

Cockle Bay Park

Historical Archaeological Assessment

Report prepared for DPT and DPPT

August 2017



Sydney Office Level 6 372 Elizabeth Street Surry Hills NSW Australia 2010 T +61 2 9319 4811

Canberra Office 2A Mugga Way Red Hill ACT Australia 2603 T +61 2 6273 7540

GML Heritage Pty Ltd ABN 60 001 179 362

www.gml.com.au

Report Register



The following report register documents the development and issue of the report entitled Cockle Bay Park—Historical Archaeological Assessment, undertaken by GML Heritage Pty Ltd in accordance with its quality management system.

Job No.	Issue No.	Notes/Description	Issue Date
16-0160	1	Draft Report	5 September 2016
16-0160	2	Final Report	30 September 2016
16-0160	3	Final Report—Reissued Following Receipt of Additional Comments	25 October 2016
16-0160	4	Final Report—Reissued following change of commercial GFA in text.	1 December 2016
17-0225	5	Draft Report—Reissued as Draft following reissued of proposal plans	21 July 2017
17-0225	6	Final Report—Reissued following change to site plan and to address client comments	4 August 2017
17-0225	7	Final Report—Reissued following change to site plan and to address client comments	22 August 2017
17-0225	8	Final Report—reissued to address minor client comments	24 August 2017
17-0225	9	Final Report—reissued with updated Figures 4.1 and 4.2	25 August 2017

Quality Assurance

GML Heritage Pty Ltd operates under a quality management system which has been certified as complying with the Australian/New Zealand Standard for quality management systems AS/NZS ISO 9001:2008.

The report has been reviewed and approved for issue in accordance with the GML quality assurance policy and procedures.

Project Manager:	Sophie Jennings	Project Director & Reviewer:	Dr Tim Owen
Issue No.	9	Issue No.	9
Signature		Signature	
Position:	Consultant	Position:	Senior Associate
Date:	25 August 2017	Date:	25 August 2017

Copyright

Historical sources and reference material used in the preparation of this report are acknowledged and referenced at the end of each section and/or in figure captions. Reasonable effort has been made to identify, contact, acknowledge and obtain permission to use material from the relevant copyright owners.

Unless otherwise specified or agreed, copyright in this report vests in GML Heritage Pty Ltd ('GML') and in the owners of any pre-existing historic source or reference material.

Moral Rights

GML asserts its Moral Rights in this work, unless otherwise acknowledged, in accordance with the (Commonwealth) *Copyright (Moral Rights) Amendment Act 2000*. GML's moral rights include the attribution of authorship, the right not to have the work falsely attributed and the right to integrity of authorship.

Right to Use

GML grants to the client for this project (and the client's successors in title) an irrevocable royalty-free right to reproduce or use the material from this report, except where such use infringes the copyright and/or Moral Rights of GML or third parties.

Contents	Page
1.0 Introduction	1
1.1 Response to Heritage Division Comment.....	2
1.2 Background	2
1.3 Site Location.....	3
1.4 Overview of Amended Concept Proposal.....	3
1.5 Aims	4
1.6 Limitations	4
1.7 Methodology and Terminology	4
1.8 Statutory Context	4
1.8.1 <i>Heritage Act 1977 (NSW)</i>	5
1.9 Methodology and Terminology	5
1.10 Author Identification.....	6
1.11 Endnotes	8
2.0 Historical Overview	9
2.1 Introduction.....	9
2.2 Aboriginal Associations: Tumbalong and Coodyee	9
2.3 European Settlement—Establishing Cockle Bay: 1788–1820s	9
2.4 Industry Emerges: 1820s–1870s.....	10
2.5 A Thriving Waterfront: 1870s–1900s.....	12
2.6 Government Resumption: 1890s–1900s	15
2.7 Transport Developments: 1900s–1930s.....	18
2.8 A Changing Waterfront: 1930s–1970s.....	20
2.9 Decline and Revitalisation: 1970s–2017.....	23
2.10 Endnotes	28
3.0 Site Analysis.....	30
3.1 Site Land Use History.....	30
3.1.1 <i>Assessment of Impacts and Disturbance</i>	30
3.1.2 <i>Western Distributor</i>	31
3.1.3 <i>Land Reclamation</i>	32
3.2 General Site Description	34
3.3 Geotechnical and Services Investigation Reports.....	38
3.3.1 <i>Geotechnical Investigations</i>	38
3.3.2 <i>Service Location Investigations</i>	39
3.4 Summary	39
3.5 Endnotes	41
4.0 Assessment of Historical Archaeological Potential	42
4.1 Archaeology of Neighbourhood	42
4.1.1 <i>CRM—Kent, Erskine, Napoleon and Sussex Streets (KENS) Site, 2003</i>	42
4.1.2 <i>Casey & Lowe—Darling Quarter (formerly Darling Walk), Darling Harbour 2008–2010</i>	42
4.1.3 <i>Casey & Lowe—Barangaroo South, Sydney, 2011–2012</i>	43
4.1.4 <i>Casey & Lowe—Darling Harbour Live, Exhibition Centre, 2013</i>	44
4.1.5 <i>Casey & Lowe—Darling Harbour Live, Haymarket, 2013</i>	44

GML Heritage

4.1.6 Casey & Lowe—Darling Harbour Live, ICC Hotel, 2014	44
4.2 Historical Archaeological Potential	44
4.3 Endnotes.....	49
5.0 Assessment of Historical Archaeological Significance	50
5.1 Preamble	50
5.2 Assessment Framework.....	50
5.3 Bickford and Sullivan’s Questions	50
5.3.1 <i>Can the site contribute knowledge that no other resource can?</i>	50
5.3.2 <i>Can the site contribute knowledge that no other site can?</i>	51
5.3.3 <i>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?</i>	51
5.4 NSW Heritage Criteria for Assessing Significance Relating to Archaeological Sites and Relics.....	51
5.4.1 <i>Archaeological Research Potential (Current NSW Heritage Criterion E)</i>	51
5.4.2 <i>Associations with Individuals, Events or Groups of Historical Importance (NSW Heritage Criteria A, B & D)</i>	52
5.4.3 <i>Aesthetic or Technical Significance (NSW Heritage Criterion C)</i>	52
5.4.4 <i>Ability to Demonstrate the Past through Archaeological Remains (NSW Heritage Criteria A, C, F & G)</i>	52
5.5 Statement of Significance.....	52
5.6 Endnotes.....	53
6.0 Archaeological Impact Assessment	54
6.1 Description of the Proposal	54
6.1.1 <i>Zones of Development Impacts Relative to Archaeology</i>	54
6.2 Mitigation Measures.....	55
6.3 Endnotes.....	59
7.0 Conclusions and Recommendations	60
7.1 Conclusions.....	60
7.2 Recommendations.....	60

1.0 Introduction

GML Heritage Pty Ltd (GML) was engaged by DPT Operator Pty Ltd and DPPT Operator Pty Ltd (December 2016) to prepare a Historical Archaeological Assessment (HAA) for the Cockle Bay Park development (the site or the subject site). This report revises the 2016 report to support the response to submission assessing the amended concept proposal for the Cockle Bay Park development. The HAA was prepared in response to the Secretary's Environmental Assessment Requirements (SEARs) as part of an application (Application No. SSD 7684) for a State Significant Development Approval under Part 4 (Division 4.1) of the Environmental Planning and Assessment Act 1979 (NSW) (EPA Act). The relevant requirements detailed in the SEARs were as follows:

Heritage. The EIS shall:

- *Provide a detailed Heritage Impact Statement (HIS) that identified and addresses impacts of the proposal:*
 - *On any archaeology protected under the Heritage Act 1977.*

The HAA as part of the Environmental Impact Statement (EIS) was submitted to the Department of Planning and Environment (DPE) in December 2016 for comment. Responses to the HAA were received from the Heritage Division in February 2017, including support for GML's recommendations (see Section 7 of this report).

DPT Operator Pty Ltd and DPPT Operator Pty Ltd (the Proponent) are seeking approval for a Concept Proposal for the redevelopment of the Cockle Bay Wharf Building and the surrounding area to create new open space and a commercial, retail and tourist precinct in the heart of the CBD (now referred to as Cockle Bay Park). The amended Concept Proposal includes:

- a large area of publicly accessible open space;
- new retail outlets, including new food and beverage destinations;
- new cultural and entertainment destinations; and
- a new commercial office tower.

The project will add new open space to the Sydney CBD and help to reconnect the city to the Darling Harbour waterfront. Cockle Bay Park will take its place in a revitalised Sydney CBD and speaks directly to local government objectives to create a 'Green, Global and Connected City' (City of Sydney) as well as the strategic vision outlined in 'Towards Greater Sydney 2056' to grow the "developing central city". The vision for this project was developed with consideration for the NSW Government objectives to support and "grow the knowledge industry", double tourism expenditure and "strengthen our local environment and communities" as outlined in 'NSW 2021: A Plan to Make NSW Number One'.

This report evaluates the site's potential to contain historical archaeological resources and assesses its possible heritage significance. The report also identifies potential development impacts on the site's potential archaeological resource and provides recommendations for mitigation of these impacts, where appropriate. A separate Aboriginal Heritage Due Diligence Report has been prepared to address the potential for Aboriginal archaeological remains to be present within the subject site.

This report supports the Response to Submissions and amended Concept Proposal associated with a State Significant Development Application (SSDA 7684) submitted to the Minister for Planning and Infrastructure pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act).

Please note that all plans, diagrams, images and graphics within this report and the supporting documentation (excluding the amended Concept Proposal Envelope Plans prepared by Francis-Jones Morehen Thorp Pty Ltd) are indicative only and have been included to communicate the intent of the amended Concept Proposal, including representative building shapes, forms, locations, layouts and relationships. It is proposed that these representations, together with acceptance of the building envelopes and massing, and associated design principles, will then be used to inform the Design Excellence process to follow the Stage 1 SSD Determination. Design Excellence outcomes will form the basis of the Stage 2 SSDA.

1.1 Response to Heritage Division Comment

As part of the EIS process, the Heritage Division was invited to comment on the proposed development with regards to potential impacts to historical archaeological remains. The response from the Heritage Division noted inconsistencies between the EIS and HAA in terms of the recommended approach to mitigation, and the appropriate section of the EIS has been updated to ensure consistency between the reports in accordance with the recommended mitigation measures outlined in Section 7.3. The response also notes the need for a Maritime Archaeological Assessment, which the proponent is currently undertaking; as such this report does not include an assessment of the maritime archaeological potential of the site. The Heritage Division response supports the proposed mitigation measures recommended by the HAA (Section 7.3) and provides a list of recommended consent conditions to be implemented by the development to manage impacts to historical archaeological remains. The conditions are similar in scope to conditions received for other development projects of a comparable size and scale within the Sydney area.

1.2 Background

The Proponent controls the lease of the Site, and also of the adjacent Darling Park precinct. The Darling Park site is a successful premium grade office precinct located on the west of the Sydney CBD, the associated Crescent Garden, located to the west of the three existing Darling Park towers, is a key area of open space in this part of the city.

The Proponent has recognised a number key issues with the existing layout of the Darling Park and Cockle Bay precinct, these being:

- The existing Cockle Bay Wharf building is not well integrated with the city, the Western Distributor freeway currently acts as a barrier to separate this area from the CBD.
- Publicly accessible open space is limited to the existing Crescent Garden in Darling Park.
- The existing Cockle Bay Wharf building is outdated and is not in keeping with the future of Darling Harbour area as a vibrant entertainment and tourist destination.

The Cockle Bay precinct is at risk of being left behind and undermining the significant investment being made in Darling Harbour that will see it return to the world stage as a destination for events and entertainment. Accordingly, the Proponent is taking a carefully considered and staged approach to the complete revitalisation of the site and its surrounds. The envisaged development, which will be facilitated by the proposed building envelopes will:

- reconnect the city with the Darling Harbour waterfront;
- create new publicly accessible open space in the heart of the Sydney CBD;
- create new public land above the Western Distributor;
- provide new access routes between the city and the ICC Sydney / Darling Harbour Live precinct;
- support the Sydney economy by providing a new premium commercial building; and
- refresh and renew an existing entertainment and tourist destination.

1.3 Site Location

The Site is located within Darling Harbour. Darling Harbour is a 60 hectare waterfront precinct on the south-western edge of the Sydney Central Business District that provides a mix of functions including recreational, tourist, entertainment and business.

The Site is located to the immediate south of Pyrmont Bridge, within the Sydney CBD on the eastern side of the Darling Harbour precinct. The site address is 241–249 Wheat Road, Cockle Bay (Darling Harbour Precinct) and is situated between Market Street to the north; Sussex Street to the east; Druitt Street to the south; and the waters of Darling Harbour to the West. The Site is also located within the City of Sydney local government area (LGA). A locational context area plan and location plan are provided at Figure 1.1 below.

The project Site area has been slightly amended by this Response to Submissions, a comparison of the exhibited and now-proposed Site area is provided as Figure 1.2, and the now proposed Site area is shown below as Figure 1.3.

The Darling Harbour precinct is undergoing significant redevelopment as part of the SICEEP, Darling Square, and IMAX renewal projects. The urban, built form and public transport/pedestrian context for the proposed Harbourside development will fundamentally change as these developments are progressively completed.

1.4 Overview of Amended Concept Proposal

The proposal relates to a staged SSDA and seeks to establish amended concept proposal details for the renewal and re-imagining of the Cockle Bay precinct. The amended Concept Proposal establishes the vision, planning and development framework which will be the basis for the consent authority to assess future detailed development proposals. The Cockle Bay Park Site is to be developed for a mix of Retail, Cultural and Commercial (Office) uses including retail and restaurants, offices, and publicly accessible open space.

The amended Concept Proposal seeks approval for the following key components and development parameters:

- demolition of existing site improvements, including the existing Cockle Bay Wharf building complex, pedestrian bridge links across the Western Distributor, and obsolete monorail infrastructure;
- building envelopes;
- land uses across the Site;

GML Heritage

- a maximum total Gross Floor Area (GFA) across the Cockle Bay Park of 75,000m² for commercial development and 14,000m² for retail (including food and beverage) development;
- Urban Design and Public Realm design principles to provide a Design Excellence framework; and
- strategies for utilities and services provision, drainage and flooding, and ecological sustainable development.

1.5 Aims

The aims of this archaeological assessment are to:

- enhance readily available historical research to create a site history;
- identify whether the study area has historical archaeological potential;
- assess the significance of potential historical archaeological resource that has been identified;
- identify potential development impacts onto the site's archaeological resource;
- identify appropriate mitigation measures for the management of the development impacts; and
- prepare a stand-alone report suitable for submission to relevant statutory authorities.

1.6 Limitations

This report assesses the potential historical archaeological resources of the site only and does not include an assessment of potential Aboriginal heritage sites or values.

No physical archaeological investigation of the site has been undertaken as part of this study.

1.7 Methodology and Terminology

This report has been prepared in accordance with the following documents and best practice guidelines:

- NSW Heritage Manual, *Archaeological Assessments* (NSW Heritage Office 1996);¹
- *Assessing Significance for Historical Archaeological Sites and Relics* (NSW Heritage Branch 2009);² and
- *The Australia ICOMOS Burra Charter, 2013* (the Burra Charter).³

1.8 Statutory Context

As stated above, the Concept Proposal is being submitted as a State Significant Development Application (SSD 7684) to the Minister for Planning and Infrastructure pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act).

Under Section 89J of the EP&A Act projects that fall within ambit of Division 4.1 do not require authorisations under a number of Acts including:

1(c) an approval under Part 4, or an excavation permit under section 139, of the Heritage Act 1977,

2 Division 8 of Part 6 of the Heritage Act 1977 does not apply to prevent or interfere with the carrying out of State significant development that is authorised by a development consent granted after the commencement of this Division.

In accordance with Section 89E the Minister may determine a SSD application by:

1 a) granting consent to the application with such modifications of the proposed development or on such conditions as the Minister may determine,

Projects approved as SSD under Part 4, Division 4.1 of the EPA Act do not require approvals under the Heritage Act, however it is expected that the management of heritage resources be undertaken in accordance with the established guidelines issued by the Heritage Council and best practice as well as any Statement of Commitments or consent conditions that form part of the SSD approval. The Minister may also include conditions that include the adherence to the Heritage Act in which case relevant approvals and permits would need to be obtained prior to the commencement of any ground works with potential to disturb relics. A summary of relevant sections of the Heritage Act is included below.

1.8.1 Heritage Act 1977 (NSW)

The Heritage Act is a statutory tool designed to conserve New South Wales' environmental heritage. It is used to regulate the impacts of development on the state's heritage assets. The Heritage Act defines a heritage item as 'a place, building, work, relic, moveable object or precinct'. To assist in management of the state's heritage assets, the Heritage Act distinguishes between items of local and state heritage significance:

- 'Local heritage significance'—in relation to a place, building, work, relic, moveable object or precinct—means significance to an area in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item.
- 'State heritage significance'—in relation to a place, building, work, relic, moveable object or precinct—means significance to the state in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item.

Specifically for archaeology, relic means any deposit, object or material evidence:

(a) that relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement; and

(b) that is of State or local heritage significance.

Archaeological features and deposits are afforded statutory protection by the relics provision of the Heritage Act (as amended in 1999). 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 or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed unless the disturbance or excavation is carried out in accordance with an excavation permit.⁴

The Pymont Bridge, which partially extends into the northern edge of the site, is listed on the State Heritage Register (SHR), Listing no. 01618. As this report only considers historical archaeology, any potential impacts to the Pymont Bridge are not considered in this report.

1.9 Methodology and Terminology

This report has been prepared in accordance with the archaeological assessment guidelines contained in the *NSW Heritage Manual* (Department of Urban Affairs and Planning and the Heritage Council of NSW, 1996). This report applies the principles contained in the *Australia ICOMOS Charter for Places*

of Cultural Significance 2013 (Burra Charter) as well as the *Assessing Significance for Historical Archaeological Sites and 'Relics' Guidelines* (Heritage Branch, NSW Department of Planning, 2009).

1.10 Author Identification

This report has been prepared by Sophie Jennings, Consultant. The history of the site has been prepared by Anisa Puri, Historian and Heritage Consultant. The report has been reviewed by Dr Madeline Shanahan, Archaeology Manager, and Dr Tim Owen, Senior Associate.

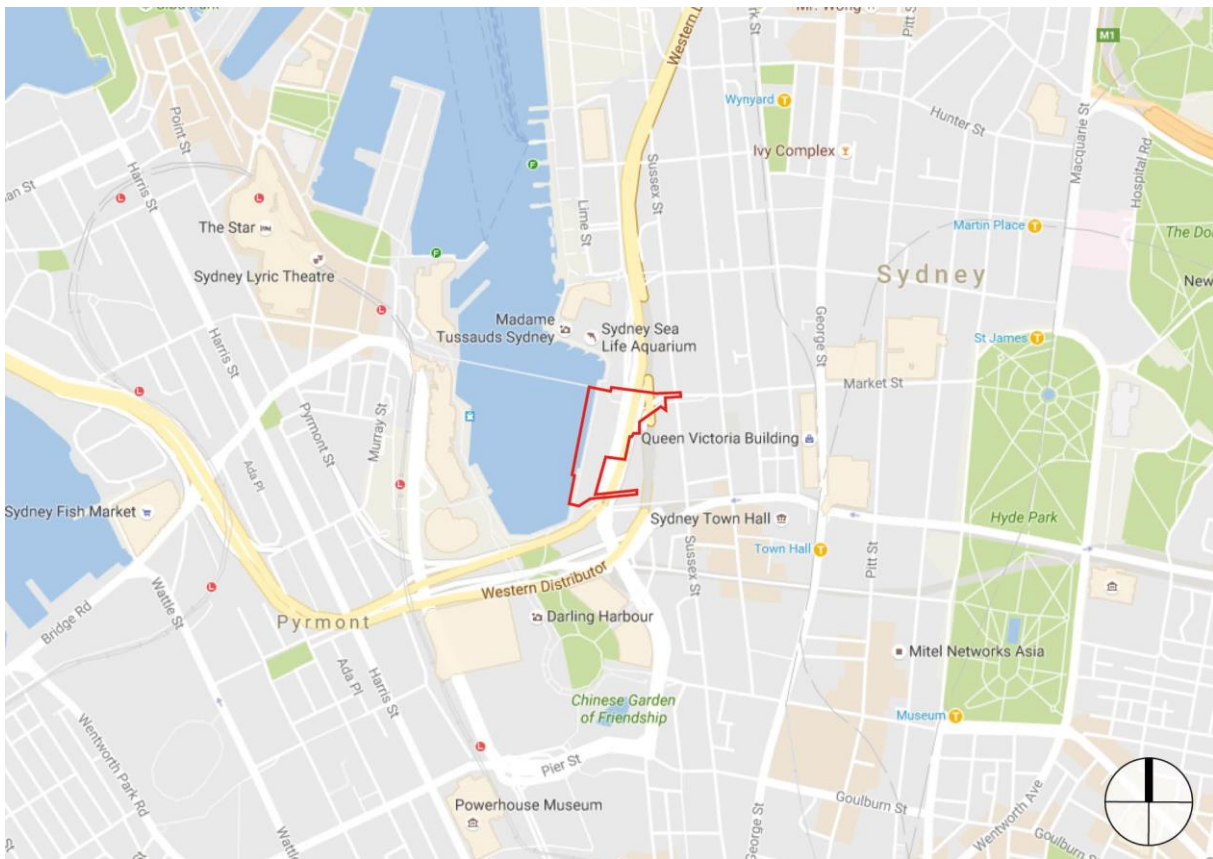


Figure 1.1 The study area location within the Sydney CBD. (Source: Google Maps with GML overlay 2017)



Figure 1.2 The subject site on the eastern side of Cockle Bay. (Source: Google Earth with GML overlay, 2017)



Figure 1.3 Comparison of the exhibited subject site area (in red) and the amended site area in yellow. (Source: Thelem Consulting 2017)

1.11 Endnotes

- 1 Heritage Office and Department of Urban Affairs & Planning 1996, *NSW Heritage Manual*, Department of Urban Affairs and Planning, Sydney.
- 2 Heritage Branch, December 2009, *Assessing Significance for Historical Archaeological Sites and 'Relics'*, Heritage Branch of the Department of Planning, Sydney.
- 3 Australia ICOMOS Inc, *The Burra Charter: the Australia ICOMOS Charter for Places of Cultural Significance 2013*, Australia ICOMOS Inc, Burwood, VIC.
- 4 NSW legislation website <<http://www.legislation.nsw.gov.au/viewtop/inforce/act>>.

