Figure 2.23: Illustration of the Iron Wharf, Darling Harbour published in the *Illustrated Sydney News* on 30 January 1874. City of Sydney Archives, ArchivePix, SRC 1819.

The estimated expenditure for the construction of the Iron Wharf was raised in 1872 from £35,000 to £50,000 to include the stone retaining wall and infill (Figure 2.13). It is unclear if the final expenditure included the steam cranes installed on the wharves by 1880 (Figure 2.24, Figure 2.25). The steam-powered cranes associated with the wharf were installed between 1878 and 1885.[48]

The Iron Wharf was considered to be a 'contemporary marvel of engineering' eclipsed to some degree 15 years later by the Hawkesbury River Railway Bridge. The form and style of the wharf bears similarities to English pier construction, however, the engineering and scale of the supporting piles differs. The very substantial cylindrical piles are similar in type to those used in bridge construction in NSW. Moriarty's proposals in 1872-73 for the construction of iron wharves at other locations were unsuccessful. Norman Selfe, another prominent engineer of the era, opposed the use of iron for wharf piles, preferring instead timbers such as ironbark or turpentine.[49]

[48] PWD [1984]: 74, 80.
[49] NSW Heritage Inventory, Database No 4500467; PWD [1984]: 74.

Figure 2.24: The Iron Wharf with overhead crane, nd, c1880. SLNSW GPO 1 – 07062, digital order no. d1_07062.

Figure 2.25: The Iron Wharf with overhead travelling crane, nd, c1880. SLNSW GPO 1 – 07061, digital order no. d1_07061.

With the expansion of the railway goods line and construction of the goods yard, the construction of the Iron Wharf paved the way for the establishment of Darling Harbour as the major goods handling hub for Sydney. The configuration of the wharf influenced the design of the adjacent railway sidings and goods yard, and the location of sheds.[50] The amount of traffic on the wharves resulted in the renewal of the planking in 1891.[51] By 1911 the quantity and type of goods, especially timber, being offloaded had outgrown the public wharf. The curve of the wharf also presented difficulties for ships in docking.[52]

By April 1917 improvements to Darling Harbour were underway to accommodate increased goods traffic. Reclamation was to be extended to Bathurst Street and one span of the Iron Wharf had already been removed. Sections of the wharf were cut and dropped into the harbour and subsequently buried.[53] A panorama of Darling Harbour in 1919 provides a record of the western shore at this time, and another c1920 photograph provides more details of the work being undertaken to expand and improve the outgrown goods facilities (Figure 2.28, Figure 2.29).

[50] NSW Heritage Inventory, Database No 4500467. The impact of the curved design of the wharf had an enduring impact on goods and fruit sheds built in c1957 and c1960 respectively, both following the curve of the former wharf long after it had been demolished.
[51] *SMH* 8 Oct 1891: 3.
[52] *Clarence & Richmond Examiner* 24 Oct 1911: 6.
[53] *SMH* 25 Apr 1917: 12; NSW Heritage Inventory, Database No 4500467.

Figure 2.26: Panorama from Sydney Town Hall clock tower, c1873, looking west over the reclaimed land at the southern end of Darling Harbour with the Iron Wharf along the western foreshore. A number of railway buildings are in the left middle ground. The Darling Quarter (Darling Walk) site is in the middle ground. The part of the study area to the west of Darling Quarter was still harbour. There are a number of houses along the western foreshore of Ultimo and Pyrmont, some of which may be within the study area. City of Sydney Archives, SRC18062.

Figure 2.27: Panorama from Sydney Town Hall clock tower, c1873, looking west with the Iron Wharf along the western foreshore. There are only a few buildings along this part of the foreshore possibly within the study area. In the middle ground, behind the Iron Wharf, is the embankment built for the Darling Harbour goods line which leaves a body of water (red arrow) behind it which is yet to be reclaimed. There is boathouse on the foreshore. City of Sydney, SRC18063.

Parts of the wharf were uncovered during construction in Darling Harbour in 1985. A section of ironwork was given to the Powerhouse Museum but subsequently scrapped. Other parts of the Iron Wharf were reburied *in situ*.[54]

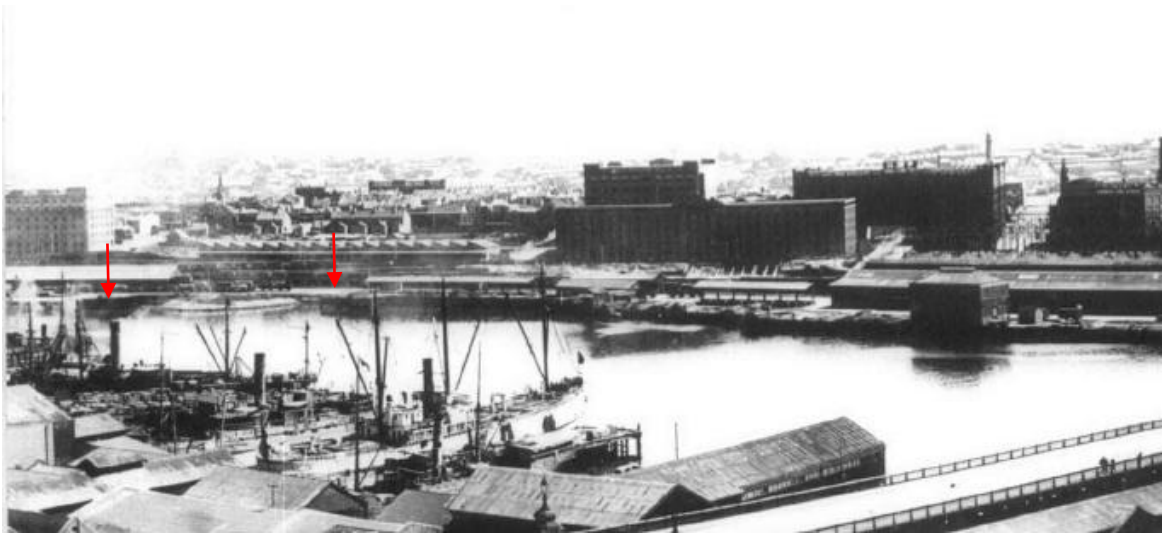


Figure 2.28: A photograph looking southwest in 1919 records the Iron Wharf, background (red arrow), prior to the next stage of reclamation work in Darling Harbour. Part of a panorama from Eagle and Glare buildings. Photographer R P Moore. SLNSW SPF 3002, reproduced in PWD [1984]: 111.

Figure 2.29: A photograph looking northwest at the Iron Wharf, Darling Harbour, c1920, at the beginning of demolition work. NRS 17420 Item 848/18 SRNSW.

[54] Database No 4500467, NSW Heritage Inventory.

2.8 Ultimo Power House Cooling System

The Ultimo Power House is considered one of the oldest remaining and most important industrial buildings in Sydney. It is historically significant as the original generating station for the supply of electricity for the Sydney electric tramway network and for the general reticulation of electrical power. It opened in 1899 and for many years was the largest and most important power generating station in NSW. Now housing the Powerhouse Museum, these buildings lie to the southwest, outside the SICEEP study area. Water conduits associated with water cooling system ran between the power house and Darling Harbour, once supplying salt water for the condensers, and are within the study area. The later conduits still appear to be used to supply the Powerhouse Museum cooling system.[55] Water inlet and outlet conduits dating from 1899 to the 1920s follow different routes through the study area. The main focus here is the cooling system and its infrastructure in the vicinity of the study area. A brief timeline for the Ultimo Power House is provided in Appendix 2.

The location selected for the Ultimo Power House in 1896 was based on multiple factors including the distribution of electrical current, coal supply and disposal of ashes, water supply, room for future expansion, cost of land, the foundations, and availability of a labour force. The Ultimo site near Darling Harbour met these criteria, with close proximity to a supply of salt water for the condensers.[56]

An Act of Parliament on 8 May 1896 allowed for the construction of a power house for the George Street and Harris Street Electric Tramway. By June 1897 many of the tenders had been let and a short time later Contract No 18, for the conduit from the boiler house to Darling Harbour supplying seawater for condensing, was awarded to Justin McSweeny. By mid-1898 good progress had been made in the sinking of the shafts and by mid 1899 the water conduits were complete. The inlet conduit was estimated at 950 feet (289.5m) long although a later report describes it as 1,000 feet (304.8m) in length and 3 feet 3 inches (1.01m) in diameter.[57] The heated condenser water was discharged back into the Harbour not far from the intake.[58] The 1899 outlet and inlet conduits are shown in a diagram produced in 1933 (Figure 2.30). The material used for the conduits is not known and plans and specifications for this work have not been located. Precast concrete pipes were used in Public Works Department projects in the 1890s and it is possible that they were specified for this project.

The water cooling system consisted of three electrically-driven centrifugal circulating pumps for the Wheeler-type surface condensers, each capable of delivering 2,000 gallons per minute (150 litres/sec) against a head of 36 feet (11m). Each pump was directly coupled to 50 horse power motor with two pumps run in parallel, the third being a reserve. Water was discharged from the pumps through a Reeves filter before passing into the boilers.[59]

Extensions to the Ultimo Power House by the Railway Department, including new equipment, were carried out from 1902 to 1905.[60] In 1907-8 a new conduit was constructed, and additional pumps installed in anticipation of the installation of new generating units taking the rated capacity of the Ultimo Power House to 19,400 kW. Details of the construction of the new length of conduit are not known. The Railway Commissioner's documentation of post-1898 alterations and additions to the

[55] Warwick Bowyer pers. comm.
[56] Godden et al [1982]: 27.
[57] *Department of Public Works Report,* y.e 30 Jun 1897, 1898: 26; *Department of Public Works Report,* y.e. 30 Jun 1898, 1899: 23-24; *Department of Public Works Report,* y.e. 30 Jun 1899, 1900: 21; *Department of Public Works Report,* y.e. 30 Jun 1900, 1901: 22, 23.
[58] Thomson et al 1982: 22.
[59] *Public Works Report,* y.e. 30 Jun 1900, 1901: 23.
[60] Godden et al [1982]: 59.

Ultimo Power House was less detailed than work documented by the 1890s Public Works Department. Scientific and engineering journals provide many of the accounts of the site under Railway Department management.[61]

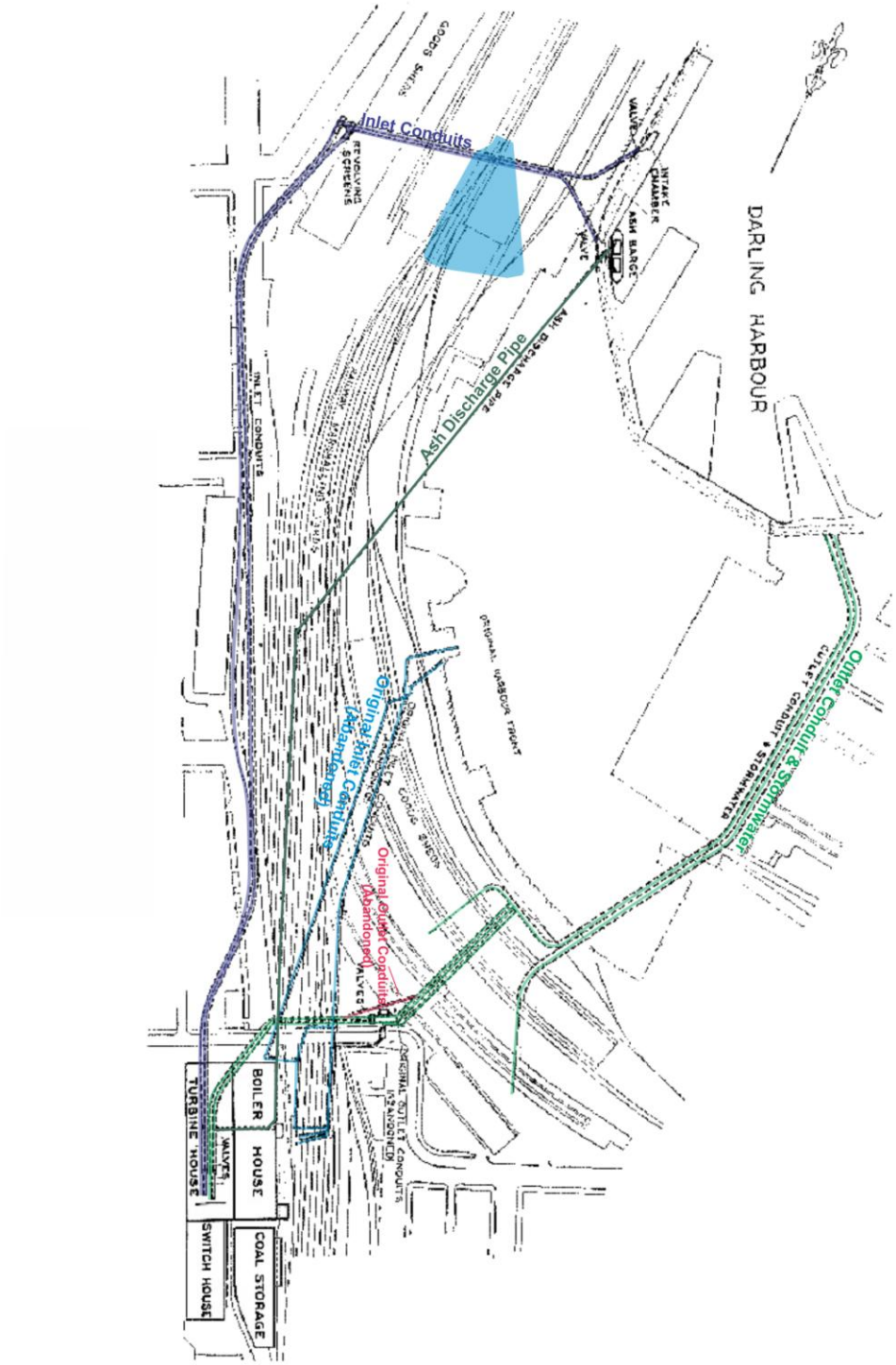


Figure 2.30: Plan showing the shoreline in relation to circulating water ducts and conduits inlets and outlet used in 1899 and those constructed in the mid 1920s. The location of intake sumps, valves and screens is also shown. Major conduits have been highlighted for clarity. The study area is highlighted in blue. Myers 1933: 255.

[61] Godden et al [1982]: 54, 62.

Plans for the reclamation of Darling Harbour commencing in the 1920s resulted in the installation of new and considerably longer intake and outlet conduits for the Ultimo Power House. The Railway Commissioners started the project in c1923-24, running the conduit to the point where the parallel pipelines diverged. The Sydney Harbour Trust completed the lines from this point into the harbour. This work was of considerable magnitude, requiring the Harbour Trust to sink a shaft down to the lengths of conduit already installed by the Railway Department and extending it by means of two lines of precast Monier concrete pipes with screening chambers at the end. The lines extended beyond the reclamation and out into the deep water of Darling Harbour. Each 25 ft (7.62m) long section of pipe was 6 ft (1.83m) in diameter weighing approximately 30 tons (30.481 tonnes). The conduits were laid on concrete piers at a maximum depth of 47 feet (14.33m) underwater. The 'faulty' nature of the foundations for the pipes resulted in extensive underwater concrete work by divers, who also constructed the timberwork of the coffer dam. Wharf No. 39 was later constructed above the conduit.[62]

The construction work for the conduits was described in a later engineering journal as:

> tunnelled through solid sandstone rock, a single tunnel being formed, and the Monier pipes laid side by side with the spaces around and between filled in with rubble.[63]

Photographs showing the installation of the intake conduits are reproduced below (Figure 2.31, Figure 2.32, Figure 2.33, Figure 2.34, Figure 2.35, Figure 2.36, Figure 2.37 and Figure 2.38).

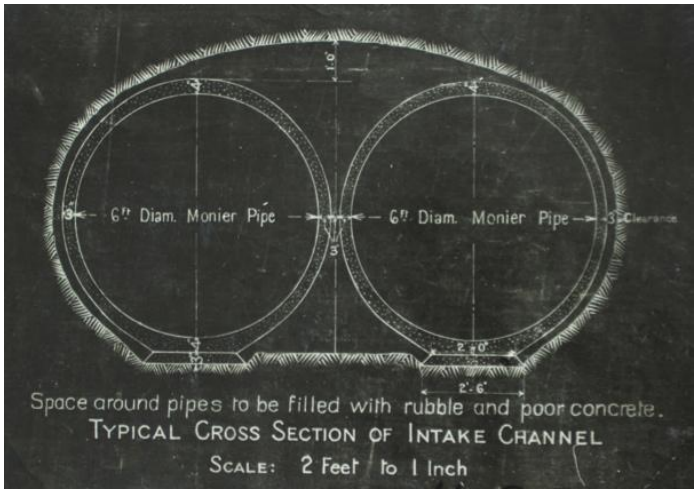


Figure 2.31: Typical cross section of intake channels for Ultimo Power House. State Rail Photos Series: 17420 Item: 364/49 SRNSW.

Figure 2.32: Excavation under Darling Harbour for the installation of water conduits for Ultimo Power House. State Rail Photos Series: 17420 Item: 364/44 SRNSW.

