

## Harbourside, Darling Harbour

### Final Test Excavation Report

July 2022

# Document Information

## Citation

Curio Projects 2022, Harbourside, Darling Harbour, Test Excavation Report

## Local Government Area

City of Sydney Council

Issue no.	Issue date	Version	Notes/Comments	Author	Review
1	July 2022	Draft Report	Client Review and Comment	Matthew Kelly	Client
21	July 2022	Final Report	For Issue	Matthew Kelly	

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# 1. Introduction

## 1. 1. Introduction

### 1.1. The Purpose of this Report

Curio Projects Pty Ltd (Curio) has been commissioned by Mirvac (the Proponent) to prepare a report based on test trench monitoring investigating areas within the Harbourside Centre for archaeological potential. These excavations were directed by previous reports completed by Curio Projects - an Archaeological Assessment completed in 2016 and a Research Design completed in 2021.<sup>1</sup>

The Development Consent (SSDA 7874) contains the following conditions related specifically to archaeology:

*C 28 Future Development Application(s) must be informed by Historical, Maritime and Aboriginal Archaeology testing and demonstrate how the results of such testing have been used to minimise impacts to State Significant archaeological resources. The results of the archaeological testing must be documented in a report which outlines opportunities for conservation in situ as a preference, development and interpretation. The testing is to be undertaken in accordance with the following:*

- a) The Applicant must nominate a suitably qualified and experienced historical archaeologist to manage the historical archaeology program for test excavation in accordance with its conditions. This person must fulfil the Heritage Council's Excavation Director Criteria 2019 for test excavation of State significant archaeological relics. Details of the nominated person and their ability to demonstrate against Criteria must be supplied to the Heritage council (or its delegate) for comment and to the Planning Secretary for approval prior to the commencement of then testing program.*
- b) An Archaeological Research Design and Excavation Methodology must be prepared in accordance with Heritage NSW guidelines and in consultation with Heritage NSW and submitted to the planning secretary for approval prior to commencement of the testing program*
- c) A final excavation report must be prepared within 12 months of the completion of the archaeological test excavation. It should include details of any significant artefacts recovered, where they are located and details of their ongoing conservation and protection in perpetuity by the landowner. The Excavation report must respond to any research questions and reassess the significance of the site and its archaeological potential for State significant archaeology with recommendations of future design of SSD Stage 2. Copies of the final excavation report must be provided to Heritage NSW, Council's local studies unit and the Planning Secretary.*
- d) The Applicant must engage a suitably qualified and experienced maritime archaeologist, with understanding of the effects of dredging and reclamation processes on former submerged maritime infrastructure sites, to prepare a maritime archaeological assessment for the project within 6 months of the date*

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<sup>1</sup> Curio projects, 2016, Harbourside Shopping Centre, Darling Harbour Historical Archaeological Assessment, and Curio Projects 2021, Harbourside, Darling Harbour, Archaeological Research Design, both reports prepared for Mirvac.

*of consent. The assessment must be used to inform the testing and detailed design of the Stage 2 SSDA and must include the following:*

- i. Remote sensing and/or diver surveys of the seabed under any piled areas that currently form waterfront or paved areas of the proposed development.*
- ii. Any geo-technical and bore log information should be considered in this assessment and the maritime assessment should be used to better inform the testing program.*

This report has been completed to meet condition 28-C of the Consent. It contains an outline of the test excavations, assesses the significance of the potential archaeology and provides recommendations related to “opportunities for conservation in situ as a preference, development and interpretation”.

Other conditions from the above addressed by the current work include:

- Condition 28 A, nominated Excavation Director – Dr. Matthew Kelly
- Condition 28 B, an Archaeological Research Design and Excavation Methodology (ARD) was completed by Curio Projects to guide the test excavations reported on here. The research questions set out in that ARD are addressed in Section 5.4.
- Condition 28 D a Maritime Archaeological Assessment has been completed by Cosmos Archaeology.<sup>2</sup>

The Planning Secretary's Environmental Assessment Requirements (SEARs) for the bulk excavation have also been issued (SSD-38881729) and clause 4 requires the completion of a Heritage Impact Statement (HIS);

*assessing the impact of the proposal on the heritage significance of the site and surrounding area including archaeology, and includes measures to reduce or mitigate any unavoidable impacts*

## **1.2. Site Identification**

The study area is located within Darling Harbour and within the City of Sydney Local Government Area (LGA). The study area is comprised of a 60-hectare waterfront precinct, legally described as Lot 1 DP 776815, Lots 1-10, 12-15 and 17 DP 776815, Lot 2015 DP 1234971 and Lot 300 DP 836419. It is situated on the south-western edge of the Sydney Central Business District (CBD) and provides a mix of functions including recreational, tourist, entertainment and business.

More generally, the study area is bounded by Pyrmont Bridge to the north, the Sydney International Convention, Exhibition and Entertainment Precinct (SICEEP) to the south, Darling Drive and the alignment of the Light Rail to the west, and Cockle Bay to the east (Figure 1.1).

## **1.3. Previous Curio Reports and Investigations**

The site has previously been the subject of the following heritage reports by Curio Projects:

- Curio Projects, 2016, Heritage Impact Statement Harbourside Redevelopment, Report for Mirvac.

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<sup>2</sup> Cosmos Archaeology, 2022, Harbourside Shopping Centre, Darling Harbour, Maritime Archaeology Assessment.

- Curio Projects, 2016, Redevelopment of Harbourside Shopping Centre Aboriginal Heritage Due Diligence Assessment, Report prepared for Mirvac.
- Curio projects, 2016, Harbourside Shopping Centre, Darling Harbour Historical Archaeological Assessment, Report prepared for Mirvac.
- Curio Projects, 2018, Response to Submissions Heritage Impact Statement Harbourside Redevelopment, Report prepared for Mirvac.
- Curio Projects, 2020, Response to Submission Heritage Impact Statement Harbourside Redevelopment, Report prepared for Mirvac.
- Curio Projects 2021, Harbourside, Darling Harbour, Archaeological Research Design, Report prepared for Mirvac.

#### 1.4. Limitations and Constraints

The excavations were undertaken within constraints of both time and space between May 8<sup>th</sup> and June 17<sup>th</sup>, 2022. The Harbourside Centre remained open during the testing work with both occupied tenancies and public access across the food court and passageways. Therefore work was conducted at night (11pm to 6am and 12am to 6am during the Vivid event) within tenanted spaces recently made vacant but adjacent to shops still operating. Services were in many cases still live and resulted in curtailed opportunities to excavate the trenches as proposed. Most notably these instances were:

**Trench 1** This trench was abandoned after commencement as existing services (live) covered the proposed investigation area. The proximity of this trench to the main services pit and the lift pit presented a safety risk if further excavation proceeded.

**Trench 2B** A considerable portion of the southern part of this trench had to remain unexcavated as a live hydraulic service line ran east west along its southern boundary.

**Trench 3** This trench was not undertaken as its location and size would have restricted foot traffic through the centre during the Vivid event. The chosen location, in the centre of the food court, would have created a safety issue as it intersected travel and egress paths through the centre, exacerbated by the Vivid Event.

The constrained space within shops meant that to maximise exposure of deposits, in some instances, it was necessary to expand excavations to the entire available area, prohibiting benching and therefore preventing direct access to the deposits by the archaeologist entering the deep trenches due to OH&S requirements. Observation from the trench sides therefore had to suffice to identify and assess the deposits and features.

Some of the formatting for the survey and orthophoto appears different as the original surveyor had to leave due to contracting COVID. This report, based on that work, has been prepared using available historical data and documentation for the study area and surrounds, including relevant archaeological reports and assessments. It does not include information on Aboriginal heritage values or archaeology, nor any non-heritage related planning controls or requirements.

#### 1.5. Authors

This report has been prepared by Dr Matthew Kelly and Andre Fleury, Senior Archaeologists, Curio Projects. GIS and mapping have also been undertaken by Andre Fleury.

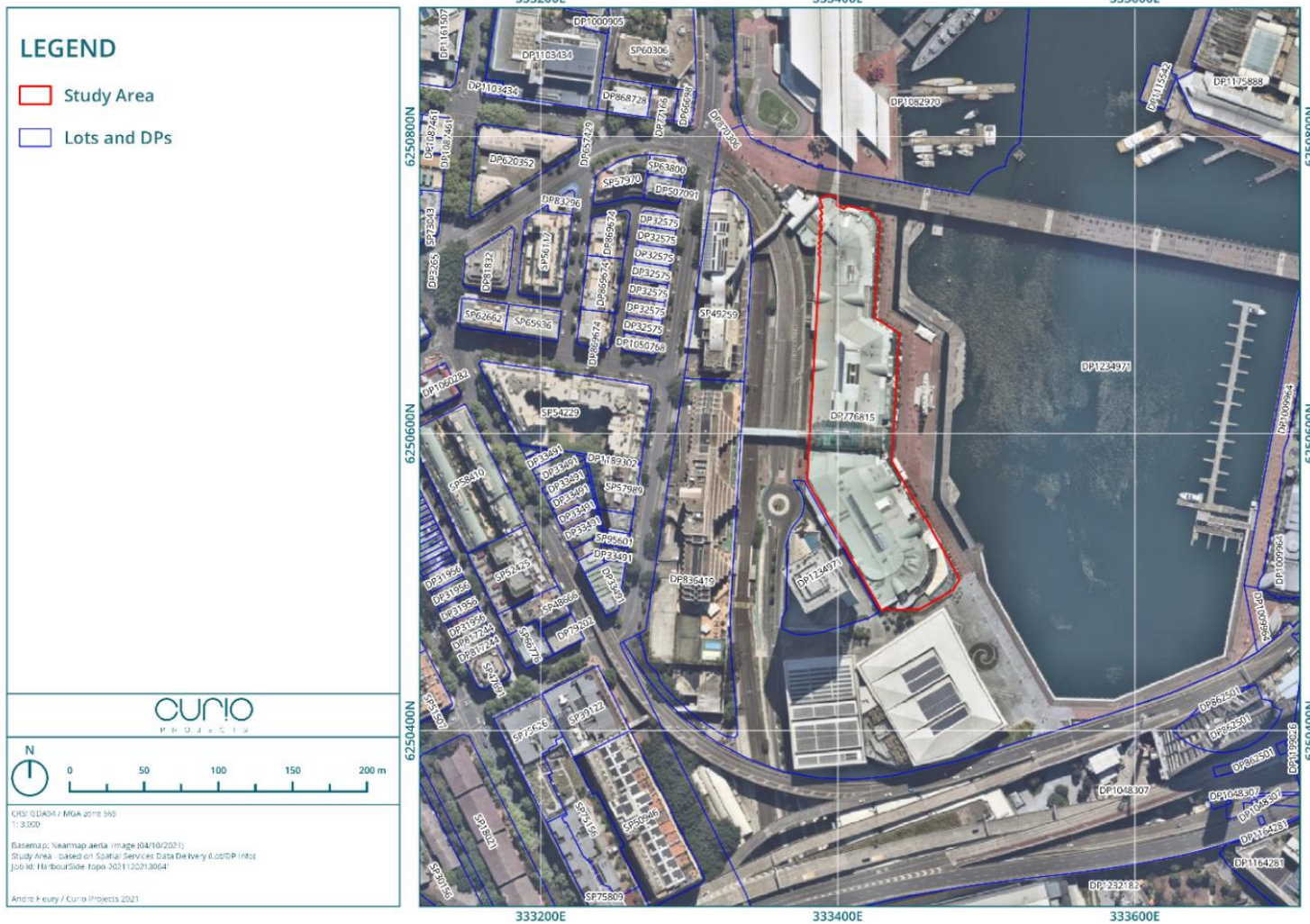


Figure 1-1 Harbourside Shopping Centre study area outlined in red. (Source: Curio 2021)