2.0 Historical Overview

2.1 Introduction

This history of the subject site draws largely from historic maps, plans and photographs that are readily available online and could be consulted in the provided timeframe. There may be other sources that have not been consulted in this study which could contribute further contribute to an understanding of the site's history.

2.2 Aboriginal Associations: Tumbalong and Coodyee

The subject area forms a very small part of the traditional lands associated with the Cadigal, a clan or tribe of the Darug. The Cadigal called the southern part of Darling Harbour Tumbalong—which means the place where seafood is found—and the northern part Coodyee. Aboriginal heritage has been detailed in a separate report to which reference should be made for further details of Aboriginal traditional associations.



Figure 2.1 Cockle Bay—now Darling Harbour—c1819–20, James Taylor. (Source: State Library of NWS, a928747h)

2.3 European Settlement—Establishing Cockle Bay: 1788–1820s

When the First Fleet arrived in Sydney in 1788, one of the settlements established was called Long Cove, located in today's Darling Harbour (Figure 2.1). By 1804, the area became known as Cockle Bay due to the abundance of shell middens in the vicinity.¹ Early European settlers collected shells which were crushed and burnt in lime kilns. The residue ash was used to make mortar for building purposes.²

In 1811, Governor Macquarie commissioned Market Wharf, where produce was unloaded and carted up to the markets located where the Queen Victoria Building stands today.³ Governor Ralph Darling renamed the area Darling Harbour in 1826.

2.4 Industry Emerges: 1820s–1870s

The arrival of the Industrial Revolution had an impact upon Darling Harbour. In fact, the area has been described as ‘the first truly industrial precinct in Sydney’.⁴ John Dickson—who later had a business within the subject site—brought the nation’s first steam mill to Australia in 1815, which was used to grind wheat.⁵ Dickson established numerous factories in Darling Harbour in the 1820s, and was granted 16 acres ‘in the vicinity of George, Hay, Goulburn and Sussex Streets, and along Liverpool Street down the waters of the harbour’.⁶ Early industry in Cockle Bay was:

*associated with the shipping industry and trade, in particular the export of maritime products and then wool. Small industries associated with wool emerged, including tanneries, woolwashing, leather goods and fellmongering plants. Warehousing on Sydney Cove by the mid-1800s was almost exclusively woolstores.*⁷

In 1844, Francis Webb Shields (Draftsman and Assistant to the City Surveyor) surveyed the city in order to create a detailed map of the areas within the city’s boundaries as determined in 1842. The map shows the city’s streets, public places and the approximate location and footprint of buildings, with prominent buildings and structures named. Figure 2.2 depicts the subject site within its immediate surroundings. The site contains a private building made of wood (shaded yellow) the land in its immediate vicinity appears vacant. The subject site includes large sections of a number of wharves—Hynde’s Wharf, Street’s Wharf, Albion Wharf and the aforementioned Market (corporation) Wharf. Shipping began to operate from a growing number of Darling Harbour’s wharves in the 1840s.⁸ The subject site also includes sections of Darling Harbour. There are a number of private buildings made of stone or brick just outside the subject area extending from Sussex Street (shaded red). A small portion of Sussex Street is located within the eastern margins of the subject area, and a portion of Druiitt Street is located within the southern boundary of the site.

The gold rush which took place during the 1850s created a demand for mining equipment, and Darling Harbour’s industrialists catered for this requirement by building mills, factories and workshops.⁹ The wharves and industrial works thrived. New industries, including refrigeration, developed, and numerous large industrial companies sprung up. Refrigeration transformed the local food industry and enabled the exportation of fresh produce. Cold stores emerged at Darling Harbour and in Ultimo.¹⁰ Shipbuilding yards and metal trace workshops were also prominent along the harbour shores.

The 1855–1865 Trigonometry Survey of Sydney (Trigonometry Survey) (Figure 2.3) portrays the city’s altered built landscape in 1865, and includes property boundaries and building footprints. The study area extends across seven separate land allotments as marked on the Trigonometry Survey. Block E2 of the survey shows the subject site’s considerable built development since Shield’s map 22 years beforehand.

By now, further reclamation along Darling Harbour had taken place: the subject area contained more wharves and many existing wharves had been further extended into the harbour. Reclamation along the shoreline between Hynde’s and Sheets’ Wharves took place after 1844.

The 1865 buildings are colour-coded: pink for brick, beige for stone, grey for wood, and blue for iron. Many of the buildings within the site boundary were made of wood, a few were stone and a further few were brick. The 1857-constructed Pyrmont Bridge lies outside the northwestern edge of the study area. It was a swing bridge originally constructed of timber which connected Market Street to Pyrmont and was used to transport shipping to and from Cockle Bay.¹¹ Pyrmont Bridge was also a toll bridge which cost pedestrians two pence, and carriage-drivers nine pence to cross it.¹² The government purchased it in 1884, and work on a replacement bridge began five years later.¹³

Darling Harbour's transport links were significantly improved in the latter half of the 1850s. Along with the erection of the first Pyrmont Bridge in 1857, Sydney's first railway, which included a line to and from Darling Harbour, opened in 1855.¹⁴ Wool from Bathurst and Goulburn could now be transported directly to the harbour.¹⁵ The Argyle Cut, completed in 1859, connected Sydney Cove and Darling Harbour and improved access to Millers Point.

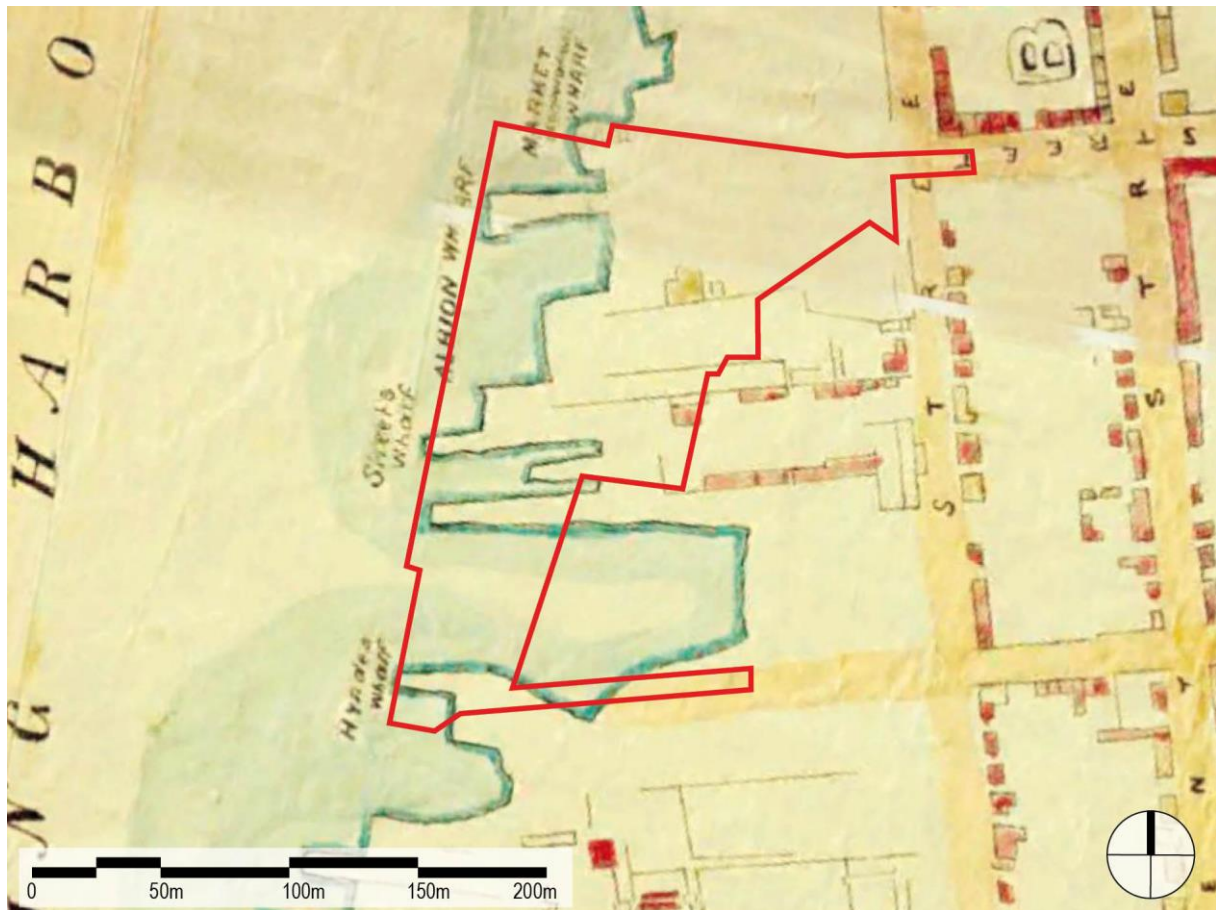


Figure 2.2 Section of Francis Webb Shields' Map of Sydney, 1844. (Source: City of Sydney Archives with GML overlays 2017)

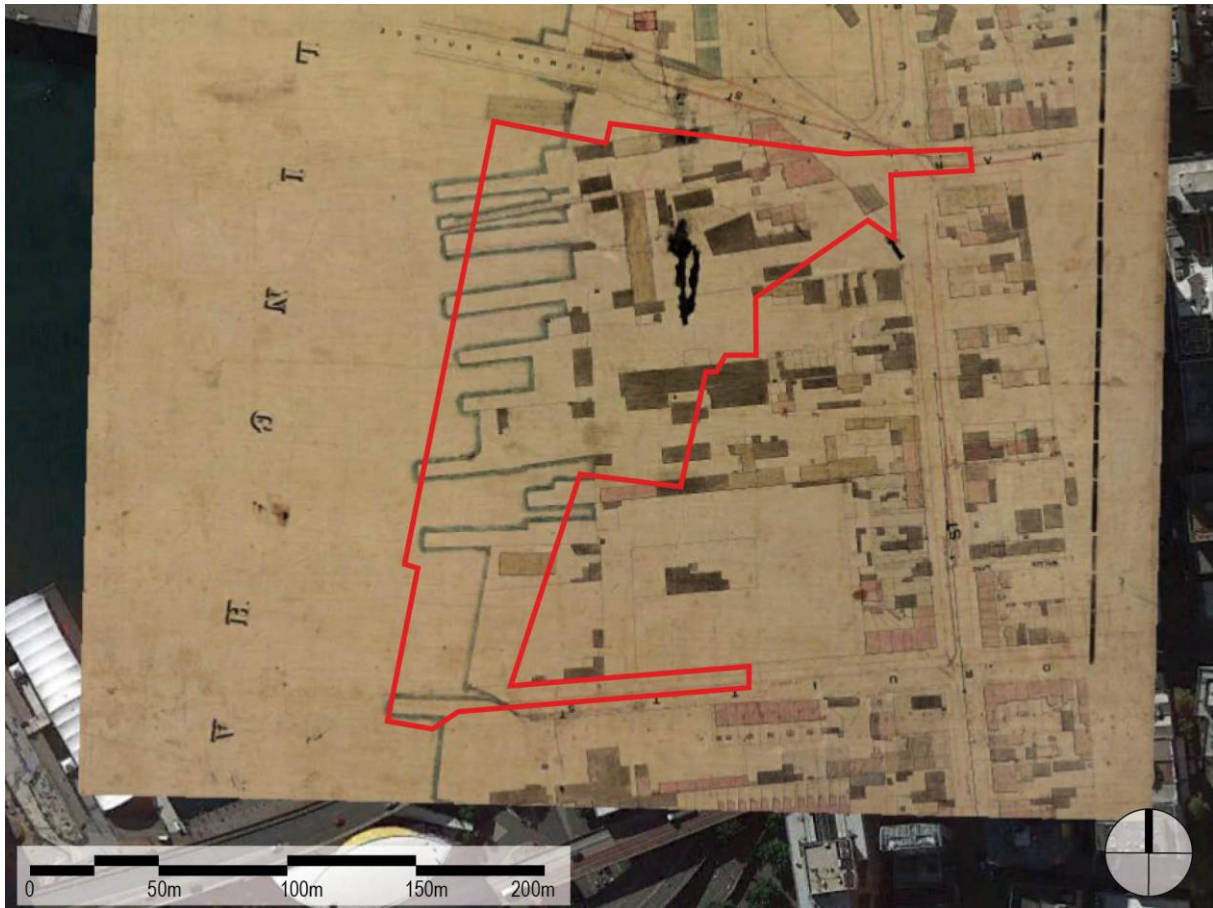


Figure 2.3 1855–1865 Trigonometry Survey of Sydney, Block E2. (Source: City of Sydney Archives with Google Earth baseplan and GML overlays 2017)

2.5 A Thriving Waterfront: 1870s–1900s

The 1880 series known as Doves Plans of Sydney (Doves Plan), 1880 (Figure 2.4) were executed by surveyors. The primary purpose of these plans was ‘to record the locations and plan views of properties, the building materials used, and other fire risks, and the availability of fire precautions.’¹⁶ The Block 82–83 plan conveys the location of properties in the subject area, identifies their materiality and use, and often includes the names of owners or occupiers. The number of storeys of buildings are indicated in circled numbers, and the following colour code applies: brick and stone are shaded red, iron is shaded blue/grey, and wood is shaded yellow/brown.

The two largest large warehouse complexes, located towards the eastern side of the site featured in the 1855–1865 Trigonometry Survey, appear to still be standing. The Doves 1880 Plan identified one complex as Building 10–12 and the other is identified as ‘Shed’ connected to an adjacent ‘Timber Shed’. Both the Trigonometry Survey and Doves Plan show that first complex (buildings 10–12) were made of stone and that the timber shed and shed complex south of it was made of wood. Doves Plan shows that buildings 10–12 had shingle roofs. Building 10 is one storey, Building 3 is three storeys and Building 12 is two storeys.

Other buildings surveyed in the Trigonometry Survey are also still standing, including an unattached timber shed in Miller and Harrison’s Timber Yard and the four one-storey buildings made of stone, iron and wood located southeast of the timber shed and connected shed complex (see Figure 2.5 and Figure 2.6).

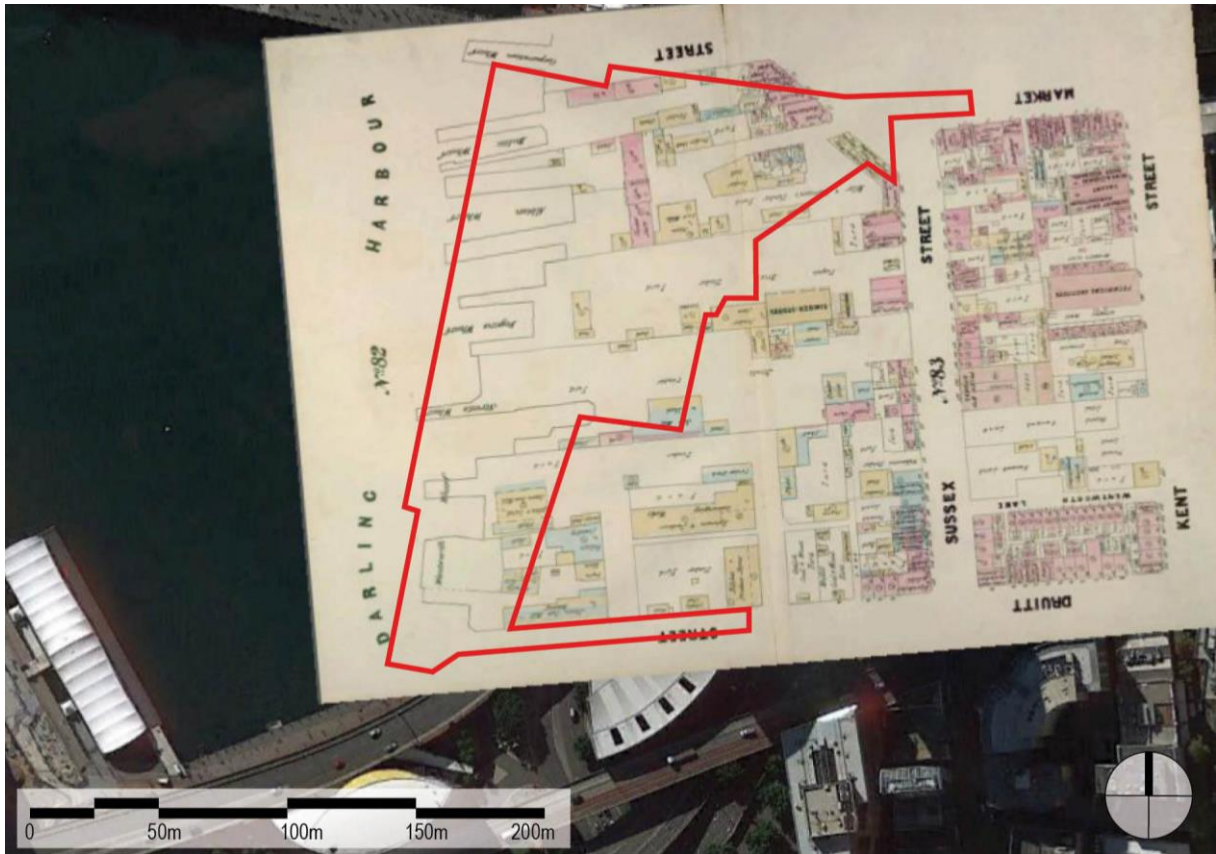


Figure 2.4 Doves Plans of Sydney, 1880, Block 82–83, overlaid upon actual site. (Source: City of Sydney Archives with Google Earth baseplan and GML overlays 2017)



Figure 2.5 A section of the Trigonometry Survey, 1855–1865. (Source: City of Sydney Archives)

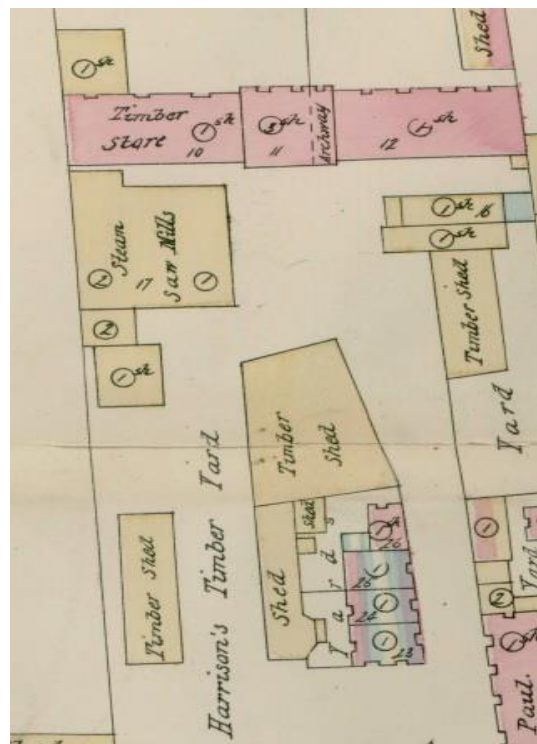


Figure 2.6 A section of Doves Plan, 1880. (Source: City of Sydney Archives)

There are other buildings shown in both the Trigonometry Survey and Doves Plan that fall within the subject site, including half of a timber shed in Miller and Harrison's Timber Yard and two new buildings near the Sussex Street end of that yard that are connected to Miller and Harrison's one-storey building (number 29). One is located at 198 Sussex Street and the other is identified as Building 30 (Figure 2.7). Another building in Doves Plan which appears to have been in existence when the Trigonometry Survey was undertaken was a five-storey structure with a shingled roof in Fagan Bros Timber Yard adjacent to their wharf. There are other buildings shown in the Trigonometry Survey which appear to have survived by the time Dove surveyed the city which are not been detailed here.

