. The mean annual rainfall according to data collected at Observatory Hill in Sydney between 1858 and 2020 is 1,213.4 mm with rainfall distributed reasonably equally throughout the year³⁶. This amount of yearly rainfall, and the fairly equal distribution across the seasons, would have kept streams and creeks regularly active and provided both freshwater and resources for people living in the Sydney region.

The study area is located 500m southwest of the southern shore of Darling Harbour (Figure 4-18). Originally known as Cockle Bay, the area has been well documented as being used by Aboriginal people for the foraging and consumption of shellfish and other marine faunal resources.³⁷ Before land reclamation in the area occurred, the study area was situated along the original shoreline of Cockle Bay.

Since the arrival of Europeans in Sydney Cove, many of Sydney's waterways have been heavily modified, channelled and/or diverted underground and are therefore not visible in the landscape today. One such waterway known to have been located within proximity to the current study area is Blackwattle Creek (sometimes referred to as Black Wattle Swamp Creek) and its tributaries. Historical mapping and drawings can provide some hints as to the original character of the Ultimo area prior to European modification of the landscape. In early historical maps covering the Ultimo area, for instance, Blackwattle Creek can be seen to flow to the west of the study area where it drains into Blackwattle Swamp Cove (Figure 4-6). Blackwattle Creek was originally a tidal watercourse which flowed from its swampy headwaters at the present location of Glebe and extended towards the lands within the current suburbs of Redfern and Waterloo. Prior to European settlement, the creek provided Sydney's Aboriginal people with a source of fresh water and a location for fishing and other

³⁴ Attenbrow 1991

³⁵ Bureau of Meteorology 2022a

³⁶ Bureau of Meteorology 2022b

³⁷ Comber Consultants 2012

activities (Figure 4-7). Lake Northam within Victoria Park situated approximately 950 m south west of the study area is a remnant of Blackwattle Creek.³⁸

In addition to being in close proximity to the waters of Darling Harbour and Blackwattle Creek, the study area is located 1.3km southeast from what was known by European settlers as 'Tinkers Well', on the north western point of the Pyrmont Peninsula. This was a freshwater spring located in a large sandstone overhang where water trickled from between the sandstone and collected into a natural bowl in the sandstone floor of the overhang.³⁹ Although the shelter in which Tinkers Well was destroyed in the early 20th century, the water of the spring itself is still present and accounts from early European settlers relate the use of the area and this spring by Aboriginal people into the 19th Century. Based on understandings of the original hydrology in the local landscape, freshwater would therefore have been available in the higher reaches of the former creeks in the area such as Blackwattle Creek and Cockle Creek/Darling Creek as well as in freshwater springs that may have occurred in the underlying sandstone. No other permanent water sources, however, are known to occur within the ridgeline of Pyrmont Peninsula.



Figure 4-6: Map of Sydney and Suburbs dating to 1855. Red circle shows the approximate location of the current study area while Black Wattle Swamp Creek can be seen to the west of the study area draining into Black Wattle Swamp Cove (Source: City of Sydney available from <https://archives.cityofsydney.nsw.gov.au/nodes/view/1709399>)

³⁸ City of Sydney 2013

³⁹ Irish & Goward 2013



Figure 4-7: Black Wattle Swamp and Creek, c.1854 (Source: <https://www.visitsydneyaustralia.com.au/glebe.html>)

Considering the coastal context of the study area, it is important to note that that changes to the environment, and thus living patterns of past Aboriginal groups in the area, likely occurred throughout history in relation to changing sea levels during the last Glacial Period between 115,000 to 11,700 years ago. By approximately 60,000 years ago, for instance, at the time when people may have begun inhabiting south-eastern Australia, sea levels were roughly 30-35m lower than current levels.⁴⁰ During the Last Glacial Maximum (LGM), between 30,000 and 18,000 years ago, temperatures are predicted to have been 6° to 10° degrees cooler than present day and rainfall was less frequent.⁴¹ Sea levels at this time may have been up to 110-130m lower than present levels and Sydney's coastline at Port Jackson would have been situated on the continental shelf approximately 15km east of its current alignment.⁴² Following the end of the LGM between 18,000 and 9,000 years ago, sea levels rose relatively rapidly reaching their current position by about 7,000 years ago when the coastal environment and said to have stabilised. By approximately 1,000 years before colonisation, the climate of the Sydney region is considered to have been similar to present conditions.⁴³ Considering that sea levels were must lower during the Pleistocene, it is likely that some evidence of occupation and use of the area dating to this period may now be submerged below current water levels.

⁴⁰ Attenbrow 2010, p. 37

⁴¹ Bowler et al. 1976, p. 359

⁴² Attenbrow 2010, p. 38

⁴³ Attenbrow 2010, p. 38-39

4.5.3. Landscapes and Landforms

Darling Harbour is located in the central area of the Sydney basin, which is generally characterised by contrasting sandstone escarpments, and gently undulating shale hills.⁴⁴ Erosion caused by coastal streams has resulted in a landscape characterised by deep cliff gorges and remnant plateaus and coastal landscapes such as cliffs, beaches and estuaries. The topography associated with the Gynea soil landscape unit within which the study area is situated, typically comprises of undulating to rolling rises and low hills on the Hawkesbury Sandstone. Local relief ranges between 20–80m and are associated with slopes 10–25%. Other landscape features include broad convex crests, moderately inclined sideslopes with wide benches, localised rock outcrop on low broken scarps and sideslopes with narrow to wide outcropping sandstone rock benches (10–100m), which often form broken scarps of <5 m in elevation.

The study area itself is located 500m southwest of Darling Harbour and on the eastern edge of the Ultimo-Pyrmont Peninsula in close proximity to the original shoreline of Cockle Bay. The Ultimo-Pyrmont peninsula is oriented approximately north west/south-east. Mainly due to sandstone mining, major changes to the topography of the peninsula were undertaken prior to detailed mapping of the area. However, it is generally understood that, prior to 1788, the Pyrmont peninsula generally consisted of sandstone rises and outcrops, grading down towards the water on all sides.⁴⁵ Although associated with the sandstone topography of the Pyrmont Peninsula, the study area itself is relatively flat having been heavily modified from a long history of development within the Sydney region (see Section 4.4 and 4.7.2 for more details).

4.5.4. Vegetation and Fauna

An understanding of the original vegetation of an area provides information about the resources that such vegetation would have provided to Aboriginal people in the area, and would have influenced how different locations were accessed, used and visited. Vegetation can itself be a direct resource- such as tree bark for canoes, shield etc, or edible plants- or it can be an indirect resource, creating habitats for different animals such as possums, birds etc, available for hunting.

Prior to European settlement and subsequent land clearing, the vegetation of the Pyrmont- Ultimo Peninsula would have generally comprised of low, dry sclerophyll open- woodland along ridges and upper slopes, with species commonly present including Red Bloodwood (*Eucalyptus gummifera*), Scribbly Gum (*Eucalyptus haemastoma*), Brown Stringybark (*Eucalyptus capitellata*) and Old Man Banksia (*Banksia serrata*). More sheltered slopes would have commonly supported Black Ash (*Eucalyptus sieberi*), Sydney Peppermint (*Eucalyptus piperita*) and Sydney Red Gum (*Angophora costata*). The understorey of these plant communities would have consisted of a variety of native shrubs. However, the nature of the sandstone peninsula, water availability and drainage would have affected the growth of these various floral species.⁴⁶

While the diversity of flora would have supported a variety of fauna such a kangaroo, wallaby, wombat, echidna, flying fox, emus, quolls, various native rats and mice, snakes and lizards, this would also have been limited by the extent of the vegetation growth on the sandstone peninsula.⁴⁷

⁴⁴ Herbert 1983

⁴⁵ Broadbent 2010

⁴⁶ Chapman & Murphy 1989

⁴⁷ Tench 1789

The Darling Harbour area would have constituted a rich resource zone (both marine and land based), including a variety of vegetation, which would have in turn provided a diverse habitat for varied fauna, to be utilized by the Aboriginal people inhabiting the area prior to European arrival.

4.5.5. Description of the Project Area

The study area for the Powerhouse Ultimo Renewal Project is located at 500 Harris Street, Ultimo, NSW on the south eastern edge of the Ultimo-Pymont Peninsula, approximately 500m south west of Darling Harbour and 2km southwest of Sydney CBD. The study area is located at the interface between Ultimo, Pymont, Haymarket and Darling Harbour and is broadly defined by Harris Street, Omnibus Lane and a residential apartment block at 82 Mary Ann Street to the west, the William Henry Street Bridge to the north, the Goods Line to the east and Mary Ann Street to the south.

The study area comprises of six lots covering an area of approximately 2.37 hectares (see Table 1-1 in Section 1). The property is owned by the Museum of Applied Arts and Sciences Trust and includes the original Ultimo Power Station buildings, Office Building, Pumphouse (Old Boiler House), Engine Hall, Turbine Hall, New Boiler House, Switch House, former Ultimo Post Office and Wran Building (temporary exhibition hall opened in 1988). The Engine Room, Turbine Hall, New Boiler House, Office Building and Switch House form the principle remains of the former Ultimo Tramways Power House, remaining as the main group of interconnected buildings within the study area. A café has been built to the south of the Power House at the northern end of the Ultimo Goods Line while the forecourt on the corner of Harris Street and Macarthur Street currently forms the main point of public access to the study area although the area is disconnected from higher-quality urban spaces such as the Ultimo Goods Line. Figure 4-8 to Figure 4-13 illustrate the nature of the study area and surrounds as it appeared design the preparation of the Scoping Report for the Project by Ethos Urban in December 2021.

Some components of the buildings within the study area are heritage listed including the 'Ultimo Power House' (c.1899-1905) and the 'Former Ultimo Post Office including interior' (c.1901), both of which are listed on the State Heritage Register under the *Heritage Act 1997* and managed under a recently updated Conservation Management Plan.⁴⁸ The study area itself is not identified as being located within a Heritage Conservation Area, however, it is located adjacent to and in the vicinity of the Harris St Ultimo Conservation Area and a number of locally listed heritage items identified under the Sydney LEP including the Glasgow Arms Hotel, terrace-house groups along Harris St and Macarthur St, the former Millinery House building, former National Cash Register building and the former Technological Museum/Sydney Technical College building in Harris Street. None of these heritage items specifically or directly include Aboriginal heritage values as contributing to their historical significance.

The study area is currently zoned as B4 – Mixed Use and is situated within an urban context characterised by a diverse range of land uses, development types, building densities and architectural styles. As described in the Scoping Report developed for the Project: *"there is no consistent street wall height along Harris Street or intersecting local streets, with 2-storey historic terraces sitting in close proximity to more modern 6-8 storey commercial and mixed-use buildings. The recent urban renewal of Darling Square provides a rapid transition in density and building heights immediately to the east of the site, with a range of 20+ storey buildings within a modern setting."*⁴⁹

⁴⁸ Curio Projects and Design 5, 2021, *Power House Museum Conservation Management Plan*, Report for Create NSW.

⁴⁹ Ethos Urban 2021, p.4



Figure 4-8: South-eastern elevation (Source: Ethos Urban 2021)



Figure 4-9: Nearby development south of Macarthur Street (Source: Ethos Urban 2021)

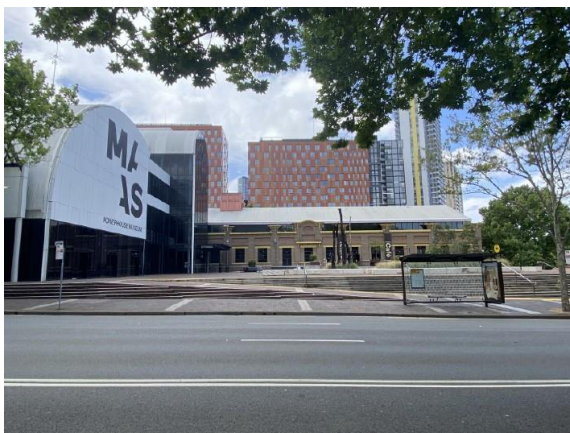


Figure 4-10: Harris Street Forecourt (Source: Ethos Urban 2021)

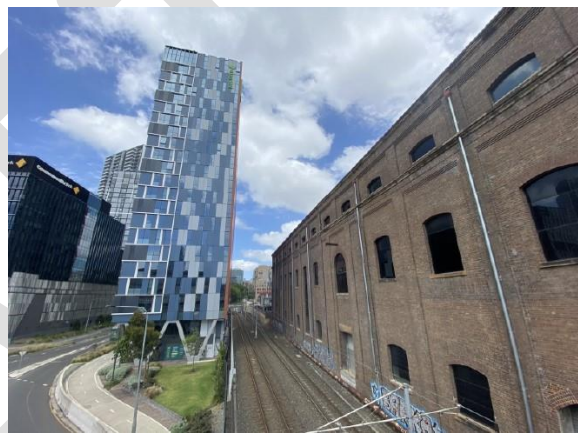


Figure 4-11: Urbanest (left), light rail (centre) and Ultimo Power House (right) (Source: Ethos Urban 2021)



Figure 4-12: Nearby development on Harris Street (Source: Ethos Urban 2021)



Figure 4-13: Nearby development on Harris Street (Source: Ethos Urban 2021)

4.5.6. Modern Land Use, History and Disturbance

A summary of the modern development history of the study area, including its surrounds, disturbance and historical development, is discussed in this section in order to establish the effect that previous land use may have had on the preservation or destruction of potential Aboriginal archaeological remains at this location.

The foreshores of Sydney estuary were subject to modification soon after European colonisation of the Sydney Harbour. While the area surrounding Darling Harbour and the current study area, was not developed extensively until the late 1800s, early historical accounts provide evidence that extensive use was made of the shell middens that lined the bay to provide mortar in lime kilns for civic development programs associated with the development and expansion of the early colony. Most of the current shorelines of Sydney Harbour have been subject to land reclamation through the removal or filling of mudflats, wetlands, mangroves and saltmarshes and it has been calculated that a total of 1,135 ha equating to approximately 22 per cent of the Sydney estuary has been infilled as a result of this process.⁵⁰ Land reclamation processes include the deposition of fill materials (commonly waste fill or previously contaminated sediments) over semi-submerged land, and draining of water from this land, in order to enable construction. Most of the modification of the Sydney shoreline has been undertaken for harbour construction, navigation, wharf, and shore development.