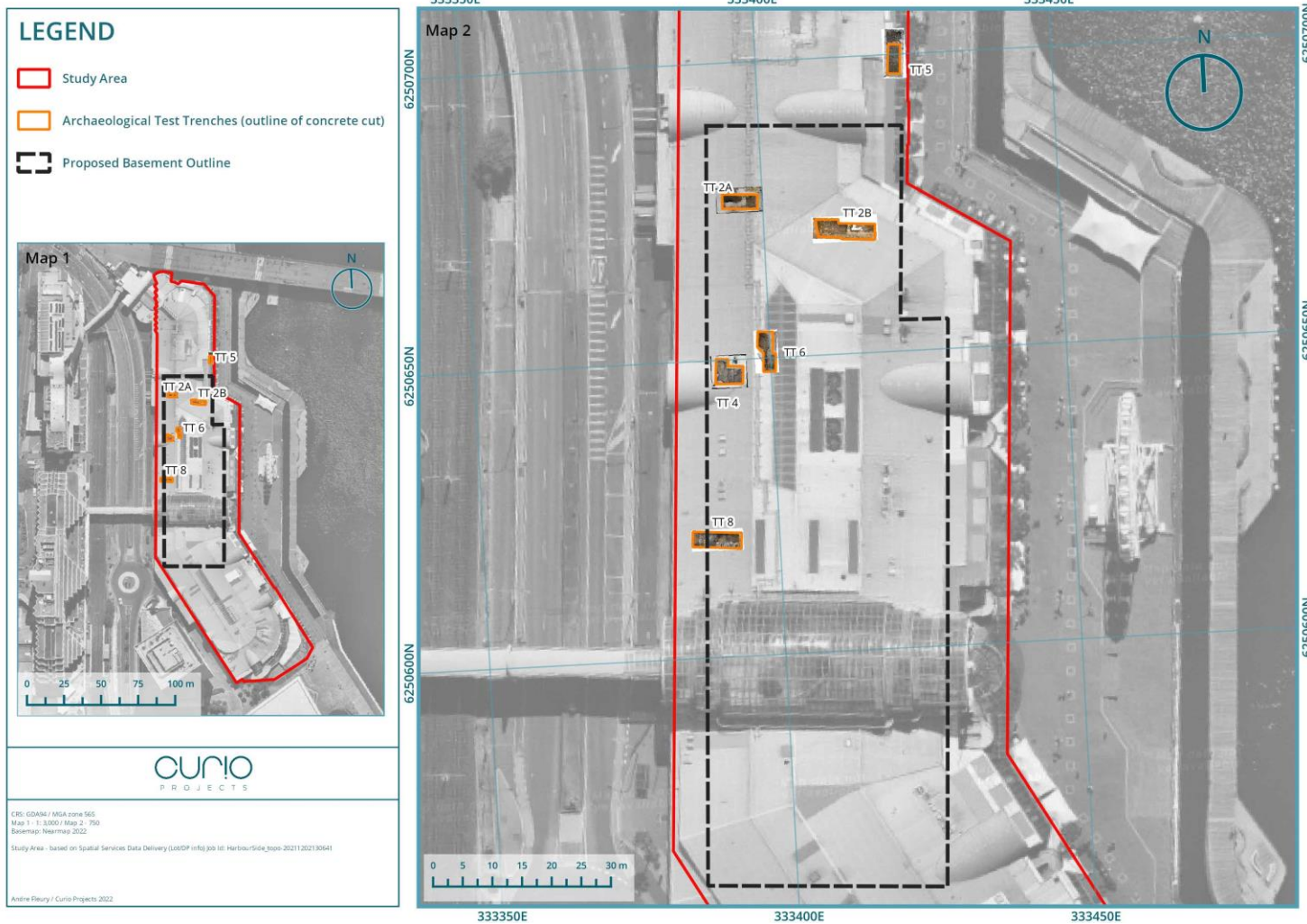


Figure 1-2 Plan of the excavated test trenches in the Harbourside Centre. (Source: Curio 2022)

## 2. Historical Context

## 2. Historical Context

### 2.1. Timeline

Year	Description
1794	The area to the west of the study area forms part of the original grant to John Malone and William Mitchell from Lt Governor Grose. <sup>3</sup>
1803– 1840s—	John Harris acquired successive grants between 1803 and 1818 to create his 233-acre Ultimo Estate which forms the western edge of the study area. <sup>4</sup>
c1832— In 1828	John Harris gifted 1.5 acres to Anne Murray on her marriage to Captain George Bunn. Newstead House (also referred to as Bunn's Cottage or Bunn's House) was constructed in c1832 to the west of the study area (Figure 2-1 and Figure 2-3).
1845	Plan shows the presence of a small brick structure on the western boundary of the study area and a boat slip across the centre.
1854-5	A substantial part of the western shoreline of Cockle Bay reclaimed for the construction of Darling harbour railway to the southern boundary of the Newstead House allotment;
1857	The first Pyrmont Bridge is constructed connecting the eastern shore of the Ultimo/Pyrmont peninsula to Sydney;
1865	Plan shows the presence of more structures on the foreshore and the continued presence of the boat slip;
1874	The Iron wharf is constructed to the south of the study area;
1874	Davey and Company purchase Newstead House and land and establish operations of Atlas Engineering Works by reclaiming some of the foreshore; <sup>5</sup>
1875	Davy and Co. Atlas Works listed at Darling Iron Wharf as millwrights, engineers, boilermakers and blacksmiths. <sup>6</sup>
1876	Commencement of construction of Ultimo Public School to the south of Newstead House;

<sup>3</sup> Fitzgerald, S & H. Golder, 1994, *Pyrmont & Ultimo Under Siege*, Sydney, Hale & Iremonger, p. 16.

<sup>4</sup> *Ibid.*

<sup>5</sup> *Australian Town and Country Journal* 21st June 1879, p. 25. By June the occupant is listed as "Davy" - *Sydney Morning Herald*, 15th June 1874, p. 6.

<sup>6</sup> Sands Sydney, Suburban and Country Commercial Directory, 1875, p. 154. Davy and Co are also listed at "Head Darling Harbour" in the same year, p. 314 and later years note them at Hay Street.

1878	Atlas Engineering Works shown on a plan of the area with an associated jetty adjacent to the boat slip;
1879	Acheron-class torpedo boats (Acheron and Avernus) were built by the Atlas Engineering Company at Sydney for the New South Wales Naval Service (Figure 2-8); <sup>7</sup>
1881	Government announces resumption of western shoreline of Darling Harbour for continuation of rail line; <sup>8</sup>
1882	Locomotive 1243 is one of eight mainline steam passenger engines built in Sydney for the New South Wales Government Railways at the Atlas Engineering Works to the design of Beyer, Peacock & Co. of Manchester, England (Figure 2-7); <sup>9</sup>
1884– 1888	Darling Harbour Goods Line railway expanded north to Pyrmont Bridge through subject site (Figure 2-9 and Figure 2-10). Atlas Engineering Works premises were resumed;
1885	Atlas Foundry Engineering Co. Ltd listed at Hay St and H(unter's) Hill with John Edgington as manager. <sup>10</sup>
1887	By this date Atlas appears to have moved their main works from Darling Harbour to Woolwich; <sup>11</sup>
1891	Construction of Outward Goods Shed (C&D Shed), equipped with hydraulic cranes (Figure 2-10);
1902	The second Pyrmont Bridge is opened. The first bridge remained open during the construction of the later bridge;
1902	Construction of second Outwards Goods Shed (A&B Shed), immediately east of the 1891 goods shed (Figure 2-11);
1918-28	Land reclamation proceeded in stages along the head of Darling Harbour and along its western shore;
1982-4	Closure of the Darling Harbour Goods Yard;
1985-87	Construction of Darling Harbour including the Harbourside Centre (originally called the Harbourside Festival Marketplace).

<sup>7</sup> <http://www.navyhistory.org.au/australia%e2%80%99s-first-warship-the-torpedo-boat-acheron/>.

<sup>8</sup> NSW Government Gazette 14 June, 1881, No. 233 Supplement, p. 3225.

<sup>9</sup> <https://collection.maas.museum/object/85816>

<sup>10</sup> Sands Sydney, Suburban and Country Commercial Directory, 1885, p. 359.

<sup>11</sup> SCA Letters Received 1887, 26/218/547 where its address on letterhead is given as "Works, Woolwich, Parramatta River".

The 2016 archaeological assessment outlined the following historical phases which defined the occupation of the study area.<sup>12</sup>

**Phase 1:** European Settlement and the Ultimo Estate (1788–1874);

**Phase 2:** Growth and Expansion of the Darling Harbour Railway Goods Yard (1874–1960s)

**Phase 3** Decline, Closure and Redevelopment of the Darling Harbour Goods Yard (1960s–Present)

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<sup>12</sup> Curio, 2016, Assessment, *op cit*, p. 9ff.





Figure 2-1 View of Newstead House (Bunn's Cottage-indicated by arrow), c.1863 from Ultimo with the railway running towards it along the causeway. (Source: DL PX 42, f.16)

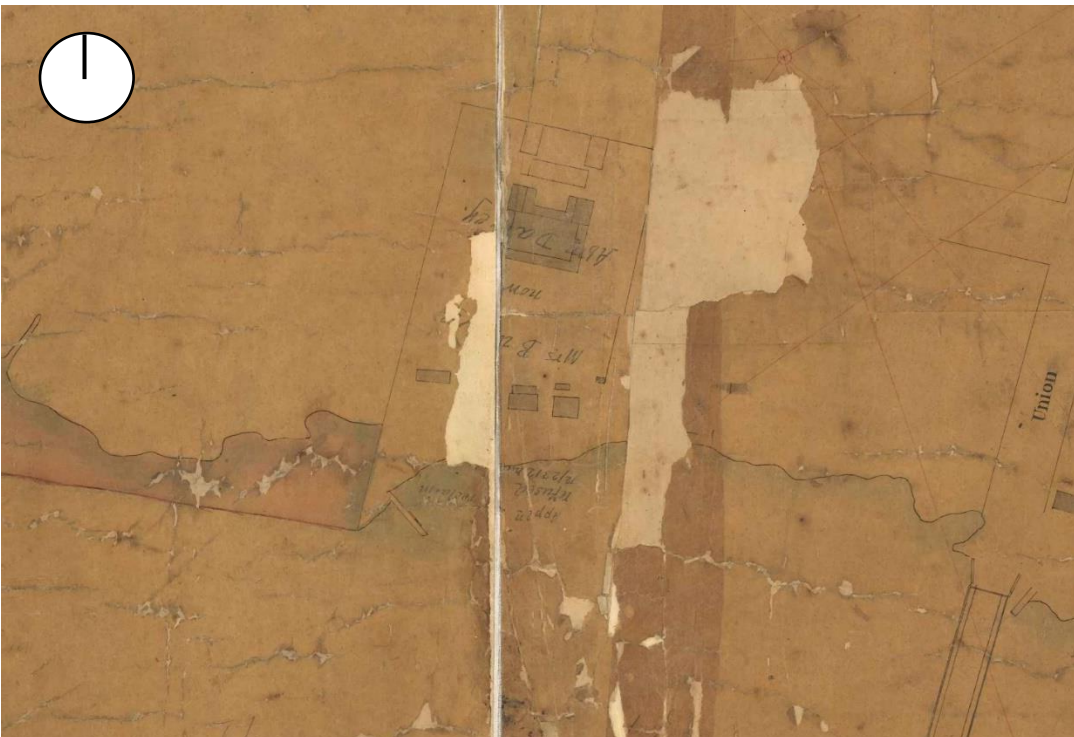


Figure 2-2 Detail of Crown Plan dating to 1863 noting that an application to reclaim land in front of Newstead House has been refused. (Source: LPI CP 2-1628)



Figure 2-3 Newstead House looking south-east about 1889. (Source: Fitzgerald & Golder 2007, p. 22 and <https://pyrmonthistory.net.au/anna-maria-bunn>)



Figure 2-4 View looking south Darling Harbour, c1875, showing the rock platform in front of Newstead House (red arrow) occupied by boatmen. Note one of the boatmen's houses (blue arrow) the boatslip in the background.



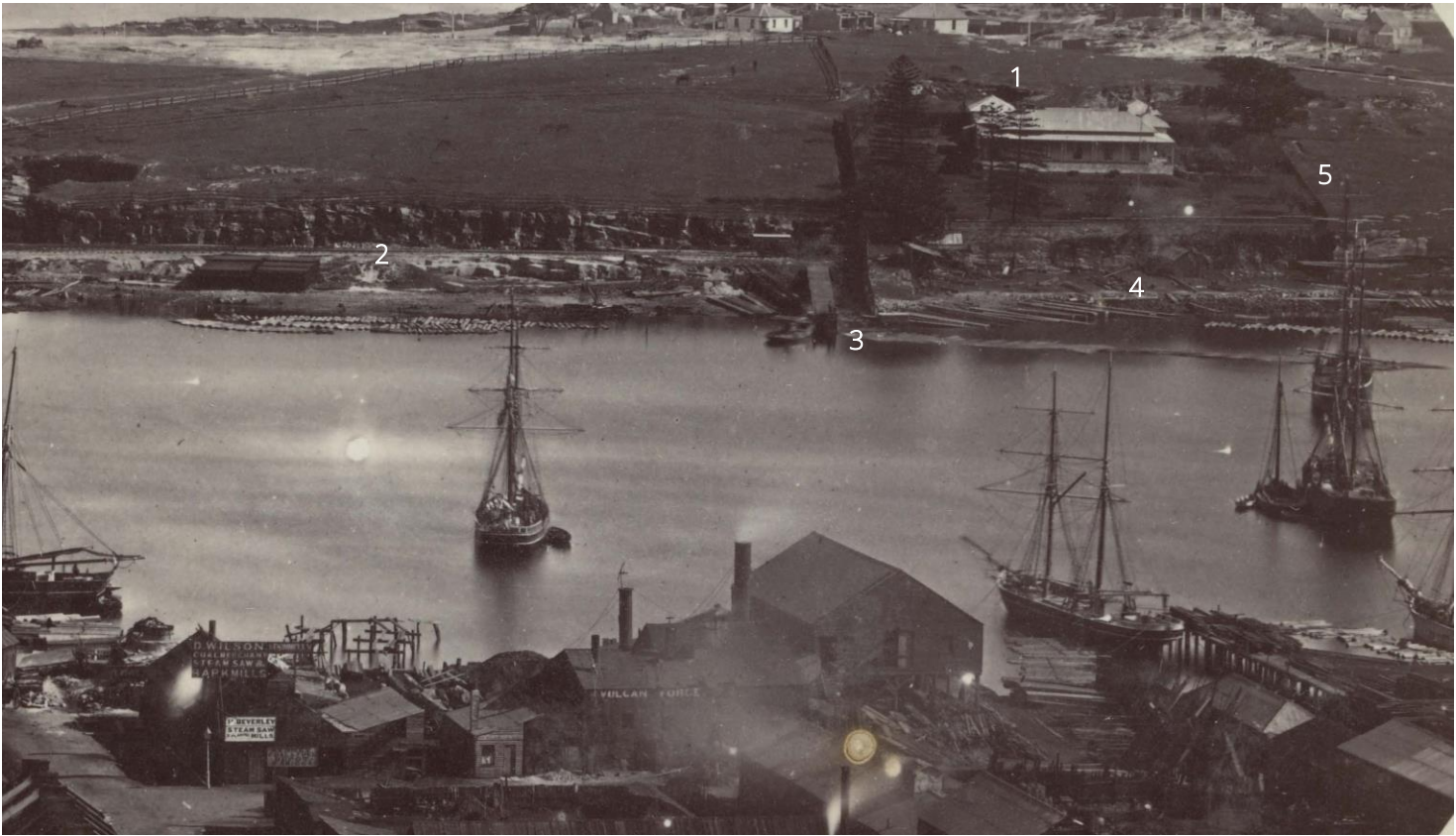


Figure 2-5 Detail from "View from the Sydney Town Hall Tower looking S.W", pre1876, N J Claire showing Newstead House (1), railway line (2), boatslip and small jetty (3) rock platform (4) and land to be occupied by the Atlas works (5). (Source: SLVIC . PCLTA 391)



