WESTERN HARBOUR TUNNEL - BERRYS BAY SITE

Archaeological Research Design and Excavation Methodology

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Glossary & abbreviations

Term/Acronym	Definition
AA	Archaeological Assessment
ACMP	Artefact Conservation Management Plan
ATCJ	Australian Town and Country Journal
AMP	Archaeological Management Plan
AMU	Archaeological Management Unit
Archaeological monitoring	Process of an archaeologist observing excavation works with the intention of identifying relics and other features. Also known as a watching brief.
ARDEM	Archaeological Research Design and Excavation Methodology
Burra Charter	The Australia ICOMOS Charter for Places of Cultural Significance, The Burra Charter, 2013
CHL	Commonwealth Heritage List
CMP	Conservation Management Plan
CRM	Cultural Resources Management
Contamination	Archaeologically this refers to the mixing of stratigraphic units resulting in artefacts and other relics from different periods being mixed together.
Daily Tele	Daily Telegraph
DCP	Development Control Plan
ecofact	Organic material such as seeds or bones that have been used by humans in the past.
ED	Excavation Director
EIS	Environmental Impact Statement
EP&A Act	NSW *Environmental Planning and Assessment Act 1979*
EP&A Regulation	NSW Environmental Planning and Assessment Regulation 2021
EPBC Act	Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*
Eve New	Evening News
Heritage Act	*NSW Heritage Act 1977*
ICOMOS	International Council on Monuments and Sites
LEP	Local Environmental Plan
LGA	Local Government Area
NHL	National Heritage List
NLA	National Library of Australia
NSW	New South Wales
Project site	Refers to the area that will be directly disturbed by construction of the project (for example, as a result of ground disturbance and the construction of foundations for structures)
REP	Regional Environmental Plan
RNE	Register of the National Estate (non-statutory register)
SEARs	Secretary's environmental assessment requirements
SEPP	State Environmental Planning Policy
SH	Sydney Herald
SHC	Sydney Harbour Catchment
SHI	State Heritage Inventory which includes all heritage items from LEPs, the SHR and the NHL
SHR	State Heritage Register

Term/Acronym	Definition
SLNSW	State Library of NSW
SREP	Sydney Regional Environmental Plan
SRONSW	State Records Office NSW
Stratigraphic Unit	A singular layer of sediment, soil, rock, or other material
SSI	State significant infrastructure
SSP	State significant precinct
SydGaz	Sydney Gazette
Syd Mail	Sydney Mail
S170	Section 170 Heritage and Conservation Register
TfNSW	Transport for NSW is the lead agency of the NSW Transport cluster.
Test Pit (TP)	A small trench excavated by an archaeologist usually to answer a specific question or to characterise the nature of the archaeological resource
Truncated	Damage to an archaeological deposit, feature, or stratigraphic unit
UNESCO	United Nations Educational, Scientific and Cultural Organization
WHL	World Heritage List
WHT	Western Harbour Tunnel project
World Heritage Convention	Convention Concerning the Protection of World Cultural and National Heritage

1 INTRODUCTION

1.1 Background

Transport for NSW (TfNSW) have commissioned RPS AAP Consulting (RPS) to prepare an updated Archaeological Research Design and Excavation Methodology (ARDEM) for the Berrys Bay construction support site, Waverton. The site was initially intended to be utilised as a construction compound for the Western Harbour Tunnel (WHT) (SSI 8863) project. Following planned modifications to the design of the WHT project, the site will no longer be used as a support site and will now be developed into a public parkland as Precinct 1 of the Berrys Bay Masterplan.

An ARDEM is required per condition E58 of the Infrastructure approval for the project granted under section 5.19 of the *Environmental Planning & Assessment Act 1979*. A previous ARDEM was prepared by Jacobs as part of the EIS submission for the project. Following recommendations from Heritage NSW (see Section 1.5) a further detailed ARDEM was required for the site. This report is the result of these recommendations.

1.2 Project site location

This ARDEM is written specifically for the Berrys Bay construction support site, also known as the BP site, and hereafter the project site. It is located in the suburb of Waverton on the north shore of Port Jackson and has a major waterfront perimeter on the north shore of Berrys Bay, being part of the Waverton Peninsula (Figure 1-1). The street address for the project site is 3A Balls Head Drive, and the cadastral identification is Lot 21 DP 1048933. It is an approximately rectangular area bounded by Balls Head Road to the west, Port Jackson to the South, and Carradah Park to the north and east (Figure 1-2).

At present the site is unoccupied, cleared land which has been fenced (Figure 1-3, Figure 1-4). Balls Head Road enters the project site on the south-western corner and runs across the site as a concrete roadway. The surrounding environment has already been converted to parkland and features numerous paths, staircases and heritage interpretation signs.

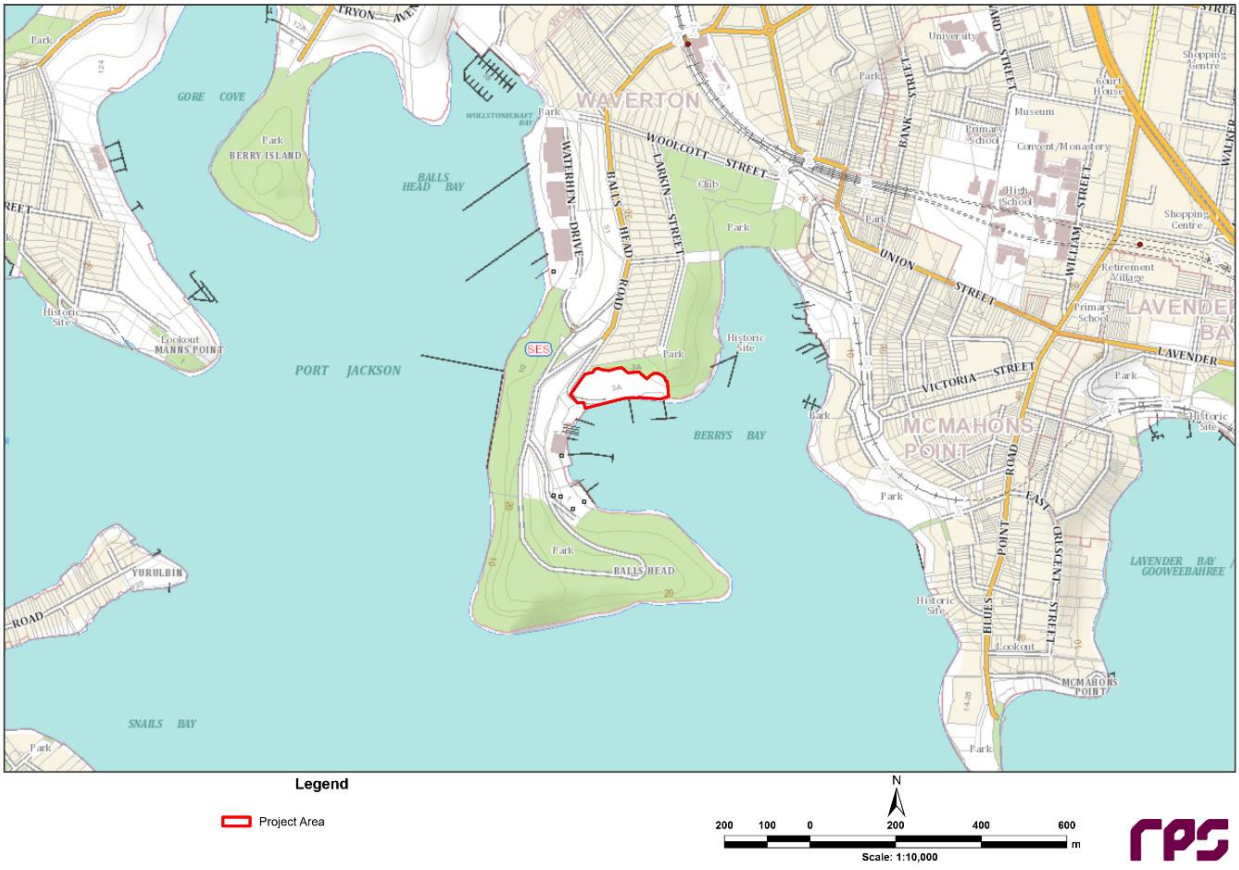


Figure 1-1: The location of the project site within Waverton on the north shore of Port Jackson. Base map sixmaps 2023