[62] *Sydney Harbour Commissioners Report*, NSW Legislative Assembly, Sydney, 1927: 3 & 1928: 3; Myers 1933: 262.
[63] Myers 1933: 262.

Figure 2.33: Pair of RC Monier conduits being installed in the sandstone tunnel under Darling Harbour. Rubble is stacked ready for packing around the 6 ft diameter pipes. State Rail Photos Series: 17420 Item: 364/45 SRNSW.

Figure 2.34: Rails in the foreground were used to cart rubble fill to the pipes. State Rail Photos Series: 17420 Item: 364/46 SRNSW.

Figure 2.35: Joints between the sections of conduit are visible along the length of the water supply pipe. State Rail Photos Series: 17420 Item: 364/47 SRNSW.

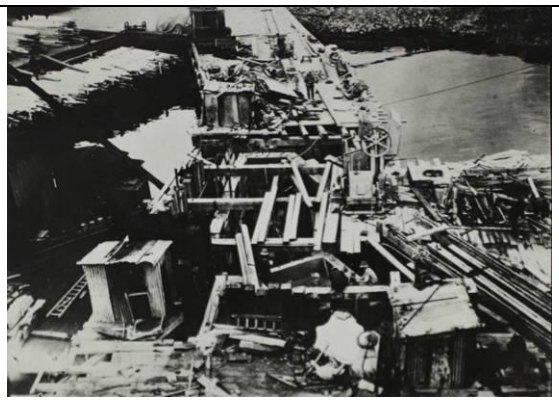


Figure 2.36: Coffer dam and formwork for the installation of conduits. State Rail Photos Series: 17420 Item: 364/48A SRNSW.

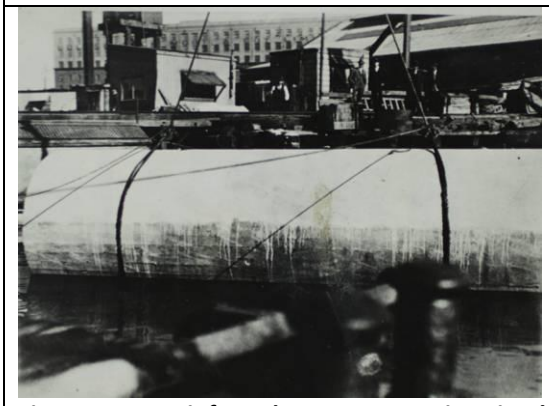


Figure 2.37: Reinforced concrete Monier pipe being lowered into position. State Rail Photo Series: 17420 Item: 364/48B SRNSW.

Figure 2.38: Work undertaken at the water's edge for installation of the inlet conduits for the Ultimo Power House. State Rail Photo Series: 17420 Item: 364/48C SRNSW.

Work on the outlet conduit for the power house is poorly documented. A newspaper report in May 1924 reveals that it was to be constructed in a 34 ft (10.36m) wide open-cut trench but that work had not yet commenced.[64] Figure 2.42 above shows the outlet conduit running parallel with a

[64] *SMH* 22 May 1924: 10.

stormwater line and might have been laid in conjunction with work done by the Metropolitan Sewerage and Drainage Board. The reclamation of Darling Harbour resulted in extensions to the sewerage and stormwater lines in the area and it would have been economical to run the lines in a single trench.

The new inlet conduits, and presumably the outlets also, were completed in 1928.[65] As shown in Figure 42 above, two inlet conduits drew water from the west side of Darling Harbour under Wharf No 37, converging at a point west of the jetty in the vicinity of the former shoreline. They then ran in parallel to the screening chambers on the east side of Murray Street, Pyrmont. From this point the conduits followed a line along Pyrmont Street to the power house. The outlet conduit followed a similar route to the 1899 outlet conduit up to the former shoreline. It then followed a new line to the east side of the harbour where it was paired with a stormwater line.

The power house upgrade work resulted in a sufficient condensing capacity for the new 20,000 kW turbines. Although the construction of new water supply conduits were partly influenced by the Darling Harbour reclamation work, the replacement of much of the power house equipment in the 1920s was timely, resulting in substantial improvements in efficiency and economy.[66]

The new circulating water system was far more extensive than the original ones, with the new inlet conduits measuring 2770 feet (845m). The conduits were constructed with bypasses so that either inlet conduit could be used temporarily, and for the purposes of scouring after heating, as a discharge conduit.[67]

New equipment installed in conjunction with the water supply system included 'trash racks', a water jet cleaning system, revolving screens capable of being raised for maintenance, and a dewatering system. The revolving screens and screening well or cistern for the new circulating water system were located to the east of Murray Street, Pyrmont outside of the study area. Fouling of the conduits by marine growth was a constant problem and methods of killing the growth or scouring it out were tried. If left uncleaned for 12 months the conduit head loss increased from 24 kpa (3.5 ft) to 50 kpa (7.2 ft). The fouling problem was compounded by low tide when the head loss increased and air was drawn into the circulating water pump suction. Air intake contributed to corrosion of the condenser and a major failure of the second large turbo-alternator (installed 1931). Curved cones ('hydraucones') fitted to the pump suction pipe to reduce velocity losses solved the air intake problem. Further technical details about the makers and functions of the water circulating system equipment are detailed in Walter Myers' 1933 report, 'The Construction of Ultimo Power Station, Sydney'.[68]

The 'Water Cooling System and Manifold' of the former Ultimo Power House are included in the Sydney Harbour Foreshore Authority's Heritage and Conservation Register. It is described as:

> Underground conduits possibly built of sandstone taking cool water to the Powerhouse from Darling Harbour waters edge and hot water from the Powerhouse to the waters edge. The remains of the engineering equipment/manifold of this cooling system are located in the carpark of the Novotel accessed from Murray Street.[69]

The conduits may also still be used to supply the Powerhouse Museum, which uses an open seawater-cooled air conditioning system.[70]

[65] *Sydney Harbour Commissioners Report*, NSW Legislative Assembly, Sydney, 1928: 3.
[66] Myers 1933: 262; Godden *et al* [1982]: 35.
[67] Myers 1933: 262.
[68] Myers 1933: 262-3.
[69] SHFA S170 register, entry for 'Water Cooling System and Manifold', physical description.
[70] Cock 2012: 4.

3.0 Archaeological Potential

3.1 Archaeological Potential of the Study Area

There is potential for non-Aboriginal archaeological remains in the ICC Hotel study area. This analysis is based on the above historical research, the study area plan, plan of proposed buildings, and the overlays of historic plans produced for this report. In addition, two previous reports on the entire SICEEP area have been consulted: a *Historical Archaeological Assessment* by City Plan Heritage, issued in May 2012 and revised in February 2013, and completed Casey & Lowe reports for the SICEEP.[71] Casey & Lowe have also completed two extensive archaeological programs at Darling Quarter (previously known as Darling Walk) (2008-2009) and Barangaroo South (2011-2012). These projects have provided us with a clear understanding of the nature of the archaeological resource within the study area.

A chronologically phased summary of historical archaeological features is presented below (Table 3.1). The phasing from earlier reports has been adjusted to conform more closely to a chronological development for ease of analysis. Subsequent sections of this report summarise the likely impacts from present buildings, what is known from geotechnical testing and then what the potential archaeological resource is based on these factors and on the site history.

Table 3.1: Historical archaeological remains within the ICC Hotel site.

Archaeological Phases	Study Area Landuse	Potential Archaeological Remains
1813-1850s		
Phase 1 & 2 1788-1850s[72]	▪ Rocky foreshore in western and northern part of study area (later quarried). ▪ Intertidal sand or mud flats in eastern and southern part of study area.	▪ Original foreshore may remain below RL 1.7 m. ▪ Intertidal zone likely to remain. ▪ Bedrock quarry floor found in geotechnical cores.
1850s-1880s		
Railways 1850s-1880	▪ Construction of the Darling Harbour Goods Line (opened 1859) and associated reclamation and construction. ▪ Impacted foreshore, mostly quarried in northern edge of Study Area. ▪ Little reclamation east of the original goods line until 1880s.	▪ Reclamation fills ▪ Culvert associated with c1859 line. ▪ Footings of sheds seen in 1870s photographs and deposits associated with their use ▪ Early (1850s–1880s) railway tracks (possibly removed by later upgrades).
Iron Wharf from 1874	▪ Although the Iron Wharf was intended to extend into the ICC Hotel area, it did not.	▪ No remains of Iron Wharf within the study area.
1880s-1920s		
	▪ Successive phases of reclamation associated with railway expansion. ▪ Between 1878 and 1888 a seawall or embankment was built as part of reclamation process. It reformed the western foreshore. ▪ In 1902 two Outwards Goods Sheds were built. One of these lay within the study area. ▪ Ultimo Powerhouse cooling system (1923-24) relocated to new edge of reclamation. The new inlet conduits cross through Hotel area.	▪ Reclamation fills ▪ 1880s seawall or embankment along western foreshore. ▪ Footings of 1902 Outwards Goods Shed (possibly removed in 1980s) ▪ 1920s saltwater inlet conduits for Ultimo Powerhouse.

[71] City Plan Heritage 2012a; City Plan Heritage 2013; Casey & Lowe 2012, 2013a, 2013b.
[72] Note: Phases 1 and 2 are distinguished by different landuses in the other SICEEP areas.

Archaeological Phases	Study Area Landuse	Potential Archaeological Remains
1930s-1980s		
	▪ Continued use as goods yard.	▪ none
1980s – Darling Harbour Redevelopment		
	▪ Removal of railway infrastructure and construction of 1980's buildings and landscaping. ▪ Stormwater culverts crisscrossing the area.	▪ None ▪ Potential impacts on railway likely but unlikely on the culvert.

3.2 Impacts from existing buildings and services

Previous archaeological excavations by Casey & Lowe have provided useful insights into how existing buildings and services are likely to impact on historical archaeology at reclaimed, waterfront sites. Although the ICC Hotel site currently is largely being used as open space and as a taxi zone, there are some columns supporting an awning between the Harbourside Shopping Centre and the monorail station. It is unclear whether the columns for this structure rest on piles, or on shallower concrete footings. Part of the current Sydney Convention Centre also is within the study area. This building was constructed on piles.

Archaeological excavation at Darling Quarter (Darling Walk) identified that two sets of piles can have impacts but still leave a considerable amount of archaeology surviving (Figure 3.1, Figure 3.2). An exception is where there is a concentration of piles in any single area, which can make recovery of archaeological information in the future very difficult (Figure 3.1, Figure 3.2). It is considered likely that a third set of piles would mean that the archaeology would be too impacted and that prior open area excavation would be required prior to development in such cases.

The relative levels for archaeology along the foreshore at Darling Quarter (Darling Walk) (2008-2009), and borne out by the results at Barangaroo South, is that the upper RLs for historical archaeology on reclaimed land are likely to be around RL 2m with natural landscapes and intertidal zone levels being RL -0.5 to RL 1 to 1.4m (Table 3.2). Understanding the RLs is important for predicting the level at which archaeology will be present, and how much fill is likely to be burying it throughout the study area. Darling Quarter (Darling Walk) provided a surprising example of this, when the large pond associated with the former Sega World building was removed. Immediately below this pond, the floor of the State-significant Peter Nichol Russell foundry had survived. In addition, extensive phases of 1820s to 1900 archaeology survived across the whole of the site, much of it buried beneath 2m of fill. As this site is immediately to the west of the Darling Central it is a strong predictor of the nature and levels at which archaeology is likely to survive within the SICEEP site.

As part of the 1980's redevelopment of Darling Harbour a series of very large stormwater culverts were installed throughout the earlier reclaimed land (Figure 3.4). These are quite deep and have had substantial impacts on the potential archaeological resource within the study area. Other service trenches also cut across the study area. All these services could impact on the archaeological resource, although not all services would be buried deeply enough to reach the level where the archaeological resource remains.

Table 3.2: Identified RLs for archaeology at the Darling Quarter (Darling Walk) site. Casey & Lowe

Area	Natural landscape RL	1800s to 1840s RL	1840s to 1900 RL
7	-0.5m to 0.2m	-0.5m to 0.5m	1.2m to 1.8m
6	-0.3m to 0.5m	0.2m to 0.9m	0.9m to 1.8m
5	0.5m to 1m	0.5m to 1.2m	1.2m to 1.8m
8	0.4m to 0.7m	0.5m to 1.4m	1.4m to 1.8m
8 CT	0.6m	0.6m to 1.2m	1.2m to 1.6m top of archaeology removed by modern activity
9	0.4m to 1.4m	1.4m to 1.6m	1.6m to 1.9m

Figure 3.1: Piles in the area of Barker's Jetty (c1826) and the early timber slip (1810s), Darling Quarter (Walk). This area was a focus of many piles. If there had been many more then the archaeology in this area would have been destroyed or become inaccessible. Looking west. Casey & Lowe 2009

Figure 3.2: View to south with the stone walling of Barker's Jetty (c1826) in the middle ground, Darling Quarter (Walk). There were many piles in this area from the two sets of building making access to the surviving remains quite difficult. Casey & Lowe 2009

Figure 3.3: Overlay of the Darling Quarter (Walk) Site with elements of the SICEEP public domain and existing stormwater culverts. This plan shows that archaeology from Area 7 extends into the public domain (beneath Tumbalong Park) area as well as part of Area 6. Area 6 includes the remains of Barker's Jetty. It also shows the impacts from major culverts (blue lines) running through this area. North is at the left. Rygate for Casey & Lowe 2008b.

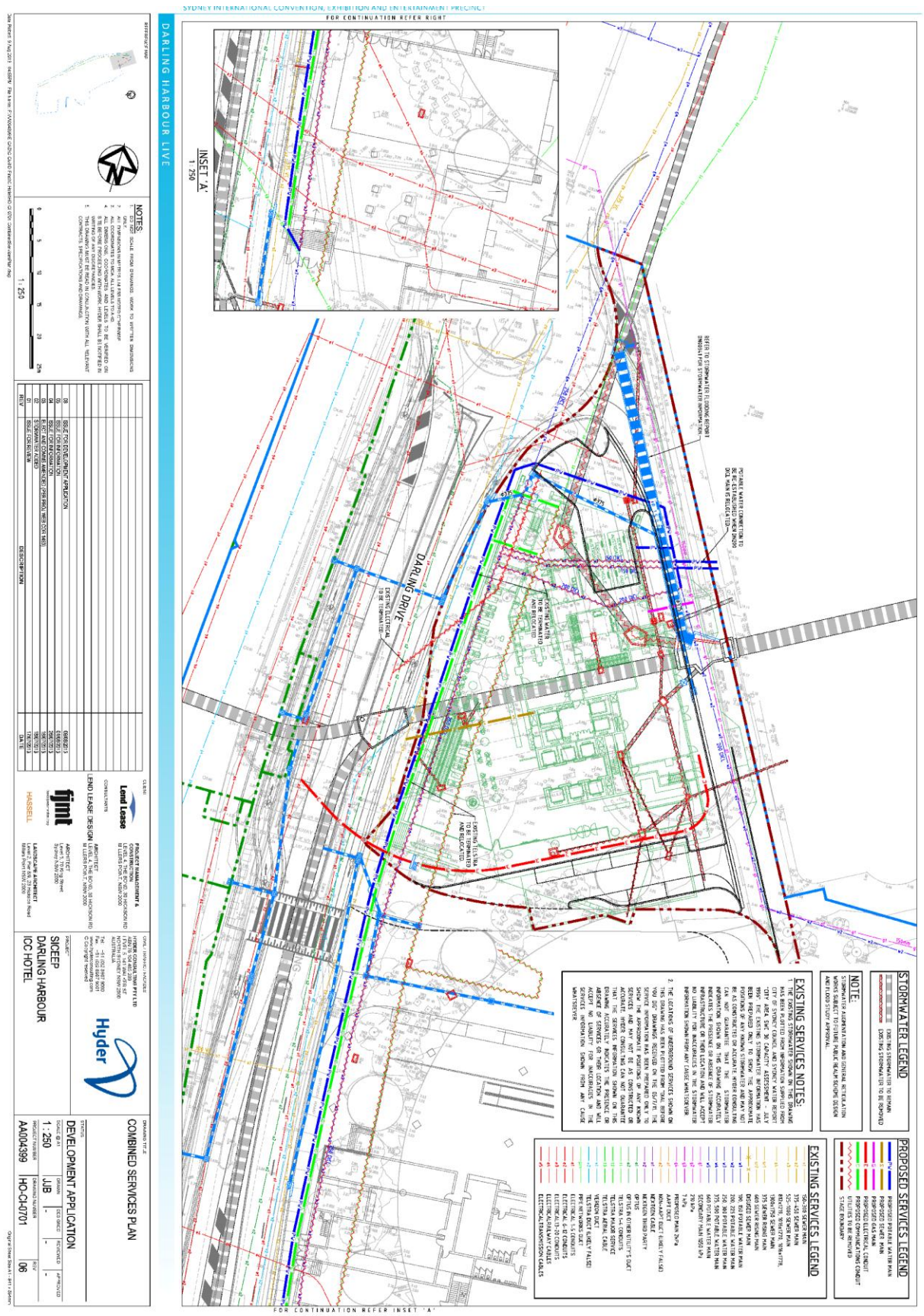


Figure 3.4: Detail of plan of existing stormwater culverts (grey) within the Darling Harbour precinct. These were mostly installed in the 1980s redevelopment. A proposed new culvert is in blue. Hyder August 2013.