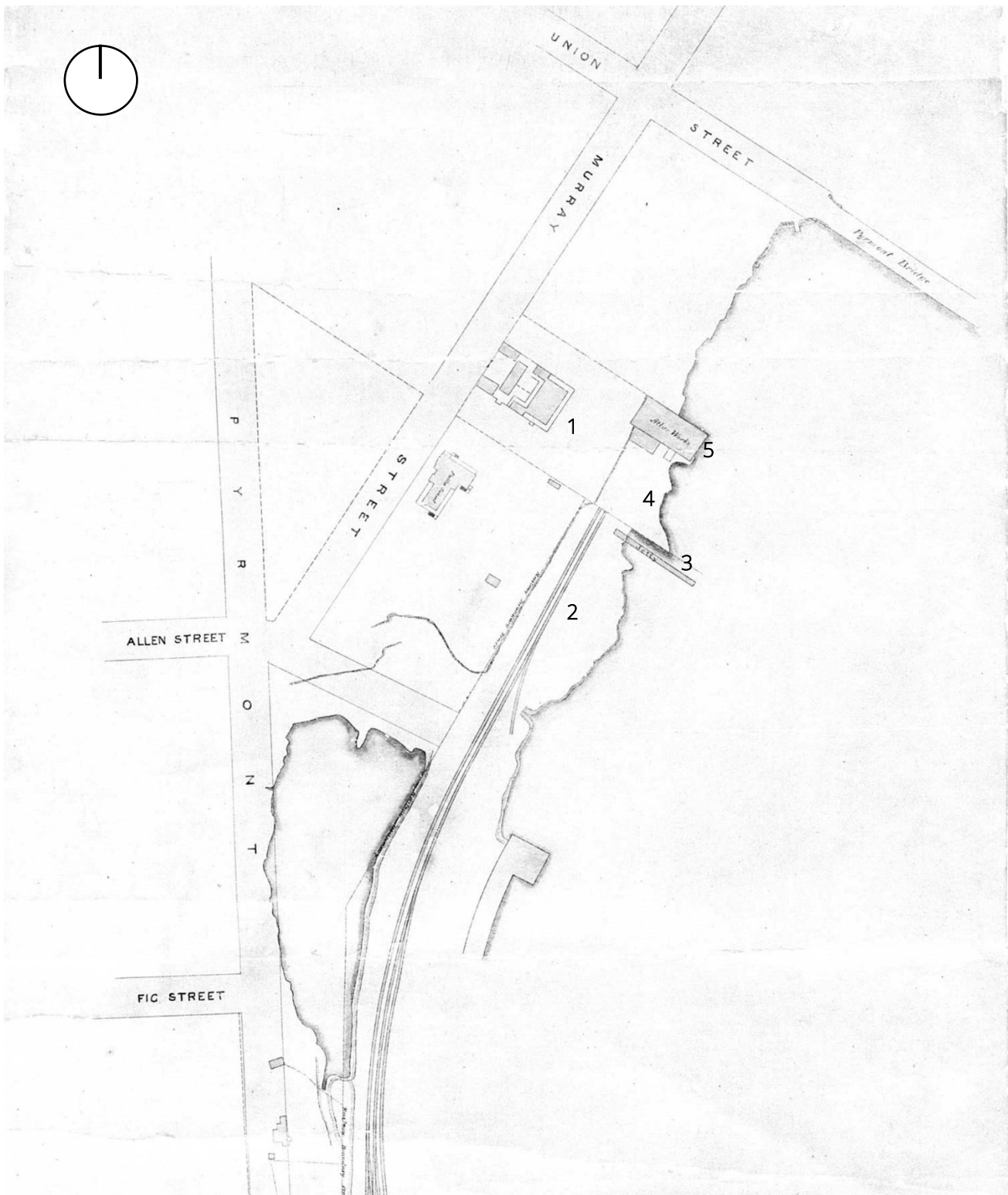


Figure 2-6 Detail of Plan of Head of Darling Harbour Railway and Streets in Pyrmont, 1878 showing Newstead House (1) railway line (2), boatslip and small jetty (3) rock platform (4) and land now occupied by the Atlas works (5).. (Source: Map464 HR60/27 Darling Harbour)



*Figure 2-7 "The Atlas Works, Sydney - making first locomotive engine, 1881", Arthur Collingridge. Note the Sydney Town Hall and St Andrew's Cathedral in background across Darling Harbour. (Source Mitchell Library ML 584).*



*Figure 2-8 The Avernus, one of the two Acheron Class torpedo boats associated with the Atlas Engineering works. (Source: AWM 306823)*

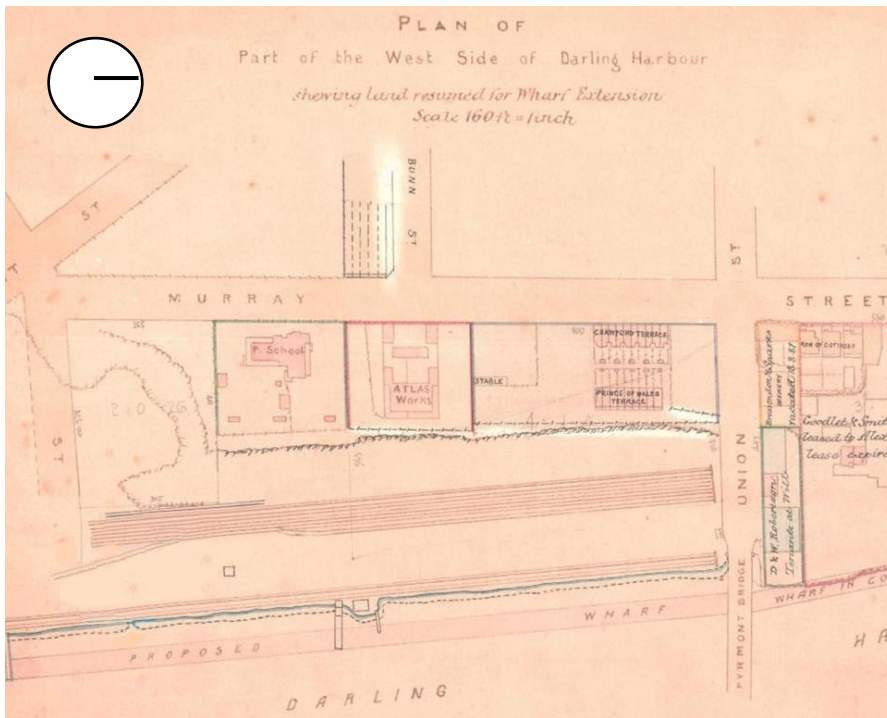


Figure 2-9 "Plan of part of the West side of Darling Harbour", dated 1881 (however probably 1885), showing Newstead House still occupied by Atlas Engineering after the main works were moved to Woolwich and the rail lines extended north across what had previously been the rock platform. (Source: RailCorp Plan FO2861)



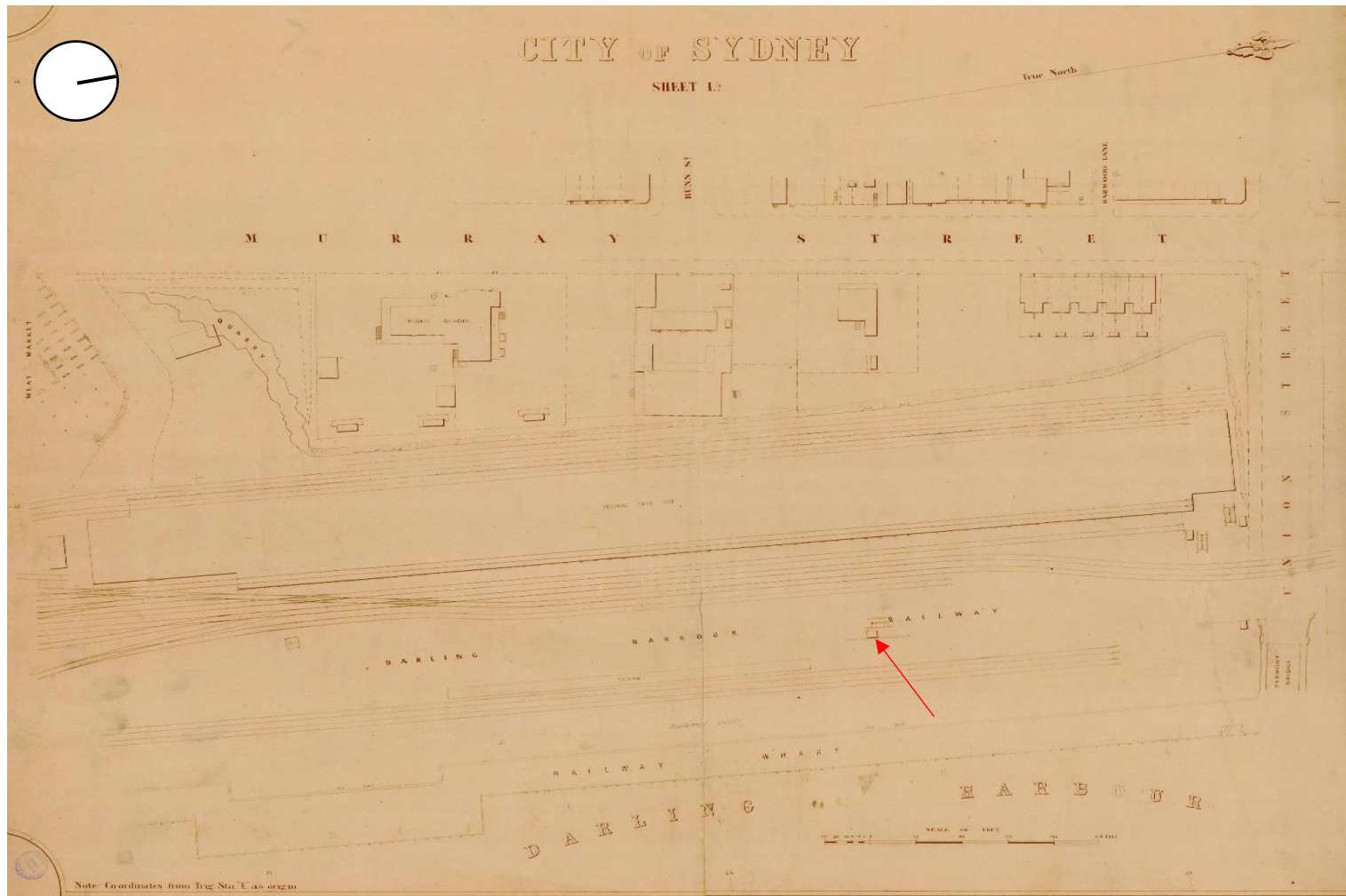


Figure 2-10 Sheet L3 of the Sydney Metropolitan Detail Series, 1892, showing the Receiving Goods shed, reclaimed land and seawall present. Note the weighbridge (arrow) (Source: SLNSW)

