

Western Distributor Network Improvements

Non-Aboriginal Statement of
Heritage Impact

Transport for NSW

2022-08-05

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Executive summary

Aurecon has been commissioned by Transport for NSW (TfNSW) to prepare a statement of Non-Aboriginal heritage impact and archaeological assessment (SOHI) for the Western Distributor Network Improvements (WDNI). This report informs the Review of Environmental Factors (REF) for the project. It assesses the likely impacts of the project on non-Aboriginal heritage and provides a targeted historical archaeological assessment.

Transport for NSW (Transport) proposes network improvement works on the Western Distributor over Darling Harbour, Anzac Bridge, and Pyrmont intersections, Pyrmont (the proposal). These improvements are required to modernise the network and make it easier for the growing number of road users to move safely through the network.

In summary the proposal would include:

- Three new gantries with variable speed signage to be installed on Anzac Bridge and its western approach to facilitate traffic management. All gantries will span the full width of the corridor. The new or modified gantries include:
 - Two new gantries close to the midspan between the A-frames of Anzac Bridge to safely manage traffic movements across the crest of the bridge
 - New gantry on the western approach
- Modifications to Harris Street and Allen Street intersection to better manage exit-ramp congestion and traffic flow through Pyrmont. This includes:
 - Conversion of Allen Street eastbound to Harris Street from two to three lanes
 - Removal of parking on Allen Street westbound and Harris Street northbound
 - Removal of existing pedestrian crossing on the southern leg of Harris Street.
- Modifications to Pyrmont Bridge Road off-ramp to increase storage capacity and introduce new incident response vehicle bay. This includes:
 - Modifying the Pyrmont Bridge Road off-ramp from one to two lanes
 - Closing the u-turn movement from the off ramp onto Bank Street (off-ramp would be left turn only onto Pyrmont Bridge Road north). Access onto Bank Street restricted to emergency vehicles only. This would be delivered after the existing Sydney Fish Market ceases operations at its current location.
 - Pedestrian crossing at the base of the Pyrmont Bridge Road off-ramp would change to a signalised intersection.
- Refurbishment of ANZAC digger memorial sculptures and enhanced visitor amenity providing respectful opportunities for people to remember and commemorate our service men and women and encouraging people to learn about Australian and NSW military history.
- Installation of the Darling Harbour weave ramp; a new elevated on-ramp structure from the intersection of Harris Street and Fig Street to the Western Distributor viaduct over Darling Harbour. The ramp would split off from the existing on-ramp and provide an alternate on-ramp to the Western Distributor viaduct to join a fourth travel lane and avoid the need for traffic to merge across multiple lanes. This includes around 6 new piers, 4 modified piers and a new abutment
- Utility adjustments throughout the proposal area.

These improvements would improve the safety and road user experience on the motorway and exit ramps to futureproof the Western Distributor and Anzac Bridge as a safe, reliable and accessible motorway connection, supporting broader network resilience in line with Sydney's future growth.

Built heritage and landscape – summary of findings

This report has identified the following heritage items would be impacted by the project:

- one State (SHR) listed heritage item (Glebe Island Bridge)
- one item listed on a State Agency Section 170 (S170) Register (the Anzac Bridge)
- one non-statutory item of heritage significance included on the NSW National Trust register: the complex comprising the former Elder Smith Goldsbrough Mort Woolstore and the Pitt Son & Badgery Woolstore at 320-384 Harris Street Pyrmont (hereafter referred to as the Goldsbrough Woolstore)

No items listed on the National Heritage List (NHL) or Commonwealth Heritage List (CHL) would be impacted by the proposal. One item in Pyrmont, the former Pyrmont Post Office at 148 Harris Street, is listed on the CHL (Place ID: 105510) but the building will not be impacted by the proposal.

The proposal area is in the broader vicinity of a number of local heritage items and one local heritage conservation area (HCA) located on the Pyrmont Peninsula, Pyrmont HCA. Works adjacent to local heritage items and Pyrmont HCA comprise intersection modification works which would result in a low/minimal potential to impact local heritage however overall this HCA is subject to the cumulative impacts on character and local connectivity.

The SHR item directly impacted by the proposal is as follows:

- Glebe Island Bridge, through the establishment of a temporary construction compound on the site for the duration of the works; and

The proposal would also directly affect the Anzac Bridge. Though not formally listed on the NSW SHR, the Anzac Bridge is included on the Roads and Maritime Services (RMS) S170 Register. The S170 Register is a record of RMS (now TfNSW) assets that hold local and State-level heritage significance.

The Anzac Bridge is a significant achievement in Australian engineering and in the history of roads and transport in NSW. The Anzac Bridge is recognised as being of State significance as ‘a world standard bridge in scale, aesthetics and design features’ (State Heritage Inventory, 2004). The Anzac Bridge was formally assessed in a study commissioned by RMS titled *Study of Heritage Significance of a Group of RTA Controlled Bridges & Ferries*, undertaken by Sue Rosen & Associates in 2004.

Section 6 of this report provides a detailed assessment and discussion of non-Aboriginal heritage impacts. Impact levels, including cumulative and construction phase impacts are summarised in the following table.

Table I

Heritage Item /issue	Proposal	Summary of impacts
Anzac Bridge Roads and Maritime S170 Register SHI #4305018	<p>Installation of new gantries along the Anzac Bridge and Western Distributor corridor and associated signage and conduits.</p> <p>Conservation of the ANZAC Memorial Sculptures .</p>	<p>Moderate adverse impacts on the Anzac Bridge via the installation of new gantries. The gantries to be installed will detract from the original design qualities and aesthetic integrity of the structure.</p> <p>Moderate adverse impacts will not downgrade the State-level significance of the Anzac Bridge nor will these impacts prevent a future nomination of the bridge to the SHR.</p> <p>Positive impacts will occur from proposed conservation works to the memorial sculptures.</p>
Glebe Island Bridge SHR #01914	<p>Establishment of a temporary construction compound on Bank Street on the eastern abutment of the old Glebe Island Bridge.</p>	<p>Minor adverse impacts (temporary and fully reversible) as a result of the temporary construction compound. No physical change to heritage fabric and no earthworks.</p> <p>No ongoing or permanent heritage impacts.</p> <p>(Fig trees are not within SHR curtilage)</p>
Pymont and Glebe Railway Tunnels SHR #01225 Pymont Railway Cuttings, Tunnel & Weighbridge S170 #4801122	<p>Adjustment of 20 m of stormwater utilities and associated tasks with the intersection upgrade above the rail cutting along Pymont Bridge Road intersection.</p> <p>Intersection and utility upgrades at Bank Street and Miller Street intersection</p>	<p>Neutral indirect impacts to the setting and curtilage of the rail corridor. No ongoing or permanent heritage impacts.</p>
Goldsbrough Woolstore State significance National Trust (NSW) Register Item IDs: 9276 and 7396	<p>Construction of the weave ramp, including new piers and utility adjustments in the immediate vicinity of the Goldsbrough Woolstore complex at Goldsbrough Curve (near Fig Street and Pymont Street).</p>	<p>Indirect setting impacts to the Goldsbrough Woolstore complex on the south western side of the building. Minor adverse impact on the setting of the building to the south as a result of indirect changes to the visual setting, and potential construction vibration.</p>
Pymont Local Conservation Area Sydney LEP 2012	<p>Pymont Bridge Road intersection and Allen Street and Harris Street intersection upgrades.</p>	<p>Works do not directly interface with key elements of the HCA i.e. the street pattern, historic subdivisions, street plantings, and are unlikely to have any adverse impacts.</p>

Cumulative Impacts

The proposal would result in a minor additional impact on the character and connectivity of Pymont and Ultimo. The proposal would add to the impacts which resulted from the construction of the Western Distributor/Glebe Island Arterial freeway viaducts throughout the 1980s. The works associated with intersection upgrades and a new weave ramp off the Western Distributor, in areas adjacent to local streets, local HCAs and local heritage items will result in a cumulative impact on the heritage values extant in these areas.

The proposal occurs in the context of other redevelopments and changes forecast to occur in the area. These include the Bays precinct redevelopment (Sydney Fish Markets), Rozelle Interchange and the long-term precinct goals outlined in the Pyrmont Place Strategy (DPPS).

Archaeological assessment – summary of findings

Section 7 of this report provides a targeted archaeological assessment for the proposal. The findings are summarised in the table below. Structural works requiring excavation at depth will occur within the highly disturbed corridor of the Glebe Island Arterial/new Glebe Island Bridge and the Western Distributor viaduct.

Table II

Area	Findings
Bank Street/Fish Markets	<ul style="list-style-type: none"> ■ A localised portion of the project boundary, directly to the south of Bank Street and Jones Street, has low potential to contain archaeological evidence of earlier industrial and wharf structures. ■ The area near the site of the present-day Fish Markets has moderate to high potential for historical archaeology however does not directly interface with the proposal. ■ Any remains, depending on their nature and extent, may hold local significance however are unlikely to yield substantial additional information on the history and development of the area given buildings and structures are already documented. ■ Unexpected finds, depending on their nature and extent may hold some significance. Unexpected finds protocols should be followed.
Pyrmont Bridge Road intersection and Allen Street	<ul style="list-style-type: none"> ■ The area around the Pyrmont Bridge Road intersection is heavily disturbed and is considered an area of low/no archaeological potential. Demolition, site clearance, construction and operation of the Glebe Island Arterial (Western Distributor viaducts and Anzac Bridge) is likely to have removed evidence of prior uses and occupations. ■ Unexpected finds, depending on their nature and extent may hold some significance. Unexpected finds protocols are to be followed.
Goldsbrough Curve /Darling Harbour	<ul style="list-style-type: none"> ■ The area around the Goldsbrough Curve and Goldsbrough Store is heavily disturbed and is considered an area of low/no archaeological potential. ■ Unexpected finds, depending on their nature and extent may hold some significance. Unexpected finds protocols are to be followed.

Recommendations and mitigation

Recommendations regarding heritage mitigation measures and management of potential impacts are provided in Section 9 and are summarised below:

- Develop a Non-Aboriginal Heritage Management Strategy for the proposal, providing specific guidance and confirmation of the management measures implemented to avoid, reduce or minimise impacts to non-Aboriginal heritage
- Ensure ongoing consultation with the relevant non-Aboriginal heritage stakeholders including Heritage NSW, Returned Servicemans League (RSL) and where relevant, the City of Sydney Council
- Consider updating or refreshing and integrating the interpretive signage for the Anzac Bridge into relevant interpretation networks. Alternatively, provide further interpretation or information on the heritage significance of the bridge via a digital platform or other innovative medium
- Undertake a digital photographic archival recording of the Anzac Bridge before and after the installation of the gantries and update TfNSW records associated with the Section 170 listing for the bridge

- As much as possible, mitigate through design the impacts of installing new gantries along the Anzac Bridge. The gantries should be designed to complement and insofar as possible blend with the high quality design and modern, minimalist detailing of the Anzac Bridge
- Safeguard the old Glebe Island Bridge throughout the entire duration of its use as a temporary construction compound (Bank Street compound). Restrict the compound to the site area east of the bridge gates and return the site to its former condition at the conclusion of the construction works
- Protect the physical fabric and visual setting of the Goldsbrough Store throughout the construction of the proposal by ensuring the building is fenced off and appropriately signed as a heritage item to be avoided.
- In areas where excavation and ground disturbance is occurring, implement the TfNSW Unexpected Finds protocol, *Unexpected Heritage Finds Guideline v.3.2, 2020*
- As part of the Non-Aboriginal Heritage Management Strategy undertake site inductions and conduct heritage awareness training.
- Undertake vibration monitoring and pre construction condition surveys to protect and monitor impacts to heritage items throughout the works. In particular, monitor potential vibration impacts to the Anzac Bridge, the Glebe Island Bridge, the Goldsbrough Store and the Pyrmont and Glebe Railway Tunnels. Details of monitoring and findings of condition surveys should be captured in the non-Aboriginal Heritage Management Strategy
- If the detailed design deviates significantly outside the assessed proposal area, further assessment of heritage impacts would be required.

Heritage approvals requirements

The following heritage approvals are required for the project:

- Establishment of a temporary construction compound (Construction Compound 1) within the curtilage of SHR #01914 Glebe Island Bridge is consistent with existing site usage and is below the threshold for requiring heritage approval.
- Prepare and lodge an excavation permit (Section 139(4) Exception) under the requirements of the *Heritage Act 1977* for any ground penetrating works within the project footprint. Multiple permits may be required to separate early works (such as survey and geotechnical investigations) from the later main construction works
- Consultation with local Council is not required under Transport and Infrastructure SEPP (formerly ISEPP Clause 14) because impacts to local heritage items are not 'more than minor or inconsequential'.

NB: The findings of this SOHI have been supplemented with consultation undertaken between TfNSW and Heritage NSW. Outcomes of consultation are provided at 2.4.2.

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1 Introduction

1.1 Proposal overview

Transport for NSW (TfNSW) propose to make improvements along the Anzac Bridge and Western Distributor road corridor. These improvements are required to modernise the network and make it easier for the growing number of road users to move safely through the network.

Key features of the proposal are detailed in Section 3 of this report and the main Review of Environmental Factors (REF). In summary, the proposal would include:

- Three new gantries with variable speed signage to be installed on Anzac Bridge and its western approach to facilitate traffic management. All gantries will span the full width of the corridor. The new or modified gantries include:
 - Two new gantries close to the midspan between the A-frames of Anzac Bridge to safely manage traffic movements across the crest of the bridge
 - New gantry on the western approach
- Modifications to Harris Street and Allen Street intersection to better manage exit-ramp congestion and traffic flow through Pyrmont. This includes:
 - Conversion of Allen Street eastbound to Harris Street from two to three lanes
 - Removal of parking on Allen Street westbound and Harris Street northbound
 - Removal of existing pedestrian crossing on the southern leg of Harris Street.
- Modifications to Pyrmont Bridge Road off-ramp to increase storage capacity and introduce new incident response vehicle bay. This includes:
 - Modifying the Pyrmont Bridge Road off-ramp from one to two lanes
 - Closing the u-turn movement from the off ramp onto Bank Street (off-ramp would be left turn only onto Pyrmont Bridge Road north). Access onto Bank Street restricted to emergency vehicles only. This would be delivered after the existing Sydney Fish Market ceases operations at its current location.
 - Pedestrian crossing at the base of the Pyrmont Bridge Road off-ramp would change to a signalised intersection.
- Refurbishment of ANZAC digger memorial sculptures and enhanced visitor amenity providing respectful opportunities for people to remember and commemorate our service men and women and encouraging people to learn about Australian and NSW military history.
- Installation of the Darling Harbour weave ramp; a new elevated on-ramp structure from the intersection of Harris Street and Fig Street to the Western Distributor viaduct over Darling Harbour. The ramp would split off from the existing on-ramp and provide an alternate on-ramp to the Western Distributor viaduct to join a fourth travel lane and avoid the need for traffic to merge across multiple lanes. This includes around 6 new piers, 4 modified piers and a new abutment
- Utility adjustments throughout the proposal area.

The proposal area is shown in Figure 1-1.

1.2 Proposal background

The Anzac Bridge and Western Distributor currently provide a key link to the surrounding road network, connecting the Inner West, the Warringah Freeway, Sydney Harbour Bridge, the Central Business District (CBD) and eastern suburbs. Currently, the Anzac Bridge and Western Distributor experience frequent traffic congestion, particularly between Pyrmont and Darling Harbour, with peak demand higher than available lane capacity, merging and weaving issues on the Western Distributor and traffic banking up on exit ramps. The

Anzac Bridge and Western Distributor will need to be made more resilient to cater for predicted additional traffic inflows as Sydney's West continues to grow. This includes increased traffic from a number of projects including Rozelle Interchange, Western Harbour Tunnel, redevelopment of the Fish Markets, and the continuing transformation of the Pyrmont and Blackwattle Bay precincts.

The proposal objectives focus on improving road user experience on the motorway and ensure that the Western Distributor and Anzac Bridge continues to be a safe, and reliable motorway connection, supporting broader network resilience in keeping with Sydney's future growth.

The Pyrmont Peninsula precinct is undergoing major transformations and requires a multi-agency approach to coordinate the scope and delivery of local active transport provisions, place-based revitalisation and social outcomes. Active transport amenity upgrades and revitalisation of underused spaces within the study area require wider network planning and land use consideration than is possible for this proposal. As a separate program of works, Transport is investigating a range of improvements throughout the precinct that would align with the long-term vision for the Precinct, including those explored within DPE's Pyrmont Peninsula Place Strategy and the Pyrmont Ultimo Transport strategy.

1.3 Purpose of this report

Transport for NSW are currently preparing a REF for the construction and operation of Western Distributor Network Improvements from Rozelle to Darling Harbour. This report has been prepared to:

- Support the planning and design activities of the proposal including identifying environmental risks, constraints and areas of sensitivity
- Outline the non-aboriginal heritage values across the study area and assesses the heritage impacts associated with the proposal
- Identify the heritage items affected both directly and indirectly by the proposal
- Describe key aspects of the history, significance of heritage items
- Grade the impact of the proposal on extant heritage values
- Identify the permits and heritage approvals required for the proposal

1.4 Proposal area

The proposal area is indicated by the area outlined red in Figure 1-1. The proposal area passes east to west through Darling Harbour following the alignment of the Western Distributor, crossing to the western side of the Pyrmont peninsula and running parallel to the eastern foreshore of Blackwattle Bay and Rozelle Bay before crossing Johnstons Bay and the Anzac Bridge, Victoria Road and a portion of Glebe Island. The proposal area also extends to a portion of Pyrmont Bridge Road, Allen Street and Harris Street. The proposed construction compound areas have also been captured in the proposal area footprint.

1.5 Heritage study area

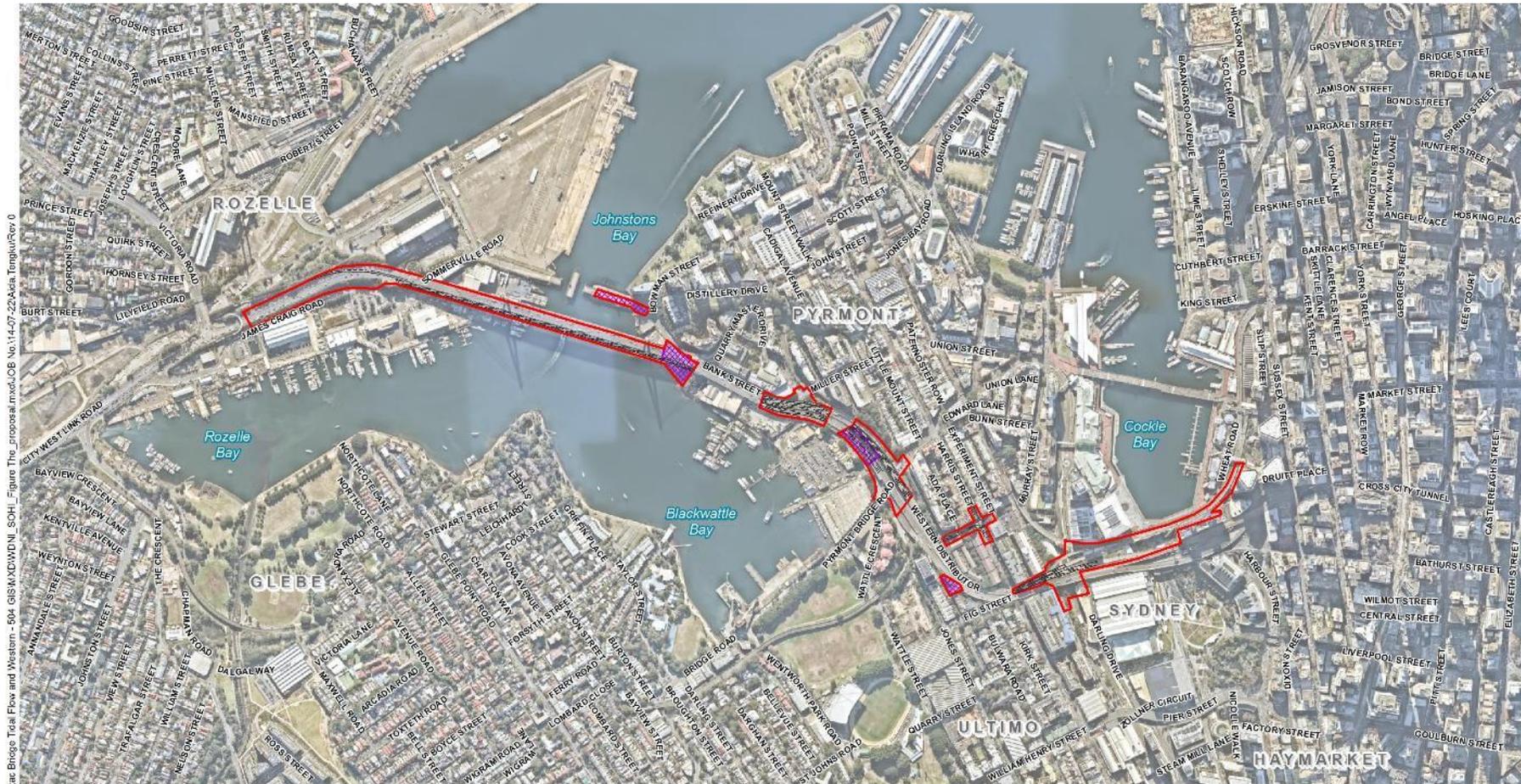
The heritage study area is the area outlined in Figure 1-2 and Figure 1-3. The heritage study area for this SOHI comprises the proposal area and a surrounding buffer zone, determined by the character and visual corridors surrounding the proposal to ensure indirect impacts such as visual impacts or potential vibration impacts were appropriately assessed.

For the purposes of the SOHI, the heritage study area addresses two areas west and east of the Anzac Bridge:

- **Heritage study area – West** – comprises a short section of Victoria Road, Rozelle, the western approaches of the Anzac Bridge and the Anzac Bridge itself
- **Heritage study area – East** – comprises the eastern off ramps of the Anzac Bridge, the Western Distributor and Goldsbrough curve, and Darling Harbour

The areas are shown in Figure 1-2 and Figure 1-3. The built heritage and landscape assessment has focused on a broader study area applied to each of the areas.

The historical archaeological assessment considered risk from activities requiring ground disturbance including footings for new pier installation, utility adjustments, and pavement works associated with intersection modifications. These works would be minor in nature and are not likely to involve major ground disturbance or excavations. The historical archaeological assessment study area is therefore limited to areas within the proposal footprint that would be subject to subsurface impacts as, illustrated by Figure 1-4.



C:\Users\Aida.Tongku\Aurecon Group\507040 - Anzac Bridge Total Flow and Western - 504 GIS\MXD\WDNI_BOH_Figure 1-1 The proposal.mxd\JOB No.11427-22\Aria Template.rvt 0

- Proposal area
- Compound areas
- Proposed design

Source: Aurecon, TINSW, NSW Spatial Services, Nearmap



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Projection: GDA 1994 MGA Zone 56

Western Distributor Network Improvements **Non-Aboriginal Statement of Heritage Impact**

Figure 1-1 The proposal

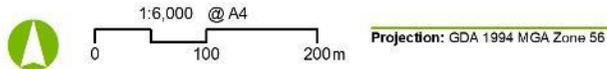
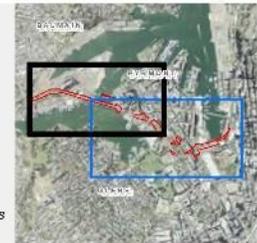


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- Proposal area
- SREP (Sydney Harbour) heritage item
- Heritage items**
- State heritage item
- Conservation area item
- Local heritage item
- S. 170 heritage and conservation register

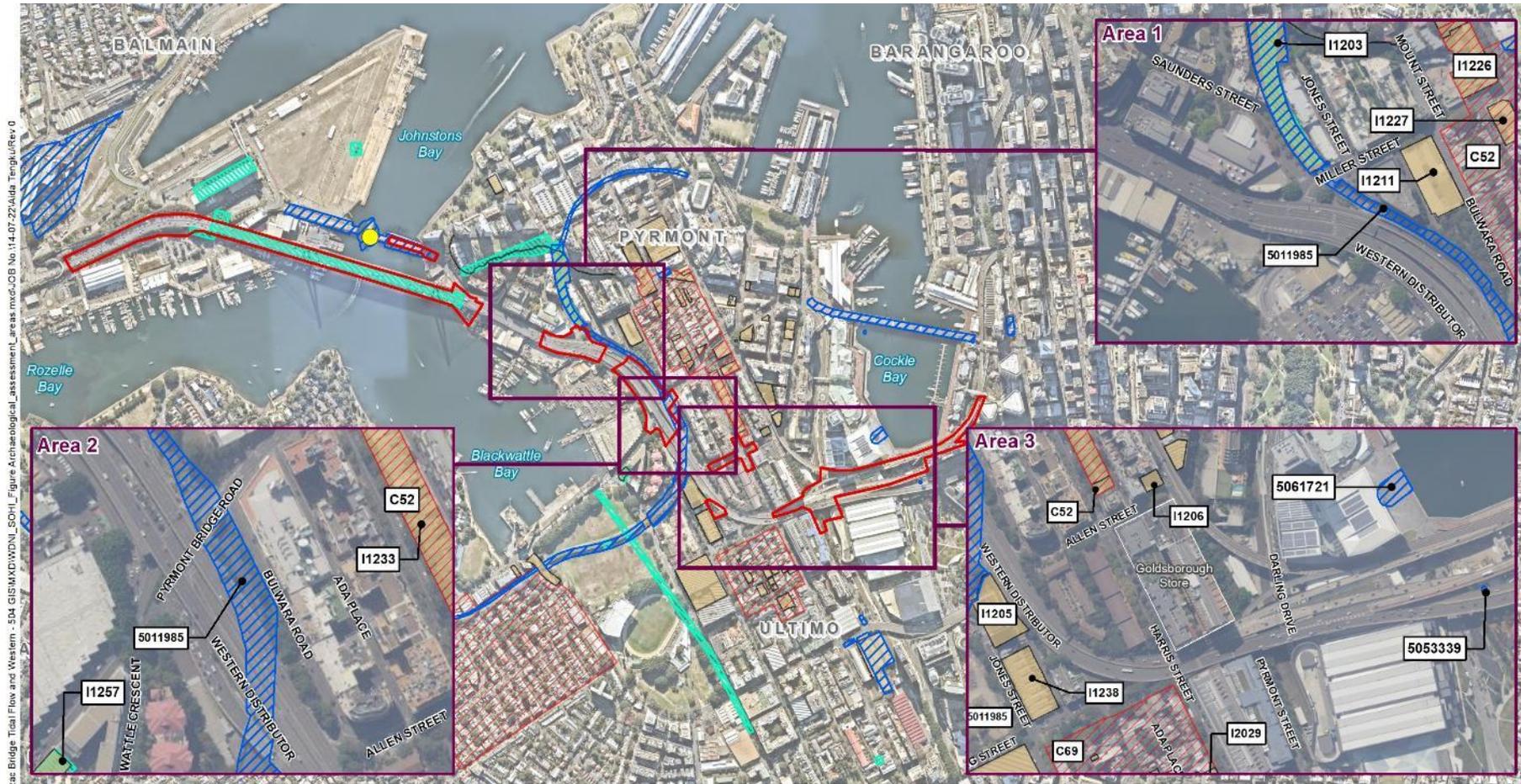
Source: Aurecon, TNSW, OEH, Spatial Services, Nearmap

Notes: Some heritage items shown at this scale are indicative only. The boundaries are expected to be verified during the preparation of the heritage assessment.



Western Distributor Network Improvements **Non-Aboriginal Statement of Heritage Impact**

Figure 1-2 Heritage study area (West)



- Proposal area
- Archaeological assessment areas
- S. 170 heritage and conservation register
- SREP (Sydney Harbour) heritage item

Heritage items

- State heritage item
- Conservation area item
- Local heritage item

Notes: Some heritage items shown at this scale are indicative only. The boundaries are expected to be verified during the preparation of the heritage assessment.



Source: Aurecon, TfNSW, OEH, NSW Spatial Services, Nearmap



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Projection: GDA 1994 MGA Zone 56

Western Distributor Network Improvements **Non-Aboriginal Statement of Heritage Impact**

Figure 1-4 Archaeological Assessment Areas

1.6 Limitations

The following limitations have been identified for this report:

- This report identifies non-Aboriginal heritage within the study area that may be impacted by the proposal. The likelihood of subsurface archaeological material and remains is based on the historic plans and materials gathered, information about disturbance over time and the surface conditions observed onsite. It is possible that materials may remain in areas identified as having low potential. The relevant unexpected finds procedure (TfNSW, *Unexpected Heritage Finds Guidelines 3.2*, April 2020) should be adhered to during construction works and an appropriately qualified archaeologist engaged for further advice if potential relics are uncovered during construction works.
- While this report focuses on non-Aboriginal heritage values, Aurecon recognises that for over forty thousand years or more Aboriginal people occupied the land that was later to be claimed as a European settlement. The assessment of Aboriginal heritage has followed the Procedure for Aboriginal Cultural Heritage Consultation and Investigation (PACHCI) process developed by Transport for NSW.
- It is noted that while a site visit was conducted by Aurecon's heritage specialist in the early stages of the proposal (2019). A second site visit to the Darling Harbour area and Pyrmont and Glebe Railway Tunnels has not been undertaken due to COVID restrictions.