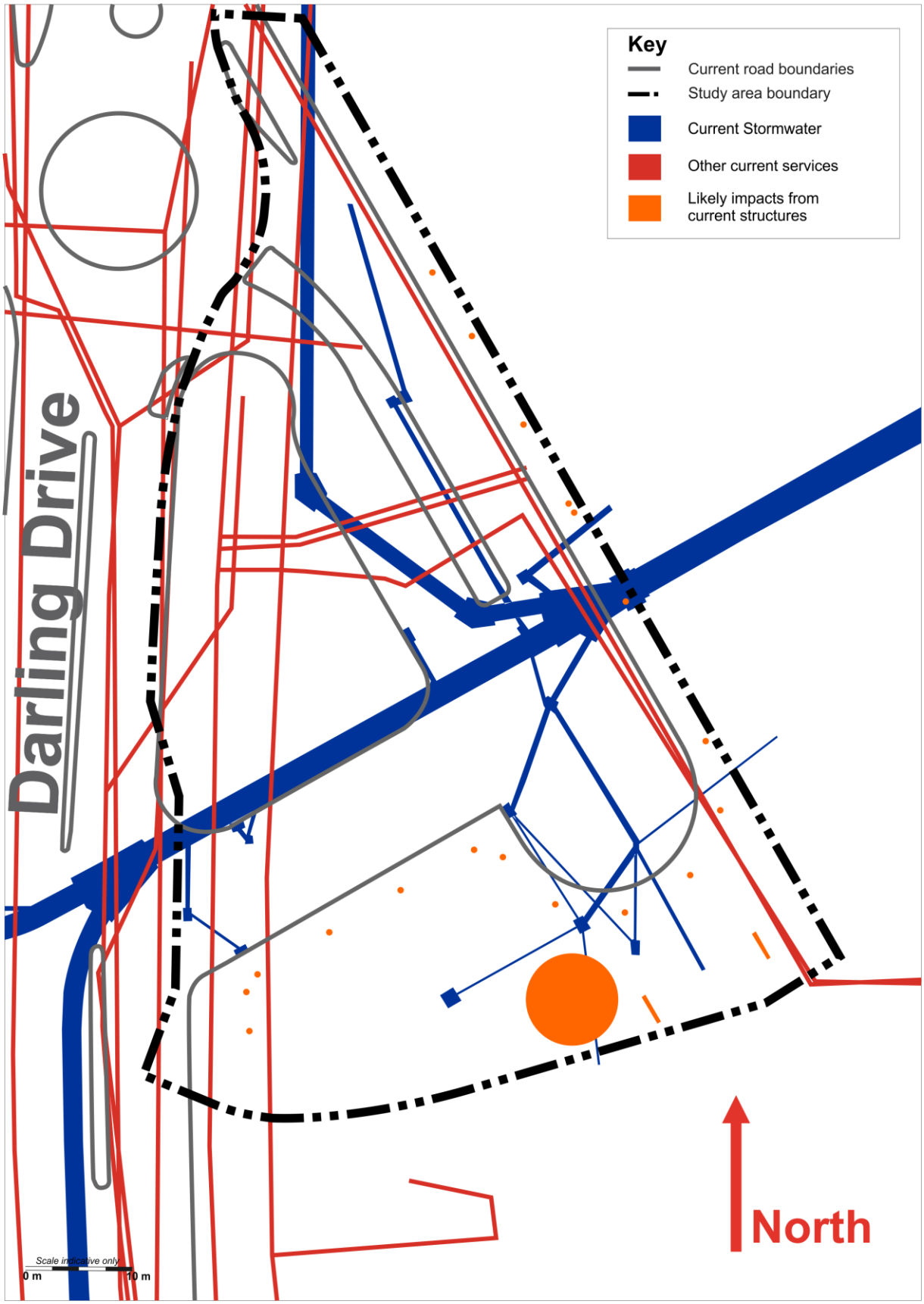


Figure 3.5: Current services and other existing impacts within the study area.

3.3 Interpretation of geotechnical investigations

As part of the planning process for the SICEEP, Coffey Geotechnics Pty Ltd undertook geotechnical investigation of the entire SICEEP area for Infrastructure NSW in the first half of 2012.[73] Further geotechnical testing was conducted by Coffey Geotechnics in May 2013, specifically for the proposed ICC Hotel.[74] Data from further boreholes was recorded by Coffey Environments in December 2012 and by Coffey & Partners in July 1985 and reproduced in Appendix F of an assessment of impacts on the saltwater inlet conduits by Pells Sullivan Meynick, engineering consultants.[75] Although not their primary purpose, the results of geotechnical testing can be interpreted archaeologically to provide an understanding of the levels at which different deposits occur. Specifically, the geotechnical information has been examined for information regarding the levels at which residual soil or alluvium occurs, and the level of the underlying bedrock, below which no archaeology can occur.

From these reports, information useful for assessing the archaeological potential of the site can be obtained from 14 boreholes (Table 3.3). Overall, these results point to the site consisting of three broad regions (current ground level ranges from RL 3.0 to 2.8m.)

The northern part of the study area had no residual soil or alluvium, and relatively high bedrock starting between RL 2.60 m and 1.80 m (BH101, BH102, BH201, BH202, BH209). Based on an analysis of historic maps and views (Section 3.4), this area is likely to be rocky foreshore which was then quarried down to a level suitable for the original and later railway goods lines.

The central area had residual soil or alluvium starting at between RL 1.70m and 1.30m (NBH1, NBH2, BH203, BH205, BH206, BH207). An analysis of historic maps suggests that this is partly foreshore pre-dating the initial construction of the railway, and partly silting of what had been an intertidal zone in the period following the initial construction of the railway, up to around 1865 (Section 3.4). Borehole data and an interpolated rock contour plan by Coffey Geotechnics suggest that bedrock in this central area lies between RL 1.3m and 1.0m (Table 3.2, Figure 3.7).

The southeast corner of the study area had residual alluvium from levels which would have always been below the low water mark (RL -0.90 m and -2.2 m). Analysis of historic maps suggests that this area was only reclaimed in the late nineteenth or early twentieth century.

This analysis of the site is consistent with the conclusions regarding the bedrock profile of the site in the 2013 Coffey Geotechnics report, which stated:

> Generally, the subsurface information indicates that the buried rock profile is consistent with the original natural shoreline geometry, with evidence to suggest that the northern section of the site has been previously excavated to create the present day, level site.[76]

The 2013 Coffey Geotechnics report also included an interpolated rock contour plan, which is useful in estimating the surviving archaeological resource (Figure 3.7).

The levels from the results are also consistent with those observed during archaeological excavations at the Darling Quarter (formerly Darling Walk) site in 2008, where the archaeological resource started at between RL 1.9 and 1.6 m, while remains associated with the first colonial use of the site started at between RL 1.6 and 0.5 m (Table 3.2).

[73] Coffey Geotechnics 2012a; Coffey Geotechnics 2012b.
[74] Coffey Geotechnics 2013.
[75] Pells Sullivan Meynink 2013a
[76] Coffey Geotechnics 2013: 7

Table 3.3: Summary of residual soil or alluvium and bedrock levels from borehole logs.[77] (Current ground level ranges from RL 3.0m to 2.8m.)

Borehole ID	RL Residual Soil or Alluvium	RL Bedrock	Geotechnical description of residual soil (Coffey)	Archaeological Interpretation (Casey & Lowe)
Northern portion – little or no remaining soil or alluvium				
BH201	None	2.5	**n/a**	**n/a**
BH202	2.40	2.20	**SAND**: fine, orange brown, with a trace of sandstone gravel	This deposit may be residual sand from the period when the rocky foreshore was quarried and levelled for the railway.
BH208	0.30	-0.40	**SAND:** fine to medium, brown, trace of fine grained shell fragments.	This probably is an anomalous result, possibly due to local variation or previous excavation – the bedrock level is noticeably lower than surrounding boreholes.
BH209	None	2.60	**n/a**	**n/a**
BH101	None	1.80	**n/a**	**n/a**
BH102	None	2.18	**n/a**	**n/a**
Central portion – residual soil or alluvium				
NBH1	1.40	0.30	**Clayey SAND:** Fine to medium grained, pale brown, mottled red-brown and pale grey	
NBH2	1.70	-1.50	**SAND:** Fine to medium grained, orange-brown, trace of shell fragments.	Note – this borehole was outside the study area.
BH203	1.30	0.90	**Silty SAND:** fine to medium, mottled brown and grey, with a trace of fine to medium grained sandstone gravel.	
BH205	1.60	0.10	**Silty SAND:** fine medium, mottled orange brown-grey, with a trace of ironstone gravel.	
BH206	1.70	1.30	**Silty SAND:** fine to medium, mottled orange brown, brown, pale grey and pink, with a trace of fine grained sandstone gravel.	
BH207	1.40	1.00	**Clayey SAND:** medium to coarse, mottled grey, brown, dark red purple.	
Southeastern portion – residual alluvium, below low water mark				
BH204A	-0.90	-1.20	**Silty SAND:** medium, dark grey, with some shells.	
TB5	-2.2	-3.21	**CLAYEY SAND,** grey	Note – this borehole was outside the study area.

[77] Boreholes NBH1-2 from Coffey Geotechnics 2012a and Coffey Geotechnics 2012b; BH201-209 from Coffey Geotechnics 2013; BH101-102 and TB5 from Pells Sullivan Meynink 2013a.

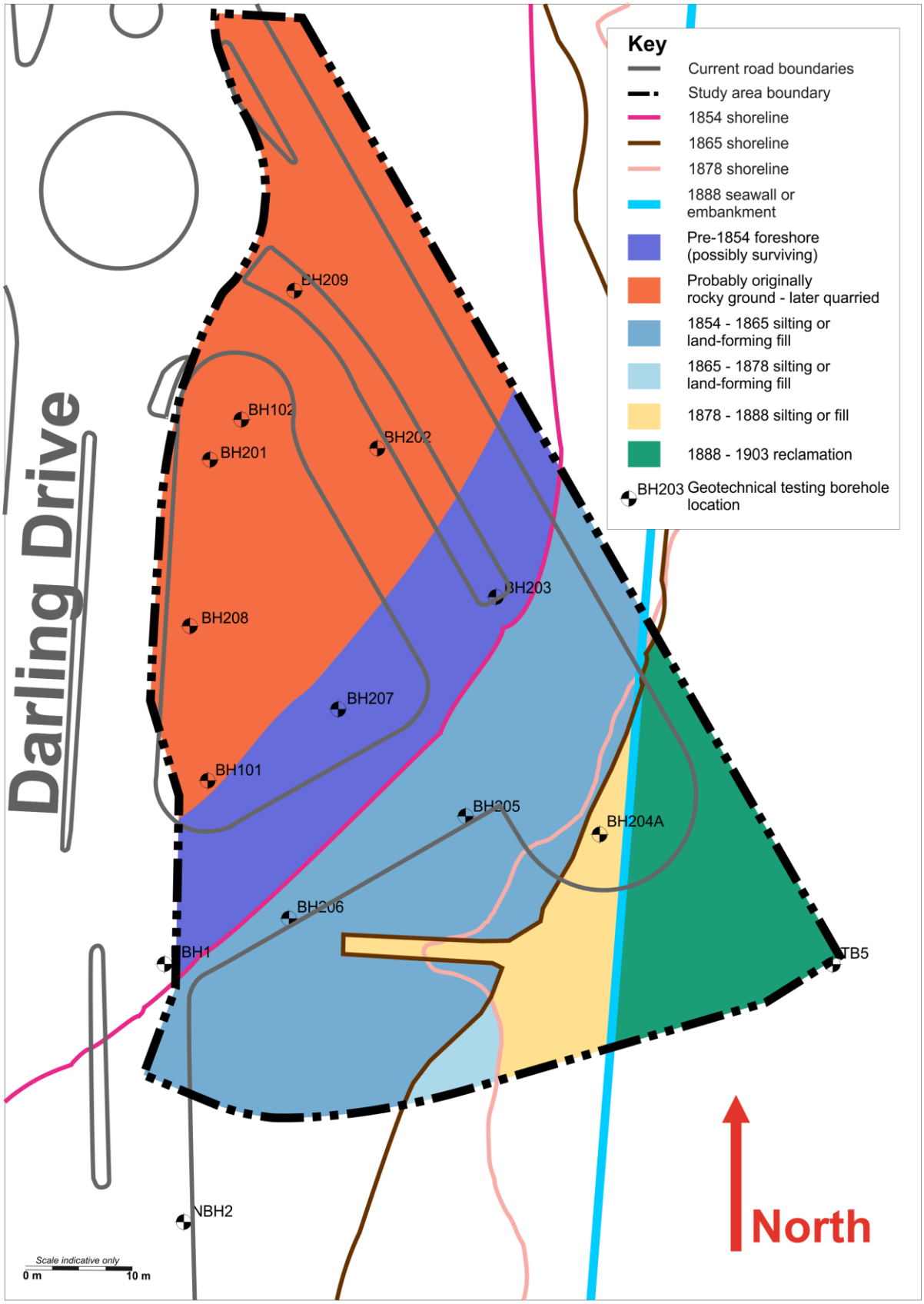


Figure 3.6: Geotechnical testing borehole locations in vicinity of ICC Hotel study area, with land reclamation phases based on historic maps.

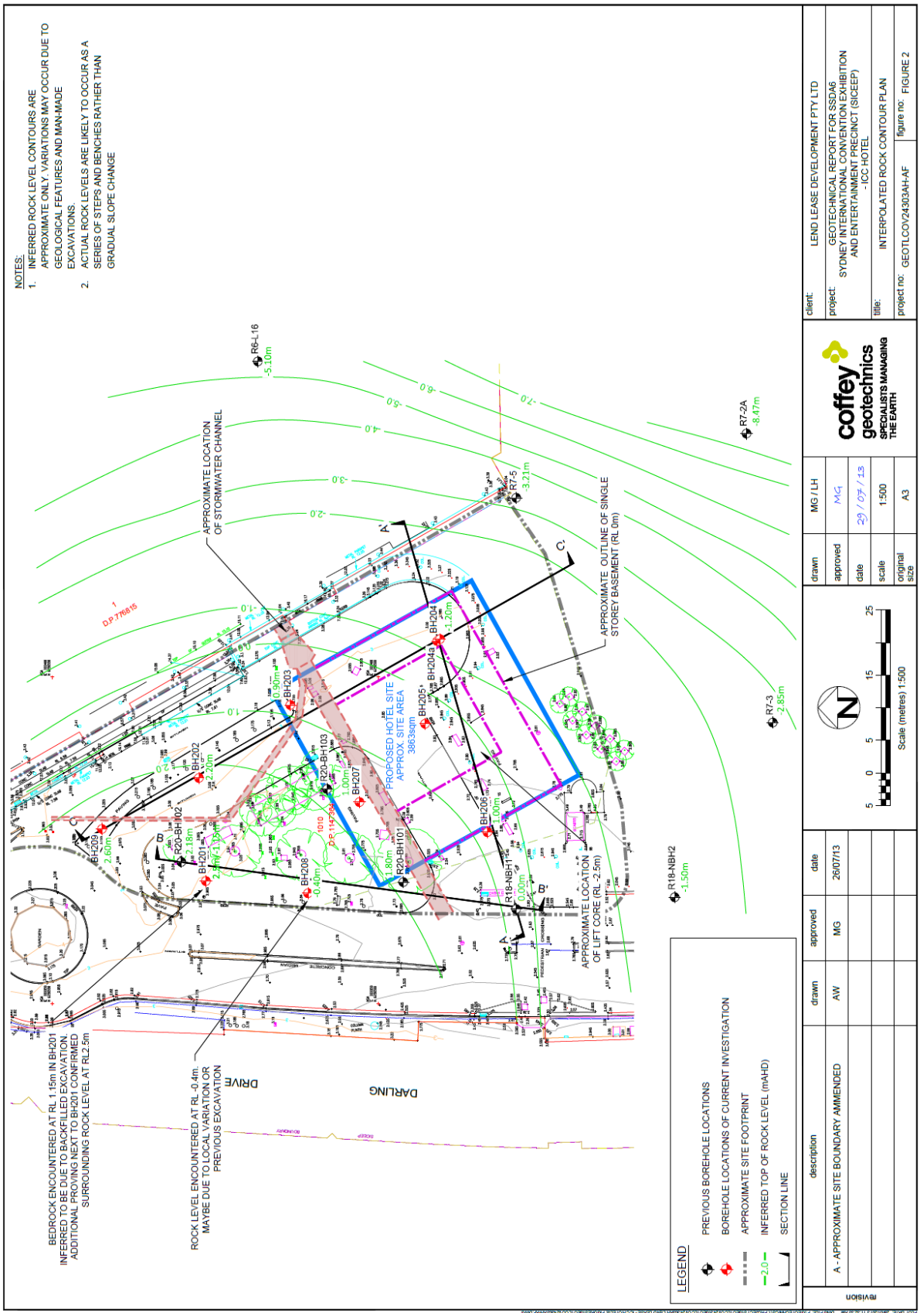


Figure 3.7: Interpolated rock contour plan, Coffee Geotechnics 2013, figure 2.