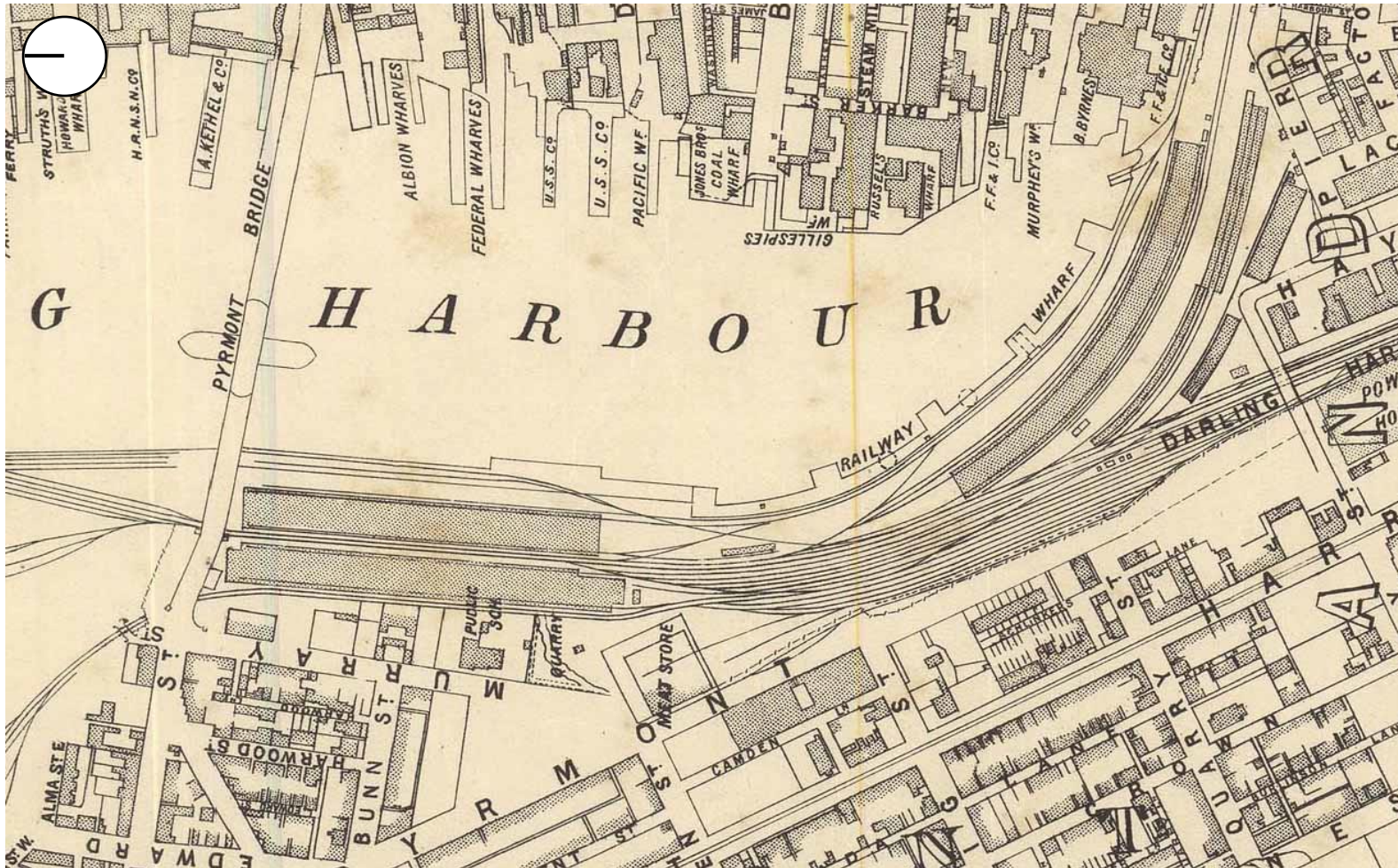


Figure 2-11 Detail of the Map of the City of Sydney NSW, 1903, showing the two goods sheds now in place on the extended railway land. Note Newstead House is still shown. (Source: City of Sydney Archives).



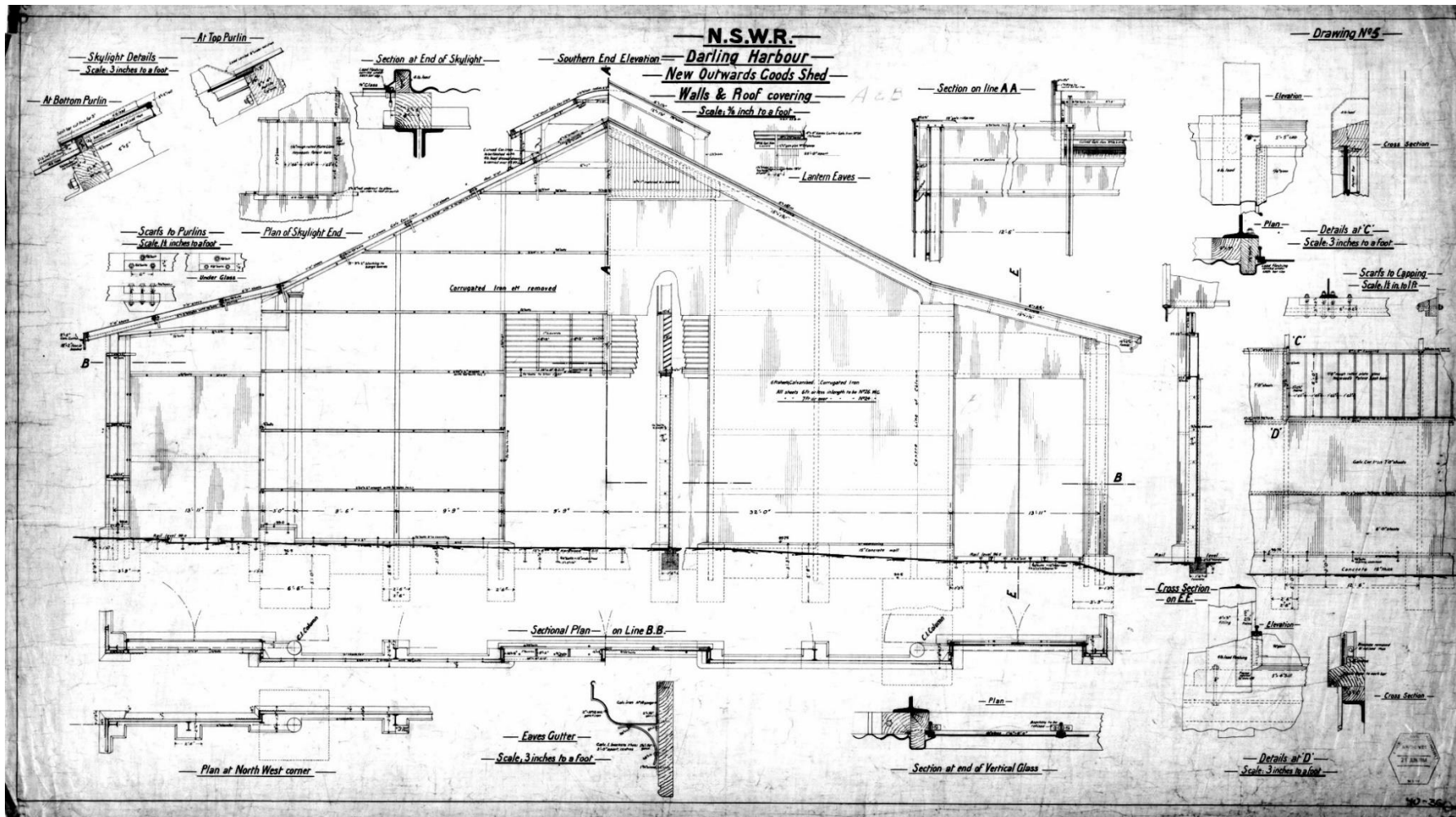


Figure 2-12 Sectional construction drawing of the Goods Shed at Darling Harbour illustrating some details of structural components of the sheds, most notably the footings for the upright supports. (Source: NSW Archives Office NRS-21554-12-24 plan 18-7131)

### 3. Research Design

### 3. Research Design

#### 3.1. Introduction

The 2021 Archaeological Research Design proposed the excavation of eight trenches across the site to test for a variety of archaeological features and deposits. The report also set out a number of research questions which it was hoped might be answered by the testing work.

#### 3.2. Test Trenches

The eight proposed test trenches were outlined as follows:

**Trench 1** - (1.2 m by 6 m) To investigate the potential presence of the slipway and associated deposits on the western side of the basement excavation

**Trench 2A and 2B** - (A 1.2 m by 5 m, B 1.2 m by 5 m) To investigate the profile of deposits west to east across the site and also the presence of the 1880s seawall that runs north to south

**Trench 3** - (1.2 m by 7 m) To investigate the potential presence of the slipway and associated deposits on the eastern side of the basement excavation

**Trench 4** - (1.2 m by 5 m) To investigate the potential presence of the two small structures east of Newstead House and associated deposits on the western side of the basement excavation

**Trench 5** - (1.2 m by 6 m) To investigate the assessment of this area as having nil archaeological potential for Phase 1 of the study area occupation and the nature of the deposits associated with the 1900s reclamations

**Trench 6** - (1.2 m by 6 m) To investigate the potential presence of the two small structures east of Newstead House and associated deposits on the western side of the basement excavation

**Trench 7** - (1.2 m by 4 m) To investigate the assessment of this area as having nil archaeological potential for Phase 1 of the study area occupation and also the presence of the 1880s seawall that runs north to south.

**Trench 8** – (1.2 m by 7 m) To investigate the potential for a small unknown structure at the western side of the site.

#### 3.3. Research Questions

The 2021 ARD proposed research questions which are addressed in section 5.4.



## 4. Monitoring Results

## 4. Monitoring Results

This chapter provides a brief overview of the results of the monitoring work on the study area from May 8<sup>th</sup> to June 17<sup>th</sup>. Six trenches were excavated, out of eight planned (see Figure 4-1). The deposits revealed in each trench will be described below.

### 4.1. Trenches

The trenches were excavated generally from north to south (therefore not necessarily in numerical order) and they will be described in their order of excavation.

#### 4.1.1. Trench 5

Trench 5 (see Figure 4-2 to Figure 4-4) was excavated at the northern end of the study area. A cut was made in the surface slab (5.001) measuring 7.35 m (n-s) by 2.45 m (e-w). This revealed an air gap and a second slab (5.002) which was then also cut and removed. This revealed a simple sequence of blinding (5.004) below the bedding sand (5.003), on top of a compacted dark brown demolition fill (5.005) containing fragmented sandstone, brick. This fill probably represents the levelling for the 1980s construction of Darling Harbour. Below this fill was a cut fill and terra cotta pipe (5.008/009/010). This pipe had an impressed maker's name and date in the body "Punchbowl Pipe" and "30-9-86".

The cut for the pipe was into a thick (>400 mm) black coke/and ash deposit (5.006) that was evident across the western and southern ends of the trench. It was not possible to enter the trench to investigate this ash/coke deposit closely but its stratigraphic location indicated that it was likely a fill related to railway use of the area.

The coke/ash deposit sat on successive sandstone rubble fills (5.011 and 5.012). The uppermost deposit (5.011) comprised crushed sandstone rubble in a compact clayey sand matrix. The lower deposit (5.012) comprised larger rubble fragments (>300 mm) with numerous voids between. Numerous pieces of sandstock brick were also recovered from 5.012, suggesting it derived in part from demolition material imported onto the site. The deepest portion of the trench was reached at the southern end, about 3 m below the upper slab (5.001). At this stage water began to seep into the trench and gradually filled the excavated space. Excavation stopped at this point. It was later observed that the water drained out and refilled the space in conjunction with high and low water times in Darling Harbour.

#### 4.1.2. Trench 2A and 2B

Trench 2A was commenced on May 9<sup>th</sup> and was excavated on the western side of the Centre. A cut was opened in the concrete slab (2A. 001) measuring 4.8 m (e-w) by 2.5 m (n-s; Figure 4-5 to Figure 4-8). Trench 2B was opened up on the eastern side of the Centre, on June 1<sup>st</sup>, and initially measured 6 m (e-w) by 3 m (n-s) with the removal of the concrete slab (2B. 001). However it was later decided to extend it to the west to incorporate an area partly earmarked for trench 7. With this extension the trench measured 10 m (e-w) by 3 m (n-s; Figure 4-9 to Figure 4-13).

The excavation of **trench 2A** revealed numerous services, terra cotta drainage lines similar to those in trench 5 situated in large cuts running both north/south and east/west across the trench, as well as smaller plastic communications conduits directly below the underside of the slab. The terra cotta pipes were laid upon a concrete raft that was tied into the slab above using steel reinforcing set in a plastic encased grouting tube. Discussions with the builders suggested the technique might be a measure to prevent subsidence and breakage of the drains laid in

ground that was susceptible to subsidence. The first of these concrete 'raft' features encountered (2A. 0010) ran down the centre of the trench (e-w), bisecting it and preventing further excavation. On determining that the services in this case were dead it was cut through to allow access to the deposits below.

Excavation proceeded to reveal a dark brown compacted and laminated fill (2A.007) similar to the example seen in trench 5 (i.e. 5.005). This fill was up to 1.4 m thick at the western end of the trench, where it lay on large sandstone rubble fill (2A, 012). The brown fill was only 1 m thick at the eastern end of the trench.