The land reclamation along the southern end of Darling Harbour took place in 1874 (with the exception of Darling Island, which was connected to the mainland of the peninsula earlier). Further land of reclamation within the head of Cockle Bay was undertaken in 1918.

The study area is located in close proximity to the eastern boundary between what would have been the original shoreline of the southern end of Darling Harbour (pre-1788), and land reclaimed in the late 19th century (Figure 4-14). Figure 4-15 provides an overview of the land reclamation across the Sydney estuary showing the original shoreline and land reclamation of Darling Harbour. This figure shows that reclamation around the location of study area took place after 1854. Although the impacts from land reclamation occurred adjacent to the study area, it is likely the study area itself has been minimally affected by those land modifications associated with this specific process.

The main historical activities specific to the study area that would have impacted and/or removed natural soil profiles include:

- Initial European vegetation and land clearance that began in the early 19th century.
- Land reclamation activities in Darling Harbour occurred near the eastern boundary of the study area during the late 19th century possibly altering soil profile in study area or surrounds.
- Two possible quarries within study area from 1844 bounded by Harris, Pyrmont, Macarthur and Mary Ann Streets and ceased to operate by at least 1899 (Figure 4-4).
- Construction of terrace houses (1840s and 1850s) within study area located at:
 - 554 and 556 Harris Street (located below the Wran Building forecourt) (Figure 4-5).
 - 519, 521, 523 off Harris Street (south of the Boiler House Building).
 - 137 William Henry Street (beneath the Office Building and Engine Hall, Wran Building and an area outside of the Office Building).
- Construction of the Ultimo Tram line along the eastern boundary of the study area in 1899.

⁵⁰ Birch et al. 2009, p. 347

- Construction of the Ultimo Power Station in the late 19th century and early 20th century which would have disturbed natural soil profiles to establish the structural foundations of the building, for basements, and installation of services. Buildings constructed during this period include the Office Building (1889), Pump House (1899), Harwood Building (1899), Engine Room (1899), Ultimo Post office (1901), 'New' Boiler House (1902-1905), Turbine Hall (1902) and Switch House (1927).
- Excavation for basements occurred beneath, the Engine Room (3.5m-6.7m depth), New Boiler House (6m depth), Turbine Hall (3m depth), and Office Building (4m depth).⁵¹
- Construction of the Exhibition "Wran" Building in 1988 as part of the redevelopment and adaptive reuse of Ultimo Power Station into The Powerhouse Museum would have disturbed natural soil profiles to establish structural foundations of the building, excavation for the existing basement, and installation of services. The depth of the Wran Building basement is approximately 4.5m depth along the western side of the building.⁵²
- Other levelling and grading activities for the construction of site features including the carpark and the Wran Building forecourt– which would likely have required cut and fill to establish the carpark surface, including some cutting of the natural topsoil (possibly disturbing soil profiles below ground surface within the footprint).
- Ongoing installation of utilities and services across site (trenching for sewer and water mains, electric easements etc) throughout all phases of historical use.

Moderate to high levels of disturbance relating to the clearing of native vegetation and the construction of the existing buildings will have impacted the original soil profile across much of the study area resulting in the loss of topsoil. The potential for intact archaeological deposits below the upper levels of disturbance, however, is possible, particularly considering the favourable environmental context of the study area and its proximity to the Darling harbour and the original course of Black Wattle Swamp Creek. Despite the disturbance from previous land use practices within the study area, natural soil profiles below the disturbed layers therefore retain a moderate to high potential for preserving Aboriginal objects.

⁵¹ AMBS 2018

⁵² AMBS 2018

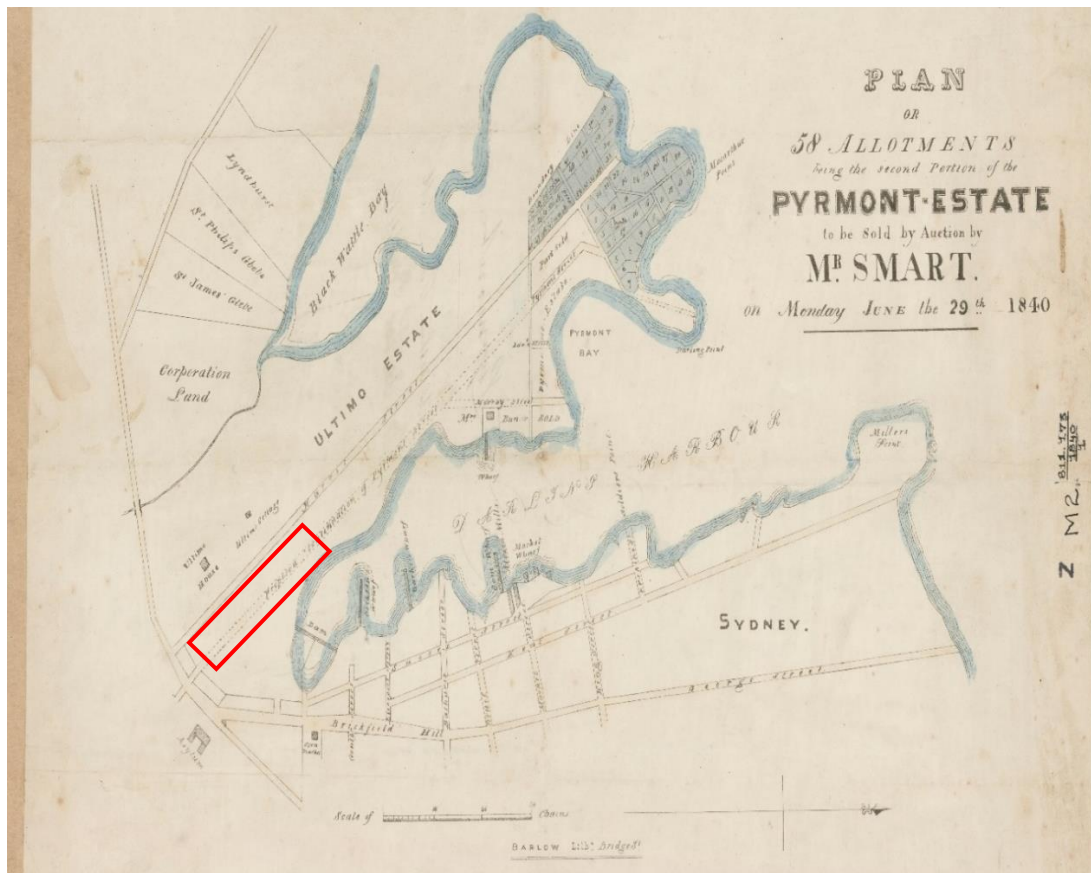


Figure 4-14: Plan of Sydney Harbour dating to 1840 showing Ultimo Estate, Ultimo House and the extent of the shoreline prior to land reclamation. The red rectangle shows the approximate location of the study area (Source: State Library of NSW digital collection available at <https://collection.slnsw.gov.au/record/74Vv3mg7vJwy>).

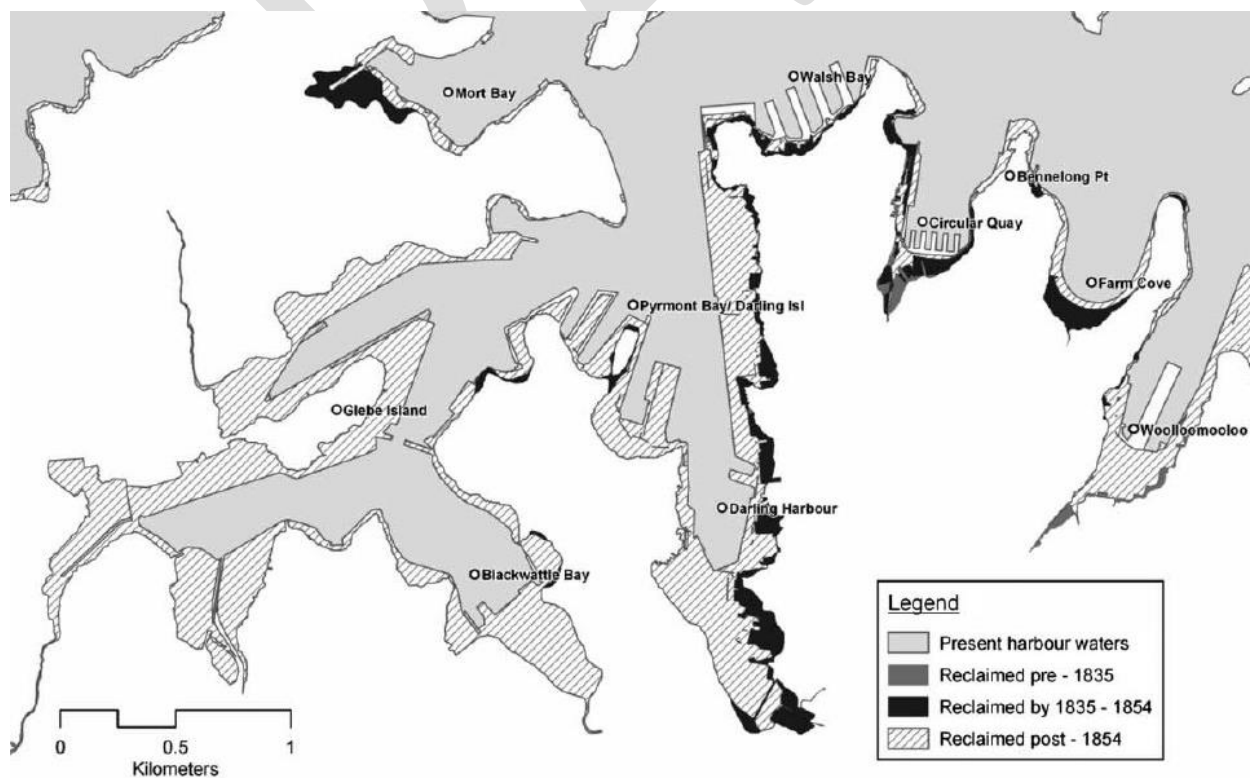


Figure 4-15: Overview of reclamation within the Sydney CBD area between 1788 to 1854 (Source: Birch et al. 2009, Figure 5)

4.5.7. Geotechnical Investigation

Geotechnical investigations provides ground truthing and further clarification of the nature of the sub-surface soil and disturbance present within the study area. A geotechnical investigation was undertaken by Douglas Partners for the Power House Ultimo Renewal covering the current the study area in 2019.⁵³ A total of 11 geotechnical boreholes were situated within the current study area (Figure 4-16), the result of which can be used to infer the subsurface soil and geological profile of the study area (Table 4-5, Table 4-5). Generally, Hawkesbury Sandstone bedrock is located across the study area at depths between 1.5m-11.8m below the current ground level. Investigation works encountered ground water seepage during auguring within BH104 at a depth of 6m and BH105 at depth of 3.80m. It is therefore concluded that any future excavation work within the study area extending >1m in depth, particularly in the south east of the study area, would be expected to encounter ground water.

The soil stratigraphy within the study area, as identified by geotechnical investigations, consists of a concrete slab, brick pavers or asphalt surface over gravel, sand or clay fill with sandstone boulders (up to 0.25m to 4.5m), overlying silty clay, sandy clay and clay residual soil, over a layer of sandstone. Contact was made with sandstone bedrock at varying levels across the study area with bedrock reached at depths ranging from 1.5m up to 11m. Silty clay, silty sand and sandy clay alluvial soil was encountered only in the west of the study area in association with BH104 and BH105 (i.e., further down slope towards Darling Harbour).

BH107 in the northwest of the study area encountered a void immediately underlying the concrete slab, likely part of the basement associated with the Powerhouse buildings, that continued to at least 3.1m below ground.

Soil Units 2 and 3 as described by Douglas Partners are considered to be consistent with the natural soil profiles of the area (refer to Section 4.5.1 for discussion of soil landscape units associated with the study area).