3.4 Site Specific Archaeological Potential

The ICC Hotel site is located on an area which would have been the western shorefront of Cockle Bay prior to infilling following the construction and expansion of the railway lines (Figure 3.13, Figure 3.20). The shorefront within the study area originally would have consisted of a rocky foreshore which would have sloped down to the water, and a silty and sandy intertidal zone, which would have accumulated over bedrock. Although no visual landscape image clearly showing the site prior to the 1850s has been located, images from the 1850s to 1870s show both the rocky foreshore and the intertidal zone (Figure 3.8, Figure 3.9, Figure 3.10, Figure 3.11, Figure 3.12).

Much of the original rocky foreshore was quarried away to make space for the construction of the railway line in the 1850s and its expansion in the 1870s. The extent of this quarrying is visible in three panoramic photographs showing the western side of Darling Harbour, taken in the 1860s and 1870s (Figure 3.11, Figure 3.12, Figure 3.13). The third of these three photographs (Figure 3.13) shows how the extension of the railway line in the 1870s caused the shoreline to be quarried away further than it had been previously. The quarried rock face is also visible on an 1878 plan showing the railway (Figure 3.14). Later expansion of the railway led to the further quarrying of the rock to the west of the study area. The geotechnical investigations in 2012 and 2013 support this interpretation of the historical evidence (Section 3.3). Boreholes in the northern section of the study area found no residual soil or alluvium, and relatively high bedrock starting between RL 2.60 m and 1.80 m. These are likely to be the areas which were quarried prior to the construction of the railway.

The part of the ICC Hotel study area to the east and south of the quarried parts of the rocky foreshore would have been a silty and sandy foreshore and intertidal zone prior to the construction of the railway in the 1850s. Any European use of this land would have been small scale, transitory and poorly documented. Possible landuses include the keeping of small watercraft, shell collection and lime burning. There is also the possibility of other activities associated with the nearby tenants on the Ultimo Estate, whose houses appear on views from the 1850s and 1860s (Figure 3.9, Figure 3.11, Figure 3.12). This kind of landuse appears to have continued after the railway was first constructed, as seen by the shed in the c1873 photograph (Figure 3.12), although this shed was not in earlier or later views. A different shed within the study area is seen in a photograph dating to between c1873 to 1876 (Figure 3.13).

The construction of the railway and successive phases of expansion decreased the area of the intertidal zone (Figure 2.21). The process of expanding the railway appears to have involved gradual infilling of the harbour. This infilling probably would have involved both deliberate dumping of material and inadvertent silting caused by changed conditions in the harbour. The straight edge shown on the 1888 map (Figure 3.21) suggests that a seawall also may have been built in the 1880s as part of this process, although this might also have been some other form of constructed shorefront, such as an embankment. According to rock contour interpolations by Coffey Geotechnics, bedrock in the area of the 1880s seawall/embankment occurs between RL −1.0 and −1.5m (Figure 3.6, Figure 3.7). The seawall could reach this depth. Further reclamation took place east of this seawall/embankment before the Outward Goods Sheds were constructed in 1902.

Although railway construction may have disturbed the surface of the intertidal zone, it seems probable that sections have survived. Remnant intertidal foreshore has been found on archaeological sites elsewhere around Darling Harbour, in particular Darling Quarter,[78] and the geotechnical results for the ICC Hotel site found residual soil or alluvium starting at between RL 1.70m and 1.30m (Section 3).

[78] Casey & Lowe 2009; see also section 4.1.1 of this report.

There is a possibility that the silty, alluvial soils associated with the pre-1850s foreshore and intertidal zone could be potential acid sulfate soils (PASS).[79] These soils react with oxygen in the air to form sulfuric acid. The presence of PASS prevented the full archaeological investigation of natural sands and silts on the Darling Quarter site, also on Darling Harbour,[80] and could also diminish the realisable archaeological potential of this site.

Archaeological remains are also likely from both the first phase of the goods railway (c1853-1880s) and the associated process of filling in the harbour. The 1865 *Trigonometrical Survey of Sydney* shows the railway tracks crossing a culvert before terminating within the study area (Figure 3.18). Whether the first tracks still remain *in situ* is unclear. They may have been removed and replaced, as the line was repeatedly upgraded and expanded, although they also may have been simply buried by ballast as later tracks were laid and the railway line expanded. The pre-1865 culvert itself is likely to have been buried by all later works. Already by 1878, a plan of the railway line shows the culvert partially covered by a siding (Figure 2.14), and by the 1888 map, the culvert no longer appears (Figure 3.21). The actual fill material from the in-filling of Darling Harbour itself is a potential archaeological resource, whether it originated from deliberate human dumping or inadvertent silting due to changes in the harbour. Sampling this fill could provide information regarding how human activity transformed the landscape of Darling Harbour. The probable seawall or embankment shown on the 1888 map (Figure 3.21) is also an archaeological feature which is likely to still remain *in situ*.

None of the original (c1899) inlet or outlet pipes for the Ultimo Powerhouse ran through the study area, but further reclamation in the 1920s required the installation of new inlets and outlets. These later saltwater inlet conduits run beneath the Hotel study area (Figure 3.16, Figure 3.17). This inlet conduit was partially tunnelled through bedrock and partially extended to the waterfront by the construction of a coffer dam. An overlay of the 1854 shoreline and the inlet conduit route shows that the conduit passed through that part of the study area which originally was the rocky shore (Figure 3.17). This suggests that the section of the 1920s saltwater inlet conduits within the study area were tunnelled through sandstone bedrock. The 1920s saltwater inlet conduits remain *in situ* on the site and are listed on SHFA's S170 register as a significant engineering heritage item. According to easements on either side of Darling Drive, the conduits' upper RL ranges between RL −3.00m (west side of Darling Drive) and RL −2.33m (east side of Darling Drive).[81] However, as the engineering report by Pells Sullivan Meynick notes, the dimensions of the conduit on historical plans (Figure 2.31, 7 feet 11 inches (2.42m)) are slightly larger than that allowed for by the easement on the east side of Darling Drive (2.39m).[82] Historical images of the conduits under construction also show how uneven the roof of the sandstone tunnel could be (Figure 2.32, Figure 2.33, Figure 2.34). Therefore it is quite possible that the saltwater conduit tunnel starts slightly higher than RL −2.33m, and a conservative approach should be taken when estimating the conduit location. The likely impacts of the ICC Hotel development on the 1920s saltwater inlet conduits have been assessed in an engineering report by Pells Sullivan Meynick (Appendix 3).[83]

The former railway goods yard continued to be used and occasionally changed until it was removed in the 1980s to make way for the Darling Harbour redevelopment. This continuous usage makes the survival of original railway tracks from the 1850s unlikely. One of the two Outward Goods Sheds built in 1902 were partially located in the study area (Figure 3.22, Figure 3.23, Figure 3.24, Figure 3.25, Figure 3.26, Figure 3.28, Figure 3.29).[84] The plans for these two sheds show that they

[79] Coffey Geotechnics 2012b: 34-35.
[80] Casey & Lowe 2009: 10-11.
[81] Pells Sullivan Meynink 2013b: 5.
[82] Pells Sullivan Meynink 2013b: 5-6.
[83] Pells Sullivan Meynink 2013b.
[84] PWD[1984]: 113.

were designed to be supported by concrete piers which did not extend to bedrock (Figure 3.27). This suggests that the good shed would not have had a large impact on the archaeology of previous landuse. However a photograph taken following the demolition of the Outward Goods Sheds prior to the construction of the Harbourside shopping centre in the 1980s (Figure 3.30), suggests that the demolition of the sheds was fairly thorough. Footings from the buildings may remain, and there is also the potential for railway tracks and ballast to remain in context. However these remains do not reach the threshold required for local significance (section 5).

Stormwater channels installed during the 1980s redevelopment would have impacted on the existing archaeology. In particular the Fig Street Stormwater 30B would have impacted on the railway line and goods yard and the foreshore and intertidal area which preceded it (Figure 3.17). Those areas impacted by the Fig Street Stormwater channel would have reduced archaeological potential. Other services, such as electricity and telecommunications, also cross the study area. However, as these services are typically not buried as deeply as stormwater drains, they are less likely to have disturbed the archaeological resource. Current ground level ranges from RL 3.0m to 2.8m. Based on an interpretation of geotechnical results, pre-1850s remnant soil and alluvium is expected at RL 1.70m and 1.30m (Section 3). Archaeology associated with railway prior to the construction of the Outward Goods Sheds in 1902, may begin slightly higher at RL 1.9 and 1.6m, based on the experience of Casey & Lowe at the nearby Darling Quarter site (Table 3.2).

Piling associated with that part of the Sydney Convention Centre, which projects into the Hotel site, and possible piling associated with the awning joining the Harbourside Shopping Centre with other structures, is likely to have impacted on the potential archaeology but not destroyed it, based on our experience on other sites. The 1880s seawall or embankment is particularly likely to have been impacted by the 1980s redevelopment (Figure 3.30).

To summarise, the ICC Hotel study area has the potential to contain the following historical archaeological remains:

- Pre-1850s foreshore and intertidal zone.
- Features associated with the goods railway line (construction commenced 1853). These include:
    - Culvert associated with pre-1865 railway line
    - Early (1850s– 880s) railway tracks (possibly removed by later rail upgrades).
    - Footings of sheds seen in 1870s photographs and deposits associated with their use.
- Reclamation fills, originating from both.
- 1880s seawall or embankment.
- Footings of 1902 Outwards Goods Shed (possibly removed in 1980s)

These archaeological remains are expected to start somewhere between RL 1.9 and 1.6m. Residual soil or alluvium is expected from between RL 1.70m and 1.30m. In the area with residual soil or alluvium, bedrock is expected between RL 1.3 and 1.0m. Around the 1880s seawall/embankment, bedrock is expected between RL −1.0 and −1.5m. By comparison current ground level ranges between RL 3.0 and 2.8m. This means that the archaeology is likely to begin around 1.0 to 1.4m from the present surface level of the study area, and possibly extend down as deep as 4.5m below the present surface level.

The study area also includes the following heritage engineering work:

- 1920s saltwater inlet conduits for Ultimo Powerhouse

The heritage significance of these archaeological remains and other works is discussed in Section 5 of this report.

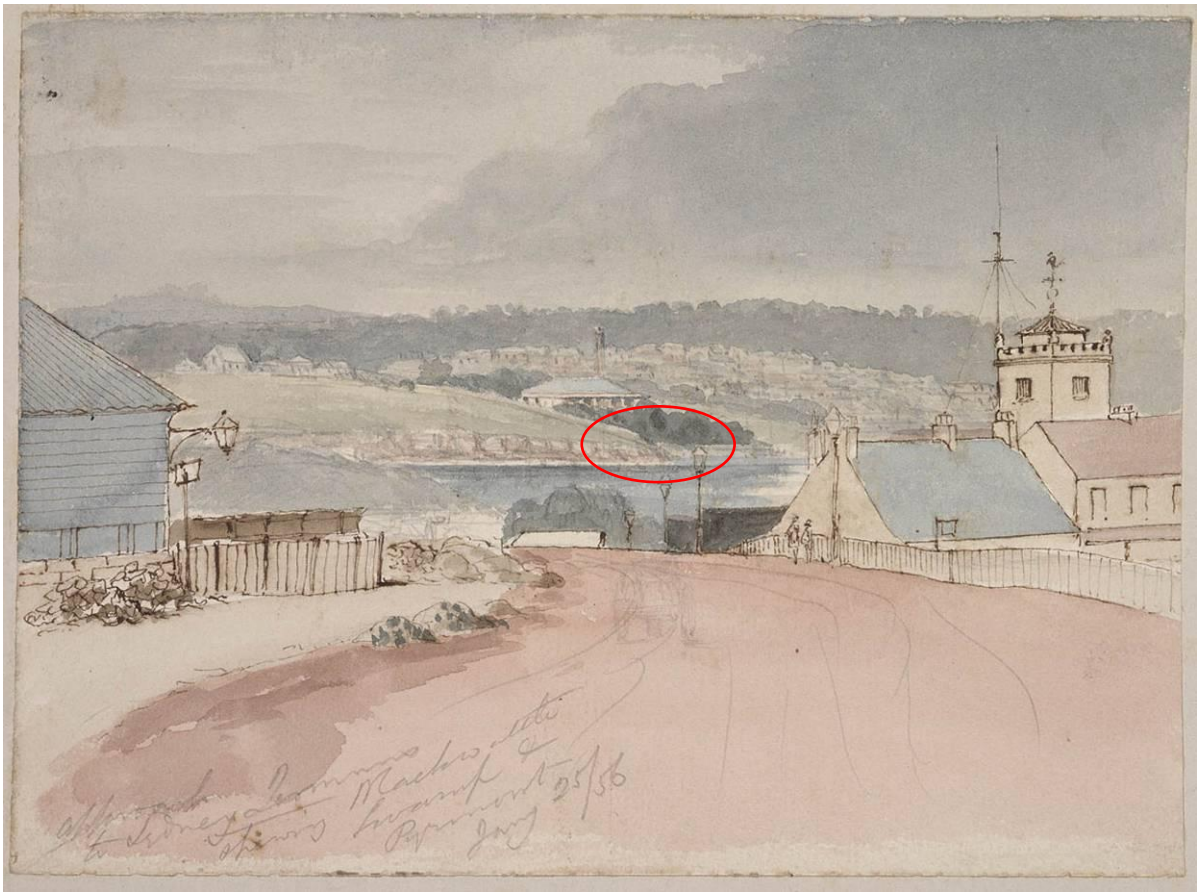


Figure 3.8: 'Approach to Sydney Terminus shewing Mach[…?] at the Swamp & Pyrmont Janry 25/56'. The approximate study area location is circled in red, and Mrs Bunn's house, a nearby landmark, is visible in the distance. Although the exact vantage of this view could not be determined, it appears to have been painted from the vicinty of George Street. The distinctive, castellated tower on the right is "Hancock's Tower", which is variously described as 'off George-street, opposite the Railway Station' (SMH 9/03/1877, p 3b, cf Fitzgerald & Golder 2006: 40-41), 'at the corner of George and Quay Streets' (SMH 2/7/1932, p 9d) and 'a short distance from Christ Church, behind a row of steps' (*Australian Town and Country Journal* 3/03/1894, p 29b). SLNSW DL PXX 30, 1b, digital order no. a1572003.

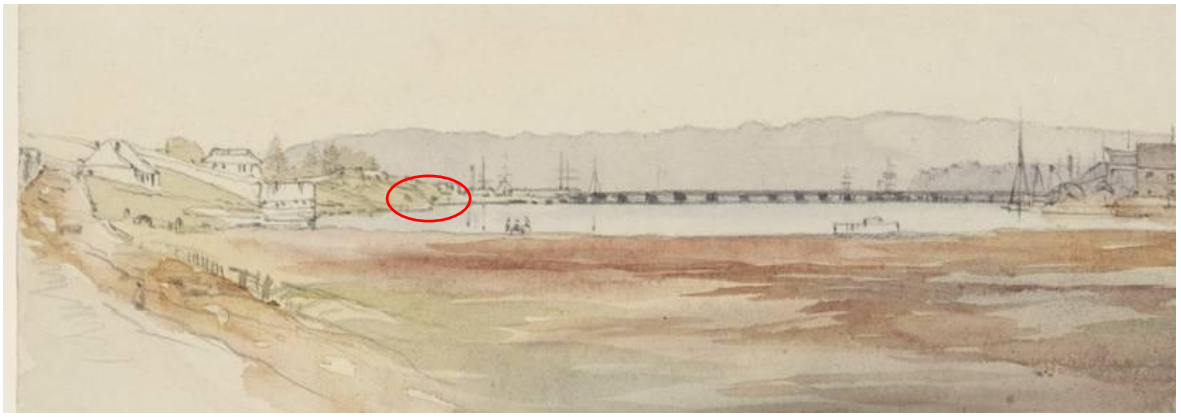


Figure 3.9: Detail of a watercolour of Darling Harbour, attributed to Samuel Elyard. This painting post-dates the construction of the first Pyrmont Bridge in 1857-58. It may predate the completion of the initial stage of the Darling Harbour Railway in 1859, which is not visible in it, or it may date to the mid-1860s, based on a comparison with similar, dated views by Elyard.[85] The approximate location of the study area has been circled in red. SLNSW DG XV* / Sp Coll / Elyard / 3, digital order no. a1528107.

[85] Broadbent 2010: 506.

