

Archaeological Excavation

Barangaroo South

Preliminary Results





Sanstone seawall constructed in the 1840s. Phil Noller, The Moment It Clicks Pty Ltd

Report to
Lend Lease (Millers Point)

October 2012

Casey & Lowe Pty Ltd
Archaeology and Heritage Consultants
51 Reuss Street, Leichhardt NSW 2040
ABN: 32 101 370 129

 (02) 9569 1130
 www.caseyandlowe.com.au



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Barangaroo South

Archaeological Excavation – Preliminary Results

1.0 Introduction

1.1 Project Background

Barangaroo is located on the western edge of Sydney's CBD on the eastern shore of Darling Harbour (Figure 1.1). The redevelopment of this former container wharf is a 'major project' and has been determined under Part 3A of the *Environment Planning & Assessment Act 1979*. Barangaroo has been divided into three separate redevelopment areas: the Headland Park, Barangaroo Central and Barangaroo South.

Lend Lease is developing the Barangaroo South site. It will contain commercial buildings and residential apartments. A large basement for parking and service requirements for these buildings occupies a large portion of site.

Casey & Lowe have been commissioned by Lend Lease (Millers Point) as consultants to manage the archaeology of Barangaroo South. In May 2010, Casey & Lowe prepared a *Non-Indigenous Archaeological Assessment* and an *Archaeological Management Strategy & Research Design* for Barangaroo South. The assessment identified a high potential for extensive archaeological remains of reclamation, maritime infrastructure and businesses dating from the 1820s. Most of the archaeological resource was assessed as being of local heritage significance with potential for some State significant remains. As the construction of the basement would remove all archaeological remains within its footprint, it was recommended that a comprehensive archaeological investigation be undertaken.

Comber Consultants prepared an *Aboriginal Archaeological and Cultural Heritage Assessment* and an *Aboriginal Archaeological Management Plan and Research Design*. The site was assessed as having potential to contain Aboriginal archaeological remains and a program of monitoring, testing and excavation (if required) was recommended.

Casey & Lowe conducted initial archaeological testing of the site in August and September 2010. The results are presented in a report, *Non-Indigenous Archaeological Testing, Barangaroo South, November 2010*, to Lend Lease Millers Point. Testing confirmed that there was a high potential for intact archaeological remains. It also determined that the archaeological resource was within a 40m wide strip along the eastern site boundary (Figure 1.2).

Casey & Lowe completed the archaeological excavation of the site in three stages between January 2011 and August 2012:

- Stage 1 = 5 January to 22 March 2011
- Stage 2 = 22 August to 14 October 2011
- Stage 3 = March to August 2012

Comber Consultants undertook monitoring and testing for Aboriginal archaeological remains during Stage 3 of the program.

1.2 The Site Location

Barangaroo South is located at the southern end of Barangaroo (Figure 1.1). Hickson Road/Sussex Street borders the area in the east, Shelly Street in the south, and Darling Harbour to the west. The archaeological site was located within the new basement footprint along the eastern site boundary (Figure 1.2). The archaeological site was roughly 210m long and up to 40m wide.



Figure 1.1: Barangaroo is located on the western edge of Sydney CBD and on the eastern shore of Darling Harbour. Barangaroo South is the southern of three redevelopment areas and is indicated by the red outline. Google Maps.

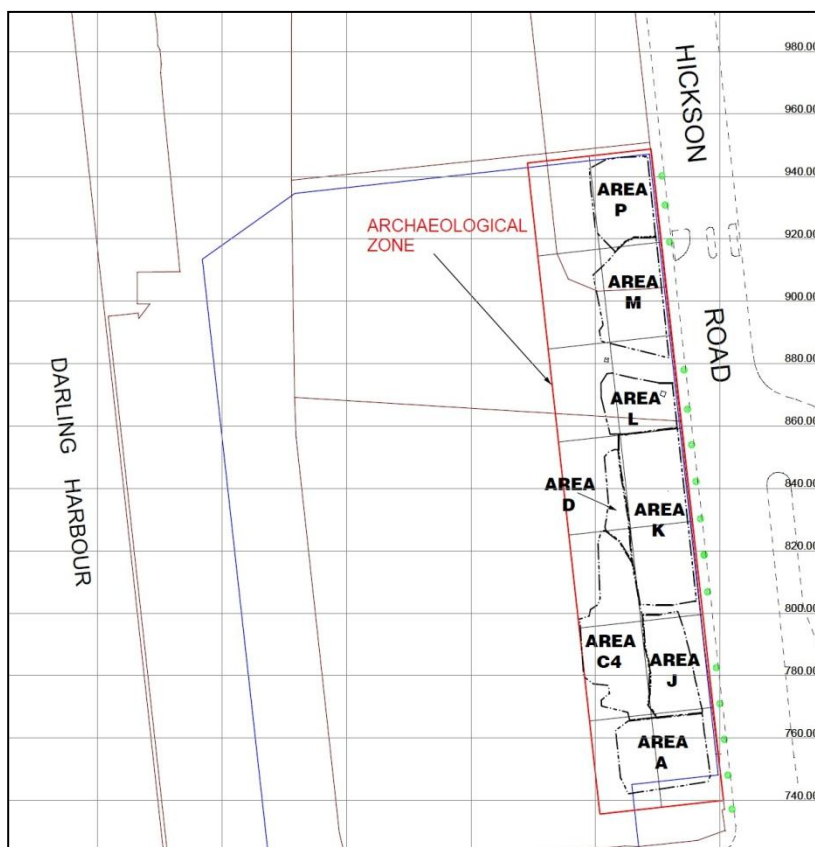


Figure 1.2: The archaeological zone is confined to the eastern 40m of the basement along the Hickson Road boundary. Guy Hazell.

1.3 Excavation Program

The site was excavated in three stages between January 2011 and August 2012. Initially it was divided into 14 trenches labelled A to P, each measuring 30m by 20m. During the excavation program some of these trenches were amalgamated, resulting in a total of nine Areas (Figure 1.3). Stage 1 of the archaeological program involved the excavation of Areas C4 (20), C4 (5) and D. These were located along the western side of the site and contained evidence relating to the 19th-century waterfront and reclamation. Areas A and J were excavated during Stage 2 of the program. These trenches, located to the south of the site, contained several phases of reclamation, wharf and store buildings. In Stage 3 of the program Areas M, K, L and P were excavated. These trenches also allowed for further investigation of the reclamation process, wharfage, store buildings and a substantial sandstone seawall dating from the 1840s.

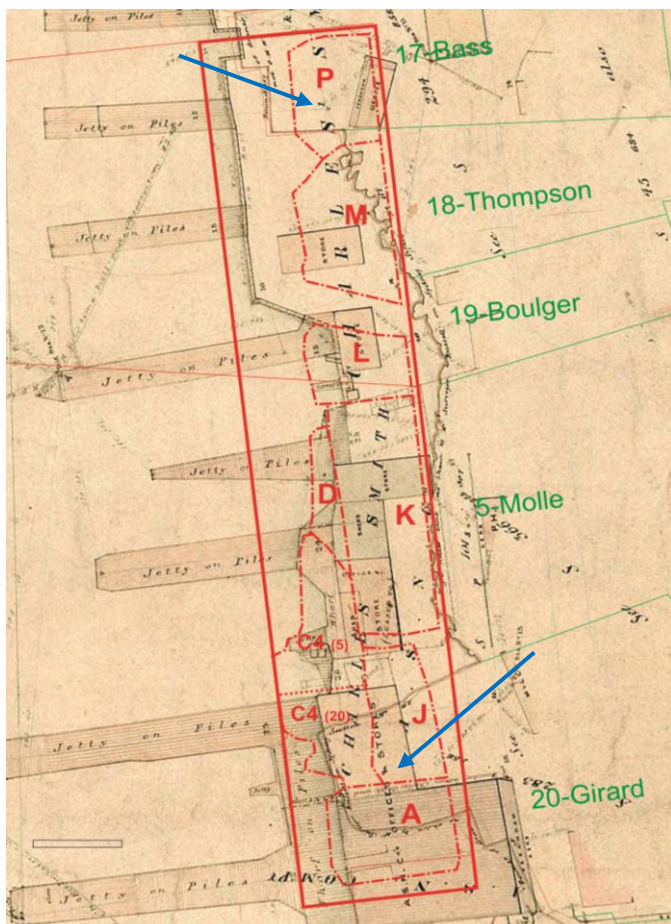


Figure 1.3: The excavation areas within the archaeological zone overlaid with the 1875 plan. The 1830s shoreline and reclaimed land by Bass and Girard are on this plan (arrows). The early 19th century property boundaries are indicated in green. Detail from CH Wansbrough, Darling Harbour Frontage Section No. 2, 1875 (Crown Plan P.26.574) AO 4775 (SRNSW), overlay A Cryerhall.

1.4 Report Overview

This report briefly outlines the preliminary results following the completion of the fieldwork component of the archaeological investigation. It aims to present the main archaeological features and events of each excavation Area within a framework of phases that represent key historical developments. More detailed analysis, interpretation and a synthesis of results will be presented as part of the final excavation report.

1.5 Authorship

This report has been written by Abi Cryerhall, Site Director, Casey & Lowe. Contributions from Rhian Jones (Section 2, contributions to Sections 3.5 and 3.7), Mike Hincks (review and additions to Sections 3.2.2, 3.3.2) and Amanda Dusting (review and additions to Section 3.4.2). It has been reviewed by Dr Mary Casey, Director, Casey & Lowe.

2.0 Brief Historical Background

2.1 Early Development

The earliest British settlement in Sydney was centred around Sydney Cove (later Circular Quay). However as the colony grew, it gradually expanded to the west; up the ridge of Observatory Hill, and down the slope towards the eastern side of Cockle Bay (later Darling Harbour). An 1822-23 plan shows early subdivisions along Darling Harbour's eastern shore adjacent to the site (Figure 2.1). By the early 1830s, formal ownership of the allotments was being determined by the Court of Claims. Robert Russell's plan of Sydney, Section 67 dated November 1834 identifies the following owners:

Lot 11: Richard Aspinall, Warham Jennet Browne and Edward Aspinall (granted 1835)

Lot 17: Henry Thomson Bass (granted 1837)

Lot 18 Samuel Thompson and his wife Elizabeth (granted 1834)

Lot 19: Edward Boulger (granted 1835)

Lot 5: William Macquarie Molle & others

Lot 20: Francis Girard

Unlike Sydney Cove, the waters of Darling Harbour were quite shallow along the shoreline.¹ In order to provide better harbour access and facilities for their commercial activities, the early land owners reclaimed land, and built wharves and jetties. By 1834, Henry Bass and Francis Girard had extended their properties into the harbour and created more formal wharfage. These early reclamation events are illustrated on Russell's plan dated to 1834 (Figure 2.2).



Figure 2.1: Harper's 1823 map of Sydney, with Darling Harbour foreshore and lot subdivisions. The approximate site location is outlined in red. SRNSW SZ 434..

¹ Paul Ashton and Duncan Waterson: *Sydney takes shape. A history in maps*, Hema Maps, 2000, p.19

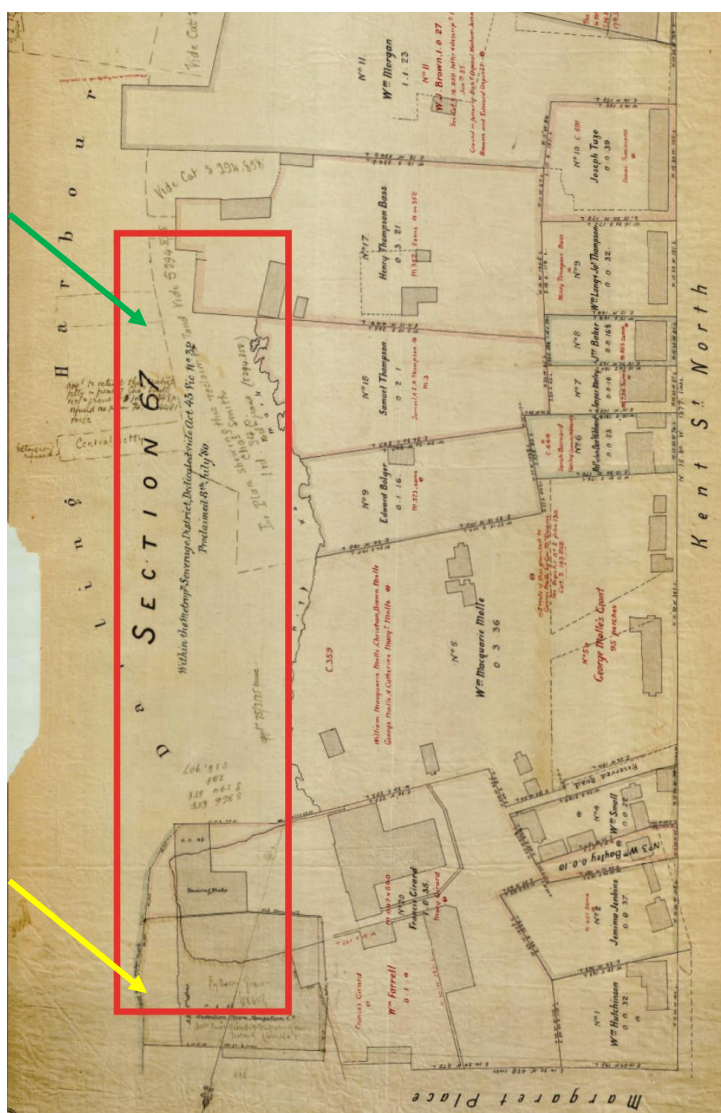


Figure 2.2: Russell's 1834 plan with later building additions and 1880 annotations. This plan shows the early land reclamations by Bass in Lot 17 (green arrow) and Girard in Lot 20 (yellow arrow). The original shoreline is depicted between the two properties. Sydney Section 67 (Crown Plan S.45.684) by Robert Russell, dated 18 November 1834, AO Map 5421, SRNSW.