Table 4-5: Summary of Geotechnical Conditions (Source: Douglas Partners 2019, Table 2)

Unit	Material/ origin	Description	Approximate thickness (m)	Depth to Top of Unit (m)	RL to Top of Unit (m AHD)
1	Fill	Concrete slab or brick pavers over Gravel, Sand, Clay, and sandstone boulders	0.25 – 4.5	Ground surface	3.5 – 15.6
2	Alluvial Soil	Silty Clay, Silty Sand and Sandy Clay, varying plasticity from low to high plasticity, fine to medium sand, soft to firm and loose sand, encountered in BH104 and BH105 only.	0.5 – 2.3	3.5 – 4.5	1.3 – 2.7
3	Residual Soil	Silty Clay, Sandy Clay, and Clay, varying plasticity, stiff to hard.	0.5 – 5.0	1.5 – 6.8	-1.0 – 5.5
4a	Class V/IV Sandstone	Sandstone, moderately weathered, very low to low strength.	0.3 – 0.9	1.5 – 11.8	-6.0 – 14.1

⁵³ Douglas Partners 2019

Unit	Material/ origin	Description	Approximate thickness (m)	Depth to Top of Unit (m)	RL to Top of Unit (m AHD)
4c	Class III or Better Sandstone	Sandstone, slightly weathered to fresh, medium to high strength, a 0.5m thick very low to low strength layer was encountered at the bottom of BH202.	Not Penetrated	1.8 - >11.8	Below -0.6 - 13.8



Figure 4-16: Location of geotechnical boreholes associated with the study area. Harris Street runs horizontally along the bottom of the image and Mary Ann Street runs vertically at the right-hand side of the image (Source: Douglas and Partners: Appendix B)



Figure 4-17: Soils Landscape Map (Source: Curio 2022)

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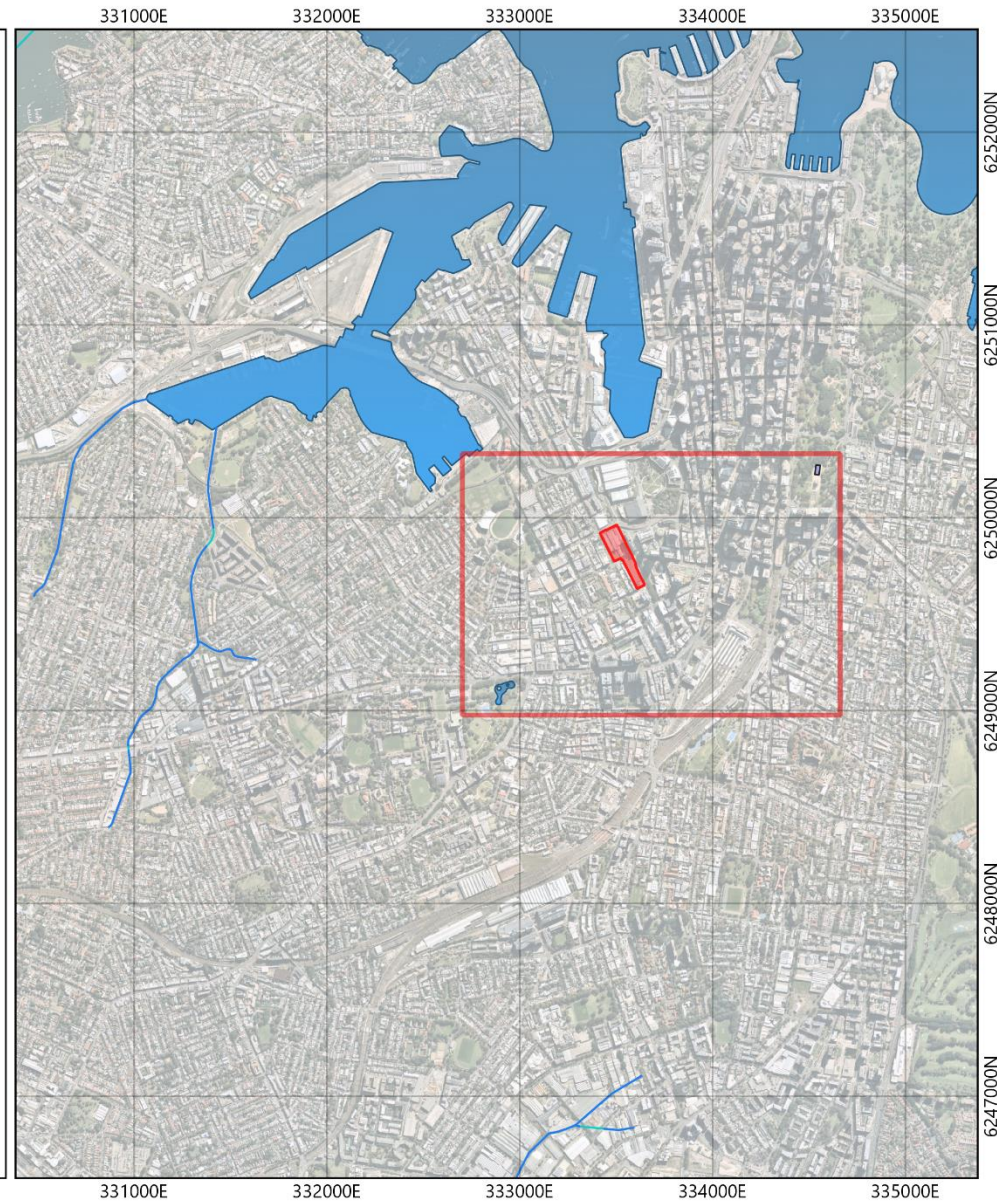
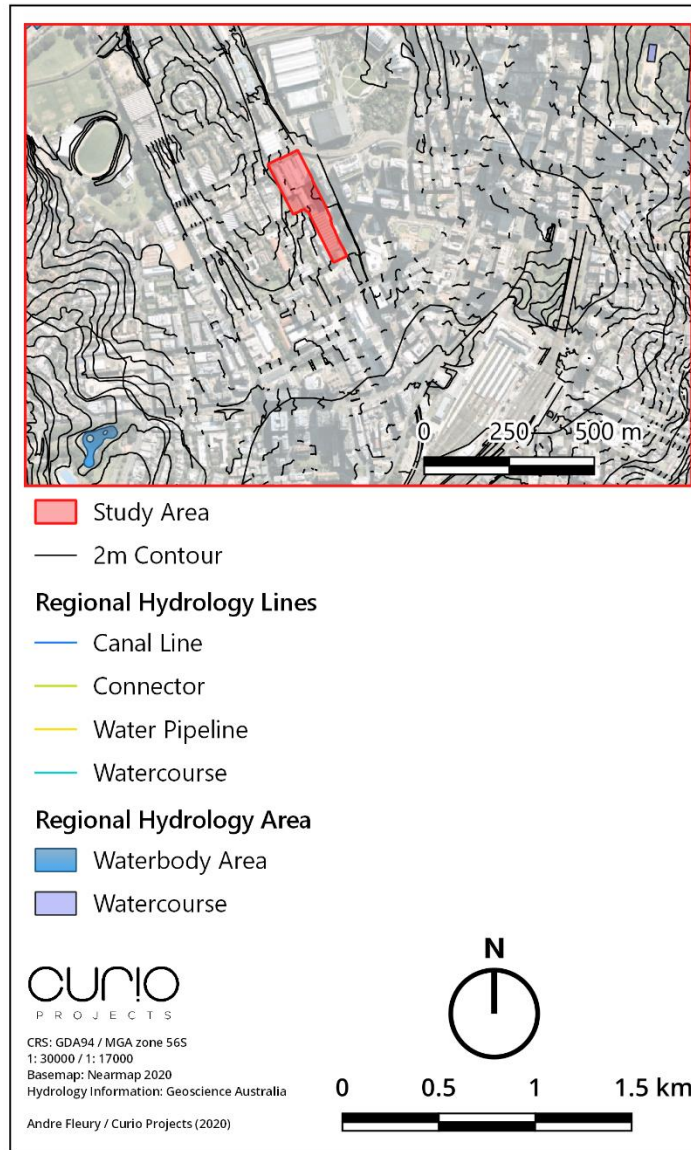


Figure 4-18: Landscape and Hydrology Map (Source: Curio 2022)

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4.6. Aboriginal Archaeological Context

Research into the regional and local archaeological context of the study area can be used to develop an understanding of the patterning of Aboriginal land use and enable the preparation of a predictive model to determine the likelihood of particular site types that may be present within the study area.

Generally, Aboriginal sites in this area of Sydney that have the potential to be found include:

- Areas with flat exposed boulders or sandstone outcrops (potential for rock engravings and/or grooves used to grind seeds, food and other materials).
- Within sandstone shelters and/or overhangs (potential for occupation and art sites).
- In the form of more open camp sites along the foreshore of Sydney Harbour (shell midden and artefact sites, or subsurface potential archaeological deposits (PADs) associated with former open camp sites).

Since no sandstone platforms nor overhangs/shelters are known to be present within the study area, the only potential Aboriginal archaeological site relevant to the study area would be open camp sites (midden and artefact sites, particularly in the form of subsurface PAD sites).

Extensive archaeological excavations across the Sydney CBD in recent years significantly highlights that the presence of modern development in an area is not sufficient to determine that all subsurface archaeological deposits have been disturbed or removed. In fact, if anything, previous archaeological excavations regularly demonstrate that both historical and Aboriginal archaeological deposits (including natural soil profiles) remain intact at a large number of sites across the Sydney CBD.

Numerous archaeological excavations have determined the potential for intact natural soil profiles to be present beneath layers of modern and historical development, and therefore it cannot be assumed that simply because the land in question has been developed, that this would have removed all Aboriginal archaeological deposits in this location. Aboriginal stone artefacts, in a pre-historic, post-contact, and in disturbed contexts are likely to be present across most areas of the Sydney CBD.

The nature, location and extent of archaeological evidence of Aboriginal occupation as it presents in the Sydney region is further described in the following subsections.

4.6.1. Archaeological Evidence of Aboriginal Occupation

While the Sydney Basin represents one of the most intensively archaeologically studied regions in Australia, the timing and nature of initial Aboriginal occupation in the Sydney region remains poorly understood.⁵⁴ As previously indicated in the environmental background section of this report, past Aboriginal occupation within the Sydney Basin was likely shaped by changes in sea levels and associated environmental conditions throughout the last glacial cycle. The most recent period of maximum glaciation in Sydney was 15,000-18,000 BP, at which time sea levels would have been up to 130m below current, pushing the coastline further to the east. Around 10,000 years ago at the end of the Pleistocene epoch, the polar ice caps melted, and sea levels began to rise, which would have forced Aboriginal people to abandon coastal sites and move inland, significantly influencing both physical occupation patterns, as well as economic and social habits. By around 6,000 years ago,

⁵⁴ Williams et al. 2021

rising sea levels had flooded what was once a coastal plain along Sydney's east coast, forming the landscape of Sydney harbour and its river valleys roughly as they occur today. It is currently unknown whether the earliest Aboriginal groups were "interior forest dwellers" or coastal groups "tethered to large river systems draining the coastal plain".⁵⁵

Although occupation of Australia is now understood to date back to at least 65,000 years⁵⁶, archaeological deposits dating to the Pleistocene are rare in the Sydney region with few archaeological sites having been dated to before 10,000 BP. Currently, the earliest date for Aboriginal occupation in the Sydney Basin region derives from an open context site 'RTA-G1' located in Parramatta approximately 18km to the north west of the current study area, which indicates that the Sydney region was occupied by at least $30,735 \pm 3000/-2000$ (ANU-4016).⁵⁷ The oldest inhabited rockshelter in the Sydney region, Shaws Creek K2, located on the western side of the Nepean River, has been dated to approximately 17,800 years.⁵⁸ In contrast, the majority of archaeological sites in Sydney that have been scientifically dated, provide evidence of occupation dating to 5,000 BP and later following the stabilisation of sea levels.

A review of the earliest dates obtained from archaeological sites situated within approximately 10 km of the current study area demonstrates that the earliest use of most sites dates to within the last 5,000 years (Table 4-6). The closest of the dated sites outlined below, is that of Cumberland Street which yielded a date to 890 ± 60 Cal BP. In contrast, the earliest dated site situated within 10 km of the current study area, is Discovery Point, Tempe situated approximately 9.5km to the southwest which has been dated to $9,376 \pm 61$ Cal BP. These sites likely relate to occupation and use of the current coastline when sea levels had reached their current position, the coastal environment had stabilised, and the climate had become more akin to present conditions. Correspondingly, it is probable that sites with older occupation may exist along the now submerged coastline.

Table 4-6: Dated archaeological sites in the Sydney region located within approximately 10 km of the current study area

Site name / location	Date	Lab number/ Sample	Reference
Cumberland Street	890 ± 60 Cal BP	Beta-47633 (shell)	Attenbrow 1992: 19
Berry Island 3	$1,195 \pm 40$ Cal BP	OZF-209 (AMS on bone)	McDonald CHM 2000
Cammeray	$5,840 \pm 50$ Cal BP	Wk-3219 (shell)	Attenbrow 2010: 18
Balmoral Beach 2	$3,780 \pm 140$ Cal BP	Beta-58864	Attenbrow et al. 2008: 105-106
Vaucluse	$1,730 \pm 50$ Cal BP	Wk-2082 (shell)	Attenbrow and Steele 1995: 51
Hydrofoil	$1,630 \pm 60$ Cal BP	Wk-2510 (shell)	Attenbrow 2010: 19
PoWales Hospital	$8,400 \pm 800$ Cal BP	TL (sand)	Godden Mackay and A. Arch 1997: 25-26
Reef Beach	$1,150 \pm 90$ Cal BP	SUA-401 (shell)	O'Donnell and Walker 1982: 3
Sugarloaf 2	$4,170 \pm 40$ Cal BP	Wk-4196 (shell)	Attenbrow 2010: 18
Discovery Pt, Tempe	$9,376 \pm 61$ Cal BP	Wk-16167	McDonald CHM 2005b: 56
Kendrick Park	$4,328 \pm 50$ Cal BP	Wk-11004 (shell)	AMBS 2003: 18

⁵⁵ Williams et al. 2021, p.10

⁵⁶ Clarkson et al. 2017

⁵⁷ McDonald 2005a: 107-125

⁵⁸ Nanson et al. 1987, p. 76

Site name / location	Date	Lab number/ Sample	Reference
Sheas Creek	5,520 ± 70 Cal BP	Wk-8616 (marine mammal bone)	Haworth et al. 2004: Tab 1
Castle Cove	1,650 ± 40 Cal BP	OZC-901 (shell)	Attenbrow 1992: 19
Bantry Bay 3	4,520 ± 100 Cal BP	SUA-593 (shell)	Ross and Specht 1976: 16

4.6.2. AHIMS Search

An extensive search of the Aboriginal Heritage Information Management System (AHIMS) database was undertaken on 16 March 2022 for the following area centred on the study area: Lat, Long From: -33.8963, 151.1673 - Lat, Long To: -33.8607, 151.2291. A total of 47 Aboriginal heritage sites were identified within the search area. No AHIMS registered sites were located directly within the current boundaries of the study area. The extensive AHIMS search is attached as APPENDIX B – Extensive AHIMS Search Results.

Summary descriptions of Aboriginal site features registered on AHIMS, as relevant to the study area and surrounding region are presented in Table 4-7 below. A breakdown of the frequency of Aboriginal site types in the local region surrounding the study area based on the AHIMS search results is provided in Table 4-8 while the general distribution of these registered sites in relation to the study area is depicted in Figure 4-19.

A total of nine (9) Aboriginal sites are located within 500m of the study area, four (4) of which are situated within less than 200m of the study area. The closest sites to the study area include:

- Ultimo PAD 1 (AHIMS ID# 45-6-2652)
- UTS PAD 1, 14-28 Ultimo Rd Syd (AHIMS ID# 45-6-2979)
- Poultry Market 1 (AHIMS ID# 45-6-2987)
- Darling Central Midden (AHIMS ID# 45-6-3217)

Details of these sites are provided below and copies of their associated AHIMS site cards are provided in Appendix B.

