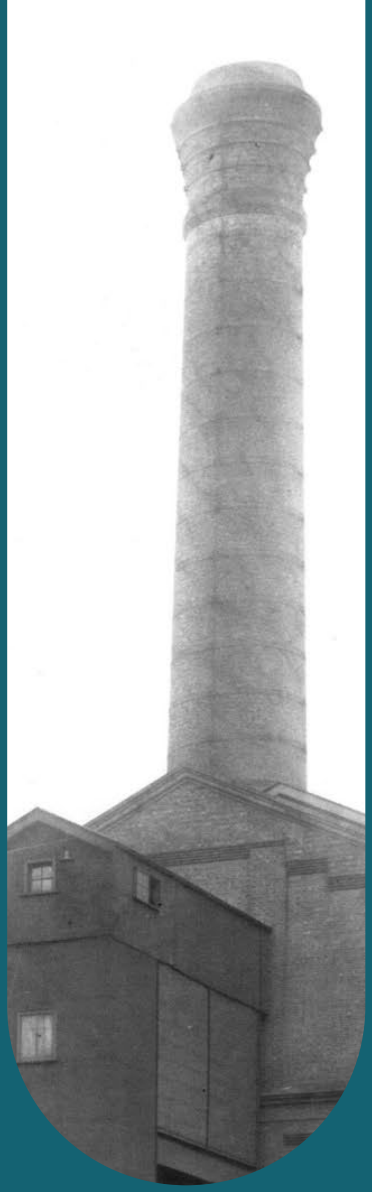
Appendix Z
Historical Archaeological Assessment

curio
PROJECTS



Historical Archaeological Assessment

Powerhouse Ultimo Renewal Project

May 2022

Document Information

Citation

Curio Projects 2022, *Historical Archaeological Assessment Powerhouse Ultimo Renewal Project,* prepared for CreateNSW.

Local Government Area

City of Sydney

Issue	Issue date	Version	Notes/Comments	Author	Review
1	May 2022	Draft Report	Client Review	Mikhaila Chaplin Sam Cooling	Nat Vinton Matthew Kelly
2	May 2022	Final Draft	Client Comment Update	Mikhaila Chaplin	
3	May 2022	Final Report	For submission	Mikhaila Chaplin	

This report has been prepared based on research by Curio Projects specialists. Historical sources and reference material used in the preparation of this report are acknowledged and referenced at the end of each section and in figure captions.

Curio Projects Pty Ltd
5 Blackfriars Street
Chippendale NSW 2008

Contents

Executive Summary

This Historical Archaeological Assessment (HAA) report has been prepared by Curio Projects Pty Ltd (Curio) on behalf of 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 (subject site).

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 purpose of this report is to assess the historical archaeological potential and significance of the subject site (i.e. the potential to contain 'relics' as defined under the *NSW Heritage Act*), assess the potential for impact of the proposed renewal to disturb or expose those relics (if present), and develop/recommend archaeological mitigation and management strategies accordingly.

Introduction

Powerhouse Ultimo is situated upon the lands of the Gadigal people of the Eora Nation. It is located within the City of Sydney Local Government Area and its primary address is 500 Harris Street, Ultimo.

The site contains two heritage-listed buildings (refer to Figure 1.1)

1- The 'Ultimo Powerhouse' (c.1899-1905), and

2- 'Former Ultimo Post Office including interior' (c.1901)[1]

In addition, the site also contains:

3- The 1988 Wran Building, fronting Harris Street;

4- Harris Street forecourt, which acts as the main public entrance;

5- A café/entrance immediately to the south of the Powerhouse at the northern end of the Ultimo Goods Line; and

6- The Harwood Building (the former tram shed).

The primary focus of the Powerhouse Ultimo Renewal project is the museum to the north of Macarthur Street and bounded by Harris Street, Pier Street and the light rail corridor. However, some enabling and minor decoupling works will occur within the broader Powerhouse Ultimo precinct.

[1] Both are listed on the NSW State Heritage Register (SHR).

No substantive works or changes in use are proposed to the Harwood Building located between Macarthur Street and Mary Ann Street.

Historical Context

Please see the 2022 *Powerhouse Ultimo Renewal Conservation Management Plan* or the *Aboriginal Cultural Heritage Assessment Report*, both by Curio Project, for the Aboriginal history and assessment of the study area. For the purposes of this report, the European history of the study area has been summarised as below.

For the purposes of this Historical Archaeological Assessment report, the history of the Ultimo area and the Powerhouse Ultimo site has been summarised into three main phases of historical occupation and development. These phases have primarily been defined by the differing historical development and ground impacts that would have contributed to, or impacted on, the historical archaeological record of the site.

The three key historical phases of the Powerhouse Ultimo site (relevant to historical archaeological potential) are:

Phase 1- Harris Estate and 19th Century Occupation (1803-1894)

Phase 2- Ultimo Powerhouse, Tram Shed and Post Office (1895-1979)

Phase 3- The Powerhouse Museum (1981 to present)

A historical overview of these three phases is discussed in Chapter 3, with particular focus on activities and information specifically relevant to the assessment of historical archaeology. Refer to the site CMP or 2022 HIS for a more detailed history of the Powerhouse Ultimo site. A visual timeline of the key historical events has been attached in an appendix to this report.

Summary of Historical Archaeological Potential

While each successive phase of occupation and historical use of the site may have impacted evidence of earlier land use activity, previous archaeological work in the surrounding area has indicated that archaeological remains from earlier phases of site use have some potential to survive.

Results of the 2019 geotechnical investigations within the study area have confirmed the presence of intact natural soil profiles across much of the site, as well as some presence of terracotta, brick and ceramic fragments at depth (between 2-3.1m below ground level) to the south of the Harwood Building (e.g. BH104 & BH202). This geotechnical information is further indication of potential survival of archaeological remains from prior occupation of the site.

While the construction of the Ampol Station along Harris Street and the basements of former Ultimo Powerhouse Engine Hall/Turbine Hall and Boiler House would have significantly impacted and likely removed the majority of historical archaeological resources from the basement footprints, site retains potential for historical archaeological resources to be present outside of these basement footprint areas as seen in Figure 5.3.

Statement of Historical Archaeological Significance

The study area was occupied as early as the 1840s and was used continuously for residential premises until the early 20th century, including 137 William Henry Street, 517 Pyrmont Street, and 554- 556 Harris Street. In the early 19th century, sandstone quarrying activities occurred along Harris Street. From the 1890s until the 1960s, the Ultimo Power House and associated structures made up the largest electricity generating station in the state and located in the eastern half of the study area.

The Ultimo Power House is significant as the first state-owned, large electricity generating station, constructed in Sydney to power the Sydney electric tramway network. The archaeology is associated with historic groups such as the early European settlers in the Ultimo area and working groups associated with the running and production of the Power House and associated structures. The history of the site reflects change in residential, commercial, and industrial development and occupancy behaviour at a local level and potentially state level.

Although there was substantial bulk excavation within the northeastern part study area, associated with the construction of the basements for the Engine Hall/ Turbine Hall and Boiler House within the Powerhouse site, there is potential for the survival of subsurface archaeological resources. These archaeological resources have the potential to be associated with both the 19th century residential structures and evolution of the Powerhouse in the 20th century. The potential historical archaeological resources of the study area have the potential to demonstrate significant aspects of the social, economic and industrial characteristics of the site's former occupants, uses and industrial evolution. The potential deposits within the Powerhouse Ultimo study area would meet the criteria of Local Significance.

Historical Archaeological Impact Assessment

The impacts at the date of writing this report are yet to be finalised. We are only able to assess the impacts to the extent of available information during Stage 1 of the SSDA.

The Stage 1 SSDA proposal includes, in principle, excavation works to allow for the construction of a two-level basement along Harris Street. The proposal will therefore remove the entirety of the potential historical archaeological resources (likely to be of local significance) that remains within that section of the study area (see Figure 7.9).

These potential resources, within the southwestern corner of the study area, could compromise evidence of 544-556 Harris Street (c.1870s-1922) and would include potential remains of building foundations, yard surfaces, gardens, outbuildings, artefact scatters/deposits, post holes, rubbish pits, wells, cesspits, cisterns etc (Table 7.1). An Excavation Permit under Section 140 of the NSW Heritage Act will be required to allow archaeological works to be undertaken.

The key historical activities/features with potential for associated historical archaeological resources to remain within the Powerhouse Ultimo site are further summarised in Table 7.1. Figure 7.7 provides a historical overlay outlining previous structures within the study area and Figure 7.8 provides a map of the proposed impacts to date.

Conclusions

The Historical Archaeological Assessment for the study area at the Powerhouse Ultimo site, concludes that:

- The study area is located within John Harris's fifth land grant of 125 acres received in 1806
- Several early 1840s and 1850s dwellings were located across the study area and later demolished by the 1860s.
- Residential buildings constructed in the 1870s included 137 William Henry Street, 517-523 Pyrmont Street and 554-556 Harris Street which were later demolished by the early 20th century.

- In the eastern half of the study area, Ultimo Power House was constructed in 1898 and continued to be in use until the 1960s as was the largest and most important electricity generating station in the State.
- The study area retains potential for historical archaeological resources associated with Phase 1 and 2 of historical occupation and use to be present in a sub-surface capacity, particularly in the south east and south western corners of the study area.
- Archaeological remains associated with the first phase of historical occupation will likely have been subject to high levels of disturbance in areas across the Power House footprint and basement levels, however this disturbance is unlikely to have removed all historical archaeological deposits and relics across the study area.
- In this assessment Curio have only been able to assess the impacts to a relatively general level based on the information currently available.
- The potential archaeological deposit within the study area would be of local and therefore meet the criteria for classification as archaeological 'relics' as defined and protected by the NSW Heritage Act.
- The proposed development works across the site require bulk excavations below the ground surface in the south western corner of the study area in order to accommodate a new two-level basement, and therefore will destroy the entirety of any potential archaeological resource that survives in a sub-surface capacity within the study area.
- The Water Cooling System and Manifold is an historically important operating element association with the day to day operations of the former Ultimo Powerhouse and requires in situ retention, conservation and protection throughout any development process.

Overall, there is moderate to high potential for an archaeological resource of local significance to be present within the Powerhouse Ultimo site, particularly in areas that have not previously been impacted via the construction of basements for the Ultimo Power House construction in the early 20th century.

Recommendations

The Powerhouse Ultimo Renewal project is currently at Concept Plan stage only, that is, the SSDA does not seek approval for commencement of physical works at the site. However, the location of the new built form including a basement on Harris Street is located within an area of historical archaeological potential that will require historical archaeological investigation.

The following recommendations are made with respect to mitigation measures and strategies for historical archaeology for the Powerhouse Ultimo Renewal project:

- Once further impacts for the Stage 2 SSDA are identified and their design finalised then reassessment of these impacts should take place prior to works commencing.
- Historical archaeological investigation of the study area will be required prior to commencement of development works.
- An Archaeological Research Design and Excavation Methodology (ARD + EM) should be developed to guide the approach and methodology for archaeological investigation;

- An Excavation Permit under Section 140 of the NSW Heritage Act will be required to allow archaeological works to be undertaken.[2] Submission of a s140 permit application to Heritage NSW should be accompanied by a copy of this report and the ARD + EM as supporting documents.

It is noted that once SSD consent has been granted, the requirement for permits under the Heritage Act will no longer apply for the site. However, it is important to note that issue of SEARs for SSD projects is not sufficient to switch off the provisions of the Heritage Act for projects, and as such, any early works/investigation activities etc at the site prior to SSD approval, will still require the relevant permits under the Heritage Act.

Curio recommends that historical archaeological investigations be undertaken as early as possible through the planning process, to allow time for the archaeological resource to be properly investigated and managed, as well as to avoid potential time and development delays at a later stage.

.

[2] Section 60 permit (within the curtilage of SHR listing), or a Section 140 Excavation Permit for areas outside of SHR curtilage

1. Introduction

curio
PROJECTS

1. Introduction

1.1. Purpose of this Report

This Historical Archaeological Assessment (HAA) report has been prepared by Curio Projects Pty Ltd (Curio) on behalf of 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 (subject site).

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 purpose of this report is to assess the historical archaeological potential and significance of the subject site (i.e. the potential to contain 'relics' as defined under the *NSW Heritage Act*), assess the potential for impact of the proposed renewal to disturb or expose those relics (if present), and develop/recommend archaeological mitigation and management strategies accordingly.

This HAA has been prepared with reference/parallel to the following documents relevant to the Project:

- Curio Projects 2022, *Heritage Impact Statement, Powerhouse Ultimo Renewal Project*, prepared for Create NSW.
- Curio Projects 2022 (Draft), *Conservation Management Plan, Powerhouse Ultimo*, prepared for Create NSW.
- Curio Projects, 2022, (Draft) *Aboriginal Cultural Heritage Assessment Report, Powerhouse Ultimo Renewal Project*, prepared for Create NSW.

1.2. Process

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 as 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 Powerhouse Ultimo Renewal 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).

1.3. Site Description

Powerhouse Ultimo is situated upon the lands of the Gadigal people of the Eora Nation. It is located within the City of Sydney Local Government Area and its primary address is 500 Harris Street, Ultimo.

The site contains two heritage-listed buildings (refer to Figure 1.1)

7- The 'Ultimo Powerhouse' (c.1899-1905), and

8- 'Former Ultimo Post Office including interior' (c.1901)[3]

In addition, the site also contains:

9- The 1988 Wran Building, fronting Harris Street;

10- Harris Street forecourt, which acts as the main public entrance;

11- A café/entrance immediately to the south of the Powerhouse at the northern end of the Ultimo Goods Line; and

12- The Harwood Building (the former tram shed).

The primary focus of the Powerhouse Ultimo Renewal project is the museum to the north of Macarthur Street and bounded by Harris Street, Pier Street and the light rail corridor. However, some enabling and minor decoupling works will occur within the broader Powerhouse Ultimo precinct.

No substantive works or changes in use are proposed to the Harwood Building located between Macarthur Street and Mary Ann Street.

[3] Both are listed on the NSW State Heritage Register (SHR).

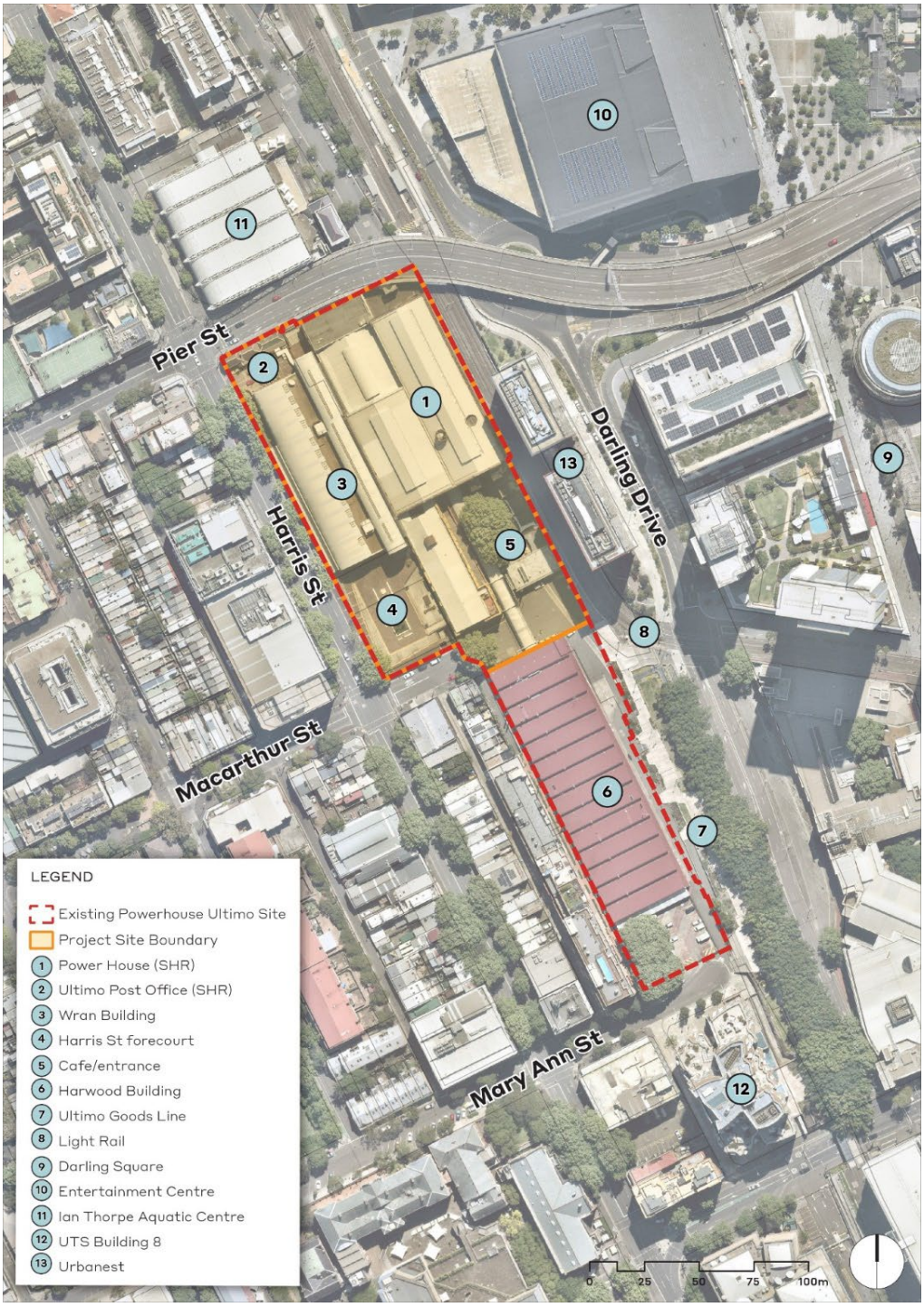


Figure 1.1: Aerial view showing key built elements of the study area and its immediate surrounds (Source: Ethos Urban, 2022)

1.4. Overview of Proposed Development

This Concept DA sets the guidelines for the renewal of Powerhouse Ultimo, with the approval of 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.

1.5. Assessment Requirements

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 as follows:

- *SEARs Condition 21—Environmental Heritage (Archaeology)*

Environmental Assessment Requirement	Where addressed in this report
*Where there is potential for direct or indirect impacts on the heritage significance of items of environmental heritage, provide a Statement of Heritage Impact and **Archaeological Assessment (if potential impacts to archaeological resources are identified)**, prepared in accordance with the relevant guidelines, which assesses any impacts and outlines measures to ensure they are minimised and mitigated.*	Archaeological Assessment—This report. Archaeological Potential—Section 5 Archaeological Impact Assessment—Section 7 Mitigation measures—Section 8

1.6. Report Methodology

This HAA has been prepared in accordance with relevant statutory and best practice guidelines including:

- NSW Heritage Office, 2006. Hi*storical Archaeology Code of Practice*
- NSW Heritage Branch, Dept. of Planning, 2009. *Assessing Significance for Historical Archaeological Sites and Relics*
- *Australia ICOMOS Charter for Places of Cultural Significance, The Burra Charter, 2013* (Burra Charter).

1.7. Limitations and Constraints

This report has been prepared using historical data and documentation readily available for the study area including archaeological reports and assessments. This report discusses historical archaeology only. For Aboriginal archaeology, see the separate ACHAR report (Curio 2022). For wider

heritage values and impact assessment for the project, refer to the HIS report (Curio 2022) to which this HAA serves as an appendix.

1.8. Authorship

This report has been prepared by Mikhaila Chaplin, Archaeologist and Heritage Specialist, and Sam Cooling, Cultural Heritage Manager, both of Curio Projects Pty Ltd. GIS mapping by Sam Cooling and Andre Fleury, with senior review and input by Matthew Kelly, Sam Cooling and Natalie Vinton, Curio CEO.

2. Statutory Context

curio PROJECTS

2. Statutory Context

Historical archaeology is governed in NSW by two principle pieces of legislation:

- *NSW Heritage Act 1977* (Heritage Act); and
- *Environmental Planning and Assessment Act 1979* (EP&A Act).

2.1. NSW Heritage Act 1977

Heritage items are afforded statutory protection in NSW under the *NSW Heritage Act 1977* (Heritage Act). The Heritage Act defines a heritage item as a 'place, building, work, relic, moveable object or precinct'. The Heritage Act is responsible for the conservation and regulation of impacts to items of State heritage significance, with 'State Heritage Significance' defined as being of '*significance to the state in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item*'. Heritage places and items of particular importance to the people of New South Wales are listed on the NSW State Heritage Register (SHR).

2.1.1. 'Relics' Provision and Excavation Permits

In addition to the general heritage protection of the Heritage Act, historical archaeological remains in NSW are provided additional protection from being disturbed or excavated via the operation of the 'relics' provisions under the NSW Heritage Act. These provisions protect unidentified 'relics' which may form part of the State's environmental heritage, but which have not been listed on the SHR or protected by an Interim Heritage Order. An archaeological site is defined as an area of land which is the location of one or more archaeological 'relics'. A relic is defined by the Heritage Act as:

> *any deposit, artefact, object or material evidence that:*
>
> *(a) Relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement*
>
> *(b) Is of State or local heritage significance.*

Division 9 of the Heritage Act governs the 'Protection of certain relics', with Section 139 stating that:

> *a person must not disturb or excavate any land knowing or having reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed unless the disturbance or excavation is carried out in accordance with an excavation permit.*

Such permits are issued under Sections 140 and 141 of the Act, or under Sections 60 and 63 of the Act, in cases where 'relics' are situated within sites or places listed on the SHR. An excavation permit is also required if a relic is discovered in the course of an excavation undertaken without a permit (s139(2)). To obtain an excavation permit, an Archaeological Assessment and Research Design must be prepared in accordance with the relevant Heritage NSW guidelines.

In addition, Section 146 of the Heritage Act relates to the requirement to report the discovery of relics to the Heritage Council, stating:

> *146 Notification of discovery of a relic*
>
> *A person, who is aware or believes that he or she has discovered or located a relic (in any circumstances, and whether or not the person has been issued with a permit) must:*

(a) within a reasonable time after he or she first becomes aware or believes that he or she has discovered or located that relic notify the Heritage Council of the location of the relic, unless he or she believes on reasonable grounds that the Heritage Council is aware of the location of the relic, and

(b) within the period required by the Heritage Council furnish the Heritage Council with such information concerning the relic as the Heritage Council may reasonably require.

In accordance with s146 of the Heritage Act, the discovery of relics is reported to Heritage NSW as a post-excavation report or similar, depending on the circumstances in which the discovery was made- and in accordance with any requirements of the Minister.

2.1.2. NSW State Heritage Register (SHR)

Two SHR listings apply to the Powerhouse Ultimo renewal subject site: The "Ultimo Powerhouse" (SHR #02045), and the "Ultimo Post Office" (SHR #00502) (Figure 2.1 and Figure 2.2). The SHR curtilage of the Ultimo Powerhouse listing only includes the four main interconnected Ultimo Powerhouse heritage buildings (i.e. the Engine House, Turbine Hall, Boiler House, and Switch House).

The curtilage of these SHR items has relevance to the archaeological excavation permits and exemptions under the Heritage Act that apply to the subject site. Applications for archaeological excavation permits within the SHR curtilage are made under Section 60/63 of the Heritage Act, while areas outside the SHR curtilages are made under Section 140/141.

Figure 2.1: Ultimo Powerhouse, 500 Harris Street, Ultimo, SHR Curtilage (Source: SHR Listing)

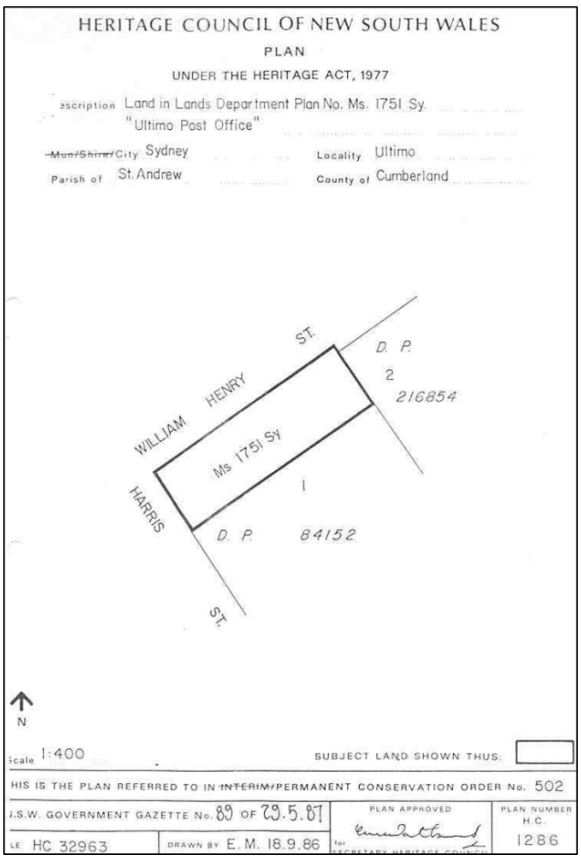


Figure 2.2: Ultimo Post Office SHR Listing

2.1.3. Heritage NSW Guidelines (Archaeology)

In order to best implement and administer the protection afforded to historical archaeological 'relics' and heritage places as through the NSW Heritage Act, and EP&A Act, the NSW State Government have prepared a series of best practice statutory guidelines with regards to heritage management and historical archaeology. These guidelines are designed to assist developers, landowners and archaeologists to better understand their statutory obligations with regards to built heritage assets and historical archaeology in NSW, and to implement best practice policies into their investigation of built heritage and historical archaeological heritage values in relation to their development.[4]

2.1.4. Property NSW Section 170 Register

Under Section 170 of the Heritage Act, government instrumentalities must keep a s170 Register which contains items under the control or ownership of the agency and which are or could be listed as heritage items (of State or Local significance).