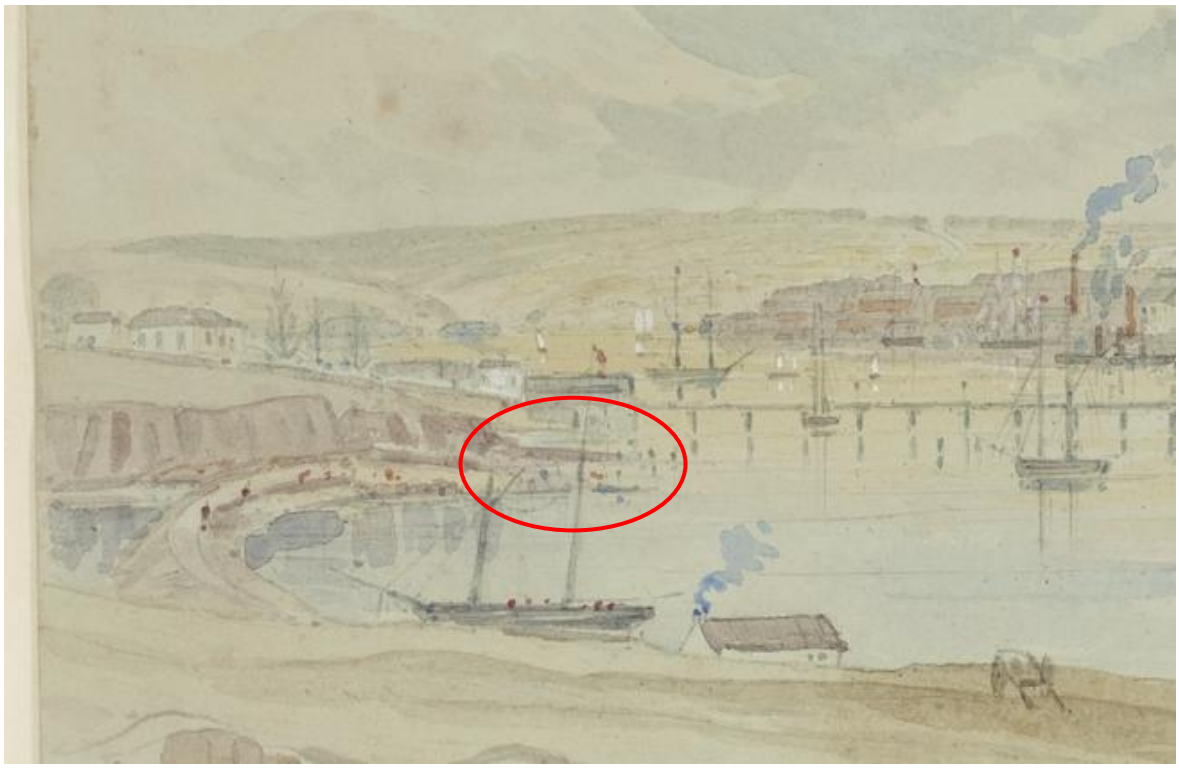


Figure 3.10: The approximate location of the study area is circled in red. Note how the goods line causeway has been bulit across to the Pyrmont headland. Detail of 'Darling Harbour, Sydney, from Ultimo' by H G Lloyd, dated December 1863, SLNSW DL PX 42, digital order no. a5894019.

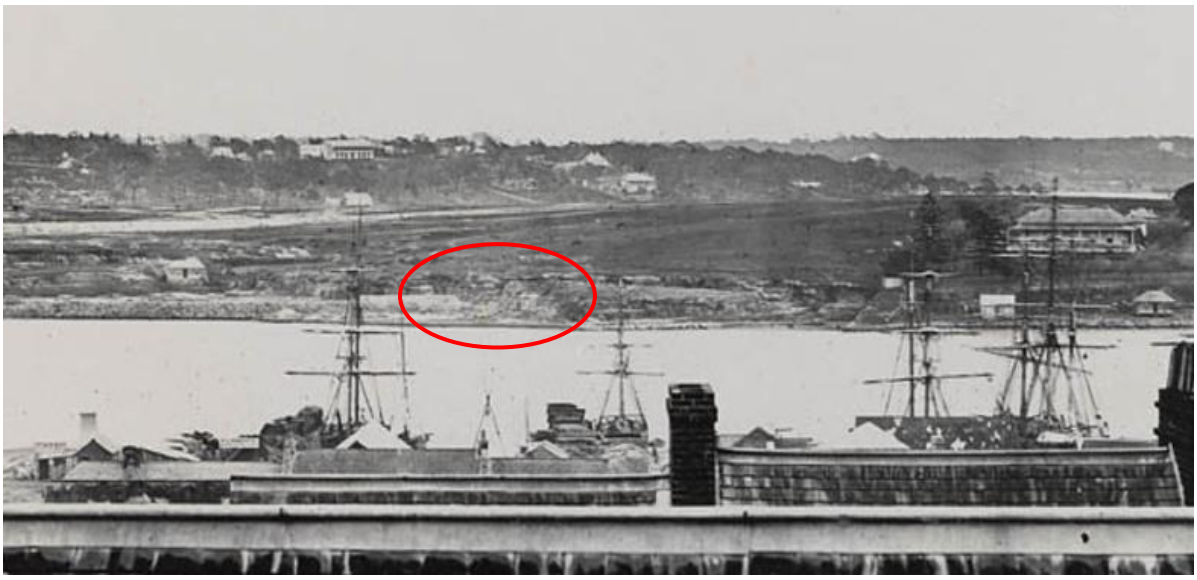


Figure 3.11: Detail of a panorama of Darling Harbour, looking west, taken c1865 from an unknown location, probably somewhere between Druitt and Market Streets, Sydney. The approximate location of the ICC Hotel study area is circled in red. It was a rocky headland to which the railway causeway had already been connected. SLNSW DL PX 162, digital order no. a1729004.

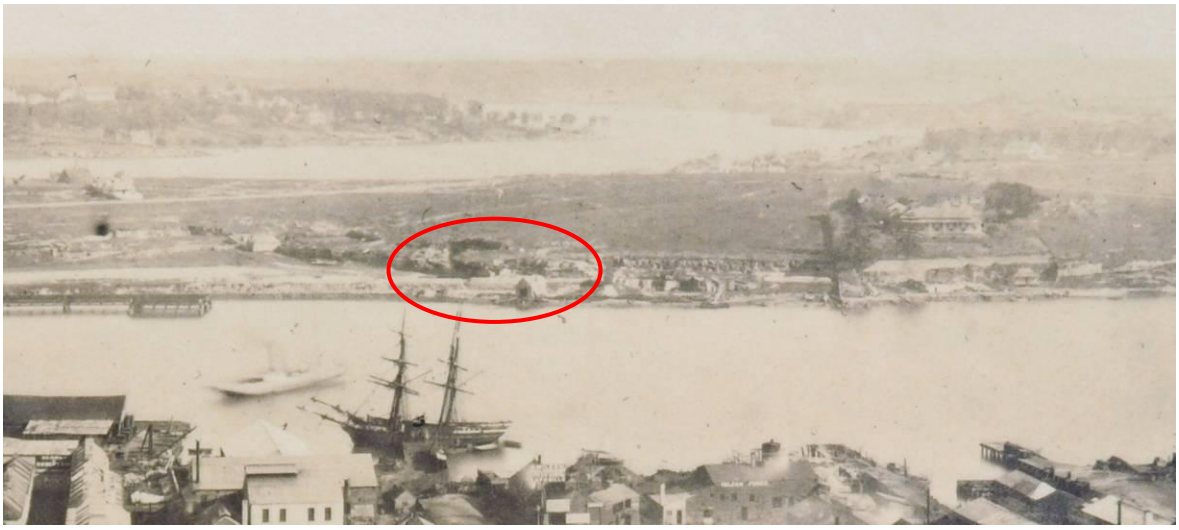


Figure 3.12: Detail of a panorama (looking west from the Sydney Town Hall tower towards Darling Harbour and Ultimo). The approximate location of the ICC Hotel study area is circled in red. The Iron Wharf has been partially built on the left. Taken c1873. City of Sydney Archives SRC18063.

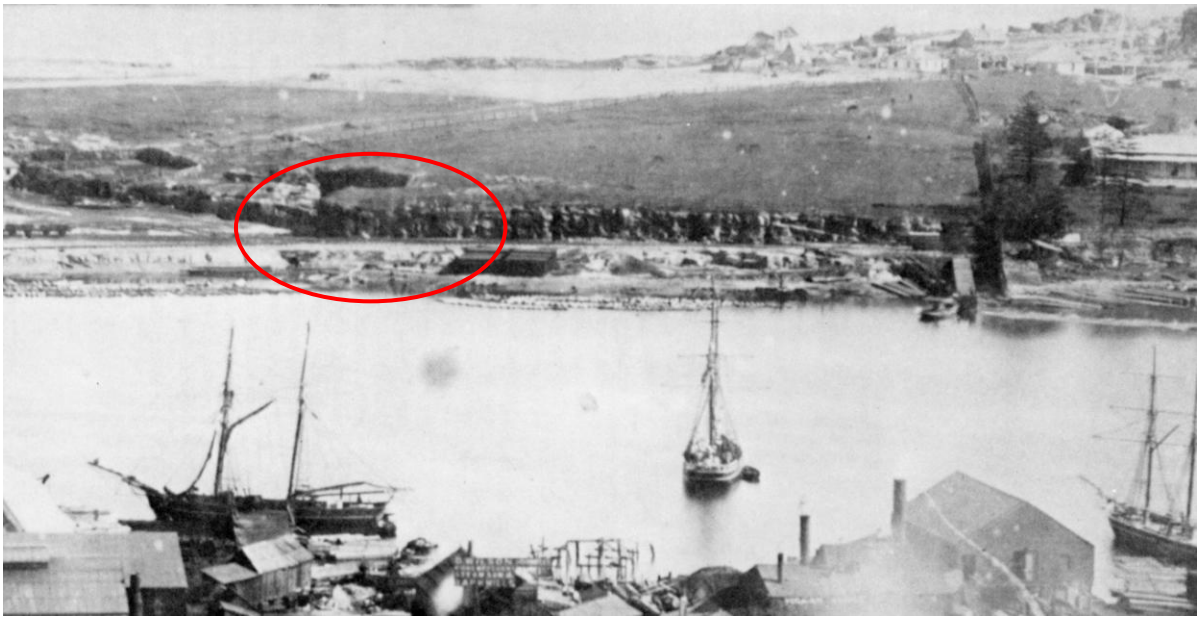


Figure 3.13: Detail of a panorama looking west, also taken from the Sydney Town Hall tower. This is later than Figure 3.12 but predates the construction of the Murray Street School (1876). The approximate location of the ICC Hotel study area is circled in red. Macleay Museum, University of Sydney, reproduced in Matthews 1982: 18.

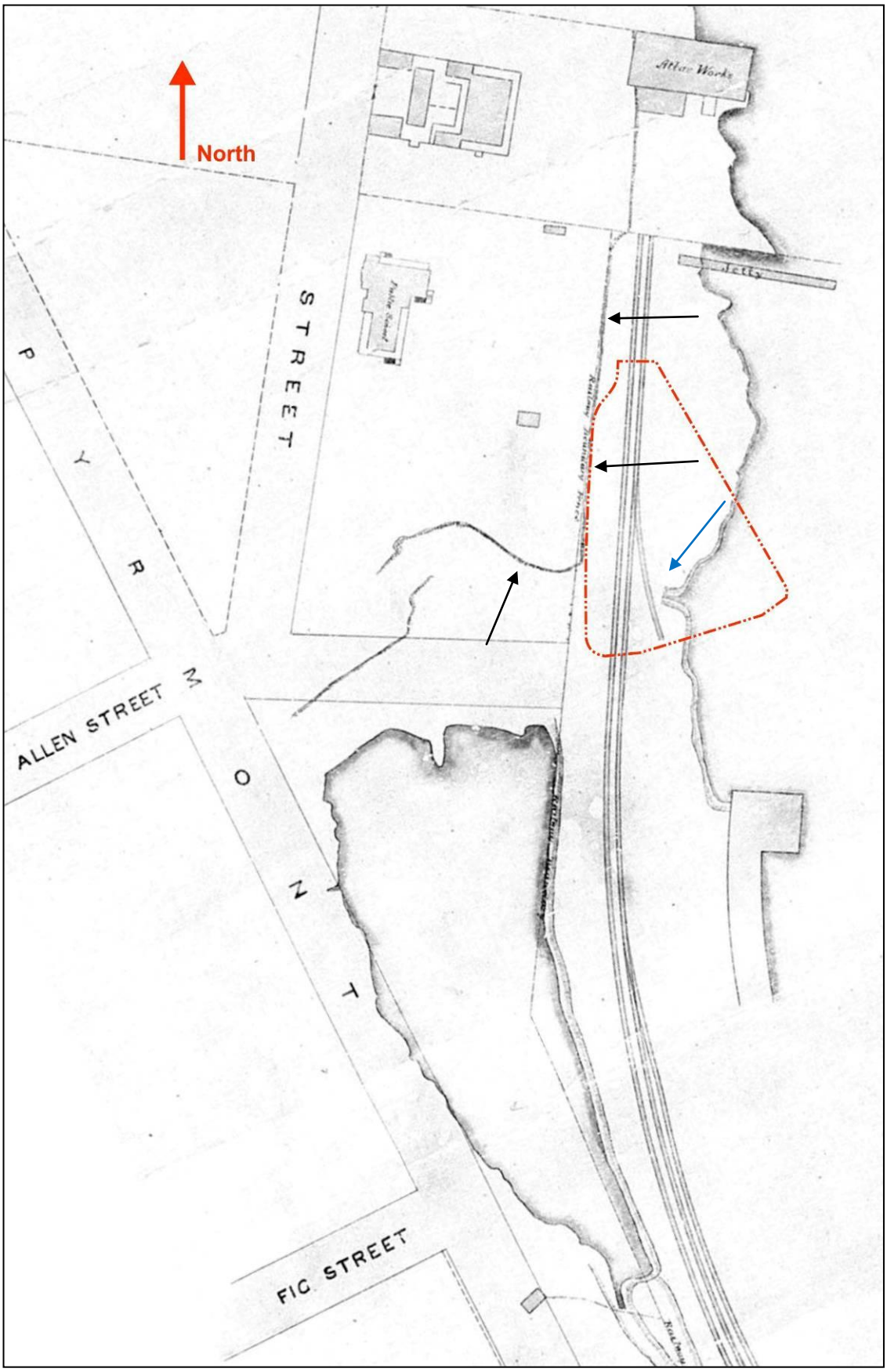


Figure 3.14: Detail of 'Plan, Head of Darling Harbour' dated 1878. Hotel study area outlined in red, the quarried rock face is marked by black arrows, the partially buried culvert is marked by blue arrows. SRNSW AOMap 464, pt 1 of 2.

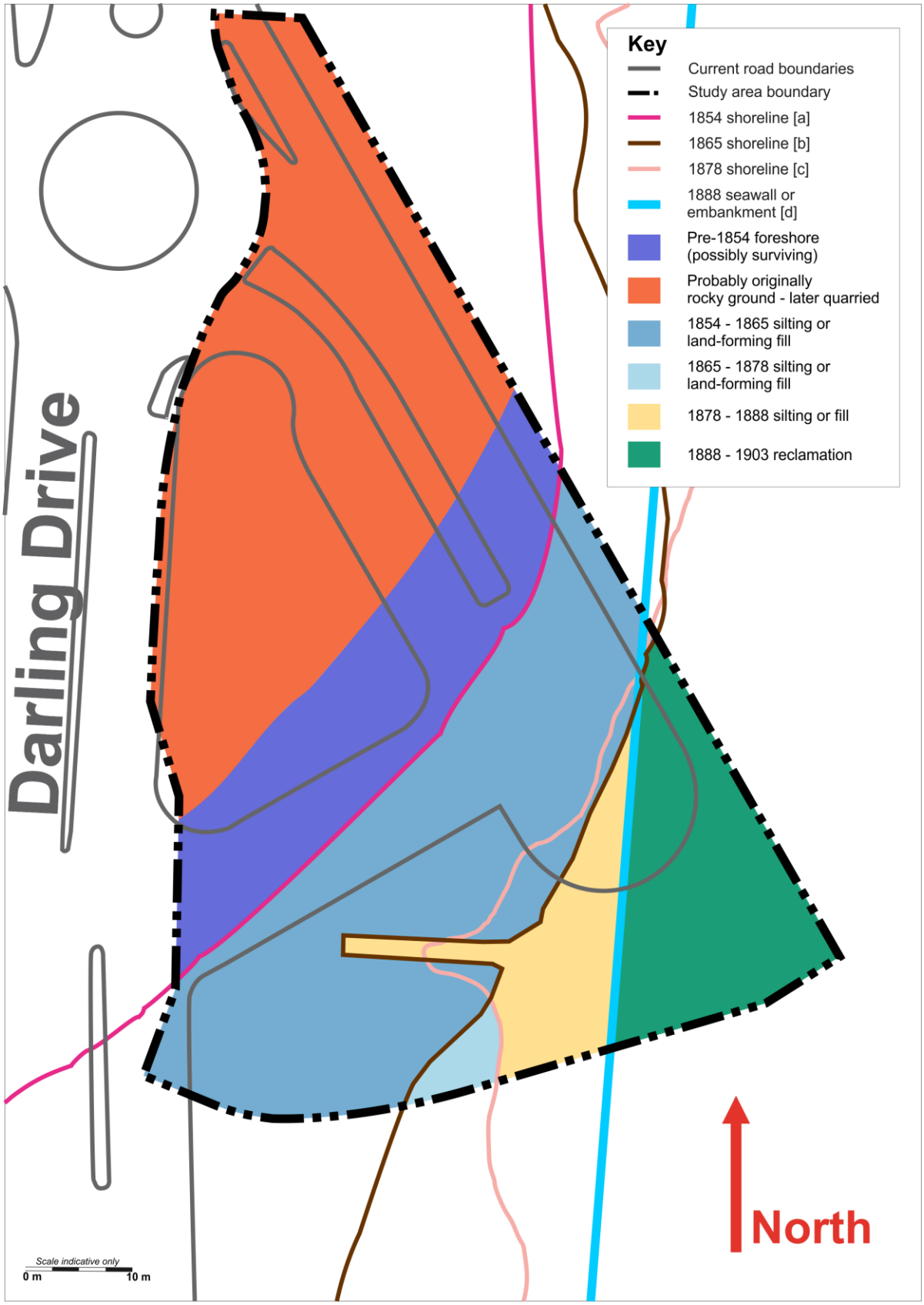


Figure 3.15: Plan showing various foreshore phases from historic maps. [a] 1854 Woolcott & Clarke's *Map of the City of Sydney*. Historical Atlas of Sydney, City of Sydney Archives; [b] 1865 Trigonometrical Survey of Sydney, Sheet W1, Historical Atlas of Sydney, City of Sydney Archives; [c] 1878 Plan, Head of Darling Harbour, AO Map 464, pt 1 of 2, SRNSW; [d] 1888 Map of the City of Sydney, New South Wales, 2nd edition, NLA MAP RM 3448