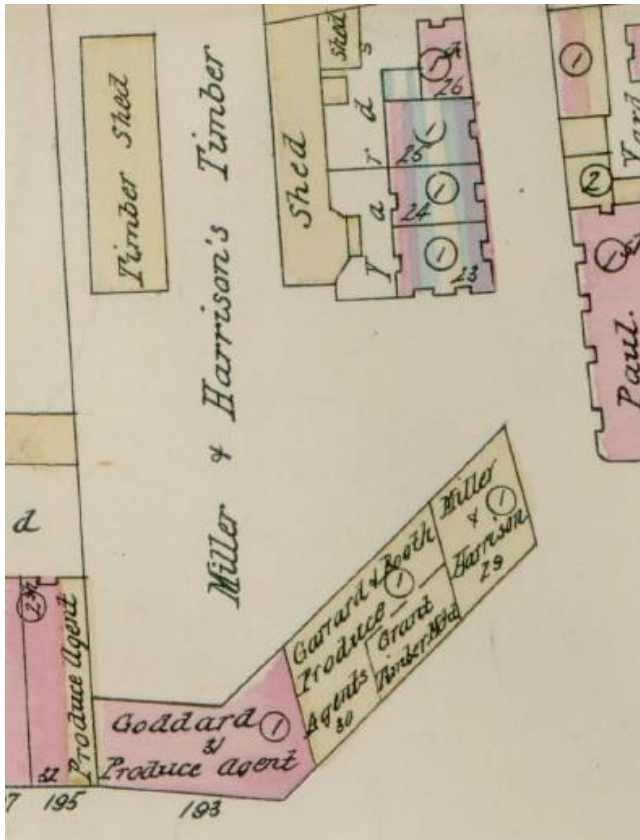


Figure 2.7 A section of Doves Plan 1880, Block 82, showing Miller and Harrison's Timber Yard. (Source: City of Sydney Archives).

Dove's survey of the subject site indicates how areas in the city were being used in 1880. Wheat, coal and wool were exported from Darling Harbour, and the area was a vital trade port that facilitated commercial and industrial development. Technological advancements occurred in the surrounding areas as Darling Harbour provided energy through electric, gas and hydraulic power stations.¹⁷ Dove's Plan identifies wharves owners within the subject site by name: Wentworth Wharf, Streets Wharf, Fagan's Wharf, Albion Wharf, Baltic Wharf and Corporation Wharf. By 1890, further land reclamation along the shoreline has taken place, some existing wharves have been extended and some have changed hands: Wentworth Wharf was formerly Hynde's Wharf; Fagan's Wharf was now located between Albion and Streets Wharves; and the Baltic Wharf emerged between Albion and Market/Corporation Wharves. Wentworth Wharf has been further built up since the Trigonometry Survey was conducted.

In 1880, timber yards, timber sheds and timber stores dominated the spaces directly behind the wharves. The subject site includes one entire steam saw mill (Building 17) which falls in Miller and Harrison's Timber Yard. The site also includes sections of two other steam saw mills: Buildings 2 and 3 behind Wentworth's Wharf ('Steam Saw Mill Beverley' and 'Allen and Zahel Steam Saw Mill') as well as a steam

mill shed at Building 8 in Street's Timber Yard. Identified owners/occupiers of areas and buildings within the subject site include Burns, Allen and Zahel, Streets, Fagan Bros, and Miller and Harrison.

There are also produce stores along the southeast of the site area (along Sussex Street and Druitt Street) and further produce stores sit just outside the site boundary. The emergence of produce stores in this vicinity enabled the processing of fresh produce to and from the wharves and the Market Garden further up Market Street on the site of today's Queen Victoria Building. The subject site also includes a brick or stone restaurant ('Paul Restaurant').

Most of the buildings in the subject area are one-storey but there are a few exceptions: Allan and Zahel steam saw mill is two-storeys, Building 11 in front of Albion Wharf is three-storeys, and Buildings 13 and 14 near Corporation Wharf are two-storeys. Some of the buildings closest to the harbour have shingled roofs; the rest have slate or metal roofs.

In 1874, three years before Dove's survey, the Darling Harbour Goods Line was established. The Iron Wharf, towards the southern end of Darling Harbour, was also completed in 1874. The railway was also extended to Darling Harbour's western side in the 1870s.¹⁸

2.6 Government Resumption: 1890s–1900s

Harsh working conditions and dangerous environments led to industrial action. In 1872, the seafarers formed the Seamen's Union of Australia. The great maritime strike in 1890 resulted in work stops across Australia and was supported by coal miners, transport and agricultural workers. The unions were eventually defeated through military and police intervention and large pay cuts ensued. The Sydney Labouring Men's Union became the Waterside Workers Federation in 1902.¹⁹ The economic boom following the discovery of gold ceased in the early 1890s, when Australia was hit with a severe economic depression.

The bubonic plague broke out in 1901 and resulted in government resumption of most of Darling Harbour, Millers Point, and the Rocks. These areas were deemed most in need of cleaning up and replanning. The c1900 Darling Harbour Resumptions map (Figure 2.8) details property boundaries, owners/occupants and in some cases previous land owners.

The plan shows that the subject site includes land from nine different marked allotments labelled 112–119, and 121. Note that the site includes part, but not all, of these allotments. The subject site also includes part of Market Street and a section of Druitt Street containing properties outside of the resumption areas.

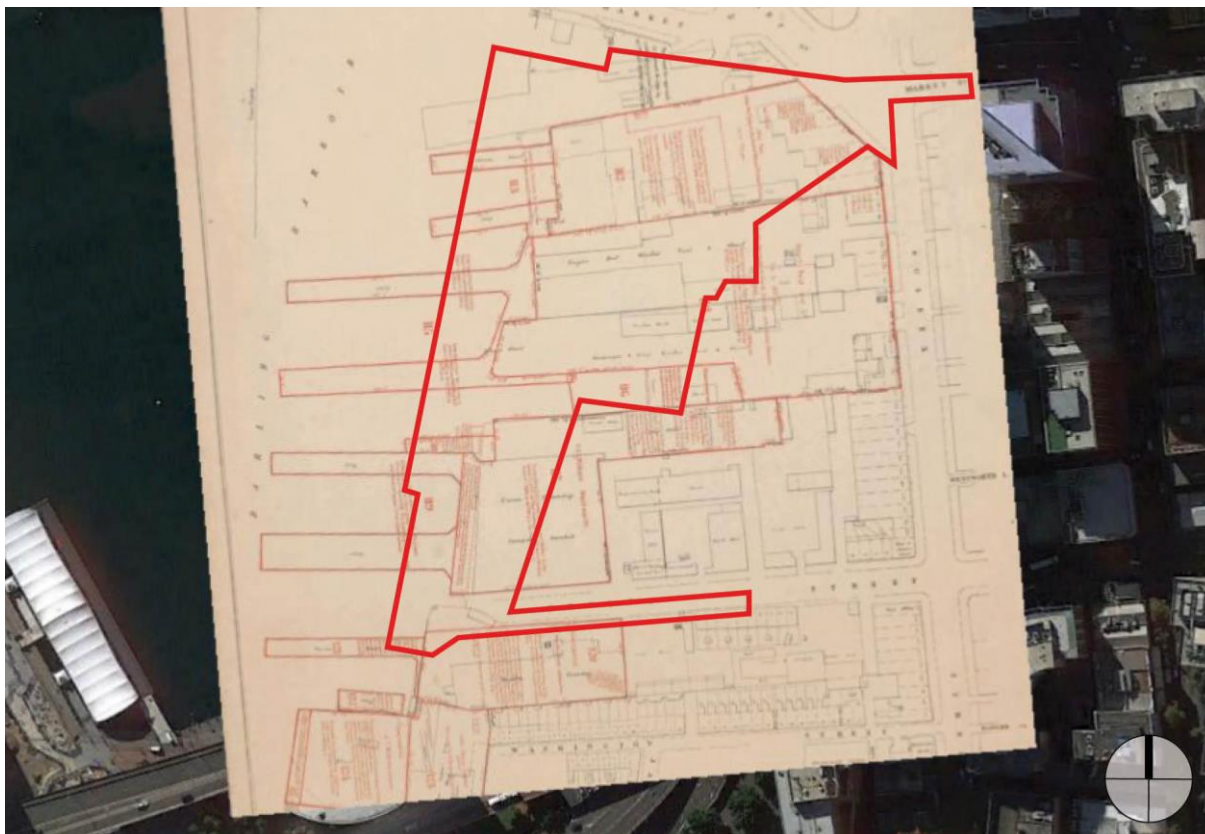


Figure 2.8 Darling Harbour Resumptions, Within Section 21 and Part of Section 30, c1900. (Source: City of Sydney Archives with Google Earth baseplan and GML overlays 2017)

Key Plan B of the Darling Harbour Improvement Scheme, c1900 confirms ownership and occupation details providing additional information and offers some further clarification to that shown on the Darling Harbour Resumptions map (Figure 2.8). The resumption plan and Reference Table in Key Plan B of the Improvement Scheme indicate the following:

- 112:
 - Owned by John See, under Mortgage to the Australian Mutual Provident Society, 1 acre, 1 round and 17 ¼ persons.
 - The area within the broken lines is under Lease to Lysaght Bros for 13 years and five months from 1-8-1896 at £1600 per annum. Part of this area is said to be sub-leased to W A McArthur Ltd for 5 years from 1-3-1897 at £225 per annum with the option of renewal. Part of McArthur’s sub-lease is again sub-leased to JC Hutton for five years from 1-3-1897 per annum with the option of renewal.
 - 27 Sussex Street is said to be under lease to A McArthur & Co for five years from 1-8-1899 for five years at 300 pounds per annum.
 - 29 Sussex Street is said to be under lease to H Berry & Co for five years from 1-12-1896 at £200 per annum.
 - 33 Sussex Street is said to be partly under lease to Spencer & Simpson for five years from 1 April 1899 at 169 per annum.

- Of the buildings within this area, two are clearly marked: one as 'shed' and the other as a 'timber shed'.
- The map indicates that the land between 112 and Market Street was 'resumed for approach to Pymont Bridge by notification in *Government Gazette* of 7 April 1899 No 290 Fol 2765'.
- 113:
 - Leased by the crown to John See for 10 years ending 31-12-1908 at £100 per annum.
 - 113 includes Albion Wharf, an adjacent jetty and sections of the harbour that were not reclaimed at this time.
- 114:
 - Owned by Robert Reid and Co. under mortgage to David Sinclair and James Dawson for £150000, 2 acres, 1 rood and 35 ½ perches. Under lease to the Federal Wharves Co (JM Raison General Manager) for 21 years 9 months from 1-10-1899 at a rental increasing from £5000 to £75000 per annum.
 - 114 includes Fagan Bros Timber Yard Wharf, Wilkinson & Sons Timber Yard and Wharf, and part of Streets Wharf. It also includes a timber rack and timber sheds.
- 115:
 - A jetty under lease from the Crown to Robert Reid now Robert Reid & Co from 1-1-1898 to 31-12-1907 at £160 per annum.
 - Streets Wharf is under lease from the Crown to Robert Reid now Robert Reid & Co from 1-1-1897 to 31-12-1901 at £175 per annum.
 - 115 also includes the sections of the harbour between the jetty and Streets Wharf which has not been reclaimed at this time.
- 116:
 - Grant authorised to issue. The following text was written and then struck-out: 'UNALIENATED: Unauthorised reclamation claimed by Robert Reid & Co Title possession as against the Crown.'
 - There is one marked shed within 116.
 - While the Resumption Plan contains no further details for 116, the Reference Table in Key Plan B of the Darling Harbour Improvement Scheme states that Morriset Coal Mining Co also occupies part of this area.
- 117:
 - Owned by FitzWilliam Wentworth. Building which forms part of 117 is sub-leased by Allen and Walker to the Union SS Co of New Zealand for 20 years 89 days from 1-7-1889 at £1700 per annum for final 10 years.

- The section between the Union SS Co Ltd building and the jetties within 119 is 'UNALIENATED?' This portion of the reclaimed area appears to be outside the dimensions given in the grants. As near as can be judged the west boundary of the reclamation as granted should be in the position shown by broken line.
- The northern strip of 117 is under mortgage to the Scottish Widows Fund and Life Assurance Society Ltd, under lease to Thomas Allen and Robert Walker for 21 years from 1-10-1888 at £1700 per annum for final ten years. The lease contains a covenant to build. Part said to be sub-leased to the Federal Portland Cement Co (Scott Sibbald and Co agents FL Alexander Manager) and part to the Morrisset Coal Mining Co (J Little Manager).
- Saw mills and a timber rack are marked within 117's boundary.
- 118:
 - Leased by the Crown to the Union Bank of Australia. Annual renewals at £40. Occupied by the Patent Asphaltum Co and the Morrisset Coal Co.
- 119:
 - Two jetties and the body of water between them. These two jetties were leased by the Crown to Allen and Walker who transferred to the Union SS Co for rent of £450. The lease expired 30-6-1899 and does not appear to have been renewed.
- 121:
 - The Pacific Wharf: this jetty was leased by the Crown to Thomas H Dearin at £120 per annum. The lease expired 31-12-1899. Application for renewal was received but not dealt with at time of resumption.

Information about occupation and ownership conveys the large range of industries operating within the subject site in the late nineteenth century. At this time, the site included companies operating in shipping, cement construction, coal mining, as well as jetties, wharves, timber yards and sheds, and saw mills.

2.7 Transport Developments: 1900s–1930s

The Fire Underwriters Association of NSW Detail Survey Map of Federal Wharves Block No. 161 states that the survey was created in 1923 (Figure 2.9). By now, the Sydney Harbour Trust (the Trust) had embarked on modernising the land the government had reclaimed. The Trust replaced privately-owned wharves with new finger wharfs from Darling Harbour to Millers Point. Work on replacing the old Pyrmont Bridge had begun in 1899, and the new steel bridge, with a swing span section, was opened in 1902.²⁰ Hickson Road was completed in 1923 and construction on the Sydney Harbour Bridge would commence the following year.²¹

Considerable road development had also occurred within the subject site. Along with parts of Sussex, Market and Druitt Streets, Day Street, Baltic Lane, part of the new Pyrmont Bridge, and the bridge's approach all fall within the site boundary. The Fire Underwriters' Survey Map of the site shows how the old wharves had been replaced with five new wharves, numbered from 29A to 35B. The wharves have been extended further into the harbour on reclaimed land, and extend well beyond the subject area's harbour-side boundary. Albion Wharf had kept its name and the wharf between Albion and Pyrmont Bridge appears to be named Baltic Wharf. The map indicates the rest of the wharves were unnamed at

this time. Wharf 34 extends the furthest into the Harbour and is labelled as being 325 feet long. Two of the wharves are labelled as open wharves. Coal, decking and wood piles were located on the wharves and many had offices, or wharf or timber sheds on the land alongside each wharf finger. Some of the wharf fingers also had buildings on them: an iron weathered wharf shed with concrete floor and an iron gable end stood on wharf 35, an open sided shed stood on Albion Wharf (30), and a structure with iron walls, and wood and glass sashes stood on Baltic Wharf (29).

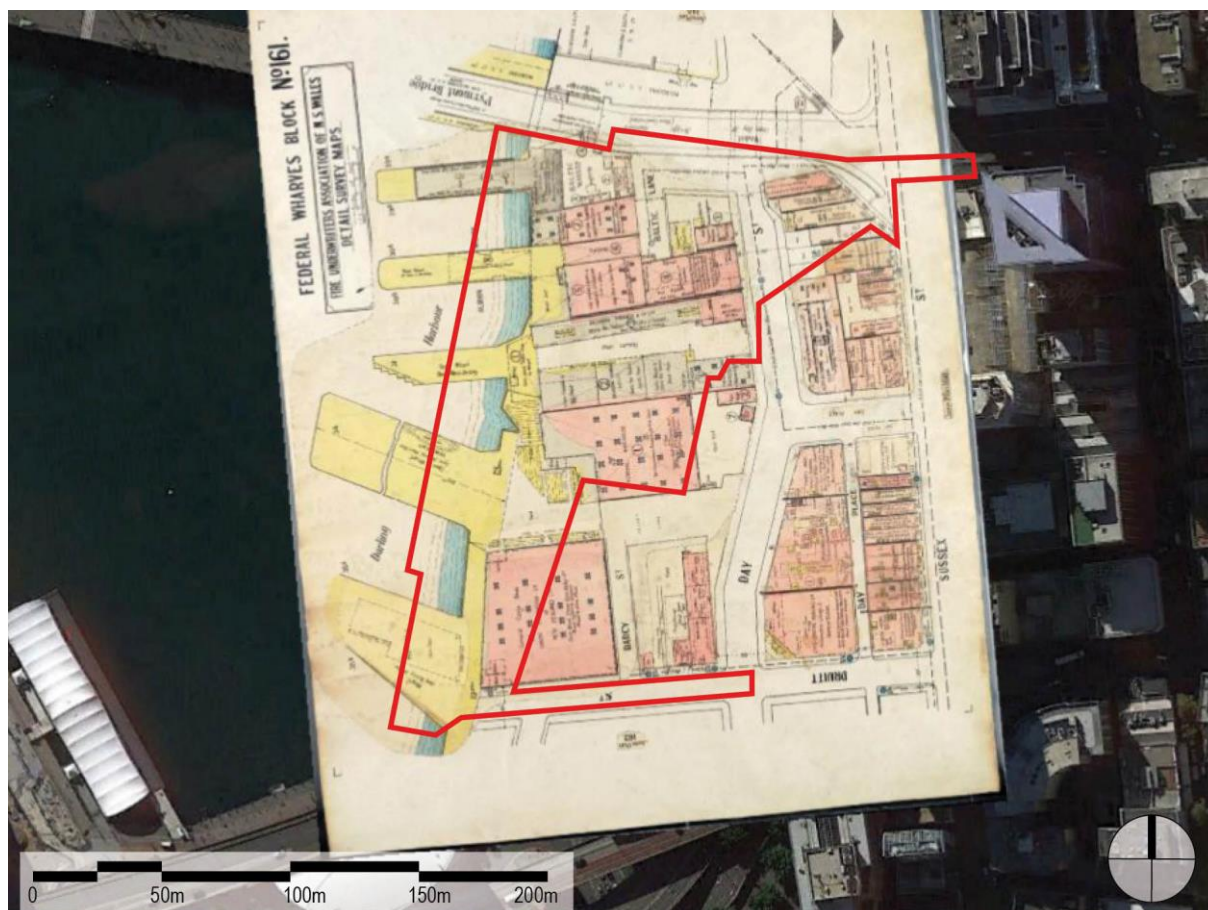


Figure 2.9 Fire Underwriters' Survey Map, 1923. (Source: City of Sydney Archives with Google Earth baseplan and GML overlays 2017)

Almost none of the property owners and occupants from the Resumption Plan (circa 1900) remain in the 1923 map. A General Cargo Shed located between Wharves 34 and 35, Darcy Street, Druitt Street and a yard is labelled with 'Union Steamship Co. of New Zealand Ltd', also known as Union SS Co, who were sub-leasing part of 119 around 1900 according to the Resumption Plan. Other companies within the subject site now include Federal Warehouse, Lyon's Trading Co, Dickson Primer & Co Ltd, the Hawkesbury & Gosford Steamship Co Ltd & others, Rudders Ltd, Sutton Rudder & Co Ltd & others, and Hoskin & Lawrence, an engineers' workshop. Sheds, yards and offices also fall within the site boundary. There does not appear to be any vacant land within the subject site. Rather, the site appears to be the centre of various maritime-related activities. Industry around Sydney Harbour grew during the early 1920s, but was followed with a period of economic collapse.

The map indicates that many of the larger structures in the subject site had concrete floors, wood columns and girders. Some of the roof types on buildings within the site include open wood truss hip and valley roofs, queen bolt hip and valley roofs, open queen post hip and valley roofs, and open king post hip and valley roofs.

The subject site also reveals considerable improvements in road transportation, with new cartways, Baltic Lane, Darcy Lane and Day Street all providing access to and from the wharves and to adjacent warehouses. The map also shows that The Municipal Council of Sydney occupied a building outside the subject site between Darcy, Druiitt and Day Streets.