Removal of this deposit revealed an L shaped concrete pour that in fact consisted of two phases, possibly some years apart.<sup>13</sup> The later concrete feature (2A.011) ran north/south across the trench 2.4 m from its eastern edge. This concrete feature comprised modern grey sandy concrete with some blue metal aggregate. Steel reinforcing ran within the feature and extended vertically, through grouting tubes, to tie into the slab (2A. 001) as described above.

The earlier feature (2A. 010) comprised a mass concrete pour with no evidence of shuttering but ran east/west in the trench. Closer inspection revealed it had been poured directly onto the sandstone rubble (2A. 012). The excavation continued into 2A. 012 to a maximum depth of 3.0 m with no change. Excavation stopped at this point as water entered the trench.

**Trench 2B** was excavated directly west of trench 2A. Removal of the concrete slab (2B. 001) revealed sand levelling fill and orange plastic (2B. 002) over the familiar dark brown compacted fill (2B. 004) with numerous fragments of demolition material throughout. Only 600 mm into the excavation a large (500 mm) terra cotta service line (2B. 006) in a blue metal filled cut (2B. 004/005) was exposed running east west through the trench effectively bisection it. This service line was found to be potentially live and it was then only possible to excavate on the northern side of this pipe. As the excavation proceeded to the east a second pipe (concrete) prevented more extensive excavation here and the eventual excavated size of 2B was approximately 4 m (e-w) and 1.4 m (n-s).

Where exposed the following sequence was observed in the trench section (Figure 4-10). A mid brown fill (2B.003) comprising sandstone and modern brick fragments approximately 400 mm thick at the western end and thinning appreciably towards the east, the familiar dark brown compacted fill (2B.004 and c.f. 5.005 and 2A.007), thin band of redeposited yellow clay (2B.007), dark grey/black deposit (2B.008) of furnace waste (ash and coke), glazed coarse earthen ware service line (2B.010) cut into the furnace ash and running north/south. A series comprised of redeposited clay, degraded sandstone bedrock, and a thin dark band, possibly a former surface. The excavation was stopped at approximately 3 m below the slab when ground water was reached.

Due to the restricted nature of the excavation it was decided to extend the trench to the east and incorporate part of the area earmarked for trench 7. The extension revealed further evidence of bedding sand for the slab 2B.002 and the compacted brown fill (2B.003.) About 1.2 m below the slab a machine pressed brick feature (2B.012) was exposed running east/west.

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<sup>13</sup> The latter concrete feature was poured up against the earlier already in place. The latter incorporated steel reinforcing tied into the slab above. The earlier had no reinforcing, was a massed concrete pour, and incorporated a larger size of blue metal aggregate.

Further clearance revealed that this feature butted against another structural feature (2B. 014) running north/south comprising a hard grey concrete with large blue metal aggregate. Directly associated with these features was the remains of a hard rammed earth and blue metal surface (2B. 013). Excavation ceased at this point as a service line (sewerage) sprang a leak into the trench filling it with water.

#### 4.1.3. Trench 7

This trench location was incorporated into 2B see above.

#### 4.1.4. Trench 4

Trench 4 comprised an L-shaped test trench located on the Western half of the central area of the shopping centre. The dimensions of the trench, cut into the concrete slab (4.001) were 4.2 m (n-s) x 4.6 m (w-e) by 2.8 (eastern n-s edge) x 2.5 m (e-w) x 1.25 m (s-n) x 2.00 (e-w).

Immediately below the concrete slab (4. 001), was a levelling clean sand layer (4.002). On the north-west corner of the trench, a 600 mm ovoid cut (4. 003) for modern PVC pipes (4. 004) that were running east/west was exposed, where the PVC pipes were supported by cement and clean sand fill (4. 005). All those elements are contemporary to the shopping centre use/redevelopment in the 1980s (Figure 4-14).

Below the levelling clean sand (4. 002), a series of uniform levelling fill events was excavated. Such fills (4006 and 4007) are composed of large sandstone and concrete rubble with light yellowish-brown mottled clay patches (4. 006); and dark greyish-brown sandy clay with large sandstone, machine pressed brick, 1970s window glass and concrete rubble (4. 007). Such contexts are understood to be levelling events – either brought in on-site or a product of machine excavation movement – for the shopping centre redevelopment (see Figure 4-14 and Figure 4-15).

Following context 4. 007, two large sandstone boulders were identified against the western elevation of trench 4 at a depth of 1.5m below the concrete slab 4. 001. Initially understood to be a part of the historical redevelopment associated with the railway activity in this area, these two elements can also be associated with the levelling fill events of 4. 006 and 4. 007 in a similar manner to what was exposed at the bottom layers of Trench 2A.

Immediately below context 4007 at 1.7m below the current concrete slab, a uniform compacted layer of dark (coke?) ash material (4. 008), with several compacted steel patches and steel artefacts (square nails, amorphous metal pieces) was exposed (Figure 4-16). The uniform compacted steel patches shown in 4. 008 could function as a working surface for the Atlas works, which is also evident in all sections of the trench (Figure 4-16). Below 4. 008, a redeposited estuarine, mid-brownish-grey loamy sand layer was exposed uniformly distributed along the entire trench and immediately above the natural bedrock (4. 009). This layer presented blue transferware ceramic fragments, sandstock brick fragments, clay pipe stems, shells and non-human organic materials (sheep bone), indicating a natural redeposit where its surface was potentially exposed during the early Aboriginal occupation and early colonial period.

The exposed natural bedrock (4. 009) was somewhat flat at the bottom of the trench, which could have been due to a process of cutting and flattening. However, due to the trench dimensions, estuarine deposit and early use for the Atlas Works more investigation is needed to confirm this hypothesis. Evidence of successive reclamation was exposed in this area. No remains of the two small structures were found, though evidence of a potential working surface

and possible industrial activities were uncovered. A possible structural column base was also exposed in section. At the base of the excavation evidence of sandstone shoreline rock platform was uncovered.

#### 4.1.5. Trench 1

See limitations section 1.4. This trench was located adjacent to the lift in the Centre food court. The concrete slab (1.001) was removed to reveal substantial amounts of bedding sand (1.002) which upon further excavation was revealed as service trench fill for a variety of electrical conduits and hydraulic services that crisscrossed the excavation (Figure 4-28). Further excavation revealed an ever-decreasing area to excavate within and the excavations here were abandoned.

#### 4.1.6. Trench 6

Running in an east/west direction and located in the Western half of the central area of the Harbourside Centre, test Trench 6 was cut into the current concrete slab (6.001) in a roughly rectangular shape that measured 6.7m (length) x 2.7m (width). Due to a service PVC pipe (6.003,004,005 at 600 mm depth) running in a north/south alignment along the entire southern section of trench 6 (Figure 4-20 and Figure 4-21), most of the southern half of this trench was not closely investigated by the archaeological team as it was deemed unsafe due to OH&S requirements.

Trench 6, as in the other trenches, was mostly machine excavated down to the natural sandstone bedrock (6.012 Figure 4-19 to Figure 4-21). Below the current concrete slab (6.001), a uniform layer of levelling clean sand (6.002) was exposed roughly 150mm below the current concrete slab and these works are clearly associated with the construction of the Darling Harbour centre (Figure 4-19). Following 6.002, a sequence of modern fill events associated with the 1980s construction of the Darling Harbour centre was exposed: a mid-yellowish-brown sandstone and concrete demolition rubble (6.006); light yellowish-brown sand with sandstone rubble (6. 007); a dark sandy clay sandstone and concrete rubble (6008); and a very compacted red mottled redeposited clay with large amorphous sandstone blocks, a few sandstock brick fragments, 1970s window glass, machine pressed brick and concrete inclusions (6. 009). Ranging from 350mm to 1850mm below concrete slab 6001, all the modern levelling and filling events (6. 006,007,008,009), especially 6. 009, presented few artefacts inclusions of various date ranges, such as transferware ceramic fragments, early sandstock brick, rectangular timber pieces (discarded modern construction debris), and 1970s window glass.

Similar to trench 4, a uniform compacted layer (6.010) of black gritty ash/slag/metal waste with dry, flat and compacted metal patches (probable working surface) was identified at a medium depth of 2.2m below 6.001. This surface ran south west to north east slope and was uniformly distributed along the area of trench 6, which could indicate a working surface likely to be associated with the late 1880s Atlas Engineering Works occupation of the site (Figure 4-22 and Figure 4-24). Below 6.010 and also uniformly distributed along the investigated area, a mid-yellowish brown silty sand estuarine deposit (6.011) was exposed. Following the same pattern identified in trench 4, this estuarine deposit (6.011) presented at the interface a few small sandstock brick fragments, blue transfer print ceramic fragments, shells and animal bone fragments. Such deposit and its interface indicate the early occupation of the coastal area of Darling Harbour, which can be confirmed by the tidal movement that interfered with trench 6: the seawater level changed overnight flooding parts of the trench. Below the estuarine deposit 6.011, the natural sandstone bedrock (6.012) was observed distributed along the investigated

area. This natural bedrock possessed several natural semi-circular inclusions likely to be caused by the daily tidal movement over years.

In addition to the deposits, two distinct features were identified in the early occupation phase of this area: a salt-glazed ceramic service pipe (6.013, 6.014, 6.015) with organic-rich dark loamy sand fill (6.016 see Figure 4-22 and Figure 4-23); and a chisel/pick cut into the natural sandstone bedrock (6.017 - Figure 4-24). The 300mm diameter pipe (6.013, 6.014, 6.015, 6.017) runs in a west/east direction and cuts (200mm) directly into the dark ash deposit (6.010) and the estuarine deposit (6.011). This service pipe could be associated with the late 1800s railway use of the site after Atlas Engineering Works were made redundant, although more investigation is recommended. Only a small portion of 6.017 (300 mm x 120 mm) was exposed as it was located in an unsafe area of the trench. Although insufficient to state any conclusions, this flat cut may indicate the placement of railway tracks and sleepers during the Atlas Engineering period of occupation (1870s-80s) or later (1880s) railway and goods shed use.

#### **4.1.7. Trench 8**

Trench 8 was the southernmost trench of the excavation program (Figure 4-1). Due to lack of space within the shop and the amount of spoil encountered this trench had to be excavated in two sections with the eastern half excavated first, and recorded, then the western half excavated with the overburden material dumped on the eastern half of the trench. The final dimensions of the excavated trench were 8.2 m (e-w) by 2.65 m (n-s Figure 4-32).

Removal of the slab (8.001) revealed a series of bedding/levelling fills (8.002, 003) above the dark brown compacted fill (8.004) evident in a number of other testing areas (Figure 4-29). Deposit 8.004, over a metre thick in places, was laid in the latter part of the twentieth century as several pieces of plastic and corrugated fibreglass were identified in the lowest portions of the section.

The most significant elements exposed during the work in trench 8 (Figure 4-30, Figure 4-31 and Figure 4-32) were a machine pressed brick (i.e. likely twentieth century) feature which incorporated a drainage pit in its structure, a surface comprised of iron stone and sand (8.015) an associated distinct spread of coal across the northern boundary of the trench (8.016), and bedrock (8.017).

#### **4.1.8. Trench 3**

See limitations section 1.4. No excavation was commenced here, in what was to be the largest trench of the testing program.

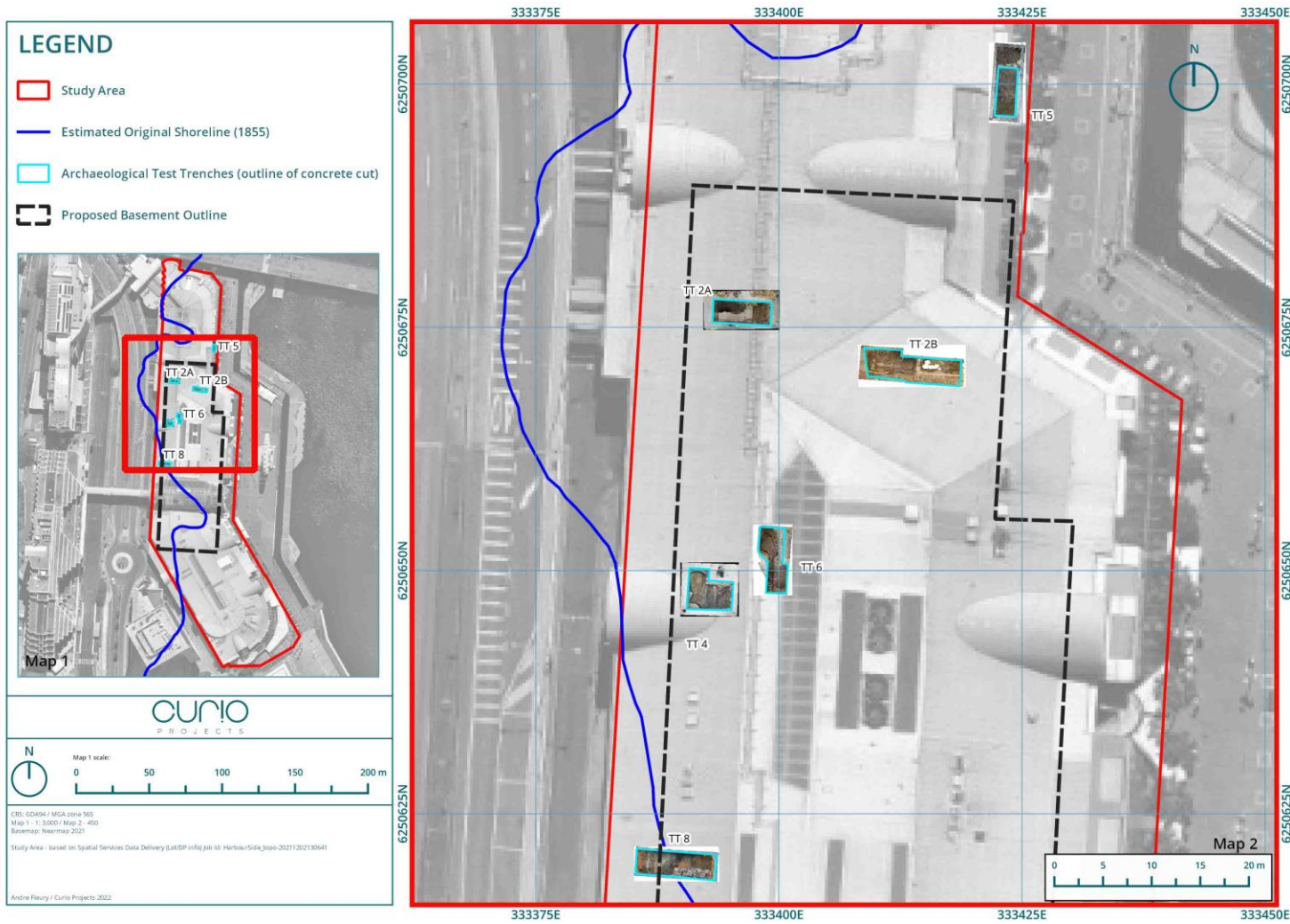


Figure 4-1 Plan of the excavated test trenches within the Harbourside Centre. (Source: Curio 2022).