1.7 Report authorship

This report was prepared and finalised by Jess Mauger, Heritage Specialist, and reviewed by Scott MacArthur of Artefact Heritage on behalf of Aurecon Australasia..

1.8 Report structure

The structure of this report is outlined in Table 1-1 below.

Table 1-1 Structure of report

Section No.	Section Name	Section contents
Section 1	Introduction	(This section) Introduces the report including aims and objectives, limitations, authorship and project background
Section 2	The proposal	Describes the proposal based on the available concept design, including the key features, locations of works and proposal extent of works and the heritage study area on which the report is based.
Section 3	Methodology	Describes the methodology used to assess the potential impacts to heritage items
Section 4	Statutory and planning context	Provides a review of the statutory context, all relevant legislative and associated approvals. It lists all statutory and non-statutory listings relevant to the heritage study area.
Section 5	Historical overview	Provides a historical overview of the key areas affected by the proposal.
Section 6	Built and landscape heritage impacts	Outlines relevant heritage listed items and items of potential heritage significance. Identifies and assesses the potential impacts to built and landscape heritage as a result of the proposal.
Section 7	Historical archaeological assessment	Provides an assessment of the potential of the project to impact on significant archaeology and sites of archaeological potential.

Section No.	Section Name	Section contents
Section 8	Conclusion and recommendations	Provides conclusions, key findings and identifies management and mitigation measures in relation to built, landscape and archaeological heritage.

2 Methodology

2.1 Overview

The following background research has been undertaken to inform this report:

- review and compilation of all applicable statutory heritage lists within the heritage study area, including:
 - the SHR
 - local heritage items (as included on Schedule 5 of relevant LEPs)
 - local heritage items as included on the relevant Sydney Regional Environmental Plans
 - State Agency Section 170 Heritage and Conservation Registers (S170 Registers), including Roads and Maritime, Sydney Ports Authority, Sydney Water, Railcorp and Ausgrid
 - the National Heritage List (NHL)
 - the Commonwealth Heritage List (CHL).
 - The NSW National Trust Register (non-statutory list)

NB: Geospatial Information Systems (GIS) was used as the tool for collating the applicable heritage overlays across the study area, with data drawn from the registers above.

- review of heritage reports and studies, archaeological zoning plans, archaeological assessments Conservation Management Plans (CMPs) previously prepared for relevant items and areas within the project footprint and the heritage study area
- field survey of the study area to inspect listed heritage items, HCAs and potential archaeological sites and to identify potential heritage items that may be affected by the project. The field survey was undertaken by Aurecon consultants Emma McGirr and Janelle So on October 16, 2019
- desktop research and historical research to inform the impact assessment and historical overview sections, including review of relevant primary sources, archive materials, past reports and papers and Conservation Management Plans.

2.2 Field survey

The field survey was limited to the public domain and publicly accessible areas within the proposal area. After mapping and desktop research, known non-Aboriginal heritage items and areas identified as being near the project footprint were subjected to a visual inspection. Results from these inspections were used to inform the assessment of potential impacts of the project on non-Aboriginal heritage values. The process comprised:

- review of collated mapping of heritage listings to identify those sites or places with the potential to be directly or indirectly impacted during the construction and operation of the project
- compilation of available information and photographic evidence of the items, as a point of comparison
- field inspection of the identified sites, involving noting current condition, photography and comparison to information gathered in the research phase
- field inspection and recording of non-statutory heritage sites
- recording of updated information, in addition to the information held in heritage databases.

2.3 Relevant guidelines and policies

2.3.1 Transport for NSW - guidelines and policies

The following relevant policy documents, published by TfNSW (formerly Roads and Maritime), have been reviewed and applied in the preparation of this report:

- Roads and Maritime Service Centre for Urban Design, *Beyond the Pavement: Urban Design Policy, Procedures and Design Principles*, 2010
- Roads and Maritime Service, *Guideline for landscape character and visual impact assessment: Environmental impact assessment practice note EIA-N04*, December 2015
- Roads and Maritime Service Centre for Urban Design, *Bridge Aesthetics: Design Guideline to improve the appearance of bridges in NSW*, February 2019
- Roads and Maritime Service, *Unexpected Heritage Items: Heritage Procedure 02*, November 2015.

2.3.2 Heritage Council of NSW—Guidelines and policies

This report adopts the approach and terminology outlined in the *Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance* (the Burra Charter) (Australia ICOMOS, 2013). In addition, this report has been prepared in accordance with the following heritage guideline and policy documents:

- Heritage Council of NSW *Statements of Heritage Impact* (updated 2002)
- Heritage Council of NSW *Assessing Heritage Significance: NSW Heritage Manual* (updated 2002)
- Heritage Branch of the NSW Department of Planning *Assessing Heritage Significance for Historical Archaeological Sites and 'Relics'* (2009)
- Heritage Council of NSW *Historical Archaeological Sites: Investigation and Conservation Guidelines* (1993)
- Heritage Council of NSW and Government Architect NSW, *Design Guide for Heritage*, 2019.

2.3.3 Assessing heritage significance

Assessing heritage significance in Australia is guided by the Burra Charter. The principles of the charter are relevant to the assessment, conservation and management of sites and relics. In NSW the process for assessing heritage significance is further outlined in the legislative process and through the criteria applied in the Heritage Council of NSW guideline publication.¹

The seven criteria (A-G) used to assess heritage significance are known as the NSW Heritage Assessment Criteria. The criteria are outlined in Table 2-1.

Table 2-1: NSW Heritage Assessment Criteria

Criteria	Description
A—Historical Significance	An item is important in the course or pattern of the local area's cultural or natural history.
B—Associative Significance	An item has strong or special associations with the life or works of a person, or group of persons, of importance in the local area's cultural or natural history.
C—Aesthetic or Technical Significance	An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in the local area.

¹ Heritage Council of NSW *Assessing Heritage Significance: NSW Heritage Manual* and *Assessing Heritage Significance for Historical Archaeological Sites and 'Relics'*

Criteria	Description
D–Social Significance	An item has strong or special association with a particular community or cultural group in the local area for social, cultural or spiritual reasons.
E–Research Potential	An item has potential to yield information that will contribute to an understanding of the local area’s cultural or natural history.
F–Rarity	An item possesses uncommon, rare or endangered aspects of the local area’s cultural or natural history.
G–Representativeness	An item is important in demonstrating the principal characteristics of a class of NSW’s cultural or natural places of cultural or natural environments (or the cultural or natural history of the local area).

The significance of the existing heritage items examined for this study, included on the relevant statutory lists and registers, is generally well understood. Existing assessments of heritage values in accordance with the criteria are accessible on the SHR database.

Where potential/non-statutory heritage items have been identified during the background research and field survey, the items have been assessed in accordance with the criteria.

Statements of significance summarise the findings of heritage assessment in a succinct passage. Statements of significance have been provided for heritage items directly impacted by the Proposal. These statements have been drawn verbatim from the SHR database citation. Where relevant, additional information has been sourced and cited.

2.4 Archaeological Assessment

The evaluation of the historical archaeological potential associated with various phases of history within the proposal area is based on the following:

- consideration of the physical evidence observed at the sites
- identified areas of previous disturbance,
- historical information about the development and occupation of the sites and
- previous archaeological assessments and excavations.

Consequently, a broad approach to the identification of the potential archaeological resource has been adopted and is based on a predictive model that assumes that historical archaeological remains are generally located close to occupation and activity areas.

The historical background and significance assessment of individual sites within the project footprint has been primarily based on previous historical archaeological assessment and excavations, as well as historical information gathered for this report from a range of primary and secondary sources. During the field survey the general location and current condition of known and potential historical archaeological sites was inspected. Further detail is provided in Section 7.

In the Australian context, archaeological significance has long been accepted as linked directly to archaeological research potential. Archaeological sites and resources are thought to hold research potential (i.e be scientifically significant) when they can help answer questions or contribute in a meaningful way to our understanding of the past.² Bickford and Sullivan’s question arose out of this consensus as a guide to defining the research potential of archaeological sites. The questions are:

1. **Can the site contribute knowledge that no other resource can?**
2. **Can the site contribute knowledge that no other site can?**

² Bickford, A. and Sullivan, S. in *Assessing the research significance of historic sites, in Site Survey and Significance Assessment in Australian Archaeology*, 1984

3. 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?

The NSW Heritage Division guidelines provide a broader approach to assessing the significance of archaeological sites.³ The preferred approach, in addition to Bickford and Sullivan’s questions considers the site’s intactness, rarity, representativeness and whether many similar sites have been recorded as well as other factors. A site can have high archaeological potential for intact archaeological remains, and yet still be of low research potential if those remains are unlikely to respond positively to any of Bickford and Sullivan’s questions or the additional considerations.

2.4.1 Impact assessment terminology

This report follows the approach outlined in relevant guideline documents, including *Statements of Heritage Impact* (2002), the Burra Charter and the ICOMOS publication *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties*. A heritage impact ranking system is used, with specific terminology used to consistently identify the nature and extent of impacts. The rankings categorise impacts in accordance with their severity or neutrality.

The rankings are defined in Table 2-2. These terms are applied throughout this report using an item by item approach. Whilst the level of significance of an item or element is a consideration, the ranking relates primarily to the effect of the proposed actions/works on the identified heritage values of the individual item/area.

Table 2-2 Ranking of heritage impact

Ranking	Definition
Major adverse	Actions that would have a severe, long-term and possibly irreversible impact on a heritage item. Actions in this category would include partial or complete demolition of a heritage item or addition of new structures in its vicinity that destroy the visual setting of the item. These actions cannot be fully mitigated.
Moderate adverse	Actions that would have an adverse impact on a heritage item. Actions in this category would include removal of an important part of a heritage item’s setting or temporary removal of significant elements or fabric. The impact of these actions could be reduced through appropriate mitigation measures.
Minor adverse	Actions that would have a minor adverse impact on a heritage item. This may be the result of the action affecting only a small part of the place or a distant/small part of the setting of a heritage place. The action may also be temporary and/or reversible.
Neutral	Actions that would have no heritage impact.
Minor positive	Actions that would bring a minor benefit to a heritage item, such as an improvement in the item’s visual setting.
Moderate positive	Actions that would bring a moderate benefit to a heritage item, such as removal of intrusive elements or fabric or a substantial improvement to the item’s visual setting.
Major positive	Actions that would bring a major benefit to a heritage item, such as reconstruction of significant fabric, removal of substantial intrusive elements/fabric or reinstatement of an item’s visual setting or curtilage.

In addition to ranking impacts the report:

- provides an overview of the heritage study area’s heritage context

³ Heritage Branch of the NSW Department of Planning, *Assessing Heritage Significance for Historical Archaeological Sites and ‘Relics’* (2009)

- identifies the heritage items and HCAs within the area with the potential to be affected by the proposal, either through direct impacts and/or impacts on visual setting
- identifies heritage items and HCAs that are likely to be physically impacted, or those that have a direct frontage to the proposal. For these items and areas, the following structure has been employed:
 - Statements of significance (drawn from existing heritage listings)
 - an assessment of the heritage impact of the proposed works on the heritage significance of each of the affected heritage items

2.4.2 Consultation

Proactive consultation with key heritage stakeholders has been undertaken by TfNSW on the project to date. The outcomes of the consultation activities have informed the design direction of the project and have been incorporated into the recommendations of this SOHI. Consultation has focused on two key issues:

1. Potential impacts to the State-level significance of the Anzac Bridge and the implications of the project on its potential listing on the SHR in future; and
2. Potential impacts, including visual and setting impacts, on the Anzac soldier memorial sculptures at the western gateway to the bridge, recognised as important public monuments.

The heritage stakeholders consulted were Heritage NSW and NSW RSL. The outcomes of consultation are summarised below. Insofar as possible, stakeholder feedback has been captured in the recommendations and conclusion of this report.

Heritage NSW

A meeting was held on 27 February 2020. The meeting was attended by Transport for NSW project representatives and by a representative from the Heritage NSW Major Projects assessments team. Heritage NSW were given the opportunity to comment on the project and on the affect that the proposal might have on a potential nomination of the Anzac Bridge to the SHR. Subsequently Heritage NSW provided written feedback to Transport for NSW, received on April 23, 2020. Feedback from the meeting and the written letter stated that:

- The proposed gantries will have some impact on the visual qualities of the Anzac Bridge by intervening in the highly distinctive and aesthetically inspiring vertical views of the cables and towers along the bridge deck. These views of the exposed structural elements are central to the aesthetic significance of the bridge.
- With the gantries and the considerable curve of the deck, there will be places where these significant views remain uninterrupted.
- A clean design for the gantries, with attention to quality would help to mitigate the impact, by avoiding the appearance of an ad-hoc, later addition of much lower design quality than the bridge itself.
- It would be preferable if these structures were removable i.e. reversible without damage to significant fabric and values. Reversibility would considerably mitigate the heritage impact.
- The proposal to install multiple gantries along the ANZAC Bridge will not have a substantial impact on its state significant cultural values. It will continue to be a bridge of enormous design merit and innovation, with strong aesthetic values, and a landmark structure in Sydney.
- The proposal, including installation of multiple new gantries would not preclude Anzac Bridge from meeting/satisfying State Heritage Register criteria/threshold if it were nominated.

A second briefing was held on 8th June 2021 to provide Heritage NSW an update on the status of specialist assessments and design refinements made. Heritage NSW indicated support for the efforts made to by TfNSW to consider the cumulative impacts of new gantries and new signage on the Anzac Bridge. Heritage NSW requested a copy of the presentation and to be kept updated of milestones.

RSL

A briefing was held with NSW RSL on the 4 May 2020. TfNSW project representatives presented the project background and project proposal, including new gantries along the Anzac Bridge and on the approaches. Preferred locations of gantries were discussed in the meeting along with alternative locations considered. An RSL representative gave verbal feedback on Gantry 1. Gantry 1 falls closest to the ANZAC memorial sculptures on the western approach.

RSL representatives recommended the following:

- Efforts should be made to minimise impacts of Gantry 1 on sight lines to both ANZAC sculptures. The gantry should not bisect the line of sight, particularly to the Australian soldier sculpture that faces west
- Explore the design of a higher gantry to avoid bisecting the line of sight

RSL did not express a specific wish for materials or theme for Gantry 1, outside of what is deemed safe, legible and acceptable from a road safety/design perspective.

2.4.3 Key references

The following reports and source materials have been reviewed and drawn upon in the preparation of this report:

Previous heritage studies and reports

- AHIMS, *Heritage Impact Statement & Preliminary Aboriginal and Historical Archaeological Assessment-Sydney Heritage Fleet Base, Bank Street, Pyrmont NSW*, report undertaken for Crawford Architects on behalf of Sydney Maritime Museum, November 2011
- Department of Planning, Industry and Environment, *Draft Pyrmont Peninsula Place Strategy*, July 2020
- GML Heritage, *Pyrmont Place Strategy-Non-Indigenous Cultural Heritage Study*, report prepared for Department of Planning, Industry and Environment October 2020
- GML Heritage, *WestConnex M4-M5 Link-Technical Paper-Non-Aboriginal Heritage*, report prepared for Roads and Maritime Service, August 2017
- AECOM, *Glebe Island Concrete Batch Plant Statement of Heritage Impact*, report prepared for Hanson Constructions, January 2018
- CityPlan Heritage, *Heritage Impact Statement-the New Sydney Fish Market*, report prepared for Urban Growth, March 2019
- CityPlan, *Bays Market Precinct: Blackwattle Bay & Wentworth Park – History, Built Heritage, Archaeology and Landscape Study*, for UrbanGrowth NSW, July 2017.
- Anglin Associates, *Pyrmont and Ultimo Heritage Study Volumes 1 to 4*, report prepared for Sydney City Council, December 1989
- Anglin Associates, *Goldsbrough Mort Woolstore-Conservation Plan*, report prepared for Titchfield Limited, May 1989
- Casey & Lowe, Pty Ltd, *Report on Archaeological Testing Program-49-61 Miller Street, Pyrmont*, report prepared for Miller Pyrmont Pty Ltd, August 2005
- Casey & Lowe, Pty Ltd, *Archaeological Investigation-50-72 Union Street Pyrmont*, report prepared for Charter Hall Holdings, May 2010
- Curio Projects, *Heritage Impact Statement-Harbourside Redevelopment*, report prepared for Mirvac, September 2016
- Tanner Kibble Denton Architects, *Sydney International Convention Centre, Exhibition & Entertainment Precinct (SICEEP) Darling Harbour Statement of Heritage Impact*, report prepared for Darling Harbour Live, February 2013

Anzac Bridge and Western Distributor

- Glebe Island Arterial: Environmental Impact Statement, NSW Department of Main Roads, 1985
- New Cable Stayed Bridge: Technical Details: Part of the Glebe Island Arterial, Roads and Traffic Authority, 1993
- Introducing the New Glebe Island Bridge and approaches, Roads and Traffic Authority, 1993
- Institution of Engineers, Australia, Sydney Division winning submissions for the Engineering Excellence Awards, 1996
- *To Build a Bridge: Glebe Island, Sydney, Australia*, David Moore, Chapter & Verse, 1996

3 The proposal

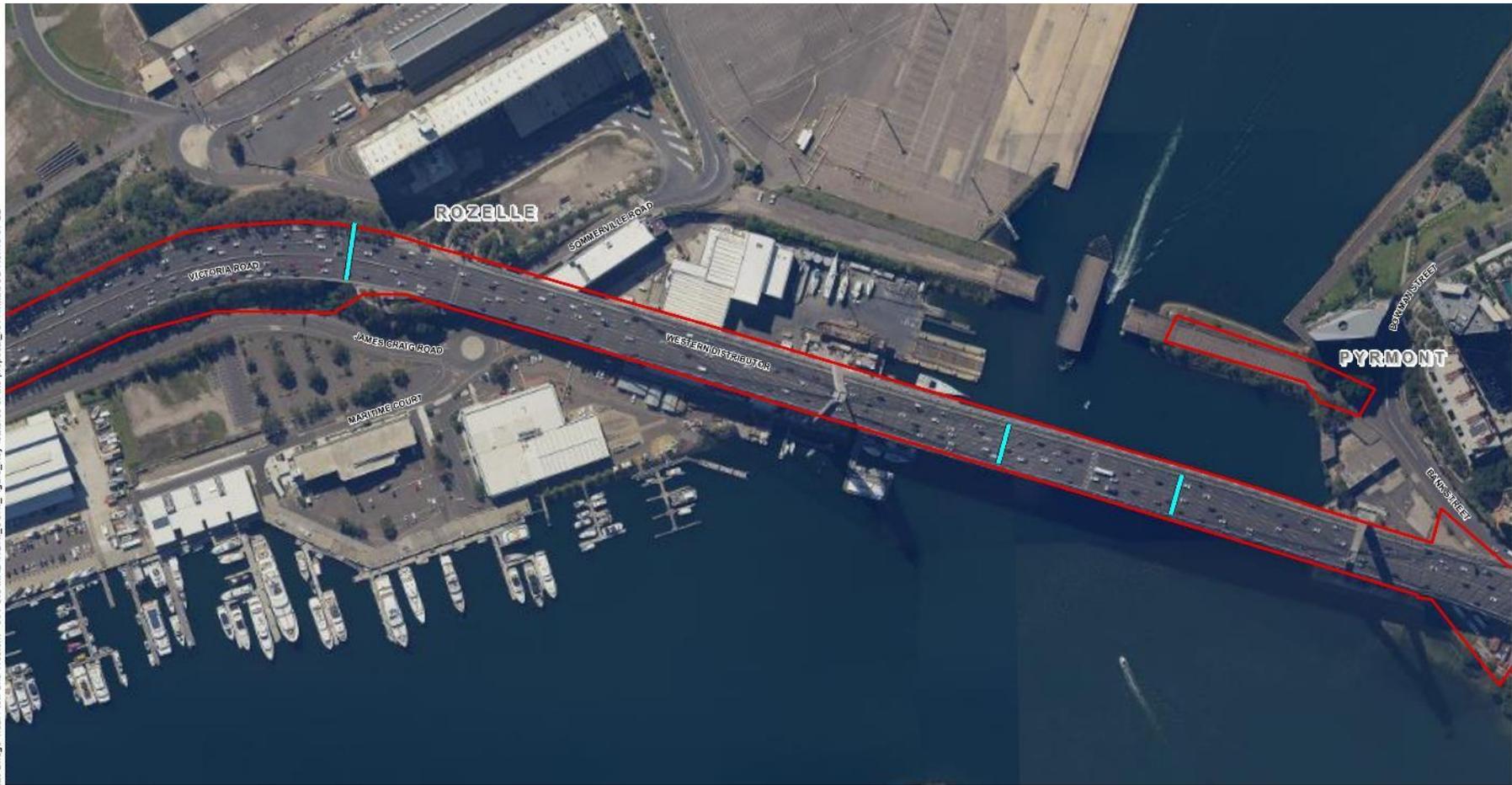
3.1 Key features of the proposal

Transport for NSW propose to make improvements along the Anzac Bridge Western Distributor road corridor and surrounding road network. The proposal is shown in Figure 3-1 to Figure 3-5 and discussed in more detail in Chapter 3 the Project REF.

Key features of the proposal would include:

- Three new gantries with variable speed signage to be installed on Anzac Bridge and its western approach to facilitate traffic management. All gantries will span the full width of the corridor. The new or modified gantries include:
 - Two new gantries close to the midspan between the A-frames of Anzac Bridge to safely manage traffic movements across the crest of the bridge
 - New gantry on the western approach
- Modifications to Harris Street and Allen Street intersection to better manage exit-ramp congestion and traffic flow through Pyrmont. This includes:
 - Conversion of Allen Street eastbound to Harris Street from two to three lanes
 - Removal of parking on Allen Street westbound and Harris Street northbound
 - Removal of existing pedestrian crossing on the southern leg of Harris Street.
- Modifications to Pyrmont Bridge Road off-ramp to increase storage capacity and introduce new incident response vehicle bay. This includes:
 - Modifying the Pyrmont Bridge Road off-ramp from one to two lanes
 - Closing the u-turn movement from the off ramp onto Bank Street (off-ramp would be left turn only onto Pyrmont Bridge Road north). Access onto Bank Street restricted to emergency vehicles only. This would be delivered after the existing Sydney Fish Market ceases operations at its current location.
 - Pedestrian crossing at the base of the Pyrmont Bridge Road off-ramp would change to a signalised intersection.
- Refurbishment of ANZAC digger memorial sculptures and enhanced visitor amenity providing respectful opportunities for people to remember and commemorate our service men and women and encouraging people to learn about Australian and NSW military history.
- Installation of the Darling Harbour weave ramp; a new elevated on-ramp structure from the intersection of Harris Street and Fig Street to the Western Distributor viaduct over Darling Harbour. The ramp would split off from the existing on-ramp and provide an alternate on-ramp to the Western Distributor viaduct to join a fourth travel lane and avoid the need for traffic to merge across multiple lanes. This includes around 6 new piers, 4 modified piers and a new abutment
- Utility adjustments throughout the proposal area.

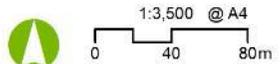
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-  Proposal area
-  Proposed gantry locations



Source: Aurecon, TfNSW, NSW Spatial Services, Esri

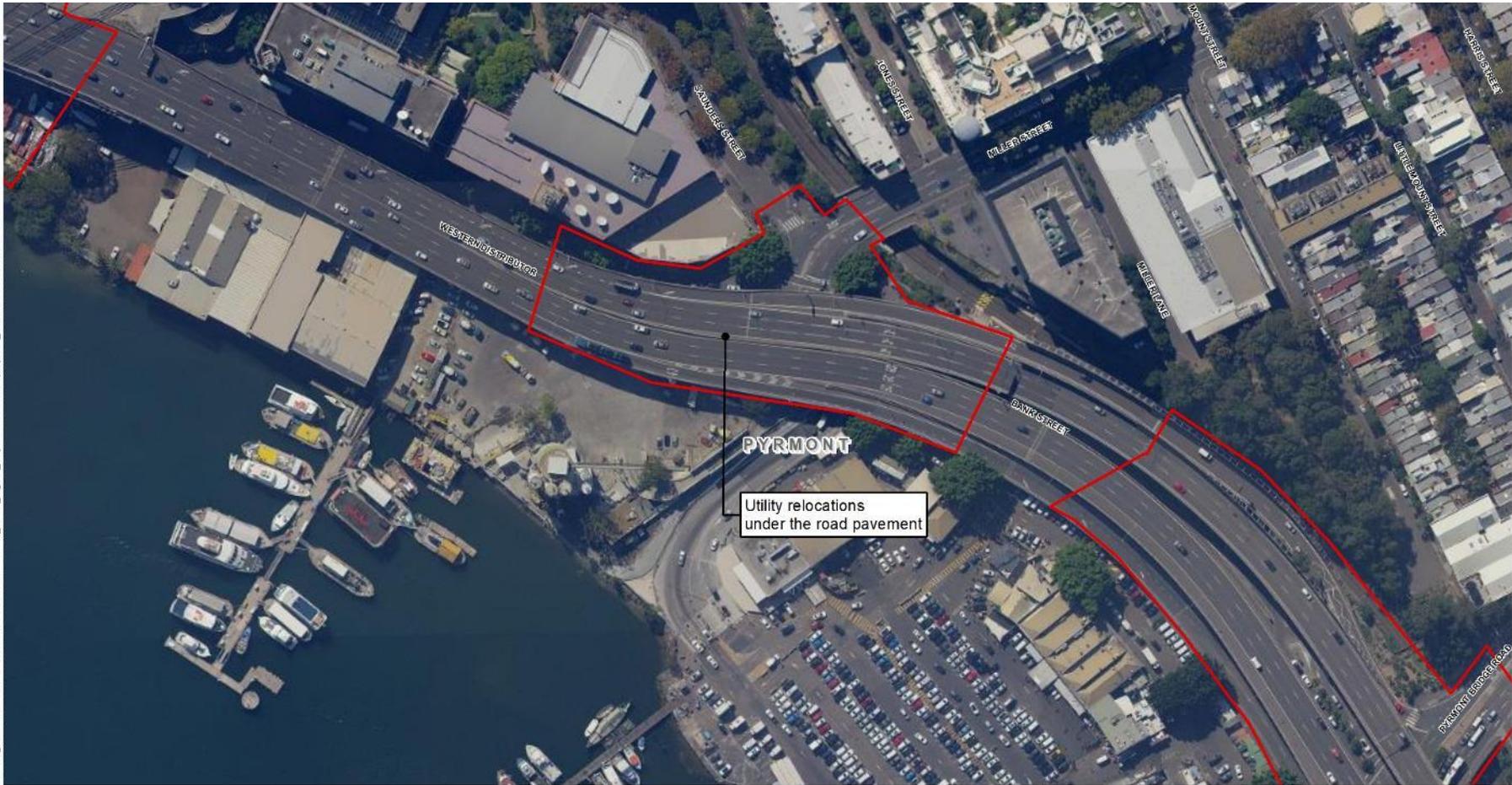


Projection: GDA 1994 MGA Zone 56

Western Distributor Network Improvements **Non-Aboriginal Statement of Heritage Impact**

Figure 3-1 Key features of the proposal (Anzac Bridge)

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 Proposal area



Source: Aurecon, TfNSW, NSW Spatial Services, Esri

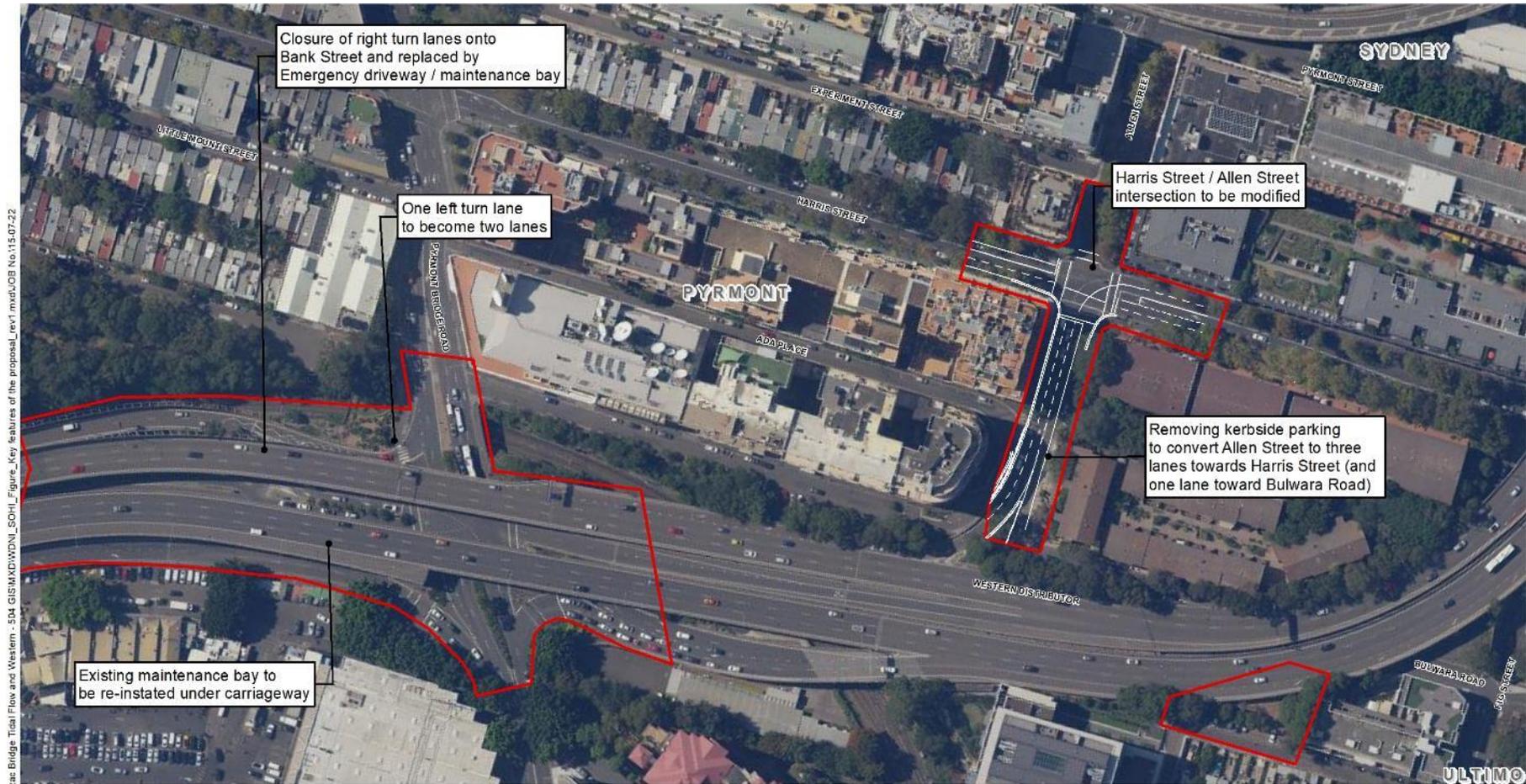


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Projection: GDA 1994 MGA Zone 56