Listing of a heritage asset on a heritage and conservation register does not in itself create an obligation to obtain the Heritage Council's approval for works. (The Heritage Council's approval will only be required for assets listed on the SHR, or subject to an interim heritage order under the Heritage Act). It does, however, require that not less than 14 days written notification to be provided to the Heritage Council of the intention to (a) remove any item from its register, (b) transfer ownership of any item entered in its register, or c) cease to occupy or demolish any listed place.

The "Water Cooling System and Manifold" is listed on Property NSW s170 register and extends beneath the Powerhouse Ultimo site towards Murray Street and into Darling Harbour.[5]

As the item has structural integrity (i.e. underground tunnel structure) it is not technically defined as an archaeological 'relic' in accordance with the Heritage Act, but as a work. Nevertheless, given that the Water Cooling System and Manifold and associated conduits are sub-surface features within the bounds of the subject site, it must be managed as part of any archaeological methodology for the site.

2.2. Environmental Planning and Assessment Act 1979

The NSW Department of Planning, Industry and Environment (DPIE) administers the *Environmental Planning and Assessment Act 1979* (EP&A Act), which provides the legislative context for environmental planning instruments to be made to legislate and guide and the process of development and land use. Local heritage items, including known archaeological items, identified Aboriginal Places and heritage conservation areas are protected through listings on Local Environmental Plans (LEPs) or Regional Environmental Plans (REPs). The EP&A Act also requires that potential Aboriginal and historical archaeological resources are adequately assessed and considered as part of the development process, in accordance with the requirements of the *National Park and Wildlife Act 1974* (NPW Act) and the *NSW Heritage Act 1977* (Heritage Act).

Under Part 4 of the EP&A Act, developments with capital investment exceeding $10 million can be declared as State Significant Development (SSD) projects for the purposes of the EP&A Act, with the Minister for Planning the consent authority for the project.

---

[4] Heritage NSW 'Historical Archaeology' https://www.heritage.nsw.gov.au/about-our-heritage/historic-archaeology/#:~:text=As%20well%20as%20listing%20on,apply%20for%20an%20excavation%20permit.

[5] http://www.shfa.nsw.gov.au/sydney-About_us-Heritage_role-Heritage_and_Conservation_Register.htm&objectid=177

As part of the SSD approvals process, applicants are not required to obtain separate heritage statutory approvals, including built heritage and historical archaeology approvals under Section 60 of the Heritage Act or Aboriginal Heritage Impact Permits (AHIPs) under Section 90 of the NPW Act.

However, in order to identify the potential for the development to impact on archaeological resources, Archaeological Assessments should still be prepared as part of any Stage 1 SSD process. These documents should be prepared in accordance with the appropriate State Government heritage guidelines to ensure that as part of any major future redevelopment of the site, any potential archaeological resources proposed to be disturbed, will be appropriately investigated, recorded and removed.

Following the issuing of final Notice of Determination (approval) under SSDA, the statutory provisions of the Heritage Act and the NPW Act will only apply again, if —once development commences—an unexpected discovery of historical archaeological relics or Aboriginal objects and/or Aboriginal places are made during the works program.

Should an unexpected archaeological resource be found, then there is a requirement to cease works in the immediate area and report the discovery of the unexpected archaeological find —to the relevant authority (Heritage NSW). This is the only statutory process not over-ridden by the SSD process. This is one of the many reasons why it is critical to get the archaeological predictive modelling accurately determined at the earliest planning stages of the development process.

2.2.1. Sydney Local Environment Plan 2012

The Powerhouse Ultimo Site is located within the City of Sydney Local Government Area (LGA) and is subject to the statutory controls of the Sydney LEP 2012. Both the former Ultimo Powerhouse (I2031, 14 Dec 12), and the Ultimo Post Office (I2030, 14 Dec 12) (see Figure 2.3) are identified as local heritage items in Schedule 5 of the Sydney LEP 2012 (as well as listing on the SHR).

Figure 2.3: State (left) and Local (right) Heritage Listings including Powerhouse Ultimo site and surrounds (Source: Curio 2021 from HNSW Shapefile, over Nearmaps aerial 2021)

3. Historical Context

curio
PROJECTS

3. Historical Context

Please see the 2022 *Powerhouse Ultimo Renewal Conservation Management Plan* or the *Aboriginal Cultural Heritage Assessment Report*, both by Curio Project, for the Aboriginal history and assessment of the study area. For the purposes of this report, the European history of the study area has been summarised as below.

For the purposes of this Historical Archaeological Assessment report, the history of the Ultimo area and the Powerhouse Ultimo site has been summarised into three main phases of historical occupation and development. These phases have primarily been defined by the differing historical development and ground impacts that would have contributed to, or impacted on, the historical archaeological record of the site.

The three key historical phases of the Powerhouse Ultimo site (relevant to historical archaeological potential) are:

Phase 1- Harris Estate and 19th Century Occupation (1803-1894)

Phase 2- Ultimo Powerhouse, Tram Shed and Post Office (1895-1979)

Phase 3- The Powerhouse Museum (1981 to present)

A historical overview of these three phases is discussed below, with particular focus on activities and information specifically relevant to the assessment of historical archaeology. Refer to the site CMP or 2022 HIS for a more detailed history of the Powerhouse Ultimo site. A visual timeline of the key historical events has been attached in an appendix to this report.

3.1. Phase 1—Harris Estate and 19th Century Occupation (1803-1894)

John Harris received six parcels of land grants between the years 1794 and 1818 that made up a total of 233 acres of land across the current Pyrmont and Ultimo area. These grants constituted the Harris Estate and is further outlined in Figure 3.1. The study area is located within John Harris's fifth land grant of 125 acres received in 1806, which he proceeded to clear and cultivate (Figure 3.2 and Figure 3.2). When John Harris died in 1838 with no children, legal complications with the Will meant that the Harris Estate was not subdivided until 1859. This in turn meant that while development occurred in surrounding areas into the mid-19th century, the Harris Estate land remaining quite sparsely populated and underdeveloped during this time.

The earliest records of historical structures built across the Harris Estate are from the mid-1840s, with the 1845 Phillip Ward Rate Assessment Book recording that several huts of mud, brick, wood or wattle with bark roofs had been constructed across the land (Figure 3.3 and Figure 3.4). Although there is no record of who lived in these structures, they were likely located within John Harris's land grant for a period of time under permissive occupancy associated with activities in the area such as fishing, grazing of animals and dairies. Other historical features within the site in the first half of the 19th century included sandstone quarrying (Figure 3.3 and Figure 3.4).

The earliest detailed historical plans available of the structures present in the northern block of the Powerhouse Ultimo site (i.e. bounded by William Street, Pyrmont Street, Macarthur Street, and Harris Street—Block 23 of the Ultimo Estate Subdivision) depict seven buildings (Figure 3.5 and Figure 3.7), referred to in the following assessment as the following street addresses:

- 137 William Henry Street (c.1873-1913)
- 517-523 Pyrmont Street (c.1870s-1898)

- 554-556 Harris Street (c.1870s-1922)

Development on the southern block of the Powerhouse Ultimo site (i.e. bounded by Macarthur Street, Pyrmont Street, Mary Ann Street, and Harris Street—Block 20 of the Ultimo Estate Subdivision, inherited by Mr John Harris) by the 1870s included construction of a stables for the Sydney Omnibus Company (1871), stables for the City Carrying Company at the southern end of the block by 1883, and feed cutting works located between the two stables (Figure 3.7 and Figure 3.7).

By the turn of the century, the majority of the northern block between William Henry Street and Macarthur Street had been resumed for the construction of the Ultimo Power House, resulting in the demolition of the houses at 517-523 Pyrmont Street, while the houses at 137 William Henry Street and 554-556 Harris Street were retained until the 1920s. Details of the occupants and history of each of the former structures at the three addresses are provided in the following subsections.

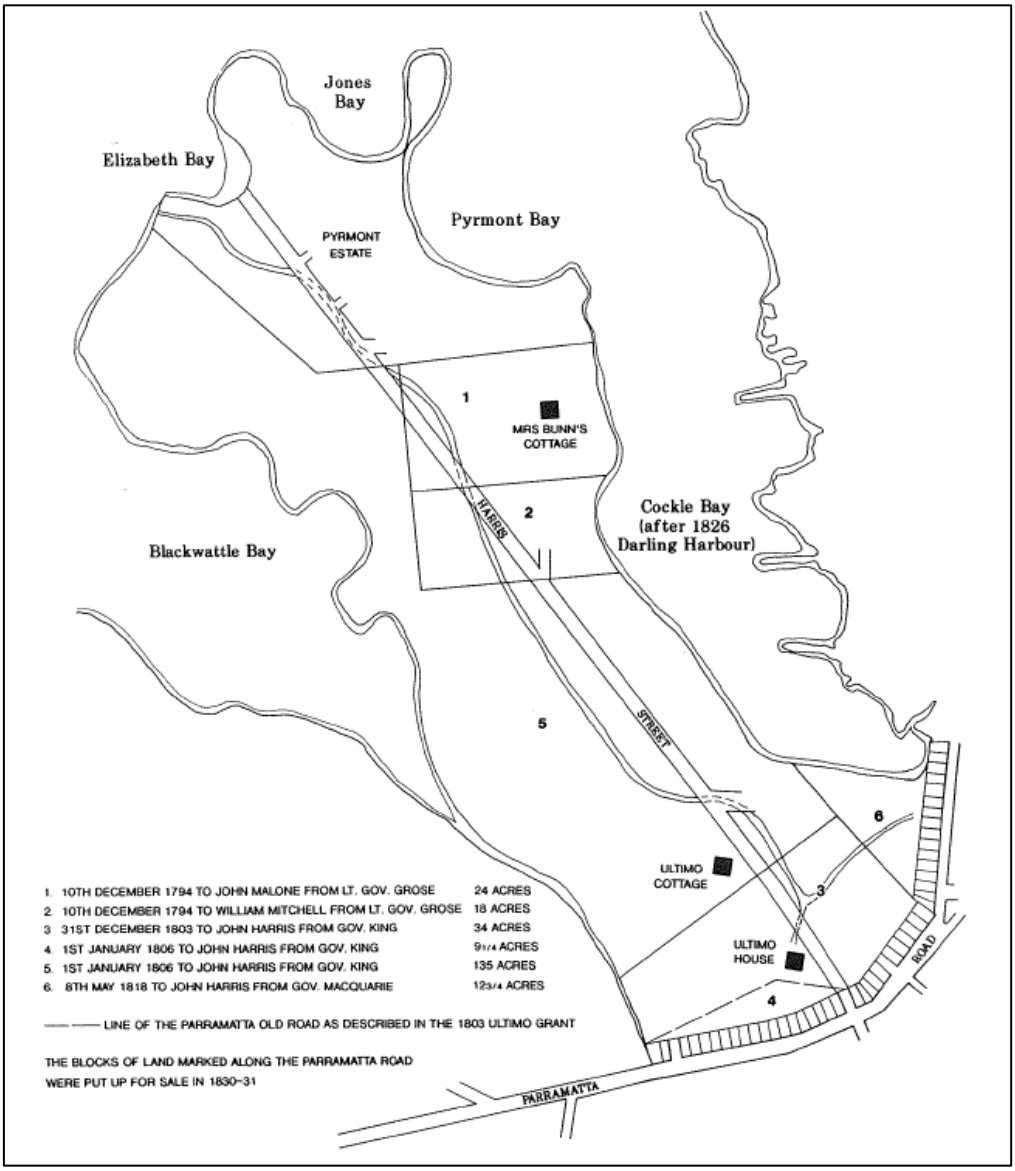


Figure 3.1: The growth of John Harris Estate. General location of study area circled in red, within John Harris's fifth land grant (Source: Fitzgerald & Golder 1994)

Figure 3.2: 1822 Plan of Sydney with showing early context of Ultimo Powerhouse site (indicated in blue). Ultimo House located south west of the present-day site. (Source: National Library of Australia with Curio overlay)

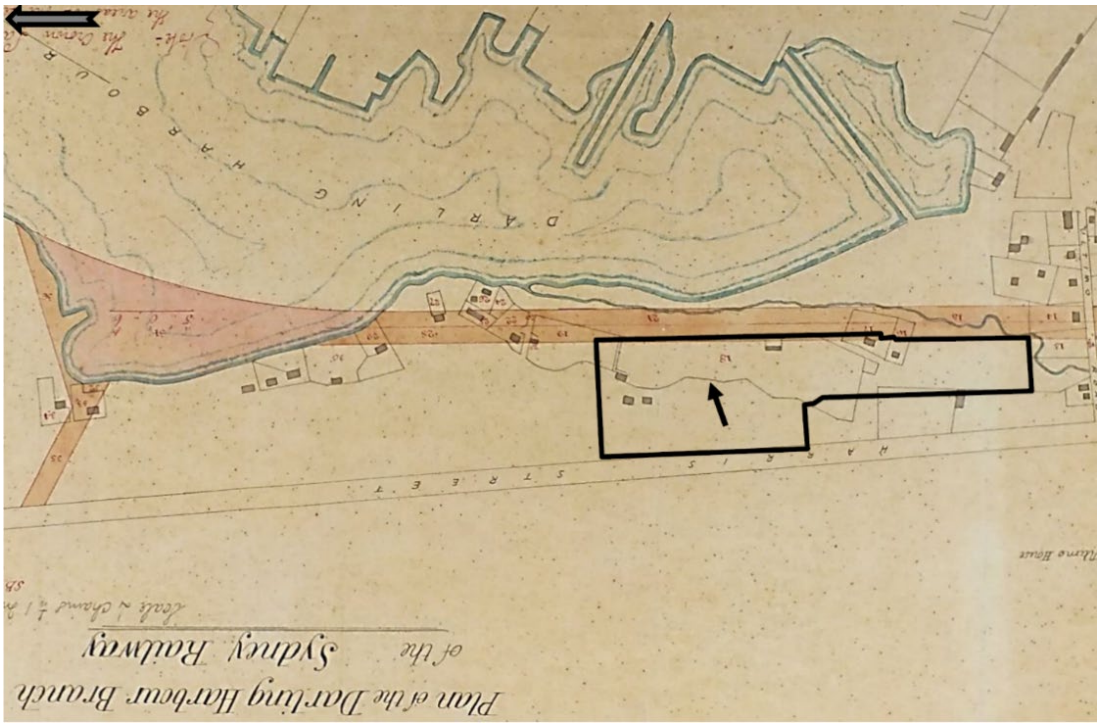


Figure 3.3: Detail of c.1853 plan showing early structures across the Harris Estate. Area resumed for Darling Harbour Goods Line in orange (Powerhouse Ultimo site outlined with quarry indicated by arrow) (Source: State Records Authority of NSW, AO Map 6381)

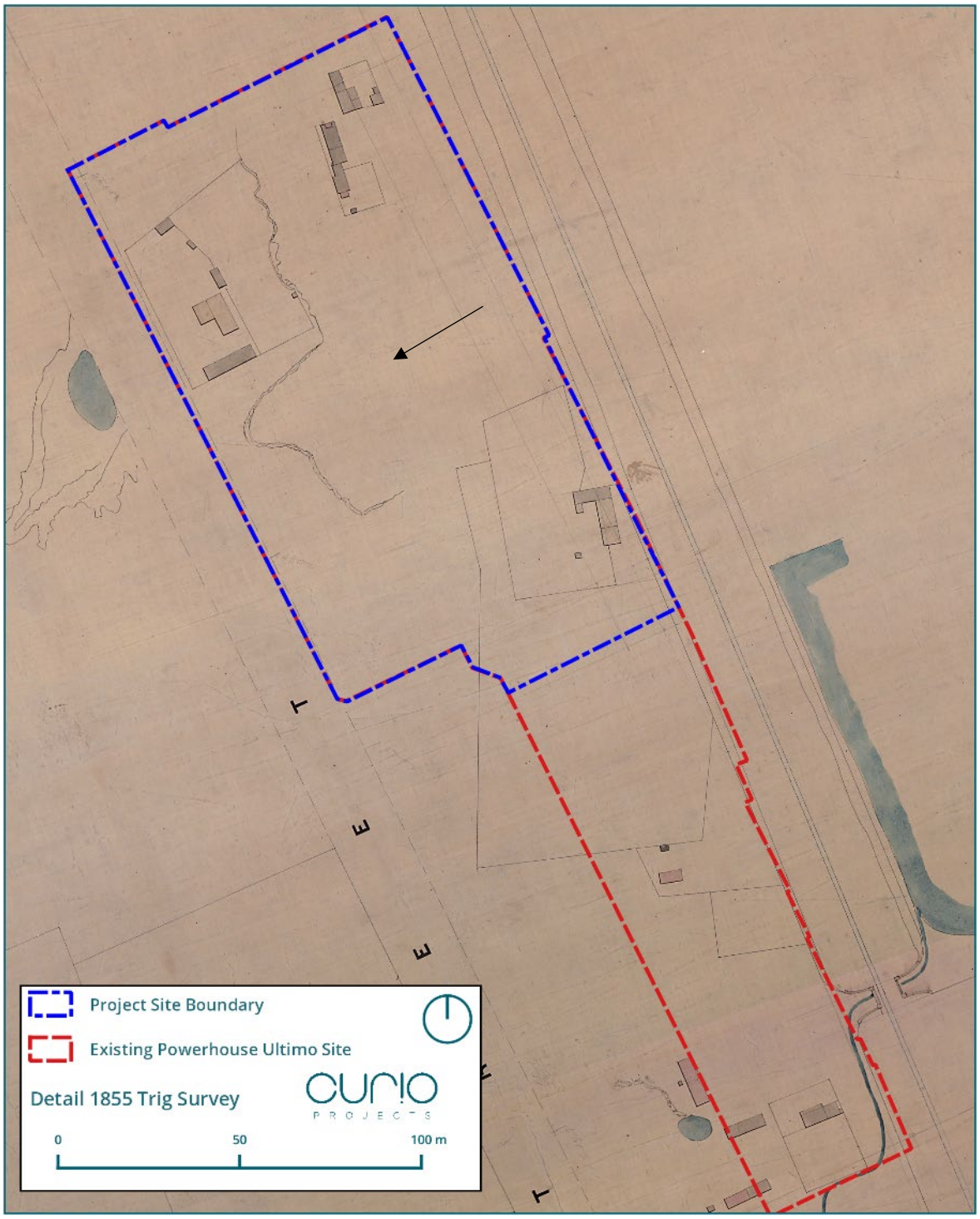


Figure 3.4: Detail of Trig Survey of Sydney 1855-1865, showing early structures across the Harris Estate and areas of sandstone quarrying as indicated by the arrow (Source: Curio 2022 from City of Sydney Archives)

Figure 3.5: 1886 plan of northern block (William Henry St to Macarthur St), depicting houses at 137 William Henry Street, 517-523 Pyrmont Street, and 554-556 Harris Street. (Source: Sydney Water PWDS 1544-S206 with Curio overlay 2022)

Figure 3.6: c.1886 Plan of Southern Block (Macarthur to Mary Ann Streets) (Source: Sydney Water PWDS1544-S209 with Curio overlay 2022)

Figure 3.7: 1878 photo from Town Hall tower including the Powerhouse Ultimo site, depicting the Sydney Tram Company Stables (left), as well as the houses at 517-523 Pyrmont Street, and 554-556 Harris St. Note the substantial evidence of quarrying on the northern part of the site behind 517 and 523. (Source: State Library FL1226925, with Curio annotations)

137 William Henry Street

By 1873, a house was located at 137 William Henry Street, Ultimo, shown in an 1886 map (Figure 3.8), and depicted in a 1903 photograph (Figure 3.9), as being located between the Ultimo Post Office and the North Annex (Offices) building. The building at 137 William Henry Street was recorded as a two-storey house, possibly rebuilt at some time during its history, with the structure variably referred to in historical accounts as being constructed of brick, stone, and wood.

The 1876 Sands Directory records the house at 137 William Henry Street as leased from the Harris family by Thomas Bladen, an iron manufacturer/moulder/smelter. Bladen is recorded in the 1877 Council Rates Assessment Book as living in a 'two storey, brick and stone house with a shingled roof'. Bladen remained in occupation at 137 William Henry Street until around 1881-1882, at which point the house was then leased by butcher William Carroll from 1882 to 1889.[6] In 1882 the building at 137 William Henry Street is recorded as being a 2 storey, 7 room wooden house with a shingled roof, rented by Carroll from Miss Margaret Harris.[7] The 1886 Sydney Water plan of the site depicts 137 William Henry Street as having an outside toilet (W.C) and shed at the rear of the property (Figure 3.19). The house was occupied from 1890 to 1896 by drayman William McCaffrey, with a stables recorded as present on the land in 1896.[8] The Sands Directory records the house at 137 William Henry Street as occupied from 1897-1899 by butcher James O'Grady and Mrs Henrietta Meikle, and by Thomas Love in 1900-1901.[9] It is possible that these three tenants had sublet the land from William McCaffrey, who is again recorded at the address in the 1901 Council Rates Assessment Book. The Sands Directory records George Taylor as occupier in 1904-1905 followed by Charles Lacey from 1906 until 1913.[10]

The house at 137 William Henry Street was demolished to make way for the construction of the Ultimo Tram Instruction Room Building in 1913-14.[11] While it is likely that the main house and greater part of the backyard would have been disturbed by the construction of the Tramway Instruction Room (since demolished), and the subsequent construction of the Wran Building in 1987, there remains however:

> *...potential for some archaeology associated with the house, including foundations and underfloor deposits, to be extant in the empty space between the Office Building and the post office. There may also be some remains within the backyard, including yard surfaces, outbuildings, cesspits and rubbish pits beneath the Wran Building foundations to the south.*[12]

[6] Bladen is recorded as the tenant at 137 William Henry St in 1880 (*Sands Directory 1880)* whilst Carroll is recorded there by 1882 (*Assessment Books Denison Ward,* 1882, p. 86), until 1889 (*Sands Directory*, 1883-1889)
[7] City of Sydney Archives, *Assessment Books Denison Ward,* 1882, p. 86.
[8] *Sands Directory 1890, 1892; 1893; 1894; 1895*; *Assessment Books Denison Ward*, 1896, p. 93.
[9] City of Sydney Archives, *Sands Directory* 1897, 1900, 1901.
[10] *Sands Directory* 1904-1905, 1906-1913.
[11] *Sands Directory*, 1914; *Assessment Books Denison Ward,*1914, p. 30.
[12] AMBS Ecology & Heritage 2018, p. 32