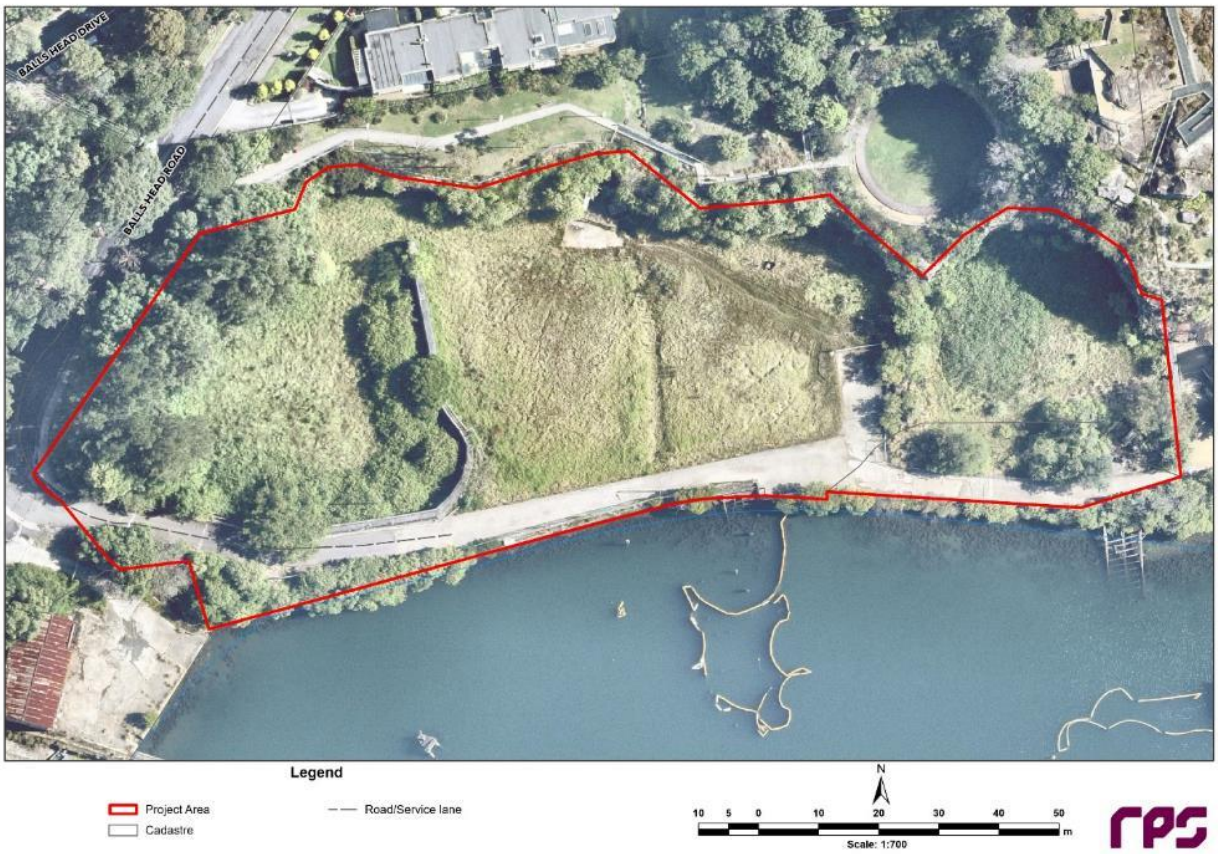


Figure 1-2: The project site on the north shore of Port Jackson

Figure 1-3: The centre and eastern end of the project site with Port Jackson beyond. View to the south east.

Figure 1-4: The centre and western end of the project site with the bund wall in the centre and the SHR listed Woodley's Shed beyond. View to the west

Figure 1-5: Area east of the project site which has already been converted to parkland with staircases connecting parts of the site and has had heritage interpretation signage erected. View to the north.

1.3 Statutory Identification

The project site and surrounding area was searched for within all statutory and major non-statutory registers of heritage items. The results of the search are presented in Table 1-1. The project site is listed as having local significance (as *BP Site* Item 1036) on the North Sydney Local Environmental Plan 2013, and is listed on the TfNSW s170 register (as *BP Site (Former) Waverton*) and was included in the Indicative Place listing of the *Sydney Harbour Landscape Area* on the defunct Register of the National Estate (RNE).

Table 1-1: Summary of the register search undertaken for the project site

Register	Register	ID	Significance	Location
UNESCO World Heritage List	None listed	n/a	n/a	n/a
National Heritage List (NHL)	None listed	n/a	n/a	n/a
Commonwealth Heritage List (CHL)	None listed	n/a	n/a	n/a
Register of the National Estate (RNE) (non-statutory archive)	*Balls Head Coal Loader*	19706	Indicative Place	80 metres west
	Sydney Harbour Landscape Area	14308	Indicative Place	Includes project site
	Balls Head Reserve and Whale Site	2924	Rejected Place	60 metres west
State Heritage Register (SHR)	*Balls Head Coal Loader Complex*	02051	State	80 metres west
North Sydney Local Environmental Plan 2013	*BP Site*	I1036	Local	Includes project site
	Woodleys Shipyard	I1038	Local	Adjacent to the south
	Former Coal Loader	I1040	Local	80 metres west
TfNSW S170 Register	*BP Site (Former) Waverton*	n/a	Not defined	Includes project site
Sydney Regional Environmental Plan Sydney Harbour Catchment 2005	*Sydney Harbour Queen*	26	Not defined	125 metres east
State Environmental Planning Policy (Precincts—Eastern Harbour City) 2021	None listed	n/a	n/a	n/a

1.4 Proposed Development

The project site was originally intended to be used as the Berrys Bay construction support site which would have housed a suite of temporary buildings to assist in the construction of the Western Harbour Tunnel. These buildings included an acoustic shed, temporary wharf, wastewater treatment plant, workshop and laydown areas. Following redesign of the tunnel construction methods, the project site will no longer be required for this purpose.

Instead, it is being developed by TfNSW in accordance with the Berrys Bay master plan. The intention of the master plan is to create a new open space at Berrys Bay to complement the adjoining public spaces and enable community access to the Harbour's foreshore. The master plan provides a framework for the future adaptive reuse of heritage buildings that will create a unique and community-oriented waterfront precinct. More information about the master plan is available at https://caportal.com.au/tfnsw/berrys-bay

The project site is designated as Precinct 1 of the master plan (Figure 1-6). Proposed works in the area include:

- New boardwalks and staircases to join the site to existing locations
- A large adventure playground in the area west of the bund wall

- The retention of the bund wall with a section removed to improve accessibility. The removed stone will be repurposed in the playground
- A wet garden along the northern boundary of the project site
- Expansive open space across the centre and eastern parts of the project site for informal recreation and events
- Tidal steps along the southern boundary shoreline with Port Jackson to provide seating and a connection to the water
- A yarning circle towards the eastern end of the project site

Figure 1-6: The Berrys Bay master plan for the project site.