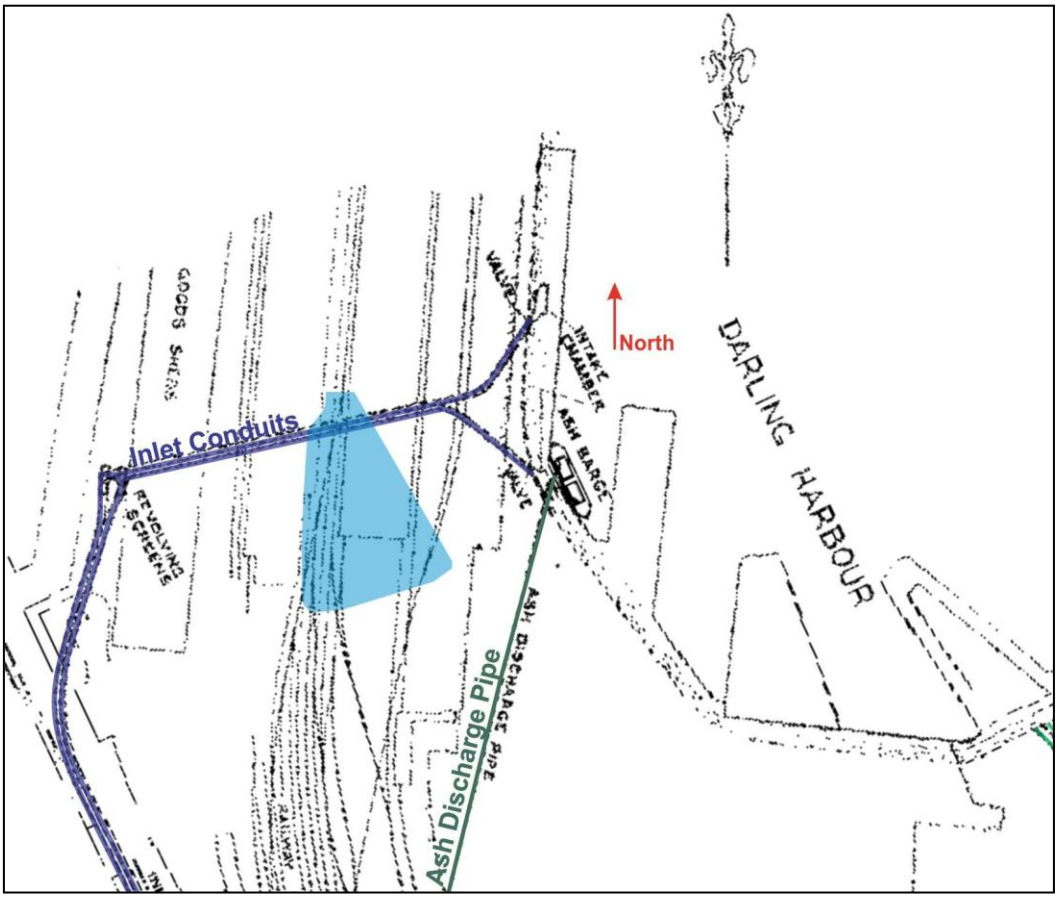


Figure 3.16: Detail of a plan showing the 1920s inlet conduits for the Ultimo Powerhouse. Study area shaded in blue. Myers 1933

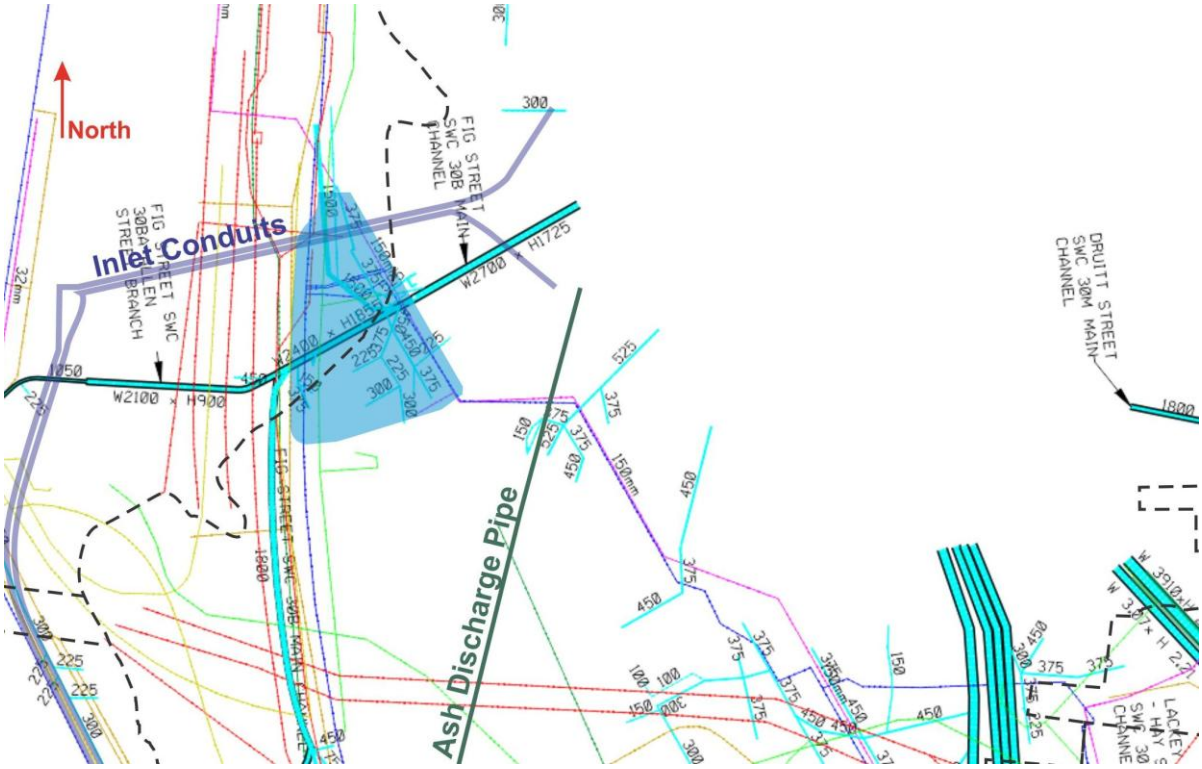


Figure 3.17: Detail of plan of stormwater culverts within the Darling Harbour precinct (Rygate February 2013) with overlays showing the location of the 1920s inlet conduits for the Ultimo Powerhouse (Myers 1933) and the 1854 shoreline, as a black dashed line (Woolcott & Clarke 1854). Study area shaded blue.

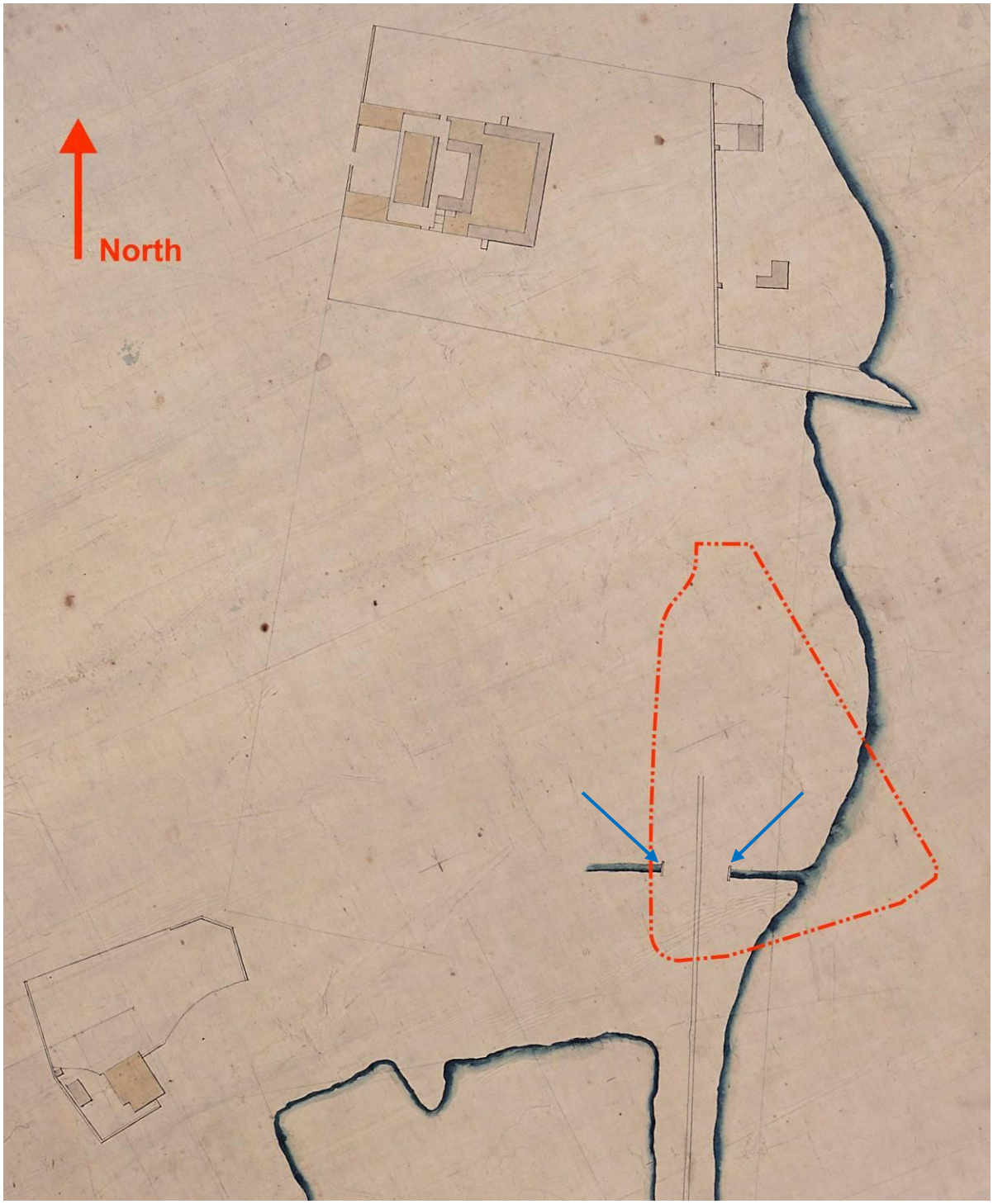


Figure 3.18: Detail of 1865 Trigonometrical Survey of Sydney, Sheet W1. Study area outlined in red. Note the culvert which the train line passes over (marked by blue arrows). Historical Atlas of Sydney, City of Sydney Archives.

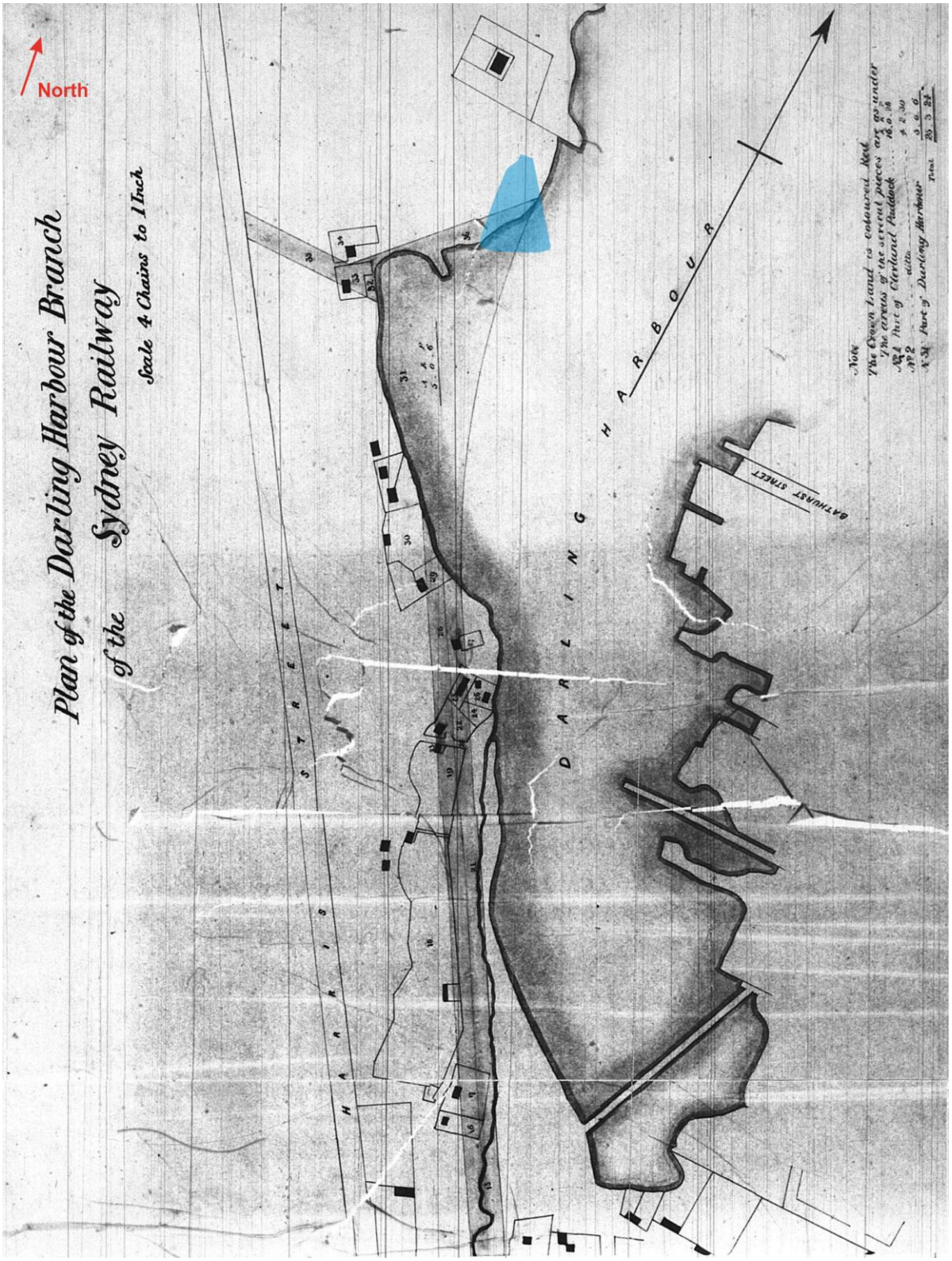


Figure 3.19: Detail of a plan of Darling Harbour and proposed Sydney Railway, c1853, in the Surveyor General's Sketchbook. ICC Hotel site shaded blue. Surveyor General's Sketchbooks c1853 vol 6, folio 70-71, SRNSW.