2.2 Bass' Shipyard 1832-1854

Henry Thomson Bass arrived in Sydney in the 1830s. He was a shipbuilder by trade, with previous experience in the naval shipyards at Plymouth and Portsmouth in England. In 1832, Bass bought Lot 17 from Solomon Levey for £350.² He was formally granted the land in 1837.³ In 1836, Bass bought the adjoining Lot 18 from Samuel and Elizabeth Thompson.⁴ It was at this time he leased his large shipyard to John William Russell, also a shipbuilder.⁵ Bass moved his operation to a property he owned near Bradley's Head, North Shore.⁶ Russell continued to occupy and develop Lots 17 and 18 until he bought his own property in Pyrmont in 1841 and moved his shipyard to the other side of Darling Harbour.⁷ In 1853 Bass sold the land to John Reeve, who promptly sold it on to Smith and Challis in 1854.

² SRNSW Memorial No. 352, Memorials forwarded by the Commissioners of Claims, 1832-1842 (1833 Act) NRS 913, Reel 1203.

³ Ser. 47 p 232 dated 17 November 1837 3r 21p (LPMA)

⁴ *Sydney Gazette* 3 March 1836, p 2 (6)

⁵ *Sydney Herald* 20 August 1835, p 1 (4)

⁶ *Sydney Herald* 30 January 1837m o 3 (1)

⁷ *Sydney Morning Herald* 10 October 1842, p 3 (8)

2.3 Girard's Quarry & Flour Mill 1832-1841

Francis Girard was a French-born convict who was sentenced to seven years transportation for stealing a watch and arrived in Sydney in 1820.⁸ Girard acquired Lot 20 in 1832.⁹ This followed a protracted dispute regarding his ability to own land due to the fact he was born outside the British Territories.¹⁰ By 1834 Girard had constructed his flour mill and announced it was open for business, claiming it had the capacity to grind 3000 bushels of wheat a week.¹¹ A sawmill was also operational on the same premises.¹² By this time he had also reclaimed land and created wharf facilities for his mill.

By 1839 Girard had expanded his property holdings; purchasing Lot 5 from William Molle and Lot 19 from Edward Boulger.¹³ He consolidated his lots and promptly sold all his Darling Harbour properties between 1840-1841. The south end was bought by the Hunter River Steam Packet Company (later Australasian Steam Navigation Company) for £5000.¹⁴ The larger portion of land, including the mill and wharf, was bought by a consortium of investors known as the Sydney Flour Company, who paid £15,750.¹⁵

2.4 Breillat & Sydney Flour Company 1841-1878

Thomas Chaplin Breillat became the managing proprietor of the Sydney Flour Company in 1842.¹⁶ In the early 1840s extensive reclamation and construction of wharf, jetties and warehouses had commenced. By the mid 1840s there were two jetties on Breillat's property.¹⁷ The southern one was used by the Sydney Flour Company and in the 1850s the lessee of the northern jetty was James Dalgarno.¹⁸ In 1848 the property included the six-storey mill building constructed by Girard, furnace house, engine house, counting house, store and office.¹⁹ Following the death of Breillat in 1873, his property was sold to Charles Smith in 1878.²⁰

2.5 Grafton Wharf - Smith & Challis 1854-1880

In 1854, business partners Charles Smith and John Henry Challis purchased Bass' former shipyard, Lots 17 and 18.²¹ Smith and Challis purchased the land jointly, with Challis' name appearing on Woolcott & Clarke's 1854 map (Figure 2.3). In 1855, Challis returned to England, leaving Smith to run the business in Sydney. Only Smith's name appears on Wansbrough map of 1875 (Figure 2.4). By 1874 Smith had also acquired the Sydney Flour Company's allotments (originally Lots 5, 19 and 20) and consolidated the area into a large complex that became known as Grafton Wharf. The whole area underwent redevelopment, with a large range of stone buildings erected along the northern boundary and the construction of four new jetties between 1856 and 1861.²² Another

⁸ Waldersee, 1968, p238

⁹ SRNSW Memorial No. 840, Memorials forwarded by the Commissioners of Claims, 1832-1842 (1833 Act), NRS 913, Item 2/1842 Reel 1208

¹⁰ Waldersee, 1968

¹¹ *Sydney Gazette* 22 July 1834 p.1 (2) <http://nla.gov.au/nla.news-article2216670>

¹² *The Australian* 29 July 1834, p3 (1)

¹³ Casey & Lowe 2010: 42, citing New South Wales and Port Philip General Post Office Directory for 1839

¹⁴ *Sydney Herald* 25 March 1840 p2 (3)

¹⁵ *The Australian* 26 November 1840, p 2(4); *Sydney Herald* 4 January 1841, p 1(3); Casey & Lowe 2010:42, citing LPI Book V 242, dated 1-2 February 1841

¹⁶ *The Australian* 16 November 1842 p1 (2)

¹⁷ W H Wells: 'Map of the City of Sydney 1843' reproduced in Max Kelly & Ruth Croker: *Sydney Takes Shape. A collection of contemporary maps from Foundation to Federation*, Doak Press, 1978, p.20

¹⁸ Surveyor General's Sketch Books Vol. 7 Fol. 19 [nd], reel 2780 (SRNSW)

¹⁹ Rate Assessment Gipps Ward 1848 (City of Sydney Archives)

²⁰ PA 3913 (LPMA)

²¹ Casey & Lowe 2010: 23 citing PA 569 (LPI)

²² Rate Assessments Gipps Ward 1856 and 1861 (City of Sydney Archives)

wharf was added near the gasworks between 1875 and 1877.²³ By 1880 two smaller jetties had been replaced with a much larger single jetty (Figure 2.5).

During Smith and Challis' ownership of Grafton Wharf they leased the jetties and buildings to various companies, including the Intercolonial Royal Mail Steam Packet Company (southern jetty, 1861), the California, New Zealand and Australian Mail Company (offices), W R Hill's flour and corn stores and several providores and boiler makers.²⁴

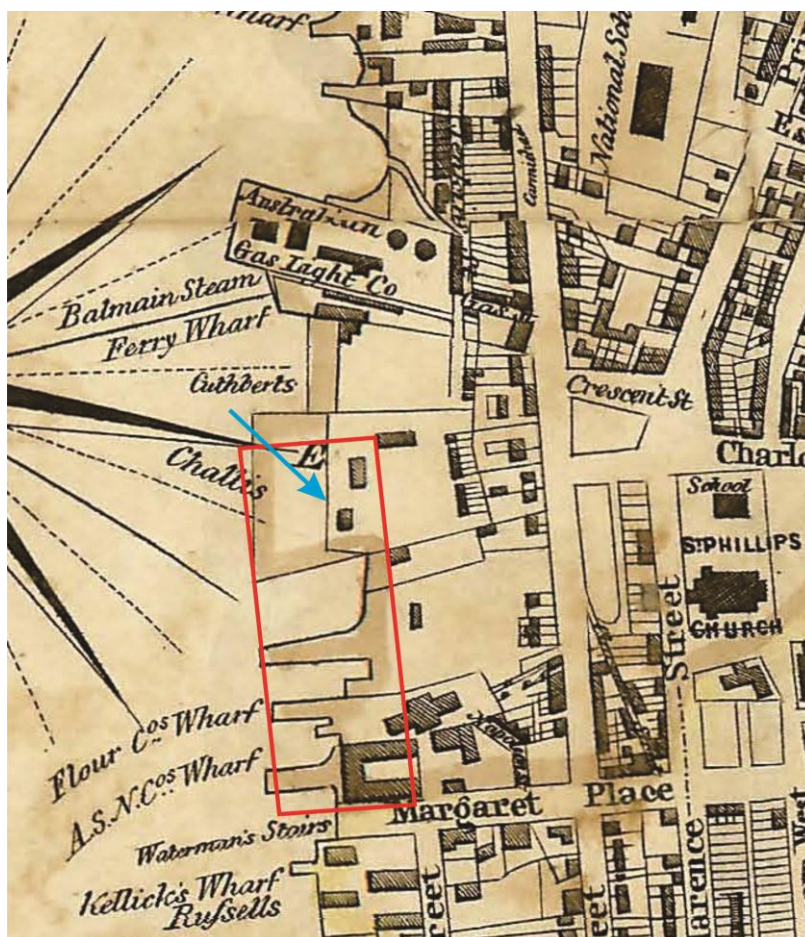


Figure 2.3: Woolcott & Clarke's Map of the City of Sydney, 1854. This map shows Challis' newly acquired property (arrow) to the north of the Sydney Flour Company Wharf. City of Sydney Archives Online.

²³ Rate Assessment Gipps Ward 1877 (City of Sydney Archives)

²⁴ *Sands Directories* and Rate Assessments Gipps Ward (various dates)

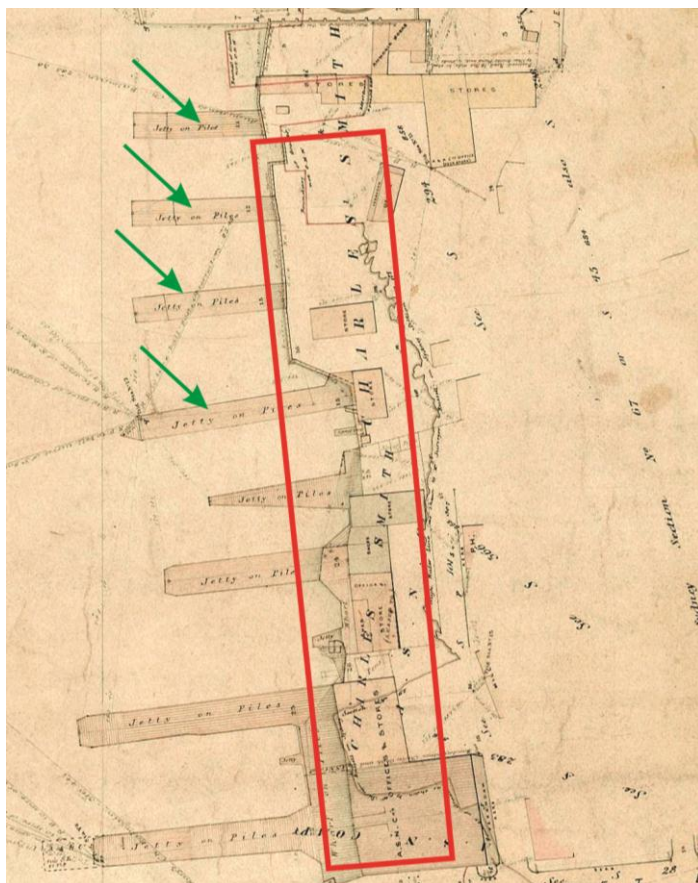


Figure 2.4: Plan of the area dated to 1875 with the site outlined in red. The four new jetties built by Smith are indicated with green arrows. This plan identifies the materials of which buildings are constructed and also shows the original shoreline from Russell's 1834 plan, illustrating the extent of reclaimed land by 1875. CH Wansbrough, Darling Harbour Frontage Section No. 2, 1875 (Crown Plan P.26.574) AO 4775 (SRNSW).