2.8 A Changing Waterfront: 1930s–1970s

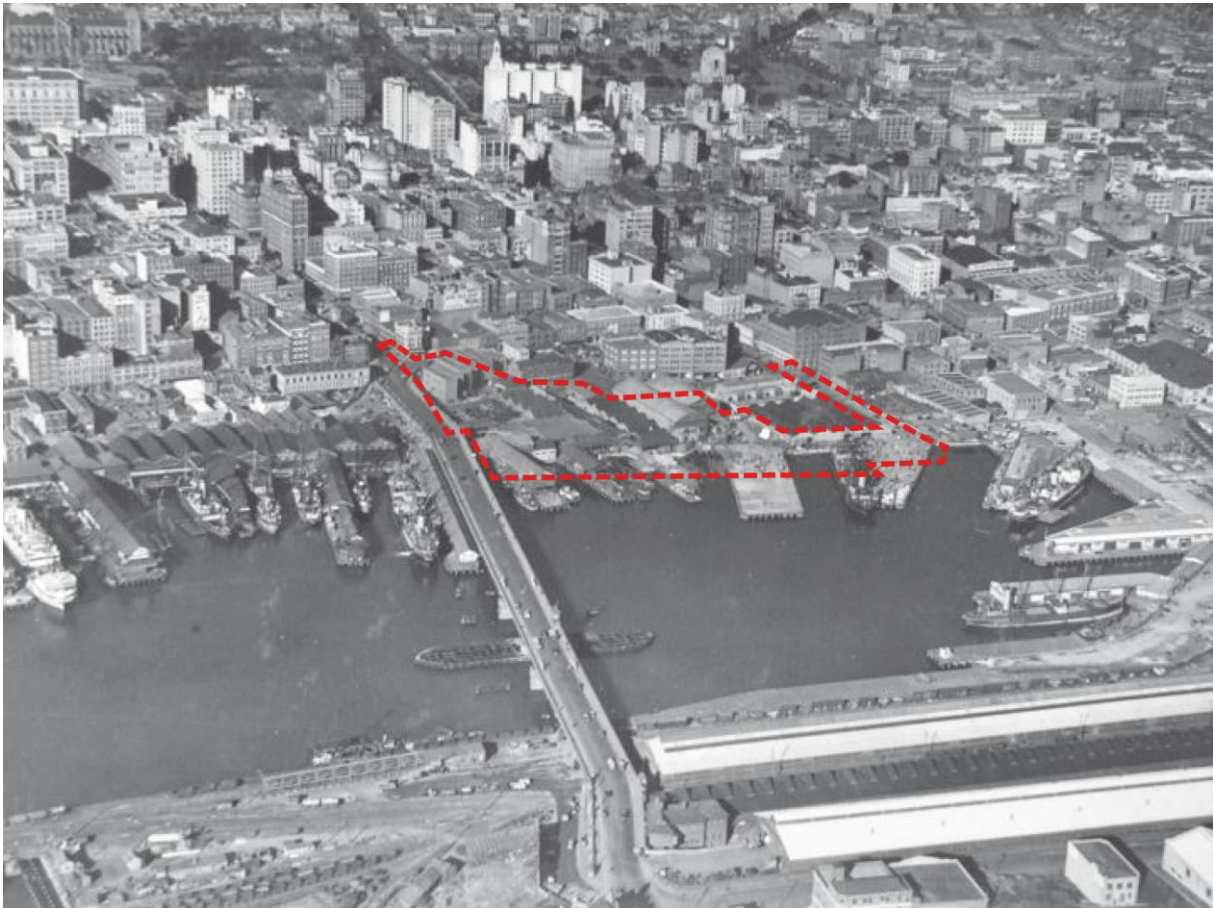


Figure 2.10 Looking southeast towards Cockle Bay (approximate subject site indicated in red), dated 1937. (Source: City of Sydney Archives, No 005-005998 with GML overlays 2017)

In 1936, the Sydney Harbour Trust disbanded and the Maritime Service Board (MSB) became resume for the port's administration and facilities.²² The shipbuilding industry slowed after World War II.²³ Darling Harbour and its finger wharves were not able to cope with large container ships that were increasingly used around the world.²⁴ Road and rail transport began to supersede costal shipping.²⁵

While the 1948 Civic Survey map does not contain the same level of detail as the Fire Underwriters Associations' Survey Map, it does reveal that many of the structures in the subject site canvassed in 1923 were still in existence in 1948 (Figure 2.11). There are no noticeable changes to the wharves and their structures in this 1949 map, although what was labelled as wharf 34 in 1923 is now identified as wharf 32A and B Union SS Co still appear to be utilising the building between wharves 32 and 35, Druiitt Street and Day Street. The cartway, Baltic Lane and the access cartway connecting the wharves to Day Street are still present. Based on this map, the buildings between the cartway and Building 26 appear to have been consolidated into two buildings (three buildings appeared in that location in the 1923 map). A historic aerial (Figure 2.12) commissioned by the City of Sydney and taken on 15 December 1948

does not reveal a clear delineation between two buildings, but rather one structure with parting walls or a saw-toothed roof (the latter is perhaps more likely given the industrial use of the area).

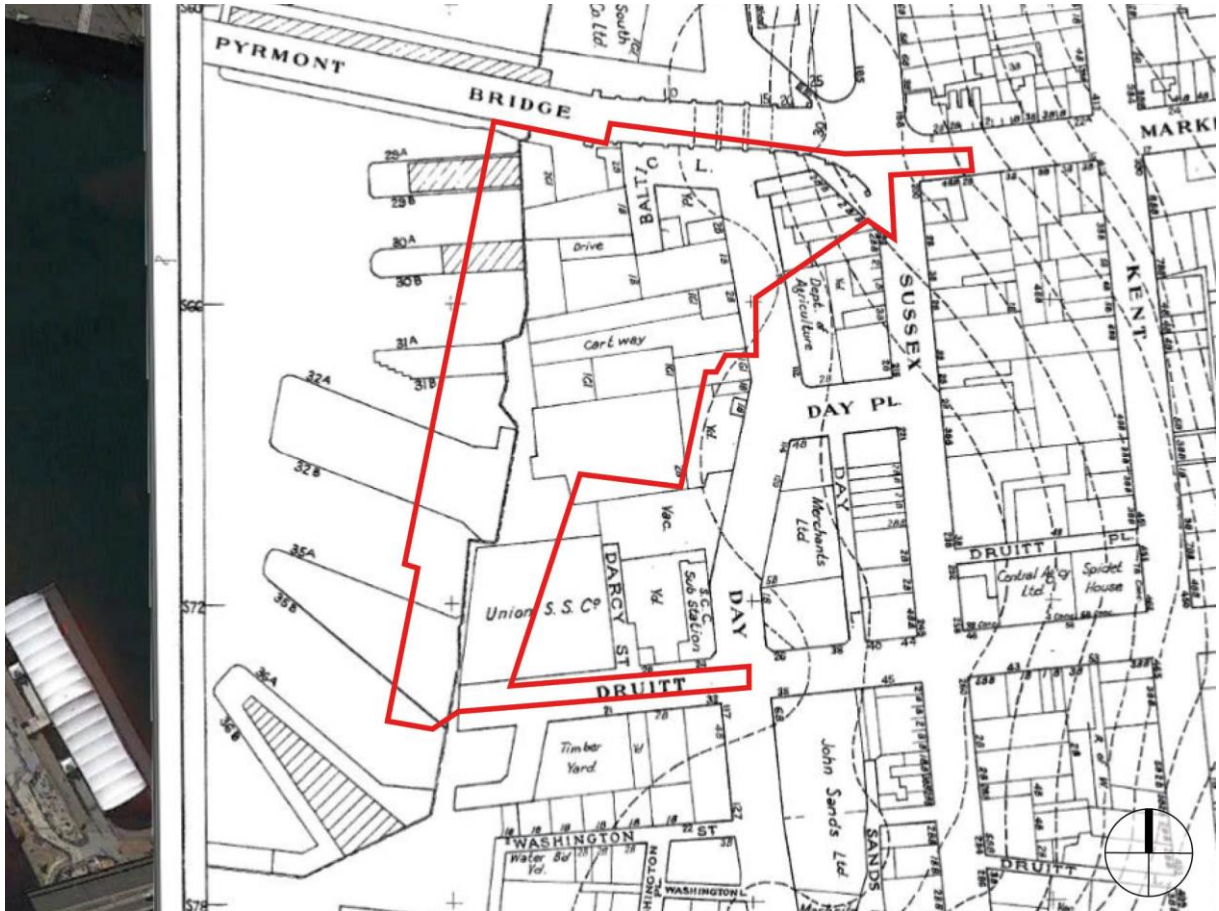


Figure 2.11 Civic Survey map, 1948. (Source: City of Sydney Archives with Google Earth baseplan and GML overlays, 2017)



Figure 2.12 Historic aerial, 1948. (Source: City of Sydney Archives with Google Earth baseplan and GML overlays, 2017)

The third of the five wharves in the subject site (identified as wharf 31 in the 1948 Civic Survey) is not clearly visible in the aerial. The photographic image reveals large vessels alongside two of the wharves' fingers that partly feature in the subject area. The aerial also depicts the area's road transport links with Pymont Street and surrounding streets and cartways.

Around 1956, the City of Sydney Building Surveyor's department undertook a survey (Figure 2.13). This occurred after the city's boundaries had been extended in 1948, and the city had been given new town planning responsibilities following World War II.²⁶ The section of the survey featuring the subject site indicates that the shed utilised by Union Steamship Co of New Zealand Ltd has been demolished, and that much of the land along the harbour shore directly behind wharves 34 and 35 is vacant. The building marked Federal Warehouse may be a new structure or an extension of previous smaller structures evident in the 1948 survey.

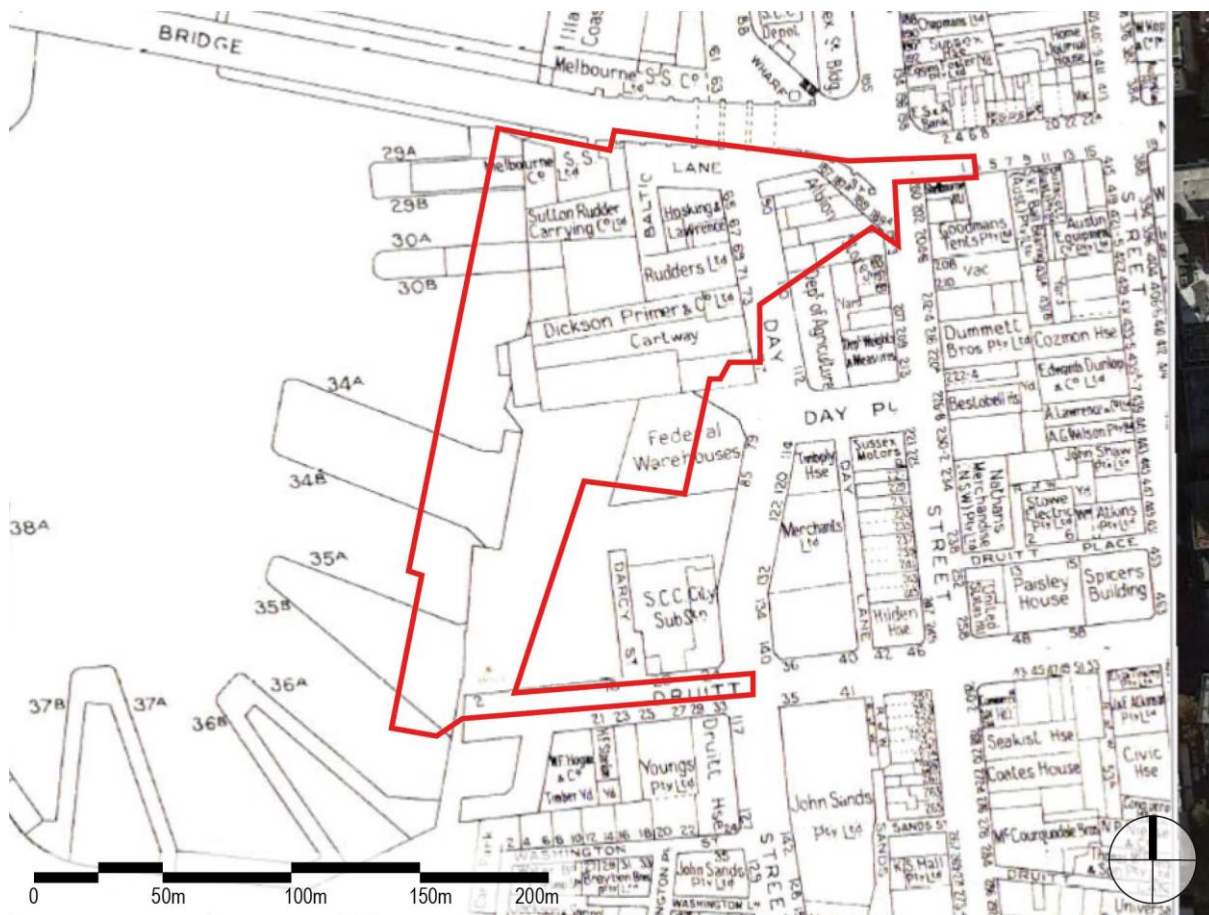


Figure 2.13 1956 Building Surveyors Plan. (Source: City of Sydney Archives with Google Earth baseplan and GML overlays, 2017)

The major change between 1956 and 1958 is the creation of a roadway, marked 'Port Roadway' in the 1958 map, through the subject site. This road would have likely provided access to the wharves outside those serviced by the railway line. The need to adapt Sydney's wharves to the requirements of modern shipping led to the established of a new port at Botany Bay in the 1970s.

2.9 Decline and Revitalisation: 1970s–2017

The decline of Darling Harbour, with its empty warehouses and largely unused train tracks, grew increasing evident by the mid-1970s.²⁷ The wharves closed in the 1980s. The final goods train journeyed down Darling Harbour's train tracks in 1984, and the Darling Harbour Authority was created and tasked with redeveloping the railway yards and wharves.²⁸

Work on the Western Distributor began in the 1970s, and the new roadway opened in stages from 1972 onwards. The aerial photographs below show the construction of the Western Distributor through the subject site (Figure 2.14 and Figure 2.15). The first section of the planned North Western Freeway—which was later cancelled—across Darling Harbour opened on 24 May 1980.²⁹ Traffic flows on Sussex Street, amongst other roads, was altered to assist in managing the new traffic changes.³⁰ Sussex Street between King Street and Day Place became one-way southbound.³¹



Figure 2.14 Construction of the Western Distributor through subject site, 1980. (Source: Oz Roads website, viewed August 2017)



Figure 2.15 The Western Distributor, showing subject site, 1982. (Source: City of Sydney Archives 071/071490, SRC 23033, photographer: Helen Grant)

Pyrmont Bridge was closed to motor traffic when the Western Distributor opened in 1981. The government ordered the demolition of the bridge, but a range of organisations successfully advocated for its retention and the government decided to restore it.³² The bridge was reopened as a pedestrian bridge in 1988, and was declared a National Engineering Landmark in 1992 as a result of ‘its significance as one of the largest and one of the first electrically operated swing bridge worldwide, and because of the superb design of Percy Allan’s timber girder approach spans’.³³

In 1984, with the Bicentenary in sight, the government set about on a massive urban renewal project, redeveloping Darling Harbour as a leisure and tourist site. Labor Premier Neville Wran declared the government’s intention to ‘return it to the people of Sydney’.³⁴ The new entertainment and shopping precinct opened to the public in 1988.³⁵ Queen Elizabeth II officially opened the renewed Darling Harbour in 1988.³⁶ Sydney Aquarium, which stands where Market Wharf was once located, was built in 1988, and a large suite of restaurants, shops and more opened soon after.³⁷ The opening of the National Maritime Museum and the IMAX building, among others, further developed Darling Harbour into a recreational hub.



Figure 2.16 1991 aerial of the subject site. (Source: Land and Property Information NSW with GML overlays 2017)

A 1991 aerial of the subject site (Figure 2.16) displays how the Western Distributor and surrounding roads transformed the area. The wharves that once characterised the site have been removed and the site abuts the water's edge. There are a number of built structures within the site, near the approach to Pymont Bridge. By 1994, many of these structures appear to have been removed (as can be seen in the aerial below—Figure 2.17). By now, the first of the Darling Park towers has been constructed just outside the subject site, and an elevated pedestrian walkway connecting Market Street to Pymont Bridge, now known as Cockle Bay Bridge, is also evident at the northern end of the site. Structures related to the monorail can also be seen.

A 1998 aerial shows the subject site (Figure 2.18) 10 years after the revitalisation of the Darling Harbour precinct took place. The subject site has undergone considerably development; the looped road in the subject site has been removed, and the Cockle Bay Wharf, a three-level complex built in 1998 which contains restaurants, cafes and a nightclub can also be seen. A marina alongside the shoreline-boundary of the subject site has also been constructed by this time. The second tower at Darling Park and the public gardens adjacent to the site boundary have been completed by this time. The subject site includes a pedestrian walkway in front of the built structures, alongside the waterfront. In 2004–2005, a third office tower was constructed on the site of the former electrical substation on the corner of Druitt and Sussex Street. As part of this development, a new pedestrian bridge passing below the western distributor flyover above Wheat Road was constructed that sits within the southern edge of the site boundary.

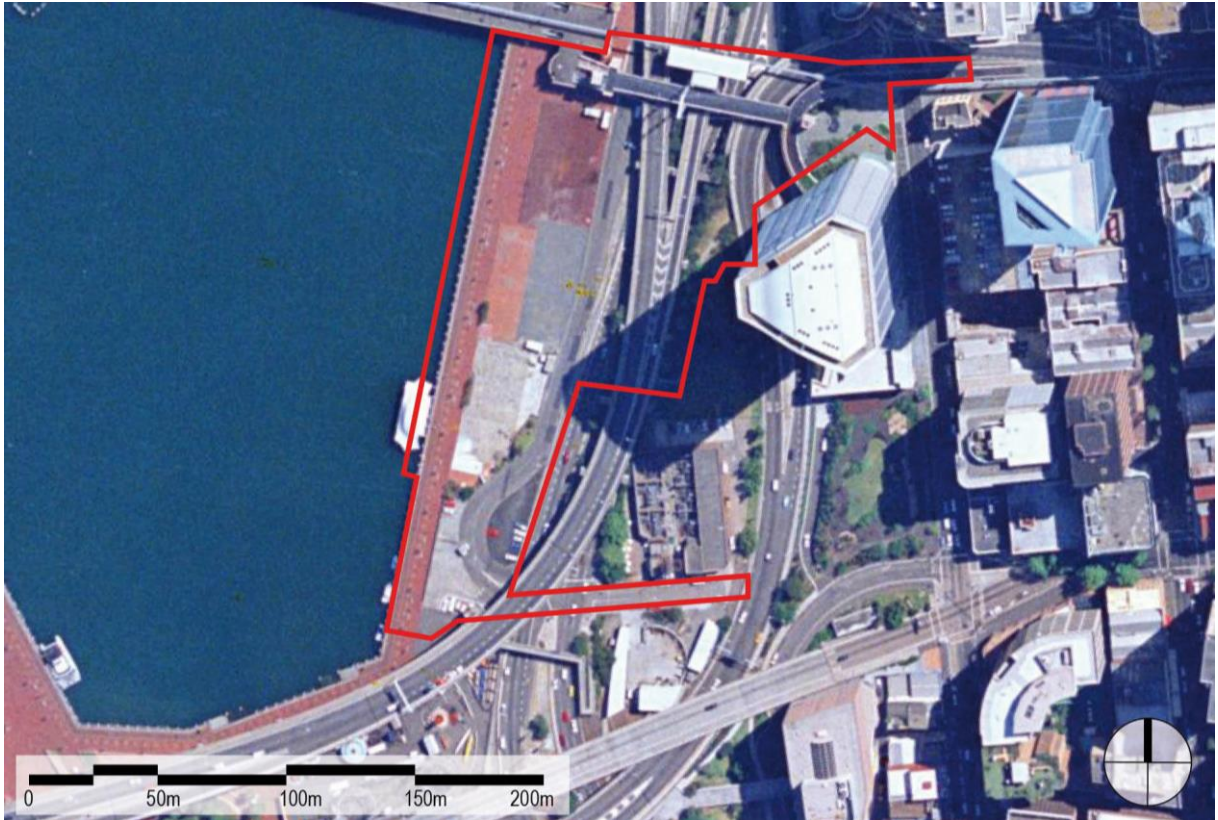


Figure 2.17 1994 aerial of subject site. (Source: Land and Property Information NSW with GML overlays 2017)