1.5 Previous Reporting

A previous ARDEM was provided for the site as part of the Environmental Impact Statement (EIS) (Jacobs, 2020). This document was reviewed by Heritage NSW. The comments provided on that report have been addressed in the present document.

The specific issues raised included;

- The site has potential for 1820s remains associated with Edward Wollstonecraft and Alexander Berry and their occupation of the site, and any such evidence is rare in NSW and is likely to be of State heritage significance.
- The assessment has relied on existing assessments of significance and does not include a relevant recent comparative analysis to clarify the significance of the resources. A reassessment of significance should be completed ahead of any project approval, along with testing to allow for retention of some of the archaeological resource.
- The research design and excavation methodology is generic and potentially limited. The methodology needs to include an appropriate strategy to manage single context recording which also addresses Aboriginal archaeology if it is identified. The current methodology is directed more towards an Aboriginal investigation program, rather than a typical historical archaeological investigation.

Other reports of relevance to the project site consulted for this analysis include those in Table 1-2. A full discussion of these and other relevant archaeological and heritage sites is included in Section 3.

Table 1-2: Published reports that feature the present project site

Title	Author	Date
Waverton Peninsula Strategic Masterplan	Clouston	1998
Baseline Archaeological Assessment Former BP Australia Ltd Oil Depot	Martin Carney	1999
The Waverton Peninsula Industrial Sites: BP, Caltex, Coal Loader Conservation Management Plan	Godden Mackay Logan	2000

1.6 Objectives

This report is written to satisfy conditions E58 and E59 of the Ministers Conditional of Approval. It also indicates how the work will lead to the production of a report to satisfy condition E60. These conditions are:

E58 Prior to the commencement of construction that has the potential to impact upon areas of archaeological significance as defined in the documents listed in Condition A1, a revised Archaeological Research Design and Excavation Methodology must be prepared in accordance with the Heritage Council of NSW guidelines and Heritage NSW comments on the EIS and RtS, to guide the archaeological program. The revised methodology must be prepared in consultation with Heritage NSW and submitted to the Planning Secretary for information.

E59 Prior to commencement of archaeological excavation, the Proponent must nominate a suitably qualified Excavation Director who complies with Heritage NSW's Criteria for Assessment of Excavation Directors (September 2019) to oversee and advise on matters associated with historical archaeology. The Excavation Director must be present to oversee excavation, advise on archaeological issues, advise on the duration and extent of oversight required during archaeological excavations consistent with the approved Archaeological Research Design and Excavation Methodology required by Condition E58.

E60 Following completion of archaeological excavation programs a Final Excavation Report must be prepared that includes: the details of any archival recording, further historical research undertaken to enhance the final reporting and results of archaeological excavations (including artefact analysis and identification of a final repository for finds). The report must be prepared in accordance with guidelines and standards required by Heritage NSW.

In order to achieve these objectives and address the concerns raised by Heritage NSW this report:

- Defines the historical profile of the project site through existing and new primary archival research. This is presented as a layered analysis of the various historical landscapes that have occupied this place and their interaction. This analysis is accompanied by relevant geo-referenced overlays of historic plans and images to create a spatial connection between past landscapes and the present project site.
- Contains a detailed evaluation of the likely historical archaeological resource in terms of historical phases, landscapes and the specific scope of evidence that may be associated with each.
- Contains a revised assessment of significance that addresses the primary evaluation criteria of cultural significance with a particular emphasis on the research or investigative values of the archaeological resource.
- Includes a methodology designed to test the conclusions of the assessment in respect of the presence or absence of an historical archaeological resource and its integrity and scope.
- Includes a Research Design that highlights the key questions and themes that underpin any archaeological excavation or other fieldwork in line with established guidelines.

The conclusions regarding the integrity and presence of an archaeological resource reached through this detailed analysis of the site are different to those of the original study and, thus, the outcomes of the work in terms of site investigation also differ.

1.7 Consultation

In order to satisfy the require in condition E58 for the revised methodology to be prepared in consultation with Heritage NSW, a presentation of the findings was hosted by RPS on 27 March 2023. The presentation was hosted by Dr Gary Marriner and attended by Simon Pigozzo and Nick Sarraf from TfNSW and Ruth Berendt and Jodi Cameron (Senior Assessments Officer) from Heritage NSW.

1.8 Methodology

The assessment has been written according to best-practice principles, guided by the Burra Charter, and expressed in the following documents:

- *Archaeological Assessment Guidelines* (Heritage Office, 1996)
- *Assessing Significance for Historical Archaeological Sites and 'Relics* (Heritage Branch, 2009)

The following tasks have been undertaken to address the outcomes required of this assessment:

- Identification and review of all reports of relevance to the archaeology of the project site within its close proximity and statutory or other heritage listings
- Site inspection, visual only: no physical intervention had been made into the site
- Use of historical analysis and physical evidence, including that from comparable sites, to determine if a historical archaeological resource is present within the project site and if so which areas of the site have the highest potential for an archaeological resource. Further, the same evidence has been used to understand and characterise the works or processes that have influenced the development and survival of the potential archaeological resource.
- An assessment of the cultural significance of the potential resource based on standard evaluation criteria.
- Determination of a research design and methodology for future site management

The archaeological excavation methodology and research design has been written following guidance and requirements contain within the following document:

- *Historical Archaeology Code of Practice* (Heritage Council of NSW, 2006).

This report has defined the archaeological evidence that may exist with the project site in terms of the specific cultural landscapes that characterised the development of that place. These landscapes are:

- Landscape 1: The Environmental Context;
- Landscape 2: The Gamaragal Landscape;
- Landscape 3: The Landscape of Transition;
- Landscape 4: The Landscape of Commerce;
- Landscape 5: The Landscape of Defence;
- Landscape 6: The Landscape of Industry; and
- Landscape 7: The Landscape of Renewal.

By focusing on large patterns of use and development rather than isolated elements this approach supports a better assessment of integrity and cultural values and, thus, the best practice means of managing that evidence through the course of future work. It can contribute also to future programmes of interpretation. This analysis is contained in Section 2 of the report.

Continuing the concept of the project site being the outcome of multiple landscapes, Section 3 then addresses the issues of the place as an archaeological landscape where evidence of those older landscapes may be preserved as physical evidence providing a direct link to those periods of occupation and transition. In doing so it defines the likelihood of a historical archaeological resource being present on the project site. Section 4 goes on to then provide an assessment of the cultural significance of the potential archaeological resource. This report concludes with an appropriate Excavation Methodology and Research Design (Section 5) which is specifically tailored to, and designed for, the project site.

1.9 Authorship & Acknowledgements

This ADREM was prepared by Ms Wendy Thorp (Principal, CRM) and Dr Gary Marriner (Senior Heritage Consultant, RPS). Ms Thorp and Dr Marriner are both suitably qualified heritage consultants and archaeologists and meet the NSW Heritage Council's Excavation Director criteria. Wendy has over 30 years' experience and has been nominated as primary excavation director on numerous State and locally

significant archaeological excavations. Gary holds a PhD in archaeology, has 13 years' experience and has been a nominated secondary excavation director on numerous local and State significant archaeological excavations.

2 CULTURAL LANDSCAPES OF THE PROJECT SITE

2.1 Approach

The basis of the approach to the archaeological management and investigation of the project site described in this ARDEM is the recognition of the several cultural landscapes that have shaped the area and their interactions. This approach of examining cultural landscapes is different to earlier proposed methodologies that have focussed on particular items or aspects of different periods of occupation, largely in isolation of the larger landscapes to which they belonged or how the changes made to those landscapes influenced earlier and later development.