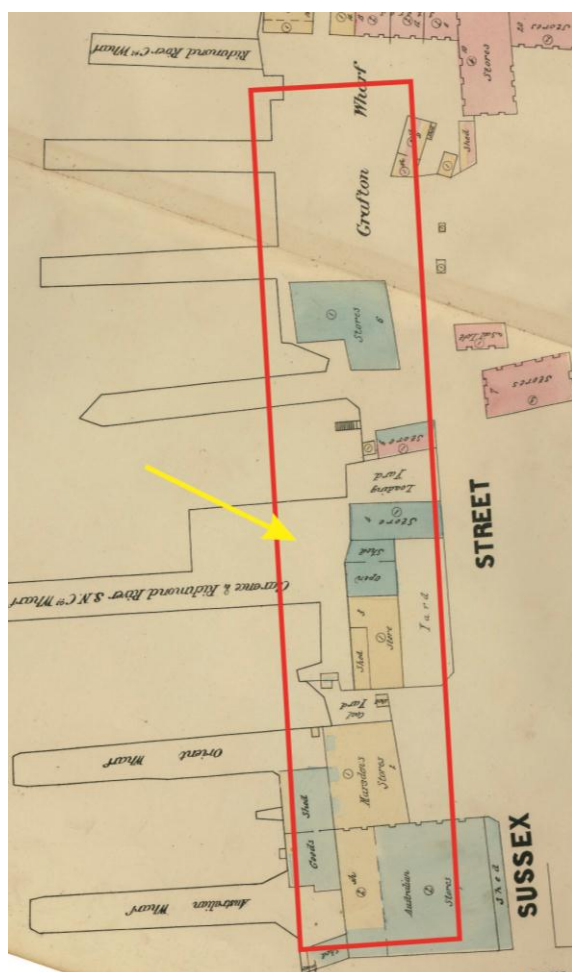


Figure 2.5: By 1880 two of the existing jetties have been replaced by a single, larger jetty (arrow). H Percy Dove, 1880. City of Sydney Archives Online.

2.6 Grafton Wharf - Watson & Evans 1880-1900

Smith and Challis' consolidation and development of the Grafton Wharf between the 1850s and the mid-1870s was on a small scale compared to the extensive works in the late 1870s and early 1880s. In 1880, James Watson and James Evans took out a mortgage to purchase Grafton Wharf and then mortgaged it a second time in 1882, probably to finance their massive reconstruction project.²⁵ Over three years they constructed three new piers, erected warehouses and sheds for at least 37,300 tons of goods, installed new hydraulic machinery and laid bluestone paving over the entire complex and approach roads.²⁶ The new buildings and jetties were sketched for the *Illustrated Sydney News* in 1883 and also feature in Mahlstedt's plan of 1894 (Figures 2.6, 2.7).

2.7 Resumption, repair and renewal 1900-1950

An outbreak of plague in 1900, which was carried by rats that came off the ships moored at certain wharves at Darling Harbour, gave the government the momentum to pass the *Darling Harbour Wharves Resumption Act*. This act gave the government ownership of Miller's Point and the east Darling Harbour waterfront. The Sydney Harbour Trust was established to manage the harbour area. Between 1900 and the 1920s the Sydney Harbour Trust slowly upgraded and modernised the wharfage, creating the new wharves at Walsh Bay. In Darling Harbour they installed rat-proof walling, reconstructed many of the existing buildings and invested in electric cranes and winches, demolishing old buildings and widened many of the jetties.²⁷ Sussex Street was widened by 21 feet in 1905-1907.²⁸ Extending north from Sussex Street, Hickson Road was created through the Grafton Wharf Buildings in 1922. Between 1924 and 1928 the buildings of the Grafton Wharf were extensively remodelled, with the final results visible on the Civic Survey of 1948 (Figure 2.8).²⁹

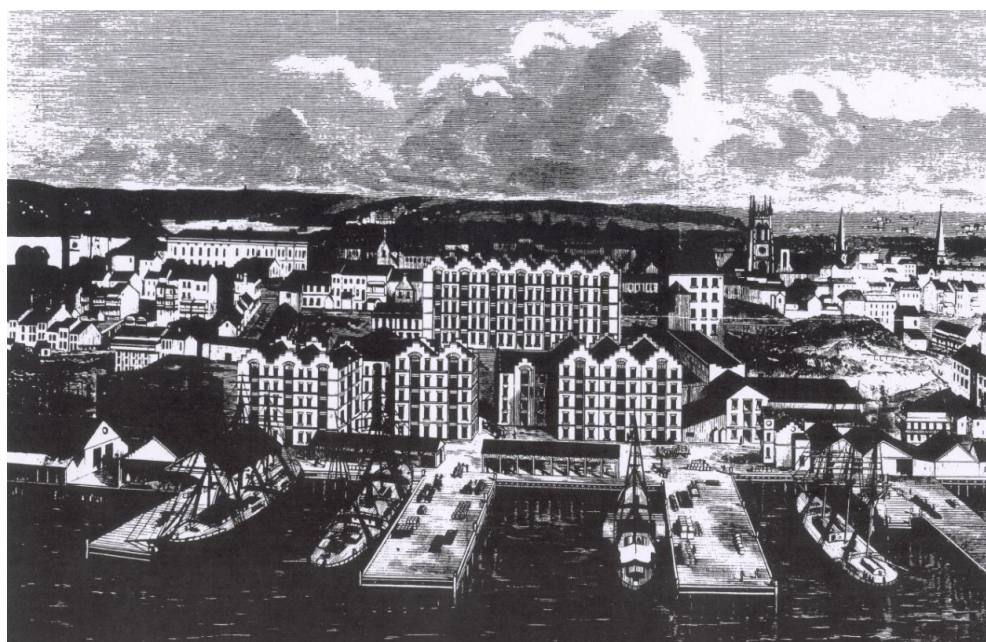


Figure 2.6: This sketch shows the Grafton Wharf Bond and the store sheds along the waterfront. "The Grafton Wharf, Darling Harbour" *Illustrated Sydney News*, 29 September 1883, illus p.13.

²⁵ CT Vol. 506 Fol. 59 (LPMA)

²⁶ "The Grafton Wharf, Sydney" *Illustrated Sydney News*, 29 September 1883, p3 & ill. p13

²⁷ Sydney Harbour Trust, Report 2nd, 4th, 8th, 9th, 10th, 13th and 18th Reports for years ended 30 June 1902 to 30 June 1918

²⁸ Sydney Harbour Trust, 6th Report for the year ended 30 Jun 1906 and 7th Report for the year ended 30 June 1907

²⁹ Sydney Harbour Trust, 23rd, 25th, 26th, 27th and 28th Reports for years ended 30 June 1923 to 30 June 1928

2.8 Containerisation and the end of the working harbour 1950-2010

In the post-war period, starting in the late 1950s, the Maritime Services Board (successor to the original Sydney Harbour Trust) responded to the changing transport technology by turning the wharf and jetties into a flat concrete apron. This allowed the wharfage to accommodate containerised facilities, such as cranes, large stores and a lineal frontage of 3000 feet (914m).³⁰ The lineal wharfage was pushed further out into the harbour, with concrete caissons and metal sheet piles creating a seawall, followed by yet another huge land reclamation event.³¹ Work to upgrade and modernise all of the wharfage continued through the 1960s and 1970s, however it became clear that Port Botany was much better suited to handling the semi-trailers to transport the goods. By the mid-1980s, Darling Harbour had become a major entertainment and tourist complex as part of a bicentennial project. With the Walsh Bay Urban Renewal Project of the late 1990s proving such a success, in 2003 NSW Premier, Bob Carr, announced the leases at Darling Harbour East, White Bay and Glebe Island would not be renewed. An international design competition was held, and in February 2007 the Minister for Planning announced his approval of a concept plan for the newly named Barangaroo, to be redeveloped between 2008 and 2020.

³⁰ *Maritime Services Board 26th Annual Report 1960-1961*

³¹ *Maritime Services Board 29th Annual Report for year ended 30 June 1964*

3.0 Preliminary Results of the Archaeological Excavation

3.1 Historic Property Boundaries and Excavation Area Divisions

Historic property boundaries within this site shifted throughout the 19th century, as land was sold and properties were enlarged (Figure 3.1). Most of the site represented an area that was below the high water mark at the time of British settlement. There were five land grants along the shore to the east. By the 1840s the land had been amalgamated into three properties. Reclamation and development work in the 1830s and 1840s extended these properties west into the harbour to create wharf, jetties and flat space for warehouses and stores. In the 1870s two of the properties were amalgamated creating a large waterfront property, the Grafton Wharf. This property occupied almost all the site except for the very south.

Initially the division of the site into separate areas was undertaken in response to the construction program and site access. The areas also reflect some of the property boundaries at different times throughout the 19th century. During the archaeological program some of the areas were amalgamated in response to the needs of the construction program but also an effort was made to align these areas with historic boundaries.

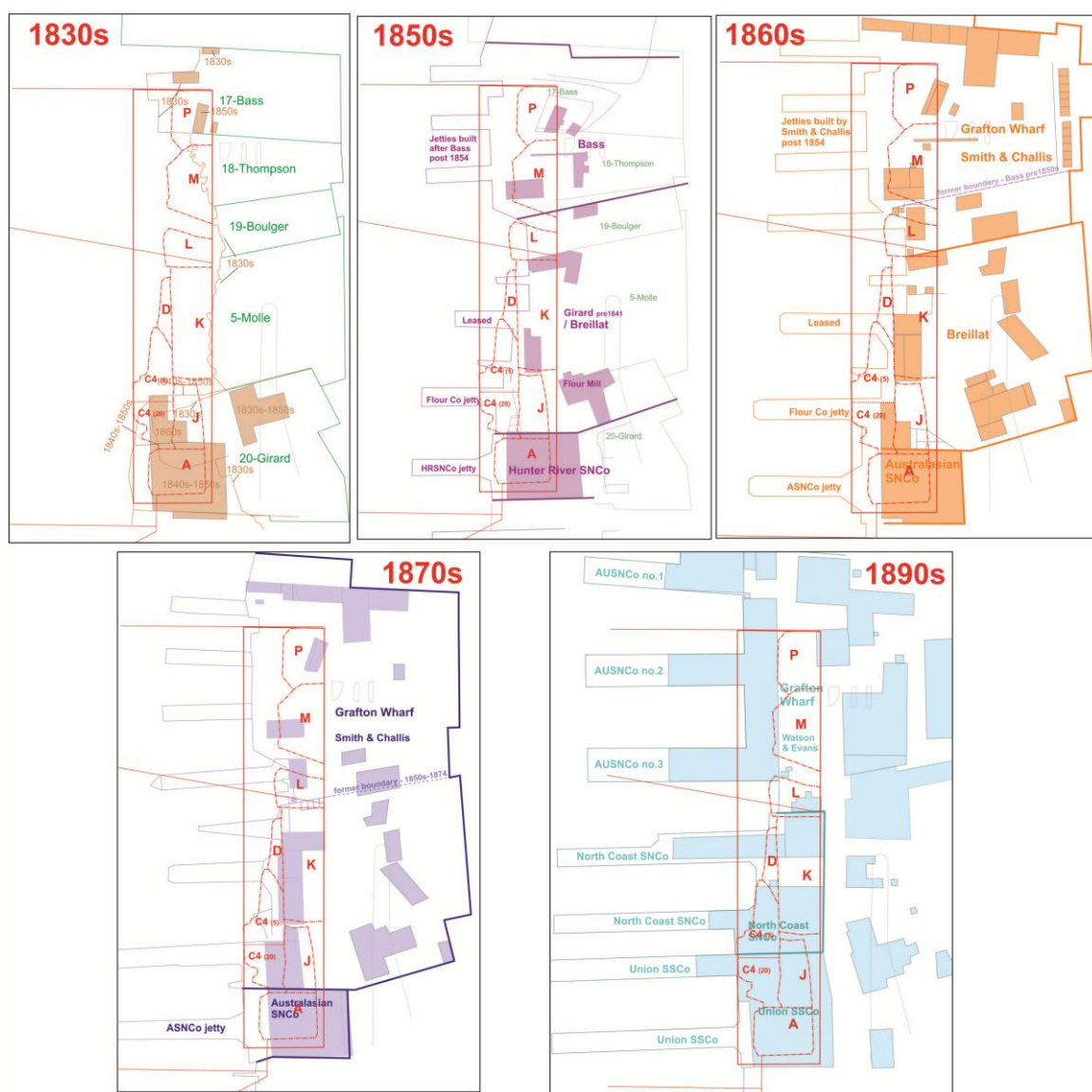


Figure 3.1: Graphic based on historic plans illustrating the changes in property boundaries during the 19th century. A Cryerhall.

3.2 Areas C4 (20) and J

3.2.1 Background

Areas C4 (20) and J were located in the south of the site and were excavated in Stage 1 and Stage 2 respectively (Figure 3.2). These areas were originally within the harbour zone. Francis Girard purchased the waterfront property (Portion 20) east of Area J and Area C4 (20) in the early 1830s. By the early 1840s he had reclaimed land from the harbour and built a flour mill and several sheds as part of his wharfage. These two areas represent the northern part of the reclaimed land. In 1841 his property was divided and sold to the Hunter River Steam Navigation Company (H.R.S.N.Co.) and Thomas Breillat. Area C4 (20) was part of Breillat's holdings and the Sydney Flour Company utilised the wharfage and jetty within the area. In the mid 1870s, this area was part of the land acquired by Smith & Challis and became the southern section of the Grafton Wharf.