Western Distributor Network Improvements **Non-Aboriginal Statement of Heritage Impact**

Figure 3-2 Key features of the proposal (Sydney Fish Markets)

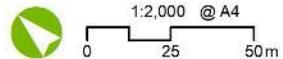


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- Proposal area
- Road design



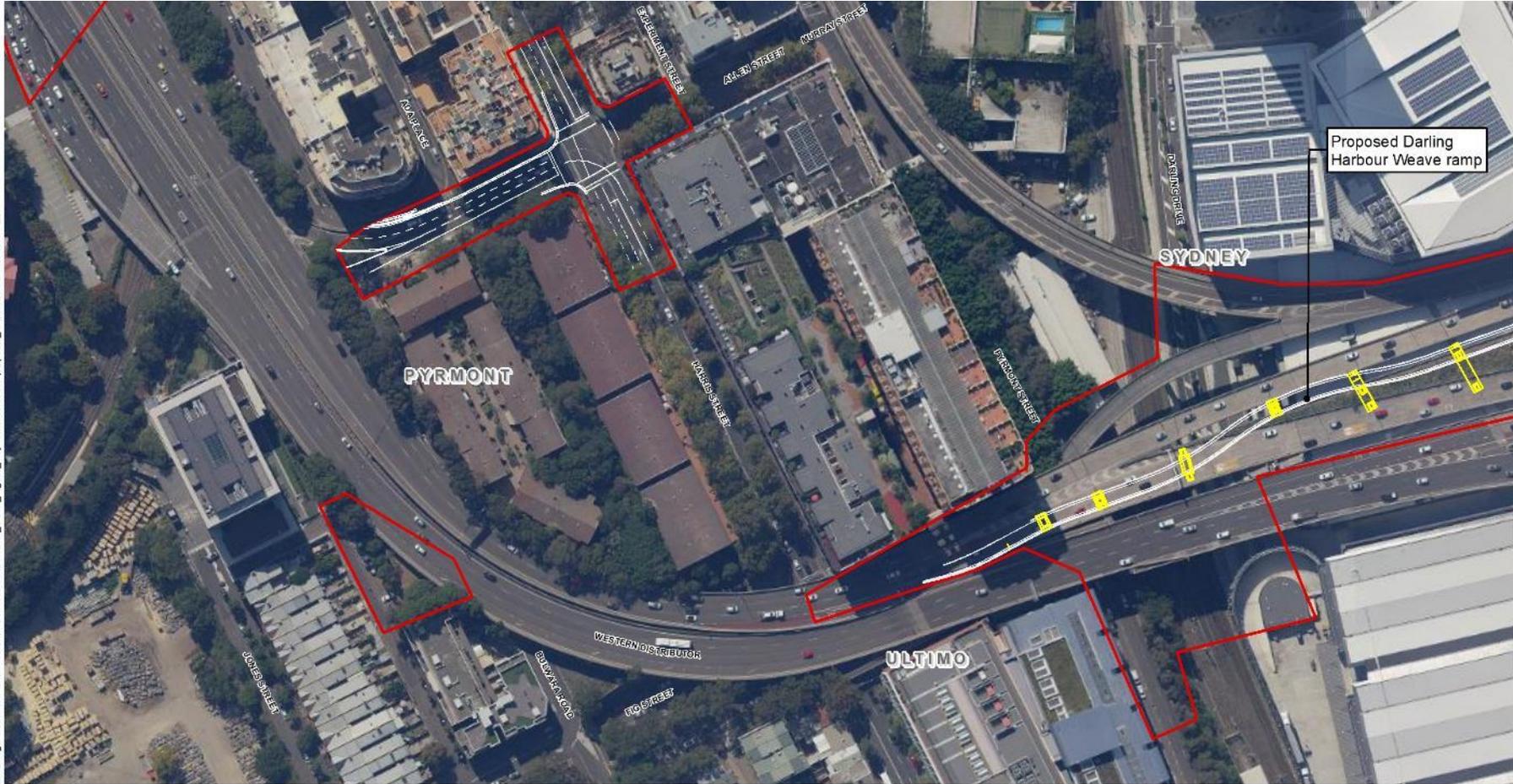
Source: Aurecon, TfNSW, NSW Spatial Services, Esri



Projection: GDA 1994 MGA Zone 56

Western Distributor Network Improvements **Non-Aboriginal Statement of Heritage Impact**

Figure 3-3 Key features of the proposal (Pyrmont Bridge Road)



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- Proposal area
- Road design
- Weave ramp design
- Proposed support structures (piers and spans)



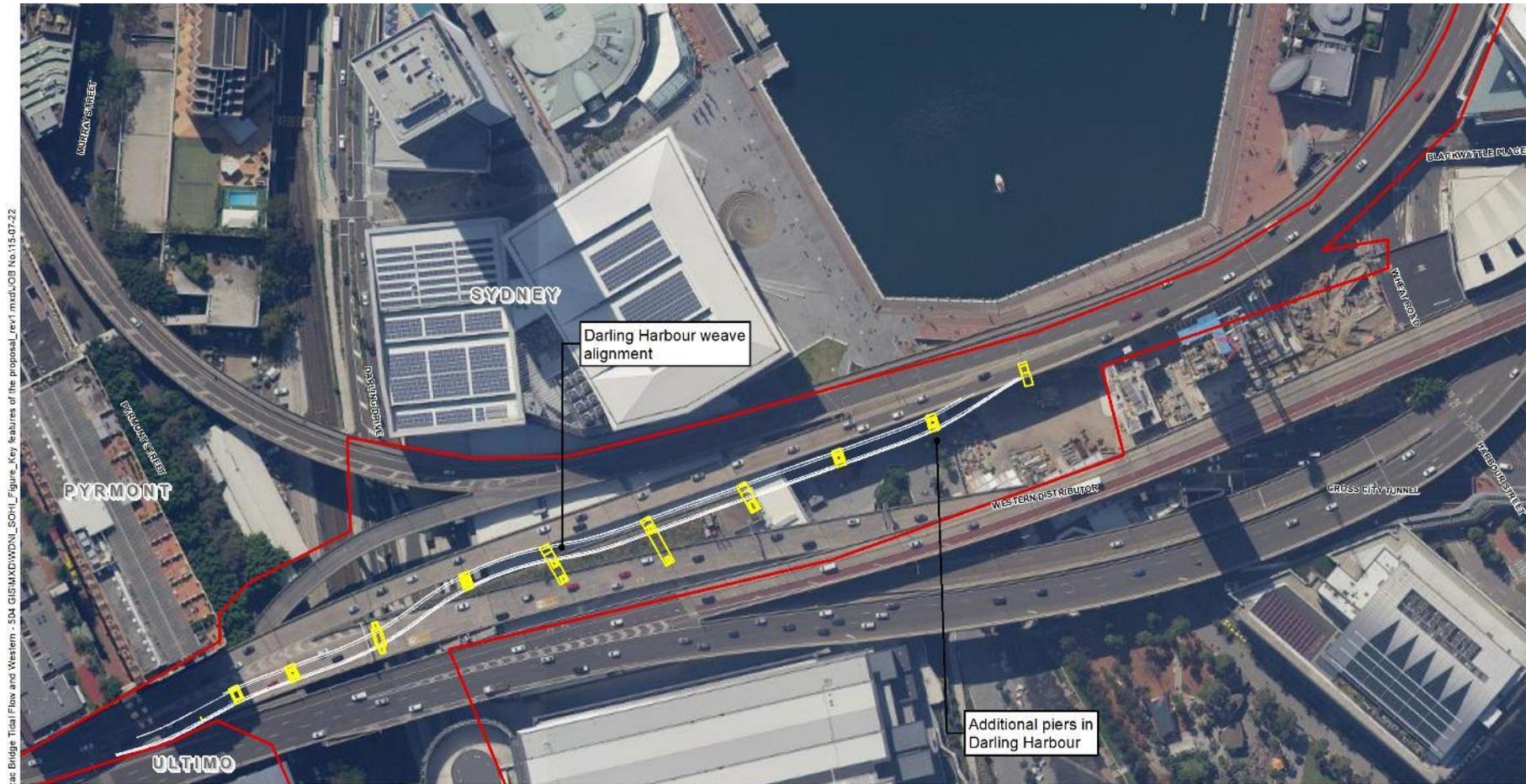
Source: Aurecon, TfNSW, NSW Spatial Services, Esri



Projection: GDA 1994 MGA Zone 56

Western Distributor Network Improvements **Non-Aboriginal Statement of Heritage Impact**

Figure 3-4 Key features of the proposal (Goldsborough Curve)

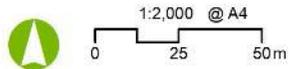


C:\Users\Aida Tengku\Aurecon Group\507040 - Anzac Bridge, Tidal Flow and Western - 504 GIS\MXD\WDNI_SOHL_Figure_Key features of the proposal_rev1.mxd\JOB No:15-07-22

- Proposal area
- Proposed support structures (piers and spans)
- Weave ramp design



Source: Aurecon, TfNSW, NSW Spatial Services, Esri



Projection: GDA 1994 MGA Zone 56

Figure 3-5 Key features of the proposal (Darling Harbour)

3.2 Construction

3.2.1 Construction activities

The proposal is anticipated to involve the following general construction activities:

- establishment works including ancillary facilities and traffic and pedestrian control measures
- utility relocations or protection including sewer pipelines, telecommunication fibre optic cables and conduits, electricity and high voltage cables, gas mains and streetlight adjustments
- earthworks for trenching for utilities, intersection changes at Allen Street and Harris Street, and Pyrmont Bridge Road
- substructure and superstructure construction including pier footings, box girders and ramp works for the Darling Harbour weave ramp
- Installation of lane speed gantries on Anzac Bridge and the eastbound approach
- conservation works to the ANZAC Memorial Sculptures
- landscaping and finishing works
- removal of ancillary facilities and site rehabilitation.

These activities are discussed in more detail in Chapter 3 of the main REF.

3.2.2 Construction compounds

There are anticipated to be four compound sites required for the proposal at the following locations:

- Glebe Island Bridge (Bank Street, Pyrmont)
- Bank Street (Bank Street (under Western Distributor), Pyrmont)
- Sydney Fish Market Carpark (Unit 1/1 Gipps St)
- Jones Lane Compound (209A Bulwara Road, Pyrmont).

Glebe Island Bridge (Bank Street, Pyrmont)

This compound site would be located on Bank Street, Pyrmont, on the approach embankment of the Glebe Island Bridge (hereafter known as the Glebe Island Bridge compound) located wholly within the Glebe Island Bridge heritage listed curtilage (see Figure 3-6). Glebe Island Bridge is an SHR item however these works would not require approval under the *Heritage Act*. The site would only be used for material laydown and stockpiling of materials, with no proposed ground disturbance works required.

In addition, tree protection measures for the large fig trees at the entry gates would be required. Any required trimming of these trees is discussed further in the Project REF. Although the trees are located outside the SHR item curtilage, it is recommended that the protection of these trees be considered during construction works preparation.

Compound site 1 is around 0.42 hectares and located just north of the Anzac Bridge / Western Distributor viaduct (as shown in Figure 3-6). There are high density residential buildings near the proposed compound site, as well as shared use pathways that connect further down Bowman Street to Waterfront Park, Pyrmont. Glebe Island Bridge land is owned by TfNSW. The next closest heritage feature to this area is Anzac Bridge.

Bank Street (Bank Street (under Western Distributor), Pyrmont)

This compound site is located under the eastern exit off the Western Distributor on Bank Street (hereafter known as the Bank Street compound). Located in a largely pre-existing cleared area under the Anzac Bridge,

around 0.3 hectares of the site will be used as a compound (see Figure 3-7). This area is currently used for storage of boats and other items by the Blackwattle Bay Marina.

This site will not require much preparation as it is largely cleared, and existing ground condition consists of a gravel / aggregate surface. No vegetation trimming or removal is proposed. The area is already fenced off however further construction fencing would be required.

The site does not intersect with any heritage curtilages but is within the vicinity of the Anzac Bridge (underneath the bridge) and is also about 70 metres south of a potential heritage item identified by CityPlan (2017) – the Inter-war style warehouse.

Sydney Fish Market Carpark (Unit 1/1 Gipps St)

A portion of Bank Street near the Sydney Fish Market carpark is proposed for a compound site (Unit 1/1 Gipps Street, Pyrmont) (hereafter referred to as the Fish Market carpark compound). Located along the northern side of the Sydney Fish Markets, around 0.1 hectares of the road corridor would be used as the compound (see Figure 3-8). The area would be fenced off from the rest of the carpark, using mesh screening and construction fencing.

The site would not require vegetation removal, however arborist assessment indicates a number of the Fig Trees are identified for removal by others.

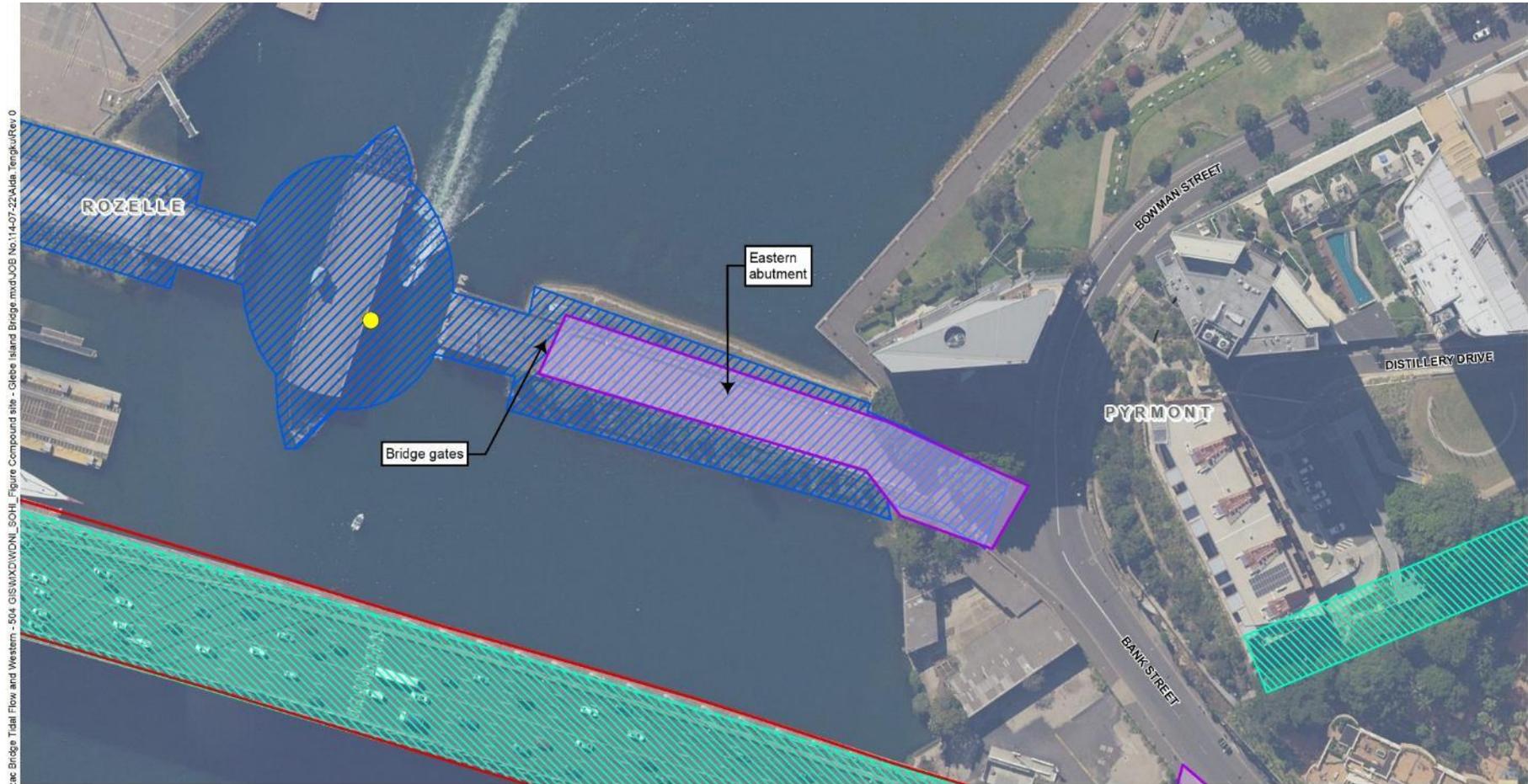
There are no heritage features identified within or adjacent to the compound area. The closest heritage feature to the site is the Pyrmont and Glebe Railway Tunnels (light rail corridor) about 73 metres to the north on the far side of the Western Distributor.

Jones Lane Compound (209A Bulwara Road, Pyrmont)

This compound site would be located at 209A Bulwara Road, Pyrmont (hereafter referred to as Jones Lane compound). The proposed compound site is 0.1 hectares and TfNSW owned land.

Jones Lane compound is located adjacent commercial and residential receivers. There are no heritage features identified within the compound area. There are two heritage features adjacent to the compound area. These are the Terrace Group (286-318 Jones Street) (#11238) and the Former Edwin Davey & Sons Flour Mill (#11205). The compound site would be located about 12 metres east of the Terrace Group and about 36 metres south of the Former Mill.

The impacts associated with the use of the Jones Lane compound are expected to result in neutral, indirect impacts to these local heritage items. There would be a temporary disruption of their setting with the use of Jones Lane as a compound. However the compound sites would be established for the duration of the construction of the proposal only and would be required for general construction activities including site offices, storage and parking.



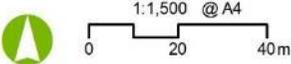
C:\Users\Akda.Tengku\Aurecon Group\507040 - Accpac Bridge Tidal Flow and Western - 504 GIS\MXD\WDNI_SOHL_Figure Compound site - Glebe Island Bridge.mxd\JOB No.114-07-22\Akda.Tengku\Rev 0

- Proposal area
- Proposed compound site
- Heritage items**
- State heritage item
- Local heritage item
- S. 170 heritage and conservation register
- SREP (Sydney Harbour) heritage item

Source: Aurecon, TNSW, OEH, Spatial Services, Nearmap



Notes: Some heritage items shown at this scale are indicative only. The boundaries are expected to be verified during the preparation of the heritage assessment.



Projection: GDA 1994 MGA Zone 56

Western Distributor Network Improvements **Non-Aboriginal Statement of Heritage Impact**

Figure 3-6: The nominated compound area on Glebe Island Bridge eastern abutment and SHR curtilage



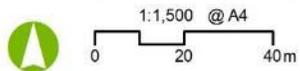
C:\Users\Aida.Tengku\Aurecon Group\507040 - Accpac Bridge Total Flow and Western - 504 GIS\HXDW\DW\SOHL_Figure Compound site - Banks Street.mxd\JOB No.14-07-22\Aida.Tengku\Rev 0

- Proposal area
- Proposed compound site
- S. 170 heritage and conservation register



Notes: Some heritage items shown at this scale are indicative only. The boundaries are expected to be verified during the preparation of the heritage assessment.

Source: Aurecon, TNSW, OEH, Spatial Services, Nearmap



Projection: GDA 1994 MGA Zone 56

Western Distributor Network Improvements **Non-Aboriginal Statement of Heritage Impact**

Figure 3-7: The nominated compound area on Bank Street under the Western Distributor



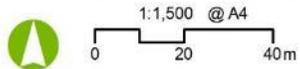
C:\Users\Aida.Tengku@Aurecon Group\507040 - Accpac Bridge Tidal Flow and Western - 504 GIS\MXD\WDNI_SOHL_Figure Compound site - Fish Markets.mxd\JOB No.14-07-22\Aida.Tengku\Rev 0

- Proposal area
- S. 170 heritage and conservation register
- Proposed compound site
- Heritage items**
- State heritage item
- Conservation area item
- Local heritage item

Source: Aurecon, TNSW, OEH, Spatial Services, Nearmap



Notes: Some heritage items shown at this scale are indicative only. The boundaries are expected to be verified during the preparation of the heritage assessment.



Projection: GDA 1994 MGA Zone 56

Western Distributor Network Improvements **Non-Aboriginal Statement of Heritage Impact**

Figure 3-8: The nominated compound area within the Sydney Fish Market car park

3.3 Description of heritage study area

The heritage study area comprises the proposal boundary and a surrounding buffer determined by the surrounding contextual character and visual corridors. The works predominantly occur at access/ exit points from the Western Distributor. The Western Distributor passes across the Pyrmont peninsula to connect with the Harbour Bridge and east to the Sydney CBD via a series of viaducts, overpasses and offramps.

3.3.1 Rozelle

The Rozelle portion of the study area is located around four kilometres west of Sydney's CBD. The study area commences at Victoria Road south of White Bay Power Station before crossing the western approach of the Anzac Bridge.

This area is characterised by light industrial development interspersed with parkland constructed above areas of nineteenth century reclamation and bisected by the network of modern roadways. The area is currently undergoing major transformation as part of major construction works for WestConnex Rozelle Interchange. Late nineteenth century residential developments are near the westernmost part of the project footprint.

Heritage items in the vicinity of this area include:

- White Bay Power Station (SHR 0105)
- Glebe Island Section 170 listed elements, including the silos, war memorial and sandstone quarry sample
- Western embankments of the old Glebe Island Bridge (SHR 01914).

Refer to Figure 1-2 for representation of the corresponding curtilage areas.



Figure 3-9 Victoria Road and pedestrian footpath leading onto Anzac Bridge, looking east.



Figure 3-10 White Bay Power Station viewed from the western approach of the Anzac Bridge.

3.3.2 Anzac Bridge

The Anzac Bridge is a reinforced concrete cable-stayed bridge built over Johnstons Bay linking Glebe Island with the Pyrmont and Darling Harbour. The reinforced concrete towers are 120 metres tall and the cantilevered deck is 850 metres long. The setting of the bridge to the west is defined by a group of large scale industrial structures and spaces including White Bay Container Terminal, Glebe Island Silos, Container Terminal and White Bay Power Station. Major transformation of the White Bay area is proposed as part of NSW Government Bays West state significant precinct redevelopment.

As Anzac Bridge is not formally listed on the SHR but is listed on the RMS (TfNSW) S170 Heritage Conservation Register, however there is no defined curtilage and for the purpose of this assessment it has been assumed to include all of the structure plus the two tribute sculptures, as shown in Figure 1-3.



Figure 3-11 New Zealand soldier, western side of bridge (southern side of the road corridor)



Figure 3-12 Eastern A frame of Anzac Bridge, looking west.



Figure 3-13 Australian soldier, western entry of bridge (northern side of the road corridor).

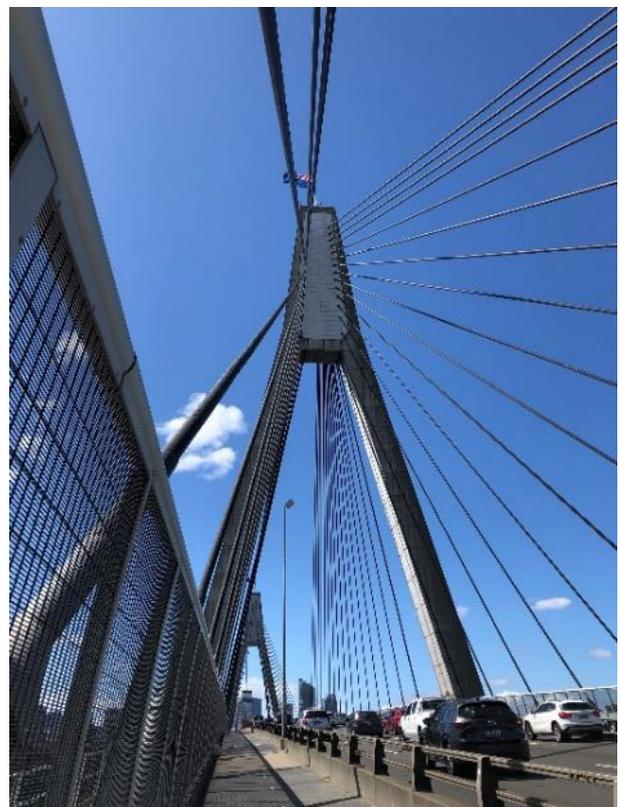


Figure 3-14 Western A frame, looking east



Figure 3-15 Mid-point of bridge, view southwest



Figure 3-16 Anzac Bridge with old Glebe Island Bridge in the foreground, view south.

3.3.3 Pyrmont and the Goldsbrough Curve

To the east the bridge connects with the much-altered topography of the Pyrmont peninsula and runs in viaduct above Bank Street.

Key heritage items in this area include:

- The old Glebe Island Bridge (area around eastern embankment) (SHR 01914)
- Pyrmont and Glebe Railway Tunnels (SHR 01225)
- Former Festival Records building at 1-3 Bulwara Road (Sydney LEP I211).

Refer to Figure 1-3 for representation of the corresponding curtilage areas.

The Pyrmont peninsula is a sandstone promontory one kilometre west of the CBD across Darling Harbour. The peninsula has been shaped by the large-scale quarries and heavy industry that operated in the area in the latter part of the nineteenth century and into the twentieth. Steep cuttings such as those around Bowmans and Quarrymans Lane separate high and low-lying development. To the south, the area around Blackwattle Bay has long been occupied by shipping and light industry, including the area now taken up by the modern-day Sydney Fish Markets.

On the Pyrmont side of the Western Distributor there are several commercial properties fronting the Western Distributor. These mid-rise buildings have partial water views over Blackwattle Bay. The built form is a mixture of nineteenth century and earlier twentieth buildings (forming the Pyrmont HCA), late-twentieth century architecture and contemporary buildings. Paradise Reserve forms a landscape buffer between single storey row-housing along Bulwara Road and the Western Distributor viaduct.

Key heritage items in this area are locally heritage listed and generally fall within the Pyrmont HCA (C52 on the Sydney LEP 2012). They include:

- Terrace Groups along Harris Street (I1226 and I1227)
- Pyrmont Fire Station (I265)
- Former woolstore “John Taylor Wool Stores” (I1263)
- Woolbrokers Arms Hotel (I1206).



Figure 3-17 Paradise Reserve looking west, with Western Distributor viaduct visible to the right



Figure 3-18 Paradise Reserve with noise wall to Western Distributor opposite Bulwara Road



Figure 3-19 Bulwara Road houses adjacent to Paradise Reserve within Pymont HCA



Figure 3-20 Pymont Fire Station, corner of Pymont Street and Gipps Street.



Figure 3-21 Former Woolstore, corner of Pymont Street and Murray Street.



Figure 3-22 Woolbrokers Arms Hotel, corner of Pymont Street and Allen Street.

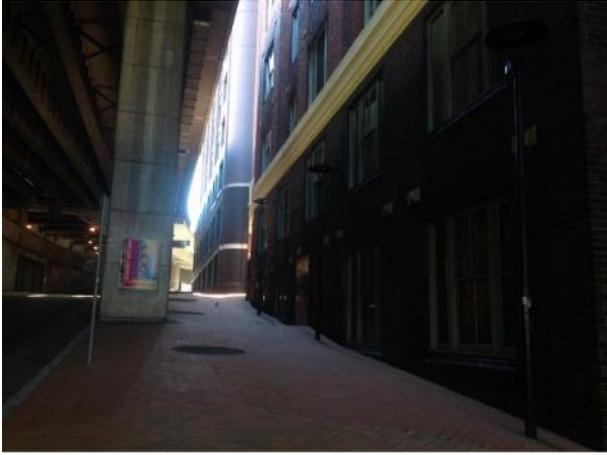


Figure 3-23 Southern elevation of the Goldsbrough Building



Figure 3-24 Beneath Goldsbrough curve



Figure 3-25 Ada Place, looking south, within Ultimo



Figure 3-26 Existing Western Distributor support pier adjacent to Goldsbrough Building

3.3.4 Ultimo and Harris Street

The Ultimo road network is laid out on a rectilinear grid running off the central corridor of Harris Street. Harris Street is noted on plans as early as 1845 although remained largely unformed and follows the ridgeline of the peninsula. In the 1980s the Western Distributor/Glebe Island Arterial created a visual and physical barrier, separating Ultimo from neighbouring Pyrmont and altering the continuity of the local street pattern in these areas. Quiet local streets now stand in contrast with the major arterial road that bisects the area.