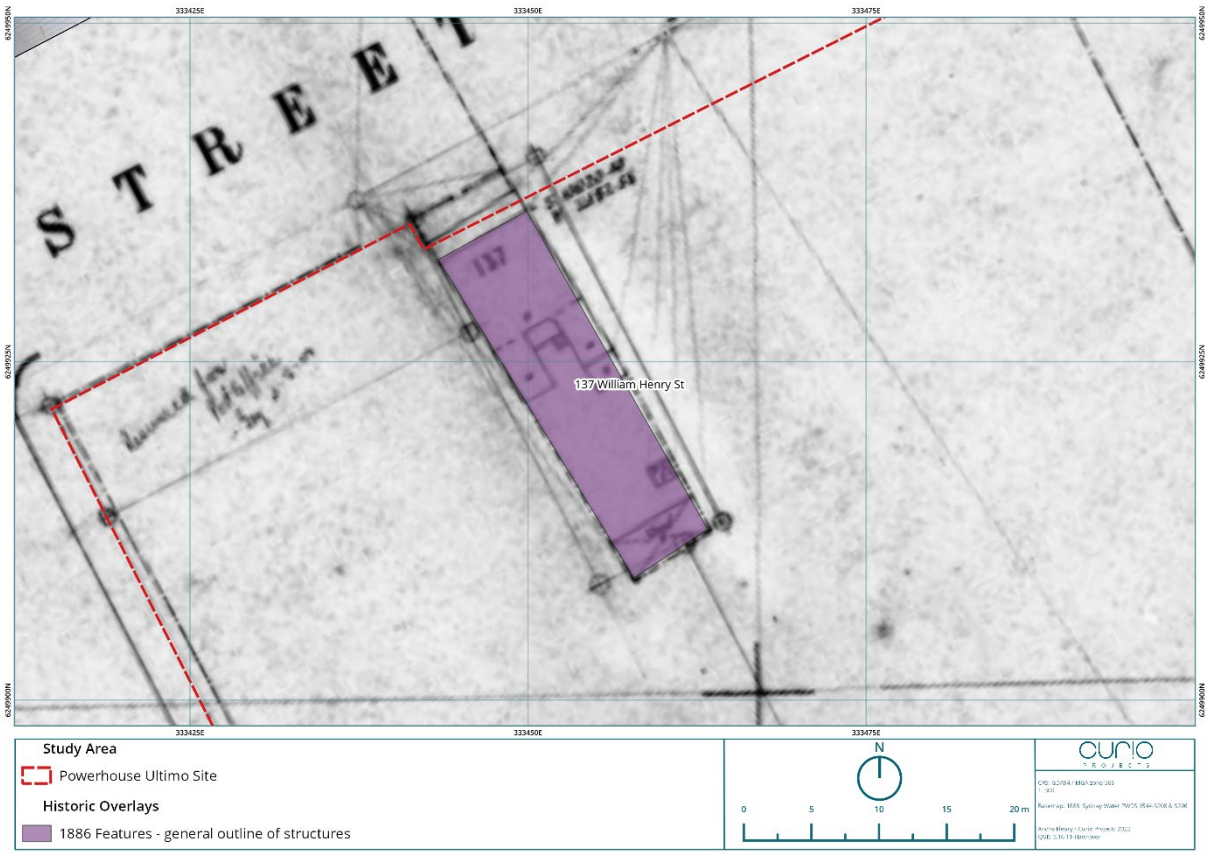


Figure 3.8: House at 137 William Henry St in 1886 (Source: Sydney Water with Curio overlay 2022)

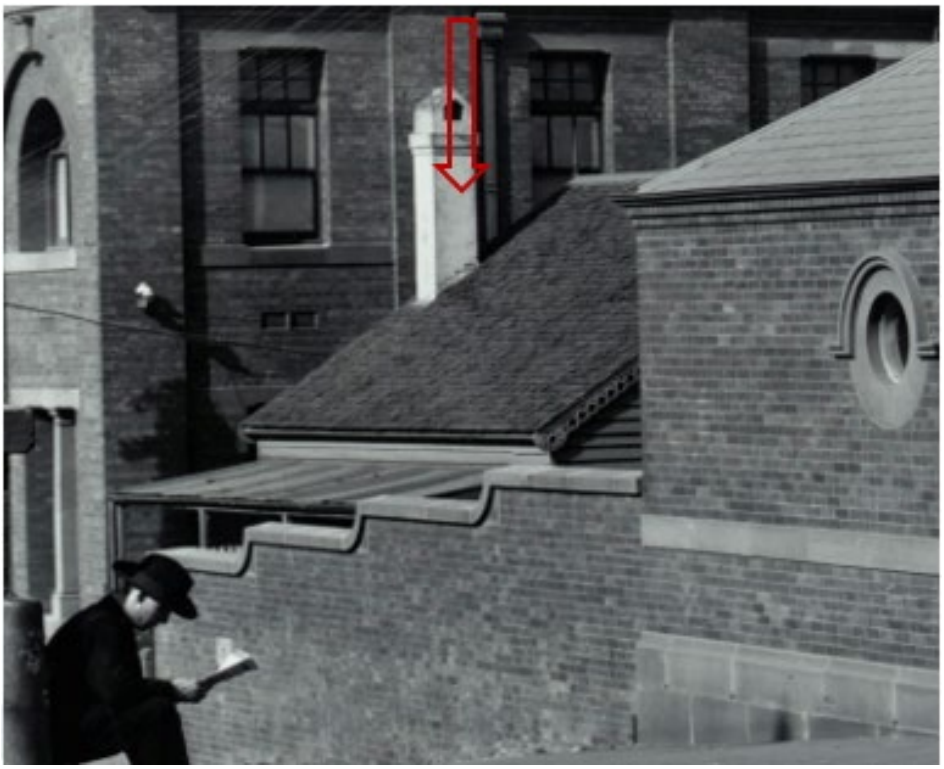


Figure 3.9: House at 137 William Henry Street shown in 1903 photograph (Source: State Archives NSW)

517-523 Pyrmont Street

The 1877 Council Rates Assessment Book records several single storey houses owned by the Harris family as located 'off Harris Street' at Pyrmont Street towards William Henry Street, including houses occupied by William Pierce and Robert Riley. An 1878 photograph depicts four houses located along what appears to be Pyrmont Street (Figure 3.10), which are recorded in the 1882 Council Rates Assessment Books as being one storey, four room, wooden houses with shingled roofs located on Pyrmont Street '240 feet from William Henry Street', all leased by Miss Margaret Harris for £26.

The houses at 517-523 Pyrmont Street were renumbered over time, first numbered as 1-4 Pyrmont Street, and renumbered by 1882 as 501-507 Pyrmont Street (Figure 3.11). The occupants of the Pyrmont Street houses are noted in 1882 (Council Rates Assessment Book) as being: William Pierce at 501 (517); Robert Riley at 506 (519); Michael Leo at 505 (521); and Michael Brown at 507 (523)—with the southernmost structure (523 Pyrmont St) recorded as being located 40 feet from Macarthur Street.[13] The 1891 Council Assessment Book records P. O'Hallaran at 517 Pyrmont Street (one storey, four roomed wooden building with shingled roof), T. McCarthy at 519 Pyrmont Street (one storey, four roomed wooden building with shingled roof), I. Davey at 521 Pyrmont Street (one storey, five roomed wooden building with iron roof), and M. Brown *off 523* Pyrmont St (one storey, four roomed wooden building with iron roof). In the 1896 Council Rate Assessment book, P. O'Hallaran, Thomas McCarthy and Michael Brown are still recorded as the occupants at 517, 519 and 523 Pyrmont Street (respectively), while the occupant of 521 Pyrmont Street is recorded as Luke Darby.

The land and structures of the Pyrmont Street houses would have been included in the 1898 sale of Margaret Harris' land to the Department of Public Works for the construction of the Ultimo Power House, with the houses demolished in the late 1890s as part of the preparation works for construction of the Ultimo Power House.[14]

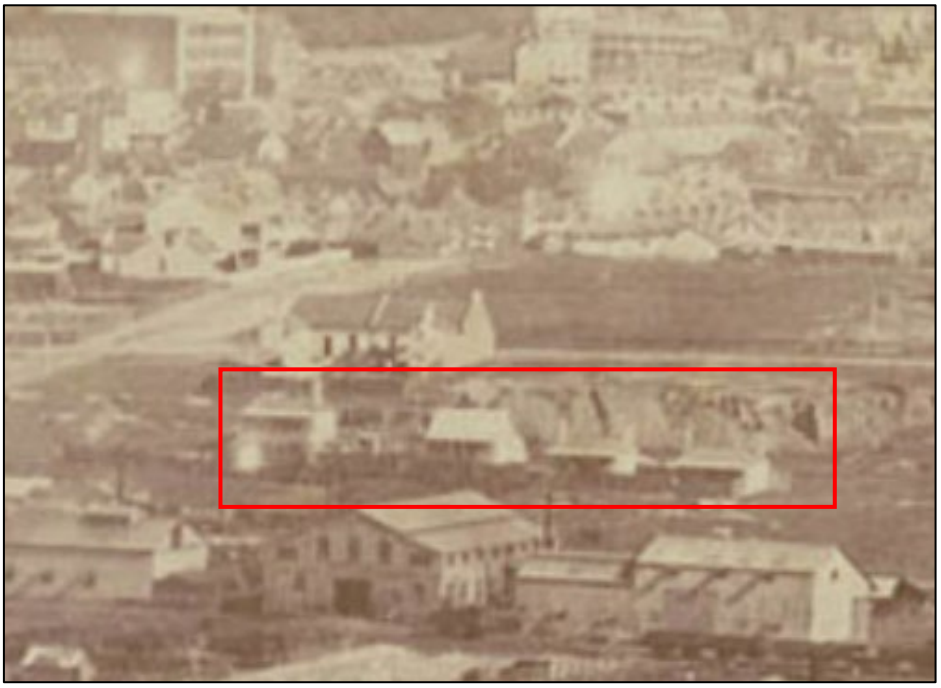


Figure 3.10: 1878 photo depicting houses at 517-523 Pyrmont Street, outlined in red (Source: State Library FL1226925)

[13] *Assessment Books Denison Ward,* 1882, p. 122.
[14] Godden et al, 1984 p. 29

Figure 3.11: Houses at 517-523 Pyrmont Street in 1886 (Source: Sydney Water PWDS 1544-S206 with Curio overlay 2022)

554-556 Harris Street

By 1871, a pair of semi-detached, single storey six-roomed brick houses with shingled roofs were recorded as being present at 554-556 Harris Street (Figure 3.12 and Figure 3.13). The Sands Directory records two houses as being located on Harris Street between William Henry and Macarthur Streets by 1871, initially numbered as 472 and 474 Harris Street, renumbered from 1879 to 518 and 520 Harris Street, and finally renumbered by 1886 (as shown on a Sydney Water plan- Figure 3.14), as 554 and 556 Harris Street. which appear to be the later numbered 518 and 520 Harris Street as John Lowe is recorded there from 1879.[15]

John Lowe, a cabman, is recorded in the Sands Directory as the occupant of the house at 556 Harris Street from 1879. The 1883 Sands Directory records the Harris Street houses as occupied by John Grant, a contractor, at 518 (554) Harris, and John Lowe at 520 (556) Harris Street. By 1886 the house at 556 Harris Street is depicted as having two sheds constructed in the rear yard (Figure 3.12). The 1896 Council Rates Assessment book records 554 Harris Street as a brick house and stable, leased by Margaret Harris to Mrs Mary Black. The brick house and stable at 556 Harris St continued to be leased by John Lowe until c. 1909, replaced by relative Miss L Lowe from 1910.[16] Council Rates Assessment books record Agnes Dooley at 554 Harris St and John Connolly at 556 Harris St from 1911-1914. By 1918, Mrs Agnes Dooley remained at 554 Harris Street while Mrs Annie Houston was recorded as the occupant at 556 Harris Street in the 1918 Sands Directory. Both Harris Street houses were demolished in 1922.

[15] *Sands Directory*, 1879
[16] *Sands Directory*, 1910.

Figure 3.12: Houses at 554-556 Harris St in 1886 (Source: Sydney Water PWDS 1544-S206 with Curio overlay 2022)

Figure 3.13: Semi-detached brick house pair at 554-556 Harris Street prior to demolition in 1922, with Ultimo Power House (Source: City of Sydney Archives NSCA CRS 51/992).

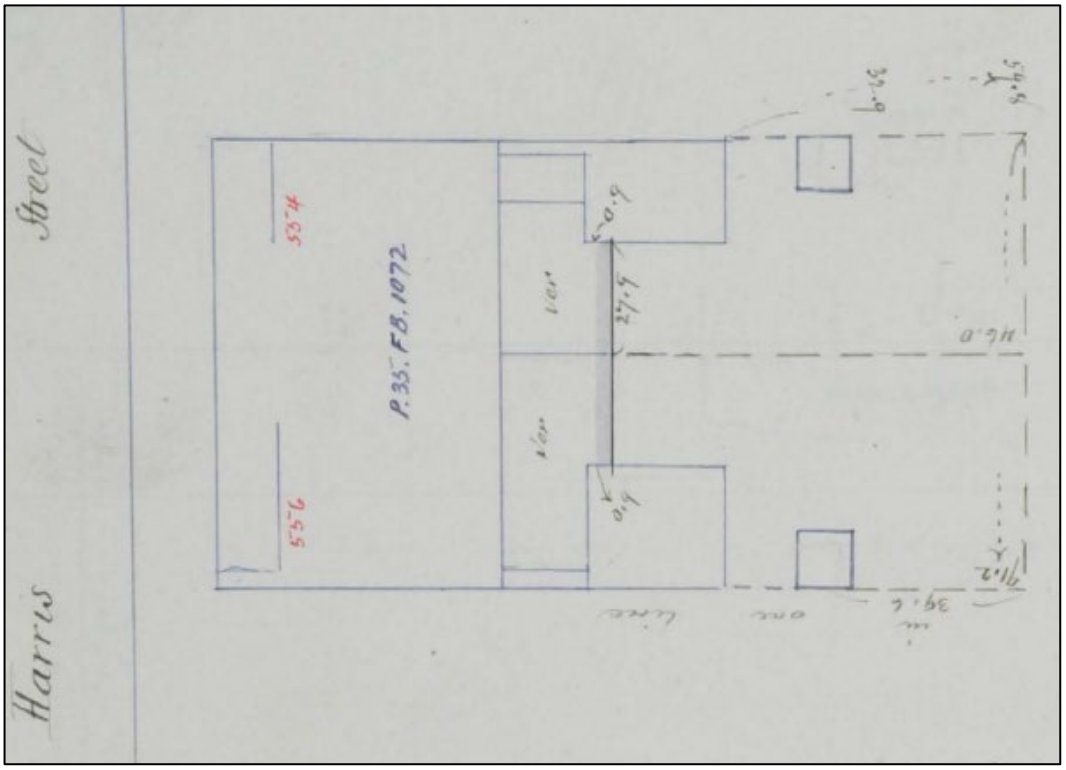


Figure 3.14: 1893 updated field survey notes of 554-556 Harris Street (Source: Sydney Water PWDFB2412)

Sydney Tramway and Omnibus Company's Stables

The 1877 Council Rate Assessment book records Thomas Hales as occupant of a brick and wood house and stables for 'S.U.O Company. Stalls for 200 Horses', facing Macarthur Street. The 1880 rates records the United Omnibus Co. Stalls, Chaff Store, old forge and new forge located on the land, in addition to John Wood's house, John Woods & Co Stores and Stables[17]. The 1882 Assessment books show that John Woods and Co had wooden stables with an iron roof on Mary Ann Street between Harris Street and the Railway fence[18].

The 1886 Sydney Water Plan depicts the Macarthur to Mary Ann Street block as occupied by the Sydney Tramway & Omnibus Company from the central lane (present Omnibus Lane) east to the Railway Yard (Goods Line) with stables located at the northern Macarthur Street end of the block, bordered to the south by a feed cutting works which also contained an office and an engine room while the Mary Ann Street frontage of the block is occupied by Stables for the City Carrying Company. Parallel to the "Feed and Cutting Works" area indicated on the 1886 plan (between what is now Omnibus Lane and Systrum Street), an Iron Foundry is depicted, likely associated with the stables. The 1896 Council Rates Assessment book records John Wood of the Sydney Tramway and Omnibus Company's Stables and Stores as occupying a two storey, four-roomed wooden building with an iron roof. The southern block (between Mary Ann Street Macarthur Street) was resumed in 1897 for the construction of the Ultimo Car House, including demolition of the former Stables and associated structures.[19]

[17] *Assessment Books Denison Ward,* 1880.
[18] City of Sydney Archives, *Assessment Books Denison Ward,* 1882, p. 83..
[19] NSW Department of Public Works, *Report of the Department of Public Works for the Year ended 30th June 1897*, 1898, pp. 26-27.

3.2. Phase 2—Ultimo Power House, Tram Shed and Post Office (1895-1946)

Historical development at the Powerhouse Ultimo site in Phase 3 focused mainly on construction of the extant buildings of the Ultimo Power House (1898), Tram Shed (1898), and Post Office (1901). However, several other structures along William Henry and Harris Streets were also constructed at the site during this phase, including:

- Ultimo Tramway Instruction Room (William Henry Street—c.1913-1984)
- Sydney Glass Co et al (496-504, 506-542 Harris Street, 1902-1954)
- Railway Commissioners Workshop (552-560 Harris Street—corner Harris & Macarthur Street) (1914-1938)
- Maize Products Pty Ltd Warehouse/Manassen Building (552-560 Harris Street—corner Harris & Macarthur Street) (1938-1984)
- Ampol Service Station (1957-1984)
- Dalton Building (1960-1984)

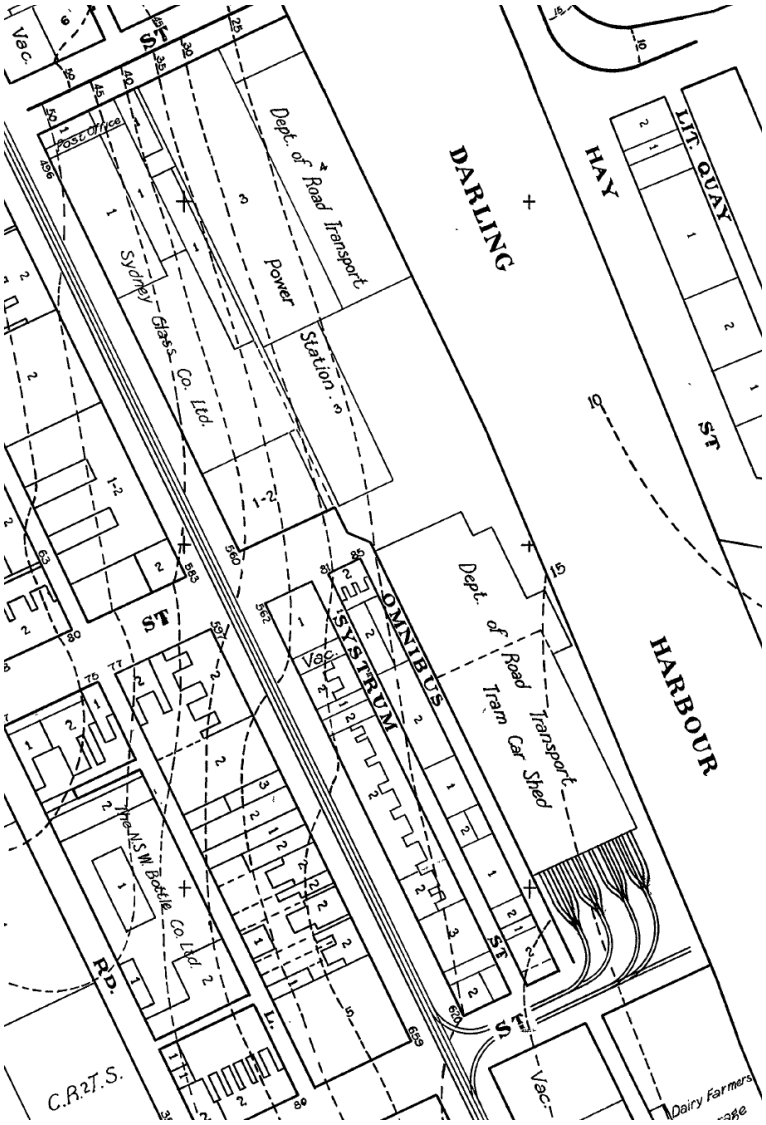


Figure 3.15: 1930-1950 Civic Survey Map. Sydney Glass Co Ltd fronting Harris Street (Source: City of Sydney Archives)

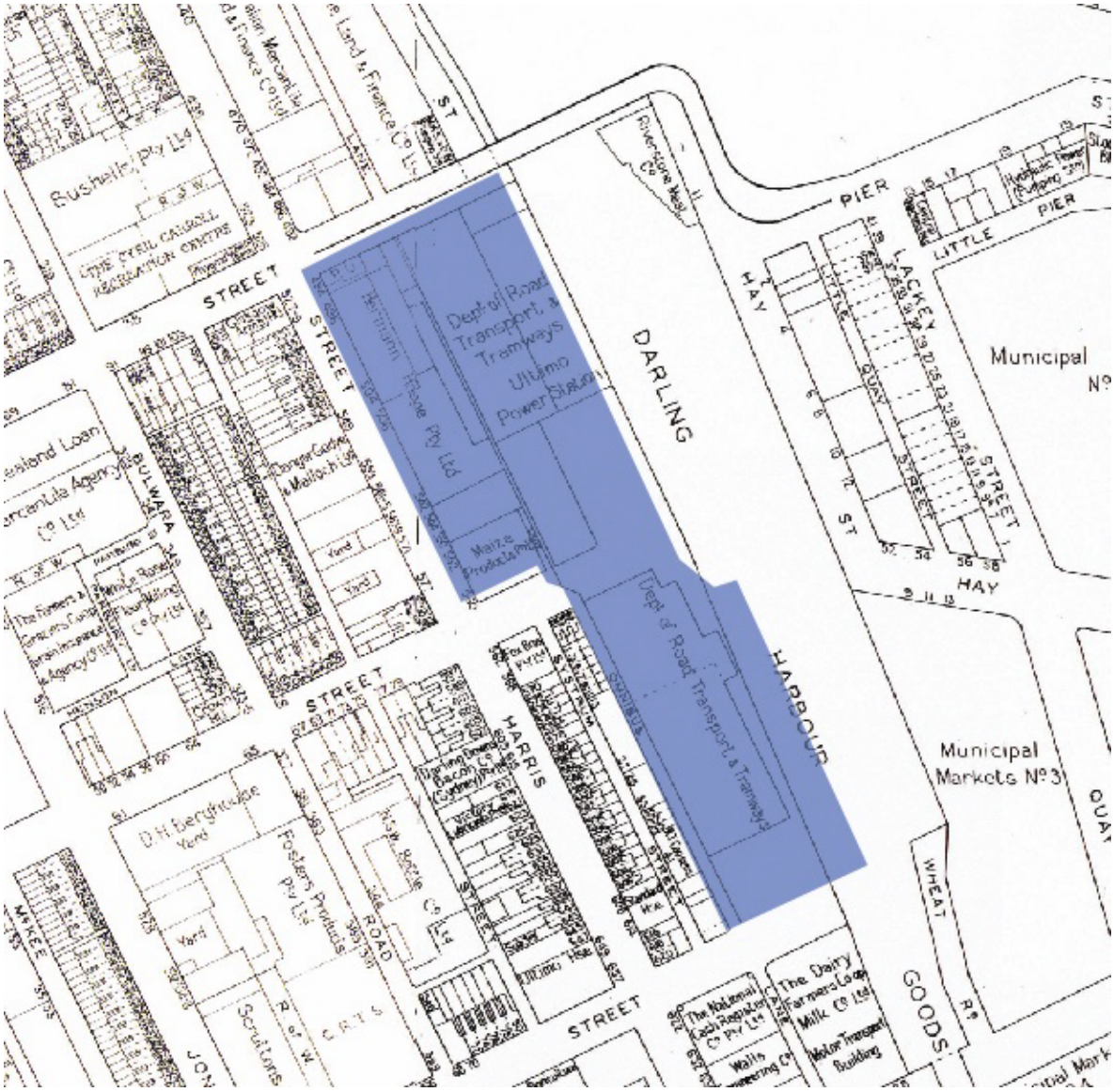


Figure 3.16: 1949-1970 Building Surveyor's Detail Sheets depicting later buildings along Harris Street. (Source: City of Sydney Archives with Curio overlay)

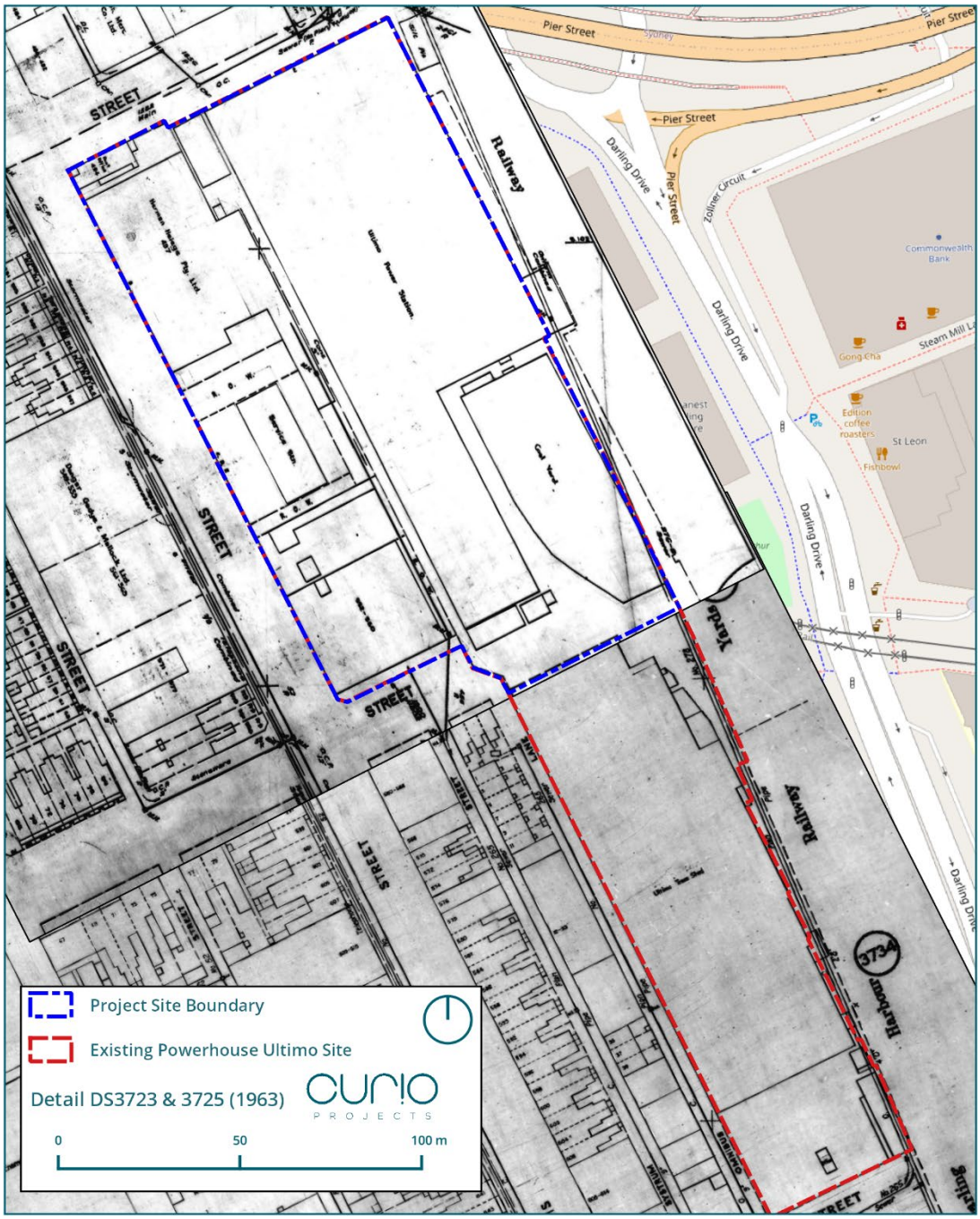


Figure 3.17: 1963 plan of structures fronting Harris Street and Tramway Instruction Room along William Henry St (Source: Sydney Water archive plan DS3725 (2))

Tramway Instruction Room

The Tramway Instruction Room was built between 1913-14 (recorded in both the Sands and the Council Rates Assessment Books by 1914), and was a sizable one storey, one room brick building with an asbestos shingle roof, extending along William Henry Street between the Ultimo Post Office and the Power House Office (North Annex) (Figure 3.19 and Figure 3.19). The building contained significant tram car equipment which was used in training for the electric tram drivers.[20] The final accessible Council Rates Assessment book (1948), records the Tramway Instruction Room located adjacent to the Ultimo Power House along William Henry Street, Ultimo. The Tram Instruction Room

[20] The Institution of Engineers Australia, 1994, p. 18

building was vacated in 1953 when a new training school opened in Randwick, and by 1954 it was being used as a storeroom for the Electrical Commission of NSW.[21] The building appears on the 1963 Sydney Water Plan of the site and remained within the site until its demolition in the mid-1980s as part of Stage Two development of the Powerhouse Museum (recorded as being present by Godden et al in the 1984 heritage report.