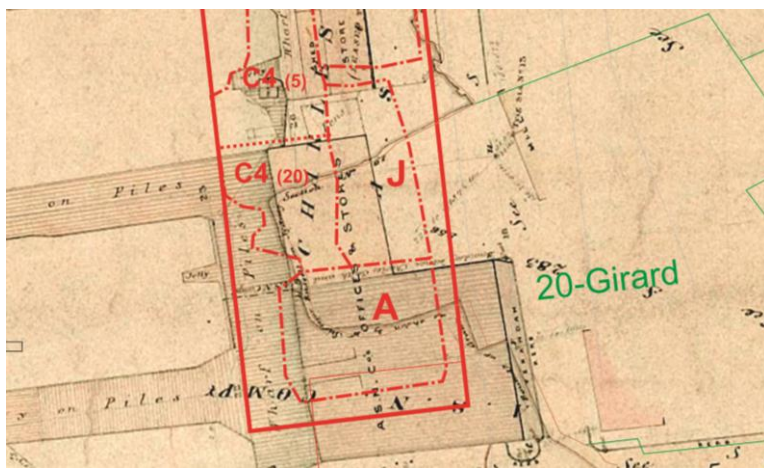


Figure 3.2: Located in the south of the site Areas C4 (20) and J contained the northern part of Girard's reclaimed land. Detail from CH Wansbrough, Darling Harbour Frontage Section No. 2, 1875 (Crown Plan P.26.574) AO 4775 (SRNSW), overlay A Cryerhall.

3.2.2 Overview of Archaeological Findings Area C4 (20)

Girard reclaimed a large parcel of land during the 1830s. The reclaimed land jutted out into the harbour from the natural shoreline. It was a roughly rectangular piece of land aligned with the northern boundary of lot 20. An 1834 plan showed that with the exception of a small area in the south, the land was not wharfed or substantially walled against the tide. On this plan a loosely drawn line represented the high water mark. It probably described land sloping into the harbour (Figure 3.3). The reclamation consisted of bulk fills of sandstone rubble followed by clay-rich fills to raise the new ground above the high water mark (Figure 3.4).

At the northwest corner of the reclaimed parcel of land were the remains of a sandstone retaining wall (Figure 3.5). The remains of the wall were not present along the entire northern limit of the reclaimed land. Timber piles were found along the western and northern edges and may have functioned as part of the retaining of the reclamation fills, or parts of the wall may have been robbed as reclamation progressed. Along the western edge was the remains of what was probably a small jetty associated with this early phase. It did not appear on any historic plans but it would have probably been necessary to access deeper water beyond the sloping fills. There was significant slumping and sloping of the fills into the harbour to the west and north.

After 1834 there were at least three stages of wharfage built on this reclaimed land. Working surfaces are thought to have developed during each phase of construction. By 1840 a wharf and short jetty had been constructed. A second phase of reclamation may have accompanied the build. A small parcel of land to the north was annexed with a sandstone retaining wall and piles were set within the rubble fill (Figure 3.5).

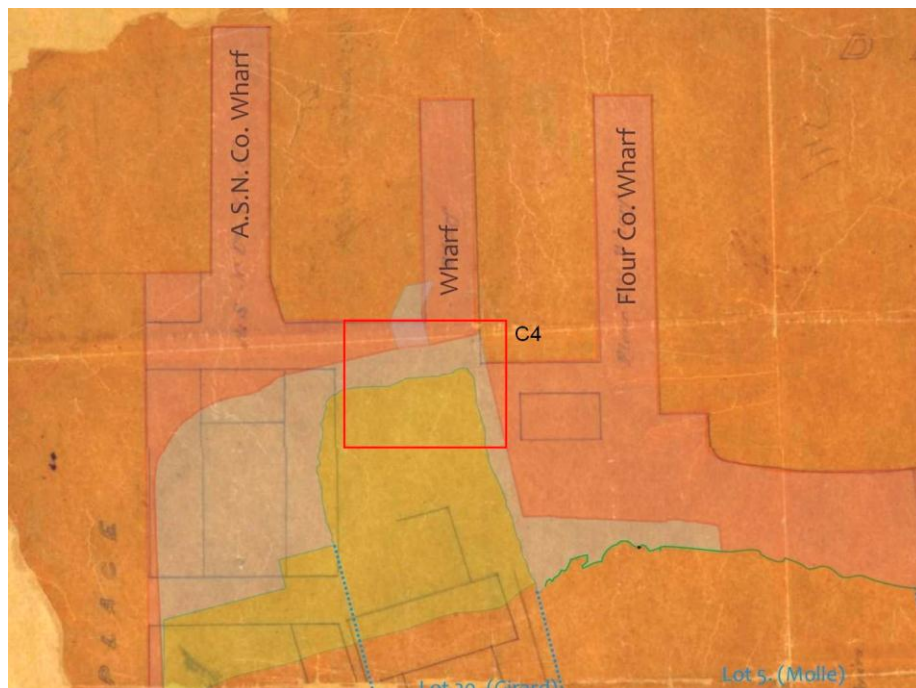


Figure 3.3: An overlay of three plans from 1834 (light green), 1840 (grey) and 1851 (pink) showing the development of the waterfront at the edge of the reclaimed land (light green). The approximate location of trench C4 is shown in red. Detail from undated plan c.1850s NLA Map F745, overlay N Pitt.



Figure 3.4: The land was reclaimed using bulk fills of clays and sandstone rubble (blue arrow). The ground above this was built up with thinner bands of levelling fills, surfaces and accumulations (red arrow). The water in the trench represents the high tide level at c.0.5RL. Scale 1m. Looking southeast.



Figure 3.5: The second phase of reclamation extended slightly to the north. It was retained by a sandstone seawall. The water in the photo is the high tide mark. Scale 1m and looking south.

A series of piles that did not share characteristics with any others were found close to the northwest corner of the reclaimed land (Figure 3.6). They were small in diameter and closely set. It is likely that they belonged to Girard's wharf. When Breillat and the H.R.S.N.Co. began using the land, the wharfage was improved and included the construction of two long jetties. The surface of the landform was built up with several fills and temporary working surfaces developed during construction.

During the 1850s or early 1860s, a receiving shed was built on the edge of the wharf (Figure 3.7). There was some evidence found for the upright supports of this structure. The remains of the first phase of the shed consisted of postholes, timber base plates, and sandstone pier bases (Figure 3.8). To the east of the shed was a yard surface constructed from sandstone sets (Figure 3.9). The shed was later extended to partially encompass the yard area.

During the mid to late 19th century an accumulation of underfloor material built up beneath the timber floor of the shed. This deposit contained a number of artefacts associated with the use of the shed, such as oyster shell and butchered animal bone (probably sheep) and nails. Occasional buttons and coins were also found. This material was sample sieved to demonstrate the range of artefacts and inclusions associated with this wharfage (Figure 3.10). At the end of the 19th century, the wharf areas were resumed and the cavities beneath were filled in and the wharves were upgraded. Sheet piling and bulk fills were associated with this late phase.



Figure 3.6: Remains of two sets of timber piles that would have supported two phases of timber wharf attached to the reclaimed land. The smaller piles (several are indicated with yellow arrows) are from the first phase (likely up to c.1870s) and the larger ones from a second phase of wharf and were probably associated with the raising of the ground level c.1880. Scale 1m and looking east.



Figure 3.7: The 'Receiving Shed' (arrowed) added to the 1833 plan (left), had changed to a rectangular building by 1875 (middle plan) and recorded as 'Marsden Stores' on the 1880 plan (right). 1833 and 1880 plans, City of Sydney Archives Online; 1875 plan, AO 4775 SRNSW.



Figure 3.8: The sandstone wall in the foreground, the sandstone pads (yellow arrows) and several postholes formed the surviving remains of the 'Receiving Shed'. Scale 1m and looking north.



Figure 3.9: Sandstone sets associated with the yard area of the early version of the 'Receiving Shed' prior to reconfiguration after 1865. The sandstone pads on the right are part of the later level raising and resurfacing. Scale 1m and looking south.



Figure 3.10: Sieving and artefact collection from the occupation deposit that accumulated below the last floor surface of the 'Receiving Shed', named 'Marsden Stores' on the 1880 plan.

3.2.3 Overview of Archaeological Findings Area J

This area was excavated during Stage 2 of the archaeological program. It was located to the east of Area C4 (20) and contained part of the same reclaimed landform (Figure 3.2). The surface level of the reclaimed landform was around 1.2m AHD. This was a consistent surface level after initial reclamation across the whole site. Along the northern edge the fills abutted a rubble sandstone barrier that acted to protect the newly made land from water erosion (Figure 3.11). The first surface that formed over the bulk fills consisted of compacted sand, clay and small stones with a sooty silt crust. Evidence for the second phase of reclamation recorded to the west and south was also present in Trench J. Bulk fills consisting of crushed sandstone, industrial waste and heavy plastic clays over sandstone rubble raised the ground level to that of the first phase reclamation (Figure 3.12). This reclamation essentially filled in the 'no-man's land' between the early land divisions of Lot 20 and Lot 5. Constructed within the second phase of reclamation was a sandstone capped brick drain that channelled stormwater captured from further to the east, into the harbour (Figure 3.13).

After the second phase of reclamation in the 1840s this area was mostly yard and several different yard surfaces between layers of levelling fills were recorded. A second stormwater drain was constructed from east to west through the northern part of the area. This consisted of reused sandstock bricks with heart-shaped frogs forming the walls and timber planking forming the base. It was likely to have been capped with sandstone, though these did not survive.

A series of sandstone pads and horizontal timbers provided evidence for a building that dated to the mid to late 19th century (Figure 3.14). Remains of the western half of the building were within Area C4 (20). This building is recorded on the 1875 and 1880 plan. After the sale of this land to Smith & Challis in the mid 1870s redevelopment in this area resulted in the earlier sandstone surface drains or gutters being upgraded with ceramic stormwater pipes to carry waste water to the harbour (Figure 3.15). In order to stabilise an area of subsidence in the reclaimed land more formal surfacing was introduced. Sandstone sets were placed for form the yard surface (Figure 3.16). These were a continuation of the ones recorded in the adjacent Area C4 (20). The subsidence continued and several layers of stone cobbles were laid to repair the surface in the late 19th century.



Figure 3.11: The yellow crushed sandstone deposits (red arrow) that formed the early reclaimed land. These abutted a sandstone rubble breakwater along the northern edge (yellow arrow and dashed yellow line). Photo taken looking south with a 1m scale.



Figure 3.12: Bulk fills of the second phase of reclamation differed from the first phase as they also consisted of layers of industrial waste and clays. The water in the foreground is tidal water from the harbour. Photo is taken looking northeast with a 1m scale.



Figure 3.13: Remains of the stone-capped brick drain (yellow arrow) constructed during the second phase of reclamation to channel stormwater into the harbour. This was truncated by a later drain (to the left). Photo taken looking east with a 1m scale.



Figure 3.14: Alignment of sandstone pads associated with a mid to late 19th-century building, depicted as 'Marsden Stores' on the 1880 plan. Photo taken looking south with 1m scale.



Figure 3.15: A mid nineteenth-century sandstone drain was later modified by the installation of ceramic stormwater pipes. Photo taken looking west towards the harbour with 1m scale.



Figure 3.16: Sandstone sets formed part of the later nineteenth-century yard surface within Trench J. Photo taken looking south with a 1m scale.

3.3 Area A

3.3.1 Background

Area A was excavated in Stage 2 of the archaeological program and it was located to the south of Areas C4 (20) and J (Figure 3.2). This area included the southern part of the land reclaimed by Girard in the 1830s. A further phase of reclamation to the south of the initial reclaimed land had occurred prior to Girard selling off his land, wharf and flour mill buildings in the early 1840s. Area A was part of the land sold to the Hunter River Steam Navigation Company. By 1843 the Company's jetty had been developed and included offices and stores. In 1851 the Australasian Steam Navigation Company superseded the Hunter River Steam Navigation Co.

3.3.2 Overview of Archaeological Findings Area A

Area A contained the southern part of Girard's reclaimed landform from the early 1830s. The reclaimed land was formed by building a rubble sandstone platform from the shoreline into the harbour (Figure 3.17). This raised a ground level from the harbour bed, estimated to be at around -5m RL at the western limit, to just below high water levels at around 0.5m RL. For the most part the edge of the landform was informal and consisted of sloping ground with a rubble sandstone edge. A series of compacted levelling fills of clays, crushed sandstone and industrial waste were used to establish the ground level at c. 1.1m AHD. This was to become the first surface level in the early 1830s.

The western half of the reclaimed landform was within the development site. The remainder located below present day Hickson Road. The 1834 plan indicates that the northeast and southeast edges of the reclamation were formalised with walling. Archaeological remains of sandstone walling were found in the very eastern limit of Area A, corresponding to the depictions on the historic plans.

Evidence of an early timber wharf and possible slipway was found in Area A. This was insubstantial and probably represented a temporary structure that served the landform while the more substantial wharf was being built. By 1851 there was a large wharf and long jetty and a three-sided shed at the wharf's edge. The timbers of the wharf and the footings of the shed were partially preserved (Figure 3.19). Surviving evidence of the shed consisted of lines of sandstone pads to support a timber superstructure (Figure 3.20). It was built on the first and second phases of reclamation. Later sandstone pads to support a floor indicate internal modification to the shed. A substantial sandstone wall formed the footings for the western or harbour frontage of this building (Figure 3.21). This building operated as a store for the Australasian Steam Navigation Co. throughout the mid to later 19th century, receiving goods transported to Darling Harbour.