These previous reports have examined the historical associations of the project site but the links between the multiple periods of occupation have not been made explicit. There has been little determination of how these various periods and types of occupation existed in relation to each other and, thus, how archaeological resources may have been formed and impacted by this progression of occupation. As well, there has been little detail in respect of the works and alterations made to each landscape during its period of development that could be understood as the basis of an archaeological profile. These issues are addressed in this section.

To this end, this ARDEM has identified the following as the principal cultural landscapes of the project site:

- Landscape 1: The Environmental Context;
- Landscape 2: The Cammeraygal Landscape;
- Landscape 3: The Landscape of Transition;
- Landscape 4: The Landscape of Commerce;
- Landscape 5: The Landscape of Defence;
- Landscape 6: The Landscape of Industry; and
- Landscape 7: The Landscape of Renewal.

Following are discussions of these landscapes, and the principal aspects of them, that are likely to be addressed by archaeological management, along with outcomes of that management.

2.2 Landscape 1: The Environmental Context

2.2.1 Location

The project site is located on the northern shore of the harbour that was, in 1788, opposite and separated from the site of the first settlement established by the British as a penal colony (Figure 2-1). It was close enough to be investigated by those settlers to estimate its values to a new colony but too far to encourage early and permanent occupation. The earliest grants were made further north in areas of more advantageous environmental conditions conducive to agriculture or resource acquisition.

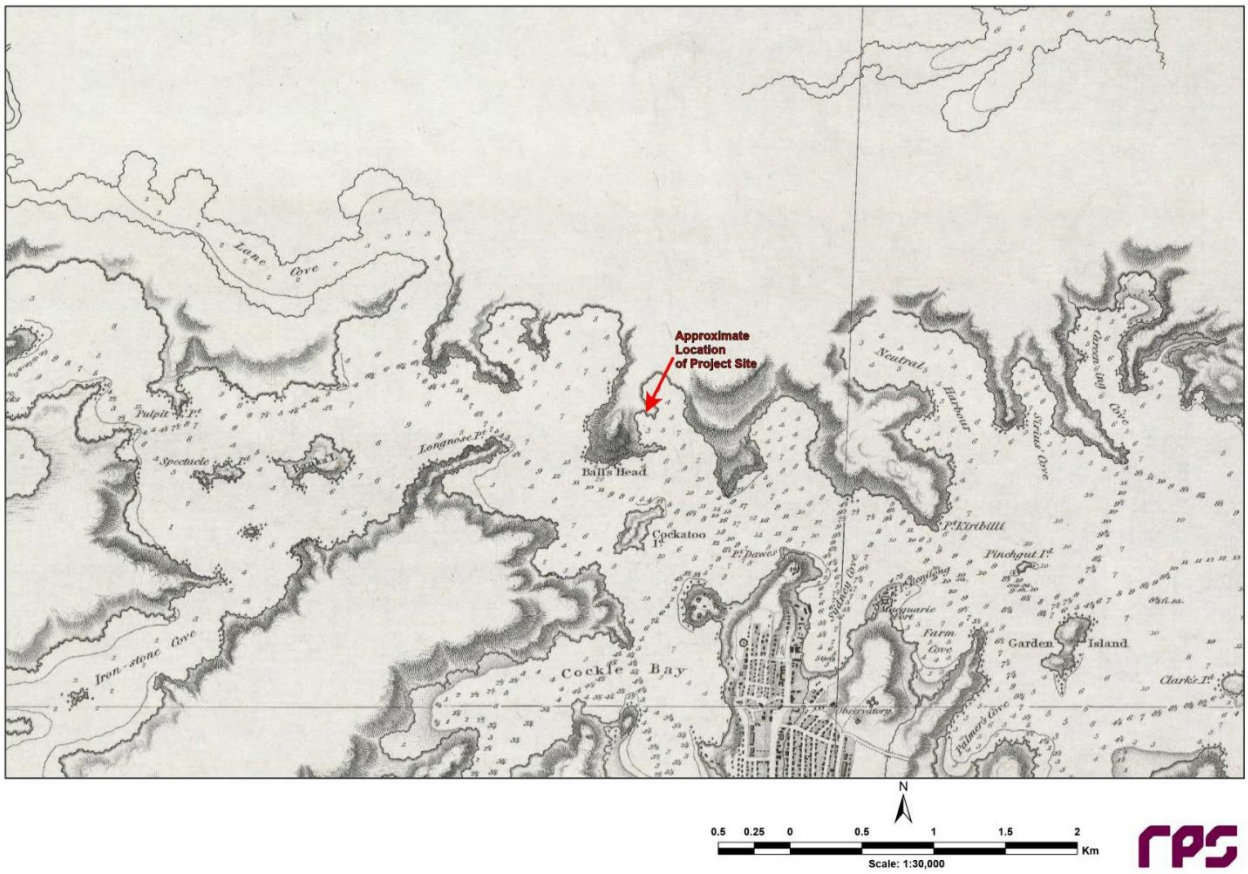


Figure 2-1: Detail from "Survey of Port Jackson, NSW" 1822, showing the proximity and landform of the project site (red arrow) within Balls Head to Sydney. The sparse nature of occupation on the north shore is clear evidence when compared to the busy streets around the town centre. (John Septimus Roe NLA, Map British Admiralty Special Map Col./31)

2.2.2 Topography

The project site is located in the wider region of the Sydney Basin and specifically in what is termed the Western Harbour. The Waverton Peninsula is a narrow ridge with steep side slopes and extensive rock outcrops and benches. The landscape within the project site is, in one sense, the full-stop of the wider environment of ridge lines that extend down into the harbour. There are steep cliffs at Balls Head but at Berrys Bay the land is at a lower and gentler gradient. It was more conducive to active development and accessible from the water. The original shoreline has been altered and reclaimed, particularly early in the twentieth century and this process has hidden the original tidal mudflats.

2.2.3 Geology and Soils

At the base of the project site is Hawkesbury Sandstone and the soils that largely derive from that geology, Gymea and Hawkesbury types. These are poor sandy soils that are not good for cultivation. In 1806 James Milson described his land as nothing but rocks and stones with insufficient soil to grow anything. (Quoted in Benson & Howell, 1995). The survey report prepared for the Wollstonecraft grant described it as "Barren Land" (Russell, 1990). This factor alone was fundamental in the development of the area after settlement by the British.

2.2.4 Water

The project site is located on the estuary of Sydney Harbour and, specifically, Berrys Bay giving direct water access to the harbour, a major factor in early settlement. There are no identified fresh waterways within the project site past or present.

2.2.5 Vegetation

Prior to European settlement the vegetation of the project site would have been predominantly Coastal Sandstone Foreshores Forest. This is characterised by *angophoras* and several types of eucalyptus in the canopy. The understorey comprises a moderately dense cover of *pittosporum* amongst other species and some Banksias. Some aspects of this pre-settlement landscape may still be seen at Berrys Bay. Earliest European observers described this area as an open woodland.

Even by the later part of the nineteenth century images demonstrate that much of the area was still encompassed by thick woodland (Figure 2-2). One description of Balls Head in 1848 stated

"the ground at Balls Head is rather rocky but it is overgrown by a most luxuriant bush of native currants, grass trees, gums, casuarina and other well-known forest plants of the colony. Lower down on the north side among the ledges of the cliff there grow many plants that incline to moisture". (SMH 15 Dec 1848, p.3).