Figure 4-2 Trench 5 south section. (Source: Curio 2022).



Figure 4-3 Trench 5 west section. (Source: Curio 2022).



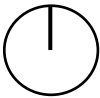


Figure 4-4 Orthophoto of Trench 5. Relative levels (based on AHD) shown in yellow. (Source: ArcSurv 2022).





Figure 4-5 Trench 2A north section showing dark brown fill deposit 2A.007. (Source: Curio 2022).



Figure 4-6 Trench 2A looking west showing concrete features 2A.010 and 2A.011. (Source: Curio 2022).



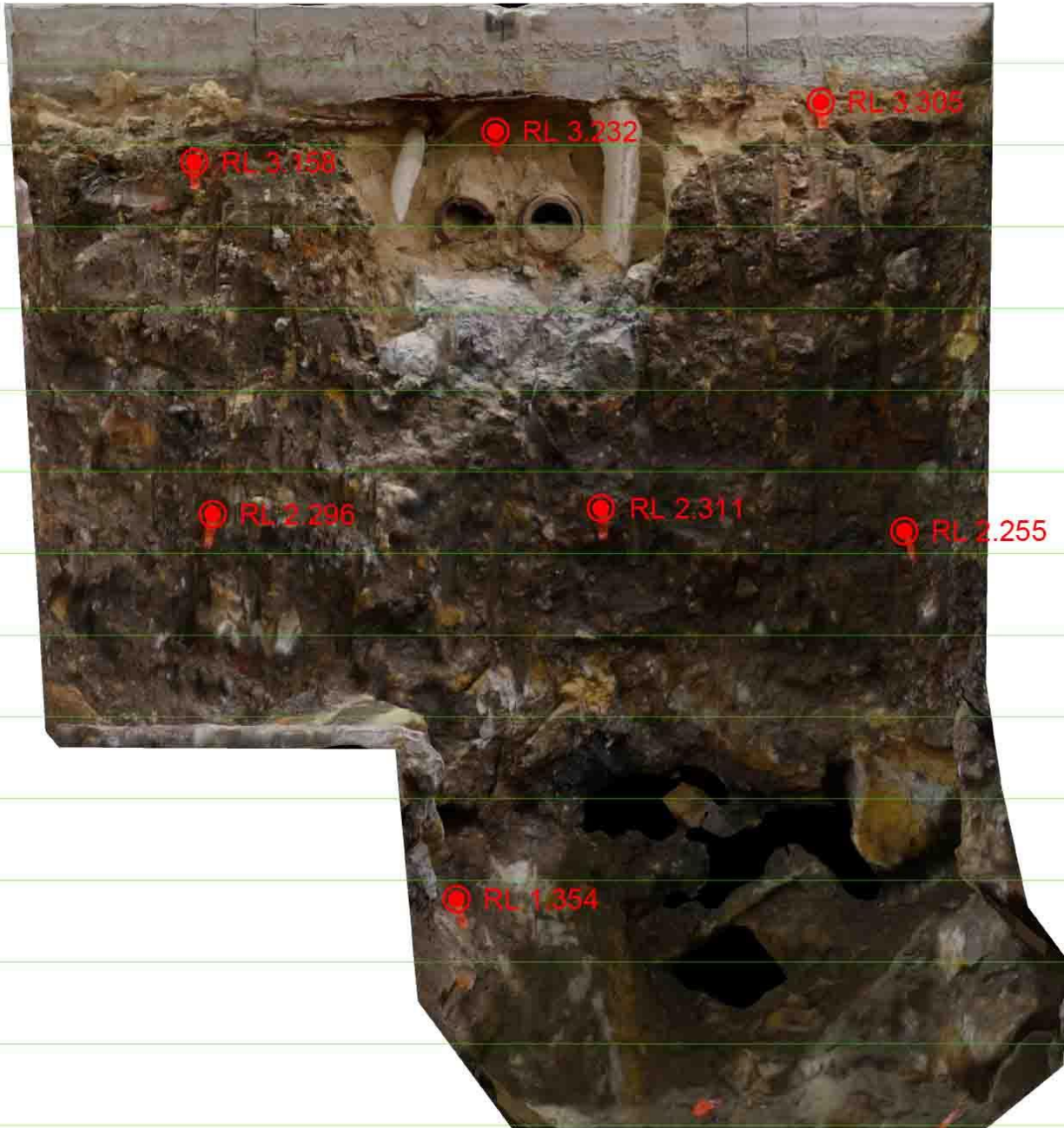


Figure 4-7 Trench 2A showing the west section with fill deposit 2A.007 over sandstone rubble 2A. 012. Note the white grouting tubes associated with the services in the section. (Source: Crux Surveying 2022).



Figure 4-8 Trench 2A orthophoto. (Source: Crux Surveying 2022).





Figure 4-9 Commencement of excavation in trench 2B. (Source: Curio 2022)



Figure 4-10 South section trench 2B. (Source: Curio 2022)





*Figure 4-11 Trench 2B looking west showing the brick feature (2B.012) and the blue metal surface surrounding it (2B.013). (Source: Curio 2022)*



*Figure 4-12 Trench 2B looking north showing the brick feature (2B.012) butting concrete feature 2B.014). (Source: Curio 2022)*





Figure 4-13 Orthophoto of Trench 2B. Relative levels (based on AHD) shown in yellow. (Source: ArcSurv 2022).





Figure 4-14 Trench 4 showing western section. (Source: Curio 2022).



Figure 4-15 Trench 4 Northern Section. (Source: Curio 2022).





Figure 4-16 Metal object protruding out of context 4. 007. (Source: Curio 2022.)



Figure 4-17 Detail of Western section of trench 4. (Source: Curio 2022.)





Figure 4-18 Orthophoto of trench 4. (Source: Crux Surveying 2022).





Figure 4-19 Western section of trench 6. (Source: Curio 2022)



Figure 4-20 Eastern section of trench 6. (Source: Curio 2022)





*Figure 4-21 Trench 6 (looking South) showing PVC pipe 6. 003,004,005 running North-South and narrow space at top where chiselling 6. 017 was exposed. (Source: Curio 2022)*



*Figure 4-22 Trench 6 detail of the salt-glazed ceramic pipe (6. 013, 6. 014, 6. 015) cut 6. 010 and 6. 011. (Source: Curio 2022).*





*Figure 4-23 Northern view of the salt-glazed ceramic pipe (6. 013, 6. 014, 6. 015) cut 6. 010 and 6. 011. (Source: Curio 2022)*



*Figure 4-24 Detailed view (looking South) of 6. 017. (Source: Curio 2022)*



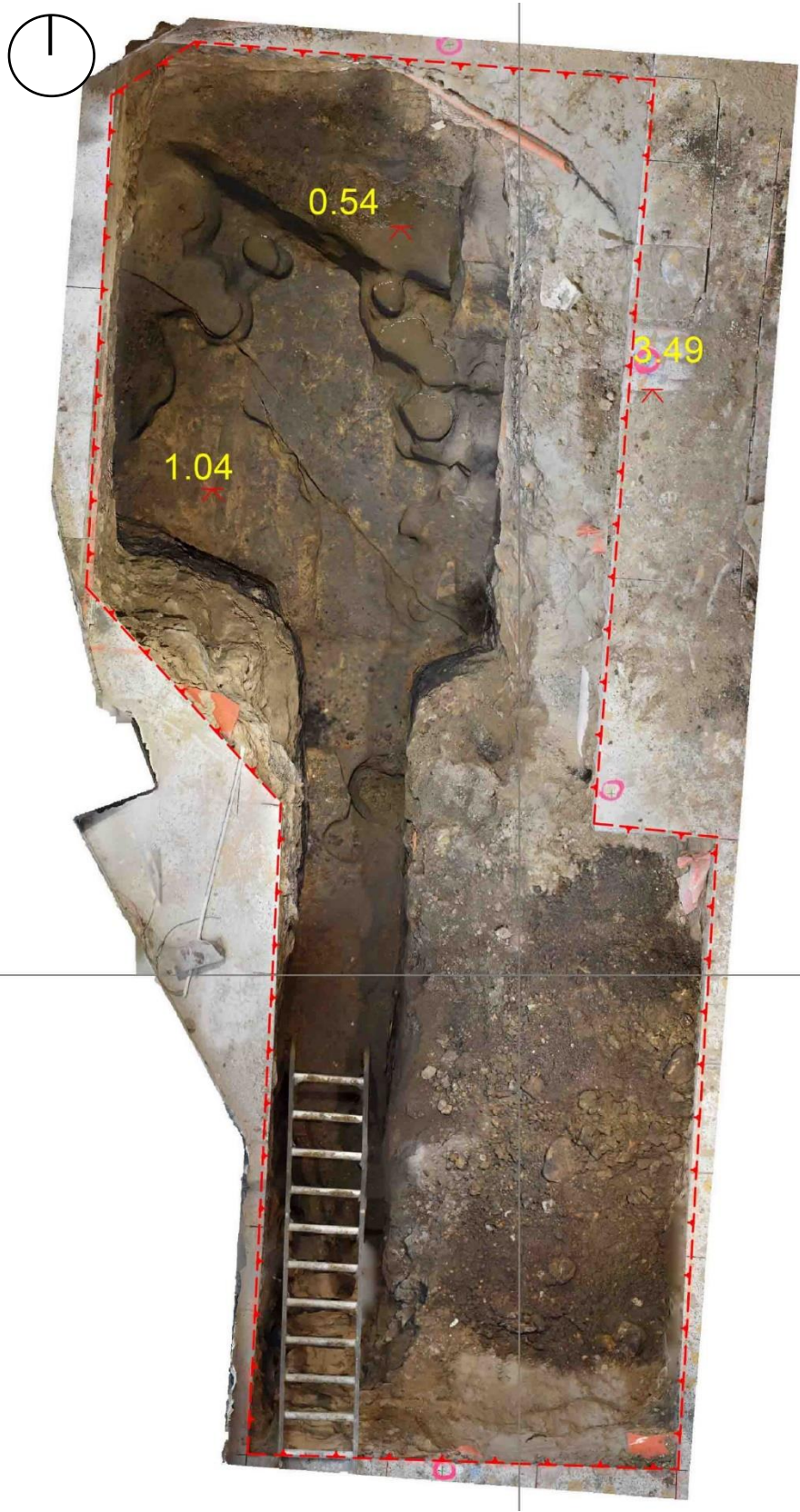


Figure 4-25 Orthophoto of Trench 6. Relative levels (based on AHD) shown in yellow. (Source: ArcSurv 2022).