In the later 19th century, this structure and the goods within it burnt down, leaving an extensive layer of burnt material, charcoal and charred grains covering the area (Figure 3.22). *In situ* burning of the timber wharf was also noted. This event led to the levelling of the site and the re-establishing of the store building. The new store building was constructed on the levelling fills and the superstructure was supported by double timber piles. This fire and rebuild was likely to have occurred before the resumptions in 1900. During the 20th-century there was consolidation and rebuilding of these premises.



Figure 3.17: The southern edge of the early 1830s reclaimed landform (white dashed line) was within Area A. The surface of the reclaimed land (red arrow) was about 700mm above high tide level. The edge of the land was formed by sandstone rubble (yellow arrow). Photo taken looking northeast.



Figure 3.18: Formal sandstone walling forming the southeast edge of the 1830s reclaimed land. Scale 1m. Photo taken looking north.

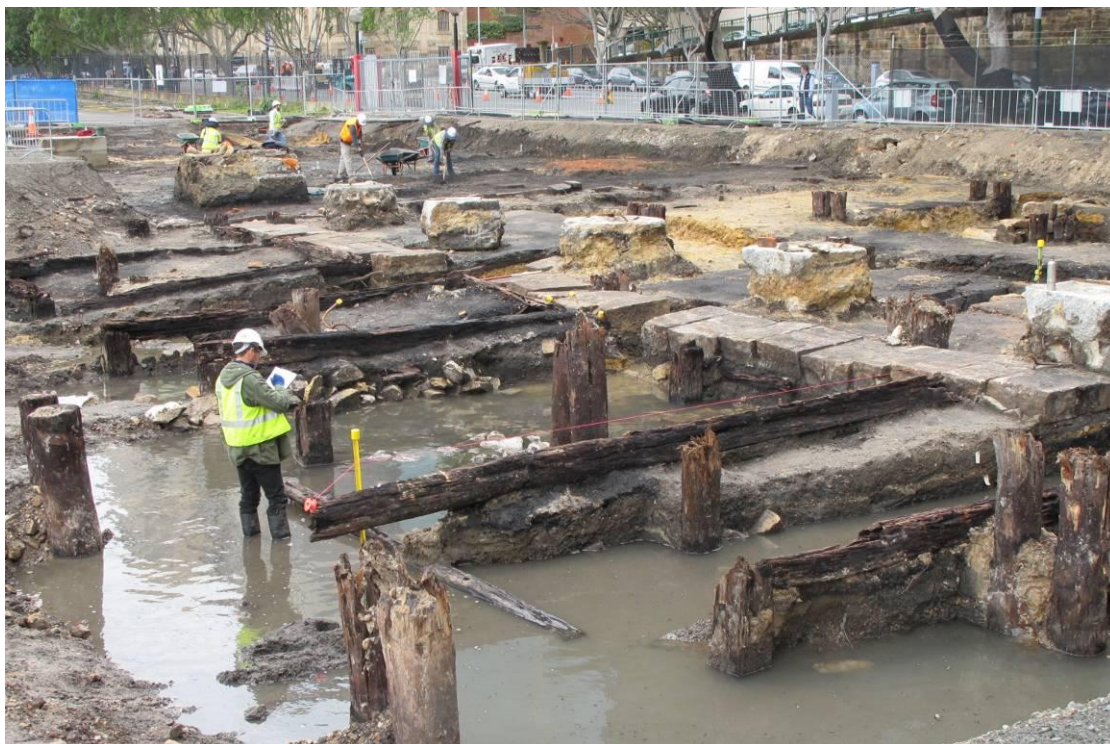


Figure 3.19: Remains of the mid 19th-century timber wharf in Area A being recorded by archaeologist Mike Hincks at high tide. Photo taken looking northeast towards Hickson Road.



Figure 3.20: Line of sandstone pads that once supported the timber superstructure is all that survived of the large shed-like store building depicted on historic plans from the mid 19th century. Scale 1m and looking south.



Figure 3.21: The large sandstone wall forming the footings for the large store also formed the boundary between building on reclaimed land (right) and timber wharf in the harbour (left). Scale 1m and looking north.



Figure 3.22: Detail of charred grains and corn resulting from a fire within the store. Scale 1m

3.4 Areas K, D and C4 (Lot 5)

3.4.1 Background

Areas K, D and C4 (Lot 5) are all part of a much larger property (Lot 5) that in the early 19th century was owned by William Molle. Areas D and C4 (Lot 5) were excavated in 2011 (Stage 1) and Area K in 2012 (Stage 3). Areas D and C4 (Lot 5) were located on the historic waterfront and Area K consisted of a large portion of reclaimed land to the east (Figure 3.23). Prior to reclamation in the 1840s Area K was within the harbour. Cartographic analysis suggested that the very edge of the original shoreline would be just within the site boundary. In 1839 Francis Girard acquired this property and in the early 1840s he sold it to Thomas Breillat. During the 1840s reclamation and construction was undertaken of wharf, jetties and associated buildings. Several buildings are recorded on plans from the 1850s. Breillat sold the northern portion (Area L) of his holdings to Smith & Challis in 1854. Modifications and changes to the wharf, jetties and buildings in his smaller property holding occurred between the 1850s and 1870s. These survive until the Grafton Wharf redevelopments in the late 1870s and 1880s following the sale to Smith & Challis in 1874. A further phase of development involving new buildings, wharf and jetties occur following the resumptions in 1900.

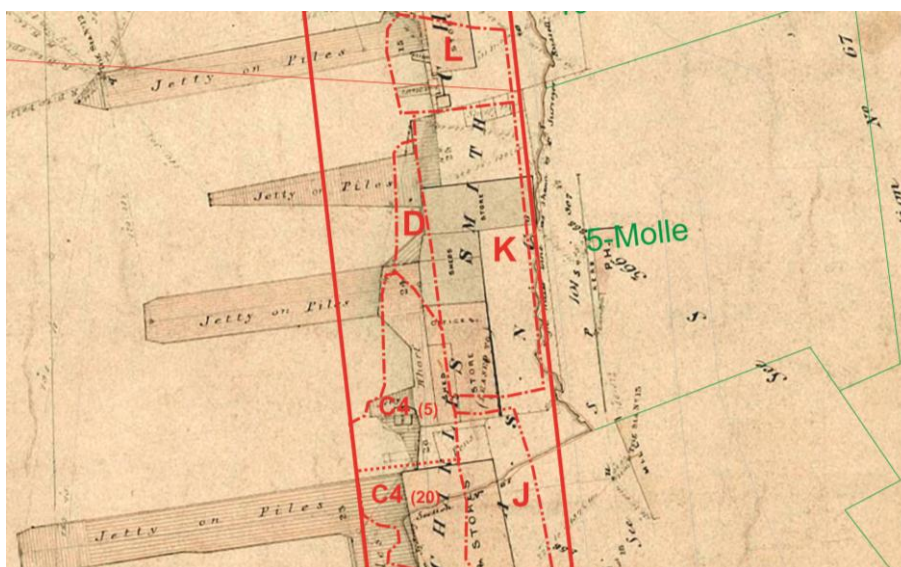


Figure 3.23: Detail of the 1875 plan with 1830s shoreline overlaid with Area locations showing Areas K, D and C4 (5). Detail from CH Wansbrough, Darling Harbour Frontage Section No. 2, 1875 (Crown Plan P.26.574) AO 4775 (SRNSW), overlay A Cryerhall.

3.4.2 Overview of Archaeological Findings Area K

The historic plans indicated that the original shoreline would be just within the site boundary along the eastern trench limit of Area K. Four test pits were mechanically excavated along the eastern trench limit to depths of between -0.1 to -0.5m (below the high water level). The trenches were excavated through historic reclamation fills. No natural bedrock or deposits were identified within these pits.

By the end of the 1840s the waterfront had been developed to include a wharf, jetties and buildings on reclaimed land. Test trenches were excavated through the reclaimed land to record how it was made. Initially bulk rubble fill was deposited into the harbour to create a platform within the tidal zone. Further bulk fills were then introduced and compacted to create stable and level ground (Figure 3.24). Roughly made sandstone walls were built to assist in retaining the fills during this process. The sandstone walls were built on the initial bulk rubble fill and were later sealed by more rubble stone fill and the first surfacing over the new land (Figure 3.25).



Figure 3.24: Test trench through the reclaimed landform showing bulk rubble sandstone fill followed by thinner bands of compacted fills. Photo taken looking southwest with 1m scale.



Figure 3.25: Roughly built sandstone wall that acted as a retaining structure during the reclamation process. It was built on rubble reclamation fill and the fills either side of the wall are different. Photo taken looking northwest with 1m scale.

At the western interface with the harbour, a substantial sandstone seawall retained the reclaimed land (Figure 3.26). The wall was at least 45m in length and was constructed on the edge of the reclamation rubble fill from below the low tide level and around 19m west from Hickson Road. The wall was constructed with flattish narrow and weathered sandstone blocks, a mix of long and short lengths. The top of the earlier wall is just 150mm above the mean high tide mark, at 0.65m RL. The base of the wall was not verified along the entire wall length due to safe access concerns but it is greater than -1m RL (500mm below mean low tide level). A machine test trench indicated that at the southern end the depth of the wall was at -1.2m or 700mm below the low tide level (Figure 3.27). The surface of the reclaimed land was at around 1.2m AHD and this dipped notably to meet the top of the wall at 0.65m AHD. At the southern end of the seawall were the remains of a timber jetty (Figure 3.28). The remains consisted of a row of piles that were installed with the reclamation fills and a timber beam or headstock.

In the southwest of Area K were the remains of a large building complex that was constructed in the 1840s or 1850s. The remains consisted of timber posts that cut through the first surface formed after reclamation. These posts formed both the external frame and internal support system for the building. The remains of the western side of the structure, recorded within Area D, consisted of sandstone footings. In the north of Area K were the remains of another timber-framed structure aligned to an early property boundary rather than the new seawall and jetty (Figure 3.29). The remains consisted of footing trenches containing horizontal timber logs and several postholes, representing elements of the superstructure. Located in Area L, remains of the northern wall of the building consisted of sandstone footings. Thick deposits of slag throughout the interior suggest this building may once have functioned as a smithy's workshop. The building was constructed soon after reclamation and is first recorded on plans from the early 1860s.



Figure 3.26: A substantial sandstone seawall dating from the 1840s retained the reclaimed land and provided berth for boats. The lower courses were constructed from below the low water mark using small and elongated blocks. The upper three courses using larger sandstone blocks were added in the 1860s. The base of the wall was at least 500mm below the base depicted in this photo. Photo taken looking northeast with 2m scale.



Figure 3.27: At the southern end of the seawall a machine trench was excavated to the base located at - 1.2m AHD, or 700mm below the low tide level. Note the upper three courses are a later addition. Scale 2m.



Figure 3.28: Remains of the c.1840s jetty included piles and one horizontal element. The pile in the background are part of later modifications to the jetty when the surface level and seawall was raised. Photo taken looking southwest with 1m scale.



Figure 3.29: Remains of a building recorded on the 1865 plan (map and red arrow on right) were located at the northern end of Trench K and L. The remains consisted of sandstone and timber footings (dashed yellow lines) and postholes. The *in situ* deposit of slag (orange arrow) suggests this was a blacksmith's workshop. Photo taken looking southeast with 1m scale.

Further land consolidation and modifications to the seawall, jetty and buildings occurred during the 1860s. The western slope in the original reclaimed land surface was corrected with the introduction of fill and a further three courses were added to the seawall. The second phase of seawall was a much more substantial construction, using larger sandstone blocks. The phase of walling increased the height of the seawall by approximately 900mm, reflecting the general rise in the land behind the wall to c. 1.5m AHD (Figure 3.30). The top course of the wall included slots for timber wharf structural elements. The jetty shape was modified and its level was raised to match that of the new land surface. Changes to the wharf in Area K during this period can also be demonstrated by comparing the 1865 and 1880 plans.

Partial remains of a new building constructed during this redevelopment phase were present in the centre of Area K (Figure 3.31). Elements of the timber flooring and an underfloor deposit survived and were excavated. The deposit was gridded in 1m squares and sample sieved (Figure 3.32). Artefacts recovered include ferrous items, animal bone, bottle glass, some ceramic and a small number of buttons and coins (Figure 3.33). The artefacts relate to use of this wharf building and the men who worked there during this period. This is quite a rare type of deposit to find and we did not really expect to find one. It may relate to a room set aside for work breaks, for smoko and other similar activities. This building was demolished in the 1880s during the Grafton Wharf redevelopments.



Figure 3.30: View of Area K following ground level raises dating to the 1860s or 1870s (blackened surface level) and an additional three courses of seawall. Photo taken looking southeast. 2m scale.



Figure 3.31: Remains of flooring and underfloor deposit within a large store building on the edge of the wharf in Trench L. The red arrows indicate some of the surviving joists and the yellow arrow the floorboards. Scale is 1m and the photo is taken looking southwest.