Ultimo PAD 1 (AHIMS ID# 45-6-2652) consists of a PAD measuring approximately 70m by 65 m located within a portion of land located on the corner of Harris and William Henry Streets, Ultimo, approximately 50m north of the current study area. This site was originally registered as a PAD by AHMS Pty Ltd in 2003 based on the assessment that areas of remnant natural soil may still be present at this location at depth, buried below modern hard surfaces and thus have the potential to contain Aboriginal sites/objects. The site is associated with permit 1598 though remains valid according to the current AHIMS search results.

UTS PAD 1, 14-28 Ultimo Rd Syd (AHIMS ID# 45-6-2979) consists of a PAD located at 14-28 Ultimo Road, Ultimo within the University of Technology, Sydney campus situated approximately 60m south of the current study area. The PAD was recorded by Dominic Steele Consulting Archaeology Pty Ltd in 2011 as being located within a vacant lot used temporarily as an open carpark. Very little information is recorded on the site card for this site. The site is associated with permit 3458 though remains valid according to the current AHIMS search results.

Poultry Market 1 (AHIMS ID# 45-6-2987) consists of an isolated artefact that was recovered from spoil removed from a post hole during an historical archaeological excavation in an area proposed for a 15-storey apartment complex located at the corner of Quay Street and Ultimo Road in Haymarket situated approximately 200m southeast of the current study area. The site was recorded

by Biosis Research Pty Ltd⁵⁹. The deposit from which the artefact was recovered is believed to have been redeposited during the 19th century or later during previous construction works in the area. The site is associated with permit 3506, and although the artefact was recovered from the site, it remains valid according to the current AHIMS search results (see discussion on the Quay Project, Haymarket in section 4.6.3 for further details).

Darling Central Midden (AHIMS ID# 45-6-3217) consists of a shell midden, artefact and Aboriginal ceremony and Dreaming site located approximately 200m northeast of the study area. This site was recorded in 2014 by Comber Consultants Pty Ltd during assessment completed for the Sydney International Convention, Exhibition and Entertainment Precinct project. The site was subject to an archaeological excavation program which confirmed the presence of sub-surface archaeology in the area. Despite having been partially destroyed during test excavations and subsequent development works, the site remains valid on the AHIMS database as of 16 March 2022. According to information of the Aboriginal Site Impact Recording Form (ASIRF) for the site, it was suggested that the construction of the new development would result in minimal impact on the shell midden, as no deep excavation works were required since the new ICC building was to be raised from existing ground levels. The new building was to be constructed on existing and new piles and strip footings and no basement was to be built. Due to the design of the build, it was determined that any further midden material and evidence of Aboriginal occupation would be preserved underneath the building development and thus remain intact/valid. The site has been partially destroyed.

Further details of the above site are provided below in Section 4.6.3 in the context of describing previous archaeological investigations of relevance to the study area.

The most common Aboriginal site types / features within the AHIMS search area are PADs (n=29) followed by Artefact sites (n=8). Considering the highly modified nature of the Sydney city landscape where much of the natural surface has been covered, it is not surprising that sites associated with no visible surface evidence (i.e. PADs) represent the most common site type recorded. This site type is typically subject to further assessment and investigation in the form of test excavation programs aimed at identifying the nature and extent of sub-surface archaeological deposits. According to the AHIMS search data, a total of three (3) PAD sites have since been found to not be association with sub-surface archaeological deposits (i.e. site status is recorded as 'Not a Site'. Two PADs are recorded as being 'Partially Destroyed' and one is reported as being 'Destroyed'.

Almost 60% of sites are associated with Permits (n=27) though 83% were reported as still being valid based on the AHIMS search results. It is possible that other site results from this AHIMS search have already been subject to harm or have been destroyed under Aboriginal Heritage Impact Permits (AHIPs) or through authorised site works and have not been updated in AHIMS. However, as none of no sites are located within the current study area and a search of the AHIP public register completed on the 28 March 2022 did not identify any AHIPs covering the study area, this is not of a direct concern for this Project.

AHIMS search results always require a certain amount of scrutiny in order to acknowledge and accommodate for things such as inconsistencies in the coordinates (differing datum between years of recording), the existence of, and impact to, registered sites (impact to a registered site technically requires the submission of a Heritage Impact Recording form to Heritage NSW, however these forms are not always submitted), and other database related difficulties. It should also be noted that the

⁵⁹ Biosis 2012

AHIMS database is a record of archaeological work that has been undertaken and registered with Heritage NSW in the region.

The AHIMS database is therefore a reflection of recorded archaeological work, the need for which has likely been predominately triggered by development, and not a representation of the actual archaeological potential of the search area. AHIMS searches should be used as a starting point for further research and not as a definitive, final set of data.

Nevertheless, the relatively even distribution of sites across the search area (Figure 4-19) suggests that Aboriginal archaeological sites may exist across the entire Sydney CBD and Pyrmont Peninsula area, wherever conditions allow them to survive (i.e. incomplete levels of ground disturbance, along the edge of the original sandstone outcrops and geology, along water sources, and where natural soil profiles are still present). The proximity of numerous PAD sites to the study area further highlights the potential for sub-surface archaeological material to be present in the area. The results of archaeological excavation programs previously undertaken in the local region can be used to assist in predicting the nature and extent of potential sub-surface archaeological deposits that may exist in association with the current study area and relevant studies are therefore reviewed in the following section.

Table 4-7: Aboriginal site types

Site Feature	Description
Aboriginal Burial	A traditional or contemporary (post-contact) burial of an Aboriginal person, which may occur outside designated cemeteries and may not be marked, e.g., in caves, marked by stone cairns, in sand areas, along creek banks etc. Soft, sandy soils along creeks and riverbeds, and beaches were favoured for burials, as they allowed for easier movement of soil, however, burials may also have often occurred in rock shelters and shell middens.
Aboriginal Ceremonial and Dreaming	May be in the form of Bora or Ceremonial Grounds where initiation ceremonies were performed and/or be locations associated with Dreaming stories. A bora ground typically consists of two circles marked by raised earth banks, and connected by a pathway. May be locations associated with tangible and intangible values.
Aboriginal Resource Gathering	Related to everyday activities such as food gathering, hunting, or collection and manufacture of materials and goods for use or trade.
Art Site	Art sites are usually located in shelters, overhangs, and across rock formations. Techniques include painting, drawing, scratching, carving, engraving, pitting, conjoining, abrading and the use of a range of binding agents and the use of natural pigments obtained from clays, charcoals and plants.
Artefact Site (Open Camp Sites/Artefact Scatters/Isolated Finds)	Artefact sites consist of objects such as stone tools, and associated flaked material, spears, manuports, grindstones, discarded stone flakes, modified glass or shell demonstrating physical evidence of use of the area by Aboriginal people. Registered artefact sites can range from isolated finds to large extensive open camp sites and artefact scatters. Artefacts can be located either on the ground surface or in sub-surface archaeological contexts.
Burial	A traditional or contemporary (post-contact) burial of an Aboriginal person, which

Site Feature	Description
	may occur outside designated cemeteries and may not be marked, e.g. in caves, marked by stone cairns, in sand areas, along creek banks etc. Aboriginal burials may be found in a variety of landscapes throughout NSW, although most frequently they are found in middens, sand dunes, lunettes, bordering dunes and other sandy or soft sedimentary soils.
Potential Archaeological Deposit (PAD)	An area where Aboriginal cultural material such as stone artefacts, hearth, middens etc. may be present in a sub-surface capacity.
Shell Midden	A shell midden site is an accumulation or deposit of shellfish resulting from Aboriginal gathering and consumption of shellfish from marine, estuarine or freshwater environments. A shell midden site may be found in association with other objects like stone tools, faunal remains such as fish or mammal bones, charcoal, fireplaces/hearths, and occasionally burials. Shell midden sites are often located on elevated, dry ground close to the environment from which the shellfish were foraged, and where freshwater resources are available. Shell middens may vary greatly in size and components.

Table 4-8: AHIMS sites in the vicinity of the study area

Site Type	Number of sites	Percentage of sites (%)
Potential Archaeological Deposit (PAD)	29	61.7
Artefact	8	17.0
Artefact & PAD	2	4.3
Artefact & Shell	2	4.3
Shell & Burial	1	2.1
Shelter with Art & Artefact	1	2.1
Shelter with PAD	1	2.1
Aboriginal Resource Gathering	1	2.1
Burial, Artefact & Aboriginal Ceremony and Dreaming	1	2.1
Artefact, Shell & Aboriginal Ceremony and Dreaming	1	2.1
Total	47	100.0

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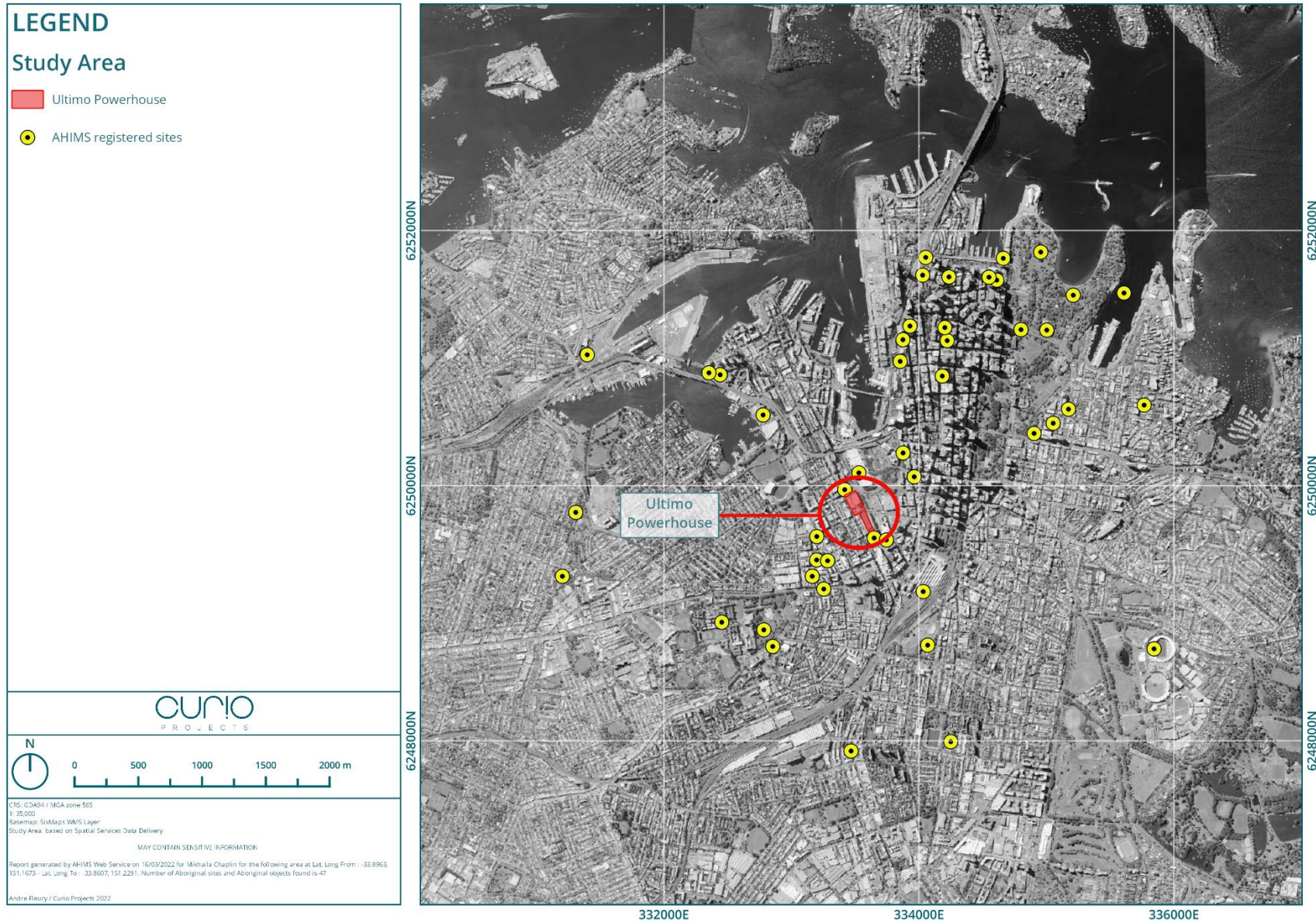


Figure 4-19: Map of AHIMS site locations (Source: Curio 2022)

4.6.3. Previous Archaeological Investigations and Assessments

Undertaking a review of previous archaeological assessments completed in the local region surrounding the study area can be used to identify trends and patterning in the distribution, nature and extent of archaeology associated with an area. Aboriginal archaeological excavations have often been undertaken in conjunction with historical archaeological excavations across the Sydney CBD. Numerous Aboriginal archaeological excavations have successfully demonstrated that, regardless of level of supposed development and ground surface modification within the Sydney region, locations recorded as PADs are often confirmed to be associated with sub-surface archaeological deposits within intact remnant natural soil profiles, as well as in post-contact contexts. The following section presents the results of a literature review of the NSW AHIMS library and other relevant reports, to better understand the broader archaeological patterning of the local region surrounding the study area.

Aboriginal Due Diligence Assessment – Powerhouse Ultimo – Curio Projects 2021

This report presents the results of an Aboriginal Due Diligence Assessment completed for the current study area by Curio. The assessment included a desktop review and initial site visit. While no Aboriginal sites were found to be located within the assessment area, it was concluded that there was a moderate to high potential for natural intact soil profiles to be retained in the area due to its favourable environmental context situated on the original western shoreline of Darling Harbour the fact that numerous archaeological assessments and Aboriginal archaeological excavations in the Sydney CBD and Darling Harbour area have demonstrated the potential for Aboriginal archaeological deposits to remain in situ, particularly along the original shoreline of Darling Harbour.⁶⁰ The current ACHAR builds upon the preliminary background research and assessment presented in this Aboriginal Due Diligence Assessment.