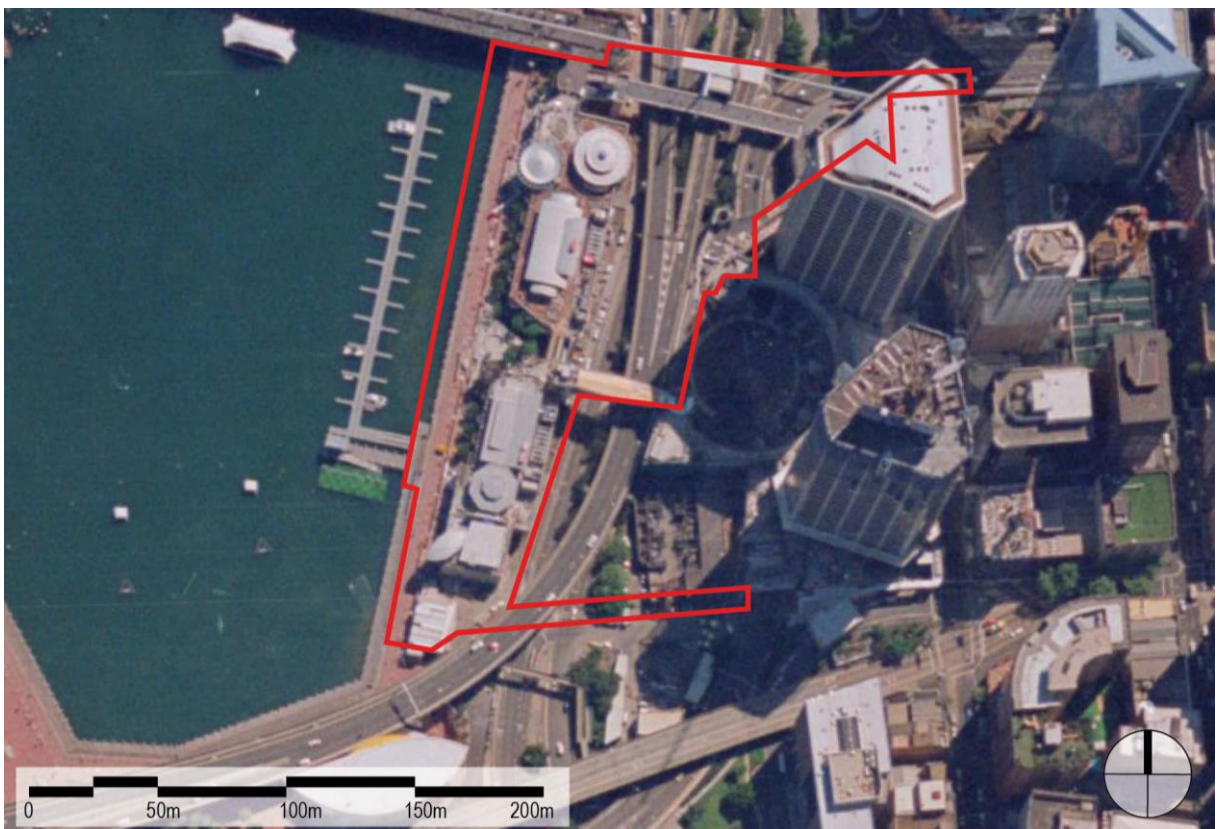


Figure 2.18 1998 aerial of subject site. (Source: Land and Property Information NSW with GML overlays 2017)

2.10 Endnotes

- 1 State Records NSW, 'Through the Lens: Darling Harbour', viewed 22 August 2016
<<http://gallery.records.nsw.gov.au/index.php/galleries/through-the-lens-darling-harbour/>>.
- 2 Sheldon, S., 2010, for NSW Government Land and Property Management Authority: Sydney Harbour Foreshore Authority, 'Telling the Stories of Darling Harbour', p. 5.
- 3 State Records NSW, 'Through the Lens: Darling Harbour', viewed 22 August 2016
<<http://gallery.records.nsw.gov.au/index.php/galleries/through-the-lens-darling-harbour/>>.
- 4 Fitzgerald, S., 2014, 'Sydney's historic industrial and warehouse resources: overview of historic development' for City Plan Heritage, Industrial and Warehouse Heritage Study, City of Sydney, viewed 22 August 2016
<http://www.cityofsydney.nsw.gov.au/_data/assets/pdf_file/0015/221514/CoS-Warehouses-Industrial-Buildings-Heritage-Study-Report_FINAL-2_13Oct2014-accessible-version.pdf>, p 16.
- 5 Fitzgerald, S., 2014, 'Sydney's historic industrial and warehouse resources: overview of historic development' for City Plan Heritage, Industrial and Warehouse Heritage Study, City of Sydney, viewed 22 August 2016
<http://www.cityofsydney.nsw.gov.au/_data/assets/pdf_file/0015/221514/CoS-Warehouses-Industrial-Buildings-Heritage-Study-Report_FINAL-2_13Oct2014-accessible-version.pdf>, p 16.
- 6 Fitzgerald, S., 2014, 'Sydney's historic industrial and warehouse resources: overview of historic development' for City Plan Heritage, Industrial and Warehouse Heritage Study, City of Sydney, viewed 22 August 2016
<http://www.cityofsydney.nsw.gov.au/_data/assets/pdf_file/0015/221514/CoS-Warehouses-Industrial-Buildings-Heritage-Study-Report_FINAL-2_13Oct2014-accessible-version.pdf>, p 16.
- 7 City Plan Heritage for City of Sydney, 'Report on City of Sydney Industrial & Warehouse Buildings Heritage Studies', viewed 22 August 2016 <http://www.cityofsydney.nsw.gov.au/_data/assets/pdf_file/0015/221514/CoS-Warehouses-Industrial-Buildings-Heritage-Study-Report_FINAL-2_13Oct2014-accessible-version.pdf>, p 24.
- 8 State Records NSW, 'Through the Lens: Darling Harbour', viewed 22 August 2016
<<http://gallery.records.nsw.gov.au/index.php/galleries/through-the-lens-darling-harbour/>>.
- 9 Sheldon, S., 2010, for NSW Government Land and Property Management Authority: Sydney Harbour Foreshore Authority, 'Telling the Stories of Darling Harbour', p 8.
- 10 Fitzgerald, S., 2014, 'Sydney's historic industrial and warehouse resources: overview of historic development' for City Plan Heritage, Industrial and Warehouse Heritage Study, City of Sydney, viewed 22 August 2016
<http://www.cityofsydney.nsw.gov.au/_data/assets/pdf_file/0015/221514/CoS-Warehouses-Industrial-Buildings-Heritage-Study-Report_FINAL-2_13Oct2014-accessible-version.pdf>, p 25.
- 11 Ludlow, C., 2010, 'Pyrmont Bridge', Dictionary of Sydney, viewed 23 August 2016
<http://dictionaryofsydney.org/entry/pyrmont_bridge>.
- 12 State Records NSW, 'Through the Lens: Darling Harbour', viewed 22 August 2016
<<http://gallery.records.nsw.gov.au/index.php/galleries/through-the-lens-darling-harbour/>>.
- 13 State Records NSW, 'Through the Lens: Darling Harbour', viewed 22 August 2016
<<http://gallery.records.nsw.gov.au/index.php/galleries/through-the-lens-darling-harbour/>>.
- 14 State Records NSW, 'Through the Lens: Darling Harbour', viewed 22 August 2016
<<http://gallery.records.nsw.gov.au/index.php/galleries/through-the-lens-darling-harbour/>>.
- 15 Sheldon, S., 2010, for NSW Government Land and Property Management Authority: Sydney Harbour Foreshore Authority, 'Telling the Stories of Darling Harbour', p 13.
- 16 City of Sydney, 'Doves Plans of Sydney, 1880', viewed 22 August 2016
<<http://www.photosau.com.au/CoSMaps/scripts/displayIndex.asp?Index=DP>>.
- 17 Sheldon, S., 2010, for NSW Government Land and Property Management Authority: Sydney Harbour Foreshore Authority, 'Telling the Stories of Darling Harbour', p 15.
- 18 Sheldon, S., 2010, for NSW Government Land and Property Management Authority: Sydney Harbour Foreshore Authority, 'Telling the Stories of Darling Harbour', p 11.
- 19 'Sydney Wharf Labourers' Union', Dictionary of Sydney, viewed 25 November 2015
<http://www.dictionaryofsydney.org/organisation/sydney_wharf_labourers_union>.
- 20 State Records NSW, 'Through the Lens: Darling Harbour', viewed 22 August 2016
<<http://gallery.records.nsw.gov.au/index.php/galleries/through-the-lens-darling-harbour/>>.
- 21 State Records NSW, 'Through the Lens: Darling Harbour', viewed 22 August 2016
<<http://gallery.records.nsw.gov.au/index.php/galleries/through-the-lens-darling-harbour/>>.

- 22 NSW Barangaroo Delivery Authority, 2013, 'History and Heritage', viewed 22 August 2016 <<http://www.barangaroo.com/media/62886/history%20and%20heritage%20june%202013.pdf>>.
- 23 State Records NSW, 'Through the Lens: Darling Harbour', viewed 22 August 2016 <<http://gallery.records.nsw.gov.au/index.php/galleries/through-the-lens-darling-harbour/>>.
- 24 State Records NSW, 'Through the Lens: Darling Harbour', viewed 22 August 2016 <<http://gallery.records.nsw.gov.au/index.php/galleries/through-the-lens-darling-harbour/>>.
- 25 NSW Barangaroo Delivery Authority, 2013, 'History and Heritage', viewed 22 August 2016 at <<http://www.barangaroo.com/media/62886/history%20and%20heritage%20june%202013.pdf>>.
- 26 City of Sydney, 'City Building Surveyor's Detail Sheets, ca 1956', viewed 22 August 2016 <<http://www.photosau.com.au/cosmaps/scripts/displayIndex.asp?Index=CBS>>.
- 27 Sheldon, S., 2010, for NSW Government Land and Property Management Authority: Sydney Harbour Foreshore Authority, 'Telling the Stories of Darling Harbour', p 23.
- 28 State Records NSW, 'Through the Lens: Darling Harbour', viewed 22 August 2016 <<http://gallery.records.nsw.gov.au/index.php/galleries/through-the-lens-darling-harbour/>>.
- 29 Department of Main Roads, 1979-1980, *Main Roads Journal*, Vol. 45, No.1, p 14.
- 30 Department of Main Roads, 1979-1980, *Main Roads Journal*, Vol. 45, No.1, p 14.
- 31 Department of Main Roads, 1979-1980, *Main Roads Journal*, Vol. 45, No.1, p 14.
- 32 Ludlow, C., 2010, 'Pyrmont Bridge', *Dictionary of Sydney*, viewed 23 August 2016 <http://dictionaryofsydney.org/entry/pyrmont_bridge>.
- 33 City of Sydney, 'Port Pyrmont: Historical Walking Tour', viewed 23 August 2016 <http://www.cityofsydney.nsw.gov.au/__data/assets/pdf_file/0003/65829/WalkTourPort.pdf>.
- 34 NSW Government, 'History and Heritage', viewed 23 August 2016 <<http://www.darlingharbour.com/learn-explore/history-and-heritage/>>.
- 35 State Records NSW, 'Through the Lens: Darling Harbour', viewed 22 August 2016 <<http://gallery.records.nsw.gov.au/index.php/galleries/through-the-lens-darling-harbour/>>.
- 36 NSW Government, 'History and Heritage', viewed 23 August 2016 <<http://www.darlingharbour.com/learn-explore/history-and-heritage/>>.

3.0 Site Analysis

This section provides a synthesis of land use history, archaeological survey and previous geotechnical investigations to develop an understanding of the subject site's use, impacts and thus archaeological potential.

3.1 Site Land Use History

A desktop analysis of historical aerial photographs and plans and the natural landscape has been undertaken in order to assess the correlation between specific building footprints and the recorded disturbance to intact soil horizons and subsurface potential archaeological deposits to provide an overall picture of the site's land use history.

For the purpose of this assessment low, moderate and high levels of disturbance are defined as follows:

- low disturbance—minimal and/or superficial impact to the landscape which has resulted in little or no disturbance to subsurface remains, characterised by such activities as capping of areas with introduced fill, or construction of roads and pathways;
- moderate disturbance—shallow or localised impacts to the landscape, characterised by excavations for shallow building footings or service trenches; and
- high disturbance—largely disturbed landscape, characterised by such land use impacts as deep building footings (piled foundations, deep slab foundations), basements, or quarrying.

3.1.1 Assessment of Impacts and Disturbance

Building Construction Impacts: Cockle Bay Wharf and Darling Park

An aerial photo of the site from 1972 shows the completed first stage of the Western Distributor roadway which runs north–south through the northeast of the site (Figure 3.1). The northwest portion of the site immediately south of the Pymont Bridge (now occupied by Cockle Bay Wharf building) appears to have been used to stockpile materials during construction of the adjacent road. Photographic evidence of the site, dating to 1977,¹ indicates that at this time the northwest portion of the site had been sealed with a concrete surface, which was in use as a carpark. It is probable that the existing deck structure dates to around this time and was likely constructed concurrently to or shortly after completion of the first stage of the Western Distributor in 1972.

The existing Cockle Bay Wharf building, constructed in 1998, occupies the western half of the site and does not contain a basement level.² The Cockle Bay building and the adjacent public walkway (harbour frontage) overlies a concrete deck which was constructed c1972–1973 (Figure 3.31). The depth of the raft is not known, but has been estimated to be 0.8m thick based on information provided in a recent geotechnical report.³ The western half of the deck extends beyond the edge of the underlying retaining wall and out over the waters of Darling Harbour—this roughly corresponds to the area outlined in blue on Figure 3.3. Construction of this deck is likely to have resulted in a low to moderate level of impact on archaeological remains which may be present within the uppermost levels of the underlying reclamation deposits, although deeper remains would potentially survive intact below.

The eastern half of the building is founded on pile foundations (highlighted pink and yellow on Figure 3.3), although the pile size and density is not currently known.⁴ Insertion of the piled foundations and

associated pile caps and ground beams will have removed any archaeological remains within their footprint, resulting in a high degree of disturbance. However, given the size and height of the building it is unlikely that the piles will be very densely spaced. This means that it is probable that the piles have not removed all of the underlying deposits.

The location of the existing retaining wall is mapped on the services plan. The retaining wall is comprised of a concrete beam and a rock rubble batter, and runs north–south through the western part of the study area, beneath the concrete deck (Figure 3.3). Comparison of the alignment of the existing retaining wall with historic plans suggests that the retaining wall has remained on the same alignment since the site was redeveloped between the 1920s and 1940s.

Historic plans and photographs of the twentieth-century wharves and adjacent warehouses provide information on the construction methods and the resulting impacts that these developments will have had on earlier archaeological deposits. The Fire Underwriters Association of NSW plan dated to c1923 (Figure 2.9) records that the larger brick warehouses were supported by pad foundations which will have required localised and shallow excavations. This activity will have had a moderate level of impact on earlier remains within the footprint of these works. None of these buildings are recorded as having basements.

Aerial photographs taken in 1991, 1994 and 1998 show the progressive development of the Darling Park Complex at 201 Sussex Street and provide information on recent developments along the eastern portion of the site. In particular, these images suggest that the area in the northeast of the site bounded by Market and Sussex Streets has been levelled during construction of Darling Park 1, which will have resulted in the partial or complete removal of any archaeological remains within this area. The Crescent Garden in the centre of Darling Park is built upon a concrete slab that straddles the underlying south-bound Western Distributor roadway and is supported along its western boundary by a substantial concrete structure, which sits within the eastern edge of the subject site. Although details of the construction and foundations of this structure are not available, it is considered that the building will have substantial foundations to support the overlying crescent garden which will have resulted in the partial or complete removal of archaeological remains within its footprint. The Druitt Street pedestrian bridge that extends along the southern boundary of the site sits immediately south of the Darling Park building complex and is comprised of a suspended walkway supported by pillar foundations. Construction of the foundations will have removed archaeological remains within each pillar footprint. Between the foundations there is potential for remains to survive as this area sits outside of the footprint of the Darling Park building and historically has remained in use as a road. Localised impacts will have resulted from excavation for service trenches and similar shallow impacts, although it is considered that there is potential for archaeological remains to survive below this.

3.1.2 Western Distributor

The Western Distributor roadway was constructed between 1972 and 1980 by the Department of Main Roads NSW and runs north–south through the eastern half of the site. The roadway consists of multiple southbound lanes at ground level and two northbound lanes elevated above the ground surface supported on concrete piers. Plans showing the structural detail of the roadway indicate that the concrete piers are supported by pile caps c1.6m deep.⁵ The construction of these piers will have resulted in a high level of disturbance within each pile footprint. With the exception of the areas impacted upon by the pier footprints, works associated with construction of the elevated roadway and the earlier southbound lanes will have had a moderate level of impact across the northern half of the site. This impact would stem primarily from the levelling of the site and excavation for services.

3.1.3 Land Reclamation

Based on the historic analysis of the site (discussed in Section 2 of this report), documentary evidence indicates that the site underwent a number of phases of land reclamation which progressively extended west into Cockle Bay. Deposition of fill material as part of the reclamation process will have buried earlier remains which potentially survive intact within later fill deposits. This is particularly the case along the central part of the site where the earliest phases of development along the eastern foreshore of Darling Harbour may be present below several metres of historic fill. This has been demonstrated during recent historical archaeological excavations at the Darling Quarter to the south of the site, the results of which are discussed in detail in Section 5.2.

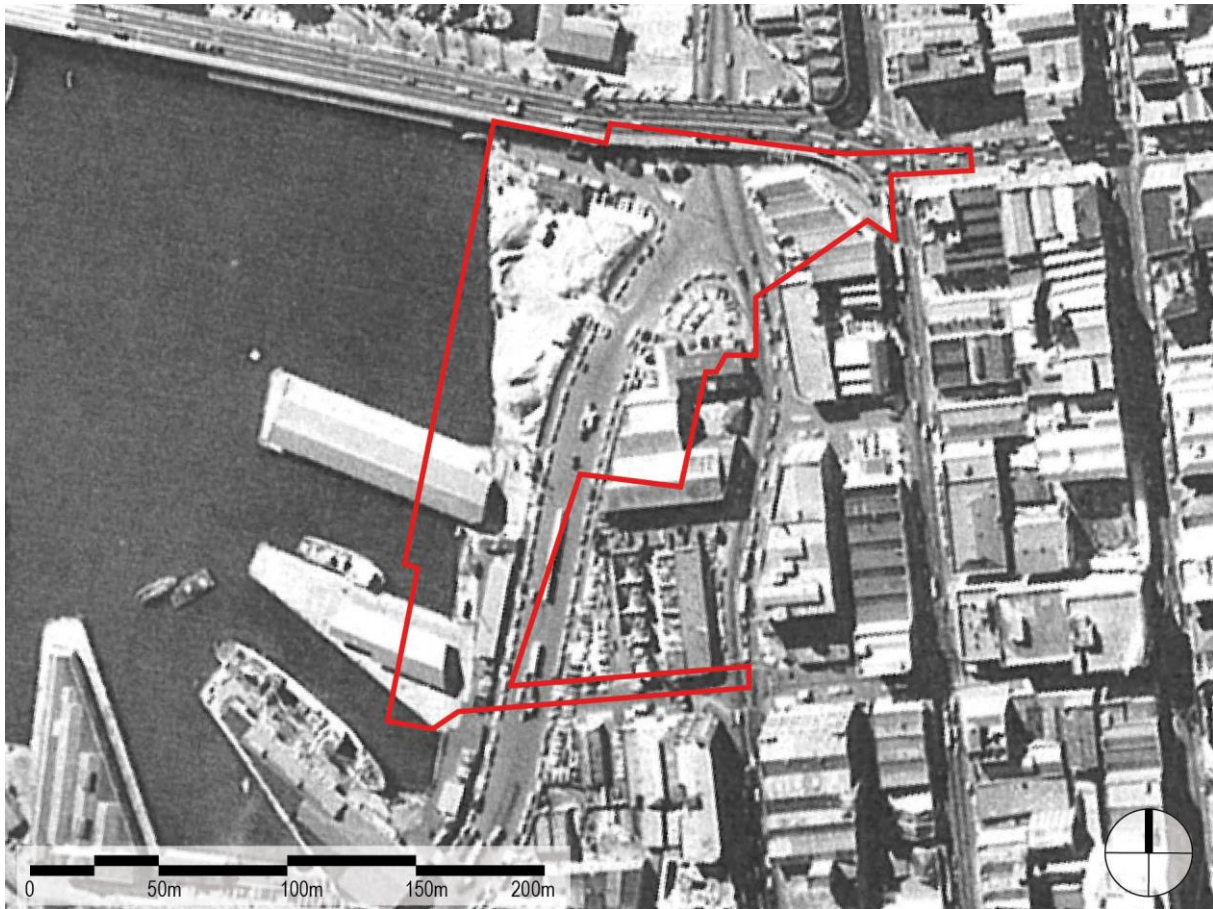


Figure 3.1 1972 aerial photograph. (Source: NSW LPI with GML overlay 2017)