Figure 3.32: The underfloor deposit during excavation within a 1m grid system, outlined with pink string. Photo taken looking southwest.



Figure 3.33: Selection of artefacts from the underfloor deposit. From left to right are a 'calico' button (1850s), a Chinese coin, rat bones, button and copper tacks, and mouthpieces of clay pipe stems.

The redevelopment of the area during the Grafton Wharf period from the 1880s included the construction of a Flemish-style brick building on the northern limit of Area K (Figure 3.47). The remains consisted of the cyclopean concrete footings of the back or southern wall of this building. During the Grafton Wharf period a series of yard or working surfaces extended to the south across most of Area K. In the northern area the surface consisted of a layer of compacted sandstone fragments and crushed sandstone, further to the south the surfaces were of compacted black sooty material with frequent small rounded cobbles.

The remains of a large shed-like building constructed in the late 19th century consisted of large timber piles that were driven through the various surfaces. These piles formed both the external frame and internal support system for the structure. The building is shown first on a survey of *Sydney Bonded and Free Stores* dated to 1894 (Figure 2.7). Photographs from the turn of the century show that this building had a brick façade fronting Hickson Road and a two-storey structure of corrugated iron at the rear, facing the wharves. During this period of development two dead-man anchors were cut through the sandstone yard surface and the upper, second or later phase of

the sea wall, presumably to facilitate the enlargement of the wharf. Following the installation of the anchors the seawall was repaired. The anchors were comprised of iron rails hooked together and attached to large concrete weight cut. These anchors are likely part of the wharf and jetty upgrades of the later 19th century.

Early 20th-century archaeological remains were also present in Area K. Within the large warehouse, a concrete and brick weighbridge was constructed (Figure 3.34). This was later remodelled and extended. A partial brick and concrete structure found beside the weighbridge may represent a second weighbridge or possibly a crane base. To the south a second likely crane base was found, the base of which was lined with reused blue stone pavers. During this period a series of concrete and bitumen surfaces overlying levelling fills were formed within the warehouse.



Figure 3.34: The concrete floor of the extended second phase of the weighbridge. The earlier phase of the weighbridge can be seen below the floor with an angled counterbalance annex to the left. Photo taken facing west with a 1m scale.

3.4.3 Overview of Archaeological Findings Area D

Area D was located to the west of Area K and contained archaeological remains of the edge of the reclaimed land, the western wall of the mid 19th-century building complex recorded in Area K, and timber piles associated with mid to late 19th-century jetties and wharf. The 19th-century harbour frontage was about 30m west of present day Hickson Road. The edge of the initial reclamation in the 1840s was recorded in Area D. The same blackened surface that was recorded in Area K continued to the water's edge in Area D (Figure 3.35). The edge of the land was not formalised in any way and the reclamation simply sloped westward and downward into the harbour.

The western edge of the 1840s or 1850s building was located at the edge of the reclamation. The remains consisted of substantial sandstone footings (Figure 3.36). The rest of this building was recorded in Area K as a set of timber posts or piles. The use of sandstone as footings on the harbour edge was not surprising given the fairly unconsolidated interface between land and harbour at this location. Cutting through the building was a brick drain that emptied directly into the harbour (Figure 3.37). The bricks were sandstock and the drain while later than the initial building was a later modification during its lifespan.

In the harbour zone were the remains of many timber piles (Figure 3.38). Work is still on-going in phasing these piles, however a jetty was constructed here in the 1840s and was later modified with additional timber wharf structures in the 1860s. These piles belong mostly to the phase of mid 19th-century modifications that also included raising of the ground, wharf and jetty levels. A second set of piles within the area represent the remains of a further phase of redevelopment and jetty enlargement by the 1880s (Figure 3.39).

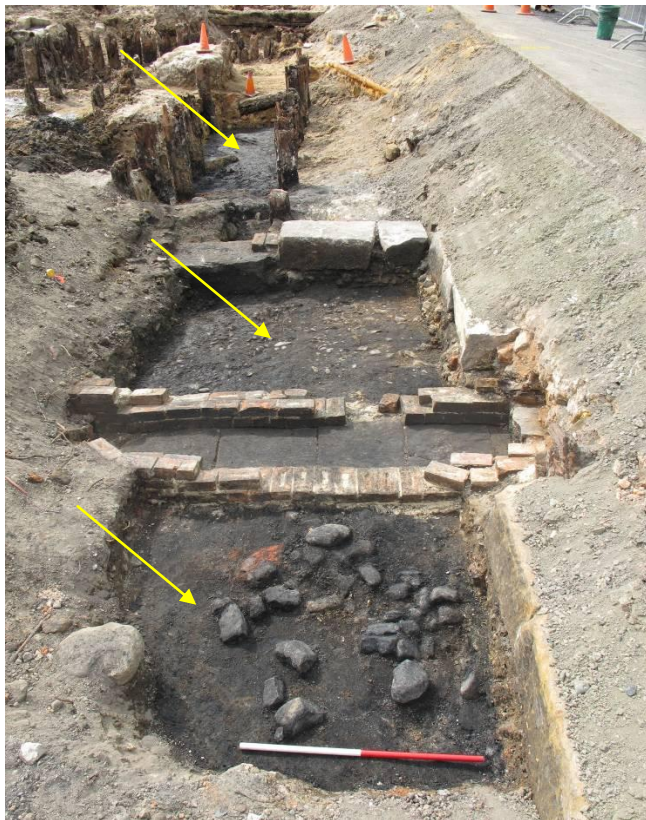


Figure 3.35: Blackened working surface (yellow arrows) located above the bulk reclamation fills dated to the mid 19th century. This photo shows the very western limit of this surface which continued east under the batter. The surface was later cut by wharf piles, sandstone footings and a drain. Photo taken looking north with 1m scale.



Figure 3.36: Sandstone footings of a store building recorded on plans from the 1860s. This cut the first working surface after reclamation and was later cut by a brick and sandstone-floored drain. View to the north with 1m scale.



Figure 3.37: Brick drain cutting through sandstone footings. View to the east with 1m scale.



Figure 3.38: Set of piles associated with the jetty (yellow arrow) and wharf (blue arrow) depicted on the 1875 plan (Figure 3.39 below). View to the south with 1m scale.

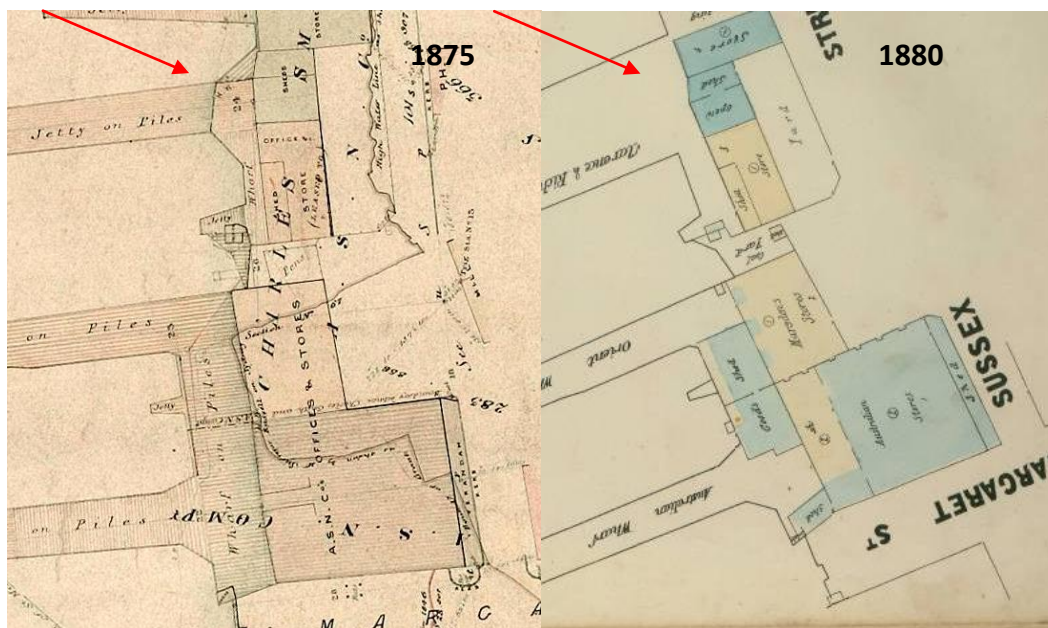


Figure 3.39: Between the survey in 1875 and that of 1880 the jetty in Trench D area had been extended northwards. This is indicated with the red arrows. Details from 1875 plan AO 4775 SRNSW and 1880 Dove plan, City of Sydney Archives Online.

3.4.4 Overview of Archaeological Findings Area C4 (Lot 5)

A thin strip of Breillat's waterfrontage was excavated in Area C4 (Lot 5). This area is located to the south of the seawall and jetty recorded in Area K. The edge of the initial reclaimed land extended further west than the seawall and was not formally retained. The blackened working surface recorded in Areas K and D was also noted in this trench (Figure 3.40, Figure 3.35). Over this surface was a compacted stone layer that formed the first formal yard surface.

In the harbour zone were a set of small timber piles (Figure 3.41), likely to be the remains of the wharf depicted on the 1854 and 1875 plans (Figures 2.3, 2.4). Evidence of the first structure, dating to the mid 19th century, was recorded during the C4 excavation. These are illustrated on the 1865, 1875 and 1880 plans (Figure 3.42). The ground level had been raised with levelling fills and the partial remains of roughly built sandstone and brick footings of a shed and store building were present at the harbour edge. There were also remains of timber flooring but no underfloor occupation deposits. Also associated with the structures was the very end of a brick drain with sandstone flagged base which emptied into the harbour. The land was purchased by Smith & Challis in the late 1870s. Smith redeveloped the wharf and it became part of the Grafton Wharf by the late 1880s. This redevelopment was reflected in the archaeological record by a second set of large piles representing the replacement and enlargement of the wharf, also noted as being built between the 1875 and 1880 plans. The ground level was also raised and this was represented in the C4 trench with the importation fills that buried the earlier archaeological material. A roughly built sandstone retaining wall associated with the 1880s redevelopment was evident along the harbour front (Figure 3.43). This wall acted partly as a retainer for the reclamation fills and also as protection against erosion from boat wash and tides.



Figure 3.40: The working surface above the bulk reclamation fills in Area C4 (5) was created by accumulations of silt, soot and localised dumps of industrial waste containing coke and cinders. The water represents the high tide mark. Scale 1m and looking west.



Figure 3.41: The remains of the first wharf constructed c.1840s were found below later reclamation fills. The level of the timber piles (arrowed) was related to the first yard levels built after reclamation. The blue dashed line represents the extent of the c.1840s reclamation associated with the first timber wharfage. Scale 1m and looking south.

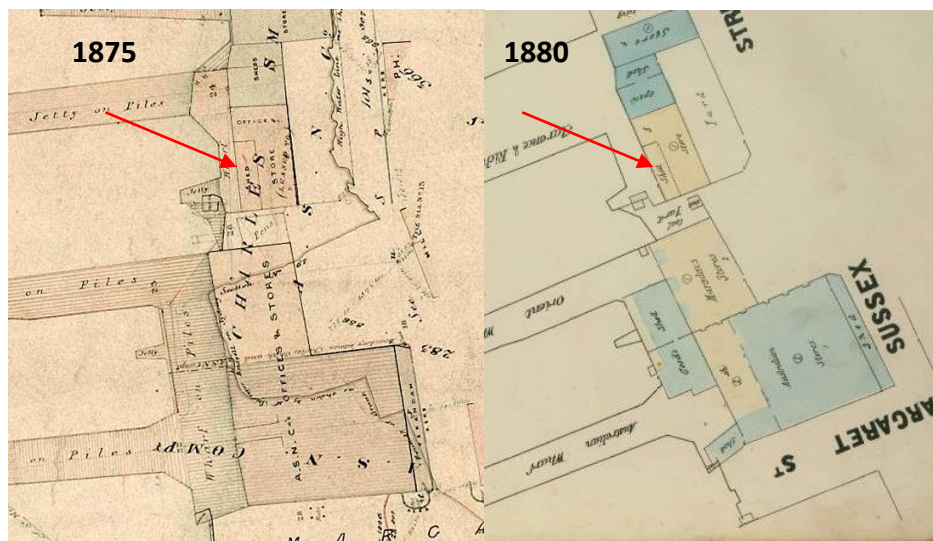


Figure 3.42: On the left is the 1875 plan and on the right the 1880 plan. The configurations of the buildings fronting the wharf in southern part remain relatively unchanged from the 1860s to 1880s. The arrows point to the very edge of the shed structure uncovered during the Area C4 (5) excavation. Details from 1875 plan AO 4775 SRNSW and 1880 Dove plan, City of Sydney Archives Online.



Figure 3.43: Roughly built sandstone retaining wall and larger timber piles associated with the c.1880 redevelopment of the wharf and raising of ground levels. Excavation behind the wall found that there had been attempts to prop up the wall suggesting it was designed as an upright structure rather than a wall with a battered angle. Scale 1m and looking northeast.