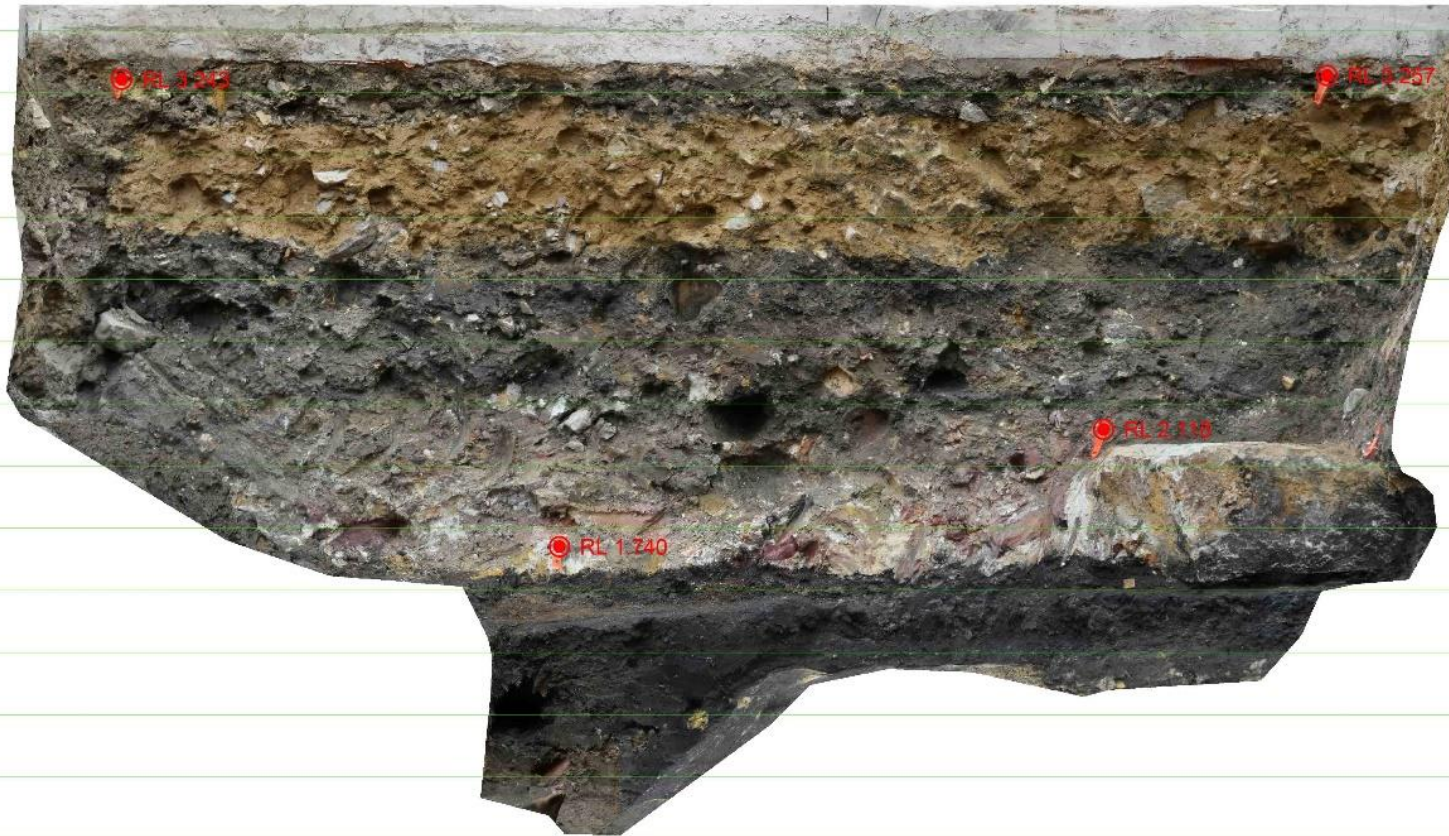


Figure 4-26 Trench 4 south. (Source: Crux Surveying 2022).





Figure 4-27 Trench 4 west section. (Source: Crux Surveying 2022).





Figure 4-28 Trench 1 showing a series of live service lines that prevented further excavations here. (Source: Curio 2022).



Figure 4-29 South section trench 8 showing 8. 004 on top of brick feature 8. 012. (Source: Curio 2022)





Figure 4-30 Trench 8 (1<sup>st</sup> phase) looking west showing the brick structure 8.012 at left and the red brown surface (8.015) and coal/ash spread (8.016) at top right. (Source: Curio 2022)



Figure 4-31 Trench 8 (2<sup>nd</sup> phase) showing the western end of 8.012 at right, the continuation of the coal/ash 8.016 at left and exposed bedrock.



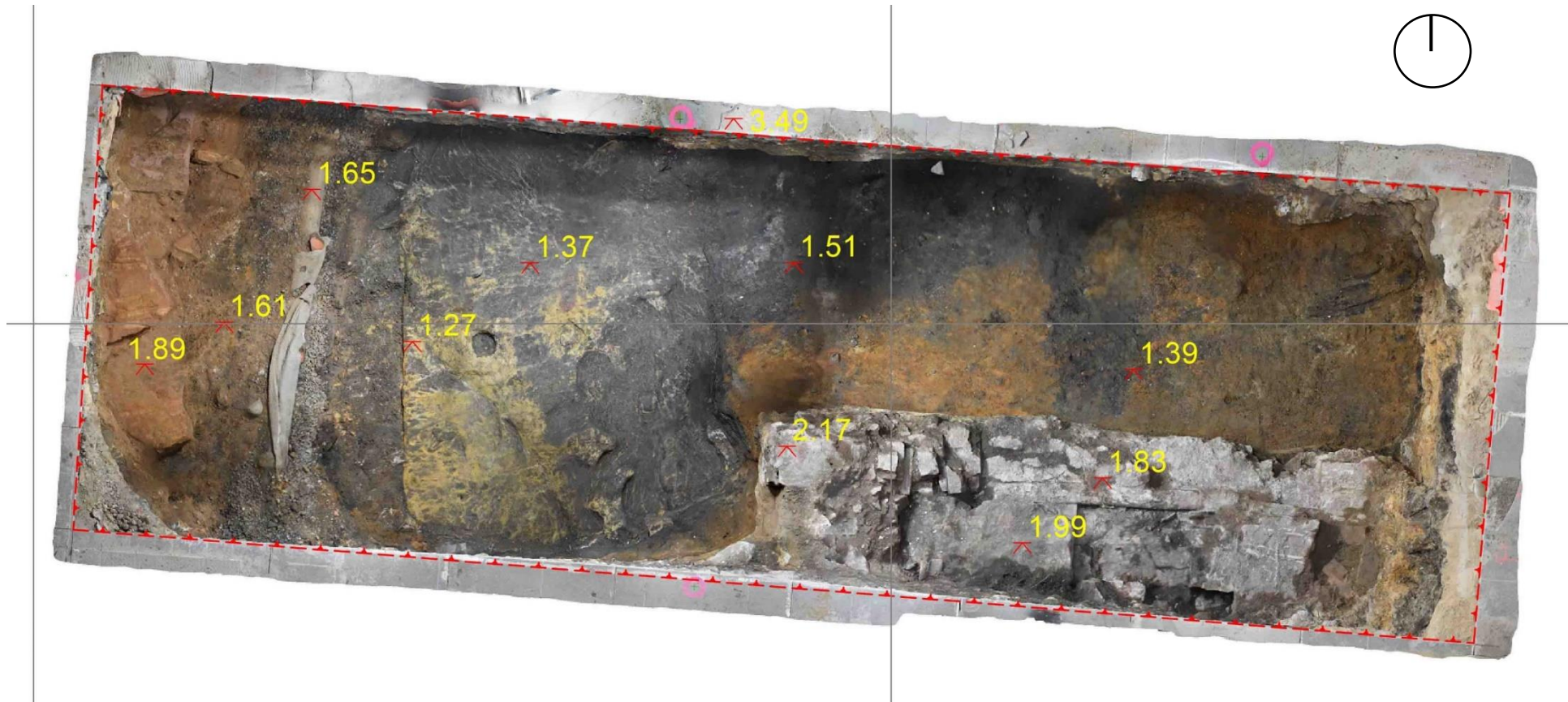


Figure 4-32 Orthophoto of Trench 8. Relative levels (based on AHD) shown in yellow. (Source: ArcSurv 2022).

## 5. Analysis of Physical Evidence

## 5. Analysis of Physical Evidence

### 5.1. Excavated Trenches Summary

In trenches 2A and 2B the evidence appears to be of successive reclamations and fills from the 1880s up to the 1980s, with some structural elements associated with services for the Harbourside Centre. Concrete and brick features and surfaces (2A. 010, 2B. 012, 2B. 013 and 2B. 014) may relate to the railway occupation of the site. No evidence of the sandstone sea wall was uncovered during the work.

Trench 5 revealed the initial instance of the dark brown levelling fill, dating to the late twentieth century, for the construction of the Darling Harbour. Deposits associated with the use of the railway yard and reclamation of the 1880s were also found. The trench did not reveal any significant archaeological remains.

Trench 6 and trench 4 indicate a high level of Archaeological Potential related to the Atlas Engineering works located here. It is clear from the historical overlay shown as Figure 5-1 the two trenches were located directly within the main works of that industrial establishment. Only possible remains of structures, associated with the Atlas works were found. The large sandstone blocks exposed at the western edge of trench 4 may relate to pads for uprights supporting the main roof of the main shed. The evidence of a potential working surface and possible industrial activities, in the form of coal and furnace ash waste, were uncovered. Below the 'working surface' a glazed coarse earthen ware drainpipe was uncovered also possibly related to drainage of the engineering works. At the base of the trench 4 and 6 excavations more evidence of the sandstone shoreline rock platform was revealed with some of this rock altered for an unknown purpose.

Trench 8 exposed evidence of successive reclamation in this area. Remains of a 'working surface' and evidence of industrial activities, identified in trenches 4 and 6, were also uncovered. At the base of the excavation bedrock, part of the former rock platform, was also exposed, a portion of it also altered for an unknown purpose. In addition structural remains, probably associated with the Government Railway occupation from the early twentieth century.

### 5.2. Archaeological Potential and Disturbance

#### 5.2.1. Archaeological Potential

The study area retains significant archaeological potential associated with the remains identified in trenches 4, 6 and 8 and likely to be associated with the Atlas works. At this stage there is only possible evidence of structural remains (i.e. the sandstone pad supports) from this area. No specific features associated with foundry work, such as cupolas, forge machinery or chimney bases, flues etc., were uncovered. The survival of the rock platform, also demonstrated in these trenches, sediments and artefacts from activities which predate the establishment of the foundry, demonstrates potential for archaeological remains associated with the occupation of this area prior to the 1870s, despite the testing failing to identify structural remains in this location. Sufficient evidence was uncovered to support a recommendation for further archaeological excavation work in this area. This work may be undertaken, with the agreement of the client, in conjunction with bulk excavation works. For the purposes of this archaeological assessment no further historical testing is required prior to commencement of those works (see Recommendations 6.2).

There is also still potential for remains of the boat slip and jetty to be present. This was not directly demonstrated by the testing program (i.e. trenches 1 and 3) but rather indirectly. The survival of the rock platform and Atlas works levels suggests that features that existed at lower levels, such as the base of the boat slip and jetty piles, may still be present within the study area.

### 5.2.2. Disturbance of the Archaeology

It is expected that there will be several sections of substantial disturbance across the archaeological areas noted above, that are identified for further work. All the test trenches encountered disturbance from redundant and active services, for the current centre, at relatively shallow depth (i.e. between RL 1.8 m and 2.45 m AHD). These services, dating from the 1980s, form an extensive net below the existing slab (RL 3.59 m AHD) and are in places tied into the slab by reinforced grout. Amenities to the south-east of the Atlas foundry are predicted to have intensive services at a similar RLs and would have suffered similar levels of disturbance at the levels between RL 1.8 m and 2.45 m AHD. Deeper disturbance from structural piles and pile caps supporting the Harbourside Centre, which penetrate to bedrock, is also to be expected. These piles form a grid across the site and nine ( $\pm 6$ ) have been identified across the area of the former Atlas Foundry. These piles, also dating to the mid- 1980s, will have removed earlier deposits to substantial depths. Their disturbance will have been substantial but relatively localised. Survival of archaeological remains within the basement footprint, as a result of these physical impacts, is likely to be variable ranging from intact and minimally disturbed through to substantially disturbed or removed.

### 5.3. Archaeological Significance and Artefacts

The 2016 assessment concluded with regard to the archaeological research significance of the site that:

*If surviving, historical archaeological remains of the site dating to Phase 1 (1788–1874) may be of local or State significance, depending on their nature, extent and integrity.<sup>14</sup>*

Based on the results of the archaeological testing and further historical research on the site and its context there are no archaeological remains that would meet the threshold for State Significance.

A range of artefact evidence was recovered during the course of the testing. While the artefacts recovered assisted in analysis of the nature of the deposits identified none of them are particularly significant or require specialist conservation attention.

### 5.4. Response to Research Design Questions

#### 5.4.1. General

What features or deposits are present on the study area;

The site comprised deposits predominately associated with later reclamation of the western edge of the Ultimo/Pymont shoreline. The relative location of the test trenches when compared to the 1878 and 1893 maps of the area indicates that this reclamation is to be associated with

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<sup>14</sup> Curio, 2016, Archaeological Assessment, *op cit*, p. 33.

the establishment of the rail yard in the 1880s. Just as extensive were deposits and features from the 1980s construction of the Harbourside Centre.

A smaller number of deposits/features were identified as indicating occupation and use of the area by the railways (1884-1985) and Atlas Engineering works (c.1875-c.1885) on this part of the shoreline. An even smaller portion of the evidence potentially reflects activities associated with the mid- nineteenth century activities on the rock platform below Newstead House.