Figure 2-2: Panorama of Sydney Harbour Looking towards Berrys Bay and the project site (red arrow) showing the still dense cover of vegetation in the later part of the nineteenth century (Holtermann Collection ML)

2.2.6 Initial British Perspectives

During the early years of British occupation, the focus of exploration and settlement was on areas that provided the best opportunities for establishing farms. These were located first along the Parramatta River west of Sydney, and later along the Georges, Nepean, and Hawksbury Rivers. The hilly and densely forested north shore of Port Jackson was left relatively untouched into the early years of the nineteenth century as it presented no opportunity for farming. The combination of relatively poor soils, minimal or no fresh water and substantial vegetation, combined with the distance from the main settlement, accessible only by water, would have made this site less than desirable in the early years of settlement. It remained sparsely settled well into the nineteenth century.

2.3 Landscape 2: The Gamaragal Landscape

2.3.1 Before 1788

In 1790 Governor Philip wrote that there was a powerful tribe living in the north-western part of the harbour. They were named as the Cammerra, with the head of the tribe being known as Cammerragal. There has been much discussion regarding the tribal and linguistic boundaries of Aboriginal people living in the Sydney region before 1788. Recognition of the traditional areas of occupation is complicated by the fundamentally different approaches between the colonists and the local Aboriginal population regarding the concepts of land use and ownership. Today the area is generally recognised as the traditional lands of the Gamaragal people (also spelt Cammeraygal).

Based on evidence of accounts from the first years of settlement the Gamaragal people were an important and powerful tribe. Bennelong stated to William Collins in 1798 that the people of the north shore *were "a very powerful people, who could oblige them to attend wherever and whenever they directed."* He went on to note that they appear to be more powerful than other groups in the area;

"…there is no doubt of their decided superiority over all the tribes with whom we were acquainted. Many contests or decisions of honour (for such there are among them) have been delayed until the arrival of these people; and when they came, it was impossible not to observe the superiority and influence which their numbers and their muscular appearance gave them over the other tribes" (Collins, 1798).

2.3.2 After 1788

Colonisation by the British in 1788 commenced a process of disintegration in traditional clans, alienation from their lands and impacts to the health and well-being of the Gamaragal people. The erosion of their lives occurred over a period of time. A party of Gamaragal people attended an initiation ceremony at the head of Farm Cove in January 1795; it suggests that there was still an established population of Aboriginal people living on the north shore at that time (Collins, 1798). As late as 1878 there is some evidence of Aboriginal people camping at Berrys Bay although they were likely to have been a group composed of several clans-people. Most Aboriginal people were moved to La Perouse in the 1880s.

2.3.3 Evidence of Gamaragal land use

There is considerable evidence of the Gamaragal people, and their lives preserved as archaeological evidence in the wider area surrounding the project site. There are rock carvings and archaeological sites in close proximity. For example, on Berrys Island Reserve, 650 metres northwest of the project site, there are vast deposits of middens, carving and grinding grooves. The cultural heritage study for the project identified at least eleven AHIMS registered sites within the vicinity of the project site (Jacobs, 2020, Figure 4.2), of which three are within 200 meters. These closest sites include two rock shelters with middens (Quarantine Cave AHIMS 45-6-2180, and Coal Loader 1 AHIMS 45-6-2762) and a large rock engraving site known as Whale Rock (AHIMS 45-6-0026). This indicates a rich and prolonged cultural use of the landscape by the Gamaragal people.

2.4 Landscape 3: The Landscape of Transition

Although the North Shore, including the project site was a less desirable location for early agricultural or domestic occupation it was used as a source of raw materials including grass, timber and bark (Thorne, 1970, p.1) and hence there were some land grants made here in the period before 1820. Lieutenant Governor Francis Grose awarded eighteen individual grants in 1794 on land situated between the present-day suburbs of Artarmon and Kirribilli (Russell, 1966) largely for this purpose.

The history of the occupation and use of these few land grants illustrates the values placed on this part of the harbour in the early years of settlement, demonstrating it primarily as a transit place between the main settlement and more distant places of occupation. One such initial grant was made to a former convict, Samuel Lightfoot, at Kirribilli (Hoskins, 2008). He did little with the land and it eventually reverted to government ownership. Lightfoot's grant was eventually held by Robert Campbell who leased it to James Milson. Milson became one of the first colonists to permanently settle the area in 1822. A grant was also made to William 'Billy' Blue in 1817 at what would become Blue's Point (Park, 2005). Billy Blue arrived as a convict in NSW in 1801 but quickly became a famed ferryman establishing the first cross-harbour ferry.

It would be some considerable period before the project site and its environs became actively sought as a residential or permanent place of occupation. It was for many years a landscape characterised by movement through to places beyond.

2.5 Landscape 4: The Landscape of Commerce

2.5.1 The Partnership of Alexander Berry and Edward Wollstonecraft

Finally, by the 1820s, over thirty years since the foundation of Sydney, the land on the northern shore of the harbour was substantially brought into the expansion of the British settlement. By then agricultural requirements were not at the forefront of development. Instead, it was the period of expansion in commerce and industry, the first of several booms that characterised the development of NSW in the nineteenth century.

Alexander Berry first arrived in Sydney aboard the City of Edinburgh in 1808. He stayed in the colony for only a short period of time before leaving to engage in further trade suited to his merchant businesses. He met Edward Wollstonecraft in Cadiz in 1812. They established a partnership and Berry returned to Sydney in 1819. He was refused a land grant by Macquarie at this time due to his lack of permanent residency in the colony. He acquired joint ownership of the Shoalhaven grant with Wollstonecraft in 1822; the grant confirmed in 1830. In 1827 he had married his business partner's sister and following Wollstonecraft's death in 1832 inherited all of his land and holdings.

Edward Wollstonecraft first arrived in NSW aboard the Canada in September 1819 having already entered into business with Alexander Berry. Wollstonecraft was granted 524 acres of land on the northern side of Sydney Harbour in 1819 during the administration of Governor Macquarie. His grant was confirmed in June 1825. This grant encompassed the present-day suburbs of Waverton, parts of Wollstonecraft and Crows Nest as well as Berrys Bay and Balls Head. It included all of the present project site.

Wollstonecraft was a successful merchant and a key figure in the economic success and growth of the colony in the 1820s. He was a magistrate and director of the Bank of New South Wales. In addition to his land in Sydney, he along with Berry, occupied 10,000 acres of land at Shoalhaven which they extensively farmed and used this as a hub for numerous other successful businesses including timber-getting and food production (Stephen, 1967).

2.5.2 Establishing a Commercial Depot

Berry and Wollstonecraft used part of the 524 acre grant on the northern shore of the harbour to establish a depot for the goods produced on their Shoalhaven Estate. This depot was located within the project site at Berrys Bay and included a substantial stone warehouse. This warehouse was more of an overflow venue; their offices were in George Street and in Margaret Street on Darling Harbour and they unloaded there. Surplus was sent to the warehouse (ATCJ 25 Mar 1908, p.21). Goods from the Shoalhaven estate were transported by boat and the partners had commissioned a sloop in 1824 for this purpose.

The depot at Berrys Bay was established in 1834 within the project site at its western end. Several other works were added to the place after the initial period of development. The principal improvements identified from archival sources were as follows:

- The main warehouse (c.1835): this was described as measuring 60 x 24 feet (18 x 7 metres) with walls three feet (910 millimetres) thick. It was four storeys in height and used for storing produce. It was built of stone and was demolished in the 1930s.
- A long-side stone wharf (c.1831): it was described in 1833: *"Messrs Berry and Wollstonecraft are erecting a handsome and extensive wharf on the north shore which has now reached above the second storey*" (SydGaz 19 Oct 1833, p.2). Construction had commenced by 1831 (SH 5 Dec 1831; p.4).
- A manager's cottage built (c.1835): it was occupied by William George Matthews the overseer for the yard. The stone-built cottage was described as having one room and a loft; he lived here for twenty years until relocating to a cottage on Balls Head in 1854. Nearby were the sites of several workers' cottages. This cottage may have been replaced by a weatherboard shed by the 1870s.
- A second stone house (c.1853): it was also built for Matthews on the neck of land leading to Balls Head. This was a timber building with stone foundations; it had three rooms and a kitchen (GML, 2000). The stone for the second cottage was excavated from a quarry located to the east of the store.