Ultimo HCA (C69) comprises a small area of semi-detached cottages oriented around Ada Place and fronting Harris Street. To the west the terrace group (I1238) at 282-318 Jones Street and the Former Edwin Davey & Sons Flour Mill (now Harbour Mill apartments) lie on the southern side close to the Western Distributor. The block between Harris Street and Pyrmont Street is occupied by the large footprint of the Goldsbrough Woolstore, a conglomerate of three formerly distinct buildings listed on the National Trust Register (refer to 6.17).

Key heritage items in this area comprise:

- Terrace Group at Ada Place
- Terrace Group at 282-318 Jones Street
- Former Edwin Davey Flour Mill (Now Harbour Mill Apartments)
- The Goldsbrough Woolstore complex (National Trust NSW Register Item IDs: 9276 and 7396).



Figure 3-27 Former Woolstore, William Henry Street Ultimo



Figure 3-28 Terrace house group on William Henry Street Ultimo



Figure 3-29 Mary Anne Street Ultimo near Ultimo TAFE



Figure 3-30 Thomas Street, looking north-east. Former Sydney Technical College campus (now Ultimo TAFE)

3.3.5 Pyrmont Bridge Road

Pyrmont Bridge Road runs parallel to Blackwattle Bay on the western side adjacent to the reclaimed head of the Bay and Wentworth Park. Key heritage items in this area include:

- Pyrmont and Glebe Railway Tunnels, encompassing the Wentworth Park viaducts and associated elements (SHR #01225)
- Sydney Water Pumping Station, Pyrmont Bridge Road (Sydney LEP I1257)
- Blackwattle Bay Storm Water Channel No. 17 (Sydney Water S170 #4570535).



Figure 3-31 Pyrmont Bridge Road, adjacent to Blackwattle Bay



Figure 3-32 Wentworth Park Railway viaduct from western side.



Figure 3-33 S170 Listed Sydney Water Pumping Station, corner of Pyrmont Bridge Road and Wattle Street



Figure 3-34 Rail Bridge adjacent to Wentworth Park

The Heritage Impact Statement (HIS) prepared by CityPlan (March 2019) for Infrastructure NSW as part of the Environmental Impact Statement (EIS) for the New Sydney Fish Markets – Stages 1 and 2 project assessed the potential for historical archaeology around the Pyrmont and Glebe areas.⁴ The findings of the HIS indicate a moderate to high potential for archaeological sensitivity in the Fish Markets area for former structures, particularly the stone and fill causeway beneath Pyrmont Bridge Road, late-19th Century sea walls beneath the middle section of Pyrmont Bridge Road, stormwater outlets, sewerage piping, and former wharf structures (see Figure 7-7 and Figure 7-8). This historical archaeological potential is limited to the Fish Markets and Wentworth Park area. Further discussion is provided in Section 7.2.

⁴ For the detail assessments, refer to the Heritage Impact Statement by CityPlan in Appendix 23 and the Bays Market Precinct: Blackwattle Bay & Wentworth Park – History, Built Heritage, Archaeology and Landscape Study by CityPlan for UrbanGrowth NSW (2017) in Appendix 23A of the *New Sydney Fish Market at Blackwattle Bay – Stage 2: Environmental Impact Statement*, prepared by BBC Consulting for Infrastructure NSW, October 2019.

4 Statutory and planning context

4.1 Environment Protection and Biodiversity Conservation Act 1999

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) defines 'environment' as both natural and cultural environments and therefore includes Aboriginal and non-Aboriginal historic cultural heritage items.

Under the EPBC Act, protected heritage items can be listed on the following lists:

- The National Heritage List (NHL). The NHL is a list of natural, historic and Indigenous places of outstanding significance to the nation.
- The Commonwealth Heritage List (CHL). The CHL is a list of important heritage items and places belonging to the Commonwealth Government or its agencies.

These two lists replaced the Register of the National Estate (RNE). The RNE was an early list of places of significant sites and places established under the Whitlam Government. The RNE was suspended after the gazettal of the EPBC Act. It remains as an archive.

Under Part 9 of the EPBC Act, any action that is likely to have a significant impact on a matter of National Environmental Significance (known as a controlled action under the EPBC Act), may only progress with the approval of the Commonwealth Minister for the Department of the Environment.

No sites within the study area are identified as included on the NHL or CHL. As such, no legal requirements regarding historic heritage under the EPBC Act apply to the proposal.

4.2 NSW Legislation

In NSW, cultural heritage is principally protected under three acts:

- *Heritage Act 1977* (NSW) (the Heritage Act)
- *Environmental Planning and Assessment Act 1979* (NSW) (EP & A Act)
- *National Parks and Wildlife Act 1974* (NSW) (NPW Act)

Other statutory documents that apply to the heritage study area include:

- *Sydney Regional Environmental Plan No 26—City West*

4.3 Heritage Act 1977

The *Heritage Act 1977* (Heritage Act) was enacted to conserve the cultural heritage of NSW. The Act defines a heritage item as a 'place, building, work, relic, moveable object or precinct'. The SHR was established under Section 22 of the Heritage Act. It is a statutory list of heritage items considered to hold significance to all of NSW.

The required approvals for the project under the Heritage Act are outlined at Section 7.6.

Section 60 Approval

Listing of a place or item on the SHR comes with legal requirements. The approval of the Heritage Council of NSW is required for proposed development or changes to SHR listed sites. There are a number of SHR listed sites within or adjacent to the project footprint. There is one SHR item directly affected by the project: Glebe Island Bridge.

Section 57(2) Standard Exemptions

Works to SHR items that are minor in nature and will have minimal or no impact on the heritage significance of an item or place may be covered by a series of standard exemptions that apply to a broad range of minor development. On the 1st December 2020 the Heritage Council of NSW released an updated schedule of Standard Exemptions to subsection 57(1) of the Heritage Act made under subsection 57(2). These standard exemptions range from items such as maintenance works, repair or alteration works to non-significant fabric, safety requirements, minor excavation activities, and temporary structures.

Relics Provision

Specific to archaeology, the Heritage Act defines a 'relic' as any deposit, object or material evidence:

- a) that relates to the settlement of the area that comprises NSW, not being Aboriginal settlement; and
- b) is of State or Local heritage significance.

Any 'relics' contained within the study area are subject to the relevant provision of the Heritage Act. Sections 139-145 of the Heritage Act prevent the excavation of a relic, except in accordance with an excavation permit, or an exception from the need for a permit. Permits and exceptions are issued by the Heritage Council of NSW.

Section 139 [1] of the Heritage Act states that:

A person must not disturb or excavate any land knowing or having reasonable cause to suspect that the disturbance 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.

Section 7 of this report outlines the potential within the study area to contain archaeological remains that may be considered 'relics' under the Heritage Act. Where ground disturbance is proposed within the curtilage of an SHR item the submission of a Section 60 Application under the Heritage Act is required. For areas outside SHR curtilages with the potential to contain relics an application for an Excavation Permit is required to be submitted under Section 140 of the Heritage Act. Exceptions may be applied for when excavation is likely to have a minor impact on relics, or when the site has very little likelihood of relics or no archaeological research potential. In this instance, a Section 139 exception application should be submitted.

Section 170 Registers

Section 170 of the Heritage Act requires all government agencies to keep a database of heritage assets in the form of a S170 Heritage and Conservation Register. Agencies that keep and maintain S170 Registers include TfNSW (formerly known as Roads and Maritime Services), Sydney Ports, Sydney Water, TAHE (formerly Railcorp), Ausgrid and Land and Housing Corporation.

Inclusion of an asset on an S170 register carries a requirement for the responsible agency to manage their heritage asset in a manner which retains their heritage significance. Projects involving the alteration, disposal or demolition of State-owned Section 170 listed assets should be referred to the NSW Heritage Council (or its delegate Heritage NSW) for comment.

The projects interfaces with and results in alterations to the Anzac Bridge. The Anzac Bridge is an item listed on the RMS 170 Register. Whilst not formally listed on the SHR, the Anzac Bridge is an item of recognised State significance.

4.4 Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act) sets out the NSW planning framework, including the management, conservation and development of land. The EP&A Act is aimed at ensuring that development is both economical and ecologically sustainable by providing for LEPs to be made.

The study area comprises the Inner West Council Local Government Area (LGA) to the west of the Anzac Bridge and City of Sydney LGA to the east. The relevant LEPs are:

- Sydney Local Environmental Plan 2012 (Sydney LEP)
- Leichhardt Local Environmental Plan 2013 (Leichhardt LEP)

LEPs provide for the protection of locally significant heritage items and places via their inclusion on Schedule 5 – Environmental Heritage. The project interfaces with several different local heritage items and places, including HCAs in the City of Sydney LGA. A HCA is an area recognised for its special historic and aesthetic character. Important elements within HCAs include the architectural style of buildings, streetscape elements, vegetation and landscaping and street patterns/subdivision layouts.

4.4.1 Strategic Planning Context

Pymont Place Strategy

The Pymont Place Strategy (PPS) was placed on public exhibition by the NSW Department of Planning, Industry and Environment (DPIE) in July 2020, and was finalised in October 2020. The PPS creates a 20-year vision and strategic planning framework to support the NSW Government's vision to transform the Pymont Peninsula while meeting the aspirations of the business, industry, visitors, local and future residents.

The PPS identifies sub-precincts throughout Pymont that, based on their character, are suitable for growth and change. A Structure Plan and specific, place-based priorities are outlined for each sub-precinct. The PPS also gives details on infrastructure opportunities and implementation approaches, with a focus on delivering sustainable outcomes for the place in order to achieve design quality, active transport, urban greening and improvements to public open space.

The PPS is informed by a series of supporting technical studies including a non-Indigenous Cultural Heritage Study relevant to this SOHI (GML Heritage, *Pymont Place Strategy–Non-Indigenous Cultural Heritage Study*, report prepared for DPIE October 2020). The study describes the non-Indigenous heritage of the Pymont Peninsula study area and immediate surrounds and makes recommendations on how matters of non-Indigenous heritage can be protected and considered as part of the proposed planning reforms affecting Pymont. Specifically, the study recommends that the strategic direction for the Peninsula needs to honour the place's history and heritage, and its community by conserving the natural, scenic environmental, social, cultural and heritage qualities of the Peninsula and its waterfront edges.

The GML study (p46) recommends that the non-statutory item comprising the former Pitt Son & Badgery Woolstore and Elder Smith Goldsbrough Mort No 1 Woolstore (320-384 Harris Street) be included on Schedule 5 of the Sydney LEP 2012. The Goldsbrough Woolstore is assessed in detail at 6.1.6 as having State level significance.

4.5 Heritage item listings

Heritage items within the study area are listed in Table 4-1. Items are generally ordered by geographic location from west to east across the study area. See also Figure 1-2 and Figure 1-3.

Statements of significance for those heritage items **directly impacted** by the proposal are provided in Section 6.

Table 4-1 Heritage listed items within the study area

Register Listing	Item Name	Address	Significance
Port Authority S.170 4560013	Glebe Island Plaque - Opening of Container Terminal	Sommerville Road, Rozelle (near intersection with Solomons Way)	Local
Port Authority S.170 4560056	Glebe Island Dyke Exposures	Sommerville Road, Rozelle (near intersection with Solomons Way)	Local
Port Authority S.170 4560014	Glebe Island Sandstone Quarry Sample	Sommerville Road, Rozelle (near intersection with Solomons Way)	Local
Port Authority S.170 4560016	Glebe Island Silos	Sommerville Road, Rozelle (near intersection with Solomons Way)	State
Port Authority S. 170 4560012	Glebe Island World War II Monument	Sommerville Road, Rozelle (near intersection with Solomons Way)	Local
SHR # 01015	White Bay Power Station	Victoria Road, Rozelle, NSW 2039	State
Roads and Maritime S170 Register 4305018	Anzac Bridge	Victoria Road, Pyrmont, NSW 2009	State-level
SHR # 01914	Glebe Island Bridge	Bank Street, Victoria Road, Pyrmont, NSW 2037	State
Sydney LEP C52	Pyrmont Local Conservation Area	Bulwara, Union, Pyrmont Streets, Pyrmont, NSW 2009	Local
Sydney LEP C69	Ultimo Local Conservation Area	Harris, Quarry, Fig, Jones Streets, Ultimo, NSW 2007	Local
Sydney LEP I1205	Former Edwin Davey & Sons Flour Mill	2A Allen Street, Pyrmont, NSW 2009	Local
Sydney LEP I1257	Sydney Water Pumping Station Pyrmont Bridge Road	103 Pyrmont Bridge Road, Pyrmont, NSW 2009	Local
Sydney Water Section 170 4570535	Blackwattle Bay Storm Water Channel No. 17	Subterranean - Runs east west beneath Wentworth Park to Blackwattle Way	Local
SHR # 01225 TAHE s170 # 4801122	Pyrmont and Glebe Railway Tunnels Pyrmont Railway Cuttings, Tunnel & Weighbridge	Metropolitan goods railway, Pyrmont, NSW 2009 Quarry Master Drive/Harris Street, Pyrmont, NSW 2009	State

Register Listing	Item Name	Address	Significance
Sydney LEP I1211	Former commercial building 'Festival Records'	1-3 Bulwara Road (And 63-79 Miller Street), Pyrmont, NSW 2009	Local
Sydney LEP I1226	Terrace Group Harris Street	101-125 Harris Street, Pyrmont, NSW 2009	Local
Sydney LEP I1227	Terrace Group Harris Street	135-155 Harris Street, Pyrmont, NSW 2009	Local
Sydney LEP I1228 /State Heritage Register	Former Pyrmont Post Office including interiors, side passage and yard	146-148 Harris Street	State
Sydney LEP I1230	Terrace Group Harris Street	189-203 Harris Street, Pyrmont, NSW 2009	Local
Sydney LEP I1231	Dunkirk Hotel	205-207 Harris Street, Pyrmont, NSW 2009	Local
Sydney LEP I1232	Quarryman's Hotel	214-216 Harris Street, Pyrmont, NSW 2009	Local
Sydney LEP I1247	Terrace Group Paternoster Row	1-21 Paternoster Row, Pyrmont, NSW 2009	Local
Sydney LEP I1233	Corner Shop and Terrace Group	224-302 Harris Street, Pyrmont, NSW 2009	Local
Sydney LEP I1263	Former woolstore "John Taylor Wool Stores"	137 Pyrmont Street, Pyrmont, NSW 2007	Local
Sydney LEP I1265	Pyrmont Fire Station	147 Pyrmont Street, Pyrmont, NSW 2009	Local
Sydney LEP I1205	Former Industrial Building Elements "Edwin Davey & Sons Flour Millers"	2A Allen Street, Pyrmont, NSW 2009	Local
Sydney LEP I1256	Former Warehouse "Bank of NSW Stores"	17-21 Pyrmont Bridge Road, Pyrmont, NSW 2007	Local
Sydney LEP I1255	Pyrmont Bridge Road Hotel	11 Pyrmont Bridge Road, Pyrmont, NSW 2009	Local
Sydney LEP I1238	Terrace Group Jones Street	282-318 Jones Street, Pyrmont, NSW 2009	Local
Sydney LEP I1264	Terrace Group Pyrmont Street	142 - 168 Pyrmont Street, Pyrmont, NSW 2009	Local
Sydney LEP I1246	Former Woolstore "Clarence Bonded and Free Stores"	139 Murray St, Pyrmont, NSW 2009	Local
Sydney LEP I1206	Woolbrokers Arms Hotel	22 Allen Street, Pyrmont, NSW 2009	Local

Register Listing	Item Name	Address	Significance
Sydney LEP 131	Wattle Street Railway Viaduct	Wattle Street, Pyrmont, NSW 2009	Local
Sydney LEP I2002	Semi-detached Cottage Group Ada Place	50-52 Ada Place, Ultimo, NSW 2009	Local
Sydney LEP I2029	Terrace Group Harris Street	451-455 Harris Street, Ultimo, NSW 2007	Local
Sydney LEP I20665	Former Woolstore William Henry Street	14-18 William Henry Street, Ultimo, NSW 2007	Local
Sydney LEP I2066	Terrace Group William Henry Street	20-36 William Henry Street, Ultimo, NSW 2007	Local
Sydney LEP I2032	Glasgow Arms Hotel	527-529 Harris Street, Ultimo, NSW 2007	Local
Sydney LEP I2068	House William Henry Street	103-103A William Henry Street, Ultimo, NSW 2007	Local
Sydney LEP I2067	Terrace Group William Henry Street	91-97 William Henry Street, Ultimo, NSW 2007	Local
SHR # 00502	Former Ultimo Post Office	494 Harris Street, Ultimo, NSW 2007	State
Sydney LEP I2044	Terrace Group Harris Street	77-79 Macarthur Street, Ultimo, NSW 2007	Local
Sydney LEP I2037	Terrace Group Harris Street	629-637 Harris Street, Ultimo, NSW 2007	Local
Sydney LEP I2033	Terrace Group Systrum Street Row	578-606 Harris St, Ultimo, NSW 2007	Local
Non-statutory item NSW National Trust Register	Pitt Son & Badgery Woolstore and Elder Smith Goldsbrough Mort No 1 Woolstore (320-384 Harris Street)	320-384 Harris Street, Ultimo, NSW 2007	State

5 Historical overview

5.1 Preamble

This section provides an overview history of the areas intersected by the proposal and examines in more detail the development, design and construction of the Anzac Bridge itself. It focuses solely on the non-Aboriginal history of the study area, with Aboriginal cultural heritage addressed separately. Aboriginal people, belonging to 29 distinct local clan groups, have always occupied the land and foreshore around Sydney Harbour. Aboriginal culture, history and societies are rich, diverse and complex. Much has been written about the long and sustained connection that Aboriginal people have with Sydney Harbour, and the impact that white settlement has had on that important relationship.⁵

The historical background of the Anzac Bridge is closely related to the history and development of Glebe Island, Rozelle, Pyrmont, Darling Harbour and Ultimo. These areas to the west of central Sydney, oriented around a series of bays, coves, creeks and inlets, were slower to develop than the town to the east.

Throughout the nineteenth and early twentieth centuries the resumption of waterfront land by Government, expansion of maritime activity and the growth of the working harbour drastically reshaped the foreshore land around Darling Harbour, Johnstons Bay, White Bay, Rozelle Bay and Blackwattle Bay. Waterfronts hosted a multitude of finger wharves, shipyards, factories, warehouses and various industrial structures. These uses prompted the resumption of land around Rozelle Bay, White Bay and Glebe Island to facilitate transportation and industry, such that by the end of the nineteenth century the island connected to the Rozelle foreshore and no longer formed a discrete land mass.

The Anzac Bridge is the third bridge to connect Glebe Island to the areas of land surrounding it. The second, designed by engineer Percy Allen and completed in 1903, remains beside it to the north as a managed ruin. The first bridge was constructed of Tasmanian blackbutt timber. It connected the island to Pyrmont from 1861 to 1901. Prior to any bridge, crossings were made by punt (Figure 5-1).⁶

5.2 Glebe Island

The waters of Johnstons Bay separate Rozelle and Balmain from Pyrmont to the east. Further south, Rozelle Bay and Blackwattle Bay meet the Glebe foreshore. Johnstons Bay was named for George Johnston, a soldier and farmer who returned to Australia to become a farmer and settler after having been dismissed from the Redcoats for misconduct.⁷

In its natural form Glebe Island was a rocky outcrop, 12 hectares in size, with steep cliffs, dense scrub and native forest. It was only accessible from the Balmain foreshore at low tide. The island was part of land granted to First Fleet Chaplain Reverend Richard Johnson as church land. Portions of the island then passed through several hands without incurring much change. A causeway was laid in the 1840s and the land was subdivided and sold on shortly after. In 1841 surveyor William Wells drew up a subdivision for the island for a Mr Williams, the landholder at the time. Wells' drawing included four streets and 16 planned allotments at the southern and western end of the island. The subdivision never eventuated.⁸

In 1848 when the Government commenced discussions about building a public abattoir on Glebe Island Balmain Council saw the potential of connecting the land across the waters of Pyrmont and to the growing town. They purchased land to build a road across the island and built the first Glebe Island bridge in 1861 (Figure 5-2).

⁵ See Val Attenbrow, *Sydney's Aboriginal Past: investigating the archaeological and historical records*, University of New South Wales Press, 2010, Paul Irish, *Hidden in Plain View: the Aboriginal People of Coastal Sydney*, New South, 2017 and Inga Clendinnen, *Dancing with Strangers: Europeans and Australians at First Contact*, Cambridge University Press, 2005

⁶ Mark Dunn, Glebe Island Bridge entry for Dictionary of Sydney published 2008 (https://dictionaryofsydney.org/entry/glebe_island)

⁷ Dictionary of Sydney, entry on soldier George Johnston https://dictionaryofsydney.org/person/johnston_george#ref-uuid=e7a8f1d8-b045-098d-7617-2897a21d6373

⁸ Peter Reynolds, Glebe Island entry for Dictionary of Sydney published 2008 (https://dictionaryofsydney.org/entry/glebe_island)

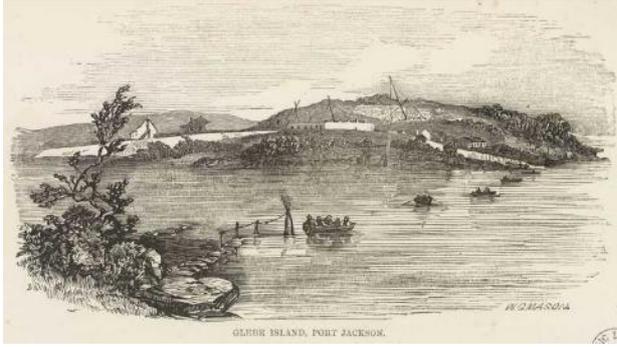


Figure 5-1 Glebe Island Port Jackson, wood engraving by W.G. Mason, 1857 showing punt crossings (National Library of Australia)



Figure 5-2 Glebe Island Bridge at Johnson's Bay, Sydney c1878 (National Library of Australia)



Figure 5-3 The collapse of the first timber Glebe Island Bridge, 1899 (Australian National Maritime Museum)



Figure 5-4 Glebe Island Bridge postcard 1915 (City of Sydney Archives)

5.2.1 The Glebe Island Abattoir—1860 to 1915

In 1850 Colonial Architect Edmund Blacket laid out plans for a public abattoir to be situated on Glebe Island. Blacket's impetus was the *Sydney Abattoir Act* of 1850. The Act proposed the establishment of a government-run abattoir beyond the city limits.⁹

Until this time the killing of animals for meat in Sydney had been carried out by private slaughterhouses. These small-scale slaughter yards operated in suburbs such as Pyrmont and Ultimo, side by side with other workshops, workers housing and busy cottage industries. Official reports from around 1850 onwards report crowded conditions with people living amongst livestock, a lack of sanitation, and refuse and offal left to rot in the streets. Growing public health concerns and an increase in crowding led to the adoption of the *Slaughter Houses Act* of 1849.¹⁰ The Act forbade new slaughterhouses within a two-mile radius of the city and this led to a push of the meat industry south. New operations, including a tannery and boiling down works were built at Waterloo and Botany.¹¹

Blacket's original building for the Glebe Island Abattoirs was sandstone, arranged in parallel wings with round headed openings and simple decoration (Figure 5-5).¹² It was later expanded on as the complex grew, with additions by William Weaver and Alexander Dawson. The 1913 wharf infrastructure scheme by the

⁹ Sydney Abattoir Act, 1850

¹⁰ Slaughter Houses Act, 1849

¹¹ McManus, P, 'Feeding a growing city: the Glebe Island Abattoir and the provision of meat for Sydney', *Rural Society*, V.11, No.3, 2001, p245.

¹² Joan Kerr, 'Our Great Victorian Architect, Edmund Thomas Blacket' (1817–1883), National Trust, Sydney, 1983, pp 74–75

Sydney Harbour Trust shows an indicative layout of the complex two years prior to its closure, including ships in berth and the rail alignment (Figure 5-6).

Meat slaughtered on Glebe Island was conveyed to Sydney via a steam driven punt running to Pyrmont, where butcher's carts waited to take it by road into town.¹³ Soon after opening, there were calls for the closure of the Glebe Island Abattoir because of poor management, unsanitary conditions and a nearby growing residential population.

The Glebe Island Abattoirs featured prominently in the 1882 Royal Commission into noxious and offensive trades, instigated by complaints from Balmain and Glebe Point residents.¹⁴ In 1901-02 the Committee on Public Works inquiry into Removing the Public Abattoir from Glebe Island met and took evidence from witnesses for eleven months. The name of the Committee made its intention clear, and at the end of the period after interviewing 106 witnesses from local government officials and alderman, to butchers, tanners and related trades, the decision to move the abattoirs to a new site at Homebush was endorsed.¹⁵

In 1900 the *Sydney Harbour Trust Act* resulted in the resumption of all waterfront land throughout Port Jackson up to the Parramatta River and in the establishment of a Trust to manage and develop that land.¹⁶ The Trust later became the Maritime Services Board (MSB).

In 1903 the new bridge to Pyrmont, designed by Percy Allan, Assistant Engineer for Bridges in the NSW Department of Public Works, opened (Figure 5-4). The second Glebe Island Bridge was a swing bridge swivelling on a massive central stone pivot-pier with timber trussed side spans. Allan had been appointed as engineer-in-charge of bridge design in 1896. Glebe and Pyrmont claimed to be amongst the largest electrically operated swing span bridges then constructed and among the first in the world to be electrically operated.

Bridge timbers were Tasmanian Blackbutt, likely sourced for the hardwood timber's natural abilities to resist marine borer attack. Percy Allan was responsible for the introduction of American timber bridge practice to NSW and designed over 500 bridges in NSW. The bridge is also associated with JJC Bradfield (1867-1943), later known for his work on the Sydney Harbour Bridge. Power for the bridge came from the nearby Ultimo Powerhouse, with the swing span operated from a control room located in the centre of the bridge. The swing span allowed for the inward and outward passage of two ships simultaneously.¹⁷ The structure allowed for a more direct route for meat to reach the markets in Sydney.

Glebe Island abattoirs were shut in 1915 and the buildings demolished. The Sydney Harbour Trust the began work on levelling the island, quarrying the large sandstone outcrops and cliffs to create wharves and deep-water berths and further reclaim land at the western side of the island.



Figure 5-5 Abattoirs Glebe Island, Sydney, 1870, attributed to Charles Pickering (State Library of NSW)

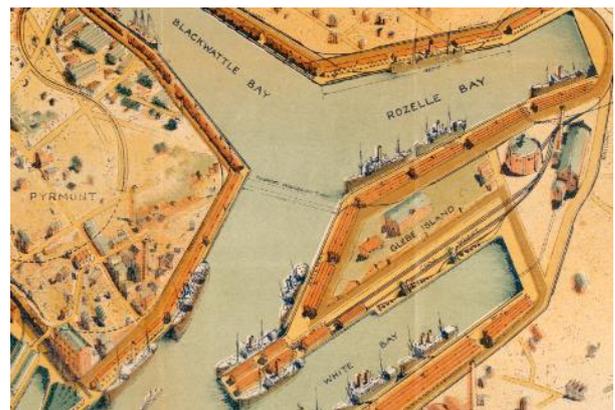


Figure 5-6 Detail of the Sydney Harbour Trust's wharf and maritime infrastructure scheme 1913 (National Library of Australia)

¹³ *Abattoir Heritage Precinct–Sydney Olympic Park, Conservation Management Plan*, Government Architect's Office 2013 pp 107-108

¹⁴ Peter Reynolds, Glebe Island entry for Dictionary of Sydney published 2008 (https://dictionaryofsydney.org/entry/glebe_island)

¹⁵ *Abattoir Heritage Precinct–Sydney Olympic Park, Conservation Management Plan*, Government Architect's Office 2013 pp 107-108

¹⁶ Sydney Harbour Trust Act 1901 http://classic.austlii.edu.au/au/legis/nsw/num_act/shta19001901n1303/

¹⁷ State Heritage Inventory Citation, Glebe Island Bridge:

(<https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5051118>)



Figure 5-7 Glebe Island Wheat Silos, photograph by Arthur Ernest Forster, 1920 (Source: State Library of NSW)



Figure 5-8 Glebe Island Wheat Silos, photograph by Arthur Ernest Forster, 1920 (Source: State Library of NSW)

Robert Saunders, the Pyrmont quarry master, was been commissioned to level the island to make it suitable for wharves. Saunders's firm dumped a great quantity of excavated ballast at the eastern end of the island for wharfage. Many cubic feet of quality dimension stone, however, were carefully cut away and almost certainly used for construction projects. Some 250 of Saunders's men were still working on the island in 1920.¹⁸ Wharves were built on three sides of the levelled rocky outcrop from 1912. The reconstructed fourth side was attached to the Rozelle shoreline as part of the extensive reclamation of Rozelle Bay and White Bay which had begun in the 1890s.