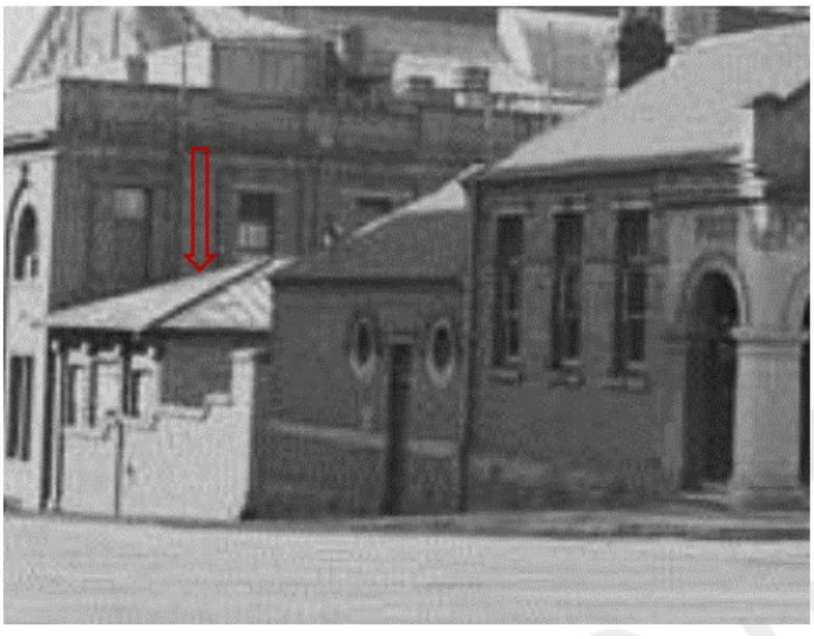


Figure 3.18: Tramway Induction Room between Office and Ultimo Post Office in 1947 (Source: NLA)

Figure 3.19: North Annex (L) and Former Tramways Instruction Room (R) 29 Jan1965 (Source: City of Sydney Archives A-00046527)

[21] ibid

Harris Street (William Henry Street to Macarthur Street (496-500, 506-542, and 552-560 Harris Street)

From December 1901, until at least the final Council Rates Assessment Book in 1948, the Sands Directories and Council Rates Assessment Books identify the Sydney Glass & Tile Company (also known variably as the Sydney Glass Co. Ltd/Pty Ltd) as lessees and occupiers of an area of 1 acre, 13 ½ perches at 496-504 Harris Street—adjacent to the south of the Ultimo Post Office on the corner of Harris and William Henry Streets. The Sydney Class Company constructed a building fronting Harris Street, identified in 1911 as a double storey, two room stone workshop and offices, on land leased from Margaret Harris. The 1911 Council Rates Assessment book records Wright Sheards sub-leasing a wood and coal yard consisting of a single one-storey, one-room timber wood and coal yard with an iron roof, from the Sydney Glass and Tile Co on Harris Street, recorded in by 1918 in the Sands Directory as being leased by Harry Chapman as the fuel merchant on this land.

The Sydney Glass and Tile Co purchased their initial site from Margaret Harris in September 1922 for £10,000,[22] and by 1927 the Sydney Glass Co Ltd owned all the land along Harris Street between their factory at 496-504 Harris Street (next to the Post Office) along Harris Street to the intersection with Macarthur Street. The 1927 Council Rates Assessment book records Harry Chapmen as remaining at 552 Harris Street, leasing the land from the Sydney Glass Co Ltd for a wood and Coal Yard which included a brick shed and weighbridge. In 1948 the Council Rates books describes the Sydney Glass Co building as a two storey brick three and five roomed factory and offices with a basement and iron roof, although this is the only recorded mention of the building having a basement in the entire history of the company's occupation of the site, so this reference to a basement may be inaccurate.[23]

The 1914 Council Rates Assessment book records a Railway Commissioners workshop located on the corner of Harris street before Macarthur St (i.e. 552-560 Harris Street). In July 1923 Margaret Harris sold the block on the northern corner of Harris and Macarthur Streets to Maurice Newstead who mortgaged it to the E.S.& A. Bank who took possession of it after his 1938 death, selling it to Maize Products Pty Ltd who constructed a single storey warehouse on the property. The Maize Products warehouse at 552-560 Harris Street abutting Macarthur St is described in the 1948 Council Rates Assessment book as a single storey brick warehouse with an iron roof. The Maize Products warehouse building at 552-556 Harris St is depicted in the c.1963 Sydney Water map (Figure 3.21). By 1980, this warehouse building is referred to as the Manassen Building.

In 1948 the block of land at 550 Harris Street was purchased by the NSW Government Railways allowing a Harris Street frontage to the Power House. In January 1954 the Sydney Glass Co sold their land to the paper merchants Herman Haege Ltd, after which time a section of the land was leased to Ampol for use as a petrol station from December 1957.[24] In 1960 the "Dalton Building' and store was constructed on Harris Street on the site of the former Sydney Glass Co Building.[25] The 1963 Sydney Water map shows the Post Office on the corner of William Henry Street followed by Herman Haege Pty Ltd, a right of way, and a service station (Figure 3.21).

In 1980-81, as part of the redevelopment of the former Powerhouse site and surrounds for the Powerhouse Museum, the Minister for Public Works resumed and demolished all buildings along the entire Harris Street block, including The Dalton Building, a Store, and Ampol Service station, the NSW Government Railway land, and the Manassen Building at the corner of Harris and Macarthur Streets (Figure 3.22).[26]

---

[22] Godden et al 1984 p. 30
[23] AMBS 2018 p.14
[24] AMBS 2018 p. 15; Godden et al. 1984 p. 31;
[25] Godden et al. 1984 p. 30.
[26] ibid

At the time of writing in 2022, the land formerly occupied by the Harris Street structures is occupied by the Wran Building and Harris Street forecourt, completed in 1988.

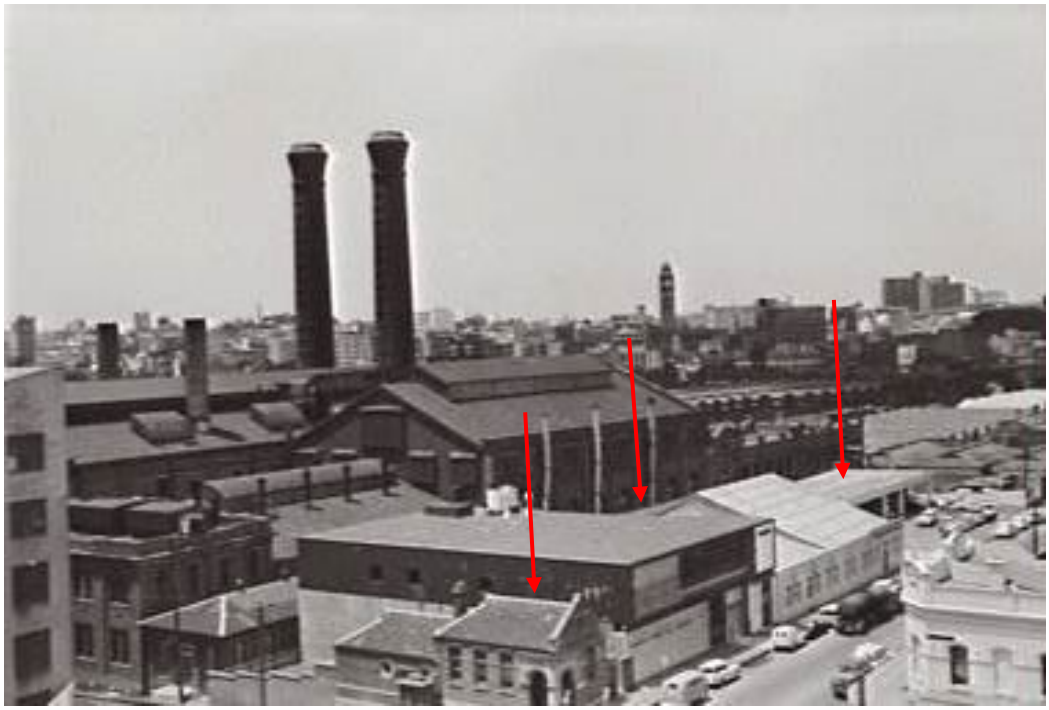


Figure 3.20: 1964 Image showing the Ultimo Post Office on the corner of Harris & William Henry Streets with the Herman Haege Building and service station behind with frontages to Harris Street as indicated by the arrows (Source: City of Sydney Archives).

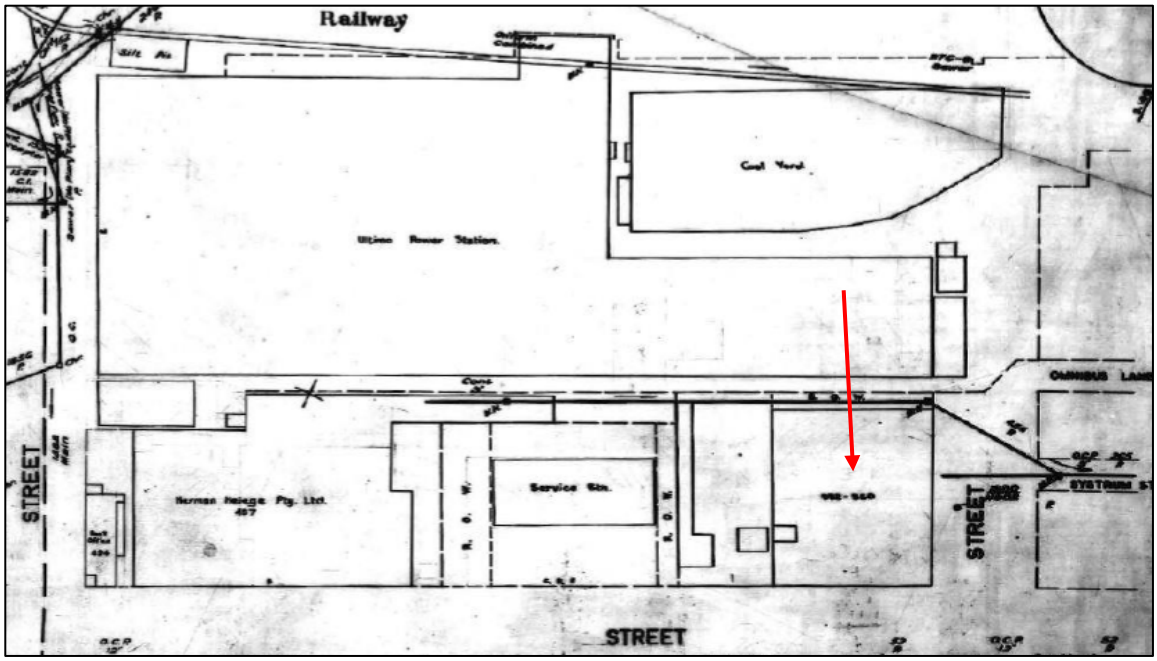


Figure 3.21: 1963 plan indicating building at 552-556 Harris Street, corner of Macarthur Street as indicated by the arrow (Source: Sydney Water archive plan DS3725 (2)

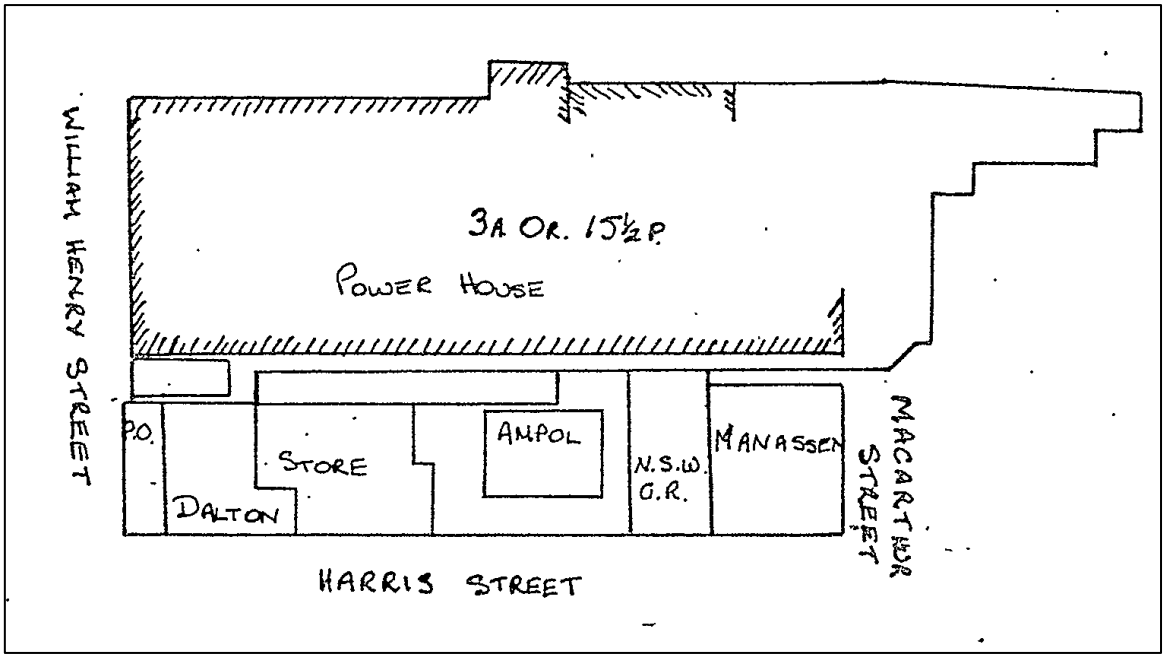


Figure 3.22: Block 23 at time of resumption by the Public Works Dept c.1980, note the buildings fronting Harris Street (Source: Godden et al 1984 p. 30)

3.3. Phase 3- The Powerhouse Museum (1981 to present)

Suggestions for use of the Power House Ultimo site for a museum were made as early as 1964, when plans were made to convert the former Ultimo Tram Depot (Harwood Building) to a Transport Museum—although these plans were initially abandoned when it appeared there was a conflict with the route of the 1965 Western Distributor.[27] However, when the freeway plans were finally curtailed in 1977 avoiding the Power House site, the possible use of the site as a Museum re-emerged

On the 13th of August 1979, NSW Premier Neville Wran announced the Ultimo Power Station and Tram Depot was to become the new home of the Museum of Applied Arts and Sciences (MAAS).

Works undertaken to the former Power House buildings in the adaptive reuse of the site as the Powerhouse Museum mostly resulted in the industrial buildings remaining as shells only, with most original equipment, plant, machinery, and finishes removed, refit with modern exhibits, amenities, and services as required for the modern museum. The substantial bulk of the alterations and additions to the site were focused along the Harris Street frontage, including construction of the new Wran Building.[28] The water conduit (Water Cooling System and Manifold) connecting the Power House and Darling Harbour was repurposed to serve as part of the museum's air conditioning system (and continues to do so to this day). According to project architect Lionel Glendenning, the design of the Wran Building responded to the 'the golden mean proportion' of the Turbine Hall, with Vault 1 making architectural reference to MAAS's first home in the garden palace, and Vault 2 referring to the arches of the Boiler House. [29]

> *The existing buildings, which include the former turbine, switch and boiler houses, have been stripped back to the bare essential structure. Exhibits, including airplanes, motor vehicles and helicopters, are hung in space. The new work was largely*

[27] Fitzgerald & Golder, 1994 p. 113.
[28] See Part C: Section 15 for further detail of the Wran Building
[29] Architectural Projects, 2003, p. 47.

> *confined to the Wran Wing, a barrel-vaulted room, partially glazed with an external colonnade along Harris Street. From the entry, ramps, escalators and lifts lead the visitor to the various parts of the museum and the interactive displays.*[30]

The opening of the Sydney Monorail in July 1988 provided access to the new Powerhouse Museum from Darling Harbour and included construction of a nearby station (named Powerhouse Museum Station in 2002) and a covered walkway from the station to the Powerhouse Museum. The monorail line was raised and ran past the Boiler Hall aside the light rail line. [31])

[30] Watermark Press Sydney 1997 p. 189 cited in Architectural Projects 2003 pp. 35-36.
[31] Powerhouse Museum, *Annual Report 2002-2003*, p. 1

4. Site Description

curio
PROJECTS

4. Site Description

Powerhouse Ultimo is situated upon the lands of the Gadigal people of the Eora Nation. It is located within the City of Sydney Local Government Area and its primary address is 500 Harris Street, Ultimo. The Powerhouse Ultimo site is located in the suburb of Ultimo, within the City of Sydney LGA. The site is bounded by William Henry Street to the north, Harris Street to the west, Mary Anne Street to the south and the Goods Line to the east. The topography of the site has some significant variance in elevation, with almost nine metres difference in level between Harris St to the west and the Goods Line to the east.[32]

The Ultimo-Pyrmont area is characterised by its peninsula location and proximity to Darling Harbour. The Ultimo-Pyrmont Peninsula was developed in the early 19th century as an industrial centre 'often enveloped in dirty air and surrounded by polluted water' then it weathered the process of de-industrialisation growing into a contemporary residential and creative neighbourhood.[33] While the Pyrmont Bridge provides access from the western shoreline of Darling Harbour to the Sydney CBD, the physical division created by the former Darling Harbour Goods Line and Goods Yard between the study area and the harbour, means the Powerhouse site is relatively isolated from the Sydney CBD. The Powerhouse Ultimo Site consists of an amalgamation of several earlier sites with varying historical significance and built elements.

The primary built elements of the Powerhouse Ultimo site include the former Power House Buildings (North Annex, Engine House, Turbine Hall, Pump House (remains) (Figure 4.1), Boiler House (Figure 4.2), and Switch House), former Ultimo Post Office (Figure 4.3), the Harwood Building (former Ultimo Tram Shed), and the Wran Building (Figure 4.4 and Figure 4.5). A section of the Goods Line (former Darling Harbour Rail Corridor) borders and enters the site along the eastern boundary, and the Water-Cooling System and Manifold is located within the site as a subterranean element, accessible via the basement of the former Turbine Hall.

The single storey brick Ultimo Post Office is located on the corner of Harris and William Henry Streets north of the Wran Building. (Figure 4.3).

Figure 4.1: View west along William Henry Street bridge, northern elevation context/setting of Powerhouse Ultimo site. North Annex visible (Curio 2020)

Figure 4.2 : Southern view of the Boiler House and North Annex from Pier Street (Curio 2020)

[32] AMBS Ecology & Heritage, 2018, p. 1.
[33] Fitzgerald & Golder, 1994, p. 11.

Figure 4.3: Southern view of the Post Office and Wran Building along William Henry Street (Curio 2020)

Figure 4.4: Existing surrounding built context of site, recent student housing multi-storey development visible behind Powerhouse buildings to east. View from Harris Street, Wran Building in back left. (Curio 2020)

Figure 4.5: View north along Harris Street. Wran Building in right, Ultimo Post Office visible on corner of Harris and William Henry Streets in background (Curio 2020)

Figure 4.6: Access to the Water-Cooling Manifold (Curio 2020)

4.1. Water Cooling System and Manifold (s170)

The Water-Cooling System and Manifold was an integral part of the operating system of the Ultimo Powerhouse and remains as a sub-surface feature of underground conduits that transported cool water to the Powerhouse from Darling Harbour water's edge, and hot water from the Powerhouse to the water's edge (Figure 4.7 and Figure 4.8). The s170 feature extends beneath the Powerhouse Ultimo site towards Murray Street and into Darling Harbour. Access points to the engineering equipment/manifold of this cooling system are located in the basement of the Ultimo Power House (Figure 4.6).

It is an historically important operating element association with the day-to-day operations of the Ultimo Power House and requires in situ retention, conservation, and protection throughout any development process.

As the item has structural integrity (i.e. underground tunnel structure) it is not technically defined as an archaeological 'relic' in accordance with the Heritage Act, but as a work. Nevertheless, given that any proposed deep excavation in this area would have the potential to disturb the conduits, it must be managed as part of any archaeological methodology for the site.