- A stable (unknown): located between the store and the first of Matthews' cottages (GML 2000)
- Two wells (c.1853) located near the warehouse on the eastern side of the road constructed (GML 2000)
- There were considerable areas of reclamation undertaken along the shoreline in this period (GML 2000)

The location of the principal buildings is shown in several contemporary plans. For example the Warehouse and managers cottage are shown in a 1852 plan of allotments (Figure 2-3).

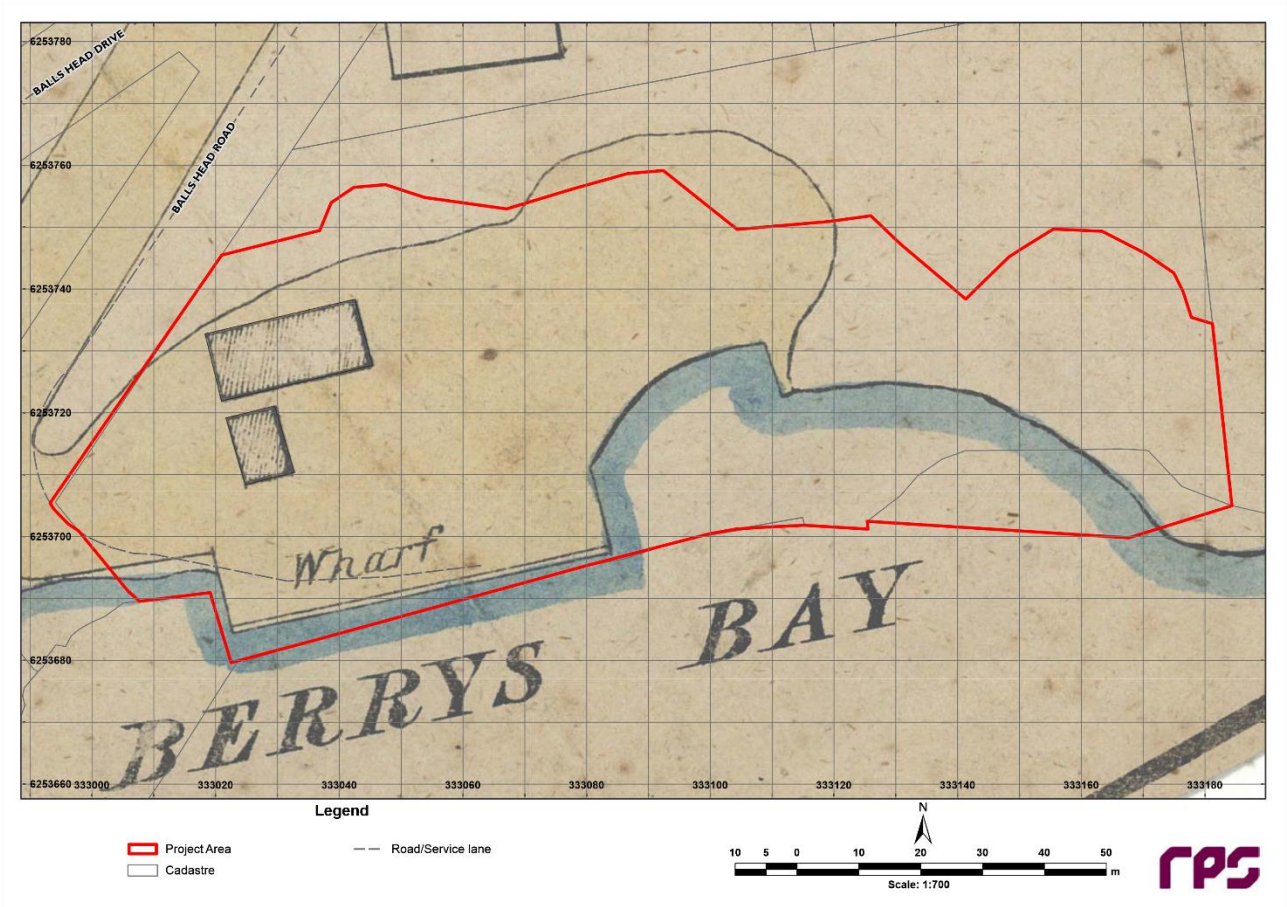


Figure 2-3: Location of the Berry & Wollstonecraft warehouse and managers cottage in relation to the project site based on a plan dated 1852. RPS based on Plan of the Allotments of Land on the Crows Nest Estate ML M2 811.1411/1852

2.5.3 Decline and Diversification

For many years the depot had been in an isolated location and was sparsely used by the company. By the middle of the 19th century, the former depot was under the control of David Berry, the son of Alexander Berry. Under his management the site was largely leased to several businesses that exploited its water access and proximity to central Sydney.

From 1853 the former depot site was used for approximately two years as a coaling depot for the P&O Company and for the General Steam Screw Ship Company. They leased most of the store and the wharf. Several additions were made to the site for these purposes, outside the project site. An indication of their use of the site is provided in advertisements made by the company. One of which stated:

"Messrs W. Dean and Co. have been favoured with instruction from Messrs Donaldson and Co, agents of the General Steam Screw Shipping Company, to sell by auction, without the least reserve on Monday the 2nd June, The whole of their valuable stock of Welch Steam coals and patent fuels as it is now stocked at Berry's Wharf, North Shore viz:

"500 tons best Welch coals, mostly in large lumps

2825 tons patent fuel, in blocks of 16 to 18lbs each

To be sold in lots to suit purchasers; delivery to be taken from the depot where there is deep water and every convenience for coaling a large steamer. …." (SMH 6 May 1856, p.7).

A distillery operated out of the former warehouse in 1873 for a short period of time. This was the manufactory of the New South Wales Distillery Company. The site was inspected by the NSW Chief Inspector of Distilleries. In February 1873. It was stated that the company had just lately become established there.

"*The works have been erected on the shore of the bay in a building which for some time was tenantless but at one time was used by the owner Mr Berry as a place for storing wheat and other things. This building is with a certain quantity of land rented by the Distillery Company*" (Eve New 24 Feb 1873, p.3).

The stills were located inside the former warehouse along with stores and office space.