5.2.2 During the Wars

Silos (1916-1921)

In 1915, the American firm of Metcalfe and Co. Ltd offered their services to act as consulting and design engineers for the establishment of bulk facilities in four states. New South Wales was the only state to accept the invitation (Grain Elevators Board, 1972). In the following year, the State government entered into an agreement with that firm for the supply of full plans and specifications of six types of elevator (Grain Elevators Board, 1972) and an extra one, if required, for terminals at Sydney and Newcastle and four country types for 20,000 pounds as well as a supervision fee for the following five years.¹⁹

Acceptance of this offer was partially due to the mouse plague that had hampered the storage of bagged wheat in New South Wales in 1916. Efforts were made to improve storage of bagged wheat, as well as procedures to stop shipping transporting mice around Sydney Harbour. Initial work for the Sydney site commenced with quarrying work in 1917 designed to prepare it for the silos. The spoil from this work was used to extend the reclamation and wharfage work begun in the period 1913-1916 ("Sydney Harbour Trust Annual Report," 1917).

The silos designed by J.S. Metcalfe and Co. were shaped as large cylindrical bins capable of holding 6,382,000 bushels. On top of the bins were six steel galleries with conveying equipment to direct the wheat, unloaded from trucks, through a tripper into the bins. By mid-1921 the first phase of the system was near to completion and was so by the end of that year (Figure 5-7 and Figure 5-8).

During World War II, Glebe Island became the main US army depot in Sydney. Over 1,000,000 American servicemen and 5,000,000 tons of US war material were transported through the Port, mainly the Glebe Island wharfage area, and handled by the MSB and the NSW Government Railways during the war.²⁰ A memorial was erected on the site and dedicated in 1946. It commemorates the first landing of the U.S Armed Forces at the Port of Sydney in 1942.

¹⁸ Peter Reynolds, Glebe Island entry for Dictionary of Sydney published 2008 (https://dictionaryofsydney.org/entry/glebe_island)

¹⁹ Glebe Island Concrete Batch Plant – Statement of Heritage Impact prepared by AECOM for Hanson Constructions, January 2018

²⁰ NSW War Memorials Register – Glebe Island Memorial

5.2.3 Post-War Years and Present Day

Bulk handling of grain continued on the island until the 1990s. After the war, the timber industry gradually relocated to Homebush and sites became vacant. The White Bay Power Station was transferred to the Electricity Commission of NSW and coal handling wharves were established along White Bay.

Soon the increase in wheat production saw an excess in wheat that required storage. A new 700 ft long concrete decked berth was built at Glebe Island to accommodate the larger more modern grain loading facilities. The other existing berths at Glebe Island were also being re-constructed at the same time. Additional silos and associated elevators were constructed during the 1970s to facilitate the modernisation and increases needed in storage capacity. The function of the site as a grain silo ceased in 1984. During the later 1980s and early 1990s activity at the terminal has scaled down and several other uses have been adopted for the site. In 1993, for example, berths were leased as a vehicle import terminal.

In 1995 the new Glebe Island Bridge opened as part of the Glebe Island Arterial project, designed and built by the NSW Roads and Traffic Authority. Further detail on the new Glebe Island Bridge is described in Section 5.3.

Today Glebe Island remains in use as a port used for deep-water wharfage, including bulk cement, sugar and gypsum loading and unloading. The land is owned and managed by the NSW Port Authority. Glebe Island and White Bay are the only deep-water wharves west of the Sydney Harbour Bridge. The island is an important part of Sydney's logistics capability for essential construction materials and working harbour services.

5.3 The New Glebe Island Bridge

5.3.1 Designing the Bridge

The electrical swing span bridge designed by Percy Allen served Sydney as the Glebe Island crossing up until the 1990s. The width of the aged bridge and its inability to cope with traffic demands, including the movement of road freight from Blackwattle Bay and the recent completion of the Western Distributor, eventually prompted conversations regarding a new crossing.

Proposals to replace Glebe Island Bridge and to construct the Glebe Island Arterial were mooted in 1985 by the Department of Main Roads (DMR), who prepared an EIS in that year. The DMR had been created in the 1930s and in 1989 the DMR, Department of Motor Transport and the Traffic Authority were amalgamated to form the Roads and Traffic Authority (RTA).

The objectives outlined in the Glebe Island Arterial EIS included relieving local streets of through traffic movement, easing traffic congestion, creating a safer and more pleasant environment for motorists and local residents and completing a new route in time for the proposed Darling Harbour redevelopment and the Bicentennial celebrations of 1988 (Figure 5-9).²¹

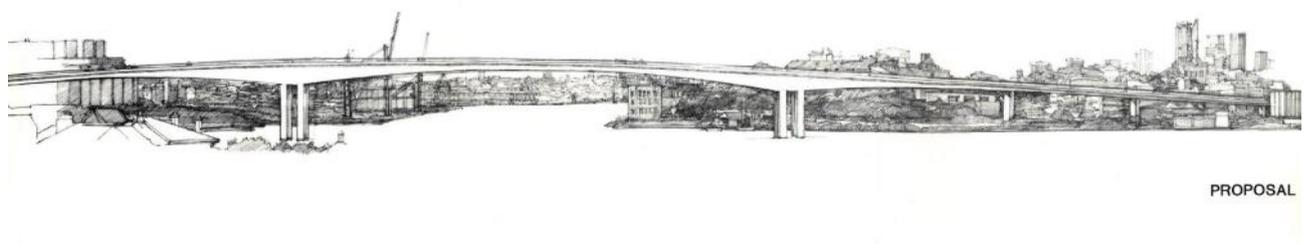


Figure 5-9 Original Scheme for the new Glebe Island Bridge (DMR 1985)

²¹ Glebe Island Arterial-Environmental Impact Statement, prepared by DMR for Department of Main Roads, 1985

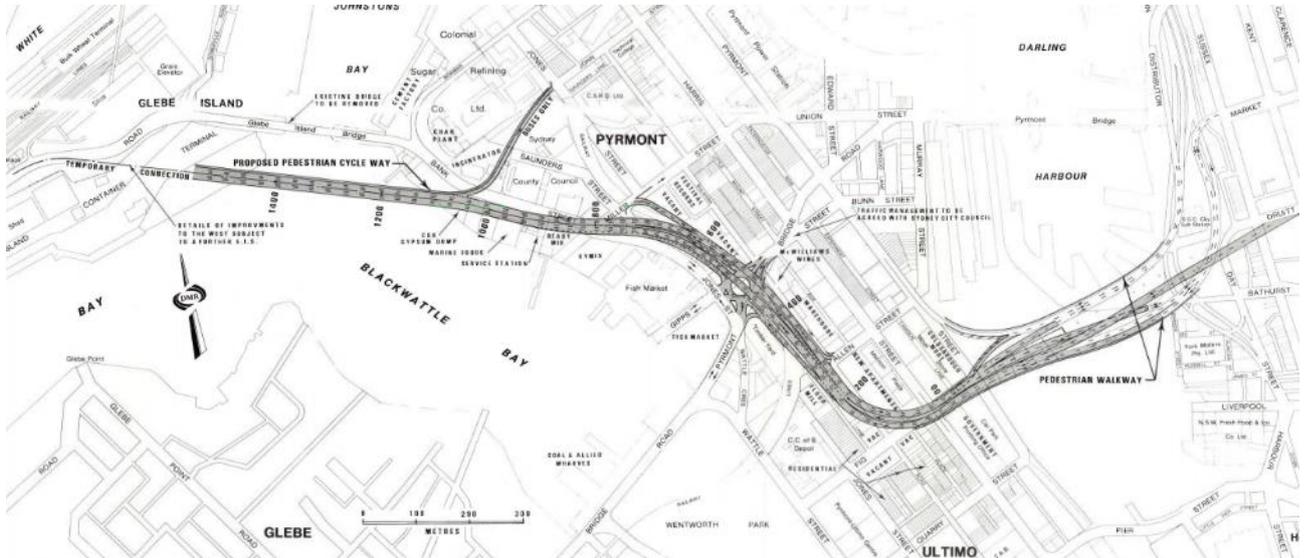


Figure 5-10 Original Scheme Glebe Island Arterial (DMR 1985)

5.3.2 The Glebe Island Arterial

The initial Glebe Island Arterial involved the construction of a six-lane divided viaduct along the Pyrmont Peninsula to connect the new high-level decks of the Western Distributor (across Darling Harbour) to a new high-level bridge across Johnstons Bay to Glebe Island (Figure 5-9). Interchanges with the local road systems were to occur near the junction of Pyrmont Bridge Road with Gipps Street with additional ramps proposed in Allen Street (southbound towards Harris Street) and in Fig Street (northbound from Harris Street).

The proposal was approved in August 1985, following public display and feedback from local community and potential bridge users. The Glebe Island Arterial was built in three stages. The first two stages of the arterial road between Harris Street in Ultimo to the Fish Markets on the eastern side of Blackwattle Bay were completed by 1987. Work on the third and final stage of the Glebe Island Arterial, including the new Glebe Island Bridge, commenced in 1989.

5.3.3 A Cable-Stayed Solution

The Bridge Branch of the RTA undertook the design for the new Glebe Island Bridge between July 1988 and March 1990. The RTA had been formed the year before. The bridge designer was Ken Wheeler. Wheeler graduated with a Bachelor of Science (1974) and a Bachelor of Engineering (1976) and a Master of Engineering Science (1984) from the University of Sydney. He had been involved in the design of major steel and prestressed concrete bridges throughout NSW.

In the original scheme the new Glebe Island Bridge was designed as a concrete box girder bridge with three main spans over the waterway. Supporting the spans, two main piers would need to withstand the impact of 10,000 tonne ship travelling at 8 knots.¹ However, a considerable number of site constraints, engineering and pricing considerations dictated the form and size of the structure.

The RTA Bridge Branch engineers most closely associated with the project (Hughes and Wheeler) had completed a study tour of North America for a study tour aimed at detailed examinations and discussions of recent cable-stayed bridge projects. Contacts made during this study tour were of considerable benefit during the detailed design phase.²²

It was anticipated that the foundation system required for the piers of the box girder bridge scheme would necessitate the costly relocation of submarine telephone and electricity cables. Consequently, the RTA revised its plans for the bridge, instead opting for a bridge with piers out of the water. It was necessary to develop the overall design approach progressively, incorporating a number of special aspects not normally considered in a conventional bridge design.

²² Glebe Island Bridge, Sydney: Design Approach, paper for the AUSTRROADS Conference Brisbane 1991, Wheeler, W. et al

Architectural and landscaping services were provided by the RTA's Architectural Section. Electrical detailing was carried out by the RTA's Building Mechanical and Electrical branch. Design of abutment retaining walls was carried out by consulting engineers Tierney and Partners. A maintenance gantry and the tower access ladders were designed by consulting engineers Ewbank Preece Sinclair Knight and Partners.



Figure 5-11 Bruce Wilson, project engineer, and Simon Lillyman, administration manager c1993 (David Moore)



Figure 5-12 Laurie Chow, RTA construction engineer c1993 (David Moore)

5.3.4 Construction and Completion

The \$69 million contract to build the new bridge was awarded to Baulderstone Hornibrook in March 1992, while other contracts were let for the construction of the approaches and associated roadways. Construction on the new Glebe Island Bridge commenced the following month. The total cost of the third stage of the Glebe Arterial came to \$170 million, 'including investigation, design and construction'. The two halves of the Anzac Bridge were joined on 24 July 1995.

On 3 December 1995, the NSW Premier Bob Carr officially opened the new Glebe Island Bridge, ceremonially cutting the ribbon to open the bridge using the same scissors used by Jack Lang to officially open the Sydney Harbour Bridge in 1932. Around 65,000 people took part in a community walk across the bridge to celebrate its opening (Figure 5-15).

The Anzac Bridge has three main cable-stayed spans. These spans are supported by 128 stay cables that fan out from the top of two 120-metre-high towers at either side of the deck, each of which is founded on 56 reinforced concrete piles. The cable deck is 805 metres long and 32.2 metres wide and accommodates six lanes of traffic as well as a pedestrian/bike lane along its northern side. On completion in 1995, the Anzac Bridge was the longest concrete cable-stayed bridge in Australia, at 345 metres in length.²³

David Moore, the renowned Australian photographer, commenced a self-directed enterprise to document the construction project. With the support of the RTA and Baulderstone Hornibrook, Moore took thousands of photos over three years of the construction lifecycle. When the gap was finally closed on the segmented deck in 1995 Sydney gained a second icon of Australian engineering.

²³ Glebe Island Bridge, Sydney: Design Approach, paper for the AUSTRROADS Conference Brisbane 1991, Wheeler, W. et al

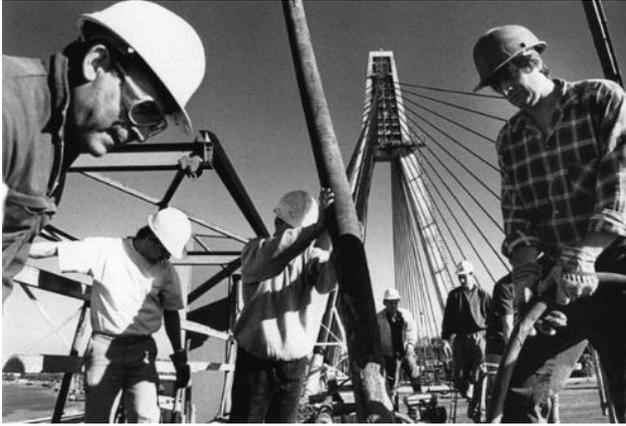


Figure 5-13 Construction Workers on the Bridge
c1993 (David Moore)



Figure 5-14 The Anzac Bridge underway c1993
(David Moore)



Figure 5-15 The bridge opens to the public, 1995
(David Moore)

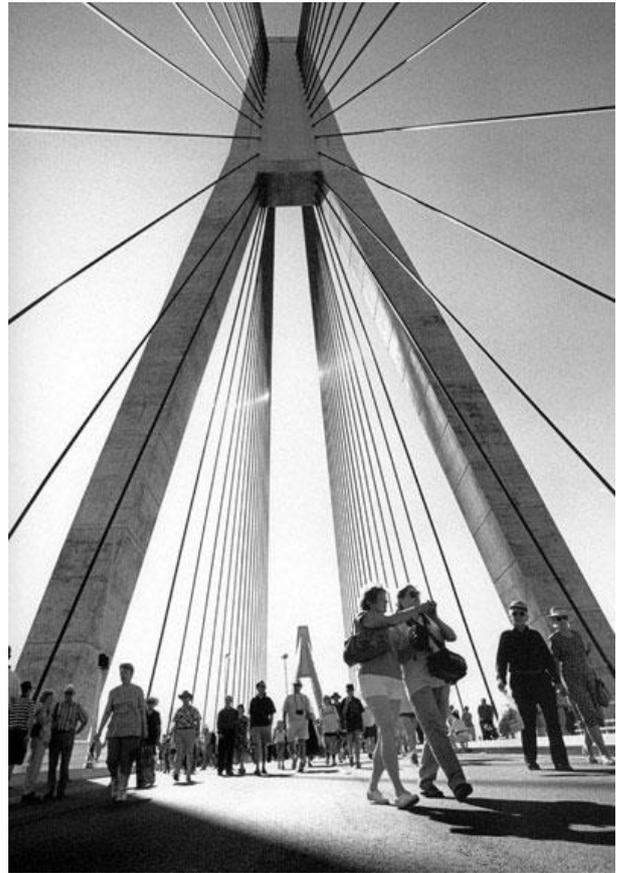


Figure 5-16 The bridge opens to the public, 1995 (David
Moore)

5.4 Rozelle, Rozelle Bay and Victoria Road

West Balmain, an area that once formed part of William Balmain's expansive 550-acre land grant to the west of Sydney, was relatively undeveloped until the 1880s. By the mid-nineteenth century noxious industries, encouraged by the Abattoirs on Glebe Island, began to dominate the waterfronts around White Bay and Rozelle Bay. Near Victoria Road, businesses included a meat preserving works, Alston Hutchinson's soap works (1876) and other workshops including a glassworks, a saw mill and later, a box making works.²⁴

The spread of industry created a demand for residential areas and soon the basic street layout of Rozelle was aligned. With it came nineteenth century row housing and other residential houses and accommodation

²⁴ History of Rozelle compiled by GML Heritage, *WestConnex M4-M5 Link—Technical Paper—Non-Aboriginal Heritage*, report prepared for Roads and Maritime Service, August 2017

for workers employed in the nearby industries (Figure 5-17). Additional lands were reclaimed at Rozelle Bay, White Bay and Iron Cove in the early 1900s. The Sydney Harbour Trust shaped the waterfront for the construction of wharves, including the Rozelle Bay Wharves. In June 1916, the Rozelle Rail Yards was created as part of the Goods Railway Line from Darling Harbour. The large site was created by filling in much of the White Creek estuary and quarrying the natural stone outcrops.²⁵

Between 1912 and 1917 the NSW Railway Commissioners built the White Bay Power Station, largely needed to cope with the influx in energy demand from the impending electrification of the rail network (Figure 5-18). The power plant was to grow and complexity over the first half of the twentieth century until a reduction in demand saw its closure in the 1980s. The construction of the Anzac Bridge and Glebe Island Arterial in the early 1990s resulted in substantial upheaval to the road network and built environment in the area, needed to connect the western distributor with Victoria Road, and the City West Link. Further change in Rozelle is currently occurring as part of the WestConnex M4-M5 Link project and the construction of the future Rozelle interchange.

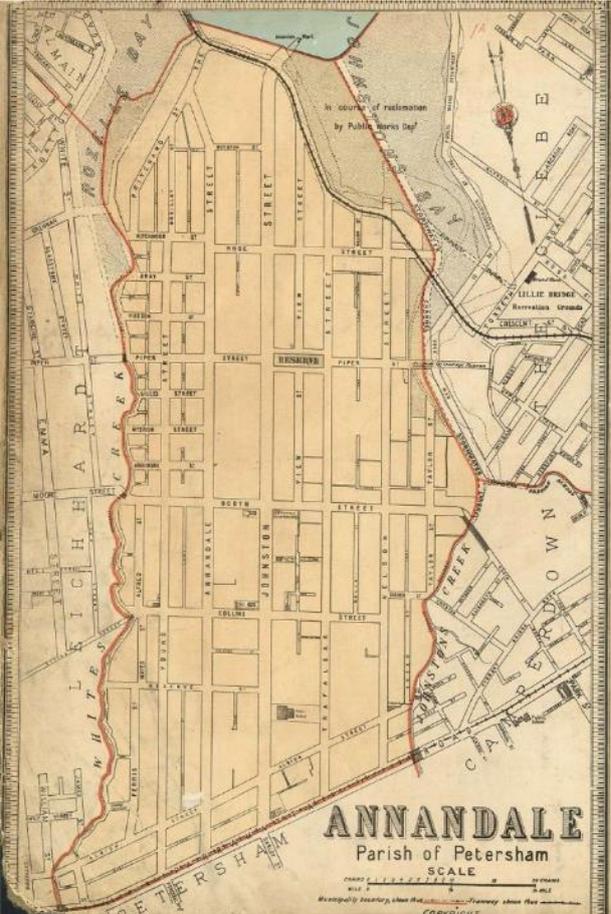


Figure 5-17 1894 Map of Annandale, showing White’s Creek, the Crescent and the head of Rozelle Bay (Source Higinbotham & Robinson in City of Sydney Archives)



Figure 5-18 White Bay Power Station c1930 (City of Sydney Archives)

5.5 Pyrmont and Ultimo

The Pyrmont peninsula, naturally a sandstone promontory projecting into Sydney Harbour, developed its unique character through the commercial, mercantile and industrial activities that occupied its foreshores for much of the last century. The area was slow to develop and is shown in early imagery as an isolated place, dotted with stone outcrops, some fences and fringed with native vegetation. Captain John Macarthur was the owner of a large landholding in the area. Ultimo received its name from Ultimo House, built in 1804 as the country retreat of Surgeon John Harris. Harris’ estate would eventually grow from a small farm to an estate of

²⁵ History of Rozelle compiled by GML Heritage, *WestConnex M4-M5 Link–Technical Paper–Non-Aboriginal Heritage*, report prepared for Roads and Maritime Service, August 2017

233 acres. It was from this estate that present-day Ultimo would be separated off and subdivided to resemble the current road network and subdivision pattern (Figure 5-19).

From 1839 urban settlement followed industrial development and burgeoning commercial activities. Residential growth was associated with the industrial and commercial growth on the peninsula, particularly in the years between 1875 and 1891. This was due to the proximity of Pymont and Ultimo to the growing city centre, the port at Darling Harbour and the City Markets. Pymont’s notable industry became stone quarrying. The Saunders Quarry group occupied three sites, known as ‘Purgatory’, ‘Hell Hole’ and ‘Paradise’ at the western side of the peninsula. From these sites fine-grained Hawkesbury sandstone was used for many notable public buildings in Sydney and overseas (Figure 5-20).

By the early 1900s the peninsula hosted two power stations, twenty wool stores, twenty-seven pubs, and CSR dominated the end of Pymont peninsula, eventually covering 12.5 hectares (Figure 5-22). Sydney Technical College moved to Ultimo in 1880 and the Technological Museum relocated to Harris Street in 1893. Pymont Power Station operated from 1904 to the 1950s (Figure 5-21).

Towards the end of the twentieth century the industries that defined and shaped Pymont began to fragment, restructure and relocate. Large infrastructure, such as the Western Distributor dissected the peninsula in the 1980s, physically separating Pymont from its long-time neighbour Ultimo. The redevelopment of Darling Harbour, stylistically distinct and differentiated not just in scale and materials but in purpose, function and aspiration, effectively turned its back on Pymont and Ultimo.



Figure 5-19 Pymont 1836 (City of Sydney Archives)

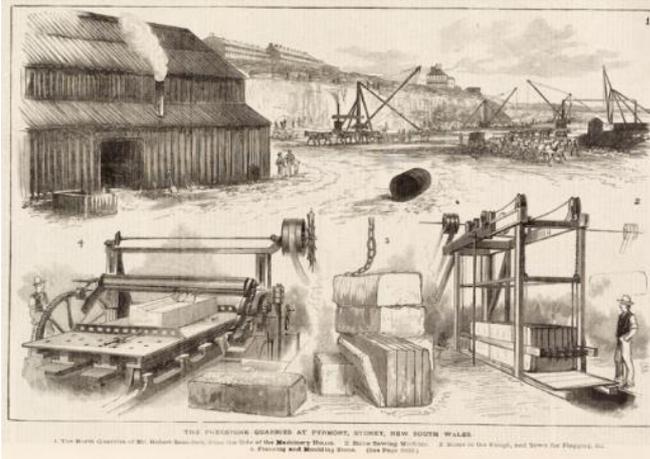


Figure 5-20 Saunders Quarry Pymont depiction of operations in 1883 (Pymont History)

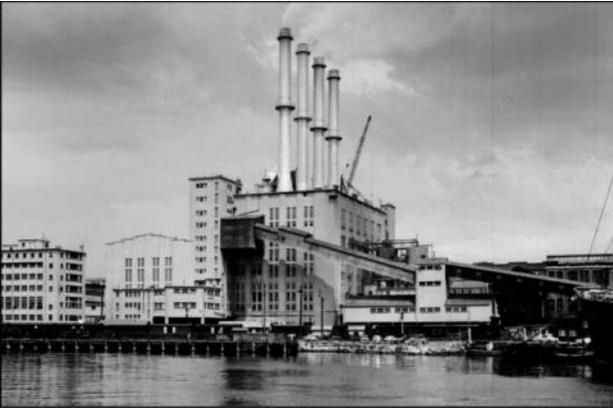


Figure 5-21 Pymont Power Station c1958 (Pymont History)



Figure 5-22 Colonial Sugar Refinery industrial complex Pymont c1930s (Pymont History)

5.6 Pyrmont and Glebe Railway Tunnels

The Darling Harbour/Lilyfield railway goods line (of which these Tunnels form a part) were part of the original goods line to the head of Darling Harbour built in 1855 as the first stage in a scheme to link the railway with wharfage at the head of this bay. This line remained largely unused for many years until the 1870s, when it began to be used more regularly with the construction of the iron wharf by the Railways Department.

With the opening of the Goldsbrough Mort woolstore in 1883, the railway connection assumed new importance and over the next three decades the goods yard expanded rapidly, with loading and unloading platforms, storage sheds and numerous new sidings being constructed around the head of the bay. In 1901, the Sydney Harbour Trust was formed to take over control and management of the commercial port. The completion of the goods line was directly associated with the completion of the Pyrmont (Jones Bay) wharfs by the Sydney Harbour Trust. In this period, Sydney Harbour was the main port for NSW and the goods line provided a direct connection between rural Australia and the ships carrying the goods to export markets.

The Railways Department, acknowledging the congestion already prevalent at Central Station, began construction of a goods line from Enfield via a secondary yard at Lilyfield to connect with the north end of the Darling Harbour goods line via a series of cuttings and tunnels through Pyrmont which began in 1916. Works were completed in 1922 and the line had sidings to the White Bay and Ultimo power stations, the Gillespie and Edwin Davey flour mills and to the oil depot at Blackwattle Bay (now the Fish Markets site). It remained in use until the 1980s but was never electrified.

As well as being connected with major transport developments on the waterfront during the period and the continued development of Pyrmont's industrial infrastructure, the cuttings had a big impact on the local community because they divided the peninsula and numerous houses were demolished. In 1996 the former goods line was adapted to take the metro light rail, which included the laying of new track, the fixing of poles and overhead wiring and the placement of new stations.

5.7 Darling Harbour

Darling Harbour, which separates the city from Pyrmont and Ultimo was first named Long Cove by the First Fleet (a reference to the length of the bay) and by 1804 it was known as Cockle Bay, for shellfish abounded in the area. It was the focus of coastal trade and enabled Darling Harbour to become the first centre of maritime commerce and industrial development in Australia. In 1811 Governor Macquarie commissioned Market Wharf, built on the site of the present-day Aquarium. The wharf became a bustling centre for produce to be unloaded and taken into the town markets that operated on the site of the present day Queen Victoria Building.²⁶ After the arrival of steam in the colony a number of flour mills used this new technology.²⁷ This brought an increased demand for engineering workshops and Darling Harbour became home to shipbuilding yards, textile industries, galvanising works, gas works, power stations, wool stores and frozen food companies over the decades.

The area was renamed in 1827 after Lieutenant-General Sir Ralph Darling, Governor of NSW from 1825-1831. The swamps at the head of Darling Harbour and at Blackwattle Bay on the western side of the peninsula were later reclaimed to deepen port facilities. The first railway opened in Sydney in 1855 and it included a single line to Darling Harbour. The railway yard was situated at the Ultimo/Pyrmont end of the Harbour. By 1874 the railway goods yard was extended on reclaimed land and by 1891 all outwards goods traffic was being dispatched from Darling Harbour.

The first Pyrmont Bridge was built in 1857 as a private enterprise. It was a toll bridge and charged 2 pence for pedestrians and 9 pence for carriages. It was purchased by the Government in 1884 for £49,600. Work on a replacement bridge began in September 1899 and the new bridge opened on 28 June 1902. It was a steel bridge with an electrically operated swing span section that was powered by the Ultimo Powerhouse. The new structure was designed by Percy Allan, PWD Engineer-in-Chief of bridge design, with the assistance of JJ Bradfield and Gordon Edgell. The swing span allowed access for tall vessels to the inner

²⁶ NSW Archives entry *Darling Harbour: Through the Lens*, Research by Suzanne Upton <https://www.records.nsw.gov.au/archives/magazine/galleries/darling-harbour>

²⁷ Sydney Harbour Foreshore Authority, Pier Street Precinct, Historic Notes: http://www.shfa.nsw.gov.au/sydney-About_us-Heritage_role-Heritage_and_Conservation_Register.htm&objectid=160

harbour area. On 7 June 1981 the bridge was closed to all traffic and reopened in 1988 as a pedestrian bridge.²⁸

A notable building in Darling Harbour's history is the Goldsbrough Mort Store. The Goldsbrough was the earliest of at least 20 woolstores on the Pyrmont Peninsula. It received bales of wool from around NSW. Wool was showcased and then sold in the warehouse floors. In the 1890s the business took advantage of the goods railway and constructed a siding to allow for the direct delivery of wool to the building. In 1924, three floors were added to the Goldsbrough store, an indication that business was going well. In 1935 a fire burned at the building for almost two weeks. The building was converted to apartments in the 1995.²⁹

In response to plague and general concerns around sanitation/orderly use of land in 1900 the establishment of the Sydney Harbour Trust resulted in the resumption of almost all waterfront land around Port Jackson, including Darling Harbour. The Darling Harbour Resumption Advisory Board was established to oversee the resumptions, which included houses, wharves, factories, mills, hotels and warehouses. Rat proof wharves were constructed included Wharf 3.

The prominence of Darling Harbour in shipping, ship manufacturing and other industries continued until after World War II, when industry slowed and the increased use of large container ships around the world meant that Darling Harbours finger wharves were less able to host loading and unloading activities. Port Botany was established in the 1960s and went on to overtake Darling Harbour as Sydney's major international port. In 1984 the last goods train leaves Darling Harbour before the line was formally closed.

Darling Harbour and the surrounding waterfront had undergone a period of decline up until the Darling Harbour Authority was established by the NSW State Government. The Authority was charged with the redevelopment of the area as part of the 1988 Bicentenary projects. The Authority's projects included the new convention centre, The Chinese Garden of Friendship, Cockle Bay Wharf, the restoration of the Pyrmont Bridge, the Harbourside Centre and the monorail.