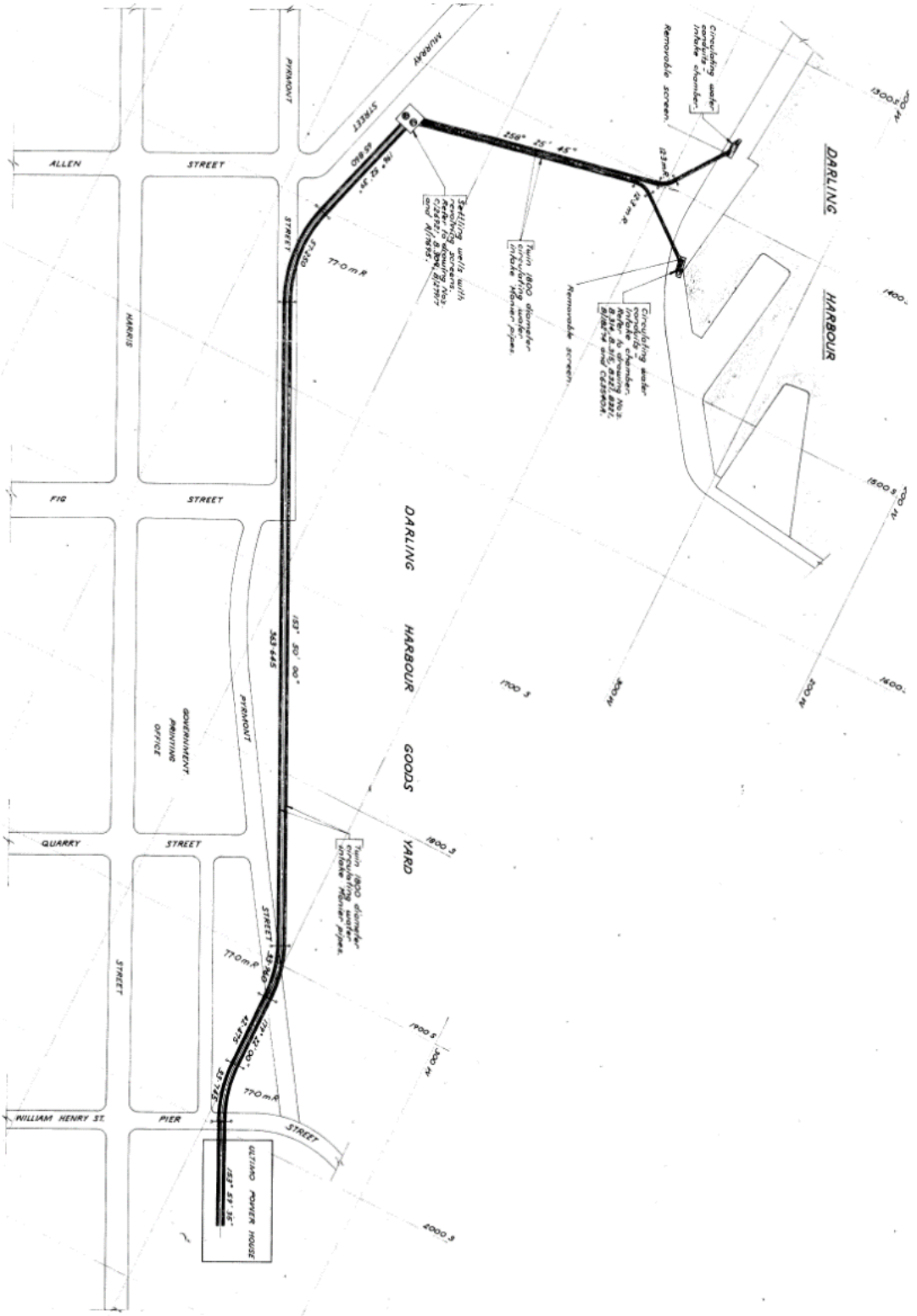


Figure 4.7: Plan of Powerhouse Seawater Conduits (Source: GAO Plan C82-079G/SC-001, Nov 1982)

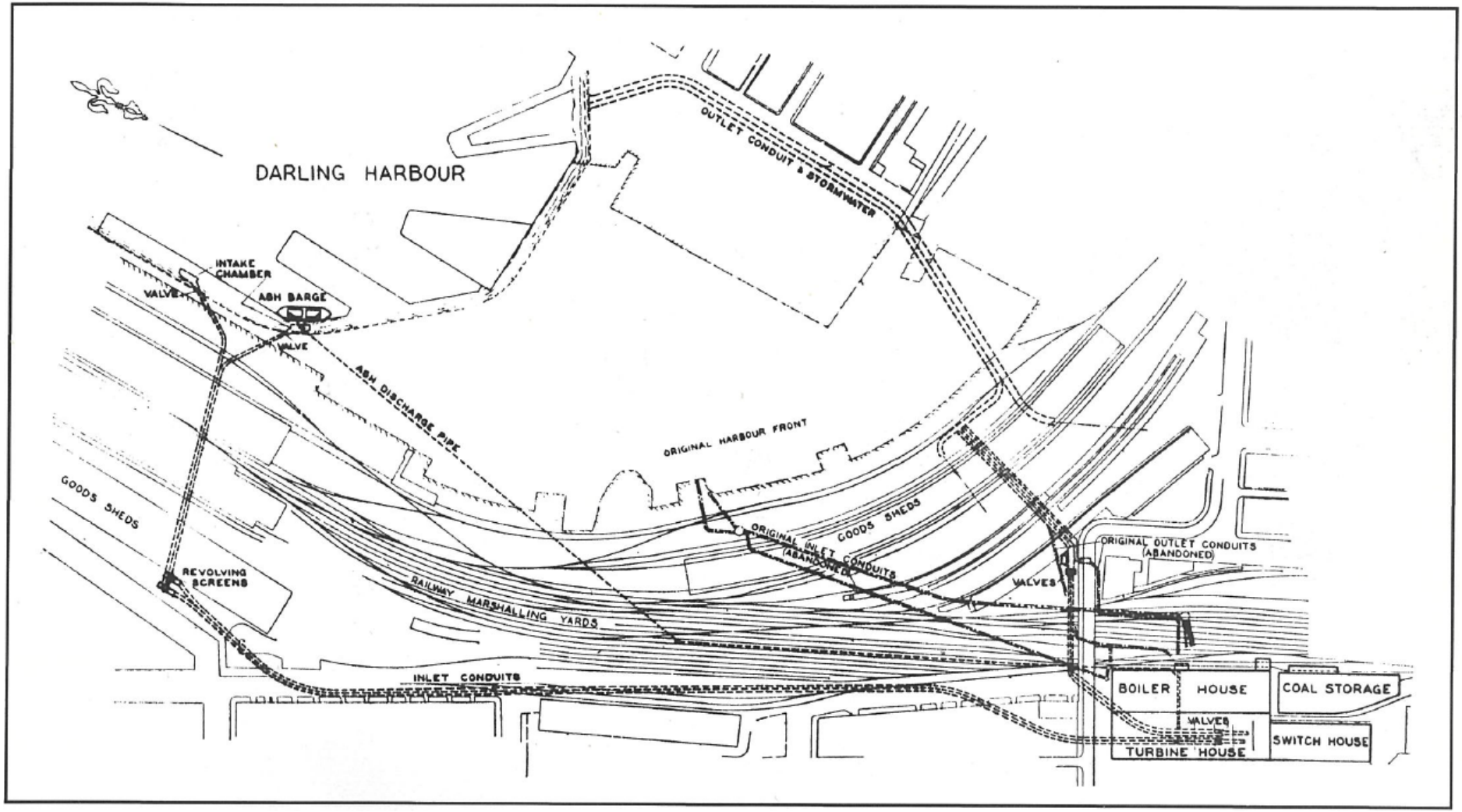


Figure 4.8: W. Myer's plan of the circulating water system, Ultimo Power House, 1920s (Source: Fitzgerald & Golder 1994)

5. Historical Archaeological Assessment

curio
PROJECTS

5. Historical Archaeological Assessment

5.1. Introduction

This section presents an assessment of the historical archaeological potential of the study area. The 'archaeological potential' of a site refers to its potential for archaeological resources to survive below the ground and is related to its level of intactness. The potential for archaeological resources to survive is directly related to the types of cultural activities and environmental factors that have impacted on a site over time, and how such factors may or may not have disturbed, destroyed, conserved, or impacted upon the evidence of earlier activities. The types of materials used for construction, daily activities, intensity of development and demolition activities, environmental conditions, and topography, all influence the ability of archaeological remains to survive.

There are many factors that influence the ability of an archaeological resource to survive, from the types of construction materials used through to the way in which the actual buildings were demolished or removed from the site. Given the lack of machinery, many sites were simply just demolished to a point and then backfilled with their own rubble prior to new construction commencing. Where possible, footings were reused, wells were filled with waste and site clearance was done to a level of 'as little as possible' in order facilitate redevelopment. Even as recently as the 1980s, construction at sites has left much of the archaeological profile, within a site, intact.

Deep structures such as cellars, wells, and cess pits have a greater potential for survival than features located on former surfaces. Built structures are generally less easily disturbed than 'soft' artefact rich deposits such as yard soils or underfloor deposits.

The potential for historical archaeological resources and/or 'relics' to survive is not the same as potential archaeological 'significance'. Potential 'archaeological significance' which is discussed in Section 6.0, relates to the importance of any archaeological resource found, rather than its ability to survive within a cultural heritage landscape ('archaeological potential'). For example, a site may contain extensive archaeological evidence if the former footings of a c.1910 terrace which means it has 'high archaeological potential'—a high likelihood for evidence to survive, but when assessed in terms of its archaeological significance and ability to contribute significant new information, it has 'low archaeological significance' because the evidence associated with the footings of a c.1910 terrace in Sydney is common—with hundreds of intact c.1910 terraces still standing. Archaeological research of more c.1910 footings would not add to our understanding of Sydney's history in a meaningful way.

Archaeological potential refers to the level of likelihood for physical evidence of a particular historical activity or development to survive. It is usually classified as high, moderate, or low:

- High archaeological potential—it is likely that physical evidence of a particular historical phase or activity survives.
- Moderate archaeological potential—it is possible that physical evidence of a particular historical phase or activity survives, however surviving archaeological remains may have been subject to some disturbance or may only partially survive.
- Low archaeological potential—it is unlikely that physical evidence of a particular historical phase or activity survives.

5.2. Site Disturbance Activities

Historical disturbance of a site affects its abilities to retain intact archaeological resources, and has been defined as follows:

- Low disturbance—the site or feature has not been subject to activities that would have a major impact on the survival of archaeological remains. Archaeological evidence may be largely intact.
- Moderate disturbance—the site or feature has been subject to some activities that may have impacted on the survival of archaeological remains. Archaeological evidence may survive; however, it may be disturbed.
- High disturbance—the site or feature has been subject to activities that are likely to have impacted on the survival of archaeological remains. Little archaeological evidence may survive, or it may be substantially destroyed.

The study area has been subject to the following general land uses and physical impacts over the period from first European occupation of the area:

- General vegetation clearance from late eighteenth century onwards including creation of roads and establishment of early land grants and land use.
- Early 19th century sandstone quarrying.
- Construction of early 1840s and 1850s dwellings/ cottages (undocumented).
- Demolition of early 1840s and 1850s dwellings/ cottages.
- Construction of mid to late 19th Century residential/industrial built structures (c.1870s).
- Land Reclamation activities (1870s and 1920s).
- Demolition of mid to late 19th century residential/industrial built structures (c.1890s-1920s).
- Construction of Powerhouse (1899) and Car Sheds (1899), including bulk excavation for Engine Hall/ Turbine Hall and Boiler House basements, and associated industrial and administrative built structures and elements in the early 20th century.
- Modifications and alterations of equipment, machinery and usage of the Powerhouse and associated buildings (1940s-1979).
- Construction of Ampol Petrol Station (1957) along Harris Street including bulk excavation for large petrol tanks below ground surface.
- Construction of the existing Wran Building c.1980s incorporating the Power House in the built structure, including basement excavation (1981).
- Updated services across the study area.

5.3. Geotechnical Investigations

5.3.1. Douglas Partners, 2022

Geotechnical investigations undertaken within the study area in 2019 by Douglas Partners,[34] provides further clarification of the nature of the sub-surface soil and disturbance present within the study area.

[34] Douglas Partners, 2022 Geotechnical Investigation, Ultimo Creative Industries Precinct. Prepared for Create NSW, Department of Premier and Cabinet

Figure 5.1). The results of this geotechnical investigation have been used in the assessment of archaeological potential for the study area.

Generally, Hawkesbury Sandstone bedrock is located across the study area at depths between 1.5m-11.8m below the current ground level. The soil stratigraphy across the study area is characterised by:

- a concrete slab, brick pavers or asphalt surfaces (0-0.25m) over;
- gravel, sand or clay fill with sandstone boulder inclusions (0.25m-4.5m) overlying;
- silty clay, sandy clay and clay alluvial and residual soils, which are situated on;
- sandstone bedrock.

The residual and alluvial soil profiles (Douglas Partners Soil Units 2 and 3) are natural soil profiles.

BH 104 and BH202, both located at the southern end of the Harwood Building, noted the presence of terracotta, brick and ceramic fragments within the boreholes at depth (between 2-3.1m below ground level), possibly representative of an historical archaeological resource in this location.

BH107 in the northwest of the study area encountered a void immediately underlying the concrete slab (continuing to at least 3.1m below ground), likely part of the basement associated with the Power House buildings in this area.

In April 2022, Douglas and Partners issued the results and interpretation of the 2019 geotechnical investigations that were conducted within the study area. An outline of the general summary of the inferred preliminary geotechnical model for the study area was included which is outlined in Figure 5.2.

Figure 5.1: 2019 Geotechnical Borehole Plan (Source: Douglas Partners: Appendix B)

Unit	Material/ Origin	Description	Approximate Thickness[1] (m)	Depth to Top of Unit[1] (m)	RL to Top of Unit[1] (m AHD)
1	Fill	Concrete slab or brick pavers over Gravel, Sand, Clay, with (building) rubble 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 (i.e. along south eastern corridor)	0.5 – 2.3	3.5 – 4.5	1.3 – 2.7
3	Residual Soil	Silty Clay, Sandy Clay, and Clay, varying plasticity from low to high plasticity, stiff to hard.	0.5 – 5.0	1.5 – 6.8	-1.0 to – 5.5
4a	Class V/IV[2] Sandstone	Sandstone, moderately weathered, very low to low strength.	0.3 – 0.9	1.5 – 11.8	-6.0 to –14.1
4c	Class III[2] (or better) Sandstone	Sandstone, slightly weathered to fresh, medium to high strength, a 0.5 m thick, very low to low strength layer was encountered at the bottom of BH202.	Not Penetrated	1.8 – >11.8	Below -6.0 to – 13.8

Figure 5.2: General summary of the inferred preliminary geotechnical model for the study area (Source: Douglas Partners 2022)

5.4. Assessment of Historical Archaeological Potential

The following summary provides an assessment of the possibly types of archaeological evidence that may be found within the subject site, and the potential for such evidence to survive. The potential archaeological resources are described as follows.

Phase 1—Harris Estate and 19th Century Occupation (1803-1894)

- Structural remains and occupation deposits associated with the early to mid 19th century built structures including huts of mud, brick wood or wattle with bark roofs.
- Evidence of landscape management of open space such as agricultural pits, plough marks, tree stumps, post holes for fencing, formal/informal paths, plantings, gardens, garden edging etc.
- Historical features and evidence associated with early 19th century sandstone quarrying
- Structural remains and occupation deposits (including house foundations, underfloor deposits, yard surfaces, rubbish pits, outbuildings and cesspits) associated with the 1870s built structures (137 William Henry Street, 517-523 Pyrmont Street and 554-556 Harris Street) in the northern block of the study area (further detail outlined in Table 5.1).
- Structural remains and occupation deposits associated with the Feed Cutting Works structures, the 1871 stables for the Sydney Omnibus Company and the 1883 stables for the City Carrying Company.
- Remains of unrecorded features including wells and rubbish pits
- Rubble fill deposits associated with the post 1890s to 1920s demolition of the late 19th century structures and associated structures within the study area to make room for the construction of the Ultimo Power House.

For a more detailed breakdown of the key historical activities and historical archaeological potential in this phase within the study area, please see Table 5.1.

The occupation of the study area during this historical phase was predominantly residential premises, including early 19th century structures across the study area, Towards the mid to late 19th century, residential structures were more focused in the northern block of the study area containing several brick structures and the southern block containing stables and industrial premises.

There has likely been moderate to high disturbance to the archaeological remains associated from this historical phase of the study area. Deeper subsurface remains such as wells and cesspits may survive within the study area. The Powerhouse construction involved bulk excavation for basements of the Engine Hall/Turbine Hall and Boiler House which would have impacted surviving remains associated with the 19th century structures in that area. The Ampol Station built in 1957 along Harris Street would have required bulk excavation to make room for the large petrol tanks below ground and the later construction of the Wran Building would also have impacted the potential remains associated with these structures.

The study area at Powerhouse Ultimo site is considered to have low to moderate potential to contain archaeological evidence related to this historical phase of use (Figure 5.4 to Figure 5.6).

Phase 2—Ultimo Powerhouse, Tram Shed and Post Office (1895-1979)

- Structural remains and industrial deposits associated with the late 19th/ early 20th century structures relating to the Ultimo Powerhouse (1899) in the northern block of the study area and the Tram Shed (1899) in the southern block of the study area.
- Structural remains of the Ultimo Tramway Instruction Room along William Henry Street (c.1913-1984).
- Structural remains of Sydney Glass Co et al, located at 496-504, 506-542 Harris Street (1902-1954).

- Structural remains of Railway Commissioners Workshop at 552-560 Harris Street, corner of Harris and Macarthur Street (1914-1938).
- Structural remains of Maize Products Pty Ltd Warehouse/Manassen Building at 552-560 Harris Street, corner of Harris and Macarthur Street (1938-1984).
- Structural remains of the Ampol Service Station (1957-1984).
- Structural Remains of the Dalton Building (1960-1984).
- Evidence of previous services associated with Phase 2.
- Potential rubble fill deposits associated structures demolished during the mid to late 20th century.
- Evidence of remodelling and modernisation of the Powerhouse industrial equipment (1927-1932).
- Removal of the Power House plant and equipment between 1965 and 1966.
- Evidence of modifications to Powerhouse equipment and machinery.
- Potential rubble fill deposits associated with the former Pump House and chimney (partially demolished in 1968.

During Phase 2, the buildings constructed within the study area were mostly associated with the early industry in the area relating to the Powerhouse and Car Sheds, as well the early extensions and modifications during the early 20th century to keep up with the growing industry.

There has likely been moderate to high disturbance to the archaeological remains associated from this historical phase of the study area. Later modifications in attempt to modernise machinery and elements of the Power House would have impacted the archaeological remains relating to Phase 2., including the later impacts associated with the construction of the Wran Building.

The study area is considered to have low to moderate potential to retain archaeological remains associated with this historical phase of occupation below the existing ground level.

Phase 3- The Powerhouse Museum (1981- present)

Phase 3 historical use of the study area consists of extant buildings to contain archaeological remains of any significance. The structure built during this phase was the Wran Building in 1981 and associated services and landscaping which converted the site into the Powerhouse Museum and adaptively reused the previous Power House and related structures within it's built design for the museum. As an extant building, there is no archaeological potential related to this Phase of historical use, however, works to construct, modify and maintain the building would have caused moderate disturbance to subsurface deposits from previous historical phases.

The construction of the Wran building in the early 1980s would have involved piling and bulk excavation beneath the building footprint as well as below the forecourt. Various improvements to services and extensions/modifications to the Wran Building that have taken place over time at 500 Harris Street may have disturbed and/or removed occupation related deposits within the study area.

5.4.1. Summary of Historical Archaeological Potential

While each successive phase of occupation and historical use of the site may have impacted evidence of earlier land use activity, previous archaeological work in the surrounding area has indicated that archaeological remains from earlier phases of site use have some potential to survive.

Results of the 2019 geotechnical investigations within the study area have confirmed the presence of intact natural soil profiles across much of the site, as well as some presence of terracotta, brick and ceramic fragments at depth (between 2-3.1m below ground level) to the south of the Harwood Building (e.g. BH104 & BH202). This geotechnical information is further indication of potential survival of archaeological remains from prior occupation of the site.

While the construction of the Ampol Station along Harris Street and the basements of former Ultimo Powerhouse Engine Hall/Turbine Hall and Boiler House would have significantly impacted and likely removed the majority of historical archaeological resources from the basement footprints, site retains potential for historical archaeological resources to be present outside of these basement footprint areas as seen in Figure 5.3.

5.5. Archaeological Overlays

A series of relevant Historical plans were overlaid on the study area to demonstrate the physical development of the site between the 1820s and the 1980s. They are presented below as Figure 5.3 to Figure 5.8.

Figure 5.3: Overview of Archaeological Potential within the study area (Source: Curio Project)

Figure 5.4: Overlay of 1855 (Figure 3.3)

Figure 5.5: Overlay of 1886 (Figure 3.4)

Figure 5.6: Overlay of 1888

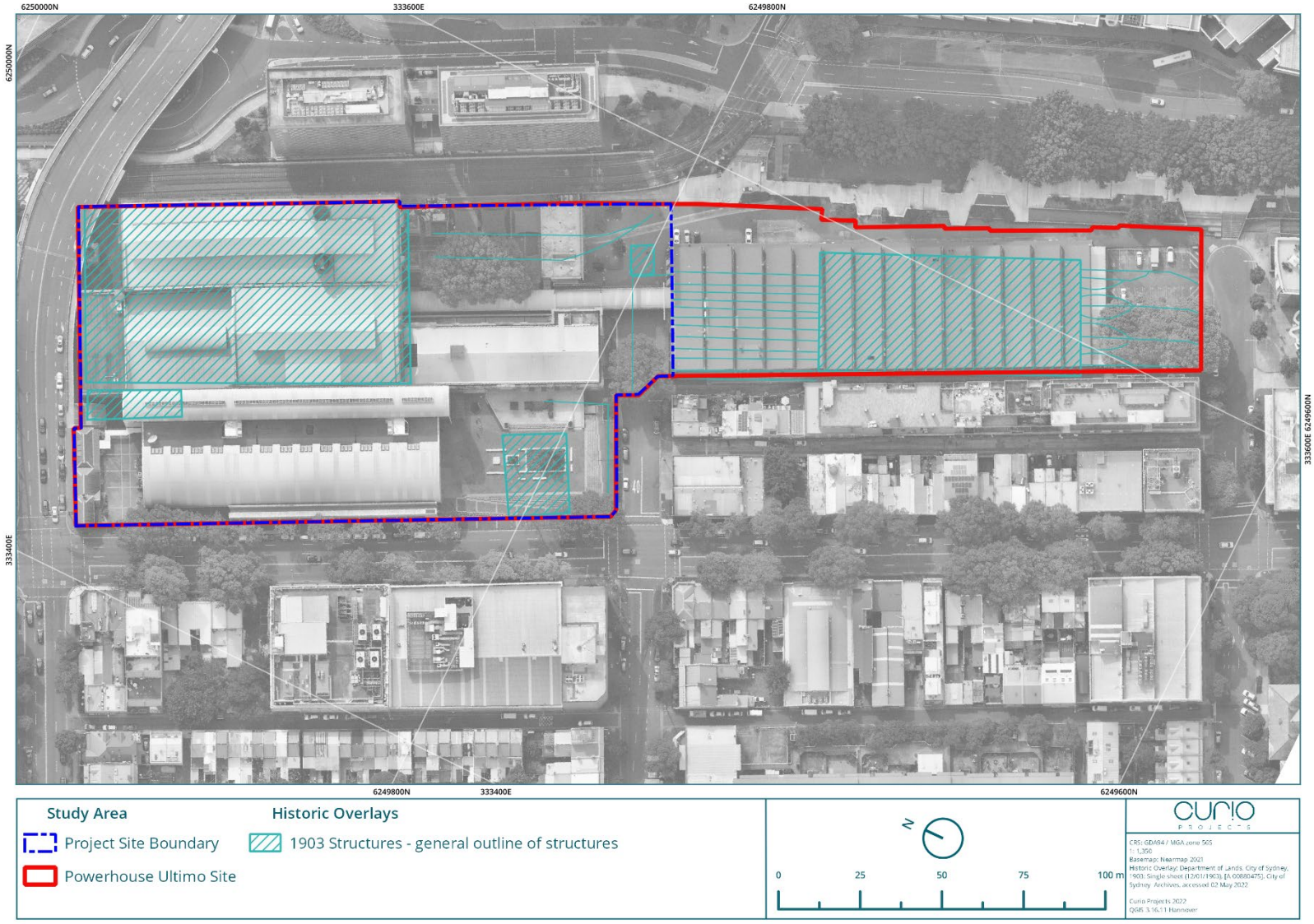


Figure 5.7: Overlay of 1903

Figure 5.8: Overlay of 1963 (Figure 3.15)

6. Archaeological Significance

curio
PROJECTS

6. Archaeological Significance

6.1. Introduction

Heritage significance and cultural significance are terms used to describe an item's value or importance to our society. The Australian ICOMOS Burra Charter defines cultural significance as:

> *Aesthetic, historic, scientific or social value for past, present or future generations.*

This value may be contained in the fabric of the item, its setting and relationship to other items, the response that the item stimulates in those who value it now, or the meaning of that item to contemporary society.