Figure 3.2 1991 aerial photograph. (Source: NSW LPI with GML overlay 2017)

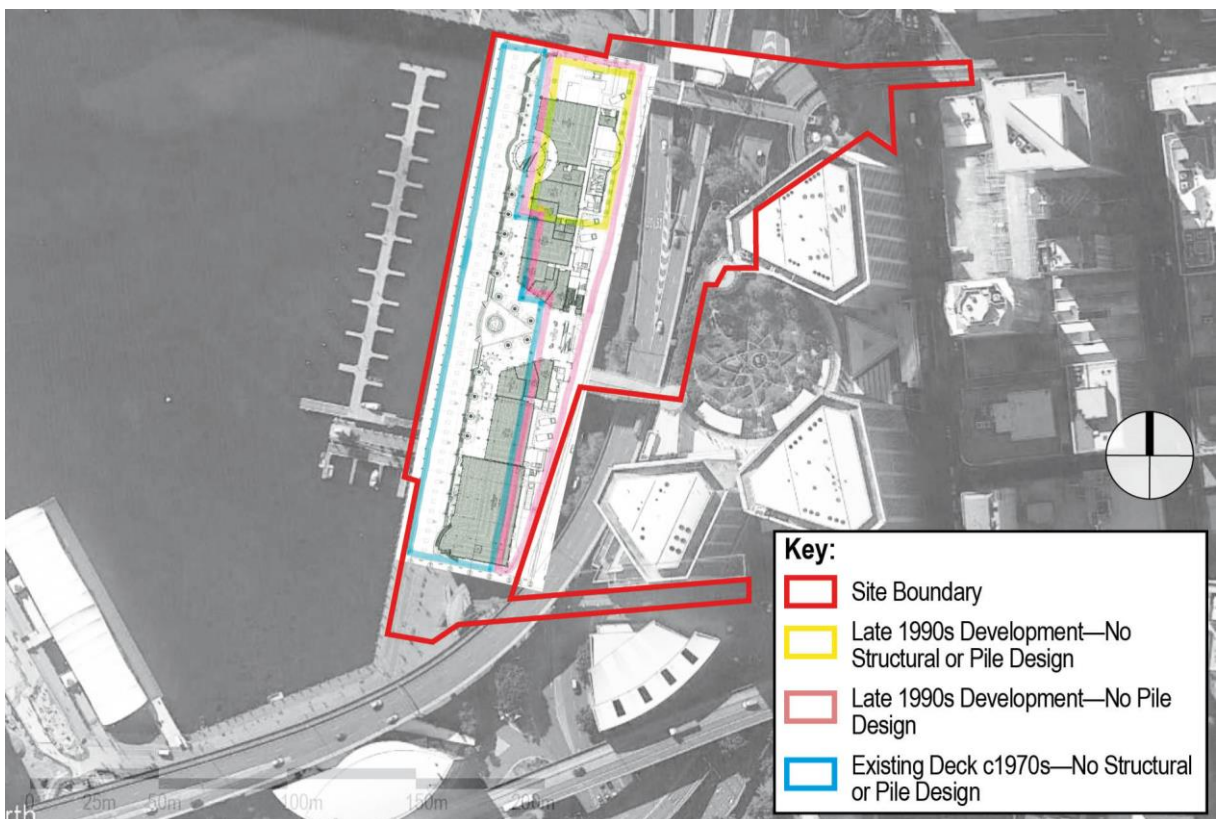


Figure 3.3 Plan of existing building showing extent of varying foundation structures. (Source: LendLease with Brookfield Partners Ltd and GML overlay 2017)

3.2 General Site Description

A visual inspection of the study area was undertaken by Sophie Jennings and Jodi Cameron on 23 August 2016 to observe current site conditions and record any evidence of former development activities that could be used to inform the assessment of the area's potential to contain archaeological remains. These are described below and shown in Figure 3.4 to Figure 3.18.

The study area extends over the water of Darling Harbour (Figure 3.4). The entire study area has been developed with buildings, roads, hard landscaping and public amenities (Figure 3.5). There are no exposed natural surfaces within the study area, trees and plants have all be grown in prepared garden boxes (Figure 3.6).

The western side of the study area, along Cockle Bay Wharf, is the main public thoroughfare (Figure 3.7, Figure 3.8, Figure 3.9). It provides access to the commercial building and views across Darling Harbour (Figure 3.10). Commercial buildings line the wharf, including cafes and restaurants. The northern section of the study area contains public access from the wharf to Sussex and Market Streets and towards Town Hall (Figure 3.11).

The eastern side of the study area, behind the wharf, is primarily road infrastructure, including the Western Distributor (Figure 3.12 to Figure 3.16). The majority of the Western Distributor is a flyover within the study area, therefore ground disturbance during construction would have been centred around the supporting pylons (Figure 3.13). Other roads within the study area include Wheat Road and Harbour Street, which provide access to the commercial buildings and Cockle Bay Wharf (Figure 3.17 and Figure 3.18). Both of these roads are on the current ground surface and therefore have a different impact area to the Western Distributor.

The visual inspection of the study area did not identify any visible historical archaeology remains. This is due to modern developments, including hard landscaping, which have removed visibility of natural ground surfaces. The visual inspection did not identify any major ground disturbances in the form of basements or underground carparks which would have destroyed any potential archaeological deposits.



Figure 3.4 Looking southeast towards the site from Pymont Bridge. (Source: GML, 2016)

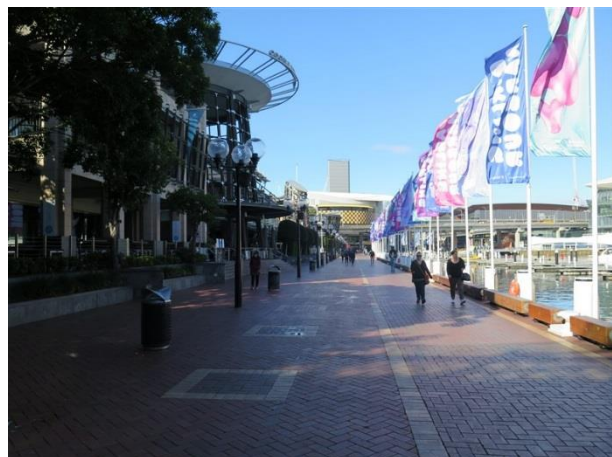


Figure 3.5 Looking south along public domain space on the western edge of the site. (Source: GML, 2016)



Figure 3.6 Looking southeast at the northern end of the existing Cockle Bay Wharf. (Source: GML, 2016)



Figure 3.7 Looking southeast towards the southern half of the existing Cockle Bay Wharf. (Source: GML, 2016)



Figure 3.8 Looking east at the staircase in the southern part of the site; the stairs link to a public footpath. (Source: GML, 2016)



Figure 3.9 Looking north along the public domain space on the western edge of the site; the staircase and Cockle Bay Wharf are visible on the right-hand side of the image. (Source: GML, 2016)



Figure 3.10 Looking south down Darling Harbour, from the Pyrmont Bridge. Cockle Bay Wharf is on the left. (Source: GML, 2016)



Figure 3.11 Looking west across the public domain space in the northeast of the site. (Source: GML, 2016)



Figure 3.12 Looking southwest across the Western Distributor flyovers located in the northern part of the site. Cockle Bay Wharf is visible in the background of the image. (Source: GML, 2016)



Figure 3.13 Looking south along Wheat Road in the northern part of the site. Cockle Bay Wharf is visible on the right and the Western Distributor northbound flyover is on the left. (Source: GML, 2016)



Figure 3.14 Looking south across the Western Distributor northbound flyover lanes in the northern part of the site. (Source: GML, 2016)



Figure 3.15 Looking down on the Western Distributor southbound lane from the pedestrian footbridge on the northern edge of the site. The northbound flyover is visible in the top right corner of the image. (Source: GML, 2016)



Figure 3.16 Looking south across the Western Distributor northbound flyover lane, Wheat Road, and the eastern façade of Cockle Bay Wharf from the pedestrian footbridge on the northern edge of the site. (Source: GML, 2016)



Figure 3.17 Looking north along Wheat Road; the eastern façade of Cockle Bay Wharf is visible on the left-hand side. (Source: GML, 2016)

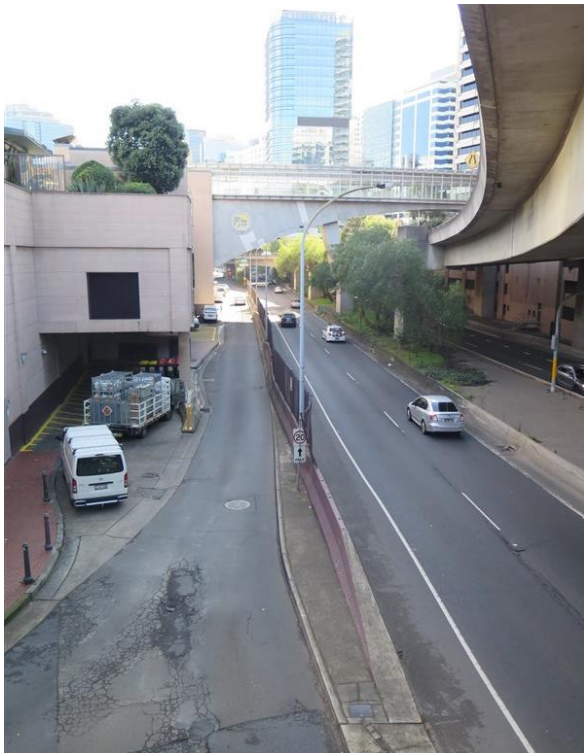


Figure 3.18 Looking north along Wheat Road in the eastern part of the site and the Western Distributor from a public footpath. (Source: GML, 2016)

3.3 Geotechnical and Services Investigation Reports

3.3.1 Geotechnical Investigations

Coffey Corporate Pty Ltd (Coffey) produced a desktop analysis of historic geotechnical borehole logs within the Cockle Bay study area for DPT Operator Pty Ltd to support the Stage 1 Development Application.⁶ The results of this study have been analysed to identify the depths of introduced fill and underlying alluvial deposits across the study area. This information assists with the analysis of the historical development of the study area, in particular to identify the extent of areas of historic land reclamation in which remains of archaeological interest may survive. The Coffey report has compiled the data from individual borehole logs to produce a preliminary geotechnical model which provides a generalised picture of the underlying deposits present within the study area—this information is reproduced in Table 3.1. The depths of deposits recorded in individual boreholes logs is presented in Table 3.2.

The results of the geotechnical study indicate that the depth of the alluvial deposits increases from east to west across the study area. This is consistent with historic analysis showing the gradual reclamation and extension of the original shoreline into the bay area. A north–south transect through the centre of the study area shows a substantial drop in the level of the bedrock (Figure 3.19), which appears to correlate with a small bay in the southern part of the subject site visible on Francis Shields' maps of 1844 (Figure 2.2). The preliminary model developed by Coffey is reproduced in Table 3.1. The description of the fill and redeposited material—containing in particular sandstone, bricks, concrete and timber—suggests that there is potential for these deposits to contain remains of archaeological interest. Table 3.2 contains information on the recorded depths of undistinguished fill and alluvial deposits from individual borehole logs recorded across the study area.

Table 3.1 Preliminary Geotechnical Model Reproduced from Coffey⁷. Levels are Presented in Australian Height Datum (AHD).

Material Type	Description	Top of Deposit	Thickness
Fill and Redeposited Alluvium	Heterogeneous materials comprising gravel, sand, clay, sandstone, bricks, concrete and timber	3m	4m to 6.5m
Alluvium	Silty sand, sandy clay, peaty clay, clay and clayey silt with some ironstone gravels	–1m to –3.5m	3m to 11.5m
Sandstone Bedrock	Sandstone	–4m to –15m	N/A

Table 3.2 Summary of Individual Borehole Logs Reproduced from Coffey.⁸

Borehole Number	Depth of Fill	Depth of Alluvium
R1-A328	5m	1.5m
R1-A326	4m	5m
R1-A324	3.1m	15m
R1-B54	1m	Not recorded
R1-B45	4.2m	Not recorded
R1-A324	3.1m	15m
R1-D28	3.8m	8.5
R1-D40	4.2m	8.5
R1-B59	3.8m	?

Borehole Number	Depth of Fill	Depth of Alluvium
R1-D41	3.5m	6.2m
R1-B58	3.5m	4.6m
R1-A326	3.8m	5m
R1-B64	5.8m	Not recorded
R1-B70	3.5m	Not recorded

3.3.2 Service Location Investigations

A plan showing the location of known underground services within the study area has been produced.⁹ The majority of services are concentrated beneath Wheat Road, bordering the eastern side of the Cockle Bay Wharf building, and will have resulted in a moderate level of disturbance within each services' footprint. Additionally, underground electricity and telecommunication services criss-cross the north-eastern section of the study area beneath the Western Distributor expressway, likewise resulting in a moderate disturbance to subsurface archaeological remains to the maximum depth of excavation. A stormwater drain runs east–west through the centre of the site, although the width and depth of this service is not known.

3.4 Summary

The results of the various site formation processes discussed above have been combined to provide a summary of the nature and level of impact which is itemised in Table 3.3 below. This information is used to inform an understanding of the potential for archaeological remains to survive within the subject site discussed in Section 4 of this report.

Table 3.3 Summary of Existing Impacts.

Building/Area	Known Impact	Level of Impact	Nature of Impact
Cockle Bay Wharf building	Cutting and levelling, localised piled foundations, localised excavation for services.	Moderate-to-High	Partially disturbed
Western Distributor	Cutting and levelling, localised deep excavations for pier foundations, localised excavation for service trenches.	Moderate-to-High	Partially disturbed
Darling Park courtyard, cnr Market and Sussex Streets	Cutting and levelling, infill.	High	Completely disturbed
Harbour Frontage	Construction of existing deck—insertion of timber pile supports.	Low	Limited disturbance
Crescent Garden	Construction impacts, insertion of foundations.	Moderate-to-High	Partially or completely disturbed
Druitt Street Pedestrian Bridge	Localised deep excavations for foundations; localised excavation for service trenches.	Moderate	Partially disturbed

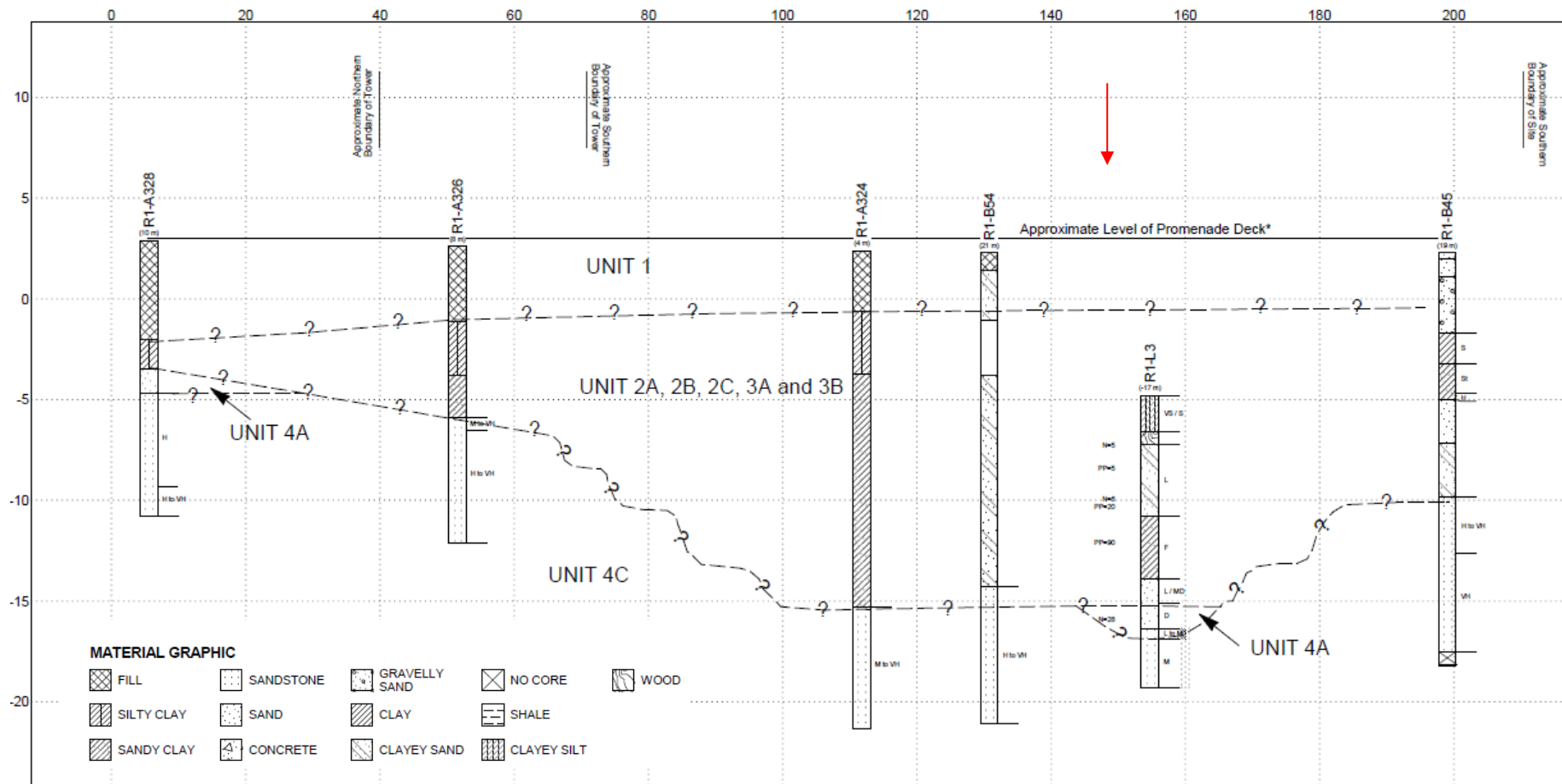


Figure 3.19 North-south borehole transect—the arrow indicates the location of the deeper alluvial deposits. (Source: Coffey Corporate 2016¹⁰)

3.5 Endnotes

- ¹ Telling the Stories of Darling Harbour, Sydney Harbour Foreshore Authority, NSW Planning and Infrastructure, July 2010, p13.
- ² K. Vinnicombe, Development Manager—Transactions of Brookfield Property Partners, pers. comm. 4 August 2016.
- ³ Coffey Corporate Pty Ltd, *Proposed Development (CBW Project) at Cockle Bay: Initial Geotechnical Assessment*, prepared for DPT Operator Pty Ltd, c/- Enstruct Group Pty Ltd, August 2016.
- ⁴ Lend Lease, 1999, *Waterfront Setout Key Plan*, dwg 250738-A 40D106 Rev. B, prepared for Darling Park Joint Venture, August 1999
- ⁵ De Leuw Cather of Australia Pty Ltd, 1972, *Department of Main Roads, NSW North Western Freeway Druitt St. Sydney to Bridge Rd. Glebe Darling Harbour Viaduct Standard Pile Caps Types 1, 1A and 2*. Drawing no. 6003 412ER0051 SP8, 8 August 1972.
- ⁶ Coffey Corporate Pty Ltd, *Proposed Development (CBW Project) at Cockle Bay: Initial Geotechnical Assessment*, prepared for DPT Operator Pty Ltd, c/- Enstruct Group Pty Ltd, August 2016. p 5.
- ⁷ Coffey Corporate Pty Ltd, *Proposed Development (CBW Project) at Cockle Bay: Initial Geotechnical Assessment*, prepared for DPT Operator Pty Ltd, c/- Enstruct Group Pty Ltd, August 2016. p 5.
- ⁸ Coffey Corporate Pty Ltd, *Proposed Development (CBW Project) at Cockle Bay: Initial Geotechnical Assessment*, prepared for DPT Operator Pty Ltd, c/- Enstruct Group Pty Ltd, August 2016. p 18–20.
- ⁹ Rygate Surveyors, 2015, *Plan Showing Detail and Levels Cockle Bay Wharf and Surrounds Darling Harbour*, City of Sydney, reference no 77101, 11 September 2015.
- ¹⁰ Coffey Corporate Pty Ltd, *Proposed Development (CBW Project) at Cockle Bay: Initial Geotechnical Assessment*, prepared for DPT Operator Pty Ltd, c/- Enstruct Group Pty Ltd, August 2016. p17.

4.0 Assessment of Historical Archaeological Potential

This section discusses the site's potential to contain archaeological resources. This assessment is based on consideration of the current site conditions and examination of historical information related to the development and occupation of the site, including evidence of demolition and construction activities that may have disturbed historical archaeological remains associated with former site features and activities.