Figure 5-23 Pyrmont Bridge under construction in 1880-1890 (Sydney Harbour Foreshore Authority)



Figure 5-24 Darling Harbour looking east to the town of Sydney c1900, Charles Kerry (City of Sydney Archives)

²⁸ Ibid

²⁹ Anglin Associates, Goldsbrough Mort Woolstore-Conservation Plan, report prepared for Titchfield Limited, May 1989

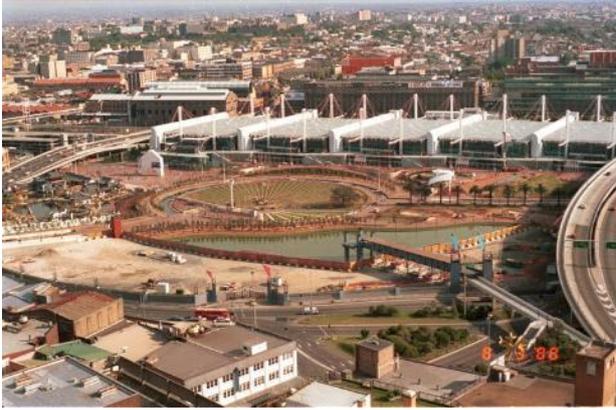


Figure 5-25 Darling Harbour renewal underway 1988 with Tumbalong Park and Western Distributor visible (City of Sydney Archives)

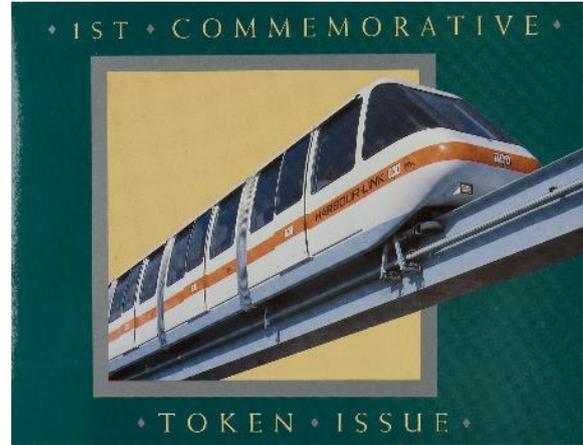


Figure 5-26 Harbourlink Darling Harbour Monorail Commemorative Pack, Australia, 1988 (MAAS)

6 Built and landscape heritage impacts

This section identifies the impacts from the construction and operation of the proposal on listed heritage items. This section also includes a summary of impacts on the non-statutory heritage item identified during this study: the Goldsbrough Woolstore complex.

Table 6-1 summarises the listed heritage items located throughout the study area and gives a ranking of the heritage impact identified.

Ranking is in accordance with the methodology as outlined in Section 2. Impacts are classified as either:

- major adverse
- moderate adverse
- minor adverse
- neutral

Detailed impact assessment and discussion is provided for the listed heritage items subject to direct impact including the Goldsbrough Woolstore.

Table 6-1 Summary of heritage impacts

Register listing	Item name	Address	Significance	Impact type	Heritage impact ranking
Heritage study area – West —Rozelle, western approaches, Anzac Bridge					
Port Authority S.170 4560013	Glebe Island Plaque - Opening of Container Terminal	Glebe Island, NSW 2039	Local	Indirect	Neutral
Port Authority S.170 4560014	Glebe Island Sandstone Quarry Sample	Glebe Island, NSW	Local	Indirect	Neutral
Port Authority S.170 4560016	Glebe Island Silos	Victoria Road, Glebe Island, NSW 2040	Local	Indirect	Neutral
Port Authority S. 170 4560012	Glebe Island World War II Monument	Glebe Island, NSW 2040	State	Indirect	Neutral
SHR # 01015	White Bay Power Station	Victoria Road, Rozelle, NSW 2039	State	Nil	Nil
Roads and Maritime S170 Register * 4305018	Anzac Bridge	Victoria Road, Pyrmont, NSW 2009	State-level	Direct	Moderate Adverse

Register listing	Item name	Address	Significance	Impact type	Heritage impact ranking
SHR # 01914	Glebe Island Bridge	Bank Street, Victoria Road, Pyrmont, NSW 2037	State	Direct (Temporary construction compound)	Minor Adverse (temporary)
Heritage study area – East –Eastern offramps, western distributor, local roads Pyrmont / Ultimo					
Sydney LEP C52	Pyrmont Local Conservation Area	Bulwara, Union, Pyrmont Streets, Pyrmont, NSW 2009	Local	Nil	Nil
Sydney LEP C69	Ultimo Local Conservation Area	Harris, Quarry, Fig, Jones Streets, Ultimo, NSW 2007	Local	Nil	Nil
Sydney LEP I1205	Former Edwin Davey & Sons Flour Mill	2A Allen Street, Pyrmont, NSW 2009	Local	Indirect	Neutral
Sydney LEP I1257	Sydney Water Pumping Station Pyrmont Bridge Road	103 Pyrmont Bridge Road, Pyrmont, NSW 2009	Local	Indirect	Neutral
Sydney Water Section 170 4570535	Blackwattle Bay Storm Water Channel No. 17	Subterranean - Runs east west beneath Wentworth Park to Blackwattle Way	Local	Nil	Nil
SHR # 01225	Pyrmont and Glebe Railway Tunnels	Metropolitan goods railway, Pyrmont, NSW 2009	State	Indirect	Neutral
Sydney LEP I1211	Former commercial building 'Festival Records'	1-3 Bulwara Road (And 63-79 Miller Street), Pyrmont, NSW 2009	Local	Nil	Nil
Sydney LEP I1226	Terrace Group Harris Street	101-125 Harris Street, Pyrmont, NSW 2009	Local	Nil	Nil
Sydney LEP I1227	Terrace Group Harris Street	135-155 Harris Street, Pyrmont, NSW 2009	Local	Nil	Nil
Sydney LEP I1228 /State Heritage Register	Former Pyrmont Post Office including interiors, side passage and yard	146–148 Harris Street	State/CHL	Nil	Nil

Register listing	Item name	Address	Significance	Impact type	Heritage impact ranking
Sydney LEP I1230	Terrace Group Harris Street	189-203 Harris Street, Pyrmont, NSW 2009	Local	Nil	Nil
Sydney LEP I1231	Dunkirk Hotel	205-207 Harris Street, Pyrmont, NSW 2009	Local	Indirect	Neutral
Sydney LEP I1232	Quarryman's Hotel	214-216 Harris Street, Pyrmont, NSW 2009	Local	Nil	Nil
Sydney LEP I1247	Terrace Group Paternoster Row	1-21 Paternoster Row, Pyrmont, NSW 2009	Local	Nil	Nil
Sydney LEP I1233	Corner Shop and Terrace Group	224-302 Harris Street, Pyrmont, NSW 2009	Local	Nil	Nil
Sydney LEP I1263	Former woolstore "John Taylor Wool Stores"	137 Pyrmont Street, Pyrmont, NSW 2007	Local	Nil	Nil
Sydney LEP I1265	Pyrmont Fire Station	147 Pyrmont Street, Pyrmont, NSW 2009	Local	Nil	Nil
Sydney LEP I1205	Former Industrial Building Elements "Edwin Davey & Sons Flour Millers"	2A Allen Street, Pyrmont, NSW 2009	Local	Indirect	Neutral
Sydney LEP I1256	Former Warehouse "Bank of NSW Stores"	17-21 Pyrmont Bridge Road, Pyrmont, NSW 2007	Local	Nil	Nil
Sydney LEP I1255	Pyrmont Bridge Road Hotel	11 Pyrmont Bridge Road, Pyrmont, NSW 2009	Local	Nil	Nil
Sydney LEP I1238	Terrace Group Jones Street	282-318 Jones Street, Pyrmont, NSW 2009	Local	Nil	Nil
Sydney LEP I1264	Terrace Group Pyrmont Street	142 - 168 Pyrmont Street, Pyrmont, NSW 2009	Local	Nil	Nil
Sydney LEP I1246	Former Woolstore "Clarence Bonded and Free Stores"	139 Murray St, Pyrmont, NSW 2009	Local	Nil	Nil
Sydney LEP I1206	Woolbrokers Arms Hotel	22 Allen Street, Pyrmont, NSW 2009	Local	Nil	Nil

Register listing	Item name	Address	Significance	Impact type	Heritage impact ranking
Sydney LEP 131	Wattle Street Railway Viaduct	Wattle Street, Pyrmont, NSW 2009	Local	Nil	Nil
Sydney LEP I2002	Semi-detached Cottage Group Ada Place	50-52 Ada Place, Ultimo, NSW 2009	Local	Nil	Nil
Sydney LEP I2029	Terrace Group Harris Street	451-455 Harris Street, Ultimo, NSW 2007	Local	Nil	Nil
Sydney LEP I20665	Former Woolstore William Henry Street	14-18 William Henry Street, Ultimo, NSW 2007	Local	Nil	Nil
Sydney LEP I2066	Terrace Group William Henry Street	20-36 William Henry Street, Ultimo, NSW 2007	Local	Nil	Nil
Sydney LEP I2032	Glasgow Arms Hotel	527-529 Harris Street, Ultimo, NSW 2007	Local	Nil	Nil
Sydney LEP I2068	House William Henry Street	103-103A William Henry Street, Ultimo, NSW 2007	Local	Nil	Nil
Sydney LEP I2067	Terrace Group William Henry Street	91-97 William Henry Street, Ultimo, NSW 2007	Local	Nil	Nil
SHR # 00502	Former Ultimo Post Office	494 Harris Street, Ultimo, NSW 2007	State	Nil	Nil
Sydney LEP I2044	Terrace Group Harris Street	77-79 Macarthur Street, Ultimo, NSW 2007	Local	Nil	Nil
Sydney LEP I2037	Terrace Group Harris Street	629-637 Harris Street, Ultimo, NSW 2007	Local	Nil	Nil
Non-statutory item NSW National Trust Register	Pitt Son & Badgery Woolstore and Elder Smith Goldsbrough Mort No 1 Woolstore (320-384 Harris Street)	320-384 Harris Street, Ultimo, NSW 2007	State	Indirect	Minor adverse

6.1 Detailed heritage impact assessment

6.1.1 Anzac Bridge

Physical Description

The following description of the Anzac Bridge is drawn from the SHI database:

The Anzac Bridge crosses Johnstons Bay, connecting Victoria Road on the western side of the bay with the Pyrmont and Darling Harbour to the east. When completed in 1995, the Anzac Bridge became the longest concrete cable-stayed bridge in Australia, with a central span of 345m. The overall length of the bridge is 805 metres, with individual spans of 77.95, 140, 345, 140, 54.5 and 42 m. The shipping channel has a vertical clearance of 27m. From the eastern end of the bridge an elevated roadway constructed from voided slab prestressed concrete some 1.4 km long ties the bridge to the expressway complex over Darling Harbour.

The central spans of the Anzac Bridge are supported by two 120-metre-high towers, each of which was founded on 56 reinforced concrete piles. The towers have access stairways for inspection and maintenance of the flags and aircraft clearance lights at the top. Each tower supports two fans of stay cables, 128 in all. These have individual anchorage points in the tower and terminate into the edge beam of the deck. Due to the geometry of the upper and lower supports points (including anchorage points on the eastern deck which splay) the cables form slightly warped planes. Each cable consists of between 25 and 74 individually sheathed and galvanised 15.7 mm diameter high tensile steel strands enclosed in a polyethylene tube. The deck consists of precast units with prestressed cross girders at 5.167 m spacing. The central part of the main span is longitudinally prestressed to neutralise some of the horizontal forces from the stay cables. The deck at either end of the cable stayed section transitions to a box girder design which has a tapered deck to suit the loading conditions.

The cable-stayed deck is 32.2 metres wide. It supports 6 traffic lanes as well as a 3.5 m wide shared pedestrian/cycleway. At each end there are ramps and / or stairs to facilitate access. At the eastern end, the ramp is an elegant steel box supported ramp which convolutes to the ground between high rise apartments. As part of the western access, there are stairs and ramps set in an area planted with palms, at the top of which are the two Diggers – the ANZAC memorial sculptures instated in 1998 when the bridge was renamed. The Australian Digger sculpture faces west fronting eastbound traffic and the New Zealand Digger sculpture faces east fronting westbound traffic. There is also an ANZAC memorial plaque at the midway point of the bridge deck.

Heritage Significance

The Anzac Bridge is listed as an item of State-significance on the RMS 170 Register (#456001). The discussion of heritage impacts is provided in Table 6-3. The summary statement of significance for the bridge is as follows:

Anzac Bridge has significance at a State level because of its technical qualities; it is a world standard bridge in scale, aesthetics and design features. Anzac Bridge is a reinforced concrete cable-stayed bridge built over Johnstons Bay between Glebe Island and the inner Sydney suburbs of Pyrmont and Darling Harbour. The bridge was designed and built between 1989 and 1995 by the Roads and Traffic Authority (RTA) and its predecessor, the Department of Main Roads (DMR), and is currently the longest such bridge in Australia. The subtle sweep of the bridge's cantilevered deck, which links into the arterial road network and is supported at either end by monumental reinforced concrete towers, forms a striking and integral part of the Sydney skyline. It has quickly become one of the iconic images of Sydney, particularly for those who have views of it, cross it to work by road or bike, or use its highly visible towers as an aid to urban navigation.

Anzac Bridge is also historically significant because it is a contemporary solution to a long-term problem for government agencies responsible for road building and maintenance in Sydney. It replaces the Glebe Island Bridge of 1903, adjacent to Anzac Bridge, which was historically part of the five bridges route connecting Sydney to the north shore. This route was important in connecting Sydney to Parramatta and the north shore from the middle of the nineteenth century, and for much of the twentieth century. The design and construction of a new bridge at the Johnstons Bay crossing (along with the associated freeway road systems) from the late 1980s through to the mid-1990s reflected the desire of the road authorities (the DMR, latterly the RTA) to cut travel times for commuters, and to

limit the build-up of traffic on the Glebe Island Bridge. Anzac Bridge is part of the Glebe Island Arterial and forms an essential part of Sydney's road infrastructure.³⁰

Table 6-2 Significance Assessment—NSW Heritage Criteria—Anzac Bridge

Criteria	Response
A—Historical Significance	<p>Anzac Bridge has historical significance as it is a contemporary solution to the problem of conveying road traffic over Johnstons Bay, which was part of an important transport route from Sydney to the north shore and Parramatta since the mid nineteenth century, known as the five bridges route. Anzac Bridge was designed and constructed as a replacement bridge, superseding the c1903 swing span bridge across Johnstons Bay, known as Glebe Island Bridge (which remains in-situ). Its height was set to clear the commercial shipping then using Johnstons Bay and will remain a testament to them when commercial shipping ceases to use this waterway.</p> <p>Anzac Bridge has State significance under this criterion.</p>
B—Associative Significance	<p>The renaming of the bridge as Anzac Bridge in 1998 provided the structure with a link to the Anzac legend, a part of Australian heritage and folklore deeply rooted in the Australian psyche. As such, it has been given a key role in articulating this association, a role likely to evolve with time, and to possibly become more pivotal in times of national crisis.</p> <p>Anzac Bridge has State significance under this criterion.</p>
C—Aesthetic or Technical Significance	<p>The Anzac Bridge is a world standard bridge in scale, aesthetics and design features. The experience of crossing the bridge is cathedral-like, with its vaulted canopy of stay cables. The subtle sweep of the bridge's cantilevered deck, which links into the arterial road network and is supported at either end by monumental reinforced concrete towers, forms a striking and integral part of the Sydney skyline. It has quickly become one of the iconic images of Sydney, particularly for those who have views of it, cross it to work by road or bike, or use its highly visible towers as an aid to urban navigation.</p> <p>Anzac Bridge has State significance under this criterion.</p>
D—Social Significance	<p>Criterion D is not addressed in the SHI listing for the Anzac Bridge.</p>
E—Research Potential	<p>Criterion E is not addressed in the SHI listing for the Anzac Bridge.</p>
F—Rarity	<p>The Anzac Bridge is the largest cable stayed bridge in NSW, and indeed Australia (other examples of cable stayed bridges in NSW are mainly footbridges).</p> <p>Anzac Bridge has State significance under this criterion.</p>
G—Representativeness	<p>The Anzac Bridge is a representative example of a reinforced concrete cable stayed bridge in the state. It is currently the longest such bridge in Australia. Other, earlier examples of cable-stayed bridges are the Westgate Bridge in Victoria, and the Batman Bridge in Tasmania.</p> <p>Anzac Bridge has State significance under this criterion.</p>

³⁰ Heritage Listing Anzac Bridge: <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=4305018>

Table 6-3 Discussion of impacts – Anzac Bridge

Proposal feature	Discussion of impacts		
<p>Installation of new gantries along the Anzac Bridge and associated signage.</p> <p>Conservation works to the ANZAC Memorial Sculptures</p>	<p>The proposal would result in moderate adverse impacts to the Anzac Bridge via the introduction three new gantry structures along the road corridor. Three new gantries are proposed to be located on the bridge itself, one at the western approach (Gantry 1) located west of the Australian soldier sculpture (closest sculpture to proposed gantry), and two in the middle of the Bridge. The new gantries will display lane use signage and variable speed limit signage.</p> <p>The siting and location of Gantry 1 has been chosen based on supplementary landscape and visual impact assessment aimed at minimising impacts on sight lines to the Anzac memorial sculptures. Visual impact assessment informed by modelling indicates that the proposed location of Gantry 1 provides adequate separation between the structure and the Anzac Digger sculptures and minimises visual impacts.</p> <p>The mid-point gantries (Gantry 3 and 4), would introduce new structures to the streamlined, uninterrupted character of the Bridge and will adversely impact the visual character and presentation of the structure. The heritage significance of the Anzac Bridge largely relates to the high integrity of its design and the quality of its engineering. At present, minimal overhead signage and a lack of visual clutter on the bridge itself allows users to experience the notable aspects of its design whilst crossing the bridge via car, on foot or by bike. Notwithstanding their visual impact, the original bridge design provided attachment points with the intention to ultimately attach two gantries, one on each A-frame. These attachment points are shown on original plans and also visible on the A-frame structures. The mid-span gantries (Gantry 3 and 4) are located at roughly quarter span back from the mid-point of the bridge (see Figure 3-1). Gantries 3 and 4 would be attached on the outer edge of the bridge with gantry arm located between cable stays.</p> <p>Original plans for a gantry in the centre of the bridge were not pursued because of poor heritage and aesthetic and urban design outcomes, as well as engineering limitations on the bridge structure. The design of the gantries has also considered reversibility to ensure impacts to the fabric of the bridge are as reversible as possible.</p> <p>Some mitigation of gantry impacts may be realised through the design of lightweight gantry structures that enhance rather than detract from the uninterrupted volume of the bridge however this should be subject to detailed design and specialist advice. The Gantry 1 structure would also be located 8.5 m high, which would assist in reducing the visual clutter. Moderate adverse impacts due to the gantries will not downgrade the State-level significance of the Anzac Bridge nor will these impacts prevent a future nomination to the SHR as confirmed by consultation with Heritage NSW.</p> <p>Cumulative impacts across a range of other proposals overlapping with the bridge (such as WestConnex and the Western Harbour Tunnel and Beaches Link) have been considered more broadly, and an overarching signage rationalisation plan produced to ensure that an ultimate signage design goal is reached. This signage plan sees an overall reduction in cumulative impacts to the bridge, and assists in managing signage clutter over time.</p> <p>The works do not substantially impact significant aspects of the original design and are considered neutral. No other changes are proposed to the Anzac Bridge as part of the proposal.</p> <p>It is also noted that proposed scope to conserve and refurbish the ANZAC Memorial Sculptures will have a positive heritage impact on these significant elements, and is a good heritage outcome.</p>		
	<table border="1"> <tr> <td data-bbox="520 1854 655 1968">Overall Impact Ranking:</td> <td data-bbox="655 1854 1482 1968">Moderate Adverse (Direct)</td> </tr> </table>	Overall Impact Ranking:	Moderate Adverse (Direct)
Overall Impact Ranking:	Moderate Adverse (Direct)		

6.1.2 Old Glebe Island Bridge

Physical Description

The following description of the old Glebe Island Bridge is drawn from the SHI database:

The Glebe Island Bridge over Johnstons Bay is an electrically-operated, low-level, steel central swing-span road bridge. The central swing-span is supported by a massive pivot pier, founded on a nest of timber piles capped by concrete, on which it can rotate through ninety degrees to allow passage of maritime traffic. The approach spans are two steel deck on stone-faced piers and stone-lined abutments. The bridge includes constructed embankments on both sides of its western approach.

The bridge has an approach span at each end of 24.7m, two main spans of 29.3m and an overall length of 108m. The roadway is 12.2m wide between kerbs and has a 1.5m wide footway on each side. The central pivot in the waterway is protected by an extensive ring of timber piles. The swing span is mounted on a steel roller track on the cylindrical stone masonry and concrete pivot pier (13.9m high and 12.9m wide) and is swung by means of a 600-volt motor.

Traffic was controlled by lights and a pair of timber swing-gates on either end which were electronically interlocked to ensure that the bridge cannot open until the gates are closed. The bridge includes a rare surviving operable Mercury-arc Rectifier, as well as some early silicon rectifiers, installed in 1960 when the reticulated DC supply was discontinued.

Both Pymont and Glebe Island Bridges were electrically operated and could swing in 44 seconds, much faster than contemporary bridges in the world. Pymont Bridge, also designed by Percy Allen, has more numerous fixed spans of timber than Glebe Island Bridge where they are of steel supplemented by stone causeways. (Fraser, 1992). The swing-span of Glebe Island Bridge is smaller than that of Pymont. High quality Pymont yellow block sandstone is thought to be used for dimension stone and Pymont coloured sandstone on the abutment facing and causeway fill.

Heritage Significance

The old Glebe Island Bridge is listed on the State Heritage Register (Item #01914). A detailed assessment of heritage impacts is provided in Table 6-5.

Table 6-4 Significance Assessment–NSW Heritage Criteria–Glebe Island Bridge

Criteria	Response
A–Historical Significance	<p>Glebe Island Bridge has historic significance at the state level as it demonstrates one of the earliest examples of an electrical powered bridge of its type in Australia. The Glebe Island Bridge, along with Pymont Bridge, both designed by Percy Allan at the turn of the century were innovative in their day and attracted world-wide engineering interest, with Allan invited to present a paper on the design of its older twin, the Pymont Bridge, to the Institution of Civil Engineers in London in 1907.</p> <p>The Glebe Island Bridge has been an important item of infrastructure in the history of Sydney, Australia's famous harbour city and the capital of New South Wales, for over 90 years. The bridge was a vital component of the 'five bridges' route from the city to the northern and western suburbs. The history of this crossing, going back to 1892, is closely associated with the economic and social development of Sydney at the end of the 19th century.</p> <p>Glebe Island Bridge has State significance under this criterion.</p>
B–Associative Significance	<p>Glebe Island Bridge is of state significance for its close associations with Percy Allan (1861-1930), a highly regarded Australian bridge designer of the late 19th and early 20th century. Percy Allan was responsible for the introduction of American timber bridge practice to NSW and designed over 500 bridges in NSW. The bridge is also associated with JJC Bradfield (1867-1943), later known for his work on the Sydney Harbour Bridge. It is associated with the NSW Department of Public Works, a highly regarded, prolific and historically significant organisation in the history of NSW.</p> <p>Glebe Island Bridge has State significance under this criterion.</p>

Criteria	Response
C–Aesthetic or Technical Significance	<p>Glebe Island Bridge is of state significance as its design and construction represented a significant technical achievement in the era that it was built. The bridge's innovative design included: the size of the swing span and speed of operation; development of steel bridge truss; caisson construction; design of the swing span bearing; and use of electric power.</p> <p>The design of the Glebe Island Bridge represents the pinnacle of nineteenth century engineering and material technology, prior to the development of locally produced modern steel. Aesthetically, the bridge is an impressive structure, sited in the middle of a wide and busy waterway, giving it landmark qualities that are apparent from numerous vantage points around Sydney Harbour.</p> <p>Glebe Island Bridge has State significance under this criterion.</p>
D–Social Significance	<p>The Glebe Island Bridge is valued by the Sydney community for its significant contribution to the social and commercial development of Sydney and the inner western suburbs, as demonstrated by the public statements and interest in its conservation demonstrated in the broad-ranging community consultation undertaken for the Bays Precinct by the NSW Government.</p> <p>Glebe Island Bridge has local significance under this criterion.</p>
E–Research Potential	<p>The bridge is a fine example of late nineteenth and early twentieth century technology and is almost completely in original condition. The combined structural, mechanical and electrical efficiency of the bridge established it as an epitome of well-designed bridge building of the time.</p> <p>Glebe Island Bridge has State significance under this criterion.</p>
F–Rarity	<p>Glebe Island Bridge is of state significance as it is one of only two examples of an electrically-operated steel swing bridge in New South Wales. It is the second oldest (after its older twin, the Pyrmont Bridge) surviving bridge across a Sydney Harbour waterway. The two bridges remain the only large, electrically-operated swing spans in Australia.</p> <p>The Bridge includes a rare surviving, operable Mercury-arc Rectifier, as well as some early silicon rectifiers, both of which were important early electrical technologies which have been superseded by solid-state technology. Mercury arc rectifiers are now rare outside of museum situations and only a very few remain in their original context in Australia.</p> <p>Glebe Island Bridge has State significance under this criterion.</p>
G–Representativeness	<p>Glebe Island Bridge is of state significance as it features all the significant structural and technical features of a swing-span bridge. It is an excellent example of one of the various types of opening bridges, which are the economical solution to constructing road bridges across navigable waterways, where high-level bridges are possible but unaffordable. Opening bridges have been a crucial factor in the economic development of NSW since the late nineteenth century, with its high-level of industrialisation but relatively low population levels on an international scale.</p> <p>Glebe Island Bridge has State significance under this criterion.</p>

The summary statement of significance for the bridge is as follows:

The Glebe Island Bridge, across Johnstons Bay, is of state significance as it demonstrates one of the earliest examples of an electric-powered swing bridge in Australia. Technically, it is a complementary structure to the already acclaimed Pyrmont Swing Bridge, and has all the same significant features, including the electrically-driven swing span. Both bridges were designed by Percy Allan, a highly-regarded Australian bridge designer of the late 19th and early 20th century. Both represent the only examples of such types of bridges in New South Wales and are still operable.³¹

³¹ Heritage Listing Glebe Island Bridge: <https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5051118>

Table 6-5 Discussion of impacts – Old Glebe Island Bridge

Proposal	Discussion of Impacts
<p>Establishment of a temporary construction compound (Compound Site 1) on the eastern embankment of the old Glebe Island Bridge</p>	<p>Compound Site 1 would be located on Glebe Island Bridge (eastern abutment) within the SHR curtilage. As mentioned in Section 3.2.2, the site would be required to support construction of the proposal. Compound works result in temporary and reversible minor adverse impacts in the eastern side of the embankment. Compound works would utilise the existing hardstand open area and would not result in physical change to heritage fabric and does not require earthworks. Potential indirect impacts from vibration would be managed through a vibration management plan.</p> <p>It is noted that the Fig trees to the east of the Glebe Island Bridge do not form part of the SHR curtilage and therefore do not require heritage consideration as part of this assessment however it is also noted that there will be tree protection measures in place as a part of this project in the case where these trees may be trimmed in order to prepare Compound Site 1, see further in the REF.</p> <p>The heritage reporting prepared by CityPlan (2017) also identifies a potential heritage item to the south of the Glebe Island Bridge and directly adjacent to the Anzac Bridge (see Figure 7 7, item 16). This item is identified as an Inter-war style brick wharf-front warehouse. Works proposed adjacent to this warehouse will be localised on the Anzac Bridge and the establishment of Compound Site 1 on the Glebe Island Bridge and will not see any adverse impacts this warehouse structure.</p>
	<p>Overall impact ranking: Minor adverse (Direct – reversible)</p>

6.1.3 Pyrmont and Glebe Railway Tunnels

Physical Description

The Pyrmont and Glebe Railway tunnels comprise the sandstone cutting and remnant brick tunnels that once held the Darling Harbour to Rozelle metropolitan goods railway. The listing follows the former alignment of the Goods Rail from Darling Harbour to Rozelle through Glebe and is now used by the modern Metro light rail. The listing boundary is formed by the property boundary on either side of the line from the tunnel entrance on the Sydney side including the portals, embankments and cutting and extends to the Wentworth Park viaduct and includes the whole formation of the line. A detailed assessment of heritage impacts is provided in Table 6-7.

Heritage Significance

The Pyrmont and Glebe Railway Tunnels are listed on the SHR (SHR #01225).