Accurate assessment of the cultural significance of sites, places and items, is an essential component of the NSW heritage assessment and planning process. A clear determination of a site's significance allows informed planning decisions to be made, in addition to ensuring that heritage values are maintained, enhanced, or at least minimally affected by development. Assessments of significance are made by applying standard evaluation criteria. These criteria can be used to assess both Aboriginal and European items and landscapes, and are as follows:

> *(a) An item is important in the course or pattern of NSW's cultural or natural history (or the cultural or natural history of the local area)*
>
> *(b) An item has strong or special associations with the life or works of a person, or group of persons, of importance in NSW' cultural or natural history (or the cultural or natural history of the local area)*
>
> *(c) An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area)*
>
> *(d) An item has strong or special associations with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons*
>
> *(e) An item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area)*
>
> *(f) An item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area)*
>
> *(g) An item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places; or cultural and natural environments.*

The above criteria were established under Part 3A of the NSW Heritage Act 1977 for the listing of items of environmental heritage (defined as 'buildings, works, relics, moveable objects and precincts') that are of state heritage significance. These criteria are commonly used to assess all items of heritage significance whether state or local, with the criterion that relates most directly to historical archaeological significance and archaeological relics being Criterion (e): commonly referred to as 'scientific significance'.

6.2. Archaeological Significance Criteria

The following criteria have been developed by Heritage NSW (formerly the NSW Heritage Division), based upon the NSW significance criteria outlined above, to assist archaeologists to determine the significance of archaeological sites and relics.

6.2.1. Archaeological Research Potential (NSW Heritage Criterion E)

Archaeological research potential is the ability of archaeological evidence, through analysis and interpretation, to provide information about a site that could not be derived from any other source and which contributes to the archaeological significance of that site and its 'relics'.

The integrity of the site, the state of preservation of archaeological material and deposits will also be relevant.

6.2.2. Associations with Individuals, Events, or Groups of Historical Importance (NSW Heritage Criteria A, B & D)

Archaeological remains may have particular associations with individuals, groups and events which may transform mundane places or objects into significant items through the association with important historical occurrences.

6.2.3. Aesthetic or Technical Significance (NSW Heritage Criterion C)

Whilst the technical value of archaeology is usually considered as 'research potential' aesthetic values are not usually considered to be relevant to archaeological sites. This is often because until a site has been excavated, its actual features and attributes may remain unknown. It is also because aesthetic is often interpreted to mean attractive, as opposed to the broader sense of sensory perception or 'feeling' as expressed in the Burra Charter.

Nevertheless, archaeological excavations which reveal highly intact and legible remains in the form of aesthetically attractive artefacts, aged and worn fabric and remnant structures, may allow both professionals and the community to connect with the past through tangible physical evidence.

6.2.4. Ability to Demonstrate the Past through Archaeological Remains (NSW Heritage Criteria A, C, F & G)

Archaeological remains have an ability to demonstrate how a site was used, what processes occurred, how work was undertaken and the scale of an industrial practice or other historic occupation. They can demonstrate the principal characteristics of a place or process that may be rare or common.

A site may best demonstrate these aspects at the time of excavation. It may also be possible to explain the nature of the site and demonstrate past practices via public interpretation either before, during, or after excavation.

6.2.5. Bickford and Sullivan[35]

In addition to the significance criteria detailed above, there are three key questions posed by Bickford and Sullivan in their influential paper on archaeological potential that help to shape whether an archaeological resource meets the threshold for having archaeological potential. They suggest that all archaeologists ask the following key questions of an archaeological resource:

- Can the site contribute knowledge that no other resource can?
- Can the site contribute knowledge which no other site can?

[35] Bickford, A. and Sullivan, S., 1984, 'Assessing the Research Significance of Historic Sites', in Sullivan and Bowdler (eds), *Site Surveys and Significance Assessment in Australian Archaeology* (Proceedings of the 1981 Springwood Conference on Australian Prehistory); Department of Prehistory, Research School of Pacific Studies, The Australian National University, Canberra, pp. 23-24.

- Is this knowledge relevant to general questions about human history or other substantive questions relating to Australian history, or does it contribute to other major research questions?

6.3. Assessment of Archaeological Significance

The archaeological significance for the study area has been assessed in consideration of the historical overview for the study area and surrounds, in relation to the comparative analysis of other relevant historical archaeological sites in Sydney, as well as the nature of potential structural and cultural remains that may exist on study area and the historical periods to which they may belong. The archaeological significance assessment presented here is in relation to each of the historical phases of use of the study area and has been assessed in accordance with the 'NSW Heritage Criteria for Assessing Significance related to Archaeological Sites and Relics'.

Historical Archaeological Research Potential (Criterion E)

The historical information indicates the study area was used for domestic premises from as early as the 1840s with later 1870s residential buildings constructed until later demolished in the early 20th century. Archaeological resources from these features may provide insight into the lives, working conditions and activities of the residents and general population of the area in the mid to late 19th century in this area of Sydney.

The Ultimo Power House, Tram Shed, Goods Line and Ultimo Post Office are historically significant for their construction during the main development era of Ultimo and Pyrmont when the major estates of the peninsula were subdivided and sold for State government, residential, and commercial purposes. The Ultimo Power House is historically significant as the first state-owned, large electricity generating station, constructed in Sydney to power the Sydney electric tramway network. From 1899 to 1963 it was the largest and most important electricity generating station in the State. The Ultimo Power House site is historically significant as a place where the NSW electricity authorities trialled significant technological advancements in the generation of electricity. This included large scale alternating-current generation and steam turbines. The Water-Cooling System and Manifold is historically significant for its integral role in the function of the Ultimo Power Station and the Ultimo Tram Shed is historically significant as the first tram depot shed in NSW.

The beginning of the 20th century saw numerous extensions and additions to the ever-growing Power House and structures located within the study area. The Power House and associated structures were a historically important site which saw the evolution of the early industry in Sydney as the site was the main supplier of electricity in the southern hemisphere for an extended period of time during the early 20th century.

There is potential for archaeological resources from the early 19th to early 20th century to survive within the study area and are considered to give information that would illustrate and enhance historical knowledge connected with the historic themes of land tenure, commerce, accommodation, early industry, and domestic life. The site is assessed as of local significance according to this criterion.

Associations with Individuals, Events, or Groups of Historical Importance (NSW Heritage Criteria A, B & D)

The archaeological resource of the study area has associative significance at a local level for its ability to provide further information about ordinary people and groups who lived and worked within the study area. The archaeology is associated with historical groups such as the early European settlers living on small domestic structures on the Ultimo Estate and working groups associated with the running and production of the Powerhouse and associated structures.

In addition to early domestic occupation the archaeological resources of the study area could demonstrate and provide physical evidence for key phases in the later expansion of the site for industrial uses within the Ultimo and Darling Harbour areas, for example, the expansion of the Goods Railway and the 1920s saltwater inlet conduits connecting the Power House and Darling Harbour. The study area is also associated with the cultural history of Ultimo.

Aesthetic or Technical Significance (Criterion C)

The study area has little potential archaeological resources that would be considered to display a high degree of technical and creative achievement associated with the early domestic occupation of the site.

Archaeological excavations would likely reveal remains associated with technical aspects of the development of the site for the Power House. The potential archaeological resources are likely to have heritage significance at a local level in terms of this criterion.

Ability to Demonstrate the Past through Archaeological Remains (Criteria A, C, F & G)

Any archaeological resource associated with the buildings and associated with occupation deposits at the site have the potential to provide information about the daily lives of the people living and working at this location from the mid to the late nineteenth century. Archaeological investigations of nearby sites such as Bullecourt Place at 287 Pyrmont Road, 24-50 Mary Ann Street, 14-28 Ultimo Road, 50-72 Union Street, 9-13 Hay Street and Jackson's Landing Bowman Street, which are important comparative examples for the proposed excavation at the study area, with 50-72 Union Street providing substantial artefact information related to the lives of the occupants.

The potential archaeological features and deposits from the site should be considered significant for their potential to yield information relating to the domestic, commercial, and industrial activities of the site from at least the early 1850s. The potential archaeological resources at the study area have the potential to yield an account of the cultural history of the site and local area as the sit if intact, would represent a rare opportunity to investigate such an area.

Any specific information of the physical development of the site during the 19th century could also be explored through these remains and potential archaeological remains within the site. Information like the urban development in this area of Ultimo/Pyrmont, evolution of industry related to the Power House and associated structures/ activities, provision of services to the site, and changing land use patterns (i.e., Outbuildings, cess pits, wells, industrial features) may be revealed by archaeological investigation of the study area. Investigation of broad scale research questions designed to generate a greater and understanding of wider social, industrial, and economic change maybe be explored through comparative analysis with other archaeological sites from similar urban contexts. The site is assessed as of local significance in accordance with this criterion.

6.4. Statement of Archaeological Significance

The study area was occupied as early as the 1840s and was used continuously for residential premises until the early 20th century, including 137 William Henry Street, 517 Pyrmont Street, and 554- 556 Harris Street. In the early 19th century, sandstone quarrying activities occurred along Harris Street. From the 1890s until the 1960s, the Ultimo Power House and associated structures made up the largest electricity generating station in the state and located in the eastern half of the study area.

The Ultimo Power House is significant as the first state-owned, large electricity generating station, constructed in Sydney to power the Sydney electric tramway network. The archaeology is associated with historic groups such as the early European settlers in the Ultimo area and working groups associated with the running and production of the Power House and associated structures. The

history of the site reflects change in residential, commercial, and industrial development and occupancy behaviour at a local level and potentially state level.

Although there was substantial bulk excavation within the northeastern part study area, associated with the construction of the basements for the Engine Hall/ Turbine Hall and Boiler House within the Powerhouse site, there is potential for the survival of subsurface archaeological resources. These archaeological resources have the potential to be associated with both the 19th century residential structures and evolution of the Powerhouse in the 20th century. The potential historical archaeological resources of the study area have the potential to demonstrate significant aspects of the social, economic and industrial characteristics of the site's former occupants, uses and industrial evolution. The potential deposits within the Powerhouse Ultimo study area would meet the criteria of Local Significance.

7. Archaeological Impact Assessment

curio
PROJECTS

7. Archaeological Impact Assessment

7.1. Proposed Development

This Stage 1 SSDA seeks approval for the maximum building envelope-built envelope for the renewal of the Powerhouse Ultimo site only, including indicative land uses, maximum building envelopes, general parameters for the future layout of the site, and strategies to guide the subsequent stages of detailed design.

The detailed design and construction of the project will be sought via a Stage 2 detailed DA, following an Architectural Design Competition.

The Indicative Design Response retains the existing core of original Powerhouse buildings including the Boiler House, Turbine Hall, Engine House, North Annex, Switch House and the heritage listed former Ultimo Post Office. The key features proposed by the Concept Renewal Scheme for the site include:

- Retention and renewal of the Wran Building for Museum space
- New Museum-focused building on Harris Street (on existing Harris Street Museum entry forecourt). The new building would accommodate increased Museum space over a number of levels (including new loading dock and back of house facilities below) as well as additional flexible presentation and learning space
- Re-orient address of the Museum towards the Goods Line and the city via a new public square adjacent to the east side of the Switch House, activating the Switch House at ground level with opportunities for retail, food and beverage offerings, and active edge
- Removal of modern features in the south-east including café kiosk and substation
- New landscaping and public domain features
- New additional ground level pedestrian connections providing access from Harris Street and Macarthur Street into the centre of the site.

Figure 7.1 to Figure 7.6 presents the indicative plans for the concept design envelope.

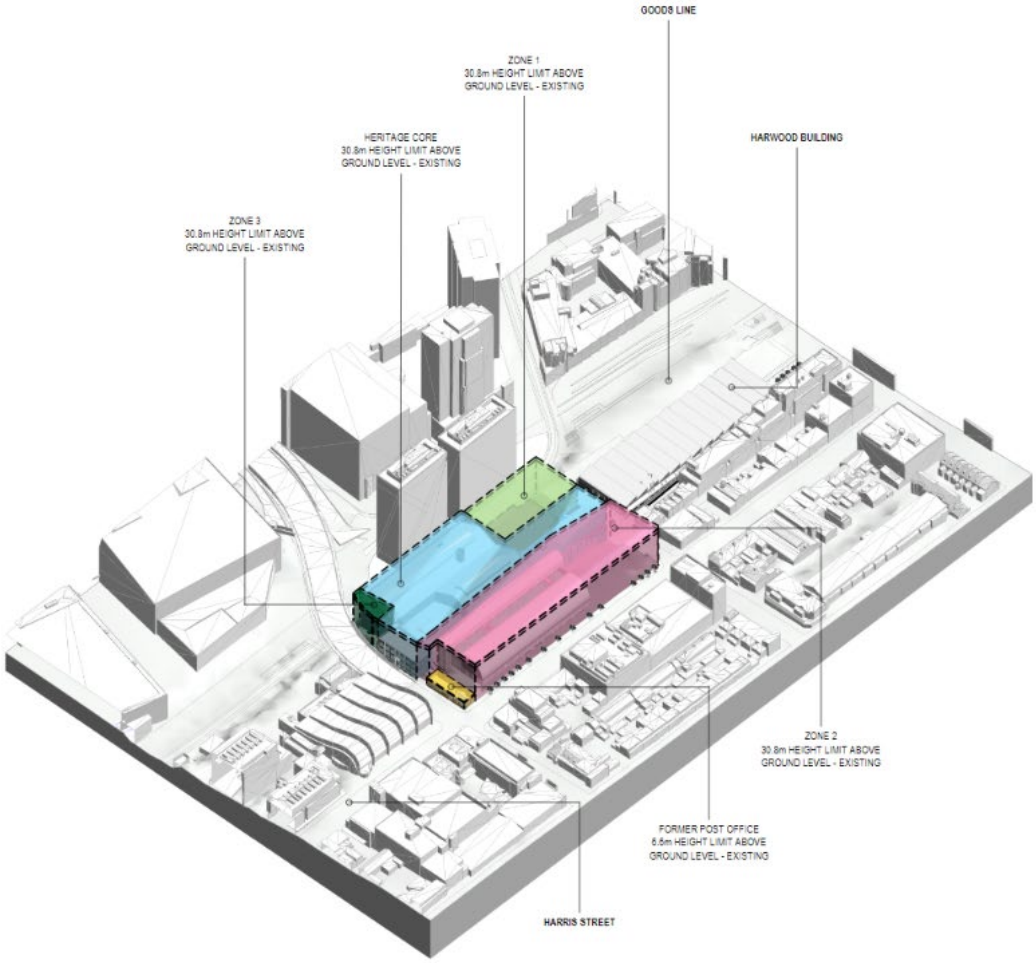


Figure 7.1:Ultimo Powerhouse- Building Envelope 3D Views (Source: John Wardle Architects 2022)

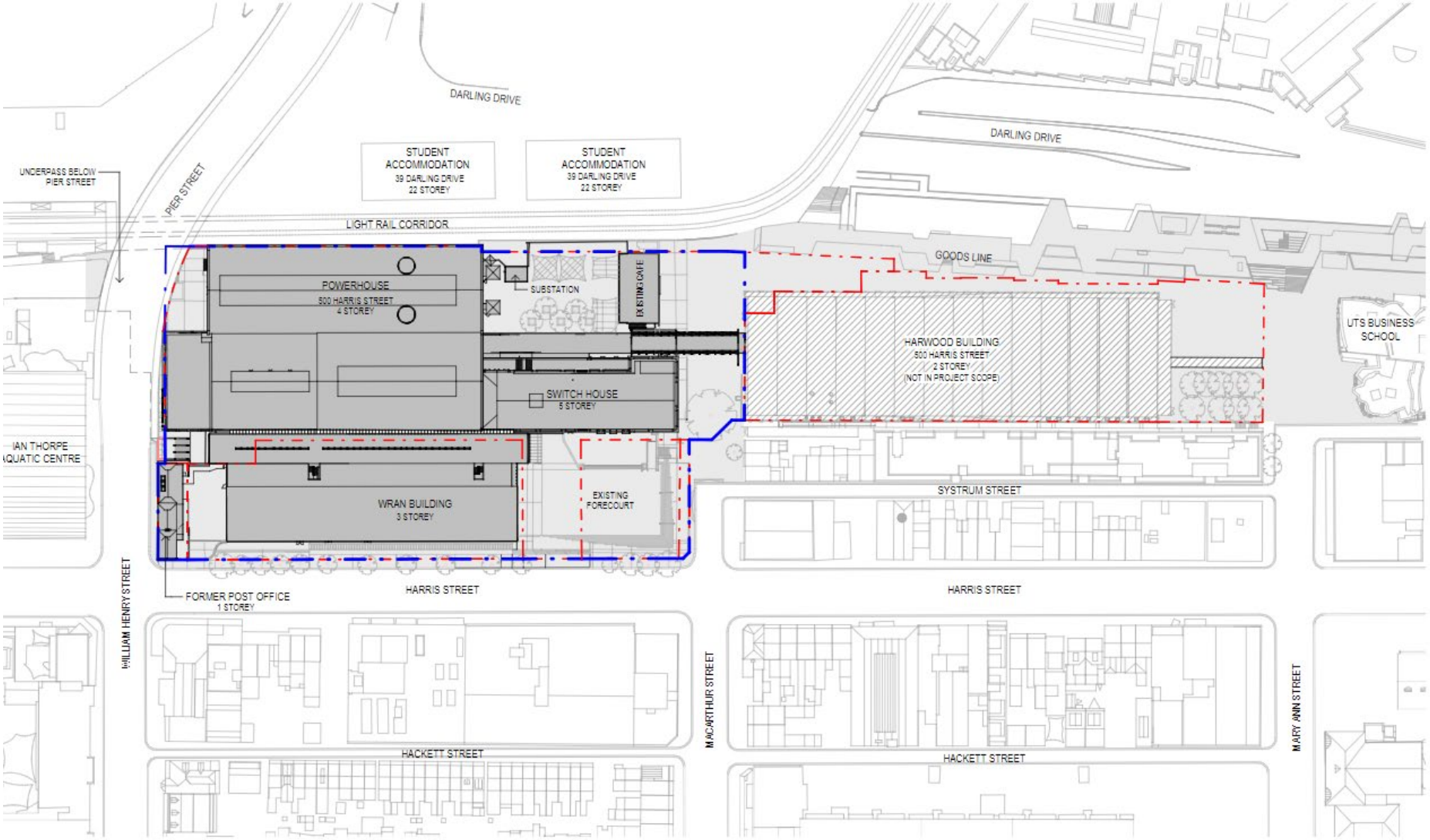


Figure 7.2: Ultimo Powerhouse- Building Envelope Existing Site Plan (Source: John Wardle Architects 2022)

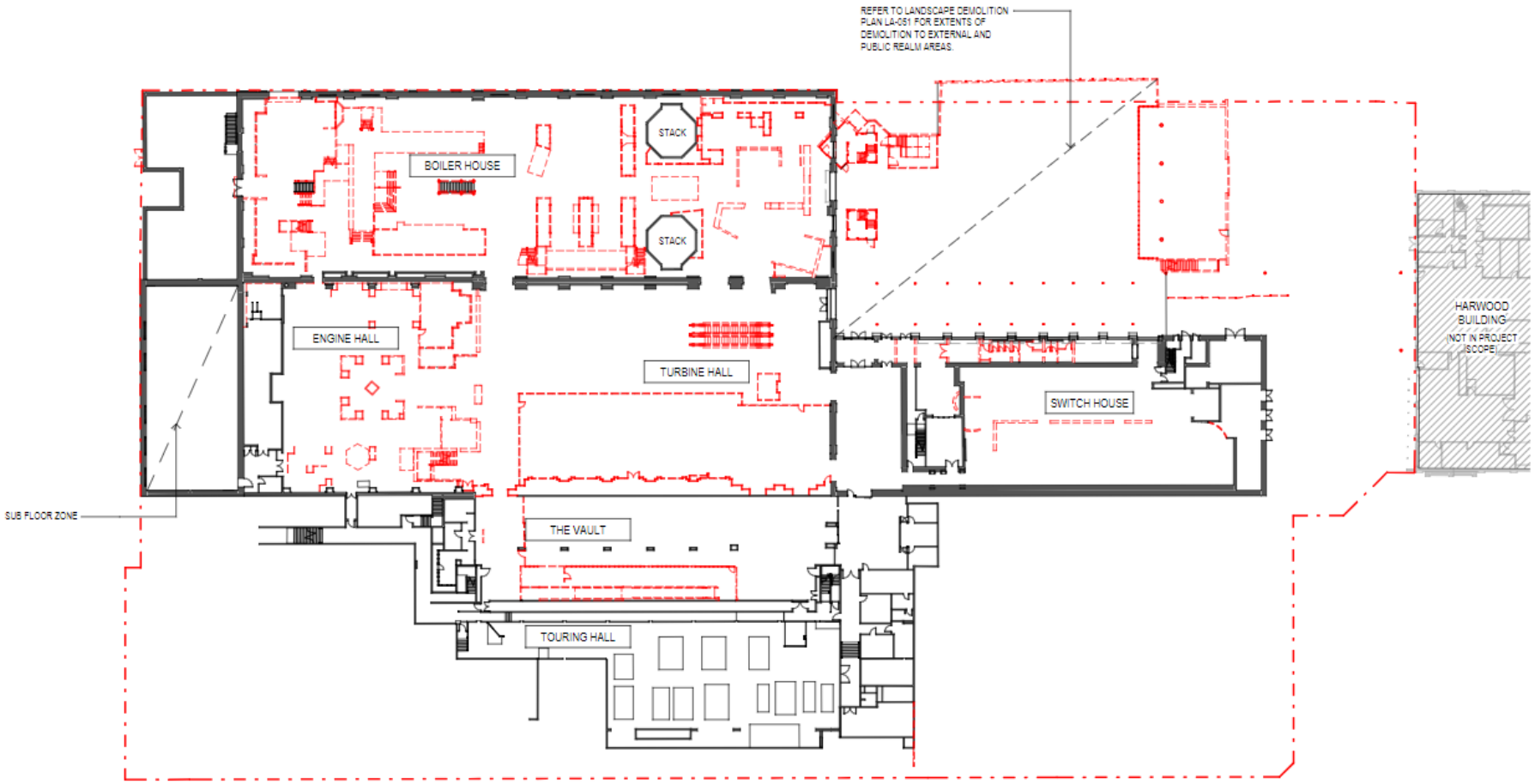


Figure 7.3: Ultimo Powerhouse- Reference Design Demolition Level L01 Plan (Source: John Wardle Architects 2022)

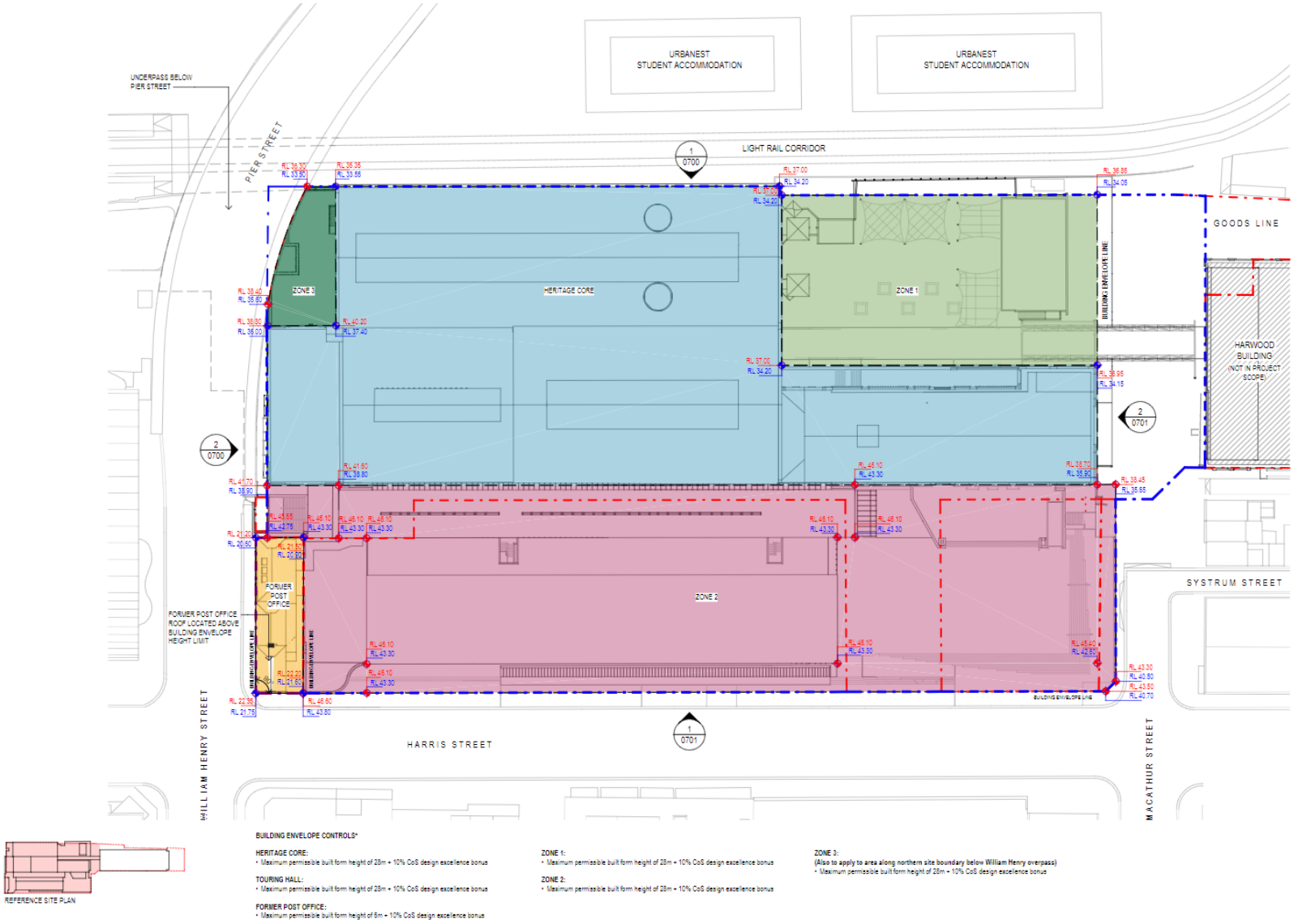


Figure 7.4: Ultimo Powerhouse- Building Envelope Plan (Source: John Wardle Architects 2022)