Pymont Peninsula Place Strategy – Kelleher Nightingale Consulting Pty Ltd 2020

The report presents the results of an Aboriginal Heritage Assessment and Indigenous Cultural Heritage Report prepared by Kelleher and Nightingale Consulting Pty Ltd (KNC) for the Pymont Peninsula Place Strategy which covers the current study area.⁶¹ The aim of the assessment was to identify and consolidate understandings of the Aboriginal archaeological resources and cultural landscape associated with the Pymont Peninsula. The assessment involved background desktop research, visual site inspection and consultation with Aboriginal stakeholders. The following predictive statements were made for the assessment area⁶²:

- Aboriginal archaeological sites are unlikely to be older than 6,000-6,500 years.
- Midden sites may occur within the assessment area in association with areas that formed the original shoreline. These sites may or may not be associated with stone artefacts and their integrity will be dependent upon the degree of erosion, soil movement and/or disturbance factors associated with a particular area.
- Artefact sites (isolated finds or open artefact scatters) may be present through the integrity of any such sites will be dependent upon past land-use and disturbance in an area.
- PADs are likely to occur in areas where remnant natural soils remain below introduced fill material. PADs are expected to be identified in association with archaeologically sensitive landforms such as characterises the entire Pymont Peninsula assessment area.

⁶⁰ Curio Projects 2021

⁶¹ KNC 2020

⁶² KNC 2020, p. 33-34

- Rockshelters sites, although common in the coastal Sydney region, are unlikely to occur due to the history of quarrying, infrastructure development and construction of the built environment.
- Grinding grooves, engraving sites and culturally modified trees are unlikely to occur within the assessment area as reflected in their overall rarity in the local region.

It was concluded that, despite evidence of extensive landform and land use disturbance throughout the assessment area, some portions of the original landform which have been subject to limited ground surface modification have the potential to contain remnant natural soils. It was hypothesised that any remnant natural soils (buried or exposed) have the potential to retain any associated subsurface Aboriginal archaeological deposit. The area encompassing the approximate extent of the original peninsula landform within the assessment area (prior to reclamation works) was identified as an area of archaeological sensitivity. This report is of relevance as it covers the current study area and contributes to the predictive model for the region.

The Quay Project, Haymarket – Biosis Research Pty Ltd 2012

This report presents the results of archaeological investigations by Biosis for the redevelopment of land located at the corner of Quay Street and Ultimo Road in Haymarket situated approximately 200m southeast of the current study area. Based on the results of an earlier due diligence assessment completed for the project, it was suggested that the area would likely have been favoured by Aboriginal people prior to European settlement due to its proximity to resources and its topography. The extensive disturbance of the natural landscape since the late 18th Century, however, meant that it was unlikely that traces of Aboriginal occupation had survived in the assessment area. During subsequent historical excavations within the assessment area, potential remnant deposits of natural topsoil were identified resulting in further Aboriginal assessment including consultation and test excavation within the area. A total of five (5) 50cm by 50cm test pits were excavated. No Aboriginal objects were recovered confirming the results of the earlier Due Diligence Assessment. A single lithic artefact, however, was later identified in spoil from the fill of a European post hole. The isolated artefact was recorded as site Poultry Market 1 (AHIMS ID# 45-6-2987) and consists of a retouched flake manufactured from a dark fine-grained material preliminarily identified as being petrified wood. The highly disturbed context from which the artefact derived resulted in the conclusion that further artefacts were unlikely. This assessment is of relevance to the current study as it contributes to the predictive model for the region.

Former Inwards Parcel Office – Urbis 2020

This report presents the results of an ACHAR completed by Urbis for a commercial and hotel development above the Former Inwards Parcel Shed at 8-10 Lee Street, Haymarket located approximately 730m to the southeast of the current study area. The assessment involved desktop background research and a visual inspection of the assessment area. It was determined that, despite the high level of disturbance within the assessment area resulting from modern development, there remains the potential for sand deposits associated with the Tuggerah Soil Landscape as well as a potential paleo channel to be located within the assessment area. These environmental features were hypothesised to increase the potential for archaeological deposits (artefacts, middens, burials) to remain within the assessment area below the current structures. The results from a geotechnical assessment provided support for this prediction indicating that a 2m thick lens of very loose sand alluvium exists beneath the present 2-8m of fill material.⁶³ It was concluded an archaeological test excavation program would be required to test the nature of sub-surface archaeological resources

⁶³ Urbis Pty Ltd 2020

within the assessment area. This report is of relevance to the current study as it contributes to the predictive model for the region.

Darling Quarter (formerly Darling Walk) Darling Harbour - Comber Consultants 2012

This report presents the results of archaeological investigations undertaken by Comber Consultants at the redevelopment of Darling Quarter (former Darling Walk) in Darling Harbour located approximately 500m to the northeast of the current study area. The assessment included, archaeological survey, Aboriginal monitoring of historical archaeological investigations (completed by Casey and Lowe) below the fill levels (in Areas 5, 7, 8 and 9), archaeological testing (in Areas 5, 7 and 8) and salvage excavation in Area 5 following the identification of shell midden material in this area during testing.

The site was located along the original foreshore of Cockle Bay (Darling Harbour). No artefacts of evidence of Aboriginal occupation was recovered from Areas 7 and 8. Aboriginal test excavation identified the remains of a shell midden, including Aboriginal stone artefacts on an exposed area of bedrock (Area 5 of the excavation) in close proximity to the original shoreline. This area was expanded into an open area salvage excavation across the remainder of the sandstone outcrop in the south-east of the excavation area and resulted in the recovery of a total of 145,942 kg of shell material and ten (10) Aboriginal stone artefacts. Shell midden material consisted of Sydney Cockle/Mud Ark (*Anadara trapezia*), Hercules Club Shell/ Sydney Mud Whelk (*Pyrazus ebeninus*) and Sydney Rock Oyster (*A. trapezia*, *P. ebeninus* and *Saccostrea glomerata*).

The predominant raw material observed in the stone artefact assemblage was chert (n=8) with the remaining two artefacts being manufactured from quartz (n=1) and silcrete (n=1). Artefacts were mostly recorded as flaked pieces (n=6) with the remaining artefacts being complete flakes (n=4). The lack of cores and cortex on artefacts combined with the small size of the artefacts, was interrupted as indicating that raw materials for artefact manufacture were scarce, having likely been sourced via trade.⁶⁴ There is no known local source of chert, and therefore the report suggests that the presence of this raw material type may have been the result of trading between the local Aboriginal people of the Cockle Bay area, and Aboriginal people that lived in the west, near Plumpton Ridge on the Cumberland Plain, a known source of chert for Western Sydney. It is also possible that other more local sources of chert were present around the Sydney CBD area prior to 1788 that remain unknown to archaeologists.

Interpretation of the archaeological material indicated that the site likely represented a midden that had been redeposited as a result of wave action and/or land reclamation works. The report determined that the association of flaked artefacts, charcoal, blackened shell in the same context, the absence of juvenile shells of edible species and the location of the midden on the landward side of the estuarine shoreline, all suggested that the site was a pre-contact midden. It was concluded that Aboriginal people would have used this location on the sandstone outcrop to cook and eat the shellfish that had been gathered from the surrounding environment. In addition, soil analyses undertaken as part of the project presented evidence of cooking fires in this location. This assessment is of relevance to the current study as it contributes to the predictive model of the region and our understanding of past Aboriginal use of the local area.

Bays Market Precinct Rezoning – Artefact Heritage 2014, 2019

⁶⁴ Comber Consultants 2012, p.39

This report presents the results of an Aboriginal archaeological assessment undertaken by Artefact Heritage⁶⁵ for the Bays Market Precinct including land located along the western foreshore of the Pyrmont Peninsula, Blackwattle Bay and Glebe situated approximately 980m to the northwest of the current study area. No registered Aboriginal archaeological sites were identified during the background research for the assessment. Furthermore, much of the assessment area was found to have been heavily disturbed as a result of historic land use practices and the continual use of the foreshore. An archaeological survey of the area completed with representatives of the Aboriginal community resulted in the identification of two areas of moderate archaeological potential which were recorded in 2014 as The Bays Precinct PAD01 (AHIMS ID# 45-6-3339) and The Bays Precinct PAD02 (AHIMS ID# 45-6-3338). Following an assessment of the results from geotechnical investigations in the area, the shape and extent of the PADs were reduced based on the identification of additional areas of fill and disturbance.⁶⁶ The remainder of the assessment area was located within reclaimed land and was assessed as being of low to nil archaeological potential. This assessment is of relevance to the current study as it contributes to the predictive model of the region.

University of Technology, Sydney Concept Plan – Godden Mackay Logan Pty Ltd 2009

This report presents the results of an Aboriginal and historical archaeological assessment undertaken by Godden Mackay Logan (GML)⁶⁷ of the University of Technology Sydney (UTS) Facilities Management Unit situated to the south of the current study area. The assessment area comprised on land contained by Broadway to the south, Thomas Street to the north, Wattle Street to the west and Harris Street to the east. Based on the results of desktop review, it was predicted that the assessment area had the potential to contain artefact scatters, isolated artefacts and PADs. A survey of the assessment area confirmed the highly disturbed nature of the area indicating that past land use practises and disturbance had removed original topsoils with no remnant topsoils having survived within the assessment area. It was concluded that the area was associated with an overall low archaeological potential, though isolated Aboriginal artefacts may still occur within the assessment area in disturbed contexts. This assessment is of relevance to the current study as it contributes to the predictive model of the region.

UTS 14-28 Ultimo Road, Ultimo - Godden Mackay Logan Pty Ltd 2011

This report presents the results of a due diligence assessment prepared by GML for the development of land located at 14-28 Ultimo Road, Ultimo situated approximately 60m south of the current study area. Based on a background review, it was concluded that the assessment area had low to moderate archaeological potential to contain Aboriginal objects from the late Holocene Period and that, if present, Aboriginal sites would likely be in the form of stone artefacts and/or shell midden material.⁶⁸ The area of potential was registered on AHIMS as UTS PAD 1 14-28 Ultimo Rd Syd (AHIMS ID# 45-6-2979). While it was recommended that Aboriginal archaeological monitoring take place during historical excavations and/or the removal of the concrete slab (carpark surface), it is unclear whether this took place, as archaeological results are not readily available. Nevertheless, this assessment is of relevance to the current study as it contributes to the predictive model of the region.

⁶⁵ Artefact Heritage 2014, 2019

⁶⁶ Artefact Heritage 2019

⁶⁷ Godden Mackay Logan Pty Ltd 2009

⁶⁸ GML 2011, p.15

KENS Site, Aboriginal Excavation – Dominic Steele Consulting Archaeology 2006

This report presents the results of an Aboriginal archaeological assessment and excavation undertaken by Dominic Steele Consulting Archaeology in 2003 of KENS Site 1 (AHIMS ID# 45-6-2647) a large Aboriginal campsite bound by Kent, Erskine, Napoleon and Sussex Streets and situated approximately 1.35km to the northeast of the current study area. The site is named for the streets which form the general boundaries of this site. The Aboriginal campsite was uncovered as a result of the demolition of the present building and associated historical archaeological excavation at the location. Excavation of this site recovered approximately 1,000 Aboriginal stone artefacts within buried remnant soil profiles, including backed artefacts, other retouched tools, cores and numerous waste flakes, which have been typologically dated to the last 3,000 years. Aboriginal people manufactured the artefacts from several different types of stone, some of which may have been sourced from locations situated tens of kilometres away for the site. Quartz however was likely sourced locally as this material type occurs as small pebbles eroding out of sandstone. In addition, two Aboriginal artefacts manufactured of glass were recovered from this site, demonstrating that the site was occupied by Aboriginal people of the area through to the post-contact period. This report is of relevance to the current study as it contributes to the predictive model for the region and demonstrates the potential for intact Aboriginal archaeological deposits to be present beneath modern development.

Sydney International Convention, Exhibition and Entertainment Precinct (SICEEP), Aboriginal Archaeological Excavation – Comber Consultants 2015

This report presents the results of an Aboriginal archaeological excavation at Aboriginal site Darling Central Midden (AHIMS ID# 45-6-3217) completed by Comber Consultants within the Bayside/Darling Central Complex (i.e. the ICC and entertainment precinct) of the SICEEP in Darling Harbour located approximately 200m northeast of the current study area. Previous assessments completed for the project had concluded that there was a high potential for sub-surface archaeological deposit containing artefact scatters and/or shell midden to remain within the south-western section of the assessment area, along (what would have been) the original shoreline of Cockle Bay.⁶⁹ The Aboriginal excavations were completed in late 2013 and early 2014, in collaboration with Casey & Lowe, who undertook the Historical Archaeological Excavation within the assessment area. A large proportion of this excavation took place underneath the (then existing) buildings of the former Sydney Entertainment and Exhibition Centres, and included investigation of eleven separate open areas. The main results of the Aboriginal investigation included:

- The identification of a sequence of middens along the rocky original Darling Harbour foreshore (which could potentially represent one continuous midden distributed along the foreshore).
- The recovery of a total of 63 Aboriginal stone artefacts including a discrete knapping floor on the edge of a midden from Open Area 2 which consisted predominantly of silcrete. It was concluded that the silcrete used to manufacture these artefacts was likely sourced via trade with Darug people from west of the harbour on the Cumberland Plain. Technological analysis of the assemblage resulted in it being attributed to the Bondian phase of the Eastern Regional Sequence indicating an age of no earlier than 7,000 BP.
- Radiocarbon dating of shell material from one in situ midden was dated to between 1691 and 1935. However, considering that land reclamation within the assessment area began between 1820 and 1850, it was determined that the habitat had been destroyed to the point that the Sydney Mud Oyster (which was identified within the midden) had become extinct by

⁶⁹ Comber Consulting 2013

the 1850s. Nevertheless, the data suggested that the area had been occupied by Aboriginal people for at least 7,000 to 300 years before European colonisation.

This report is of relevance to the current study as it contributes to the predictive model for the region and demonstrated the potential for intact Aboriginal archaeological deposits to be present beneath modern buildings and development, regardless of assumed impact.