#### **What is the nature and extent of any features and/or deposits;**

The reclamation deposits are extensive and over 3 m in depth across the eastern portion of the study area. Similarly, the deposits and features associated with the railway occupation also cover a wide area but do not extend to similar depths as the reclamation. The deposits and features associated with the Atlas works are generally recognised to be restricted to that area represented in the 1878 plan as are the deposits indicative of the activities on the rock platform below Newstead House.

#### **What dates can be assigned to them;**

As outlined above the general dates assigned are:

1. Rock platform below Newstead House – 1840s to 1870s;
2. Atlas Engineering works – 1875-1885;
3. Reclamation – 1884/5;
4. Railway period occupation – 1884-1985; and,
5. Darling Harbour construction 1985-1986.

#### **How does this information compare to available historical information relating to the study area;**

At this stage the historical information is providing the dates outlined above.

#### **What is the significance of the “relics”?**

The general levels of archaeological research significance for the various periods of occupation identified on the study area are:

- Rock platform below Newstead House – **Local Significance;**
- Atlas Engineering works – **Local Significance;**
- Reclamation – **Negligible Significance;**
- Railway period occupation – **No or negligible Significance;** and,
- Darling Harbour construction - **No or negligible Significance.**

The vast majority of the archaeological deposits exposed during this work fall within the latter part of Phase 2 and Phase 3 of the historical occupation. Many of the deposits and features, such as the potential remains from the Goods Shed supports, possible weighbridge are of negligible archaeological research significance.

However evidence from trenches 4, 6 and possibly 8 for the presence of remains associated with the Atlas Engineering works in this area are at least of local level of significance for archaeological research value. While the site is associated with significant industrial accomplishments such as the construction of the two Acheron class torpedo boats and production of locomotives for NSW



Rail it remains unclear if the complex merely fabricated components and they were assembled elsewhere (i.e. Hay St or Woolwich). The Atlas works remain an example of several similar establishments in the Pyrmont area at this time. These include the Fyfes Iron Foundry, Paragon Works and the City Iron Works.

#### **5.4.2. Landscape**

**What is the nature of any remnant soil profile in the area of investigation?**

At this stage of the investigation no intact soil profile has been identified on the site. Some deposits may indicate the presence of estuarine silts on top of the exposed rock platform. This is yet to be confirmed by a soil scientist and they may also reflect colluvium from the slopes immediately to the west.

**How does the soil profile relate to filling events associated with the creation of the harbour?**

These estuarine silts/colluvia clearly predate the filling/reclamation associated with the Atlas works (late 1870s) as they are sealed by the creation of the work area adjacent to the harbour.

**Does evidence of in situ natural topsoil (A1/A2 horizon) remain within investigated areas? If so, can this tell us anything about the nature of the landscape at the time of settlement or use of the land thereafter?**

No evidence for an intact A1/A2 horizon has been found to date.

**What evidence is there for the former shoreline?**

Trenches 4-6 and 8 all revealed sections of the former intertidal sandstone rock platform that was exposed to the east of Newstead House. The sandstone showed characteristic circular/ovoid weathering from salt crystallisation, subsequent hydraulic action and clasts. Covering the platforms are suspected estuarine silts or colluvium from slopes to the west of the site.

**What other landform alterations may be observable?**

No other specific landform alterations. Other than reclamations, have been identified by the work to date. Part of the exposed rock in trenches 6 and 8 showed evidence of being cut but this was not investigated further.

#### **5.4.3. Structural Features**

**To what extent do the nineteenth and twentieth century seawalls survive?**

No evidence of the 1880s seawall was exposed. The overlay of the 1893 Metropolitan Detail Series plan (Figure 5-2) indicates that the location of this seawall lies further east than the trenches.

**Is there any evidence for the slipway? Along the shoreline?**

Trenches 1 and 3, placed to investigate the presence of the slipway (and associated jetties) could not proceed as outlined above (see section 1.4). Further archaeological work is proposed that would further investigate the evidence for the slipway.

**Is there any evidence for the remains of the unidentified structures east of Newstead House?**

No structural remains associated with these buildings was uncovered in trenches 4, 6 or 8.

**Are there any other unrecorded structures present?**

This testing revealed evidence related to structural remains of the Goods Shed (1902) and possibly the weighbridge, both shown on available plans. No other structural evidence was uncovered.

**Deposits****Is there evidence which can differentiate between different reclamation episodes?**

Evidence for two different reclamation phases was uncovered. Evidence for the reclamation associated with the establishment of the Atlas works was identified in trenches 4 and 6. This reclamation must date to the mid-1870s.

The majority of the reclamation identified was that associated with the establishment of the rail yard post-dating the Atlas works and largely in place by 1884. A smaller reclamation, associated with the construction of the seawall (between 1883 and 1892) is likely to be in areas east of the current testing trenches.

**Can dates be assigned to these events?**

See comment above.

**Is the reclamation material locally derived or imported?**

All evidence suggests that the reclamation is from material imported onto site. Some materials which comprise the 1880s reclamation include sandstock brick, partly dressed sandstone, large wooden structural fragments (indicative of demolition of buildings) and wood block street pavers, possibly from roads reclaimed or alternatively rejected blocks from the paving process.

**Is the reclamation comparable to other such events in Darling Harbour and other areas of the Harbour foreshore?**

Yes, the railway period reclamation is directly comparable with similar work along the western side of Darling Harbour, around to Darling Island for the continuation and expansion of rail facilities in Pyrmont.

The reclamation for the Atlas works may also be comparable to apparent reclamation of the shoreline at the City Iron works on Pyrmont Point. This facility was established in a similar situation, across a former rock platform, stone sea wall erected to enclose reclamation and levelling fills to form a working surface and a wood piled wharf established on the seaward side of the main works shed.<sup>15</sup>

**5.4.4. Significance and Conservation****Are any of the features potentially of State significance?**

At this stage none of the features exposed has demonstrated it has reached the threshold of State Significance. Several features and deposits are of negligible significance and the remains of the Atlas works and the boat slip are assessed of Local significance.

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<sup>15</sup> See SLNSW Pickering City Iron Works, 1871, SPF/725.

### **Do any of the features warrant in-situ conservation?**

The nature of the available evidence for the extent and intactness of the remains of both the boat slip and the Atlas works indicates they do not warrant insitu conservation.

### **What elements may lend themselves to interpretation?**

The historical development of the site encompasses occupation from the earliest period of European settlement, through bucolic isolation, maritime and industrial ventures, an important transport hub, through to the site becoming part of the retail infrastructure of Sydney. This historical development is worthy of interpretation.

Elements from any future archaeological works on the site that may be incorporated into interpretive initiatives may include, recovered artefacts, photographs and plans of features exposed during the archaeological work and results of analysis of environmental evidence recovered.



Figure 5-1 Overlay of the excavated test trenches on the 1878 plan. Note trenches 4 and 6 lie within the mail works building of the Atlas works.

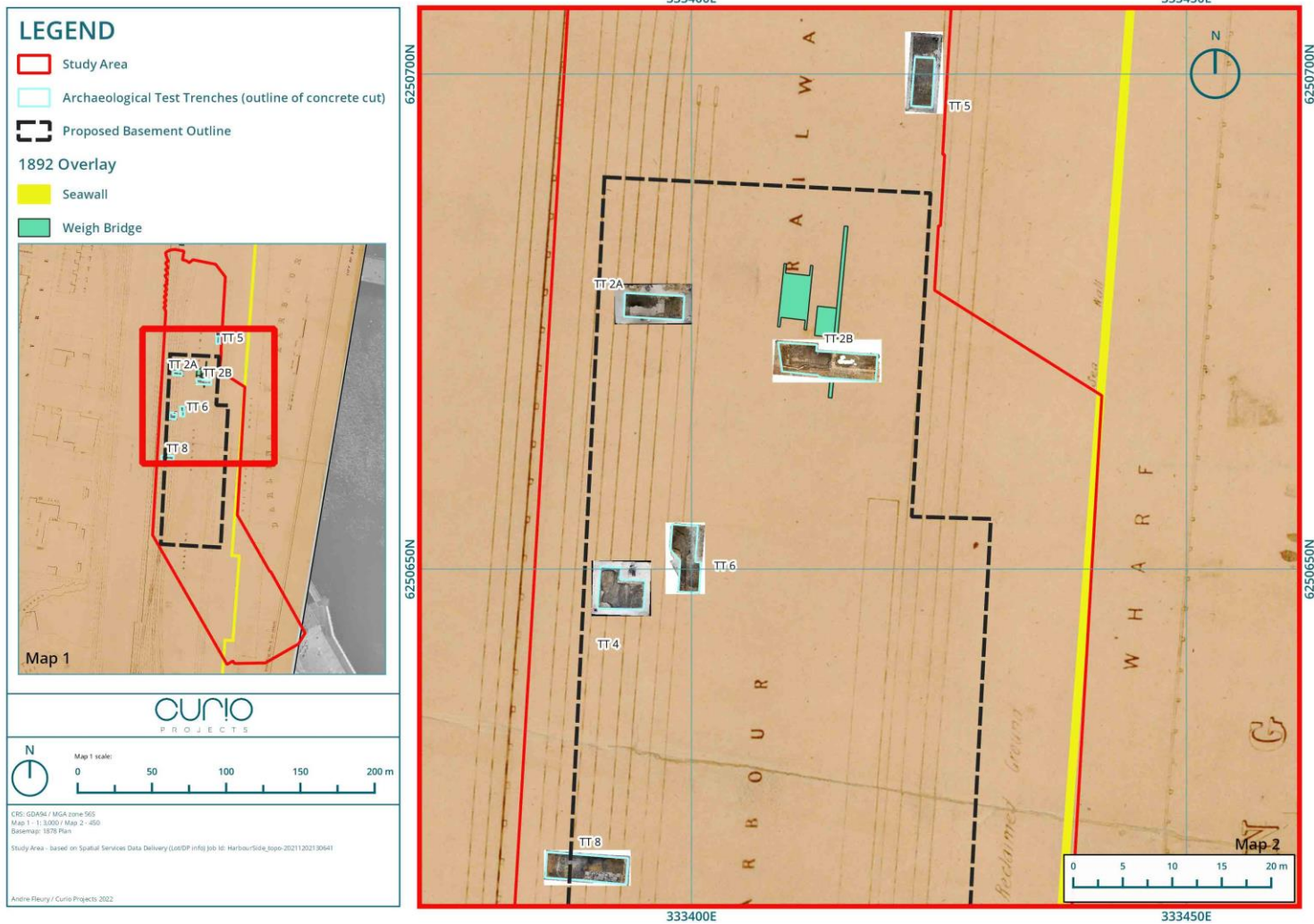


Figure 5-2 Overlay of the excavated test trenches on the 1893 plan. Note trench 2B lies astride a weighbridge for the railway yard.



## 6. Conclusions and Recommendations

## 6. Conclusions and Recommendations

### 6.1. Conclusions

The following conclusions are based on the results of the May/June testing program and subsequent research into the site.

- The study area has demonstrated archaeological potential from the 1840s/50s (occupation of the rock platform below Newstead House) onwards, and includes potential remains of the Atlas Engineering works (1875-1885) and later railway use;
- There is some potential for disturbance of this archaeology from later construction of the Harbourside Centre in the form of services below the slab (relatively shallow) and support piers for the structure (deeper to bedrock);
- The assessed level of significance of the archaeological remains is:
  - Rock platform below Newstead House – Local Significance;
  - Atlas Engineering works – Local Significance;
  - Reclamation – Negligible Significance;
  - Railway period occupation – No or negligible Significance; and,
  - Darling Harbour construction - No or negligible Significance.
- None of the potential archaeology is likely to meet the threshold for State Significance;
- The nature of the available evidence for the identified archaeological remains indicates they do not warrant insitu conservation.

### 6.2. Recommendations

The following recommendations are based on the results of the May/June testing program and subsequent research into the site:

- An addendum to the existing Archaeological Research Design (ARD) should be completed to guide the following proposed archaeological program;
- The ARD addendum should be completed in conjunction with a maritime archaeologist to ensure that any remains associated with maritime activities are properly considered in the proposed archaeological program;
- The ARD addendum should be forwarded to Place Management NSW for consideration in an application for an s140 Excavation Permit;
- An open area excavation program should be undertaken on the site of the Atlas engineering works, based on information provided in the ARD addendum above, to further investigate the site and record any significant features and deposits associated with that establishment and the pre-foundry occupation of the rock platform below Newstead House;
- This excavation program can be undertaken in conjunction with the bulk excavation works;
- Further investigation of the area of the boat slip and jetty should be undertaken in conjunction with the bulk excavation works and, if it is present, an archaeological recording program should be undertaken prior to its removal;
- All archaeological works outlined in the ARD addendum should be programmed into the development works to ensure adequate time is available for salvage excavations etc. as required;
- The Interpretation Plan for the site should incorporate significant results from the archaeological program;

## 7. References

## 7. References

### 7.1. Primary

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- MAAS, 2022, Steam locomotive No.1243 by Atlas Engineering, Sydney, <https://collection.maas.museum/object/85816>. Accessed July 5<sup>th</sup>, 2022.





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