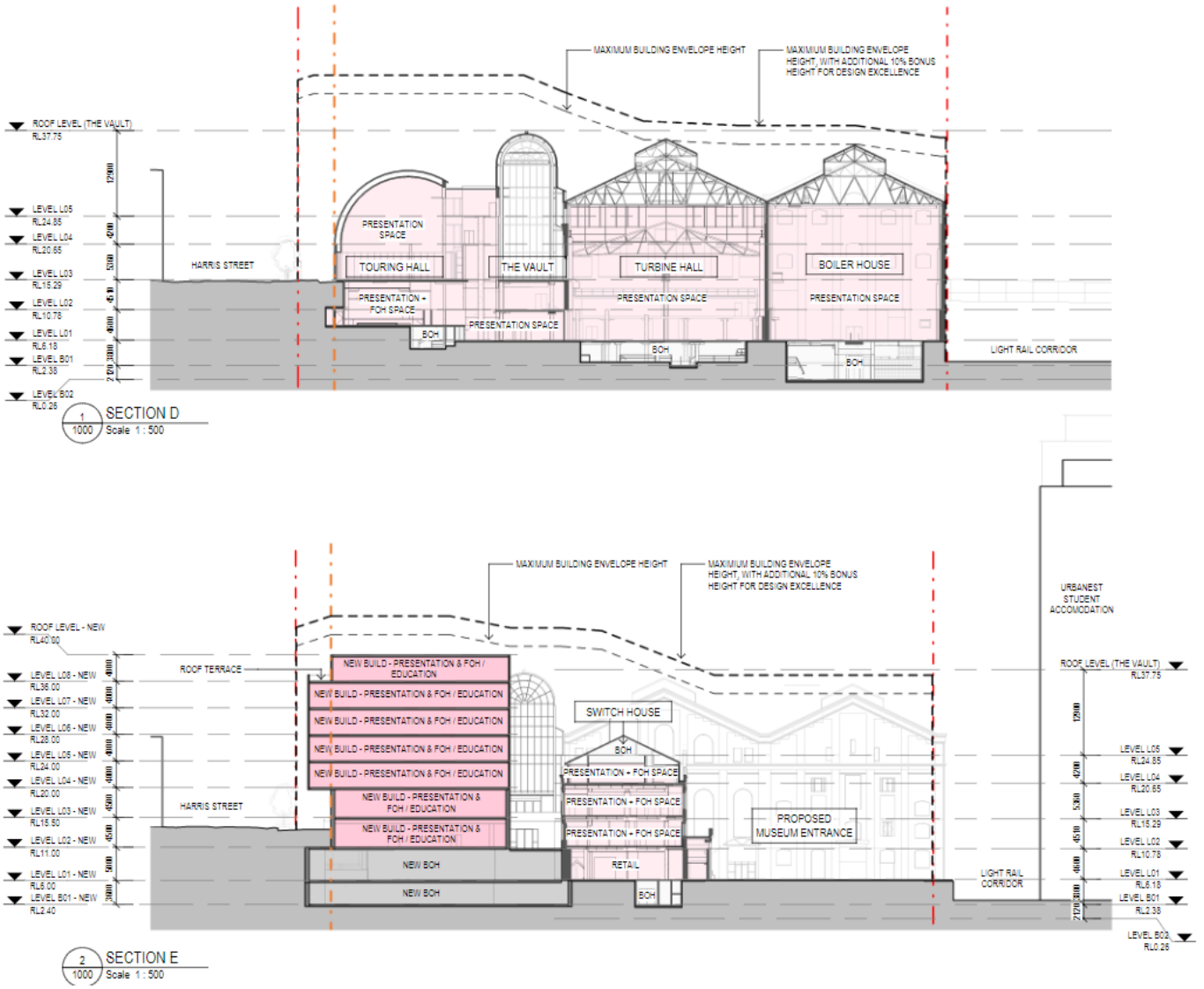


Figure 7.5:Ultimo Powerhouse- Harris St Sections 1 & 2 (Source: John Wardle Architects 2022)

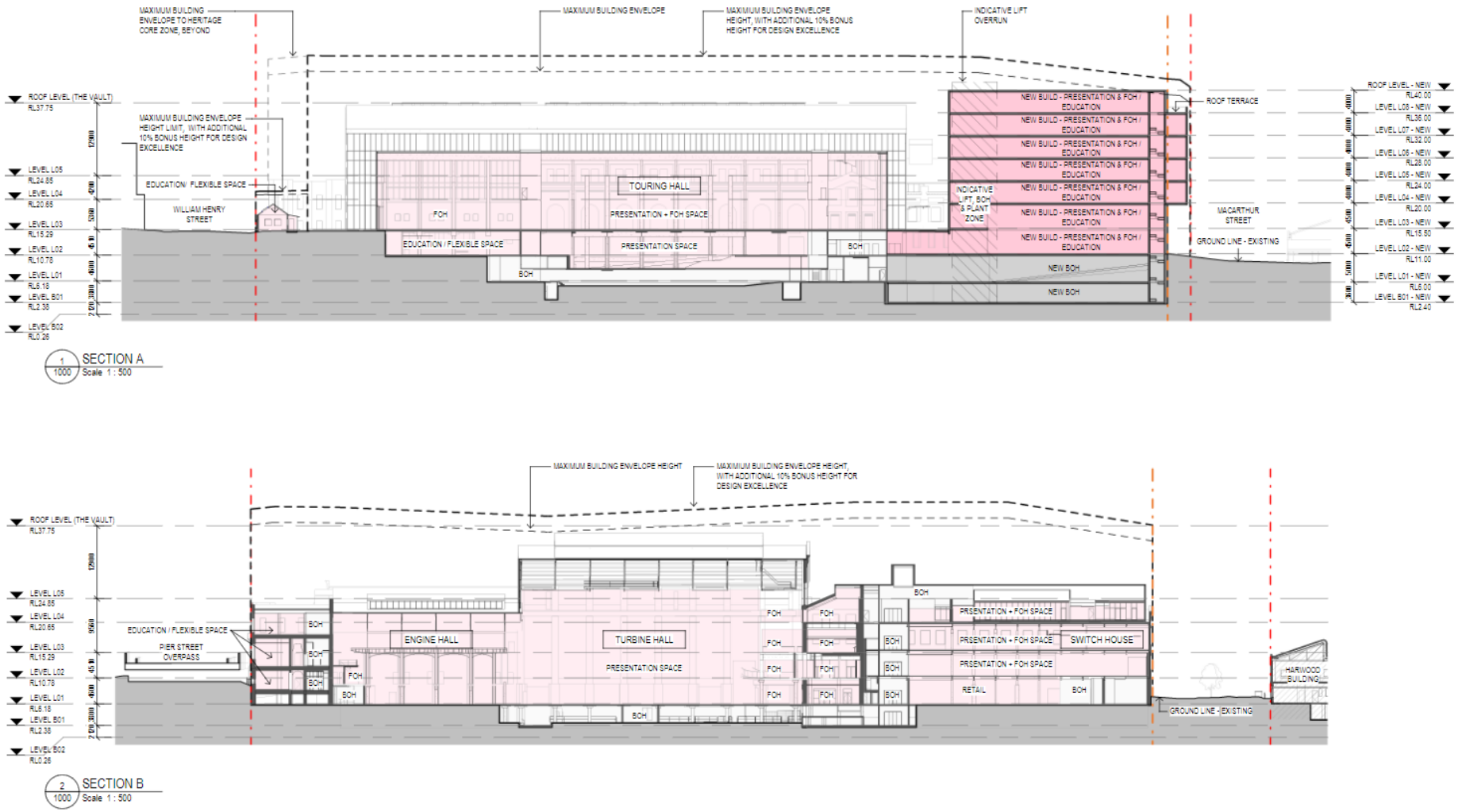


Figure 7.6: Ultimo Powerhouse- Powerhouse Sections 1 and 2 (Source: John Wardle Architects 2022)

7.2. Historical Archaeological Impact Assessment

The impacts at the date of writing this report are yet to be finalised. We are only able to assess the impacts to the extent of available information during Stage 1 of the SSDA.

The Stage 1 SSDA proposal includes, in principle, excavation works to allow for the construction of a two-level basement along Harris Street. The proposal will therefore remove the entirety of the potential historical archaeological resources (likely to be of local significance) that remains within that section of the study area (see Figure 7.9).

These potential resources, within the southwestern corner of the study area, could compromise evidence of 544-556 Harris Street (c.1870s-1922) and would include potential remains of building foundations, yard surfaces, gardens, outbuildings, artefact scatters/deposits, post holes, rubbish pits, wells, cesspits, cisterns etc (Table 7.1). An Excavation Permit under Section 140 of the NSW Heritage Act will be required to allow archaeological works to be undertaken.

The key historical activities/features with potential for associated historical archaeological resources to remain within the Powerhouse Ultimo site are further summarised in Table 7.1. Figure 7.7 provides a historical overlay outlining previous structures within the study area and Figure 7.8 provides a map of the proposed impacts to date.

Table 5.1: Summary of Key Historical Activities and Historical Archaeological Potential

Historical Phase	Description of Activity/ Historical Feature	Potential Archaeological Resources	Summary of Archaeological Potential
Phase 1 (1803-1894) Harris Estate and 19th Century Occupation	▪ Natural landscape features and Early Sandstone Quarrying and Landscape Management	▪ Evidence of early swamp landscape and reclamation such as palaeobotanical evidence (pollen etc) and soil samples ▪ Evidence of sandstone quarrying ▪ Evidence of landscape management of open space such as agricultural pits, plough marks, tree stumps, post holes for fencing, formal/informal paths, plantings, gardens, garden edging etc.	Although land reclamation around Darling Harbour was undertaken from the 1820s until the 1860s, the Harris Estate remained relative undeveloped and modified through the 1800s. There is potential for surviving evidence of reclamation of the swamp to be present and also of evidence of the underlying swamp landscape, which may have been modified prior to erection of houses, particularly along the southeastern part of the site.
	▪ Early 1840s and 1850s (undocumented) dwellings	▪ Building foundations, underfloor deposits, yard surfaces, gardens, outbuildings etc. ▪ Artefact deposits ▪ Post holes ▪ Rear rubbish pits, wells, cesspits, cisterns etc. ▪ Brick fireplace bases ▪ Palaeobotanical evidence of early land reclamation and modification works ▪ Evidence of the landscape management of open spaces such as plough marks, tree stumps, post holes from fencing, formal and informal paths, plantings, gardens and garden edging, driveway surfaces, gates etc.	Despite impacts from subsequent development, it is possible that archaeological remains of some of the earlier houses on the Harris Estate remain outside of the footprint of the Power House buildings basements.
	▪ 137 William Henry Street (c.1873-1913)	▪ Building foundations, underfloor deposits, yard surfaces, gardens, outbuildings etc. ▪ Artefact deposits ▪ Post holes ▪ Rear rubbish pits, wells, cesspits, cisterns etc.	The main house and greater part of the backyard would have been disturbed by construction of the former Tramway Instruction Room Building and then the later construction of the Wran Building. However, there is potential for some archaeology associated with the house to be extant in the empty space between the North

Historical Phase	Description of Activity/ Historical Feature	Potential Archaeological Resources	Summary of Archaeological Potential
			Annex and the Post Office, as well as beneath the Wran building foundations further to the south.
	▪ 517-523 Pyrmont Street (c.1877-1898)	▪ Building foundations, underfloor deposits, yard surfaces, gardens, outbuildings etc. ▪ Artefact deposits ▪ Post holes ▪ Rear rubbish pits, wells, cesspits, cisterns etc.	The house at 517 Pyrmont Street would have been located within the footprint of the Boiler House and Turbine Hall, and therefore it is unlikely that there will be any surviving physical evidence of this house, with construction of the basements for these extant buildings likely to have removed all evidence. The sites of these houses are located mostly within the footprint of the Level 1 cafe courtyard, while a small part of the 521 and 523 Pyrmont Street properties extending to beneath the location of the Switch House. The depth of the Switch House foundations and the presence of a basement cannot be ascertained from the plan of the Northern part of the Switch House. It is possible that some part of these properties may be extant but likely in a disturbed state. Archaeology beneath the café courtyard may be assumed to be relatively undisturbed with good integrity.
	▪ 554-556 Harris Street (c.1870s-1922)	▪ Building foundations, underfloor deposits, yard surfaces, gardens, outbuildings etc. ▪ Artefact deposits ▪ Post holes ▪ Rear rubbish pits, wells, cesspits, cisterns etc.	The two houses at 554 and 556 Harris Street would have been located approximately within the footprint of the Harris Street forecourt. An historical archaeological resource with good integrity associated with 554-556 Harris Street is likely to exist within the footprint of the Harris Street forecourt.
	▪ Sydney Tramway & Omnibus Company (STOC) (c.1871) & City Carrying Co. stables (c.1883)	▪ Stone pavers over floors ▪ Post holes demarcating stables and walls ▪ Artefact deposits	The Ultimo Tram Depot which overlies the earlier stables associated with the Sydney Tramway & Omnibus and City Carrying Companies. While there may be some disturbance from the construction of the tramlines traversing the Tram Shed southern forecourt, there is potential for physical evidence associated with the City Carrying Company Stables and the earlier houses appearing on the Trigonometric Survey map to survive.

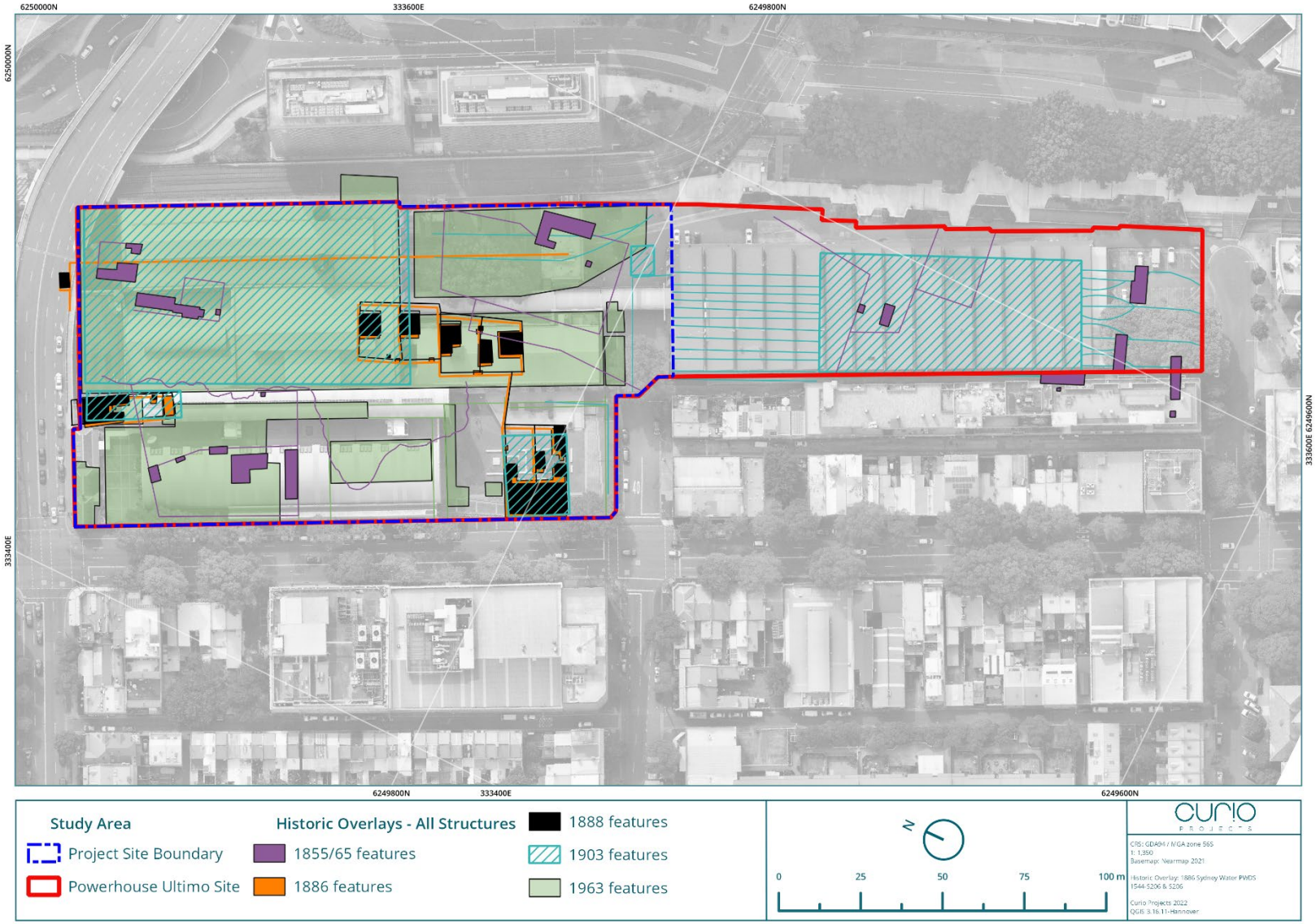


Figure 7.7: Historical Overlays- All Structures (Source: Curio Projects)

Figure 7.8:Map of Proposed Impacts (Source: Curio 2022)

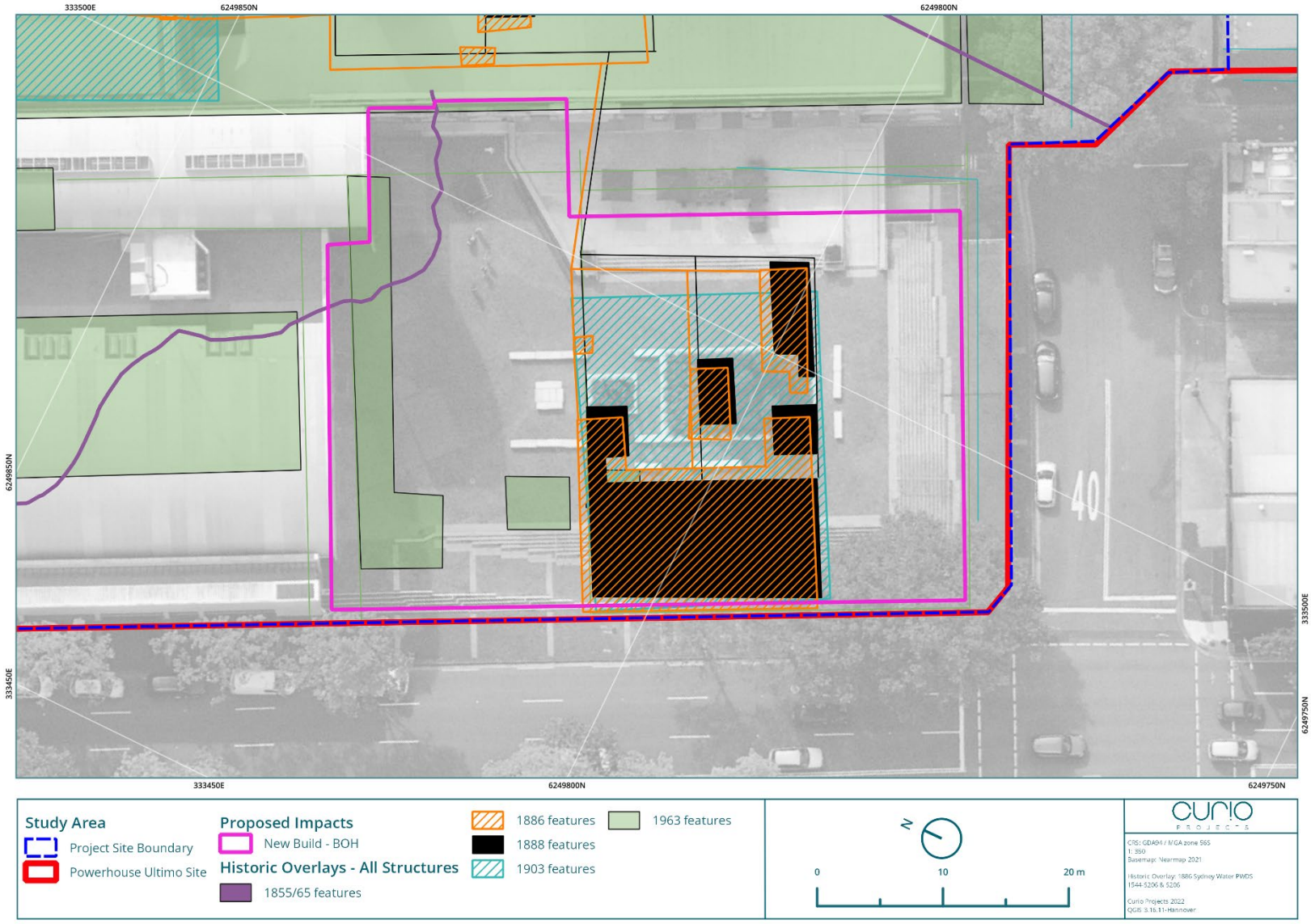


Figure 7.9: Map of proposed bulk excavation area with historical overlay (Source: Curio 2022)

7.3. Comparative Sites

The following sub-section provides a brief summary of the comparative analysis of archaeological investigations completed at sites in close vicinity to the study area, or at sites within the Pyrmont Ultimo area that may have a similar archaeological profile as that predicted for the study area. The archaeological remains outlined in these examples are likely to be representative of those that might be found on the study area.

Bullecourt Place, 287 Pyrmont Street, Ultimo, 2002[36]

GML undertook archaeological test excavations in 2002 at Bullecourt, 287 Pyrmont Street, located 150m north of the Powerhouse Ultimo study area. The site once included a number of terraces, wool stores and potentially Ultimo House garden and grazing lands.

During test excavations, Trench 2 uncovered houses at 428-436 Harris Street. Later developments had impacted a level of archaeological deposits, but overall, a large amount of the structural remains had survived despite later development impact.