Table 6-6 Significance Assessment—Pyrmont and Glebe Railway Tunnels

Criteria	Response
A—Historical Significance	<p>The Pyrmont and Glebe Railway Tunnels hold historic significance as an intact remnant of the inner-city freight line that once operated in this area, known as the metropolitan goods railway or the Darling Harbour goods line.</p> <p>Pyrmont and Glebe Railway Tunnels have State significance under this criterion.</p>
B—Associative Significance	N/A
C—Aesthetic or Technical Significance	<p>The Pyrmont and Glebe Railway Tunnels are a remnant industrial feature that contribute to the unique character of Pyrmont, Ultimo and the Glebe foreshore. The cutting forms a major landscape element that passes continuously through a number of interrelated waterfront suburbs.</p> <p>Pyrmont and Glebe Railway Tunnels have State significance under this criterion.</p>

Criteria	Response
D–Social Significance	N/A
E–Research Potential	N/A
F–Rarity	The Pymont and Glebe Railway Tunnels are rare as an intact remnant of an early twentieth century goods railway line. Pymont and Glebe Railway Tunnels have local significance under this criterion.
G– Representativeness	N/A

The summary statement of significance for the listing is as follows:

The brick tunnel and cuttings are a major feature of the landscape and layout of the Pymont area and have a great impact on the visual qualities of the area. They are important relics of the inner-city freight system that operated to the wharves, including Darling Harbour, and connected through to the southern suburbs. The tunnel and its portals are an important brick structure that reflects the industrial nature of the area. The tunnel is a fairly long double-track brick-lined structure opened in 1922. As the line has not been electrified the structure remains virtually intact.³²

Table 6-7 Discussion of Impacts– Pymont and Glebe Railway Tunnels

Proposal	Discussion of Impacts		
Adjustment of 20m of stormwater utilities and works associated with the Pymont Bridge Road intersection upgrade above the SHR curtilage of the Pymont and Glebe Railway tunnels (now Light Rail). Intersection and utility upgrades at Bank Street and Miller Street intersection	<p>Neutral impacts to the setting of the rail corridor are expected from the upgrade works to the Pymont Bridge Road intersection and some minor stormwater utility works above the SHR curtilage.</p> <p>The works would be located outside (above) of the SHR curtilage within the road corridor, however it is noted that the intersection works would occur above the visual setting. Whilst the works may be witnessed by the casual observer within the rail corridor, this would be temporary during the construction phase and is expected to result in neutral heritage impacts to the State heritage values of the rail cutting.</p> <p>It is not expected that any vibration related impacts would occur to the SHR in this area, with plant consisting of excavators and handtools, and any ground penetrations to be limited to the road corridor along Pymont Bridge Road.</p> <p>It is noted that the proposal area overlaps with the SHR along Bank and Miller Street, however no works are anticipated within the rail corridor and would be similarly limited to the road intersection at Bank and Miller Street.</p>		
	<table border="1"> <tr> <td>Overall Impact Ranking:</td> <td>Neutral (Indirect)</td> </tr> </table>	Overall Impact Ranking:	Neutral (Indirect)
Overall Impact Ranking:	Neutral (Indirect)		

³² Heritage Listing Pymont and Glebe Railway Tunnels

6.1.4 Pyrmont Local HCA

Physical Description

This area comprises predominantly nineteenth century, two-storey residential and commercial streetscapes reflecting the character of 1860s/1870s Pyrmont. Highlights include the corner hotels and public buildings such as the former Pyrmont Post Office. The HCA demonstrates evidence of the consolidation of the expansion of the Victorian working-class population with large blocks of terraces on Bulwara, Mount and Harris streets, adjacent to the main retail node at Harris, Miller and Union streets. The HCA includes shops, hotel, bank and Post Office centred on a Union Square which is the main pedestrian entry to the area from the City. The area features sandstone kerbing, sandstone cutting and stairs cut into rock that repeat themes throughout the Pyrmont Peninsula.

Heritage significance

Pyrmont HCA is listed on the Sydney LEP 2012 (Item C52).

Table 6-8 Significance Assessment – NSW Heritage Criteria – Pyrmont Local HCA

Criteria	Response
A–Historical Significance	The area has historic significance as it dates from the key period of development of Pyrmont and the subdivision of grand estates into residential and commercial development. Pyrmont HCA has local significance under this criterion.
B–Associative Significance	N/A
C–Aesthetic or Technical Significance	The area contains prominent elements in the streetscape and extensive intact cohesive examples mid to late Victorian residential terrace rows and commercial buildings demonstrating typical key elements of the style. The landscape character of Little Mount Street is important for the hewn stone rocks faces and steps that were necessary to form the roadway and give access to the rears of the Harris Street properties. The rock face and steps repeat themes throughout the Pyrmont Peninsular. Pyrmont HCA has local significance under this criterion.
D–Social Significance	N/A
E–Research Potential	The area is not identified in an archaeological zoning plan and the area has been well researched and it is unlikely that the sites would reveal further information that would contribute to the significance of the area. Pyrmont HCA has local significance under this criterion.
F–Rarity	N/A
G–Representativeness	The area is a representative example of a mid-Victorian commercial/residential working class community in Pyrmont and the inner suburbs of Sydney. Pyrmont HCA has local significance under this criterion.

The area contains several locally listed heritage items and contributory items. The discussion of impacts is provided in Table 6-9 and the summary statement of significance for the Conservation Area is as follows:

The area dates from one of the key period of layers for the development of Pyrmont as a direct result of subdivision of the Harris and Macarthur Estates. It is a good example of a mid to late Victorian working class community consisting of both residential and commercial buildings which are largely intact and make a positive contribution to the streetscape.³³

³³ Heritage Listing, Pyrmont Local Conservation Area

Table 6-9 Discussion of impacts – Pymont Local Conservation Area

Proposal	Discussion of Impacts		
<p>Upgrade works associated with the Pymont Bridge Road intersection modifications , and associated infrastructure and utility adjustments</p> <p>Conversion of Allen Street on approach to Harris Street from two to three lanes, removal of on-street parking on Allen Street, intersection modifications, and associated infrastructure and utility adjustments</p>	<p>The works would involve modifications to late 20th century elements associated with the local road and would see modifications to intersections which have been altered numerous times. Any kerbing adjustments would see sandstone or trachyte kerbing removed and reinstated following the works, but this would not result in any adverse impacts.</p> <p>Works do not directly interface with the key elements of the HCA i.e. the Victorian streetscape, and are unlikely to have any adverse impacts to the historic characteristics and visual appeal of the HCA.</p>		
	<table border="1" style="width: 100%;"> <tr> <td style="background-color: #d9ead3;">Overall Impact Ranking:</td> <td>No impacts</td> </tr> </table>	Overall Impact Ranking:	No impacts
Overall Impact Ranking:	No impacts		

6.1.5 Former Goldsbrough Woolstore

Physical Description

The block bounded by Pymont Street, Harris Street, Allen Street the Western Distributor viaduct is occupied by three formerly discrete buildings. The main red brick Goldsbrough Building fronting Pymont Street and Harris Street, the Pitt & Badgery store (1906) and the Federation-era Goldsbrough Store No. 2 to the west. Goldsbrough Store No. 2 is the remodelled 1912-era Country Producers Selling Company store. The former Pitt & Badgery store, constructed of brown brick, adjoins the main Goldsbrough building to the north. All three buildings were at one point under the ownership of the Goldsbrough Mort company, who also benefited from a rail siding directly to the front of the building on Pymont Street (Figure 6-1). The massive complex was one of the largest in Australia.

The main Goldsbrough building is a 1936 wool warehouse and display store that was converted into modern apartments in 1995. At this time four additional stories were added to the building and the complex modernised and adapted to suit the new residential purpose. The original formal façade faces Darling Harbour. It is composed of classically derived details, with decorated pilasters, face brick in red and brown tones and decorative quoins. The architectural detailing of the building references the inter-war commercial palazzo style with its use of string coursing, motifs and repetitive fenestration. Vestiges of the Goldsbrough Mort Company remain intact at the main entrance and principal façade including the company name on the parapet and a bronze plaque above the main entrance doors framed by two rams’ heads. Internally the building featured inter-war era decoration and an assured, functional design that maintained its linkages with the Victorian-era origins of its commissioning entity.

The detailing of the Store No.2 (former Country Producers Selling Company store) fronting Harris Street is closely representative of the earlier Federation warehouse style. It survived the 1935 fire and afterwards was subject to alterations and additions to match it with the new main store to the east. It retains its rounded corners and earlier distinct fenestration pattern with alternating arched windows. The new storeys of the building were made cohesive with its eastern neighbour by the high parapet in a stepped inter-war style which bore, in relief the Goldsbrough Mort company name and logo, the rams head. Original linkages between Store No.2 and the main Goldsbrough building across Camden Lane (likely via timber overbridges bridges) appear to have been removed or altered in the 1995 phase of renovations and its brickwork is now painted in a purple tone but originally was red face brick with sandstone coursing.

The context of the complex to the south was drastically altered in the mid-1980s by the construction of the Western Distributor freeway.

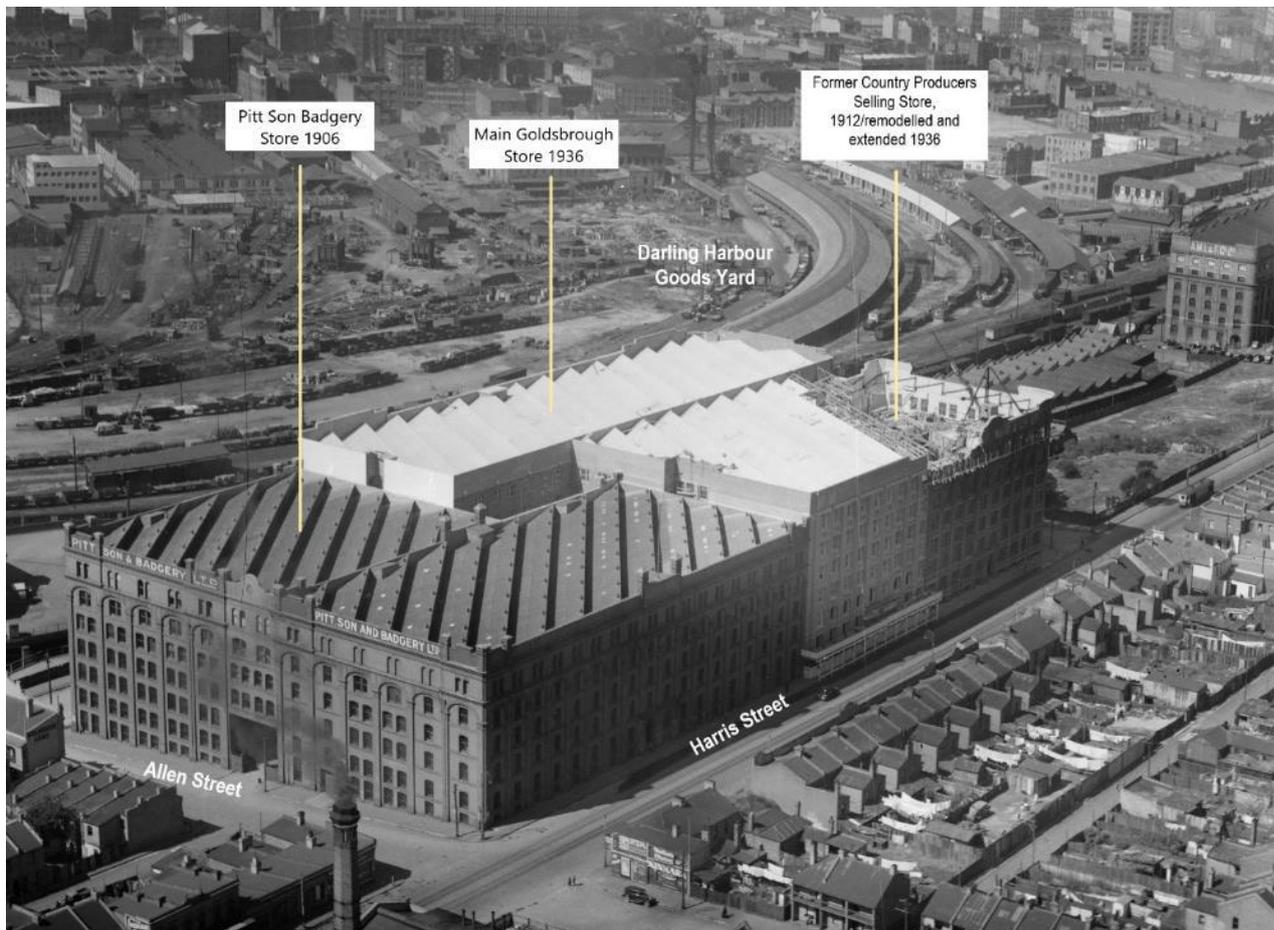


Figure 6-1 Components of the Goldsbrough Store complex, c1940 (State Library of NSW, Milton Kent aerial photograph)

Heritage Significance

The main Goldsbrough Mort Store was purpose built in 1936 for the storage, display, receiving and transport of wool at the behest of the Goldsbrough Mort Company. The building was a replacement for the earlier 1883 Goldsbrough Mort Woolstore, lost to fire in a giant blaze in 1935. The complex features traditional timber post and beam construction and early building/warehouse technologies. Along with Store No. 2 to the west, external form of the buildings remains largely intact, notwithstanding its conversion to apartments.

The Goldsbrough Mort Store is not currently included on any statutory heritage register. It has been identified in earlier heritage studies and by the Heritage Council of NSW. The two main buildings that make up the complex (former Pitt Son & Badgery Woolstore and Elder Smith Goldsbrough Mort No 1 Woolstore) are included on the NSW National Trust Register of significant buildings (Item ID 9276 and 7396). The building was also the subject of an Interim Heritage Order under the Heritage Act gazetted in 1987, possibly associated with the freeway construction.³⁴

The building then fell under the control of the Darling Harbour Act and was vacant for over ten years between 1979 and 1989 before being converted to apartments, shortly after the completion of the Western Distributor immediately to the south.

Table 6-10 includes an assessment of the Goldsbrough Woolstore against the NSW Heritage Criteria. The assessment finds that the complex holds historic, aesthetic, technical, associative and representative significance at State-level. In the GML Heritage *Pyrmont Place Strategy–Non-Indigenous Cultural Heritage Study* it is recommended that both the former Pitt Son & Badgery Woolstore and Elder Smith Goldsbrough Mort No 1 Woolstore (320-384 Harris Street) be included on Schedule 5 of the Sydney LEP 2012 (p46).

The discussion of heritage impacts for the former Goldsbrough Mort Woolstore is provided in Table 6-11.

Table 6-10 Significance Assessment – NSW Heritage Criteria – Goldsbrough Store

³⁴ Anglin Associates, *Goldsbrough Mort Woolstore-Conservation Plan*, report prepared for Titchfield Limited, May 1989

Criteria	Response
A–Historical Significance	<p>The former Goldsbrough Mort store is historically significant a large-scale remnant of the expansion and success of the Australian pastoral industry from the late 1880s to the First World War. The buildings were built by brokers in what became the integrated industrial/residential suburbs of Pyrmont and Ultimo.</p> <p>The former Goldsbrough Mort store has State significance under this criterion.</p>
B–Associative Significance	<p>The building is associated with the Goldsbrough Mort company, specifically with founders Thomas Sutcliffe Mort and Richard Goldsbrough, both of whom were highly influential players in the pastoral industries and wool trade from the mid-nineteenth century to the early twentieth century. Mort is credited with establishing the system of auctioneering and wool broking which ultimately was to shape the development and success of the Australian wool industry, which in turn supported the growth of the national economy. Goldsbrough was the first of the Sydney-based wool brokers to move his operations from Circular Quay to Pyrmont, and in doing so established an integral precursor for the burgeoning industrial townscape of the peninsula.</p> <p>The former Goldsbrough Mort store has State significance under this criterion.</p>
C–Aesthetic or Technical Significance	<p>The former Goldsbrough Mort store has both aesthetic and technical significance as a fine example of wool warehouse architecture, construction and technology dating from several key periods.</p> <p>The former Goldsbrough Mort store has State significance under this criterion.</p>
D–Social Significance	The former Goldsbrough Mort store
E–Research Potential	<p>The former Goldsbrough Mort store has some limited research potential due to its ability to demonstrate custom Woolstore construction methods, layouts and associated technologies.</p> <p>The former Goldsbrough Mort store has local significance under this criterion.</p>
F–Rarity	N/A
G–Representativeness	<p>The complex is representative of the dominant role of the wool trade locally and nationally. The main Goldsbrough Mort Store is representative of the inter-war commercial palazzo style of architecture. Store No. 2 (former Country Producers Selling Company store) is representative of the Federation warehouse style. Together the buildings are part of the concentrated collection of large warehouses in the Pyrmont and Ultimo area designed expressly for the handling and storage of bulk quantities of wool.</p> <p>The former Goldsbrough Mort store has State significance under this criterion.</p>

Table 6-11 Discussion of impacts – Goldsbrough Mort Woolstore

Proposal	Discussion of impacts
Introduction of a new weave ramp from the Upper Fig Street on-ramp and merge onto the Western Distributor	<p>The construction of a new weave ramp on the eastbound on-ramp from Harris Street and Fig Street intersection, near the Goldsbrough Store, results in a minor adverse impact on a localised area of the Goldsbrough Store’s setting at the southwest corner as a result of indirect changes to the visual setting, and potential construction vibration.</p> <p>Impacts are minor relative to the major impacts caused to the buildings setting by the current configuration of the Western Distributor. Construction of the weave ramp introduces a new elevated structure, and requires pier footings and utility adjustments adjacent to the building Urban design could potentially mitigate some setting impacts, dependant on final design and extent.</p>
	<p>Overall Impact Ranking: Minor adverse (Indirect)</p>

7 Historical archaeological assessment

This section describes the historical archaeological potential of the affected portions of the study area. The focus of the archaeological assessment is to identify areas where civil construction works are occurring in areas that may contain significant historical archaeological resources.

Areas designated as low to no archaeological sensitivity comprise areas where the ground has been completely excavated or so heavily disturbed that archaeological deposits are likely to have been removed or predominantly destroyed. An assessment of the potential impact to archaeological resources resulting from the construction of the proposal is provided.³⁵

The assessment is based on:

- a pedestrian and vehicular site visit drive through of the two project areas
- a review of existing heritage registers
- the historical overview included in this report
- a review of relevant historical archaeological background documentation prepared in the past for the study area
- identification of previous major works that would have impacted on historical archaeological resources in the study area.

Historic maps and plans showing the proposal area over historic maps have been provided at **Appendix A**.

7.1 Areas of assessment

The historical archaeological assessment considered risk from activities requiring ground disturbance including footings for new pier installation, utility adjustments, and pavement works associated with intersection modifications. The historical archaeological assessment study area is therefore limited to areas within the proposal footprint that would be subject to subsurface impacts as, illustrated by Figure 1-4. This eliminated areas such as the pavement line-marking on elevated viaduct structures. Additionally, the western side of Anzac Bridge is not captured because the footprint of works is within an area of previously added fill material and is currently under active construction as part of the Rozelle interchange and therefore considered to have no archaeological potential.

Three key areas as illustrated in Figure 1-4 are:

- **Area 1**—Bank Street / Sydney Fish Markets
- **Area 2**—Pymont Bridge Road intersection and Allen Street intersection
- **Area 3**—Goldsbrough Curve and Darling Harbour

Broadly, the study area stretching across Pymont, Ultimo and Darling Harbour has undergone a long history of disturbance and change which is likely to have resulted in major impacts to the archaeological resource. Major land disturbance processes and events are summarised in Table 7-1. They are:

- quarrying, land reclamation, road alignment and subdivision
- establishment and operation of the CSR site and related twentieth century industrial activity
- construction of the Darling Harbour to Rozelle Goods Rail Line
- construction of the Western Distributor, the Glebe Island Arterial and the New Glebe Island Bridge

³⁵ The level of significance associated with heritage items (State or local) is based on extant values assessments, and comparable sites. Unexpected archaeological finds could hold high value depending upon their nature and extent. The historical research and assessment is robust enough that testing to confirm the extent location of potential archaeological remains is not required at this stage. Furthermore, testing to inform significance of material could result in unnecessary disturbance to potential archaeological sites.

- redevelopment of Darling Harbour
- residential development and urban renewal in Pymont/Ultimo in the late 1990s/2000s.

Table 7-1 Summary of ground disturbance across study area

Date	Nature of disturbance	Location
1850s-1900	<p><u>Quarrying, land reclamation and industrial activities</u></p> <ul style="list-style-type: none"> ■ Saunders' Quarry operations established in the 1850s expanded in Pymont to become one of the biggest quarrying operations in Sydney. Quarries occupied sites between Miller Street and Distillery Drive, between Fig and Quarry Streets, (along Wattle Street) and between Fig Street and Pymont Bridge Road <p>Reclamation of Blackwattle Bay (1859-1909) including:</p> <ul style="list-style-type: none"> ■ Wall constructed for reclamation ■ Stone sea wall ■ Wharf and associated piling <p>Reclamation of Cockle Bay 1874 as far as Liverpool Street</p> <p>Initial establishment of the Goods Yard.</p>	North west Pymont, Darling Harbour, Blackwattle Bay
1900-1951	<p><u>CSR Site</u></p> <p>The CSR complex extensively industrialised a large tract of land on the western side of the Pymont peninsula as the sugar refinery complex expanded into what were once nineteenth century residential communities and associated cottage industries. Much of the remnants of this earlier phase of occupation was removed by the factory and associated uses. Excavations undertaken by Casey & Lowe in 1995 uncovered the remains of several houses.</p>	Western side of the Pymont Peninsula north of Bank Street
1920s	<p><u>Darling Harbour to Rozelle Goods Line</u></p> <p>Original cutting works and tunnelling for the railway line in the 1910s and 1920s. Works to stabling the rail line including track installation and site levelling.</p> <p>Works associated with the installation of the elevated freeways, feeder roads and associated on/off ramps of the Western Distributor:</p> <ul style="list-style-type: none"> ■ Route clearance and site levelling ■ Drilling and piling for structural supports and civil works building the viaducts 	Cutting, rail corridor and railway viaduct structures from Darling Harbour to Rozelle
1972-1981	<p><u>Western Distributor</u></p> <p>(refer Figure 7-1 and Figure 7-2)</p> <p>Elevated freeways, feeder roads and associated on/off ramps linking the Bradfield Highway with the Glebe Island Bridge and the Cahill Expressway via two new roadways running across Darling Harbour (eastbound and westbound).</p> <ul style="list-style-type: none"> ■ Route clearance and site levelling ■ Drilling and piling for structural supports and civil works building the viaducts ■ Establishment of construction compounds ■ Acquisition and demolition of property. 	Pymont, Ultimo, Darling Harbour, Central Sydney
1985-1995	<p><u>Glebe Island Arterial / New Glebe Island Bridge</u></p>	Rozelle to Pymont, Ultimo, Darling Harbour

Date	Nature of disturbance	Location
	<p>Construction of six lane divided viaduct along the Pyrmont peninsula linking eastbound traffic with the Western Distributor, and construction of new Glebe Island bridge and approaches</p> <ul style="list-style-type: none"> ■ Pneumatic breaking/ripping of natural bedrock for excavation purposes ■ Demolition of sites acquired for the abandoned North-western Freeway (sites A-E) ■ Southern end of the property on the northern side of Fig Street between Bulwara Road and Bulwara Lane ■ Three factory/warehouse sites and one empty block (Sites 2-5) ■ Three properties. 	
1990s onwards	<p>Redevelopment of Darling Harbour</p> <p>Major program of regeneration and redevelopment led by the Darling Harbour Redevelopment Authority. The area that the Glebe Island Arterial runs across was cleared and levelled in preparation for redevelopment. The 1985 Glebe Island Arterial redevelopment describes the area as 'an open earthen bowl'.</p>	Darling Harbour, at the head of the bay and in the former location of the Goods Yard.
Fish Markets Redevelopment (1990s)	The Fish markets have occupied their site since the 1960s. By the 1980s the site resembled its current configuration with a large area of hardstand parking accessed via Miller Street.	Eastern shore of Blackwattle Bay

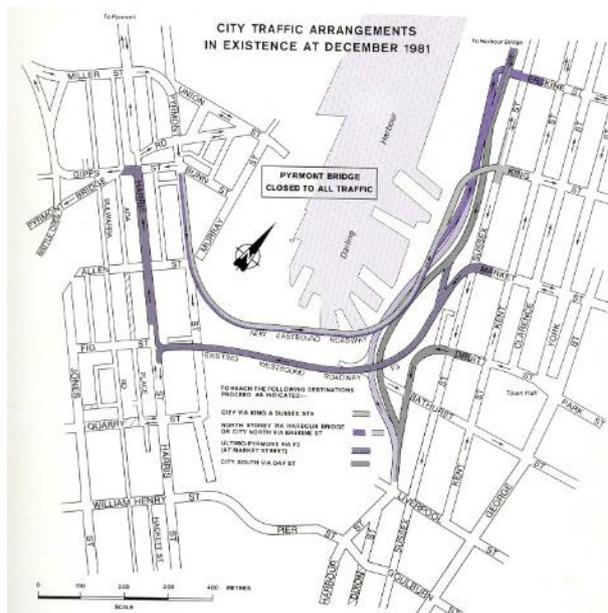


Figure 7-1 Western Distributor overview of new eastbound and westbound 'flyovers' at Darling Harbour (Source: Department of Main Roads)

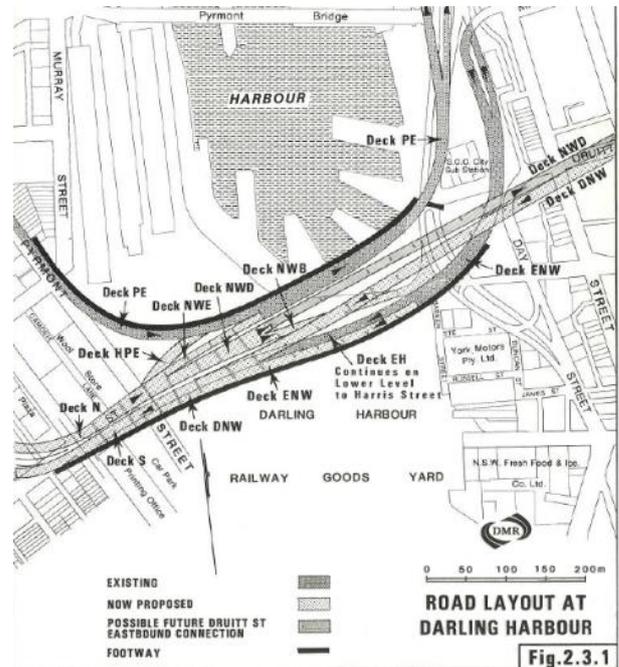


Figure 7-2 Road layout of Western Distributor viaduct around Goldsbrough Curve (Source: Department of Main Roads)

7.2 Bank Street, Pyrmont

Historical maps and records show the area around the Sydney Fish Markets, directly south of the existing viaducts and Bank Street, were well established with wharfs and structures associated with industry since at least the 1890s (Figure 7-3). The site on the eastern foreshore of Blackwattle Bay between Miller Street and Pyrmont Bridge Road transitioned over time into the current Sydney Fish Markets site. The Fire Underwriters' map 1923 (Figure 7-4) shows the outlines of the various company buildings on the current Fish Markets site. The 1930s Sands Directory 1932-33 lists occupiers including Cowlshaw's Wharf, Pyrmont Timber Handling & Storage Co, Allen Taylor & Co (timber store), Wallis Bros Ltd (sawmills), Australian Gaslight Co and Smith Bros (stevedores and lighterage contractors) amongst other companies.

The Fish Markets first occupied the area when they purchased the land in 1966. By 1980 the Fish Markets site had reached its current extent, including the centralised area of hardstand carparking, main warehouse building and associated structures. The construction of the Glebe Island Arterial, including viaducts, off ramps and landscaping/road reconfiguration at ground level resulted in a corridor of disturbance along the southern side of Bank Street running east to the northern side of Jones Street and around the Pyrmont interchange. By 1985 the occupants in this area of Blackwattle Bay were CSR, Marine Foods, a service station, Hymix and the Sydney Fish Markets (Figure 7-5 to Figure 7-7).

The construction and operation of these complexes followed by the subsequent construction of the Glebe Island Arterial is likely to have resulted in a high degree of disturbance to the archaeological resource in this area (Figure 7-11). A portion of the project boundary, directly to the south of Bank Street and Jones Street, may contain archaeological evidence of earlier industrial and wharf structures. Should archaeological remains of former buildings exist they would demonstrate the development of local industry in this area and may include footings or partial remains/artefact scatters relating to the timber yards, shipping and oil storage.

The HIS prepared by CityPlan (March 2019) for Infrastructure NSW as part of the EIS for the New Sydney Fish Markets – Stages 1 and 2 project assessed the potential for historical archaeology around the Pyrmont and Glebe areas, based off previous reporting conducted by CityPlan in 2017 for UrbanGrowth.³⁶ The findings of the HIS indicate a moderate to high potential for archaeological sensitivity in the Fish Markets area for former structures, particularly the stone and fill causeway beneath Pyrmont Bridge Road, late-19th Century sea walls beneath the middle section of Pyrmont Bridge Road, stormwater outlets, sewerage piping, and former wharf structures (see Figure 7-7 and Figure 7-8). This historical archaeological potential is limited to the Fish Markets and Wentworth Park area and does not extend north east into the proposal area.

Despite this area holding some **moderate to high archaeological potential** in the Fish Markets area, any remains closer to the proposal area or within the proposal area are of **low potential** and are unlikely to contribute greatly to a better understanding of Pyrmont's history. It is also noted that there will be no works within the Fish Markets area, where the moderate to high potential for archaeology resides. The locations and functions of these structures are well documented in the historic record. Any remains may hold local significance, depending on their nature and extent. Works around Banks Street will require an excavation exception to be obtained under Section 139 of the *Heritage Act* as noted in Section 7.6.

³⁶ For the detail assessments, refer to the Heritage Impact Statement by CityPlan in Appendix 23 and the Bays Market Precinct: Blackwattle Bay & Wentworth Park – History, Built Heritage, Archaeology and Landscape Study by CityPlan for UrbanGrowth NSW (2017) in Appendix 23A of the *New Sydney Fish Market at Blackwattle Bay – Stage 2: Environmental Impact Statement*, prepared by BBC Consulting for Infrastructure NSW, October 2019.