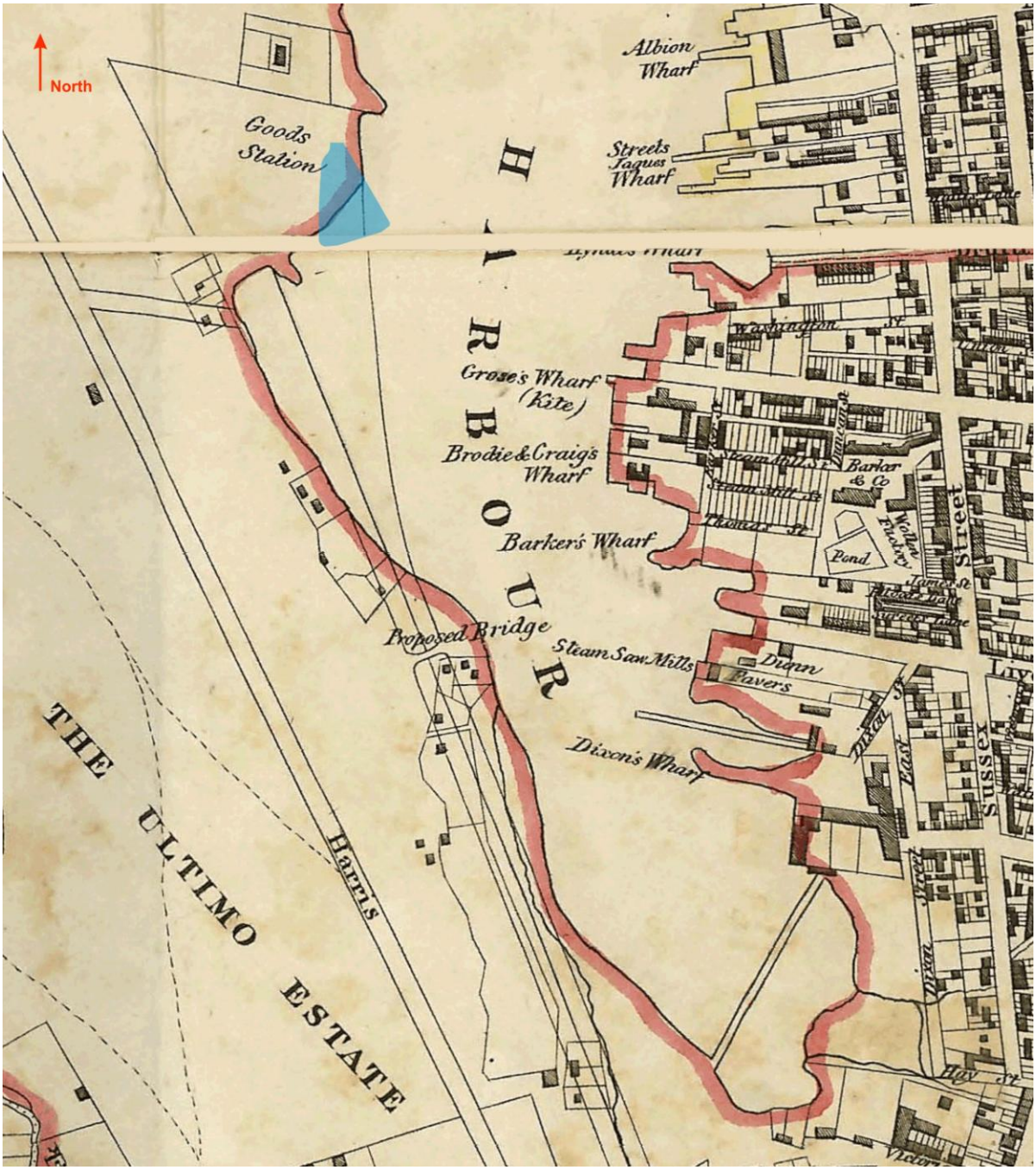


Figure 3.20: Detail of Woolcott & Clark' 'Map of the City of Sydney', 1854. The study area is highlighted in blue. Historical Atlas of Sydney, City of Sydney Archives.

Figure 3.21: Overlay of ICC Hotel study area, shaded blue, on detail of Surveyor General's Office of NSW 1888. 'Map of the City of Sydney, New South Wales, 2nd edition'. NLA MAP RM 3448

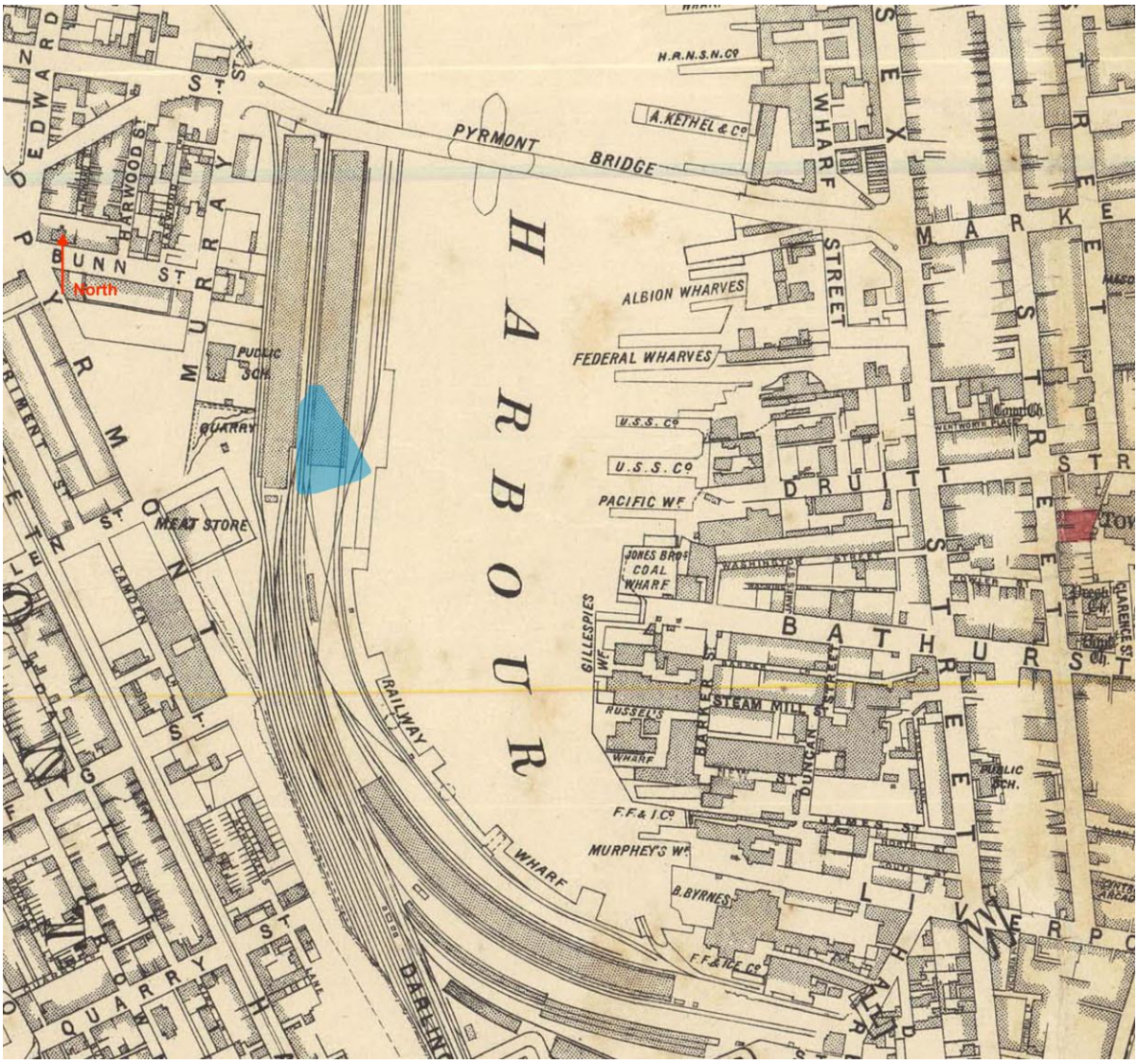


Figure 3.22: Overlay of ICC Hotel study area, shaded blue, on detail of 1903 'Map of the City of Sydney, New South Wales, 3rd edition'. Historical Atlas of Sydney, City of Sydney Archives.

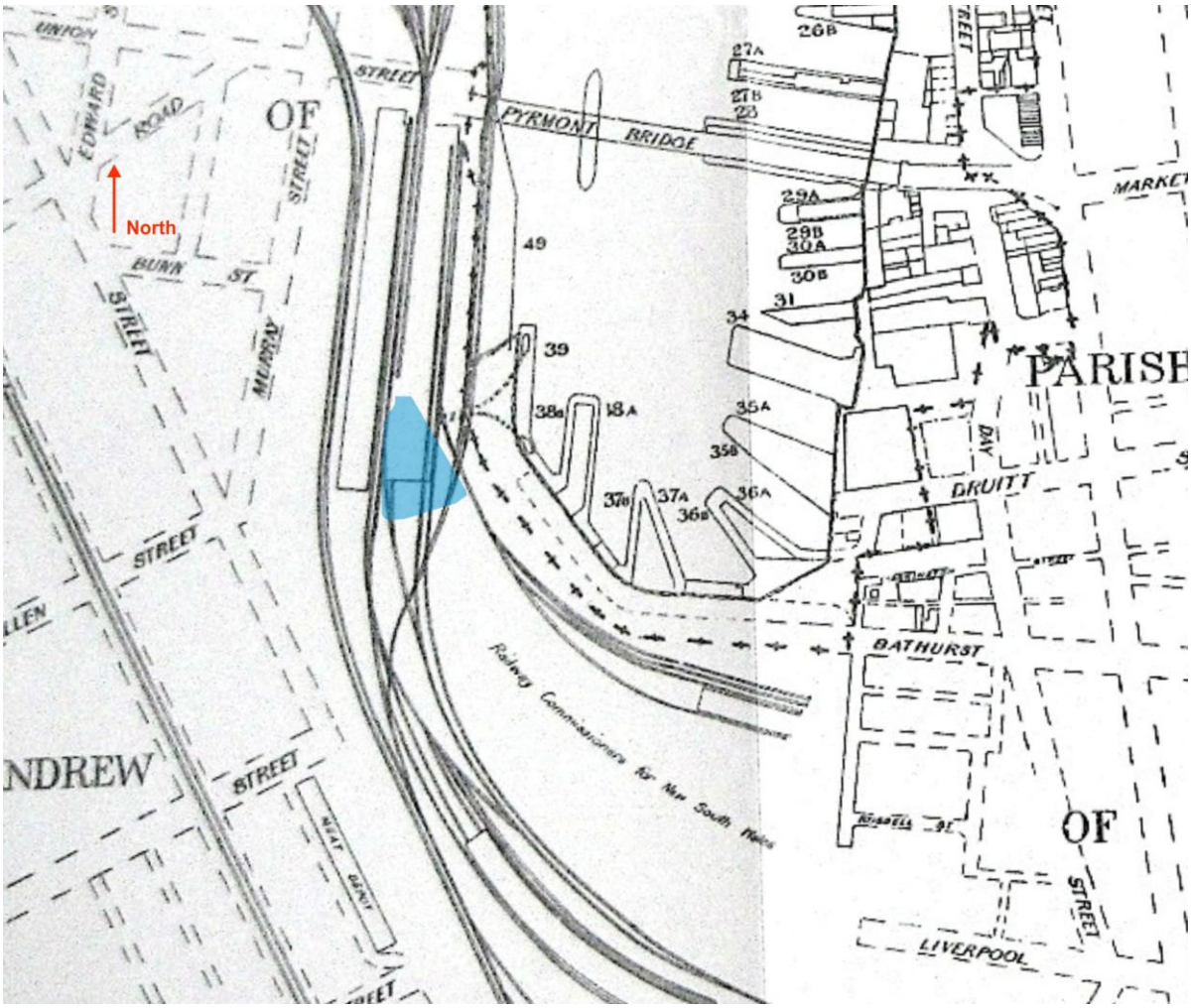


Figure 3.23: The final stage (1923-1927) of foreshore changes due to reclamation. Sydney Harbour Trust map, facilities in 1929. Study area shaded blue. *Sydney Harbour Trust Commissioners Report*, year ending 30 Jun 1929.

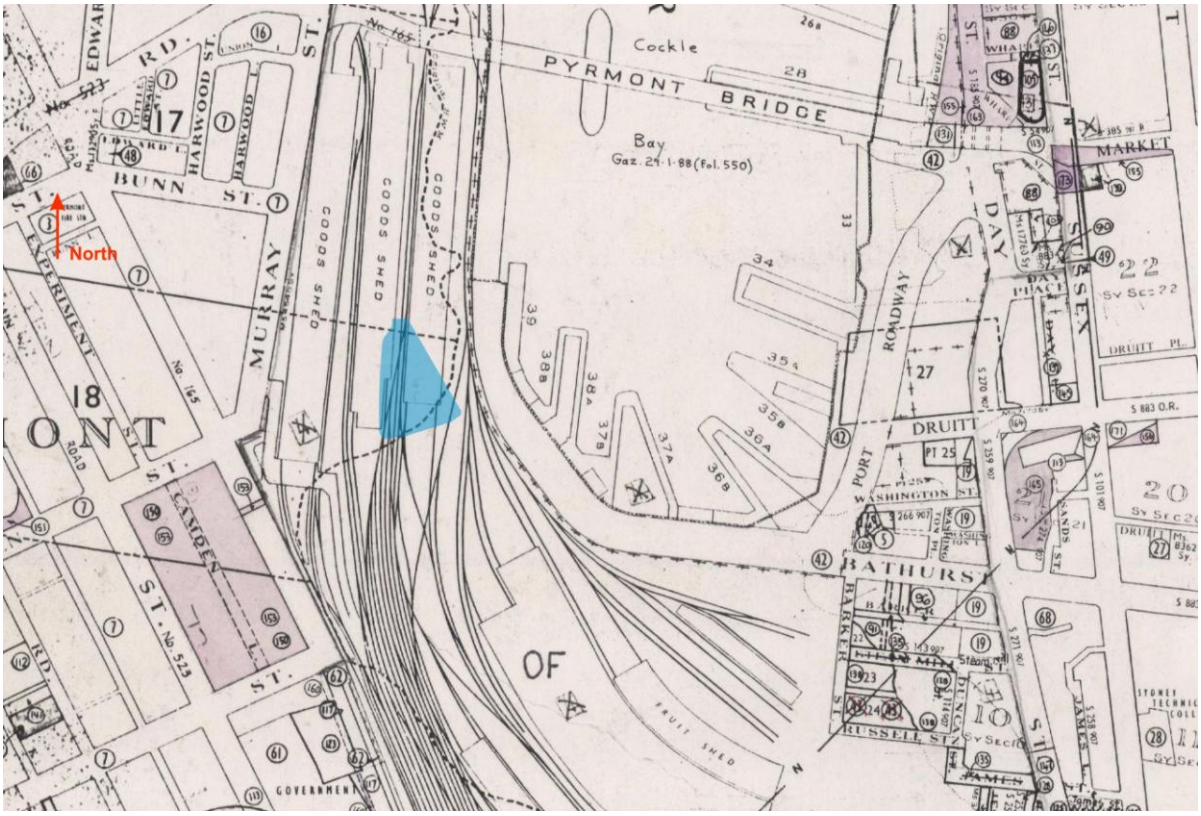


Figure 3.24: Overlay of ICC Hotel study area (blue) on the 1970s parish map showing the extent of the railway goods yard. Map of the Parish of St Andrew, County of Cumberland, 2nd ed. Status Branch Charting copy. Original date 22 May 1970, but amended. Historic Land Records Viewer (HLRV), LPI NSW.

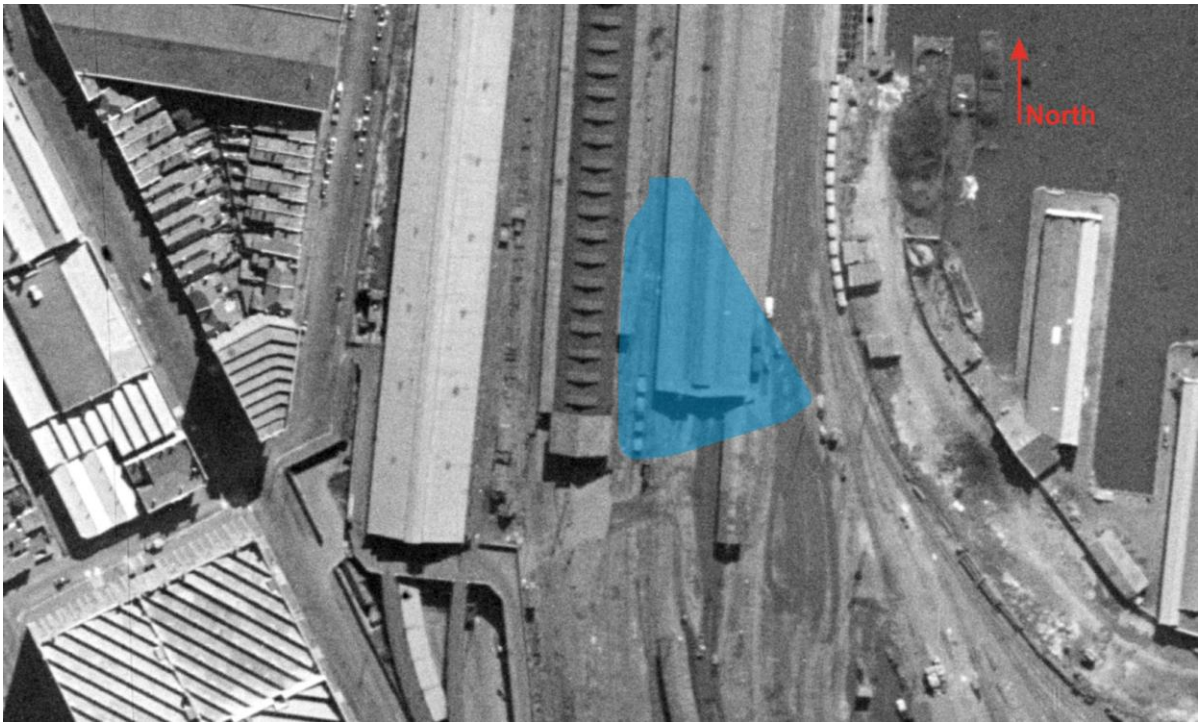


Figure 3.25: Overlay of ICC Hotel study area on 1943 aerial photo. SIX viewer, LPI NSW 2012.