The term 'archaeological potential' is defined as the likelihood that a site may contain physical evidence related to an earlier phase of occupation, activity or development. This term is differentiated from 'archaeological significance' and 'archaeological research potential', which are more subjective statements on the value of the archaeological resource in terms of levels of significance and discussed in more detail in Section 6.0 of this report.

4.1 Archaeology of Neighbourhood

To date, there have not been any archaeological excavations undertaken within the study area. To build up a picture of the potential historical archaeological remains which may be present within the Cockle Bay site a review of previous historical archaeological investigations has been completed. The locations of these investigations are shown on Figure 4.1.

4.1.1 CRM—Kent, Erskine, Napoleon and Sussex Streets (KENS) Site, 2003

Archaeological excavation of the KENS Site was undertaken by Cultural Resource Management (CRM) in 2003 (Figure 4.1). As the results have yet to be formally published, information on the nature and extent of archaeological remains uncovered during this works has been taken from two progress reports produced for the Zone 1 excavations.¹ European associations with the site are documented from 1799, and development of the site had commenced by the 1810s with successive modifications documented over the course of the nineteenth and twentieth centuries. However, the process of redevelopment of the site was one that resulted in the creation of a particularly rich archaeological record, with the remains of former buildings and features considerably more intact than anticipated. The demolition process, as part of the resumption process, was generally minimal and restricted to creating a level surface for the next phase of development. As a result, the ground level across the KENS site was raised by, on average, five metres to twelve metres across the site between 1788 and the present. The substantial infill of the sites allowed for the preservation of upstanding walls of the early nineteenth century buildings below the later twentieth century constructions, including remains of three houses dated to c1810–1820s along with several commercial properties dating to the 1840s.² Evidence for early-twentieth-century modification of the site including demolition deposits and services and their associated trench cuts were identified, the latter cutting into the upper levels of the nineteenth century deposits.

4.1.2 Casey & Lowe—Darling Quarter (formerly Darling Walk), Darling Harbour 2008–2010

The excavation at the Darling Quarter was completed by Casey & Lowe over a period of eight months between 2008 and 2010 (Figure 4.1).³ The site is located on a former inlet and the excavation uncovered the pre-European shoreline which comprised sandstone bedrock and intertidal sandflats. The archaeological evidence indicates that European occupation and use of the site commenced around the 1820s, initially consisting of shell processing for the manufacturing of lime, with industrial and commercial properties established from the 1830s onwards. Numerous phases of reclamation of

the intertidal zone occurred, mostly in the first half of the nineteenth century, and the type of materials used in these deposits reflects the industrial nature of the area.⁴ Between the 1840s and 1860s new streets were laid out and residential properties were constructed.

The excavation shows that the site area was utilised for a variety of purposes. Along the shoreline, evidence for timber wharves and property subdivisions indicate the use of this zone from an earlier period, and through the continuing reclamation of the area the shoreline was pushed further north, with these earlier features buried in the dumped deposits.⁵ There is a noticeable change in the materials used for the bulk fills—early on the deposits consisted primarily of locally sourced materials such as sandstone bedrock, heavy clays and shales.⁶ Later deposits derived from the industrial businesses operating within the site including ash, clinker, brick and other waste materials.

In the centre of the site, remains of seven terraced houses were recorded, comprising sandstone footings, yard surfaces, cess pits and external laneways, dating to c1840–1860s.⁷ Substantial underfloor deposits provided ample evidence of the living conditions of the properties' occupants, in particular casting light on potential differentiations between owner/occupiers and renters in terms of material possessions.⁸

Evidence for the industrial developments included remains of timber wharves, a sawmill, goods yard, and foundry containing evidence for the weighbridge and internal rail system.⁹ Other artefactual remains indicated a range of trades operating within the site during the nineteenth century, such as a mill, slaughterhouses/abattoirs, tanneries, soap and candle manufactories, dairy factory, foundries, and wharves, as well as areas of residential occupation. The results of the excavation also indicate the high levels of preservation within the site both in terms of organic remains, such as timber wharves and sheds, as well as due to the processes of historic development which was a continuous process of land consolidation resulting in the burial of earlier remains under layers of bulk fill deposited throughout the nineteenth and twentieth centuries.

4.1.3 Casey & Lowe—Barangaroo South, Sydney, 2011–2012

Archaeological excavations at the Barangaroo South site were undertaken in three stages between January 2011 and August 2012 (Figure 4.1). Although the Barangaroo site is situated c500m to the north of the Cockle Bay study area, it has been included in this review due to the similarities between the sites in terms of their location along the reclaimed eastern foreshore of Darling Harbour.

At the time of European settlement, the site was almost entirely within the harbour, and from the 1830s onwards the first landholders began the process of reclaiming the rocky foreshore enabling the development of the maritime industries which operated across the site during the nineteenth and twentieth centuries. Evidence of land reclamation included remains of formal and informal sandstone retaining walls with dumps of sandstone rubble to raise the ground above sea level, which in turn was capped by layers of clay, sandstone and industrial waste which lay at c1.1m above Australian Height Datum (AHD) by the 1840s.¹⁰ Timber wharves, jetties, warehouses and stores were constructed on these areas of reclaimed land—the excavation uncovering remnants of these structures including timber posts and baseplates, sandstone piers, building footings and a yard surface of sandstone setts.¹¹ Underfloor deposits containing artefactual material reflecting day-to-day activities were also recovered from across the site. The use of the site remained primarily water-based with evidence indicative of the rebuilding of a number of these wharves and other buildings during the latter half of the nineteenth century. A fire in part of the site in the 1880s resulted in a second phase of substantial reclamation works.¹² During the twentieth century on-site works primarily consisted of rebuilding the earlier wharves and warehouses.

4.1.4 Casey & Lowe—Darling Harbour Live, Exhibition Centre, 2013

The excavation for the redevelopment of the former convention and exhibition centre site, as part of the Sydney International Convention, Exhibition and Entertainment Precinct (SICEEP) project was undertaken by Casey & Lowe in 2013. The results of this excavation are not currently available.¹³

4.1.5 Casey & Lowe—Darling Harbour Live, Haymarket, 2013

The excavation for the redevelopment of the Haymarket site, also as part of the Sydney International Convention, Exhibition and Entertainment Precinct (SICEEP) project, was undertaken by Casey & Lowe in 2013. The results of this excavation are not currently available.¹⁴

4.1.6 Casey & Lowe—Darling Harbour Live, ICC Hotel, 2014

An archaeological excavation was undertaken on the site of the proposed ICC Hotel in the northern portion of the Darling Harbour Live development area during June and July 2014.¹⁵ The location of the site is shown on Figure 4.1.

Several phases of European development and occupation were identified during the course of the excavation. The excavation consisted of a single trench that was later expanded into an open area salvage excavation. One of the key aims of the excavation was to locate the remains of a culvert and channel associated with the 1859 goods rail line which runs through the site. The earliest remains identified on site consisted of a series of reclamation deposits which sloped down towards the harbour from west to east across the site, and were made up of clean sand and clay fills, some of which may have derived from harbour dredging.¹⁶ Above these deposits, a surviving section of the brick drain was identified extending roughly east–west for a distance of c25m through the site. Based on the manufacture date of the bricks it is thought to have been constructed around 1870.¹⁷ Adjacent to the brick drain were the bases of two square timber structures, comprised of stacked and interlocked half sawn timber logs, provisionally identified as crane bases.¹⁸ A series of capping fills forming the surface of the former Darling Harbour Goods Line sealed the earlier remains. Cobbling, railway sleeps and ballast were also recorded embedded into this surface.¹⁹

4.2 Historical Archaeological Potential

The term ‘archaeological potential’ is defined as the likelihood that a site may contain physical evidence related to an earlier phase of occupation, activity or development. This assessment is made by interpreting the results of the historical analysis (Section 2.0), including comparison with the outcomes of previous archaeological investigations within the general vicinity of the study area (Section 4.1), and reviewing these against the extent of previous physical disturbance which has occurred (Section 3.0) to determine the likelihood of historical archaeological remains to survive.

The following discussion focuses on the potential subsurface archaeological remains such as structural elements, occupational deposits, yards and paths in relation to the historic phases of development within the study area.

Archaeological potential is usually described as no potential, low, moderate or high potential, and is assessed in this report as follows:

- no (nil) potential—this designation means that an area will not contain historical relics or works. Generally, these areas have been either entirely developed by recent buildings with deep foundations (removing any historical archaeological deposit), impacted by service trenches

and/or was not associated with historical events which could have created an archaeological resource;

- low potential—it is unlikely that archaeological evidence associated with this historical phase or feature survives;
- moderate potential—it is possible that some archaeological evidence associated with this historical phase or feature survives. If archaeological remains survive they may have been subject to some disturbance; and
- high potential—it is likely that archaeological evidence associated with this historical phase or feature survives intact.

The historical archaeological potential has been assessed for the Cockle Bay site as a whole, with areas of archaeological survival potential mapped on Figure 4.2.

Overall the historical archaeological potential of the subject site is considered to be moderate or high across c60 per cent of the site area. Previous archaeological investigations within the vicinity of the subject site, in particular the KENS site²⁰ and Darling Quarter²¹ have demonstrated the survival of earlier phases of structural remains beneath more recent developments, in part due to the continual build-up of deposits which buried earlier remains. On this basis, the eastern half of the Cockle Bay Wharf building (shaded red on Figure 4.2) is considered to be the main area with a high potential for historical archaeological remains. This results from the continuous reclamation efforts during the nineteenth and twentieth centuries, which would have buried rather than removed earlier remains. Although the integrity of any remains is expected to be fragmentary due to the impacts of piling and excavation for services, which would have resulted in localised areas of truncation, the distribution and density of these disturbances will not have completely removed all archaeological remains. The eastern half of the site, beneath the Western Distributor (shaded orange on Figure 4.2), is considered to have a moderate potential for historical archaeological remains, although as before, these remains are likely to be fragmentary.

The type of historical archaeological remains expected to be present within the subject site is set out in Table 4.1.

Table 4.1 Potential Archaeological Features and the Associated Types of Archaeological Evidence that Could Be Present at the Site.

Site Feature	Types of Archaeological Evidence	Integrity of Remains	Likelihood of Survival
Original foreshore + early industry	Remains of the original shoreline. Evidence for early lime manufacture.	Deposits may survive within the northeast corner of the site.	Low to moderate
Reclamation deposits	Reclamation fill deposits from the 1820s–30s.	Deposits may survive in the northern third and at southern edge of the site.	High
	Reclamation fill deposits from the 1850s.	Deposits may survive beneath the eastern half of Cockle Bay Wharf building.	Moderate to high
	Reclamation fill deposits from the early twentieth century.	Deposits may survive beneath the Cockle Bay Wharf building.	Moderate to high
Seawalls and revetments	1830s sandstone seawall or timber revetment.	Intact remains of the north–south aligned seawall may survive beneath the eastern edge of the Cockle Bay Wharf building.	Moderate to high

GML Heritage

Site Feature	Types of Archaeological Evidence	Integrity of Remains	Likelihood of Survival
	1860s sandstone seawall or timber revetment.	Intact remains of the seawall may survive beneath the southern half of the Cockle Bay Wharf building.	High
	Early twentieth-century seawall.	Intact remains of the north–south aligned seawall may survive beneath the centre of the Cockle Bay Wharf building.	Moderate
Property boundaries	Timber posts and postholes.	Structural remains may be present in the northeast section of site beneath Cockle Bay Wharf and Western Distributor.	Moderate
Commercial and industrial buildings	Footings of 1830s building on Shield’s map (Figure 2.2).	Intact remains may survive in the northeast section of site beneath the Western Distributor.	Low or possibly moderate
	Stone footings of 1850s Albion Wharf building.	Structural intact remains may survive beneath Wheat Road and Cockle Bay Wharf in the northern part of site.	Moderate or high
	Stone footings of 1850s Wentworth Wharf building.	Structural intact remains may survive beneath Cockle Bay Wharf in the southern part of site.	Moderate or high
	1850s–1880s ancillary timber buildings, yard surfaces, cess pits etc.	Structural remains may survive within the eastern two-thirds of the site.	Beneath Cockle Bay Wharf and Western Distributor—moderate or high Northeast corner—low
	Mid–late nineteenth-century steam mills.	Structural remains may survive within the southern half of the site.	Moderate or high
	Early twentieth-century warehouses and commercial properties—brick/concrete footings, basements/ cellars of properties on Sussex Street.	Structural remains may survive within the eastern two-thirds of the site.	Beneath Cockle Bay Wharf and Western Distributor—moderate Northeast corner—low
	Early twentieth-century road/ cartway surfaces.	Deposits may survive within the northern half of site beneath Cockle Bay Wharf and the Western Distributor.	Moderate
Wharves	Remains of 1830s timber wharfs or jetties—timber piles, complete structures.	Structural remains may survive within the western half of site beneath Cockle Bay Wharf and Wheat Road.	High
	Remains of 1860s timber wharfs or jetties.	Structural remains may survive within the western half of site beneath Cockle Bay Wharf and Wheat Road.	High
	Remains of early-twentieth century finger wharves.	Structural remains may survive within the western half of the site beneath Cockle Bay Wharf.	Moderate

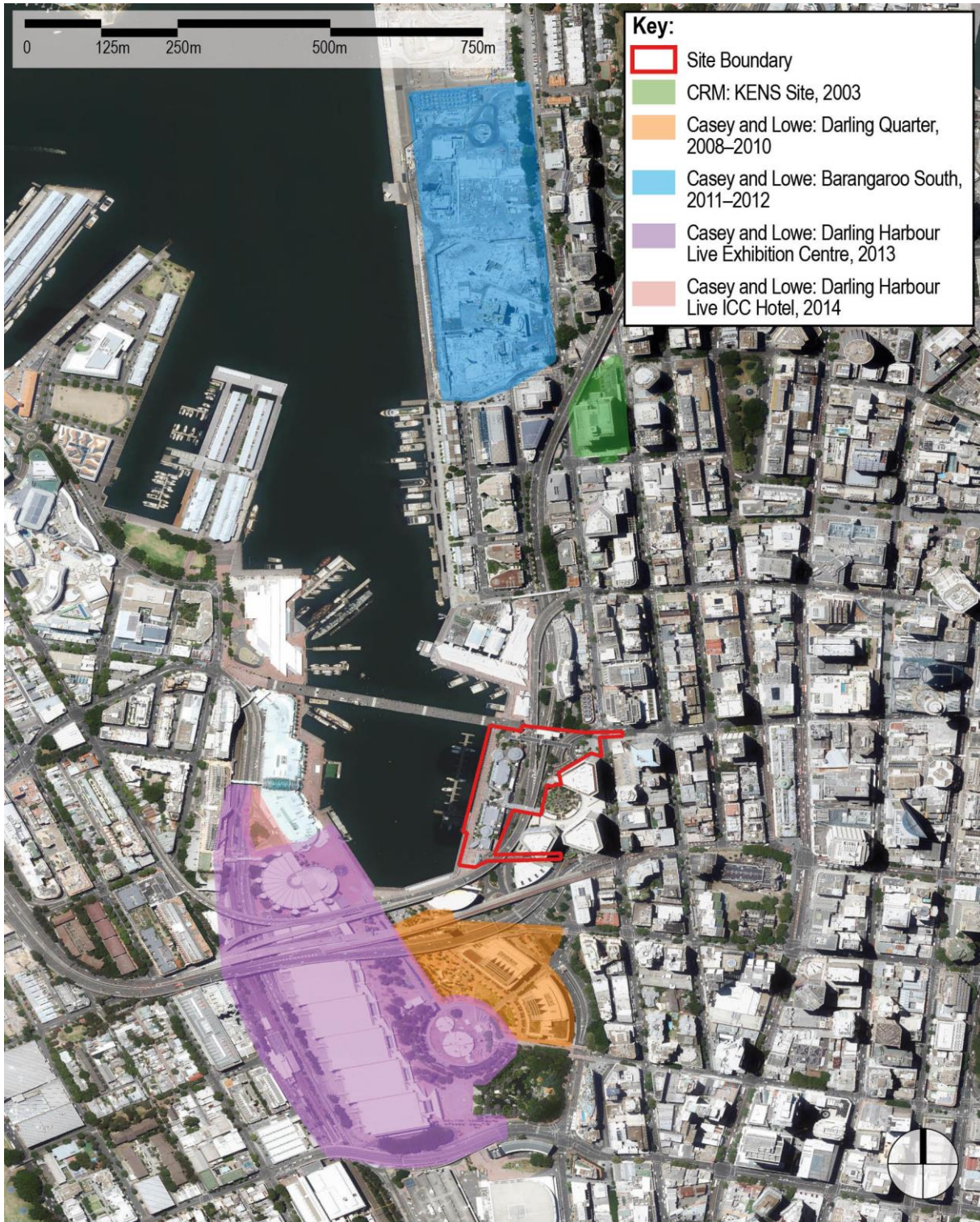


Figure 4.1 Location of previous archaeological investigations within the vicinity of the subject site. (Source: NSW LPI with GML overlay)



Figure 4.2 Plan of the subject site showing assessed archaeological potential. (Source: NSW LPI with GML overlay)

4.3 Endnotes

- 1 Cultural Resources Management Pty Ltd, *Archaeological Investigation of the KENS Site: Progress Report No. 1*, report prepared for Leighton Contractors Pty Ltd, June 2003; Cultural Resources Management Pty Ltd, *Archaeological Investigation of the KENS Site: Progress Report No. 2*, report prepared for Leighton Contractors Pty Ltd, July 2003.
- 2 Cultural Resources Management Pty Ltd, *Archaeological Investigation of the KENS Site: Progress Report No. 2*, report prepared for Leighton Contractors Pty Ltd, July 2003, p 4.
- 3 Casey & Lowe Pty Ltd, *Archaeological Investigation Darling Quarter (formerly Darling Walk), Darling Harbour, Sydney*, report prepared for Lend Lease Development, December 2013.
- 4 Casey & Lowe Pty Ltd, *Archaeological Investigation Darling Quarter (formerly Darling Walk), Darling Harbour, Sydney*, report prepared for Lend Lease Development, December 2013, p 615.
- 5 Casey & Lowe Pty Ltd, *Archaeological Investigation Darling Quarter (formerly Darling Walk), Darling Harbour, Sydney*, report prepared for Lend Lease Development, December 2013, p 618.
- 6 Casey & Lowe Pty Ltd, *Archaeological Investigation Darling Quarter (formerly Darling Walk), Darling Harbour, Sydney*, report prepared for Lend Lease Development, December 2013, p 618.
- 7 Casey & Lowe Pty Ltd, *Archaeological Investigation Darling Quarter (formerly Darling Walk), Darling Harbour, Sydney*, report prepared for Lend Lease Development, December 2013, p 615.
- 8 Casey & Lowe Pty Ltd, *Archaeological Investigation Darling Quarter (formerly Darling Walk), Darling Harbour, Sydney*, report prepared for Lend Lease Development, December 2013, p 620.
- 9 Casey & Lowe Pty Ltd, *Archaeological Investigation Darling Quarter (formerly Darling Walk), Darling Harbour, Sydney*, report prepared for Lend Lease Development, December 2013, p 622.
- 10 Casey & Lowe Pty Ltd, *Archaeological Excavation Barangaroo South Preliminary Results*, report prepared for Lend Lease (Millers Point), October 2012, p 22.
- 11 Casey & Lowe Pty Ltd, *Archaeological Excavation Barangaroo South Preliminary Results*, report prepared for Lend Lease (Millers Point), October 2012, p 18.
- 12 Casey & Lowe Pty Ltd, *Archaeological Excavation Barangaroo South Preliminary Results*, report prepared for Lend Lease (Millers Point), October 2012, p 22.
- 13 Casey & Lowe website. <<http://www.caseyandlowe.com.au/index.htm>>.
- 14 Casey & Lowe website. <<http://www.caseyandlowe.com.au/index.htm>>.
- 15 Casey & Lowe Pty Ltd, *ICC Hotel Darling Harbour Live, Darling Harbour. Preliminary Results of Archaeological Investigation*, unpublished report prepared for Lend Lease, July 2014.
- 16 Casey & Lowe Pty Ltd, *ICC Hotel Darling Harbour Live, Darling Harbour. Preliminary Results of Archaeological Investigation*, unpublished report prepared for Lend Lease, July 2014, p 12.
- 17 Casey & Lowe Pty Ltd, *ICC Hotel Darling Harbour Live, Darling Harbour. Preliminary Results of Archaeological Investigation*, unpublished report prepared for Lend Lease, July 2014, p 9.
- 18 Casey & Lowe Pty Ltd, *ICC Hotel Darling Harbour Live, Darling Harbour. Preliminary Results of Archaeological Investigation*, unpublished report prepared for Lend Lease, July 2014, p 14.
- 19 Casey & Lowe Pty Ltd, *ICC Hotel Darling Harbour Live, Darling Harbour. Preliminary Results of Archaeological Investigation*, unpublished report prepared for Lend Lease, July 2014, pp 18–19.
- 20 Cultural Resources Management Pty Ltd, *Archaeological Investigation of the KENS Site: Progress Report No. 1*, report prepared for Leighton Contractors Pty Ltd, June 2003; Cultural Resources Management Pty Ltd, *Archaeological Investigation of the KENS Site: Progress Report No. 2*, report prepared for Leighton Contractors Pty Ltd, July 2003.
- 21 Casey & Lowe Pty Ltd, *Archaeological Investigation Darling Quarter (formerly Darling Walk), Darling Harbour, Sydney*, report prepared for Lend Lease Development, December 2013.