4.7. Regional Character and Archaeological Predictive Model

Predictive modelling plays an important role in understanding the remnant archaeological potential of a location, and thus factors into development of appropriate management recommendations and mitigation strategies. Archaeological predictive modelling integrates information about environmental context, previous historical activities and ground disturbance, and known locations of surrounding Aboriginal sites (excavations and registered AHIMS sites), to assess and predict the nature of archaeology that may be present within the study area.

The Powerhouse Ultimo Renewal Project study area is located within the archaeologically sensitive landscape of the Ultimo portion of the Pyrmont Peninsula, situated along what would have been the original western shoreline of Cockle Bay (now Darling Harbour) and to the east of the original course of Black Wattle Swamp Creek. The Sydney coastline would have provided coastal resources including fish, shellfish and crustacea which could be gathered from the sea though availability and abundance of resources likely changed seasonally. Prior to European modification of the landscape, freshwater creeks would have provided Sydney's Aboriginal people with a source of fresh water and a location for fishing and other activities. The local Aboriginal communities living in the area would have pursued a mixed food economy, utilising and relying upon readily available and abundant natural resources.

While the Sydney Basin represents one of the most intensively archaeologically studied regions in Australia, the timing and nature of initial Aboriginal occupation in the Sydney region remains poorly understood. Archaeological deposits dating to the Pleistocene are rare in the Sydney region with few archaeological sites having been dated to before 10,000 BP. Currently, the earliest date for Aboriginal occupation in the Sydney Basin region derives from an open context site 'RTA-G1' located in Parramatta approximately 18km to the north west of the current study area, which indicates that the Sydney region was occupied by at least $30,735 \pm 3000$ -2000 (ANU-4016). Based on a review of the earliest dates obtained from archaeological sites situated within approximately 10km of the current study area, the results demonstrate that the earliest use of most sites dates to within the last 5,000 years following the stabilisation of sea levels.

The changing extent of the shoreline throughout history has implication for the archaeological potential of the study area whether relating to glacial related changes in sea levels or human included modifications to the foreshore during the extensive reclamation programs throughout the late 19th century. During the Last Glacial Maximum (LGM), between 30,000 and 18,000 years ago sea levels, for instance, sea levels may have been up to 110-130m lower than present levels and Sydney's coastline at Port Jackson would have been situated on the continental shelf approximately 15km east of its current alignment. Considering that sea levels were must lower during the Pleistocene, it is likely that some evidence of occupation and use of the area dating to this period may now be submerged below current water levels. Most archaeological evidence therefore is expected to relate to use of the area during the last 7,000-1,000 years when sea levels had reached their current position, the coastal environment had stabilised, and the climate had become more akin to present conditions.

Following European colonisation of Sydney Harbour, further human-induced changes occurred to the foreshore with land reclamation activities undertaken to allow for harbour construction,

navigation, wharf, and shore development. Many of Sydney's waterways were also heavily modified, channelled and/or diverted underground to allow for industry and development within the area. Although the impacts from land reclamation occurred adjacent to the study area, it is unlikely that reclamation would have disturbed the natural soil profiles within the study area itself, which is located solely within the GyMEA soil landscape unit. Aboriginal sites within this soil landscape, however, are likely to be disturbed low-density artefact scatters that are highly prone to displacement due to erosion and landscape disturbance.

Based on the environmental and archaeological context for the study area, Aboriginal archaeological sites, should they be present within or in the vicinity of the current study area, would be most likely to consist of PAD sites, stone artefact sites, shell midden sites, or a combination of these. Previous Aboriginal archaeological investigations and assessments in the surrounding area regularly demonstrate the ability of natural soil profiles to remain intact underneath existing buildings across the Sydney CBD.

Moderate to high levels of disturbance relating to the clearing of native vegetation and the construction of the existing buildings will have impacted the original soil profile across much of the study area resulting in the loss of topsoil. The potential for intact archaeological deposits below the upper levels of disturbance, however, is possible, particularly considering the favourable environmental context of the study area and its proximity to the Darling harbour and the original course of Black Wattle Swamp Creek. Despite the disturbance from previous land use practices within the study area, natural soil profiles below the disturbed layers therefore retain a moderate-to-high potential for preserving Aboriginal objects.

The soil stratigraphy within the study area, as identified by geotechnical investigations, consists of a concrete slab, brick pavers or asphalt surface over gravel, sand or clay fill with sandstone boulders (up to 0.25m to 4.5m), overlying silty clay, sandy clay and clay residual soil, over a layer of sandstone. Contact was made with sandstone bedrock at varying levels across the study area with bedrock reached at depths ranging from 1.5m up to 11m. Silty clay, silty sand and sandy clay alluvial soil, consistent with descriptions of natural soil profiles, was encountered only in the west of the study area towards Darling Harbour.

Contact period Aboriginal archaeology in the form of flaked glass artefacts has been found at multiple sites in proximity to the study area. One flaked glass artefact, for example, was recovered from site Mountain Street Ultimo (AHIMS ID# 45-6-2663) situated approximately 500m to the south west of the current study area while two flaked glass artefacts were recovered from KENS Site 1 (AHIMS ID# 45-6-2647) situated 1.35km to the northeast of the current study area. There is therefore the potential for similar contact archaeology to be identified within the current study area.

Should an intact Aboriginal archaeological deposit be present within the study area, it would likely be of moderate to high archaeological significance for its ability to demonstrate and confirm the ability for sites such as this to retain an Aboriginal archaeological signature in an area subject to high levels of historical disturbance. Should isolated Aboriginal artefacts be present in a disturbed context, these sites would be of limited archaeological significance, however, would still be protected under the NPW Act 1974, and would likely still be of significance to the local Aboriginal community.

Overall, this ACHAR makes the following predictions for Aboriginal archaeological potential within the Powerhouse Ultimo Renewal Project study area:

- Despite the disturbance from previous land use practices within the study area, natural soil profiles below the disturbed layers retain a moderate-to-high potential for preserving Aboriginal objects. PADs are likely to occur in areas where remnant natural soils remain below introduced fill material. The results of geotechnical investigations within the study

area indicate that natural soil profiles do exist particularly within the western portion of the study area (Figure 4 20).

- Midden sites may occur within the study area as the location is associated with the original shoreline of Cockle Bay prior to European modification of the landscape. These sites may or may not be associated with stone artefacts and their integrity will be dependent upon the degree of erosion, soil movement and/or disturbance associated with the area.
- Sub-surface Artefact sites (isolated finds or open artefact scatters) may be present within the study area through the integrity of any such Aboriginal objects and/or sites will be dependent upon the level of disturbance associated with that particular area.
- The location of the study area within the GyMEA soil landscape unit means any sub-surface artefacts and low-density artefact scatters are likely to be disturbed as soil profiles associated with this soil landscape unit are highly prone to displacement due to erosion and landscape disturbance.
- Aboriginal archaeological objects and/or sites are unlikely to be older than 7,000 years and are expected to relate to use of the area during the last 7,000-1,000 years when sea levels had reached their current position, the coastal environment had stabilised, and the climate had become more akin to present conditions.
- The study area also has the potential to contain evidence of contact archaeology in the form of flaked glass artefacts and/or Aboriginal stone artefacts deposited contemporary with historical period archaeological resources.
- Other site types including art and shelter types, grinding grooves and modified trees, will not be present within the study area due to the absence of geological or environmental features required for such site types to exist (i.e. remnant mature vegetation, exposed sandstone platforms or rockshelter formations).

Figure 4-20 presents the predicted levels Aboriginal archaeological sensitivity across the study area.



Figure 4-20: Aboriginal archaeological potential within study area. Expected historical archaeology of 1840s and 1850s houses (red), high Aboriginal archaeological potential (blue) (Source: AMBS 2018/ Curio 2020)

5. Cultural Heritage Values and Significance Assessment

5. Cultural Heritage Values and Significance Assessment

The Burra Charter (Australia ICOMOS 2013) defines cultural significance as:

...aesthetic, historic, scientific, social or spiritual value for past, present or future generations. Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects. Places may have a range of values for different individuals or groups.

The five types of cultural heritage value, as presented in the Burra Charter (2013) form the basis of assessing the Aboriginal heritage values and significance of a site or area. Each of these cultural heritage values, as specifically relevant to aboriginal cultural heritage, are summarised as follows (after OEH 2011(a)).

Social (Cultural) and Spiritual Value – spiritual, traditional, historical or contemporary associations and attachments to the place or area has for aboriginal people. Social or cultural value is how people express their connection with a place and the meaning that place has for them.

Historic Value – associations of a place with a historically important person, event, phase or activity in an Aboriginal community. Historic places do not always have physical evidence of their historical importance (such as structures, planted vegetation or landscape modifications). They may have ‘shared’ historic values with other (non-Aboriginal) communities.

Scientific Value – the importance of a landscape, area, place or object because of its rarity, representativeness, and the extent to which it may contribute to further understanding and information.

- Assessment of Scientific Value also includes assessment in terms of Research Potential, Integrity, Condition, Complexity, Archaeological Potential, Connectedness, Representativeness, Rarity, Education Potential and Archaeological Landscapes.

Aesthetic Value – sensory, scenic, architectural, and creative aspects of the place. It is often closely linked with the social values. It may consider form, scale, colour, texture and material of the fabric or landscape, and the smell and sounds associated with the place and its used.

Assessment of each of the above criteria has been undertaken in consideration of the landscape and environmental context of the study area, Aboriginal history, previous archaeological work, and field survey. The assessment of each criterion has then been graded (as per OEH 2011(a) Guide to Investigating) in terms of high, medium and low, in order to allow significance to be described and compared. The application of the cultural values criteria to the Aboriginal cultural heritage of the study area has also included consideration of research potential, representativeness, rarity and education potential for each criterion (as relevant).

5.1. Assessment of Aboriginal Cultural Heritage Values

5.1.1. Social (Cultural) and Spiritual Value

Social, cultural, and spiritual values of a site can only be identified through consultation with aboriginal people. However, it is likely that should an Aboriginal archaeological deposit be present within the study area, it would be viewed to be of high social and cultural significance by the Aboriginal community, providing a direct and tangible link to past Aboriginal life and activity.

While no previous investigations in the immediate surrounding area have encountered or confirmed the presence of Aboriginal burials, there are a number of locations in proximity to the study area (i.e., represented by the AHIMS registered burial site and other known burials in the area). The potential for such burials to be present within the study area are considered to be low, however, any Aboriginal burials would be of very high social and cultural significance.

The social (cultural) and spiritual value of the study area will be updated based on the results of the consultation process and following the close of Stage 4 consultation for the Project.

5.1.2. Historical Value

The study area has been extensively modified due to development works associated with the historical construction of the existing buildings and features within the area. The study area is not associated with any specific Aboriginal stories and/or events and/or persons. Based on this assessment, the study area is considered to have low historic significance values, though it is acknowledged that the surrounding landscape has post-contact connections and interactions between early colonial government and officials, and Sydney's traditional owners.

However, as outlined in the background review completed for this Project, a number of Aboriginal archaeological sites located nearby the study area have provided evidence for contact-archaeology in the form of flaked glass artefacts. One flaked glass artefact, for example, was recovered from site Mountain Street Ultimo (AHIMS ID# 45-6-2663) situated approximately 500m to the south west of the current study area while two flaked glass artefacts were recovered from KENS Site 1 (AHIMS ID# 45-6-2647) situated 1.35km to the northeast of the current study area. There is therefore the potential for similar flaked glass artefacts to be identified within the current study area. Should flaked glass artefacts be identified within the study area during future archaeological investigation undertaken for this Project, the historical value of the study area will require re-assessment.

5.1.3. Scientific (Archaeological) Value

Heritage NSW states that the scientific (archaeological) value of an Aboriginal site or place:

Refers to the importance of a landscape, area, place or object because of its rarity or representativeness, and the extent to which it may contribute to further understanding and information.

Following Heritage NSW Guidelines for assessing scientific value, five key criteria have been considered with regards to the scientific and archaeological context of the study area in order to determine its level of scientific significance. These criteria, as they have been applied to the study area, are defined in Table 5-1. Following the criteria above, an assessment of the potential scientific significance of the 590-592 New South Head Road study area has been undertaken, identified as relevant to the five key criteria.

Table 5-1: Description of Significance Criteria

Criteria	Description
Research Potential	Research potential describes how much potential a site has to contribute to a further scientific or archaeological understanding of a site/area/region. This should include consideration of factors such as integrity and condition (the level of soil disturbance that a site has been subject to and the ability for the site to yield intact archaeological deposits), complexity (demonstrated or potential ability of a site to yield a complex archaeological deposit), archaeological potential (the potential for a site to yield an archaeological

Criteria	Description
	deposit or resource), and connectedness (the connection of a site to others in the region).
Rarity	Rarity refers to the frequency of similar site types in a local or regional area/landscape.
Representativeness	Representativeness refers to the level of variability between or within Aboriginal sites in an area or region, what is already conserved, how sites relate to each other, and the condition that a particular site type may be in that is able to better present or demonstrate more clearly that specific site type through the archaeological record.
Educational Potential	Educational potential refers to the ability of a site to contribute to the public record and provide teaching resources in order to further understanding of Aboriginal cultural heritage and archaeology. Is the site well preserved? Are there artefacts that would be good to use in teaching? Are there recognisable site features, artefact types, records etc. that would be productive in teaching or use within public heritage interpretation strategies?
Archaeological Landscapes	The study of Aboriginal cultural heritage and archaeological study in the context of the wider landscape (geographical and cultural/social) in which they exist.

Research Potential

Based on the review of the environmental context and archaeological background for the study area, it has been determined that there is a moderate to high potential for in situ Aboriginal archaeological deposits to be present within the study area, where natural soil profiles remain intact. The nature and extent of intact Aboriginal archaeological deposits within the study area, however, has not yet been determined. The results of previous geotechnical investigations within the study area indicate that there are remnant intact soil profiles at a depth that will be encountered by the proposed development works. Portions of the study area that have the highest potential for natural soils to be present (and corresponding potential for intact Aboriginal archaeological deposits), are areas where the lowest levels of historical development and excavation have been undertaken. These areas include beneath the Wran Building forecourt, north of the Wran building in space between Wran and the Post Office, south of the Boiler House, south of the Harwood Building, and carpark spaces along the eastern boundary of the study area.