"In the yard of the building, which is enclosed by a substantial fence, is the material store or shed for the storage of molasses and such like and the engine house containing an engine for pumping fresh and salt water for the use of the work…. There are two wells or tanks in the yard to contain a supply of fresh water…." (Eve New 24 Feb 1873, p.3)

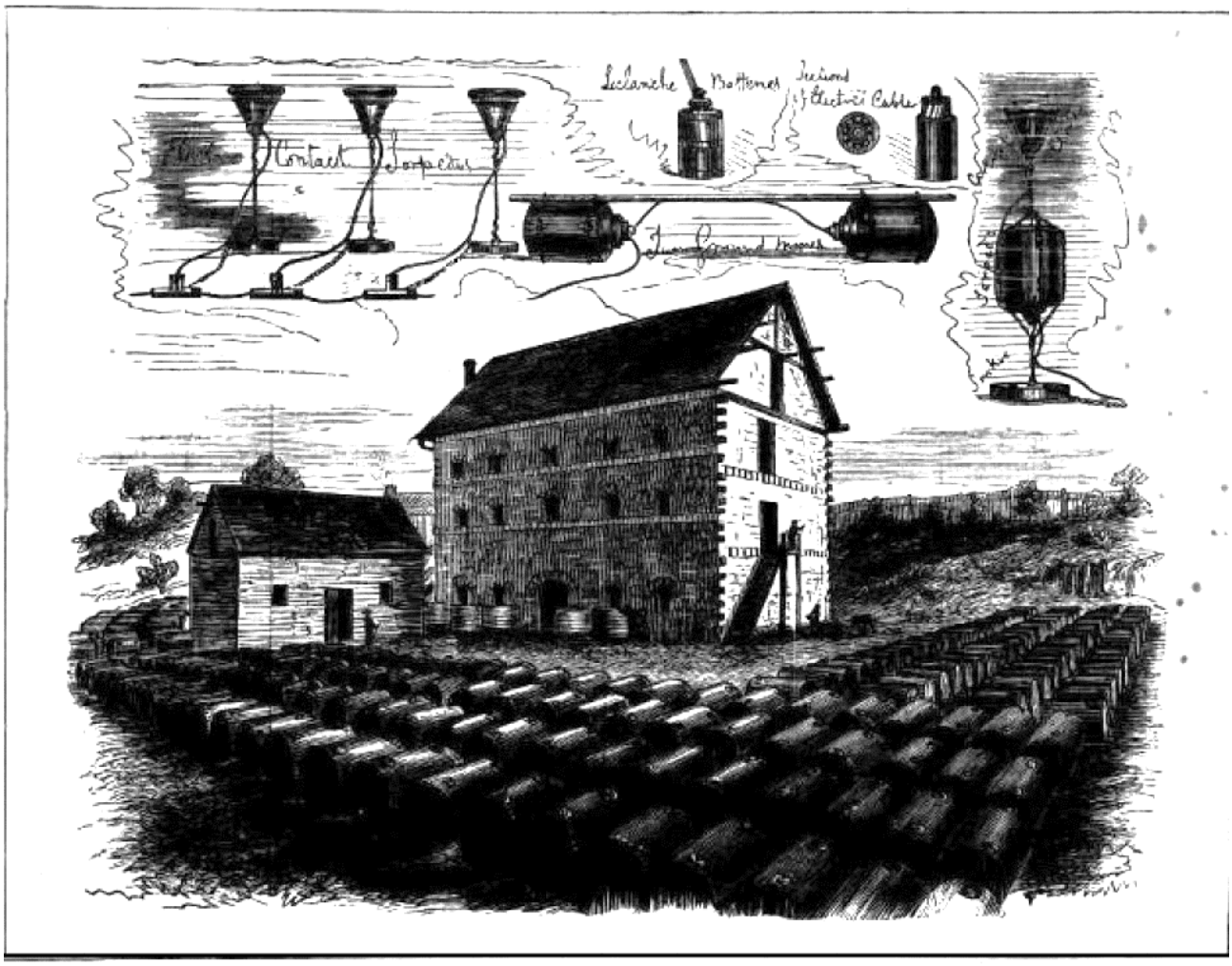
The company went bankrupt in less than one year with court proceedings dragging on for longer than the business was in operation (Syd Mail 31 Oct 1874, p555)

Plans of the site in this period only reference the two principal buildings shown on earlier surveys, therefore the extent and location of any addition works added to the site in this period is unknown. Certainly the focus of these later works remained on the primary work area established by Berry and Wollstonecraft.

2.6 Landscape 5: The Landscape of Defence

During the middle to later years of the nineteenth century, the colonies within Australia became increasingly concerned with perceived threats of war or invasion from several hostile powers. This atmosphere of unease precipitated a period of military organisation and expenditure on various forms of defence. The 1865 *Colonial Naval Defence Act* passed in the UK granted various colonies of Britain the right to '*provide, maintain and use their own vessels of war*'. This gave the colony of NSW the right to build and crew ships for defence. Despite the newness of the technology torpedos were considered to be an appropriate option in this respect due to their relative low cost. From later 1877 or early 1878 part of the Berrys Bay depot was leased to the NSW Torpedo Corps. For a while Berrys Bay was known as Torpedo Bay.

The Corps utilised existing infrastructure, particularly the former stone warehouse built in the 1830s. An inspection of the building in March 1878 stated that the building was "*badly constructed and that bad material had been used in the walls*", the lower courses of which were fretting away, but not to such an extent as to endanger the stability of the building. There is a close view of the former warehouse then in use as a torpedo store in 1878 with the ordnance stacked in front of and around the building (Figure 2-4). A description of the buildings in 1887 noted the little weatherboard shed where smaller torpedoes and stores were kept; this appears to have taken the place of the former stone-built manager's cottage. (Daily Tele 7 Mar 1887, p.7)



OUR TORPEDO DEFENCES.—STORES AT BERRY'S BAY.

Figure 2-4:View of the former warehouse of Berry and Wollstonecraft in use as an ordnance store in 1878; the building next to it is a small weatherboard shed |Sydney Mail and NSW Advertiser 29 June 1878, p.921

It is clear from contemporary descriptions and plans that the former depot, apart from providing buildings for use by the Corps, had been added to in order to meet the particular requirements of the occupants. In 1885, when war with Russia seemed a real threat, the Corps added workshops, a packing room, a hydraulic testing office and another office. A paling fence surrounded the site. (AMAC, 1999). The locations of these works are unknown.

The Corps remained in occupation into the mid-1880s. In 1885 David Berry issued an eviction notice. A rental increase staved off the removal of the unit. (SMH 7Jun 1887, p.7). However, accounts of the stores from the following year indicate that the occupation of the place was on a poor footing, particularly, in respect of security. One visitor stated:

"The stores at Berry's Bay were not efficiently protected. They contained several tons of gun cotton and hundreds of detonators, and the building was so open to the public and so combustible in its character that the emissary of an enemy might easily destroy it without suspicion being aroused against him". (SMH 20 Aug 1886, p.3). "*We walked through an open gate in a very slight fence to an old stone building with a shingle roof. On the door-post was a notice intimating that no one was allowed in except on business; but the door was open, and we walked in*". (Ibid)

A description of the yard in 1887 describes its design and arrangement; however it was "very defective" and makeshift. At the time there were heavy stores and water tanks within this space and the ground floor of the former warehouse was in use as a painters' workshop. (SMH 7 Mar 1887, p.4)

David Berry died in 1889 and the estate passed to his cousin, John Hay. Contemporary plans show the old warehouse in existence, but the small store that had adjoined it to the south had been removed. There were

at least three very large, new buildings adjoining the warehouse and one building that occupied most of the waterfront on the wharf. There were at least two cranes and possibly more situated throughout the yard. These are recorded on a naval plan of 1915, after the Torpedo Store had been removed; the association with the store is in part because of the source of this plan (Figure 2-5). However, it is also possible that they were a later addition to the site. There is insufficient evidence to make a certain association.