5.0 Assessment of Historical Archaeological Significance

5.1 Preamble

Archaeological significance refers to the heritage significance of known or potential archaeological remains. As with other types of heritage items, archaeological remains should be managed in accordance with their significance. In situations where development is proposed, this can influence the degree of impact that may be acceptable or the level of investigation and recording that may be required. This section assesses the significance of the potential archaeological resource at the study area against the NSW Heritage Branch (now Heritage Division) criteria.¹

While subsurface archaeological remains often form an integral component of the overall significance of a heritage place, it is necessary to assess them independently from above ground, as well as other historic elements. Assessing the heritage value of these subsurface archaeological remains is made more difficult by the fact that their extent and nature is often unknown. It becomes necessary for judgements to be made on the basis of expected or potential attributes.

5.2 Assessment Framework

The assessment of significance of historical archaeological relics requires a specialised framework for consideration of their research potential. Generally, relics with a greater research potential will be of higher heritage significance. The most widely used framework for assessing archaeological research potential is three key questions developed by Bickford and Sullivan in 1984²:

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

Use of the Bickford and Sullivan questions provide basic but essential information. In addition to the current NSW Heritage Criteria, the Heritage Branch has prepared a set of guidelines to allow consideration of how an individual archaeological site or relic may be assessed in its own right.

The significance assessment of the subject site's archaeological resource is carried out by applying criteria expressed in the publication *Assessing Significance for Historical Archaeological Sites and Relics*, prepared by the Heritage Branch, formerly Department of Planning (NSW) (now the Heritage Division, OEH, Department of Premier and Cabinet) in December 2009,³ which also includes Bickford and Sullivan's questions.

5.3 Bickford and Sullivan's Questions

5.3.1 Can the site contribute knowledge that no other resource can?

This desktop assessment has included an evaluation of available documentary evidence. While much is already known regarding the historical development of the site and specific changes to land-use over time, additional information obtained through archaeological investigation has the potential to supplement or contradict documentary sources and provide a more complete picture of the site. Evidence associated with any surviving occupation or other artefact-bearing deposits may also provide insight into details of the activities that were carried out there. For example, reclamation works along

the foreshore were undertaken at multiple points over the nineteenth and early twentieth century and the archaeological resource has the potential to contribute knowledge on how new technologies and techniques were utilised on the site. Furthermore, reclamation and development along the Darling Harbour foreshore commenced at an early stage in the development of Sydney (c1830) and as documentary resources from this early period are limited the archaeological remains have the potential to contribute valuable information on the establishment of commercial and industrial maritime services in Sydney.

5.3.2 Can the site contribute knowledge that no other site can?

The potential archaeological remains within the subject site have the potential to provide physical evidence that could be used to supplement and test what is known about the place and its history from other sources. Archaeological evidence relating to the development of the private wharves in the nineteenth and early twentieth century can contribute to a more comprehensive understanding of the development of Darling Harbour as a major maritime hub. While large scale archaeological excavations have been recently completed across the Darling Quarter to the south and Barangaroo to the north, providing extensive evidence for nineteenth-century wharves, the results of these excavations have shown that there existed substantial variations in construction methods between individual wharves and sections of seawalls. To this end, remains within the site can contribute to this growing data resource on the development of private wharves within Sydney.

5.3.3 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 subject site forms part of the development of Cockle Bay as a maritime hub from the 1830s until the 1970s. Cockle Bay was important for maritime trade during the nineteenth and early twentieth centuries, including the exporting of commodities such as wool and the development of refrigeration enabling fresh produce exports. This ties into key historical themes relating to the development of NSW, in particular the growth and expansion of local and regional industrial economies. The knowledge that may be derived from the archaeological investigation of this site may be able to address specific research questions about this development in the nineteenth and early twentieth-century wharves and the evolution of maritime technology over this period.

5.4 NSW Heritage Criteria for Assessing Significance Relating to Archaeological Sites and Relics

5.4.1 Archaeological Research Potential (Current NSW Heritage Criterion E)

Subsurface historical archaeological remains within the subject site are considered to have a high research potential to yield information on the development of the maritime industry in Sydney. Based on the relatively localised impacts resulting from later twentieth-century developments within the site, the intactness of the potential archaeological remains is likely to provide valuable data on the layout of the wharves. The multiple phases of seawall construction and the associated reclamation fills have potential to reveal interpretive information for the gradual conversion of the foreshore, the function of sealed reclamation surfaces and the methods of infilling and seawall construction. Additionally, the potential preservation of early structural remains, such as jetties or early property boundaries within the reclamation deposits, can provide further information on the initial subdivisions of land and how these changed over time.

The potential archaeological remains would meet this criterion at a local level, although if exceptionally preserved and extensive, the cumulative archaeological record of seawall construction could meet this criterion at a state level.

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

The archaeological remains within the subject site have the potential to enhance our understanding of key themes associated with early economic developments and the establishment of maritime sites in Sydney. Remains of the nineteenth and twentieth-century seawalls, reclamation deposits, wharves and associated buildings and warehouses can contribute to our understanding of the modification of the landscape and changes in maritime practices.

The potential archaeological remains would meet this criterion at a local level.

5.4.3 Aesthetic or Technical Significance (NSW Heritage Criterion C)

Although the degree of preservation is currently unknown as the potential archaeological remains are buried beneath existing developments, intact remnants of timber and stone seawalls have the potential to exhibit aesthetic characteristics or evidence of engineering achievements. This has previously been demonstrated during the archaeological excavation at Barangaroo South,⁴ where intact and extensive remains of the 1840s seawall were uncovered. The redevelopment of the Cockle Bay foreshore multiple times throughout the nineteenth and early twentieth century has the potential to provide information about the evolution and technical development of land reclamation practices, in particular construction methods and material use.

This criterion would be met at a local level.

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

The likely intactness of the historical archaeological structures and deposits has a high potential to demonstrate the maritime development of the site. In particular the ongoing reclamation works are likely to have buried earlier remains which may present a high degree of survival providing a tangible link to the past.

This criterion would be met at the local level.

5.5 Statement of Significance

The archaeological resources of the Cockle Bay Wharf site hold significance as a component of the place's history and importance to NSW. The eastern foreshore of Darling Harbour was first utilised at an early stage in the establishment of the colony of Sydney, and from the 1830s onwards developed into a significant hub for the export of goods produced across NSW. The Cockle Bay Wharf site contains archaeological remains which have been excavated at other sites along the Darling Harbour foreshore, in particular the Barangaroo sites and Darling Quarter. These excavations have produced extensive remains of the early maritime industry in Sydney. However, the nature of private development along the entire Darling Harbour foreshore in the nineteenth century, in particular the numerous phases of reclamation and wharf redevelopment, is quite variable.

On this basis it is considered that the archaeological remains at Cockle Bay wharf are likely to enhance rather than replicate the existing data set. This would allow for a more holistic understanding of the expansion and continual growth of Darling Harbour as a whole. The anticipated degree of

survival of the archaeological remains also has the potential to be a valuable resource in communicating the history of the area to a wider audience.

On the basis of the analysis to date, the subject area is assessed to be of local significance.

5.6 Endnotes

- ¹ Heritage Branch, December 2009, *Assessing Significance for Historical Archaeological Sites and 'Relics'*, Heritage Branch of the Department of Planning, Sydney.
- ² Bickford, A and Sullivan S 1984, 'Assessing the Research Significance of Historic Sites', in Sullivan S and Bowdler S (eds), *Site Surveys and Significance Assessment in Australian Archaeology* (proceedings of the 1981 Springwood Conference on Australian Prehistory), Department of Prehistory, Research School of Pacific Studies, the Australian National University, Canberra.
- ³ Heritage Branch, December 2009, *Assessing Significance for Historical Archaeological Sites and 'Relics'*, Heritage Branch of the Department of Planning, Sydney.
- ⁴ Casey & Lowe Pty Ltd, *Archaeological Excavation Barangaroo South Preliminary Results*, report prepared for Lend Lease (Millers Point), October 2012.

6.0 Archaeological Impact Assessment

6.1 Description of the Proposal

This section provides an outline of the impacts on the historical archaeological remains which potentially survive within the site. As details of the proposed development are yet to be finalised, this assessment focuses on the range of possible impacts which would likely result from the development as advised by the client.¹ These include:

- site testing/geotechnical investigations;
- demolition of the existing structures;
- construction impacts within the building envelopes, such as construction of a landbridge, and podium with office tower above;
- works to the existing seawall;
- road realignments and potential construction of intersections at Harbour Street, Wheat Road and Blackwattle Place;
- construction of utilities/civil infrastructure including electricity, gas, communications, water, sewer, stormwater etc in and adjoining the site; and
- landscaping of the site and its surrounds.

6.1.1 Zones of Development Impacts Relative to Archaeology

Western Portion of the Site (Cockle Bay Park Commercial Tower)

- The eastern half of the existing Cockle Bay Wharf building lies within an area identified as having a high potential for historical archaeological remains. It is understood that the proposal would seek to demolish the existing building to the top of the ground floor slab and retain the existing footings and piles. As this work would not require any below ground impacts, any archaeological remains surviving below the ground floor slab would not be impacted. However, should it be required the removal of below-ground footings and piles would potentially have an impact on archaeological remains, depending on the depth and extent of the existing footings (which is currently unknown).
- The proposed development comprises a four-storey building including retail buildings, carparking, an electrical substation and plant, with a high-rise commercial office tower located in the centre of the site (Figure 6.1 and Figure 6.2). The proposed building footprint overlies areas identified as having moderate and high potential to contain historical archaeological remains. Works associated with the proposed building foundations, such as excavation for additional piled foundations and pile caps, would result in a high level of impact on archaeological remains either removing entirely any remains or making these inaccessible in the future due to the density of the piles. Other construction works, including excavation for lift pits, services, landscaping and new roads, would potentially impact any archaeological remains to the maximum depth of excavation—although based on the predicted depths of the deposits in this area (Section 3.3.1) there is potential for archaeological deposits to remain in levels beneath these impacts. The western third of this building is located outside the area of historic land

reclamation and works in this area are not anticipated to have an impact on archaeological deposits.

- The area east of the seawall has a high potential for archaeological remains. Works to the existing seawall, in particular excavation along its eastern side if required, would have the potential to expose or impact on archaeological remains such as remains of earlier seawalls, reclamation deposits along with any remains within these deposits such as earlier wharf structures or building remains.

Eastern Portion of the Site (Publicly Accessible Open Space)

- The location and extent of the proposed land bridge is shown on Figure 6.23. The land bridge would be supported by columns with pier foundations. Construction of the land bridge foundations would have localised impacts within the footprint of each pier, disturbing or entirely removing any archaeological remains in each location. The archaeological potential has been assessed as being low to moderate across this area.
- Along the eastern edge of the subject site it is proposed to undertake landscaping and localised works associated with construction of the land bridge where it connects to the existing public space at the corner of Market Street and Sussex Street and the Crescent Garden at Darling Park. The archaeological potential in these areas is considered to be low, and any impact to archaeological remains would depend on the depth and extent of the works required in this area which is currently unknown.
- Works proposed to the pedestrian bridge on Druitt Street in the southern part of the site would include refurbishment of the existing structures and would not entail any below ground impacts. As such, the proposed works would not have an impact on any archaeological remains.

6.2 Mitigation Measures

Based on this assessment, it is considered that the proposed development would result in a high level of impact to any archaeological 'relics' and 'works' which may be present within the subject site. The subject site is considered to have a moderate to high potential for archaeological deposits spanning from the early nineteenth to the early twentieth centuries. These deposits are considered to be of local significance; however, depending on the nature and extent of any archaeological remains present, they could be of potential state significance. The significance of the site's archaeological resources is primarily derived from its research potential and ability to be interpreted for public benefit.

The footprint of the proposed commercial tower and associated buildings lies within an area identified as having a high potential to contain substantial deposits which preserve structural remains of historic interest, in particular remains of early seawalls and buildings. To mitigate against the potential impacts which may arise from demolition works and construction of new foundations, it is recommended that a program of archaeological test excavation within the development footprint be undertaken. This will help to determine the location of the predicted archaeological remains and assess their degree of survival and intactness. A similar program of targeted test excavation may be appropriate to mitigate against the impacts associated with the construction of the land bridge above the Western Distributor in the eastern half of the site.

GML Heritage

The program of testing should be developed in consultation/collaboration with relevant historical archaeologists from the Heritage Division and/or Property NSW. Their approval for the research design should be sought following its development.

Following the results of the testing program, further recommendation, including possible archaeological motoring and detailed excavation, would be provided. This is to ensure that any potential historical archaeological resource be appropriately identified and recorded, in accordance with an approved Archaeological Research Design, so that the research potential of such resource can be fully realised.

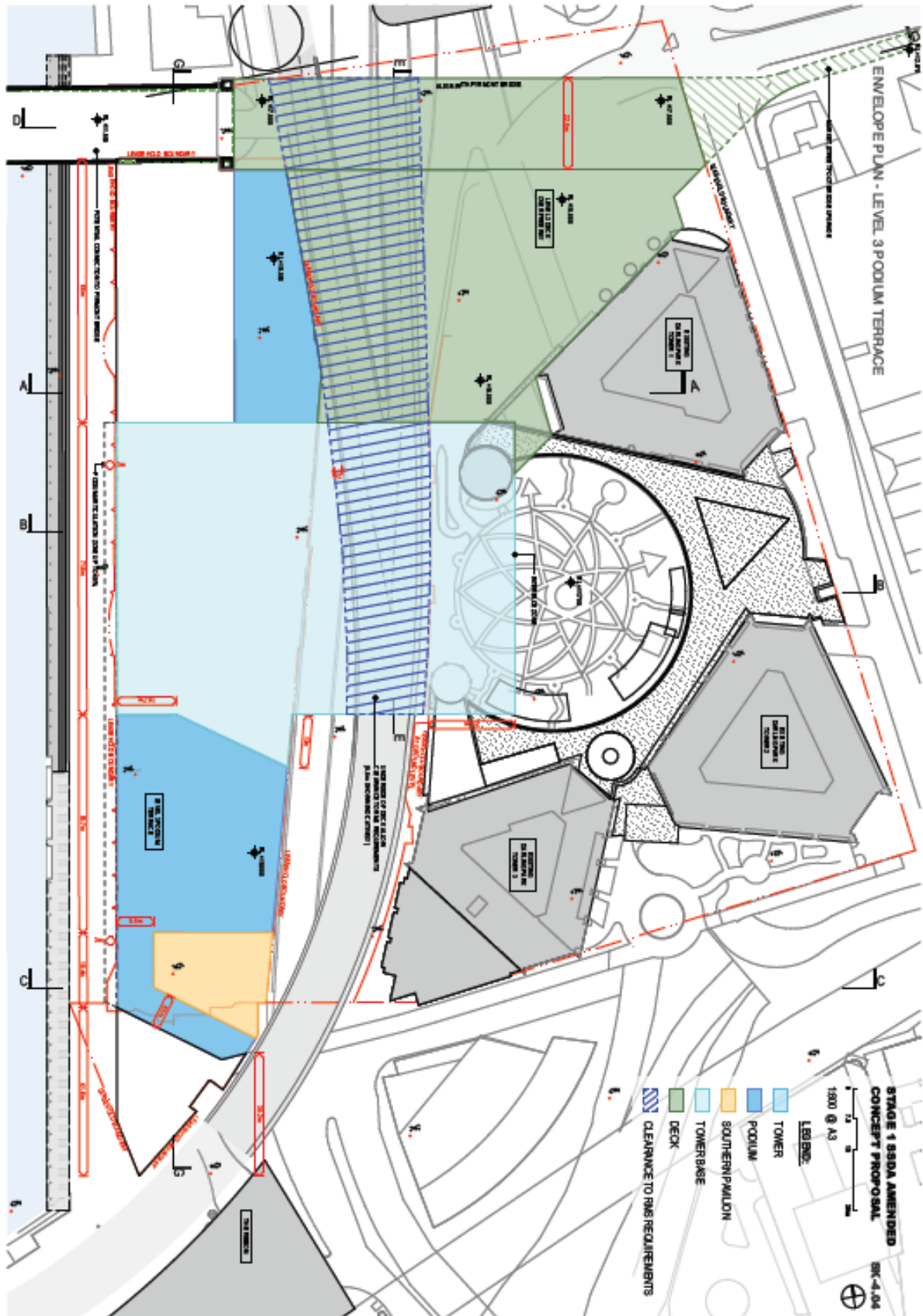


Figure 6.2 The proposed site layout at third floor level. (Source: FJMT Studio, dwg SK-4.04, received 15/08/17)

6.3 Endnotes

- ¹ Pers comm, K. Vinnicombe, Development Manager—Transactions of Brookfield Property Partners, 27 July 2016.

7.0 Conclusions and Recommendations

7.1 Conclusions

- The Cockle Bay Wharf site has been continuously occupied and developed since the 1830s, resulting in the potential for extensive archaeological remains to exist. The overall anticipated depth of potential archaeological deposits means that the impact of recent developments will have resulted in a moderate level of disturbance across most of the site, with localised areas of high impact.
- Based on the levels of disturbance, c60% of the site has been assessed as holding moderate to high archaeological potential. The northeast and western edges of the site are assessed as having a low potential for archaeological remains, as a result of the extent of previous developments within these areas.
- Beneath the eastern half of the Cockle Bay Wharf building there is considered to be a high potential for archaeological structures and deposits associated with the maritime development of the site from the 1830s onwards. If present, these archaeological remains would be of local significance, although if well preserved and extensive, the earlier remains, in particular the 1840s–1850s seawall, could be of state significance.
- The area beneath the Western Distributor is considered to have a moderate potential to contain archaeological remains of buildings associated with the private wharves, mostly dating from the 1800s onwards. Any potential building remains would be of local significance.
- The potential historical archaeological resource within the site is assessed as having varied levels of research potential and archaeological significance that would depend on the date of origin, state of preservation, and ability to provide meaningful information about the site.
- The proposed development works would potentially result in a high level of disturbance to archaeological remains within the footprint of the proposed commercial tower and adjacent buildings to the north and south. Construction of the proposed podium/deck in the eastern half of the site would result in localised impacts within the footprint of the structures' footings.
- The potential archaeological remains that may still exist within the site have been assessed to be significant at local and potentially state levels. As such, they constitute 'relics' within the definition of the Heritage Act. Former infrastructure items (such as deposits associated with early roads) would be classified as works.
- An assessment of the maritime archaeological potential for the site is being undertaken by the proponent in accordance with the recommendations from the Heritage Division dated 14 February 2017.

7.2 Recommendations

- A programme of historical archaeological test excavation should be undertaken to determine the nature, condition and extent of potential archaeological remains identified in this report. The results of test excavation would provide physical evidence relating to the depths of fill on-site in areas that may be subject to construction (ie foundations), service installation and/or

landscaping. This data could then be used to inform the design in order to avoid impacts to state significant archaeological remains.

- Should the program of historical test excavation identify substantial and/or significant historical archaeological remains, further excavation and recording of these features may be required following demolition of the existing structures on the site.
- Based on the project being assessed as State Significant Development approved under Part 4, Division 4.1 of the EPA Act, the relic provision of the Heritage Act would not apply. Therefore, it is recommended that archaeological works be undertaken in accordance with archaeological best practice. This would involve detailed investigation of any exposed archaeological relics, by applying established archaeological methodologies (cleaning, recording note taking, photographing, planning, level taking). An Archaeological Research Design outlining the proposed methodology should be prepared to guide historical archaeological investigations in the subject site.
- The results of archaeological test excavation and recording of the site should be presented in a succinct excavation report and used to inform future historical heritage management and interpretation measures, if appropriate, as part of the proposed development of the site.
- Any retrieved historical artefactual material would be the responsibility of the owner of the site. This includes appropriate treatment of the artefacts, and their long-term storage in a safe and accessible place.
- In the event that intact state significant historical archaeological evidence or archaeological evidence not identified in this report were to be encountered during site works, works should cease and the NSW Heritage Division, OEH be notified immediately, in accordance with Section 146 of the Heritage Act. Further assessment and/or approval may be required before works could recommence.
- A copy of this report and any other relevant reports subsequently prepared as part of this project should be sent to the NSW Heritage Division, OEH and Property NSW for their records. Property NSW should also be consulted regarding the proposed works.