Should intact Aboriginal archaeological deposits or objects be found to be present within the study area, these may have moderate research potential for their ability to provide evidence for, and insight into, Aboriginal occupation and use of the locality prior to 1788 and/or during the contact period.

Rarity

If found to be present, an Aboriginal artefact deposit, consistent with a background scatter derived from general occupation and use of the surrounding area, would be unlikely to be considered rare in the wider Sydney context.

Representativeness

Should intact Aboriginal archaeological deposits be present within natural soil profiles within the study area, these may be representative of the use of the study area by Aboriginal people. However,

this would depend on the presence and condition of an Aboriginal archaeological deposit in this location.

Educational Potential

This criterion is unable to be assessed prior to further understanding as to whether an Aboriginal archaeological deposit may be present within the study area or not.

Archaeological Landscapes

Should the study area be found to be associated with an intact Aboriginal archaeological deposit, this could potentially contribute further to the archaeological understanding of Aboriginal site use and occupational habits in the region. Therefore, the study area may be of moderate significance when considered as part of a wider Aboriginal archaeological landscape within the Sydney Harbour area, however this would require further investigation.

Summary of Scientific Value

Aboriginal archaeological deposits, if found to survive within the study area, would have the potential to contribute knowledge regarding Aboriginal occupation, land use, and resource gathering in the area prior to the arrival and establishment of the NSW colony.

Overall, it is not possible to determine the nature and extent of any Aboriginal archaeological deposit at the study area without investigating the site physically. However, should an intact Aboriginal archaeological deposit be present, it would potentially be of moderate research potential and moderate significance depending on the nature of the find, and in relation to the wider Aboriginal landscape.

5.1.4. Aesthetic Value

The study area is situated within an urban/ industrialised landscape, with no remnant natural landforms, and/or environmental features reminiscent of pre-1788 landscape in which Aboriginal groups would have occupied. The aesthetic value of the study area is therefore assessed to be low.

Should Aboriginal archaeological deposits be found to be present within the study area, they may potentially have aesthetic significance for the technological form of the artefacts, or as potentially considered useful for education and interpretative purposes.

5.2. Preliminary Statement of Significance

The area surrounding Sydney Harbour is recognised to be highly significant to both Aboriginal and non-Aboriginal people as the location of first contact between the local Aboriginal groups and Europeans. The Pyrmont Peninsula, within which the current study area, is situated is recognised as being of both archaeological and cultural significance to the contemporary Aboriginal community in providing both tangible and intangible links to the Aboriginal past. The location of the study area on the original western shoreline of Cockle Bay/ Darling Harbour means that the area would have been attractive to past Aboriginal people as a location for fishing, resource gathering and other activities and therefore shares the significance attributed to the Sydney Harbour region more broadly.

The extensive modification and disturbance of the original environment of the area since European colonisation, however, has had a considerable impact on Aboriginal archaeological resources within the region. The results of numerous previous excavations within the local region have confirmed that the survivability of Aboriginal archaeological deposit is highly variable and strongly dependent upon

the nature and extent of past disturbance associated with specific locations. Nevertheless, numerous Aboriginal sites are located in close proximity to the study area that provide physical evidence for the continued occupation of the Sydney foreshore and immediate surrounds from at least 7,000 years ago.

Despite the disturbance from previous land use practices within the study area, natural soil profiles below the disturbed layers retain a moderate-to-high potential for preserving Aboriginal objects. These objects are expected to relate to use of the area during the last 7,000-1,000 years when sea levels had reached their current position, the coastal environment had stabilised, and the climate had become more akin to present conditions. The study area also has the potential to contain evidence of contact archaeology in the form of flaked glass artefacts.

Should archaeological deposits be present within the study area, for the local Aboriginal community, this would represent a tangible and meaningful connection to their ancestors.

The study area is therefore considered to have **high social and spiritual significance** to the local Aboriginal community, including both Gadigal people as well as Aboriginal people from other Nations who live in the area.

The study area may have **moderate historical significance** for the early interactions and connections between Aboriginal people and early white settlers in this area of the coastal Sydney region should evidence for contact archaeology be identified within the potential sub-surface natural deposits associated with the study area.

Should sub-surface Aboriginal objects be present within the remnant nature soil profiles within the study area, the study area may have **moderate scientific significance** for its ability to contribute knowledge to the archaeological record about Aboriginal occupation of this area of coastal Sydney. The scientific significance of any Aboriginal objects, however, will be based on the number and extent of the artefacts, the types of artefacts present (including whether specific formal tool types such as backed artefacts are present) and the degree of integrity of the deposits from which they derive.

This statement of significance will require updating should Aboriginal objects and/or sites be identified during any further assessment completed within the study area for this Project.

6. Conservation and Impact Assessment

6. Conservation and Impact Assessment

As noted by Heritage NSW, it is important that an impact assessment directly addresses the potential harm that an activity may pose to an Aboriginal place, object, site or archaeological deposit.

6.1. Ecologically Sustainable Development

One of the aims of the NPW Act (Section 2A(1)(b)(i)) is to 'conserve places, objects and features of significance to Aboriginal people'. One of the ways in which this objective can be achieved is via the consideration of the principles of Ecologically Sustainable Development (ESD). ESD is defined in Section 6 of the Protection of the Environmental Administration Act 1991 (NSW), as requiring the integration of both economic and environmental considerations (including cultural heritage) in the decision-making process for a development, with an aim to achieving balanced and beneficial outcomes for both development and Aboriginal cultural heritage.

ESD can be achieved with regards to Aboriginal cultural heritage, by applying the precautionary principle and the principle of inter-generational equity to the nature of the proposed activity, in relation to the Aboriginal cultural heritage and archaeological values of a site.

6.1.1. Precautionary Principle

The precautionary principle states that if there are threats of serious or irreversible environmental damage, lack of scientific certainty should not be used as a reason for postponing cost-effective measures to prevent environmental degradation. In applying the precautionary principle, decisions should be guided by:

- *A careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment; and*
- *An assessment of the risk-weighted consequences of various options.*

The precautionary principle is relevant to DECC's [now OEH] consideration of potential impacts to Aboriginal cultural heritage where:

- *The proposal involves a risk of serious or irreversible damage to Aboriginal objects or places or to the value of those objects or places; and*
- *There is uncertainty about the Aboriginal cultural heritage values or scientific or archaeological values, including in relation to the integrity, rarity, or representativeness of the Aboriginal objects or places proposed to be impacted.*

Where this is the case, a precautionary approach should be taken and all cost-effective measures implemented to prevent or reduce damage to the objects/place (DECC 2009)

6.1.2. Intergenerational Equity

Intergenerational equity is the principle whereby the present generations should ensure the health, diversity and productivity of the environment for the benefit of future generations.

In terms of Aboriginal heritage, intergenerational equity can be considered in terms of the cumulative impacts to Aboriginal objects and places in a region. If few Aboriginal objects and places remain in a region (for example, because of impacts under previous AHIPs), fewer opportunities remain for future generations of

Aboriginal people to enjoy the cultural benefits of those Aboriginal objects and places.

Information about the integrity, rarity or representativeness of the Aboriginal objects and places proposed to be impacted, and how they illustrate the occupation and use of land by Aboriginal people across the region, will be relevant to the consideration of intergenerational equity and the understanding of the cumulative impacts of a proposal.

Where there is uncertainty, the precautionary principle should also be followed. (DECC 2009)

6.2. Proposed Activity

This Concept DA sets the vision for the renewal of Powerhouse Ultimo and the creation of the Powerhouse Creative Industries Precinct, with the detailed design, construction, and operation of the project to be sought at a separate and future stage (Stage 2).

Concept approval is sought for the following:

- A maximum 'loose-fit' building envelope enabling a new building fronting Harris Street and the renewal of the Wran building to the north and the Power House main building.
- Use of the new spaces and built form as an 'information and education facility' including exhibition, education, and back of house spaces, and a range of related and ancillary uses such as office and co-working spaces, creative industry studios, retail facilities and public domain.
- Endorsement of Urban Design Guidelines and a Design Excellence Strategy to guide the detailed design of the future building, internal spaces, and public domain areas that will be the subject of a competitive design process and a separate and future DA (Stage 2).
- General functional parameters for the future design, construction, and operation of buildings and uses on the site including the principles and strategies for the management of transport and access, flooding, sustainability, heritage and the like.

Environmental assessments, including this ACHAR, are underway for the Concept Proposal associated with the Project. These assessments will be used to support a Concept Development Application (DA) for the Project which will seek approval for a maximum building envelope, including key urban design parameters, and for approval of the Design Excellence Strategy. Work on the Project is anticipated to commence following the receipt of development consent for the Detailed DA.

6.3. Avoiding and Minimising Harm

While the provisions of the NPW Act hinge predominately on the presence and protection of physical Aboriginal sites (i.e. an AHIP provides a defence against 'harm' to Aboriginal objects), an effective and holistic assessment of potential impact to Aboriginal cultural heritage values as posed by a development is really two-fold:

- The physical and archaeological values of sites (tangible heritage); and
- The wider social and cultural impact of a development within a landscape (often relating to more intangible Aboriginal heritage values, lacking material evidence).

This ACHAR has been prepared to support establishing the planning, design, and assessment framework for the Powerhouse Ultimo Renewal Project including the indicative land uses, maximum building envelopes, general parameters for the future layout of the site, and strategies to guide the subsequent detailed design phases of the project including Urban Design Guidelines and Design Excellence Strategy. No direct impacts within the study area are therefore proposed at this current stage of the Project. However, work on the Project is anticipated to commence following the receipt of development consent for the Stage 2 Detailed DA and these works will result in variable levels of disturbance across the study area.

6.3.1. Potential Impact to Aboriginal Objects/Sites/Archaeology

This assessment has established that the current study area does not contain any previously recorded Aboriginal sites.

The nature, extent and level of harm (indirect or direct) cannot be identified at this stage due to the lack of sufficient information on the presence or absence of Aboriginal objects and archaeological resources within the study area. This ACHAR has concluded that there is moderate to high potential for Aboriginal objects in a subsurface context, given the study area is situated within an archeologically sensitive landscape situated within proximity to the foreshore and its resources. The results of previous geotechnical investigations within the study area indicate that there are remnant intact soil profiles at a depth that will be encountered by the proposed development works. Portions of the study area that have the highest potential for natural soils to be present (and corresponding potential for intact Aboriginal archaeological deposits), are areas where the lowest levels of historical development and excavation have been undertaken. These areas include beneath the Wran Building forecourt, north of the Wran building in space between Wran and the Post Office, south of the Boiler House, south of the Harwood Building, and carpark spaces along the eastern boundary of the study area. The nature and extent of Aboriginal archaeological deposits within the study area, however, has not yet been determined.

However, should Aboriginal archaeological resources be found within the study area, the proposed development will have direct impact on those resources and potentially remove the archaeological resource completely.

The level, nature and extent of potential harm cannot be ascertained until archaeological test excavations are undertaken within the study area (following Stage 2 DA for detailed design and physical works). This level of investigation can only be undertaken concurrent with historical archaeological investigations (similarly, following Stage 2 DA).

6.3.2. Potential Impact to Aboriginal Cultural Heritage Values

Intangible Aboriginal heritage values of a site or area are as important to the local Aboriginal community, if not more important, as the more tangible and physical evidence of Aboriginal life and culture that remains in the landscape. Therefore, it is appropriate to consider the potential impact the proposed development may have to the wider intangible cultural heritage values, and should potential impact be identified, appropriate management strategies should be developed to help mitigate this impact.

The level of archaeological potential of subsurface Aboriginal objects and archaeological resources that still may exist within the study area can only be further assessed by archaeological test excavation. Any potential Aboriginal objects and/or sites will occur below the current level of historical disturbance.

These potential Aboriginal objects and/or sites may represent various scale camping events and Aboriginal utilisation of the land in the form of hearth, stone artefacts and shells. Previous

archaeological investigations within coastal Sydney region have identified the potential for human burials and contact sites (such as those containing flaked glass artefacts) as well.

Further investigation in the form of test excavations are therefore required to fully understand the potential Aboriginal archaeological resource and to assess the likely impacted values associated with these and the study area.

6.4. Proposed Conservation (Avoidance)

The proposed works associated with the Project will result in variable levels of disturbance within the study area. The sub-surface impacts proposed by the development should consider the various levels of historical disturbance within the study area, due to the potential for Aboriginal archaeological deposits and burials. Due to the significant sub-surface impacts proposed by the development, it is recommended that the Project will require preliminary investigation works (i.e. test excavation) to identify the nature/presence of sub-surface soil profiles and potential Aboriginal archaeology within the study area. Early investigation should be undertaken to ensure impact to any significant Aboriginal archaeology or burials (if found to be present within the study area) could be avoided by future development works.

Should Aboriginal burials be found to be present within the study area, these would require retention in situ without impact, with further management and mitigation measures to be guided and developed in accordance with the wishes of, and through comprehensive consultation with, the Aboriginal community. It should be noted that a Section 90 AHIP permit will not be issued to allow harm to Aboriginal burials should evidence for one be found.

6.5. Harm to Aboriginal Objects and Values

Section to be updated should Aboriginal objects and/or sites be identified during any further assessment completed within the study area for this Project.

7. Management, Mitigation and Recommendations

7. Management, Mitigation and Recommendations

This report relates specifically to the proposed development impacts of the Powerhouse Ultimo Renewal Project, in relation to potential Aboriginal archaeological and cultural heritage impacts and provides recommendations for management and mitigation of development impacts, both archaeologically (i.e., ground disturbing works), as well as culturally (i.e., opportunities for Aboriginal cultural heritage interpretation within the site redevelopment).

Proposed development works for the Project have potential to impact Aboriginal objects and archaeology, and therefore require the development of mitigation measures to offset this potential impact. Any potential impact to Aboriginal cultural heritage values, as identified during consultation with Project RAPs, will also require management and is therefore considered in the development of preliminary mitigation measures as detailed in the following section.