3.5 Area L

3.5.1 Background

Area L is located just to the north of Area K and was excavated during Stage 3 of the archaeological program (Figure 3.44). Area L was originally within the harbor. The land to the east, Lot 19, was officially granted to Edward Boulger in 1835. In 1839, Boulger sold the land to Francis Girard who intended to combine Lot 5 which he already owned to the south. The Sydney Flour Company acquired the lot in 1841, including the Girard's mill and associated wharfage. Thomas Breillat became the managing proprietor of the company in 1842 and in 1847 he leased the northern most jetty to James Dalgarno until 1854.

In 1854 Breillat sold the Area L land to Charles Smith and JH Challis who combined the lot with their property to the north. Smith and Challis built four new jetties, the southern-most jetty was in Area L. The jetties were leased to various companies; the jetty nearest Area L was leased to the Clarence & Richmond Steam Navigation Company, who later bought part of Smith's property in 1878. James Watson and James Evans purchased the Grafton Wharf properties in 1880. By 1883 they constructed a Flemish-style building with a clock tower in Area L and laid bluestone cobbles throughout the complex.

The Darling Harbour Wharves Resumption Act of 1900 was the start of the redevelopment and modernization of the entire Darling Harbour waterfront. By the 1920s, many of the Grafton Wharf buildings and wharfs had been demolished and by the late 1950s the area had been converted into a large concrete apron and lineal wharfage to meet the needs of a containerised facility. The container transport facility continued in use until 2006.

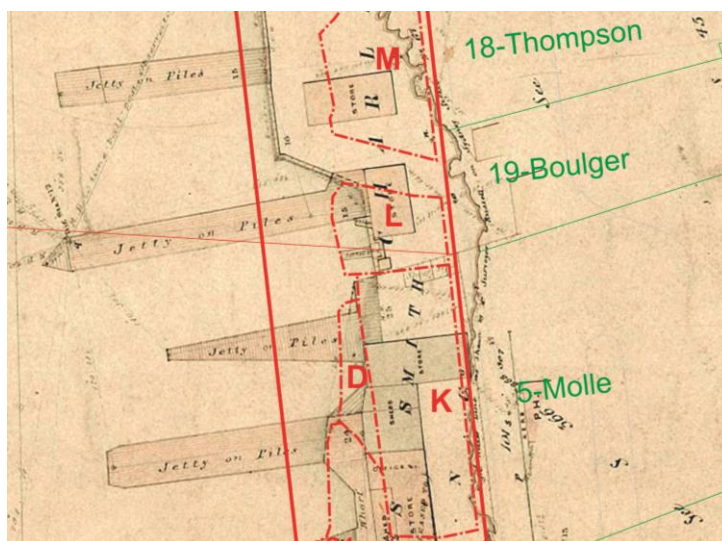


Figure 3.44: Location of Area L overlaid on the 1875 plan that also shows the 1830s shoreline and the early grant holders (in green). Area L formed the northern part of Breillat's property in the 1840s. In the 1850s and 1860s it was the southern part of Smith & Challis' holdings. Detail from CH Wansbrough, *Darling Harbour Frontage Section No. 2, 1875* (Crown Plan P.26.574) AO 4775 (SRNSW), overlay A Cryerhall.

3.5.2 Overview of Archaeological Findings

Reclamation in the 1840s by Breillat formed low-lying northwesterly sloping land within Area L. At the interface with the harbour was the continuation of the sandstone seawall recorded in Area K (Figure 3.45). On the land-side sandstone rubble formed a ramp behind the wall in order to support it. This wall was built in conjunction with the reclamation process. Bulk fills of crushed sandstone

rubble raised the ground level and then several thinner leveling fills consolidated the surface. An informal working surface formed over the reclamation and this consisted of compacted soot, crushed coal and charcoal.

The land appeared to have not been further developed or consolidated during the 1840s and early 1850s. The land was sold to Smith & Challis in 1854. Within Area L the remains of the northern wall of a mid 19th-century building mostly within Area K, or Breillat's property (Figure 3.46). The remains consisted of a sandstone footing with a recess filled with solidified metal waste. Similar deposits existed within the building against the northern wall. This material would indicate that the building had functioned as a smithy's workshop of similar.

Under the ownership of Smith & Challis, a series of further reclamation and leveling events took place. As the ground level was elevated, the seawall underwent a second phase of construction to raise it to the same level. The sandstone blocks from this second phase were larger and better dressed than the earlier ones. There was also evidence that they were re-used sandstone blocks. Notches were cut into several of the earlier blocks so the larger, heavier blocks would "key into" the earlier phase of the seawall. A series of approximately 35 timber piles, closely spaced, abutted the seawall on the seaward side. These pile may have acted to brace the seawall wall from collapse and also as a buffer for vessels. There was no evidence for the building recorded on the 1865 plan within Area L. It is likely that the redevelopments in the later 19th century removed the remains of this building entirely.

The remains of the Flemish-style building with a clock tower built by Watson & Evans by 1883 consisted of substantial concrete footings of the southern wall (Figure 3.47, Figure 3.48). No floor level was found in association with this structure, instead a series of later 19th and early 20th – century ceramic service pipes. These services were cut through the seawall (Figure 3.49). Dead-man anchors were also installed, also cutting through the seawall, during this period of redevelopment. These were a continuation of the series of dead-man anchors recorded in Area K to the south and were part of the wharf modification of the later 19th century.



Figure 3.45: The sandstone seawall in Area L contained two main phases of construction. The original wall was a continuation of the seawall in Area K (right of photo). Larger sandstone blocks and timber piles were part of mit to late 19th-century redevelopment and modification. Photo taken looking southeast with 1m scale.



Figure 3.46: Sandstone footing that forms the northern wall of the structure depicted on the 1865 plan. The rest of the building was excavated in Area K. Scale 2m. Photo taken looking east.



Figure 3.47: Historic photo taken looking south down Sussex Street with the Grafton Bond building to the left and the Flemish-style sandstone and brick building within Area L in the middle. Photo: Kerry & Co. ML, SLNSW, PXA 449.



Figure 3.48: Part of the c.1880 concrete footing for the Flemish-style building in Area L with an inset detail showing the sandstone fragment aggregate. Scale 1m and photo taken looking south.

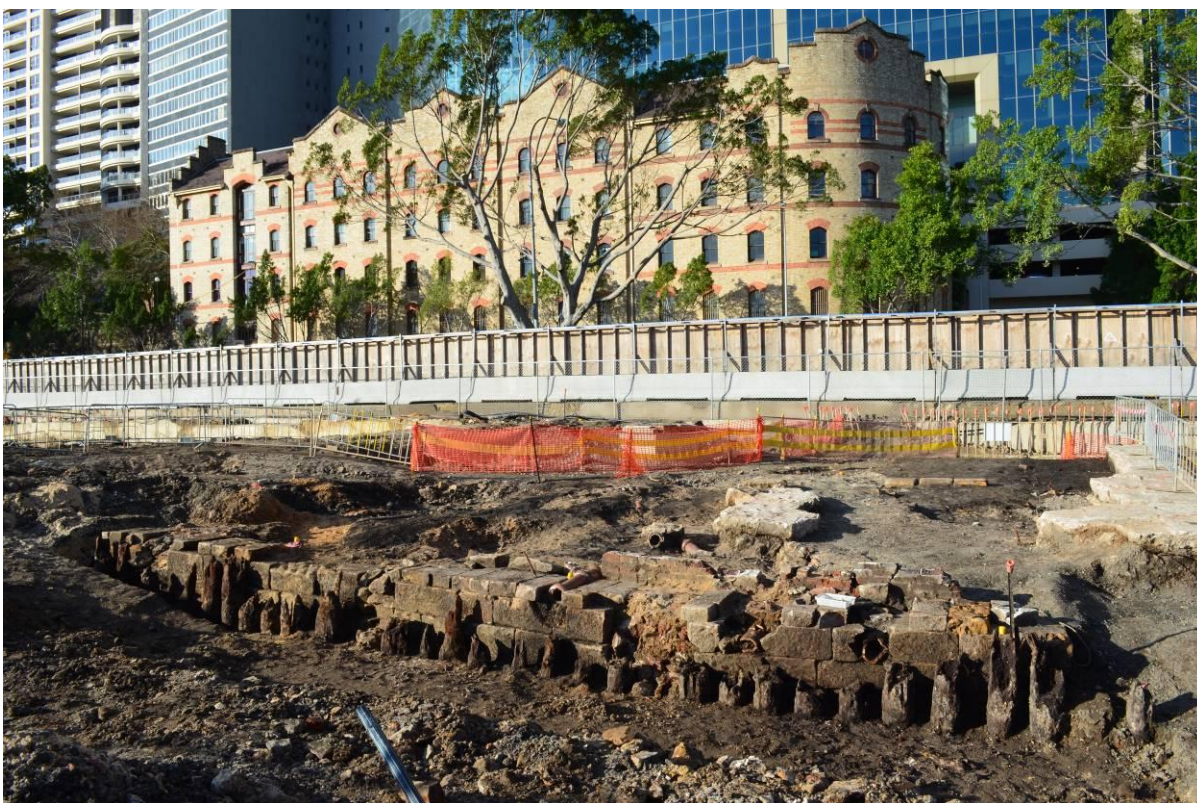


Figure 3.49: Top of the latest phase of sandstone seawall with the service pipes cutting through. On the right are the concrete footings for the Flemish-style building. In the background is the rebuilt bond building on Hickson Road. Photo taken looking northeast.

3.6 Area P

3.6.1 Background

Area P was excavated during Stage 3 of the archaeological program. It was part of a large allotment of land fronting the harbour, Lot 17 (Figure 3.50). In 1832 Henry Bass, a shipbuilder, purchased the land. Historic plans indicate that the edge of the original shoreline projected just into the eastern boundary of this area (Figure 3.50). Between 1830 and 1834 the property's waterfront had been altered by reclamation and the construction of a wharf and a dock. A building fronting the wharf is recorded on plans from 1834. Part of this structure is within Area P. Bass also purchased Lot 18 (Area M) to the south in 1836. Between the mid 1830s and the early 1840s John Russell operated a shipyard from Bass' Wharf. Bass attempted to sell his wharf several times during the 1840s, presumably relating to the economic hardships of this time. There are several people associated with occupying the wharf during the 1840s and early 1850s and it continued to be associated with shipbuilding. The records also indicate that the building fronting the wharf was a domestic dwelling during this time.

In 1853 Bass finally sold his property and in 1854 merchants Smith & Challis had acquired it. Smith & Challis developed the land and remodelled the wharfage between the mid 1850s and early 1860s. New jetties, wharf and buildings were constructed during this time. Within Area P the building recorded on the 1834 plan remains and there does not appear to be any other structures built within the trench limits. Smith & Challis' property is known as the Grafton Wharf and the jetties and buildings were leased to various companies such as the Intercolonial Royal Mail Steam Packet Company. In 1874 Smith & Challis purchase the large property to the south and enlarge the Grafton Wharf. This led to a further phase of redevelopment and wharf improvement. Within Area P, no changes occur until the 1880s when the building recorded on the 1834 plan is demolished and the area becomes a yard. A plan dated to 1891 shows the western frontage of a new large store building just within Area P on the eastern trench limit. Following the resumption in 1900 the redevelopment of the entire Darling Harbour waterfront began. By the 1920s many of the Grafton Wharf buildings and wharfs had been demolished and replaced.

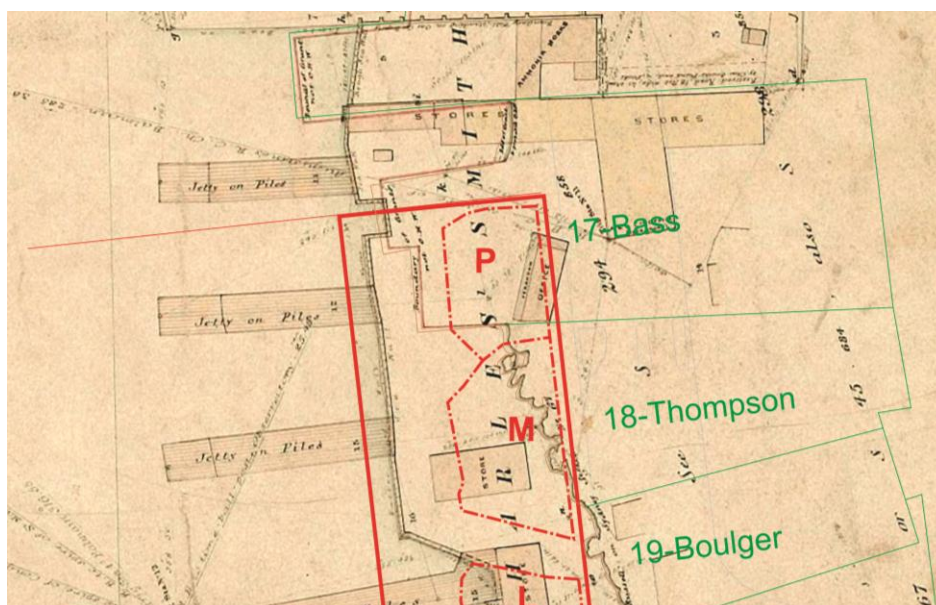


Figure 3.50: Location of Area P overlaid on the 1875 plan also showing Bass' shipyard in the 1830s. Detail from CH Wansbrough, Darling Harbour Frontage Section No. 2, 1875 (Crown Plan P.26.574) AO 4775 (SRNSW), overlay A Cryerhall.