Figure 7-3 Map of Part of the Water Frontage of the Port of Sydney Showing Parts of the Land and Wharfage (Sydney Harbour Trust Commissioners. Date, 1907)



Figure 7-4 1927 Fire Underwriters Association Plan showing buildings (City of Sydney Archives)

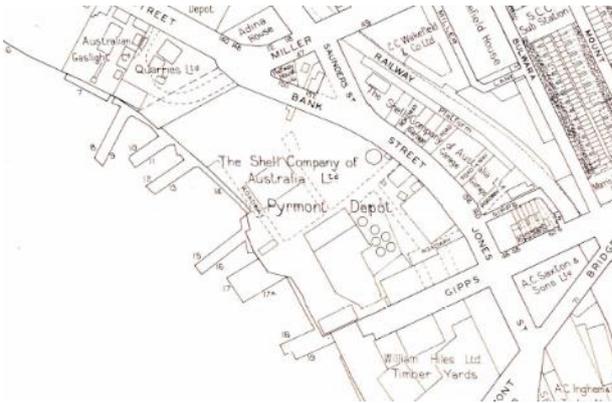


Figure 7-5 c1960s City Surveyors Plans (City of Sydney Archives)



Figure 7-6 1980s Aerial Imagery of Fish Markets/Banks Street Area (LPI)

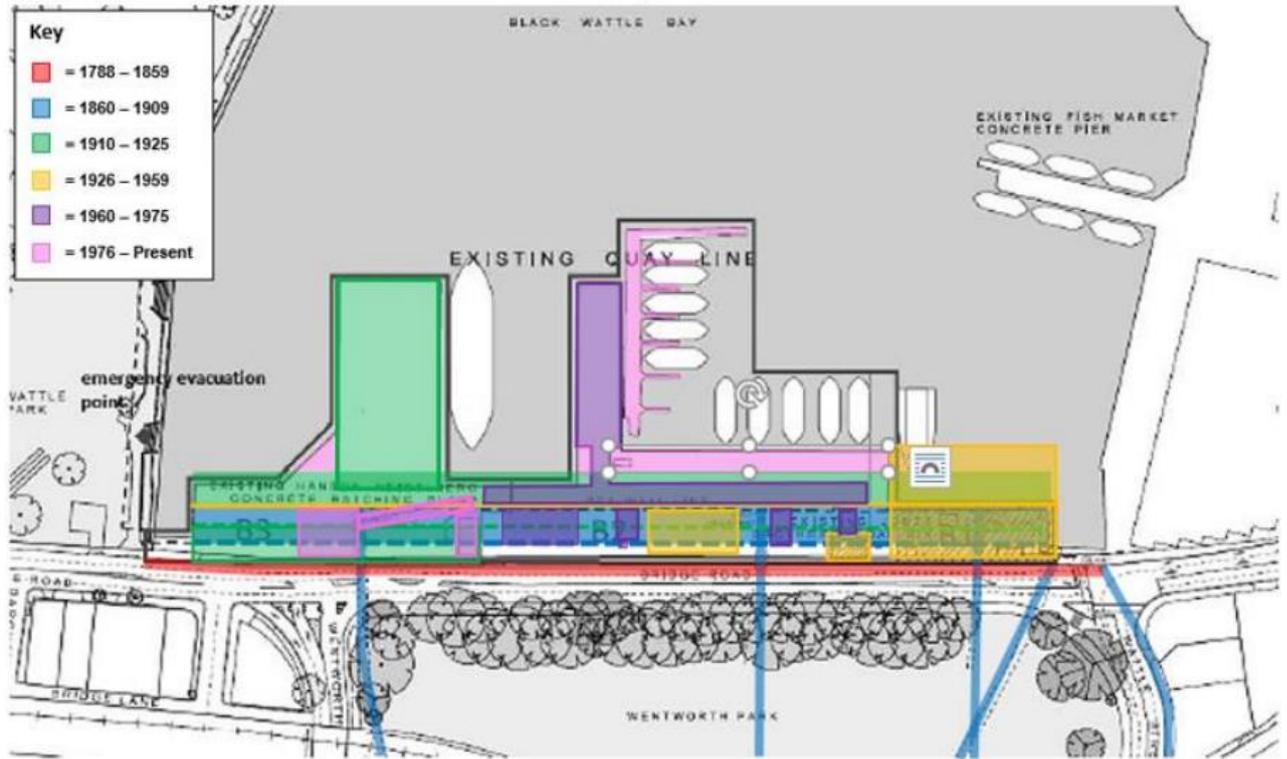


Figure 7-7: Historical archaeological potential mapping, by era, as extracted from the CityPlan 2017 report, pg. 61.

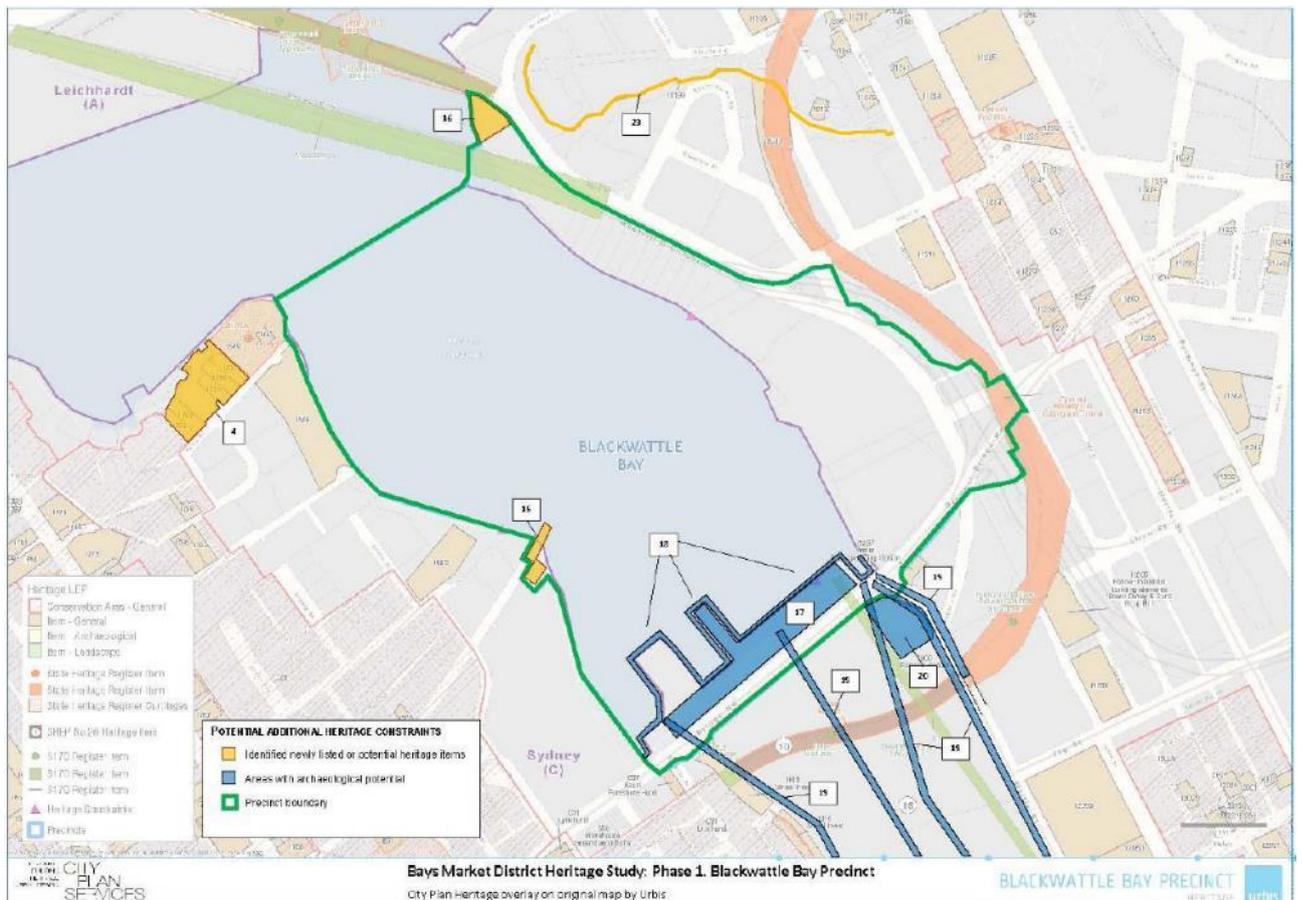


Figure 7-8: Potential additional heritage constraints / archaeological potential mapping, as extracted from the CityPlan 2017 report, pg. 70.

7.3 Pymont Bridge Road intersection

Pymont Bridge Road was aligned around 1857 when the Pymont Bridge Company constructed a causeway and bridge across the Blackwattle Swamp linking Glebe to the city. Until the construction of the Glebe Island Arterial, access to the Fish Markets was gained from the western section of Gipps Street which ran from the water (Figure 7-9). When the current intersection was constructed at the junction of Pymont Bridge Road and Banks Street traffic arrangements changed and Gipps Street traffic could pass directly from Jones Street (northbound) or after passing through the roundabout. Eventually Gipps Street was closed and subsumed into the Fish Markets site west of Harris Street.

In 1985 land clearance and demolition around the site of the present-day Pymont intersection was undertaken as part of the Glebe Island Arterial, including demolition of a timber mill, labelled as AC Ingham and Co Timber Yards on the c1960 City Surveyor plan (Figure 7-10). This complex included a two-storey brick warehouse at 71 Pymont Bridge Road. A brick warehouse, labelled A.C Saxton & Sons, occupied the triangular portion of land between Gipps, Jones & Pymont Bridge Road. Demolition also included a two-storey brick office building at 45-50 Gipps Street, 2-storey terrace housing at 52-60 Gipps Street and the public weighbridge associated across the rail cutting. The full list of affected properties is provided in the 1985 Glebe Island Arterial Environmental Impact Statement and associated documentation.

The clearance, demolition and construction operations associated with the Glebe Island Arterial is likely to have resulted in the removal of any archaeological potential around the Pymont intersection to be impacted by the proposed works (Figure 7-11). Demolition of buildings and structures that occupied the area prior to the establishment of the roadway and overhead via is well documented and confirmed by available aerial imagery. Late nineteenth century and early twentieth century disturbance across the site as well as the construction of the intersection is likely to have removed or disturbed any early or significant archaeological deposits. Furthermore, modern demolition and construction methods involving use of heavy machinery and pneumatic drilling associated with the 1990s road project is likely to have impacted substantially on any tangible evidence of previous phases of occupation. Findings from nearby archaeological testing conducted as part of the redevelopment of 49-61 Miller Street Pymont further support this assumption.

This area is designated **low-no archaeological sensitivity**, notwithstanding that unexpected archaeological finds could hold high value depending upon their nature and extent. Specialist archaeologist advice should be sought if necessary. No further statutory approvals under *the Heritage Act* are required for this works area as outlined in Approvals – 7.6.



Figure 7-9 Pymont Bridge Road Intersection Area 1903 (City of Sydney Archives)



Figure 7-10 Pymont Bridge Road Intersection Area c1960 (City of Sydney Archives)

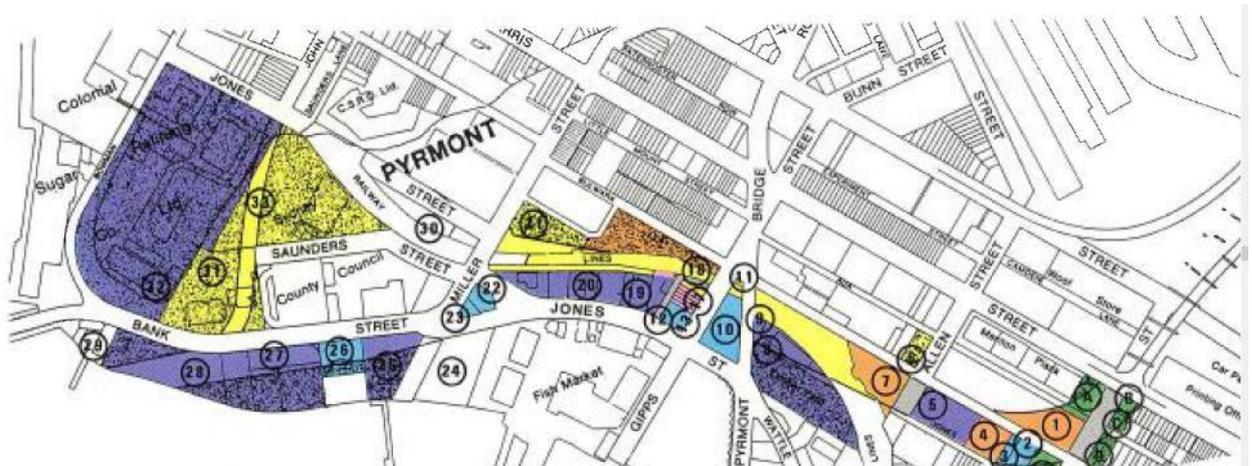


Figure 7-11 Properties acquired and cleared as part of the Glebe Island Arterial 1985 (Department of Main Roads 1985)

7.4 Goldsbrough Curve

In 1883 Goldsbrough and Co, formed out of the amalgamation of Sydney wool brokers Mort & Co and Melbourne based Goldsbrough and Co, commissioned the construction of a massive headquarters fronting Pyramont Street and Darling Harbour (Figure 7-12). The building was built in the architectural style of Melbourne's larger Victorian-era woolstores, which in turn harked back to English and Dutch precedents for agrarian merchant stores. In 1935 a huge fire destroyed the original building (Figure 7-13). The size and extremity of the blaze is likely to have removed all evidence of the 1883 structure. The company commenced rebuilding the store in 1936 and the design for the new complex was adapted to the time, whilst still employing traditional 'post and beam' hardwood timber construction techniques (Figure 7-15).

By the 1960s wool handling operations in Pyramont/Ultimo were in decline and the building, as with other wool stores on the peninsula, fell into disuse. In 1979 the building was classified by the National Trust and in 1995 an Interim Conservation Order was made for the building in 1987 under the Heritage Act. The building was converted to apartments after a conservation and adaptive reuse project in 1995 and has since undergone a subsequent renovation. The construction of the Western Distributor at the southern side of the building resulted in a major adverse impact to the setting and presentation of the Goldsbrough building. The freeway circumvented the building, partially preserving its place in the western skyline of Darling Harbour through the alignment.

Prior to the construction of the Western Distributor freeway viaducts and the redevelopment of Darling Harbour the land immediately to the east of the Goldsbrough Store had been occupied by the Darling Harbour Goods Yard, with the eastern façade of the Goldsbrough Store Pyramont Street which was a no-through road. To the west a block of terrace housing occupied the land between Bulwara Road and Harris Street (Figure 7-16). By the 1970s this block was being cleared and the terrace housing demolished. A

comparison of aerial imagery shows that by the 1980s the block was cleared altogether of earlier structures and the current properties along Harris Street and Bulwara Road/Allen Street (Figure 7-19). To the south of the Goldsbrough Store the large block between Quarry Street and Fig Street was occupied by the NSW Government Printing Office, Gilbert Lodge and Co, John Lysaght Australia Pty Ltd and the Education Department around the 1960s after being partially vacant for a time in the 1930s and 1940s (Figure 7-18). This block was consolidated and redeveloped in the early 2000s.

The area around the Goldsbrough Curve to the north and south of the Western Distributor alignment would have been heavily disturbed for the construction of the Western Distributor and Glebe Island Arterial throughout the 1980s. Substantial physical remains of residential and commercial structures which predated the freeway viaduct are unlikely to be present or intact. Should archaeological remains of former buildings exist they would demonstrate the development of the residential area of Pymont/Ultimo (Figure 7-20). These types of archaeological remains are unlikely to contribute to a greater understanding of the area's history given the quantity of existing historic documentation for the precinct. It is unlikely that remains of earlier phases of residential occupation would meet the threshold for local listing (Figure 7-17).

Any remains of the 1883 Goldsbrough Store would be highly significant however it is unlikely that any physical evidence of the earlier structure would have survived the 1935 fire and subsequent site clearance and reconstruction. The disturbance caused by the Western Distributor would have further eradicated any extant archaeology along its alignment at ground level.

This area is designated **low-no archaeological sensitivity**, notwithstanding that unexpected archaeological finds could hold high value depending upon their nature and extent. Specialist archaeologist advice should be sought if necessary. No further statutory approvals under *the Heritage Act* are required for this works area as outlined in Approvals – 7.6.



Figure 7-12 1883 Wool warehouses of R Goldsbrough & Co (Pyrmont History)



Figure 7-13 Goldsbrough Store fire 1935 (Pyrmont History)



Figure 7-14 1903 Map of the City of Sydney (City of Sydney Archives)



Figure 7-15 Completion of the Goldsbrough Woolstore in 1936 (City of Sydney Archives)



Figure 7-16 1943 Aerial showing residential terrace houses and row housing to the west of the Goldsbrough Store (Source: LPI)



Figure 7-17 Western Distributor under construction 1989, with Goldsbrough Store to the left of the shot (Scott Cuncliffe 1989)

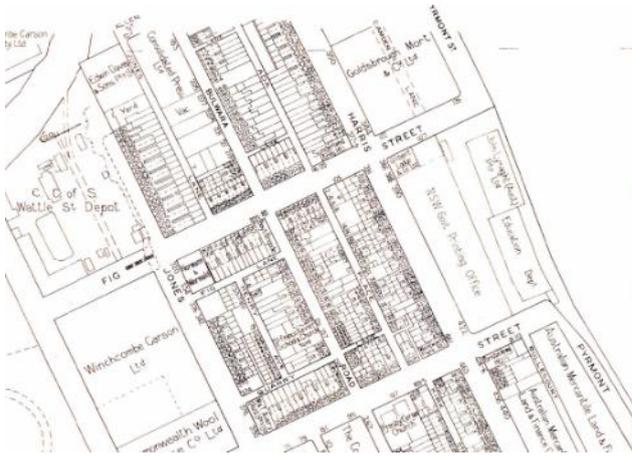


Figure 7-18 c1960s City Surveyors Plans (City of Sydney Archives)

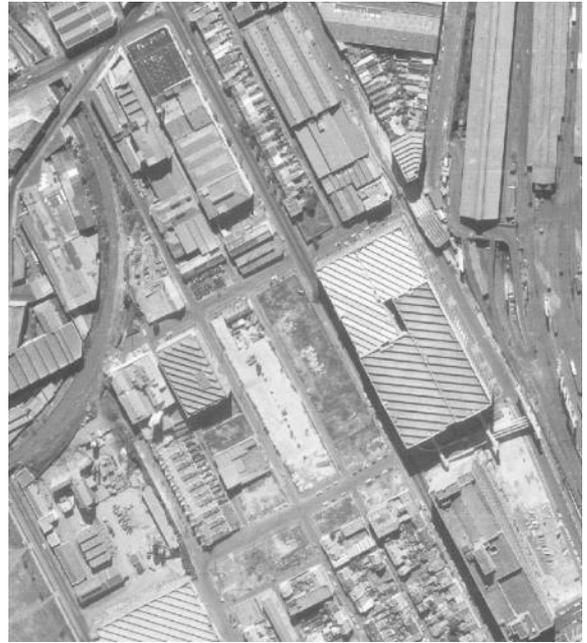


Figure 7-19 1970s Aerial Imagery, showing clearance to the west of the Goldsbrough Store (Source: LPI)



Figure 7-20 Construction of the Western Distributor during the 1980s (Adam J.W.C, Wikicommons)

Table 7-2 Summary of potential impacts–Non-Aboriginal Archaeology

Area	Findings
1. Bank Street/Fish Markets	<ul style="list-style-type: none"> ■ A localised portion of the project boundary, directly to the south of Bank Street and Jones Street, has low potential to contain archaeological evidence of earlier industrial and wharf structures. ■ The area near the site of the present-day Fish Markets has moderate to high potential for historical archaeology however does not directly interface with the proposal. ■ Any remains, depending on their nature and extent, may hold local significance however are unlikely to yield substantial additional information on the history and development of the area given buildings and structures are already documented. ■ Unexpected finds, depending on their nature and extent may hold some significance. Unexpected finds protocols should be followed.
2. Pymont intersection and Allen Street intersection	<ul style="list-style-type: none"> ■ The area around the Pymont intersection is heavily disturbed and is considered an area of low/no archaeological potential. Demolition, site clearance, construction and operation of the Glebe Island Arterial is likely to have removed evidence of prior uses and occupations. ■ Unexpected finds, depending on their nature and extent may hold some significance. Unexpected finds protocols should be followed.
3. Goldsbrough Curve / Darling Harbour	<ul style="list-style-type: none"> ■ The area around the Goldsbrough Curve and Goldsbrough Store is heavily disturbed and is considered an area of low/no archaeological potential. ■ Unexpected finds, depending on their nature and extent may hold some significance. Unexpected finds protocols should be followed.

8 Recommendations

Recommendations for the proposal are provided in Table 8-1.

Table 8-1 Recommendations and management measures for Non-Aboriginal Heritage

Element/impact	Recommendation/management measures
Non-Aboriginal Heritage Impacts– General	<ul style="list-style-type: none"> ■ Develop a Non-Aboriginal Heritage Management Strategy for the proposal. The document should form an interrelated document to the CEMP. It will provide specific guidance and conformation of the management measures implemented to avoid, reduce or minimise impacts to non-Aboriginal heritage, for the Anzac Bridge itself, the old Glebe Island Bridge, the Pyrmont and Glebe Railway Tunnels. The document may also include the relevant details for a heritage induction/heritage awareness training. ■ Ensure ongoing consultation with the relevant stakeholders including the Heritage NSW, Department of Planning and Environment and the City of Sydney regarding heritage impacts through the future stages of the proposal ■ If the detailed design deviates significantly outside the assessed proposal area, further assessment of heritage impacts would be required.
Impacts on the Anzac Bridge	<ul style="list-style-type: none"> ■ Insofar as possible, mitigate through design the impacts of installing new gantries along the Anzac Bridge. Recommended measures are as follows: <ul style="list-style-type: none"> – Design and detail the structures with consideration for the significant elements of the bridge design, including form, scale, materiality, detailing and user experience – Insofar as possible, ensure the gantries are lightweight structures that complement, rather than detract from the streamlined character of the Anzac Bridge and its uninterrupted span – Implement low impact construction techniques that can be reversed or remediated if ever required – Ensure Gantries are of a high quality to match the design and detailing of the Bridge to reduce impacts on the heritage fabric. ■ Consider, as part of the project, updating or refreshing the interpretive signage that currently conveys the history and significance of the bridge at the eastern approach near the shared pedestrian/cycle offramp and integrating this with relevant interpretation networks. Alternatively, provide further interpretation or information via a digital platform or other more innovative medium. ■ Undertake a digital photographic archival recording of the Bridge before and after the installation of the gantries and keep in Roads and Maritime records associated with the Section 170 listing for the bridge. The recording should be will be undertaken in accordance with the NSW Heritage Office guidelines <i>Photographic Recording of Heritage Items Using Film or Digital Capture</i> (2006).
Impacts on the old Glebe Island Bridge	<ul style="list-style-type: none"> ■ Safeguard the old Glebe Island Bridge throughout the entire duration of its use as a temporary construction compound. <ul style="list-style-type: none"> – Ensure there is no damage to the significant fabric of the Glebe Island Bridge. Ensure all construction compound activities are fully reversible and remain east of the Glebe Island Bridge Gate (see :). – Avoid parking trucks, heavy machinery or stockpiling materials beyond the eastern gated entrance to the Bridge.

Element/impact	Recommendation/management measures
Impacts on the Goldsbrough Store	<ul style="list-style-type: none"> ■ Protect the physical fabric and visual setting of the Goldsbrough Store throughout the construction of the project. <ul style="list-style-type: none"> – Confirm extent of vibration and noise impacts on the building and residents and implement appropriate mitigation measures – At ground level, mitigate further construction phase impacts by fencing off the building and using signage to designate the heritage area to be avoided
Impacts to Non-Aboriginal Archaeology	<ul style="list-style-type: none"> ■ Implement the TfNSW Unexpected Heritage Finds protocol ■ As per the Unexpected Finds protocol obtain specialist archaeological advice and consult with the NSW Heritage Division Archaeology team if a historical relic or object is encountered during the construction works.
Heritage Induction and Awareness Training	<ul style="list-style-type: none"> ■ As part of the Non-Aboriginal Heritage Management Strategy undertake site inductions and conduct heritage awareness training which details the kinds of historical relics, structures and deposits which may be encountered during construction works.

8.1 Approvals

The following heritage approvals are required for the project. Applications should be submitted to Heritage NSW via the Heritage Management System, and should include all required supporting documentation including project plans and non-Aboriginal Heritage Management Strategy. Application processing times are a minimum of 40 days but can range up to 3-6 months.

- Establishment of a temporary construction compound (Construction Compound 1) within the curtilage of SHR #01914 Glebe Island Bridge is consistent with existing site usage and is below the threshold for requiring heritage approval.
- Prepare and lodge an excavation permit (Section 139(4) Exception)) under the requirements of the *Heritage Act 1977* for any ground penetrating works within the project footprint. Multiple permits may be required to separate early works (such as survey and geotechnical investigations) from the later main construction works.
- Consultation with local Council is not required under the Transport and Infrastructure SEPP (formerly ISEPP Clause 14) because impacts to local heritage items are not 'more than minor or inconsequential'.

9 Conclusion

Cumulative Impacts

The proposal would result in a minor additional impact on the character and connectivity of Pyrmont and Ultimo. The proposal would add to the impacts which resulted from the construction of the Western Distributor/Glebe Island Arterial freeway viaducts throughout the 1980s. The works associated with intersection upgrades and a new weave ramp off the Western Distributor, in areas adjacent to local streets, local HCAs and local heritage items will result in a cumulative impact on the heritage values extant in these areas.

The proposal has the potential to cause increased through traffic, noise and disturbance along local corridors. The proposal occurs in the context of other redevelopments and changes forecast to occur in the area. These include the Bays precinct redevelopment (Sydney Fish Markets), Westconnex Stage 3 and the long-term precinct goals outlined in the Pyrmont Place Strategy (PPS).

Construction Phase Impacts

As with most major infrastructure projects involving high impact civil/structural works where construction can continue over an extended period of time, care should be taken to protect any adjacent heritage items from construction phase impacts such as vibration, ground movement, subsidence or other inadvertent construction risks i.e. dust, airborne objects or site and equipment accidents.

These risks should be carefully assessed and managed, considering the construction noise and vibration specialist studies and the findings of the pre-construction condition/dilapidation surveys examining adjacent heritage items.

Depending on the nature and extent of construction phase impacts and the outcomes of pre and post construction reporting, construction phase impacts can range from minor adverse to moderate adverse. All potential impacts should be monitored and managed closely. Heritage items that may be vulnerable to damage from vibration/construction include all those listed in this table and any others identified in the relevant specialist studies.

A summary of the findings of the impact assessment for the proposal are provided in Table 9-1.

Table 9-1 Summary of Impacts to built and landscape heritage

Heritage Item /issue	Proposal	Summary of impacts
Anzac Bridge Roads and Maritime S170 Register SHI #4305018	Installation of new gantries along the Anzac Bridge and Western Distributor corridor and associated signage and conduits. Conservation works to the ANZAC Memorial Sculptures.	Moderate adverse impacts on the Anzac Bridge via the installation of new gantries. The additional gantries to be installed will detract from the original design qualities and aesthetic integrity of the structure. Moderate adverse impacts will not downgrade the State-level significance of the Anzac Bridge nor will these impacts prevent a future nomination of the bridge to the SHR. Positive impacts will occur from proposed conservation works to the memorial sculptures.
Glebe Island Bridge SHR #01914	Establishment of a temporary construction compound on Bank Street on the eastern abutment of the old Glebe Island Bridge.	Minor adverse impacts (temporary and fully reversible) as a result of the temporary construction compound. . No physical change to heritage fabric and no earthworks.No ongoing or permanent heritage impacts. (Fig trees are not within SHR curtilage)

Heritage Item /issue	Proposal	Summary of impacts
<p>Pymont and Glebe Railway Tunnels</p> <p>SHR #01225</p> <p>Pymont Railway Cuttings, Tunnel & Weighbridge</p> <p>S170 #4801122</p>	<p>Adjustment of 20 m of stormwater utilities and associated tasks with the intersection upgrade above the rail cutting along Pymont Bridge Road intersection.</p> <p>Intersection and utility upgrades at Bank Street and Miller Street intersection</p>	<p>Neutral indirect impacts to the setting and curtilage of the rail corridor. No ongoing or permanent heritage impacts.</p>
<p>Goldsbrough Woolstore</p> <p>State significance</p> <p>National Trust (NSW) Register Item IDs: 9276 and 7396</p>	<p>Construction of the weave ramp, including new piers and utility adjustments in the immediate vicinity of the Goldsbrough Woolstore complex at Goldsbrough Curve (near Fig Street and Pymont Street).</p>	<p>Indirect setting impacts to the Goldsbrough Woolstore complex on the south western side of the building. Minor adverse impact on the setting of the building to the south as a result of indirect changes to the visual setting, and potential construction vibration.</p>
<p>Pymont Local Conservation Area</p> <p>Sydney LEP 2012</p>	<p>Pymont Bridge Road intersection changes and Allen Street and Harris Street intersection</p>	<p>Works do not directly interface with key elements of the HCA i.e. the street pattern, historic subdivisions, street plantings, and are unlikely to have any adverse impacts.</p>

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