7.1. Mitigation Measures

Measures that can be applied to a study area of this nature in order to mitigate potential impact to Aboriginal cultural values and/or potential archaeology include (but are not limited to) the following strategies:

- **Stage 2 ACHAR and Aboriginal Community Consultation:** A secondary ACHAR with Aboriginal community consultation to be completed following finalisation of the Project concept design and understanding of subsurface impacts. The Stage 2 ACHAR will inform any future assessment and/or test excavation requirements.
- **Archaeological Investigation:** through the completion of an Aboriginal archaeological testing program following Stage 2 ACHAR.
- **Aboriginal Heritage Interpretation:** to facilitate a long-term conservation outcome for Aboriginal cultural heritage values (tangible and intangible) within the proposed development, beneficial to the development, the Project RAPs and the wider local Aboriginal community.

It is believed that the application of these strategies for this Project will serve to minimise harm posed by the development to Aboriginal cultural heritage values. The proposed mitigation measures are summarised in Table 7-1 and detailed further in the following subsections.

Table 7-1: Summary of proposed mitigation measures and timing

Proposed Measure	Timing
Stage 2 ACHAR and Aboriginal Community Consultation	Following provision of finalised concept design and understanding of subsurface impacts
Aboriginal Archaeological Investigation	Following Stage 2 ACHAR
Aboriginal Heritage Interpretation	Prior to completion of Project

7.1.1. Archaeological Investigation

Archaeological test excavations are required to determine the nature, extent and significance of any sub-surface Aboriginal objects and archaeological resources within the study area. As an SSD, the Powerhouse Ultimo Renewal Project is exempt from the requirement to seek an Aboriginal Heritage Impact Permit (AHIP) under Section 90 of the NPW Act.

An Archaeological Research Design (ARD) and Methodology should be prepared for the sub-surface archaeological excavations in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010) and based on the archaeological predictive

model and Aboriginal archaeological sensitivity mapping as presented in this ACHAR. The primary aim of the proposed archaeological works will be to investigate the nature and extent of any subsurface Aboriginal archaeological deposit within the impact zones of the proposed development. The program of Aboriginal archaeological excavation should be coordinated with the historical archaeological investigation works required for the development. Aboriginal test excavations should be undertaken in accordance with the ARD by appropriately qualified archaeologists and with participation of representatives of RAPs for the Project.

7.1.2. Aboriginal Heritage Interpretation

While physical strategies such as archaeological excavation of cultural materials and protection of sites can be applied to mitigate the impacts of development to tangible Aboriginal cultural heritage values, consideration should also be given to opportunities to help mitigate wider impacts to intangible aspects of Aboriginal cultural heritage values and significance across the study area.

Implementation of Aboriginal heritage interpretation strategies is common within many developments of NSW and can aid in the mitigation of the wider cumulative impact of development to intangible Aboriginal cultural values and tradition, encouraging wider celebration and acknowledgement of the rich traditions of Aboriginal people, specific to the traditional culture of the study area itself. Common approaches to Aboriginal heritage interpretation are often contingent on physical structures and community spaces within a development, appropriate for installation of physical displays of Aboriginal heritage, such as art, signage, stories, gardens, place naming etc.

Identified Aboriginal heritage interpretation could assist in reducing and mitigating the overall impact to Aboriginal cultural heritage values held at the Powerhouse Ultimo Renewal study area.

Appropriate opportunities would be those capable of contributing to positive, long-lasting outcomes for the Aboriginal community, and to the knowledge and celebration of the Aboriginal peoples of the region, while also providing a positive outcome for the proponent.

Potential options and opportunities for appropriate and feasible Aboriginal cultural heritage interpretation for the Powerhouse Ultimo Renewal Project will be developed in consultation between Create NSW, the Project RAPs and the Project archaeologists throughout the Project process, including both Stage 1 and Stage 2. Through the direct discussion between Project RAPs and the proponent, the consultation process and the review of the draft ACHAR, the identification of the most meaningful outcome for the Project can be established, with some examples already put forth including the possibility for a Keeping Place on site, as well as the reinstatement of natural vegetation and any other management and mitigative initiatives that may be discussed in future.

7.2. Conclusions and Recommendations

This report relates specifically to the proposed development impacts of the Powerhouse Ultimo Renewal Project in relation to potential Aboriginal archaeological and cultural heritage impacts, and provides recommendations for management and mitigation of development impacts, both archaeologically (i.e. ground disturbing works), as well as culturally (i.e. opportunities for Aboriginal cultural heritage interpretation within the site redevelopment).

The conclusions and recommendations, provided in section 7.2.1 and 7.2.2 respectively, have been developed based on the following key considerations:

- Legislation as detailed and adhered to through this ACHAR, including the NPW Act, EP&A Act, and relevant statutory guidelines, protecting Aboriginal cultural and archaeological objects and places in NSW.
- Background research and archaeological analysis of the study area in its local and regional contexts.

- Consultation with the local Aboriginal community regarding the cultural significance of the study area and surrounding Sydney CBD and Darling Harbour foreshore area, noting their concerns, views and requests.
- The impact of the proposed development works within the Powerhouse Ultimo Renewal study area.

7.2.1. Conclusions

Based on the information presented in this ACHAR, the following conclusions are drawn for the Project:

- The study area is located within the archaeologically sensitive landscape of the Ultimo portion of the Pyrmont Peninsula, situated along what would have been the original shoreline of Cockle Bay (now Darling Harbour) and to the east of the original course of Black Wattle Swamp Creek.
- Dominant Aboriginal site types within the local region include Potential Archaeological Deposits (PADs) and Artefact sites (including isolated artefacts and artefact scatters) and these sites are the most likely types to be identified within the current study area.
- No Aboriginal sites are registered as being located within or directly adjacent to the study area, though several PAD sites are situated within 200m of the area.
- The study area is located within the GyMEA soil landscape unit. Aboriginal sites within this soil landscape are likely to be disturbed low-density artefact scatters that are highly prone to displacement due to erosion and landscape disturbance.
- Moderate to high levels of disturbance relating to the clearing of native vegetation and the construction of the existing buildings will have impacted the original soil profile across much of the study area resulting in the loss of topsoil. The potential for intact archaeological deposits below the upper levels of disturbance, however, is possible, particularly considering the favourable environmental context of the study area.
- The results of geotechnical investigations within the study area indicate that natural soil profiles of silty sand and sandy clay alluvial soil do exist below the disturbed upper layers, particularly within the western portion of the study area.
- Despite the disturbance from previous land use practices within the study area, natural soil profiles below the disturbed layers retain a moderate-to-high potential for preserving Aboriginal objects. These objects are expected to relate to use of the area during the last 7,000-1,000 years when sea levels had reached their current position, the coastal environment had stabilised, and the climate had become more akin to present conditions. The study area also has the potential to contain evidence of contact archaeology in the form of flaked glass artefacts.
- The nature, extent and significance of the potential Aboriginal archaeological resource within the study area, however, remains unknown.

Under the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH, 2011) and the Principles of Ecologically Sustainable Development, consideration has been given to whether there is sufficient scientific knowledge to evaluate the proposed impacts. Further investigation is required to determine if subsurface Aboriginal objects are present within the study area and to fully assess the impact of the proposed development on any potential Archaeological resources that may be present.

7.2.2. Recommendations

Based on the conclusions of this assessment the following recommendations are made:

Recommendation 1 –Stage 2 ACHAR

A secondary, Stage 2 ACHAR to be completed following finalisation of concept designs for the Project and when ground disturbing impacts are known. The Stage 2 ACHAR to be completed with Aboriginal community consultation and in accordance with the relevant guidelines.

The Stage 2 ACHAR will inform any future assessment requirements and/or Aboriginal archaeological test excavation (Recommendation 2).

Recommendation 2- Aboriginal Archaeological Test Excavation following completion of Stage 2 ACHAR

Archaeological test excavations are required to determine the nature, extent and significance of any sub-surface Aboriginal objects and archaeological resources within the study area. This Stage 1 ACHAR has determined that future assessment in the form of a Stage 2 ACHAR will be required as part of Stage 2 works (Recommendation 1) and that an Aboriginal archaeological test excavation will likely be required prior to ground works (to be confirmed during completion of Stage 2 ACHAR).

As an SSD, the Powerhouse Ultimo Renewal Project is exempt from the requirement to seek an Aboriginal Heritage Impact Permit (AHIP) under Section 90 of the *National Parks and Wildlife Act 1974* (NPW Act).

An Archaeological Research Design (ARD) and Methodology should be prepared following finalisation of Stage 2 Project concept designs to allow for the sub-surface archaeological excavations in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010). The program of Aboriginal archaeological excavation should be coordinated with historical archaeological investigation works required for the development. Aboriginal test excavations should be undertaken in accordance with the ARD by appropriately qualified archaeologists and with participation of representatives of Registered Aboriginal Parties (RAPs) for the Project.

The results of the test excavations must be incorporated into the Stage 2 ACHAR or documented in an addendum document and supplied to the project RAPs for comment in accordance with *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, 2010).

Final decision of long-term management of any artefacts located during the test excavation process will require management under a Care and Control Agreement under s.85A(1)(c) of the NPW Act. The details of the Care and Control Agreement are to be decided upon in consultation/discussion with Project RAPs, Create NSW, Powerhouse Museum, and Curio Projects, prior to the conclusion of archaeological investigations within the study area.

Recommendation 3 – Aboriginal Community Consultation

Create NSW should continue to consult with the identified Aboriginal stakeholders (RAPs) throughout the Project. The consultation outlined as part of this ACHAR is valid for six months and must be maintained by the Proponent for it to remain continuous.

Should Aboriginal community consultation be restarted as part of Stage 2 ACHAR assessment, the RAPs identified for this Stage 1 ACHAR be included in any future registration of Aboriginal stakeholders.

Recommendation 4 – Aboriginal Cultural Heritage Induction

Prior to commencement of future site works, site contractors should undergo an Aboriginal cultural heritage induction, to be lead/delivered by Project RAPs, to communicate the significance of site, deposits, and need to protect and conserve.

The induction material should include an overview of the types of sites to be aware of (i.e. artefact scatters or concentrations of shells that could be middens), obligations under the NPW Act, and the requirements of an archaeological finds' procedure (refer to Recommendation 2).

Recommendation 5- Aboriginal Heritage Interpretation

Potential options and opportunities for appropriate and feasible Aboriginal cultural heritage interpretation for the Powerhouse Ultimo Renewal Project will be developed in consultation between Create NSW, the Project RAPs and the Project archaeologists throughout the Project process, including both Stage 1 and Stage 2. Through the direct discussion between Project RAPs and the proponent, the consultation process and the review of the draft ACHAR, the identification of the most meaningful outcome for the Project can be established, with some examples already put forth including the possibility for a Keeping Place on site, as well as the reinstatement of natural vegetation and any other management and mitigative initiatives that may be discussed in future.

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APPENDIX A – Aboriginal Community Consultation Log

APPENDIX A – Aboriginal Consultation Log

Stage 1 – Notification of Project Proposal and Registration of Interest

Stage 1.1 – List of Aboriginal Stakeholders

Stage 1.2 – Newspaper Advertisement

Newspaper	Date Sent	Date Advertised

A minimum of 14 days were allowed for Aboriginal people to respond to the newspaper advertisement.

Stage 1.3 & 1.4 – List of Aboriginal Groups/People from Stage 1.1 & 1.2 + Aboriginal Notification of Proposed Project & Offer to be Involved in Consultation

[illegible]

Organisation/Person	Contact	How Name was Obtained	Date Sent	Date Reply

Stage 1.5 – Registered Aboriginal Parties

Organisation/Person	Contact	Method Registered	Registration Date & Comments

Stage 2 – Presentation of Information About Proposed Project

Stage 2.1 – Presentation of Proposed Project Information & Provision of Proposed Cultural Heritage Assessment Methodology

Stage 3 – Gathering Information about Cultural Significance

Stage 3.1 – Gathering Information from RAPs on Presence of Aboriginal Objects and Places of Cultural Value

RAPs were provided the cultural heritage assessment methodology at the same time as the project information, with a minimum of 28 days to provide feedback of the project information and proposed cultural heritage methodology document. Details including submissions and responses are summarised below.

Organisation/ Person	Date Sent	Date Reply	Method of Reply	Comments	Response from Curio
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Stage 4 – Review of Draft Cultural Heritage Assessment Report

All RAPs were provided a copy of the draft ACHAR and ARD via email on <insert date> and provided 28 days from days of provision of draft ACHAR for review. Comments received are detailed below. A reminder email for feedback/comment was sent to all RAPs on <insert date>.

A copy of all written submissions received from project RAPs are attached to this appendix.

Organisation/ Person	Contact	Date Sent	Date Reply	Method of Reply	Comments	Response from Curio
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APPENDIX B – Extensive AHIMS Search Results

APPENDIX C – Glossary of Technical Terms

Term	Definition
Aboriginal Object	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	A place declared under s.84 of the NPW Act that, in the opinion of the Minister, is or was of special significance to Aboriginal culture. Aboriginal places are gazetted by the minister.
Archaeological Survey	A method of data collection for Aboriginal heritage assessment. It involves a survey team walking over the land in a systematic way, recording information about how and where the survey is conducted, recording information about the landscape and recording any archaeological sites or materials that are visible on the land surface. The activities undertaken by a survey team do not involve invasive or destructive procedures, and are limited to note taking, photography and making other records of the landscape and archaeological sites (e.g. sketching maps or archaeological features).
Exposure	Estimates area with a likelihood of revealing buried artefacts or deposits rather than just an observation of the amount of bare ground. The percentage of land for which erosion and exposure was sufficient to reveal archaeological evidence of the surface of the ground.
In Situ	Anything in its natural or original position or place is said to be in situ.
Knapping	The process of manufacture of stone tools.
PAD	Potential Archaeological Deposit. Nature of a potential site yet unknown, environmental, archaeological and cultural modelling suggests the location has potential for a sub-surface archaeological deposit to be present.
Test Pit/Unit	Location identified for archaeological test excavation.
Study Area	Development/project area to which this report, the information, discussion and assessment presented within directly refers to.



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