3.6.2 Overview of Archaeological Findings

Initially Area P was largely within the harbour. A small stretch of the original shoreline was located in the southeast corner (Figure 3.51). This consisted of a sandstone outcropping that was quite steep and contained several natural flat platforms. There were no natural soil or sand deposits. The sandstone displayed signs of natural water erosion below the high water mark and weathering above it. There was no evidence that this part of the shoreline had been quarried in the early 19th century. There was some evidence for later 19th-century manipulation of the rock on top of the outcropping.

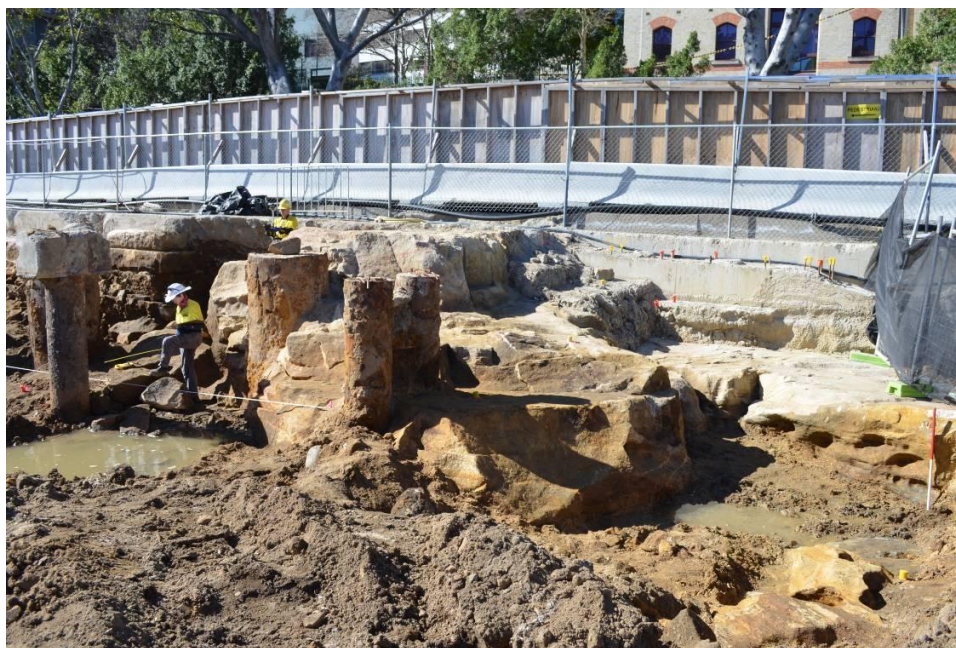


Figure 3.51: The sandstone outcropping within Area P displayed natural weathering and erosion patterns in the intertidal zone. There was some evidence for later 19th-century quarrying at the higher levels, likely associated with redevelopment in the 1880s. Photo taken looking northeast.

Part of the reclaimed land and wharf recorded on the 1834 plan was within Area P. The reclamation consisted of bulk fills of sandstone rubble followed by layers of coarse sand and stone fill. To the south, a roughly built sandstone seawall retained the reclamation (Figure 3.52). The wall was keyed-in to the bedrock and was built from below the high water level (0.5m) to a height of around 1.4m AHD. Shortly after it was built the seawall was buried below reclamation fill following Bass' purchase of the property to the south in 1836 (Area M). The surface of the newly reclaimed land was informal and consisted of several bands of silt and sand accumulations (Figure 3.53). Some woody detritus and copper flecks were the only inclusions noted. The land displayed an obvious gradient from east to west toward the water.

The remains of a building were located along the eastern edge of the trench (Figure 3.54). Notably the building was orientated northeast to southwest, an alignment that reflects the original shoreline. This building is recorded on plans from the 1830s to 1880. Only part of the front wall and verandah were within Area P. The remains consisted of sandstone footings with one to two courses of walling, also of sandstone. Remains of the verandah consisted of sandstone base pads for timber posts. Within the footprint were the remains of an internal storage space constructed with sandstock brick. The front wall and verandah were both constructed on the newly reclaimed land with the southwest corner of the building on the seawall. The rest of the house was built on the bedrock with the ground floor level being higher than the reclaimed land surface.



Figure 3.52: Sandstone seawall forming the southern edge of Bass' wharf. It was keyed-in to the rocky shoreline. Photo taken looking northeast with 1m scale.



Figure 3.53: General view of the sands and silt accumulations that formed the informal surface of Bass' shipyard after reclamation in the 1820s/1830s. This photo also shows the cottage remains in the background (yellow arrows) and the modern piles truncating the area. Photo taken looking southeast with 1m scale.



Figure 3.54: Remains of the wall and footing, and the sandstone verandah pier pads of a building constructed on both the natural sandstone outcropping (yellow arrow) and the reclaimed land. The inset is the 1875 plan that records the shoreline and Bass' Wharf as it was by the 1830s (red arrow) in relation to the later mid 19th-century wharf expansion. The cottage (blue arrow) is recorded on the 1875 plan and plans dating from the 1850s. Photo taken looking south with 1m scale.

During the mid 19th century, the land was consolidated with fill brought in to level the yard area between the cottage and the wharf. After the levelling of the yard, the surface formed was again informal and consisted of silts, gravels, sands and soot. This event appears to coincide with the sale of the property to Smith & Challis in 1854. Another phase of levelling and resurfacing with small cobbles occurred in the later 19th century. The building continued in use during both phases of redevelopment, though the brick storage space below the floor level was filled in. Throughout the mid to late 19th century, refuse and other dumped material accumulated below and around the verandah. These deposits contained typical household waste that included ceramics and numerous glass bottles (alcohol) and indicate that the building had a domestic function for at least part of its life span.

Area P underwent a further phase of redevelopment following the expansion of Smith & Challis' holdings in the mid 1870s. During the 1880s the cottage was demolished and all of Area P became part of a larger yard area between the upgraded wharf and new buildings. Substantial sandstone footings of the western frontage building associated the 1880s Grafton Wharf redevelopment were present on the very eastern trench limit. No surfaces or other features survived early 20th-century development following the resumptions in 1900.

3.7 Area M

3.7.1 Background

Area M was excavated in Stage 3 of the archaeological program and it was located to the south of Area P and Bass' shipyard (Figure 3.50). Lot 18 (Area M) was acquired in 1824 by Stephen Milton and had a succession of owners until the lot was granted to Samuel Thompson and his wife Elizabeth in 1834. The lot remained undeveloped under Thompson's ownership and in 1836 Henry Bass bought the property and incorporated into his shipyard. Bass undertook reclamation and consolidation of the land within Area M. From the 1830s until 1841, Bass leased his shipyard to John William Russell, also a shipbuilder.

In 1853 Bass sold his land to John Reeve, who almost immediately sold it to Charles Smith and John Challis in 1854. Smith & Challis undertook extensive consolidation and development of the property and it became part of the Grafton Wharf complex, along with Lot 19 (Area L) to the south, between 1854 and 1880. Smith & Challis sold to James Watson and James Evans in 1880, who constructed new jetties and extensive range of stores.

3.7.2 Overview of Archaeological Findings

Most of Area M would have originally been below the high water mark, except for an outcrop of natural bedrock in the northeast corner of the area. The bedrock showed evidence of water erosion in the intertidal zone and weathering above the water line (Figure 3.55). Higher up on the bedrock were several triangular quarry marks that were part of later 19th-century modifications to the natural landscape. A series of mid 1830s reclamation fills abutted the bedrock. No natural or aboriginal occupation deposits were found.

The reclamation process included the deposition of rubble sandstone to form a platform to the high water level. This was then consolidated with compacted sands and clays to form new ground about 1m above high tide level (Figure 3.56). Parts of the southern and western edges of the newly reclaimed land were within Area M. The edges of the reclamation were informal and consisted of rubble sandstone that acted as a seawall to prevent slumping and erosion. It may not have been successful as there was archaeological evidence for consolidation with a second phase of rubble along the periphery quite soon after the initial reclamation.

On the southern edge were the remains of a boat ramp or skid (Figure 3.57). This feature consisted of a series of sloping sandstone pavers at the high tide mark. Sandstock brick piers and postholes further up the slope indicated that there was also a small timber superstructure component. This was a very rudimentary arrangement that would only have been suitable for very small vessels, however it is a good example of early access to the harbour (Figure 3.58).

Overlying the reclamation fills was a thin, timber-rich, silt surface which contained a very high frequency of copper nails. Copper nails are associated with shipbuilding and maritime construction as they do not corrode on contact with salt water. This surface is probably trampled detritus associated with the activities in Bass' shipyard.



Figure 3.55: The original shoreline in Area M displayed natural erosion patterns (arrows) below the high tide level. The water is at c.-0.2m. Scale 1m. The photo is taken looking southeast.



Figure 3.56: Trench excavated through the 1830s reclamation. At the base is the rubble platform below the high water level with compacted sands and clay above. The surface level was created by trampled silts and other accumulations. Looking southeast, 1m scale.



Figure 3.57: Remains of the boat ramp on the southern edge of Area M. At the water's edge were flat sandstone pavers and further up the bank were the remains of a timber structure supported by a brick pier (red arrows) and postholes (green arrow). Looking north, 1m scale.



Figure 3.58: Area M looking north at the completion of the archaeological investigation of above the high tide level. This shows the 1830s reclaimed level with sandstone rubble forming the edges and the remains of a stone boat ramp. 2m scale

When Smith & Challis bought the lot in 1854 they redeveloped and consolidated the reclaimed land and wharf. Sand and clay-rich fills were imported to raise the level of the land. The levelling fills were capped with a formal metallised surface. This new surface still had a notable north-to-south slope. Following the formation of this new surface level a large shed or warehouse was constructed (Figure 3.59). Consisting of the northeast corner of the building, the archaeological remains included postholes, wall trenches, a sandstone surface-gutter on the eastern exterior and an

occupation deposit surrounding decayed flooring elements (Figure 3.60). A patchy occupation deposit was present around the floor elements that contained a low frequency of artefacts, such as ceramic pipe stems, glass fragments, fruit stones, fragments from a coconut shell and an unusual timber pipe bowl carved in the shape of a man's head.

During redevelopment in the 1880s the ground level in Area M was again raised and consolidated. The earlier building was demolished and the area became part of a yard. There was no intact archaeological evidence for the yard surface as it was removed during 20th-century redevelopment. Associated with the later 19th-century phase of use were the remains of a weighbridge (Figure 3.61). It was constructed from machine-made, purple shale bricks and hard lime mortar/cement. The weighbridge would have contained an in-ground set of weights and scales to weigh goods either arriving or leaving the docks.



Figure 3.59: Remains of the building consisted of wall trenches (dashed red lines) and an occupation deposit (dark material). The sandstone gutter is visible on left. Photo taken looking south with 1m scale.



Figure 3.60: Detail of the sandstone surface-drain on the left, and the timber floor elements within the building. Both photos are taken looking north with a 1m scale.



Figure 3.61: 1880s weighbridge structure. The goods would have been suspended in the rectangular central space, while the weights would have been attached to a counter-balance arm in the smaller channel in the bottom left corner. Photo is taken looking east with 1m scale.

4.0 Scope of Post-Excavation Work

4.1 Overview

This report describes the preliminary results following the completion of the fieldwork component of the archaeological investigation. The next phase of the project, involving a much more detailed analysis of the excavation data, artefacts and historical research, leads to the production of the final excavation report. Post-excavation work required to produce the final report is now underway and includes:

- Area supervisors produce a Harris Matrix and detailed stratigraphic report for each excavation Area. These reports are a first step in the analysis and interpretation of the findings.
- Survey plans and detailed phased archaeological drawings will be produced to publication standard.
- Identifying and cataloguing artefacts. A total of 109 boxes of artefacts were recovered from all stages of the Barangaroo South excavation.
- Timber, building material, pollen and other samples will identified and analysed by specialists. A total of 24 boxes of samples were collected.
- Data entry of artefact catalogue, photograph archive, context register, test trench register, plans register and samples register.
- Specialist analysis of the artefacts – ceramic, glass, metals, clay pipes, coins and tokens, small and miscellaneous finds – result in the production of detailed artefact reports.
- Further historical research where necessary. Some of this has already been undertaken.
- The final excavation report will include a detailed historic background to the site, the synthesis of results, an analysis of the artefact assemblage and a response to the research design for the archaeology of Barangaroo South.