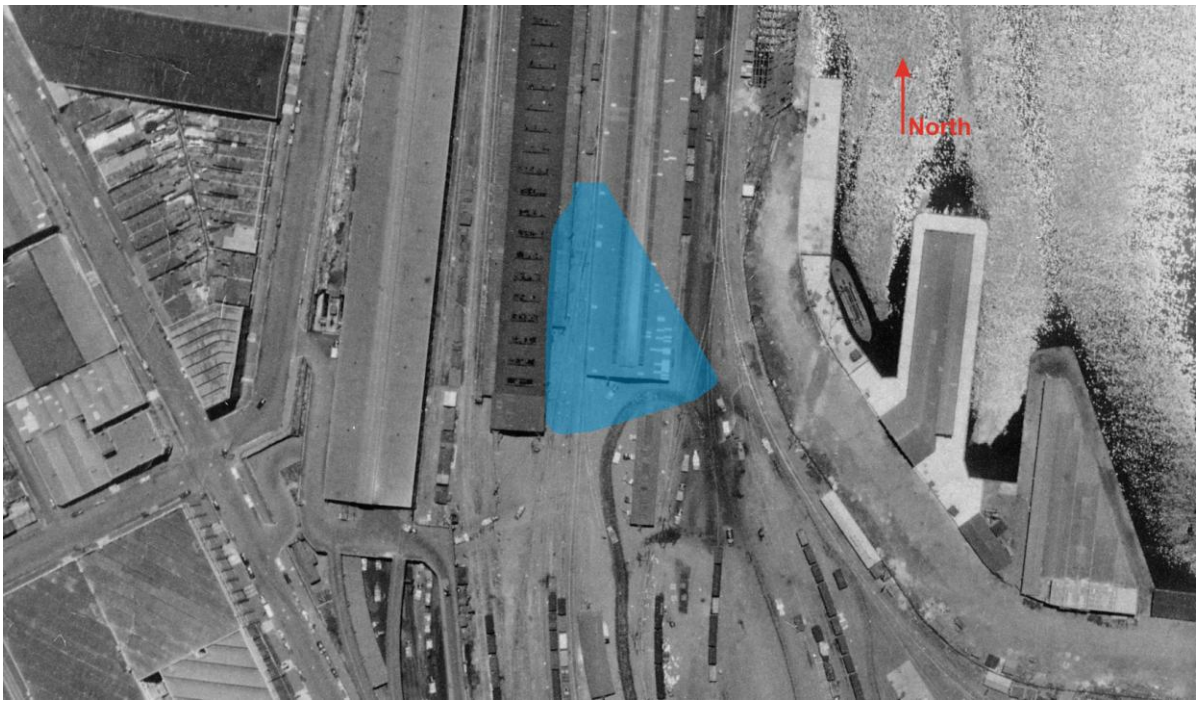


Figure 3.26: Overlay of ICC Hotel study area (blue) on a 1949 aerial photo. AO037, Historical Atlas of Sydney, City of Sydney Archives.

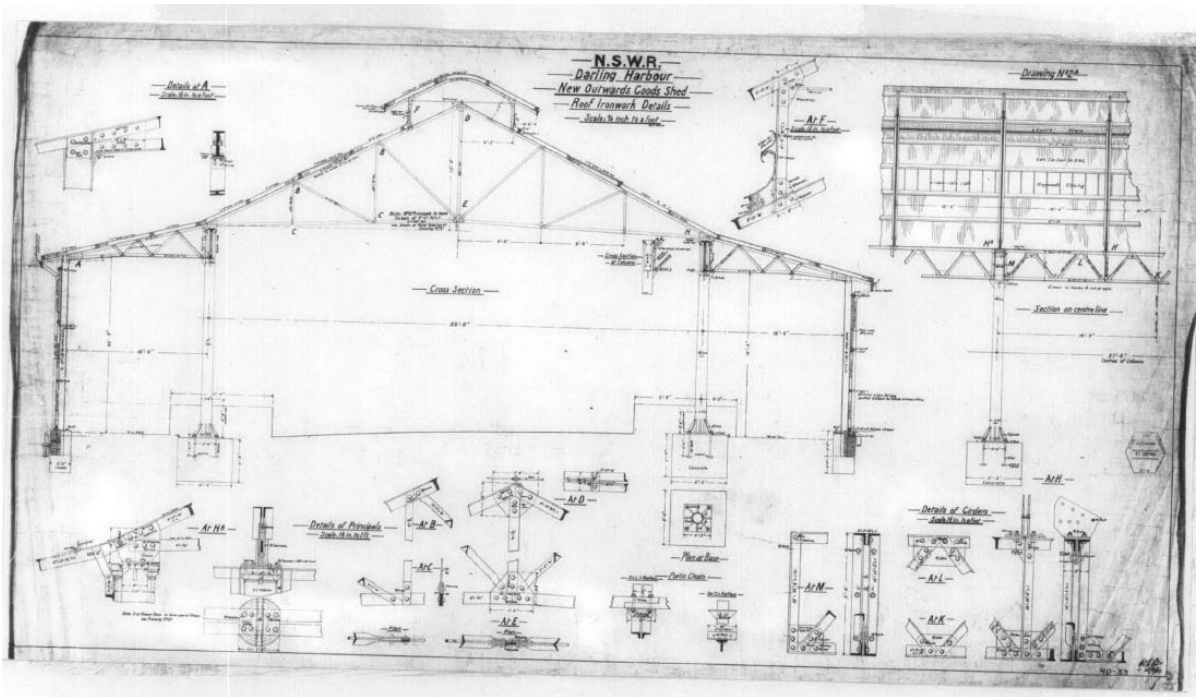


Figure 3.27: Plan of 'New Outwards Goods Shed, Darling Harbour, Drawing 1A, 1901'. From State Rail Authority Archives 40-32, reproduced in PWD[1984]: 99.

Figure 3.28: 'Outward bound Goods Shed, Darling Harbour' (no date). Interior view of one of the two sheds built in 1902. SLNSW Government Printing Office 2 – 52543, digital order no. d2_52543.

Figure 3.29: Two photos taken in 1984 by Geoff Allcock. a. – view showing (L-R) the Double Tier Goods Shed, the Outward Goods Shed and Outwards Goods Shed (west); b. – the southern end of the Outwards Goods Shed (west).

Figure 3.30: View during 1980s Darling Harbour construction, looking northeast across what is now the Harbourside Shopping Centre. This view is probably slightly to the north of the ICC Hotel study area, but shows the kind of impact the 1980s construction would have had on archaeology associated with the Outwards Goods Shed, which previously had extended into the area shown in this photograph (Figure 3.24, Figure 3.26). Photo taken by Hilary Taylor. SHFA Collection.

4.0 Archaeological Context & Research Questions

4.1 Archaeological Context

4.1.1 Archaeological Sites[86]

There have been a number of archaeological projects in the western and southern parts of the CBD, in the vicinity of the study area which would relate to the potential archaeological resource within the study area.

Pyrmont and Ultimo

Sites in Pyrmont and Ultimo have been the subject of a number of archaeological projects, including the following:

1991	Paddy's Market Site[87]
1994	Bowman Street, Pyrmont Point[88]
1994	Paragon Iron foundry, Bulwara Rd, Pyrmont[89]
1996	CSR site, Pyrmont[90]
1996	Grace Bros., Broadway[91]
2001-2002	Quadrant site, Broadway[92]
2002	Bullecourt Place, Ultimo[93]
2003-2004	Union & Edward Street, Pyrmont[94]
2003	Sandstone Culvert and Brick Drain: Mary Ann Street, Ultimo[95]

The reports from the Quadrant Site are currently being written up and the Union and Edward Street Site has been completed and should be released on Casey & Lowe's webpage within the next month. The remains at these sites were associated with mid-19th-century housing as well as industrial and commercial remains which were an integral part of 19th- and 20th-century life on the peninsula. Sites with similar period remains would include those at the Quadrant site. Some of the remains from Union and Edward Street are fairly early, dating from the 1850s. This range of later house sites is similar to those found at most of the above archaeological sites. This was also the site of the later Gillespie flour mill, when it moved from the Anchor flour mill buildings in Darling Harbour. The Paddy's Market site contained a mix of residential and commercial buildings built on the site of extensive reclamation on the shores of Darling Harbour. The Grace Bros site, like the Quadrant site, had the remains of various mid to late 19th-century housing as well as some evidence of commercial activities, such as slaughter houses.

In August 2002, a brick and sandstone culvert associated with initial construction of the Darling Harbour Goods Railway Line was discovered as part of the excavation for the MetroGrid Cable Tunnel. This culvert was archaeologically recorded by Susan McIntyre with Denis Gojak assisting (Figure 4.1).

[86] Please note this is not an exhaustive list of sites in these places. Further research into other archaeological projects would be undertaken as part of the next stages of the archaeological program.
[87] Godden Mackay with Wendy Thorp 1993. Tony Lowe and Mary Casey worked on this site.
[88] Higginbotham 1995.
[89] Casey & Lowe 1995.
[90] Casey & Lowe 2000.
[91] Damaris Bairstow and Dana Mider.
[92] Quadrant web page: www.australand.com.au/apart/syd/broadway/thequadrant/archaeology.cfm .
[93] Conference paper given at combined ASHA/AIMA/AAA conference, Townsville, 2002.
[94] Casey & Lowe 2010.
[95] McIntyre-Tamwoy Heritage Consultants, 2004, Sandstone Culvert and Brick Drain: Mary Ann Street, Ultimo, NSW, Feb 2004.

Heritage Culvert

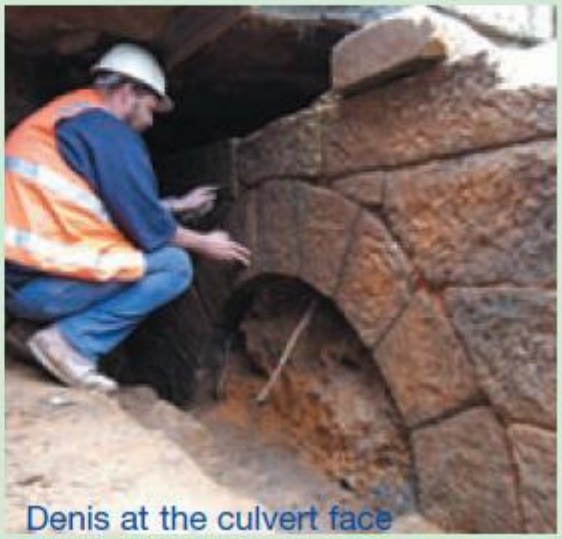
In August 2002 whilst excavating for the MetroGrid Cable Tunnel at the Mary Ann Street site, a brick and sandstone culvert was uncovered.

According to Sue McIntyre, archaeologist on the MetroGrid project, "the brick drain is expected to have been constructed in 1853 when the railway was built from near the present Central station to Darling Harbour. It was built to carry drainage from the eastern side of the railway embankment to a creek that formerly flowed parallel to the embankment on the western (Ultimo) side. The sandstone face on the drain was added later."

By the 1890s the culvert was non-operational and was filled in, as the land around was soggy and factories were being built in the area. This fill layer covering the culvert contained general household debris, including bottles and a clay smoking pipe dating from the 1890s. Sue and her assistant archaeologist Denis Gojak supervised the excavation, recording, and assessing of the sandstone culvert.

The nature of the culvert clearly indicates that it is considered a relic under the NSW Heritage Act and will be included in the Heritage Database. It also has the potential to provide more information about how the railway formation was designed and engineered.

TransGrid are looking at opportunities for the culvert to be reinterpreted in the final design of the Ultimo Pedestrian Network at the Mary Ann Street site.



Denis at the culvert face

Figure 4.1: Photograph of the stone culvert underneath the Darling Harbour Goods line. A brick drain was the original structure with later sandstone facing. It was interpreted as being part of the original construction of the c1859 goods line.
http://www.diona.com.au/files/projects/Electricity/transgrid/trim203313.pdf.

Darling Harbour & Walsh Bay

Archaeological sites around Darling Harbour and Walsh Bay include:

1992	Little Pier Street Precinct (Dickson's Mill)[96]
2003	30-34 and 38 Hickson Rd (The Bond)[97]
2003-2004	Towns Wharf, Walsh Bay[98]
2003	KENS Site, Darling Harbour[99]
2008-2009	Darling Quarter (Darling Walk), Darling Harbour[100]
2010-2012	Barangaroo South,

The **Little Pier Site** contains the remains of Dickson's later mill (1833), rather than the original mill. His original mill was the first steam mill in the colony of NSW and ground wheat for flour and opened in May 1815.[101] In the 1820s Dickson opened a candle and soap factory and a brewery on the site to diversify his interests. This site has been retained *in situ*.

The **Towns Wharf Site** at Walsh Bay appears to have similarities to the Darling Quarter (Darling Walk) site in that it was wharfage located on the waterfront. While no excavation report is available online, there is some information available.[102] There was major filling over substantial remains of buildings (Figure 4.2). There was up to 3.5 m of fill within this site above the archaeology.

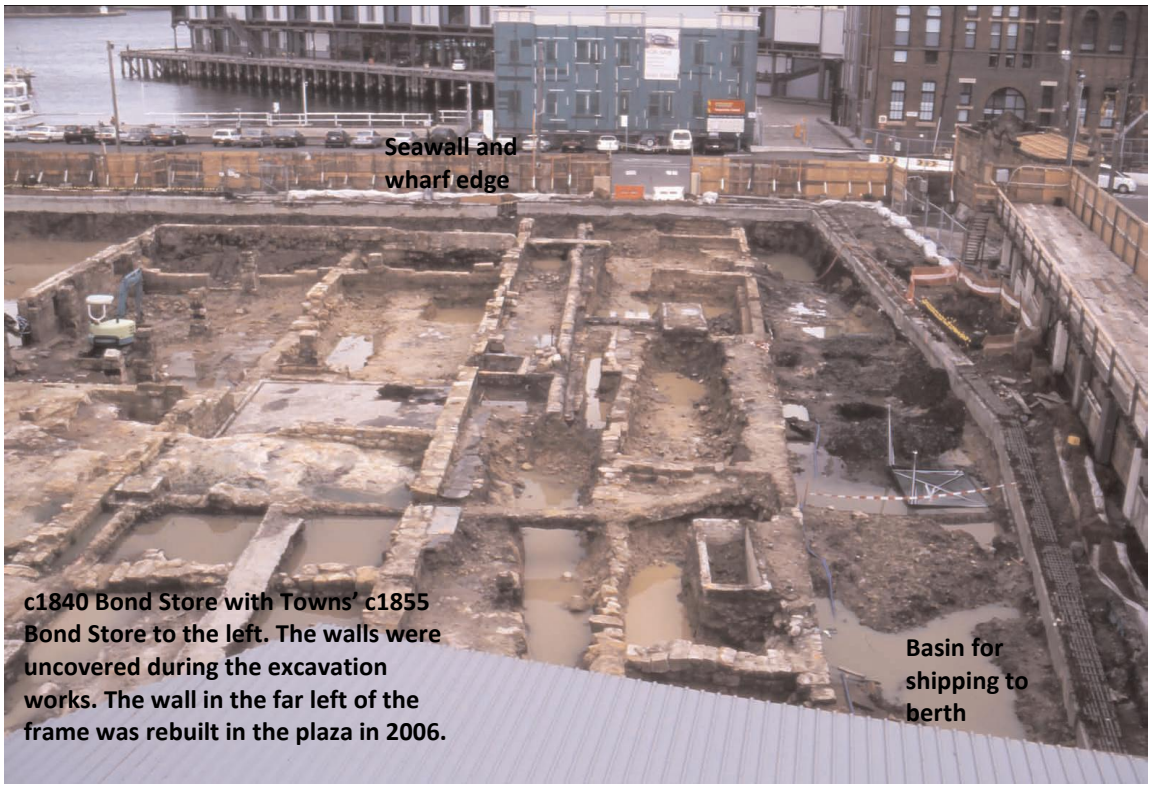


Figure 4.2: Photograph taken during excavation on the Towns Wharf Site, Walsh Bay. It shows the cellar levels of the former bond stores, as well as the seawall and the later Maritime Services Board (MSB) overlay (Austral Archaeology & Mirvac [c2006]).

[96] Godden Mackay 1992.
[97] Archaeology & Heritage Pty Ltd 2004; Archaeology & Heritage Pty Ltd 2003.
[98] Austral Archaeology & Mirvac [c2006].
[99] Wendy Thorp; talk at Sydney Practitioners Workshop, November 2004; AACAI newsletter 101, May 2005 (http://www.aacai.com.au/getfile.php?type=Newsletter&txtpublicationid=100); SMH 17/10/2003.
[100] Casey & Lowe 2009.
[101] Godden Mackay 1992, Vol. 1: 7.
[102] Austral Archaeology & Mirvac [c2006]. The final report appears to have been lodged with the Heritage Branch: Austral Archaeology 2005 *Archaeological monitoring programme at Towns Place*, report for Walsh Bay Finance.