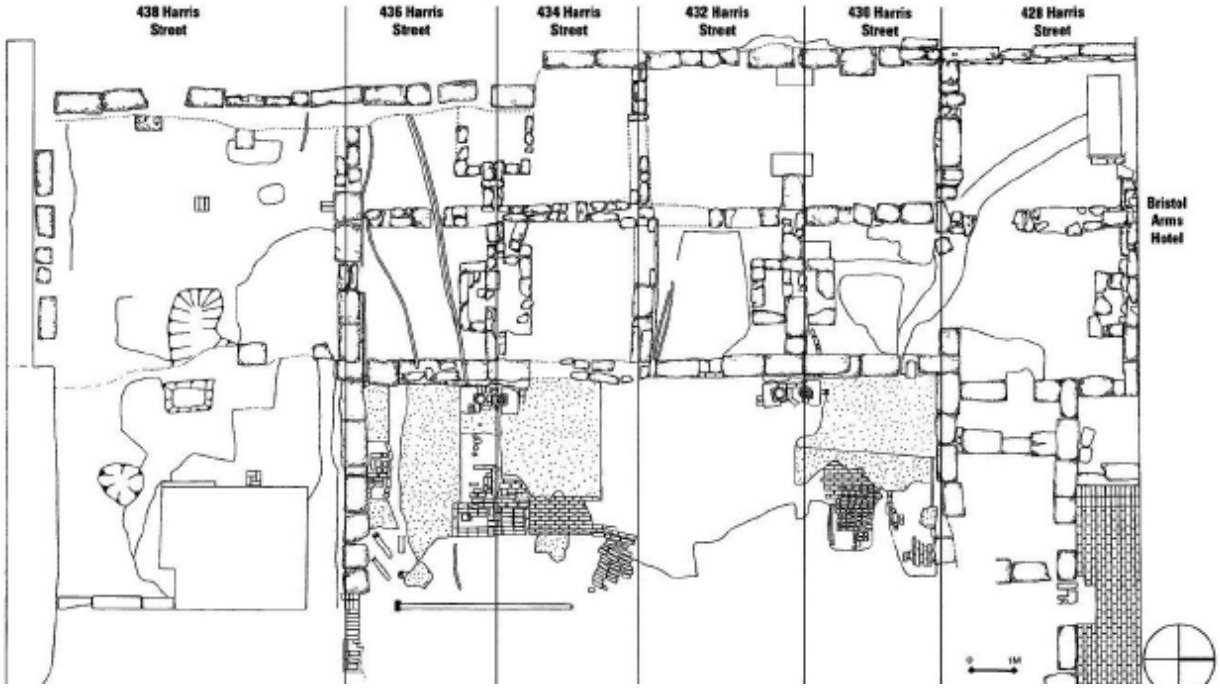


Figure 7.10: Final plan of Trench 2 including houses 428-436 Harris Street (Source: GML 2001)

24-50 Mary Ann Street, Ultimo, 1990[37]

In 1993, GML undertook archaeological excavations at 24-50 Mary Ann Street, Ultimo, located 200m west of the Powerhouse Ultimo study area. The site had previously included a section of the former Harris Estate gardens, followed by the construction of the Scrutton & Co factory in the early 1890s. Archaeological excavations uncovered structural foundations of Scrutton's factory, early forges and dock, although no structural features dating prior to 1892 were discovered. Other structures discovered on site included an area relating to 'Grove' house on the property which had been mostly

[36] Godden Mackay Logan Pty Ltd 2004, Bullecourt Place, Ultimo: Archaeological Excavation Report. Report for Australand Holdings Limited and the Heritage Council of NSW.
[37] Godden Mackay Logan Pty Ltd, 1994, 24-50 Mary Anne Street: Archaeological Excavation Report for Australian Endeavour Limited.

removed by Scrutton's factory 1909 extensions. The remaining structural evidence of Grove house suggested it was built on a sandstone foundation, with semi-plastic shale bricks.

14-28 Ultimo Road, Ultimo, 2011-2012[38]

In 2011-2012, Australian Museum Consulting undertook archaeological excavations at 14-28 Ultimo Road, where the Dr Chau Chak Wing Building of UTS is now located. The northern half of the site was used by the NSW Shale & Oil company from the 1870s to 1950s, and then as the Dairy Farmer's Depot.

Despite prior assessment that there was low archaeological potential for three 1874 terrace houses to remain within the site, the 2011-12 archaeological excavation encountered underfloor deposits and three phases of yard surfaces, the latest phase of which had been constructed after 1884 land reclamation. The excavation also uncovered substantial artefact deposits and cesspits associated with each of the three houses. Beneath the remains of the 1874 terrace row was the remains of four 1840s-1860s cottages, which had been partially destroyed by the terrace construction.

The overall depth of archaeological deposit encountered at the 14-28 Ultimo Road site was over 2m below existing street level. The archaeological resources excavated from the site was assessed as being of State significance.

Figure 7.11: Earliest phase on site with an 1840s cottage in good condition (Source: AMC 2015)

[38] Australian Museum Consulting, 2015, 14-28 Ultimo Road, Ultimo Historical Archaeological Excavation Report. Volume 1: The Main Report. Consultancy report to the University of Technology, Sydney.

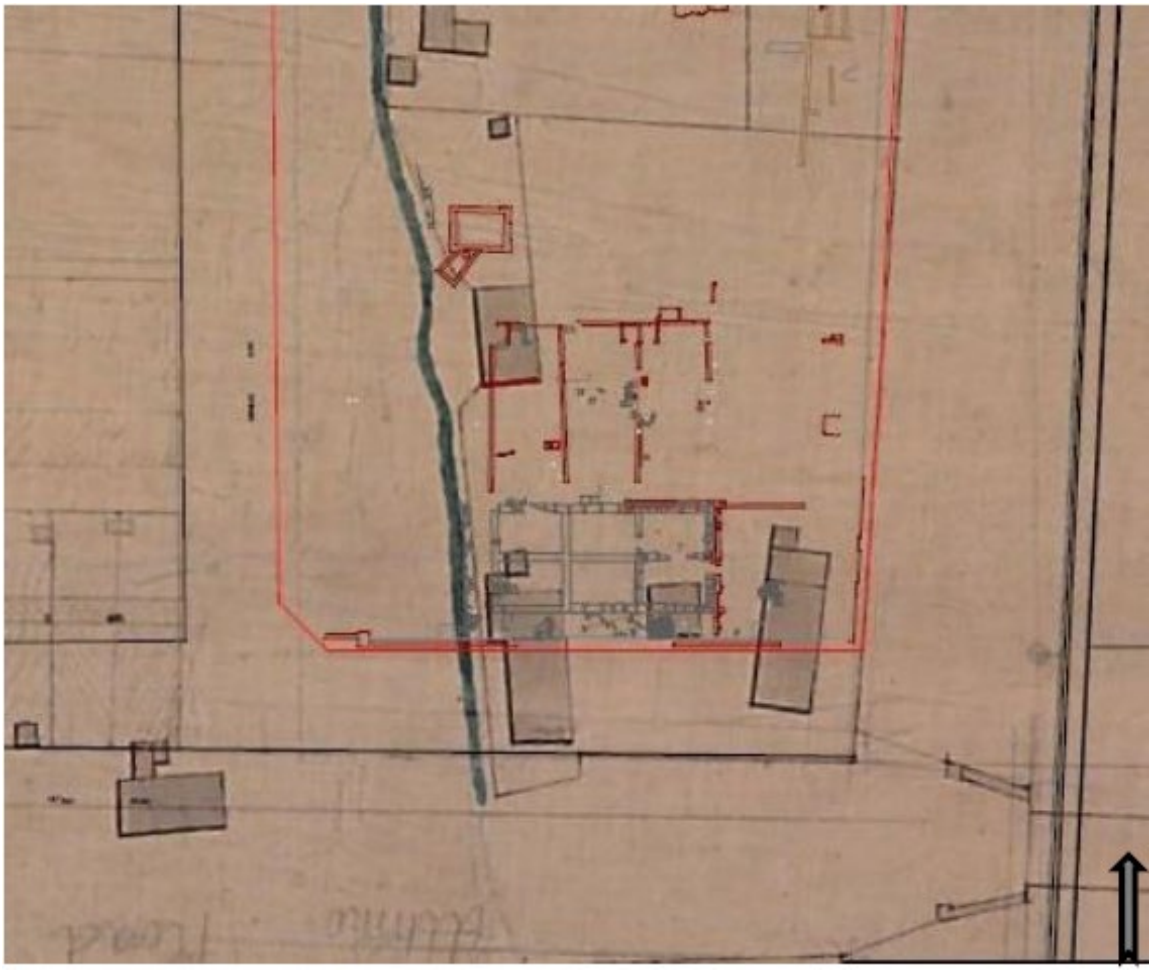


Figure 7.12: 1865 Trigonometrical Survey Plan for Block VI and structures within the 14-28 Ultimo Road study area (Source: AMC 2015)

50-72 Union Street, Pyrmont, 2003[39]

The site at 50-72 Union Street is located 1km north of the Ultimo Powerhouse study area where in 2003 had a number of archaeological excavations focusing on three terrace houses that were occupied from the 1840s and 1850s to the early 20th century. The site had been impacted by later 20th century developments, such as the Anchor Flour Mill during the 1920s. Although the site had been impacted by later developments, there was still a large amount of archaeological remains that survived and was uncovered during excavations.

The archaeological excavations discovered underfloor deposits, stone footings, fireplaces, floor and yard surfaces, basement rooms and three sets of double stone cesspits. A total amount of 3106 artefacts were uncovered during excavations at 50-72 Union Street, Pyrmont, which provided an insight into the working-class individuals and families living in Pyrmont during the late 19th and early 20th century.

[39] Casey & Lowe Pty Ltd, 2010 Archaeological Investigation: 50-72 Union Street, Pyrmont, Report to Charter Hall Holdings.

CSR Site (Jacksons Landing), Bowman Street, Pyrmont, 1996[40]

In 1996, Casey & Lowe began test excavations at the former CSR site in Pyrmont, which is now known as Jackson's Landing, located 1.4km north west of the Ultimo Powerhouse study area.

In Casey & Lowe's 1996 Archaeological Assessment of the site, archaeological potential was identified in multiple areas. Five areas across structural remains dating back to 1859 were excavated across the site, three of which uncovered extensive archaeological remains such as houses, footpaths, roadways, and occupation deposits.

Figure 7.13: North eastern view of House 21 and House 15 from Jones Lane (Source: Casey & Lowe 2000)

Paddy's Markets, 9-13 Hay Street, Haymarket, 1990[41]

GML undertook archaeological excavations in 1990 at the Paddy's Markets site, located 200m east of the study area, which was believed to have been occupied by City Market buildings in 1909-1910 and potentially disturbed archaeological remains.

The archaeological excavations revealed brick and sandstone residential and industrial structural remains, some associated with the Victoria Steam Mill. Occupation deposits and structural remains were discovered which were related to a two-story sandstock brick house at 16 Engine Street dating back to the 1840s and 1850s. Archaeological remains were also discovered associated with the late 19th century industrial centre on site which included a mill, brewery, engineering works and other factories.

[40] Casey & Lowe, 2000, Archaeological Investigation CSR Sit, Pyrmont (Jackson's Landing) Volume 1: Description, Analysis and Interpretation. Report to Lend Lease Development

[41] Godden Mackay Logan Pty Ltd, 1993. Market City Development Paddy's Market: Archaeological Excavation Volume 2: Main Report. Report for Rockvale Pty Ltd.

7.3.1. Discussion of Previous Archaeological Investigations

Previous archaeological investigations, such as those described above on largely domestic sites, demonstrate that intact historical archaeological resources have been found at nearby sites of similar historical periods. This suggests that there is some potential for a similar range of historical archaeological remains to be present within the Powerhouse Ultimo site.

At comparable industrial sites, such as the former Honeysuckle Railway Yards in Newcastle and the former Eveleigh Railway Workshops (former ATP, now South Eveleigh) in Eveleigh, archaeological investigations have revealed substantial remains that still exist below the ground. Such resources either have a direct association with the workings of the site itself (sub-surface infrastructure) or if they date from historic occupation prior to the industrial works still have the potential to survive surprisingly intact.

Intact historical archaeological deposits, resources, relics, and features have constantly been encountered beneath existing development layers of historical fill across the entire Sydney area, including areas of Ultimo and Pyrmont. The neighbouring site at Bullecourt Place, when excavated in May -June 2002, revealed an intact historical archaeological resource present beneath existing modern development, as have numerous other nearby sites in and around Darling Harbour.

The past archaeological work in this area of Sydney, and elsewhere, has demonstrated that historical archaeological resources from previous phases of historical use and occupation may have potential to remain within the study area and may be represented by material detailed in Table 7.1.

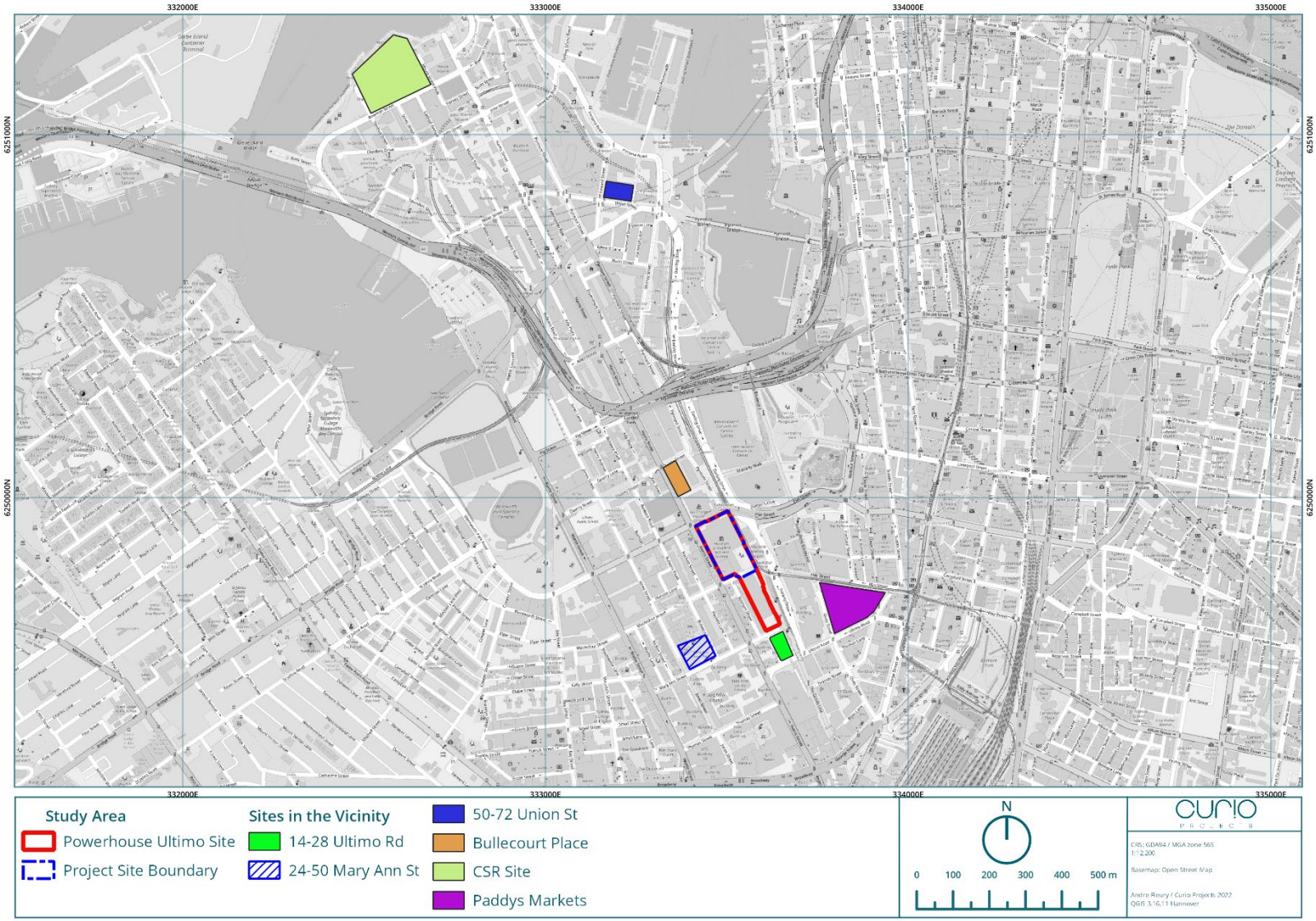


Figure 7.14: Archaeological Sites in the Vicinity of the study area (Source: Curio Projects)

8. Conclusions and Recommendations

curio
PROJECTS

8. Conclusions and Recommendations

8.1. Conclusions

The Historical Archaeological Assessment for the study area at the Powerhouse Ultimo site, concludes that:

- The study area is located within John Harris's fifth land grant of 125 acres received in 1806
- Several early 1840s and 1850s dwellings were located across the study area and later demolished by the 1860s.
- Residential buildings constructed in the 1870s included 137 William Henry Street, 517-523 Pyrmont Street and 554-556 Harris Street which were later demolished by the early 20th century.
- In the eastern half of the study area, Ultimo Power House was constructed in 1898 and continued to be in use until the 1960s as was the largest and most important electricity generating station in the State.
- The study area retains potential for historical archaeological resources associated with Phase 1 and 2 of historical occupation and use to be present in a sub-surface capacity, particularly in the south east and south western corners of the study area.
- Archaeological remains associated with the first phase of historical occupation will likely have been subject to high levels of disturbance in areas across the Power House footprint and basement levels, however this disturbance is unlikely to have removed all historical archaeological deposits and relics across the study area.
- In this assessment Curio have only been able to assess the impacts to a relatively general level based on the information currently available.
- The potential archaeological deposit within the study area would be of local and therefore meet the criteria for classification as archaeological 'relics' as defined and protected by the NSW Heritage Act.
- The proposed development works across the site require bulk excavations below the ground surface in the south western corner of the study area in order to accommodate a new two-level basement, and therefore will destroy the entirety of any potential archaeological resource that survives in a sub-surface capacity within the study area.
- The Water Cooling System and Manifold is an historically important operating element association with the day to day operations of the former Ultimo Powerhouse and requires in situ retention, conservation and protection throughout any development process.

Overall, there is moderate to high potential for an archaeological resource of local significance to be present within the Powerhouse Ultimo site, particularly in areas that have not previously been impacted via the construction of basements for the Ultimo Power House construction in the early 20th century.

8.2. Recommendations

The Powerhouse Ultimo Renewal project is currently at Concept Plan stage only, that is, the SSDA does not seek approval for commencement of physical works at the site. However, the location of

the new built form including a basement on Harris Street is located within an area of historical archaeological potential that will require historical archaeological investigation.

The following recommendations are made with respect to mitigation measures and strategies for historical archaeology for the Powerhouse Ultimo Renewal project:

- Once further impacts for the Stage 2 SSDA are identified and their design finalised then reassessment of these impacts should take place prior to works commencing.
- Historical archaeological investigation of the study area will be required prior to commencement of development works.
- An Archaeological Research Design and Excavation Methodology (ARD + EM) should be developed to guide the approach and methodology for archaeological investigation;
- An Excavation Permit under Section 140 of the NSW Heritage Act will be required to allow archaeological works to be undertaken.[42] Submission of a s140 permit application to Heritage NSW should be accompanied by a copy of this report and the ARD + EM as supporting documents.

It is noted that once SSD consent has been granted, the requirement for permits under the Heritage Act will no longer apply for the site. However, it is important to note that issue of SEARs for SSD projects is not sufficient to switch off the provisions of the Heritage Act for projects, and as such, any early works/investigation activities etc at the site prior to SSD approval, will still require the relevant permits under the Heritage Act.

Curio recommends that historical archaeological investigations be undertaken as early as possible through the planning process, to allow time for the archaeological resource to be properly investigated and managed, as well as to avoid potential time and development delays at a later stage.

[42] Section 60 permit (within the curtilage of SHR listing), or a Section 140 Excavation Permit for areas outside of SHR curtilage

9. References

curio
PROJECTS

9. References

Reports

AMBS Ecology & Heritage, 2018. *Historical Archaeological Assessment*, prepared for Tanner Kibble Denton Architects.

Australian Museum Consulting, 2015, 14-28 Ultimo Road, Ultimo Historical Archaeological Excavation Report. Volume 1: The Main Report. Consultancy report to the University of Technology, Sydney.

Bickford, A. and Sullivan, S., 1984, 'Assessing the Research Significance of Historic Sites', in Sullivan and Bowdler (eds), *Site Surveys and Significance Assessment in Australian Archaeology* (Proceedings of the 1981 Springwood Conference on Australian Prehistory); Department of Prehistory, Research School of Pacific Studies, The Australian National University, Canberra, pp. 23-24.

Casey & Lowe, 2000, Archaeological Investigation CSR Sit, Pyrmont (Jackson's Landing) Volume 1: Description, Analysis and Interpretation. Report to Lend Lease Development

Casey & Lowe Pty Ltd, 2010 Archaeological Investigation: 50-72 Union Street, Pyrmont, Report to Charter Hall Holdings.

City of Sydney, *Development Control Plan*, 2012, accessible via < https://www.cityofsydney.nsw.gov.au/development-control-plans/sydney-dcp-2012>

City Of Sydney, *Local Environmental Plan*, 2012, accessible via < https://www.cityofsydney.nsw.gov.au/local-environmental-plans/sydney-lep-2012>

Douglas Partners, 2022 Geotechnical Investigation, Ultimo Creative Industries Precinct. Prepared for Create NSW, Department of Premier and Cabinet

Fitzgerald, S. & Golder, H., *Pyrmont & Ultimo Under Siege*, Hale & Iremonger, 1994.

Godden Mackay Logan Pty Ltd, 1993. Market City Development Paddy's Market: Archaeological Excavation Volume 2: Main Report. Report for Rockvale Pty Ltd.

Godden Mackay Logan Pty Ltd 2004, Bullecourt Place, Ultimo: Archaeological Excavation Report. Report for Australand Holdings Limited and the Heritage Council of NSW.

Godden Mackay Logan Pty Ltd, 1994, 24-50 Mary Anne Street: Archaeological Excavation Report for Australian Endeavour Limited.

Godden D, E Higginbotham, E Pinder, J Whittaker, R Young, *The History and Technology of the Ultimo Power House Sydney*. A report for the Government Architects Branch, Public Works Department of New South Wales, 1984.

Heritage NSW 'Historical Archaeology' https://www.heritage.nsw.gov.au/about-our-heritage/historic-archaeology/#:~:text=As%20well%20as%20listing%20on,apply%20for%20an%20excavation%20permit.

John Wardle Architects, 2022. Powerhouse Ultimo Renewal Drawings. Prepared for Create NSW

NSW Department of Public Works, *Report of the Department of Public Works for the Year ended 30th June 1897*, 1898, pp. 26-27.

Powerhouse Museum, *Annual Report 2002-2003*, Powerhouse Museum, 2003.

The Institution of Engineers Australia, *Nomination of Ultimo Power House as a site for an Historic Engineering Marker*, Nov. 1994.

Websites

City of Sydney Archives, *Assessment Books* (website), accessed December 2020, <http://photosau.com.au/CoSRates/scripts/home.asp>

City of Sydney Archives, *Development Application Search* (website), accessed December 2020, <https://online2.cityofsydney.nsw.gov.au/DA>

City of Sydney Archives, *Historical Atlas* (website), accessed December 2020, <https://archives.cityofsydney.nsw.gov.au/pages/historicalatlas>

City of Sydney, *History of Sydney Streets*, excel document, accessed December 2020 < https://www.cityofsydney.nsw.gov.au/history/history-sydney-streets>

City of Sydney Archives, *Sands Postal Directory* (website), accessed December 2020, <https://archives.cityofsydney.nsw.gov.au/nodes/view/495003>

National Trust, *Powerhouse Museum* (webpage), accessed January 2021, https://www.nationaltrust.org.au/initiatives/powerhouse-museum-2/

NSW Land Registry Services, *Historical Land Records Viewer* (website), accessed December 2020 < https://hlrv.nswlrs.com.au/>

Pyrmont History Group, *First People* (website), accessed January 2021, <https://pyrmonthistory.net.au/first-people>

Six Maps (website), accessed December 2020 < https://maps.six.nsw.gov.au/>

State Heritage Inventory, *Casula Powerhouse (Former Power Station), accessed May 2021, https://apps.environment.nsw.gov.au/dpcheritageapp/ViewHeritageItemDetails.aspx?ID=1970086*

State Heritage Inventory, NSW Office of Environment & Heritage, *Darling Harbour Rail Corridor* , accessed January 2021, < https://apps.environment.nsw.gov.au/dpcheritageapp/ViewHeritageItemDetails.aspx?ID=4500465>

State Heritage Inventory, NSW Office of Environment & Heritage, *Former Pyrmont Power Station Administrative Building (42 Pyrmont Street) including interiors*, accessed May 2021, < https://apps.environment.nsw.gov.au/dpcheritageapp/ViewHeritageItemDetails.aspx?ID=2424483>

State Heritage Inventory, NSW Office of Environment & Heritage, *Former Ultimo Post Office Including Interior* (Local), accessed December 2020 <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2424431>

State Heritage Inventory, NSW Office of Environment & Heritage, *Powerhouse Museum Former Warehouse Buildings, including interiors* (Local), accessed December 2020, <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=2424493>

State Heritage Inventory, NSW Office of Environment & Heritage, *Sewerage Pumping Station 1* (State), accessed February 2021, < https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5051436>

State Heritage Inventory, NSW Office of Environment & Heritage, *Ultimo Post Office* (State), accessed December 2020, < https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5045092>

State Heritage Inventory, NSW Office of Environment & Heritage, *Ultimo Power House* (State), accessed December 2020, < https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5055576>

State Heritage Inventory, NSW Office of Environment & Heritage, *Ultimo Road Railway Underbridge* (State), accessed February 2021, < https://apps.environment.nsw.gov.au/dpcheritageapp/ViewHeritageItemDetails.aspx?ID=5012250>

State Heritage Inventory, NSW Office of Environment & Heritage, *Water Cooling System and Manifold*, accessed December 2020, < https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=4500471>

Appendix A—Visual Timeline of Key Events

curio PROJECTS

curio
PROJECTS

5 Blackfriars Street, Chippendale NSW 2008 | 02 8014 9800 | curioprojects.com.au