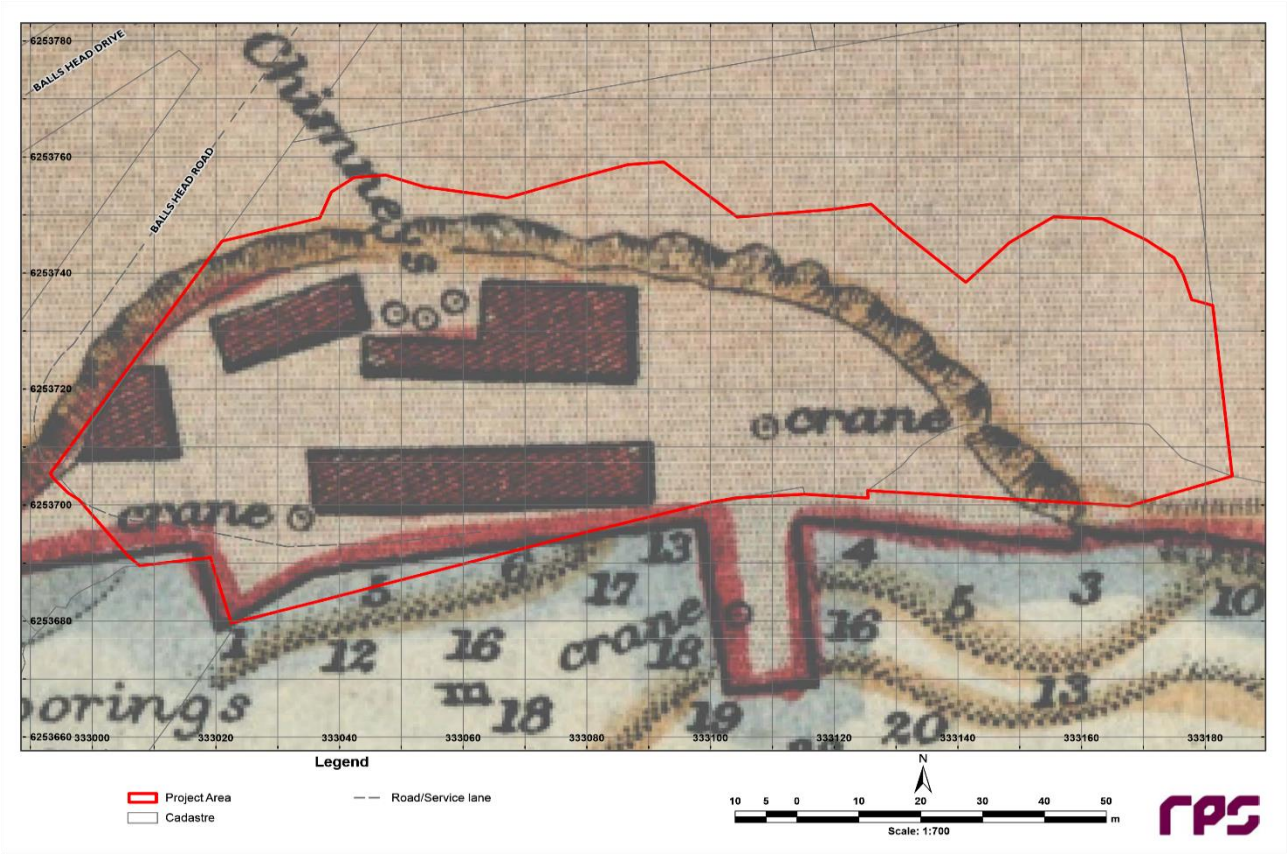


Figure 2-5: Plan of the Torpedo Corps Base in 1915 (Naval Chart State Library of NSW file FL3496471 *Sydney Harbour Dawes Point to Spectacle Island* 1915)

The failing fabric within the site and the potential dangers accompanying the location of an establishment of this kind in close proximity to the city and suburbs led to several attempts to locate a place for a new torpedo base in Port Jackson. However, the facility remained at Berrys Bay until November 1902.

Following Federation in 1901, the assets of the NSW colonial navy were transferred to the Commonwealth Naval Forces. Less than a year later the two torpedo boats based at Berrys Bay, the *Acheron* and *Avernus*, were placed up for auction with the sale taking place at Berrys Bay on the 12th of November 1902.

2.7 Landscape 6: The Landscape of Industry

In contrast to its relationship with Sydney at the beginning of the nineteenth century, at the beginning of the twentieth century the land on the northern shore was perceived as a potential second industrial waterfront, much as Darling Harbour was in the city of Sydney. In 1906 the NSW government purchased land around Balls Head and Berry Island because of their deep water frontages and the advantages implied for trade and industry. The North Shore Gas Company moved its production from Neutral Bay to Balls Head Bay in 1906 in response to this new vision for the area.

2.7.1 Boat Yards

Boat yards were the first industry to move to Berrys Bay after the closure of the Torpedo Store. Woodley's Boat Yard began operations west of the project site in 1906. It was joined by W.M. Ford's Yard on the eastern side of the bay and then in the 1930s by the Stannard Brothers Slipway in the 1930s. These places were all located adjoining the BP site. This became an important and long-lasting industrial area for this

purpose. The industry created an environment that was attractive to many artists who produced many views of this waterfront in the 1920s and afterwards including Lionel Lindsay and Sydney Long (Figure 2-6).

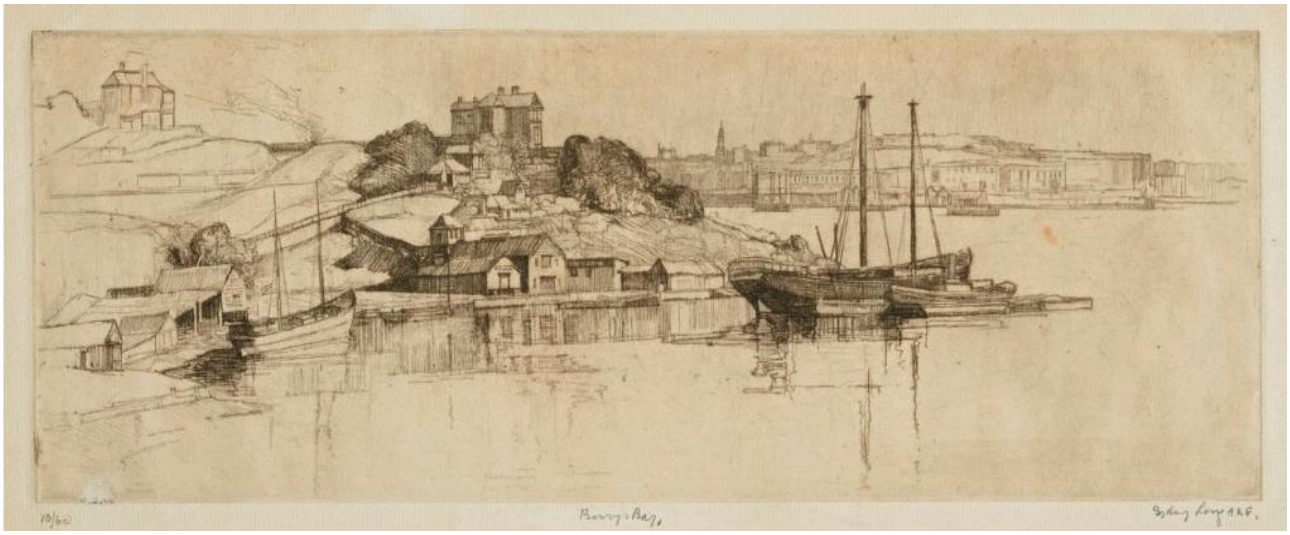


Figure 2-6: Berrys Bay in 1927 (Sydney Long, Berry's Bay 1926. Line etching, ink on paper. Art Gallery NSW Accession Number 9883)

2.7.2 Timber Works

In 1908 the stone former warehouse of Berry and Wollstonecraft, shown in Figure 2-7, was described as

"*re-entering active service after having had a long space of idleness when it was used very little, if at all. In a renovated condition it will be used for the machinery in connection with new timber works for the treatment of rendering timber impervious to the inroads of the white ant*" (ATCJ 25 Mar 1908, p.2).

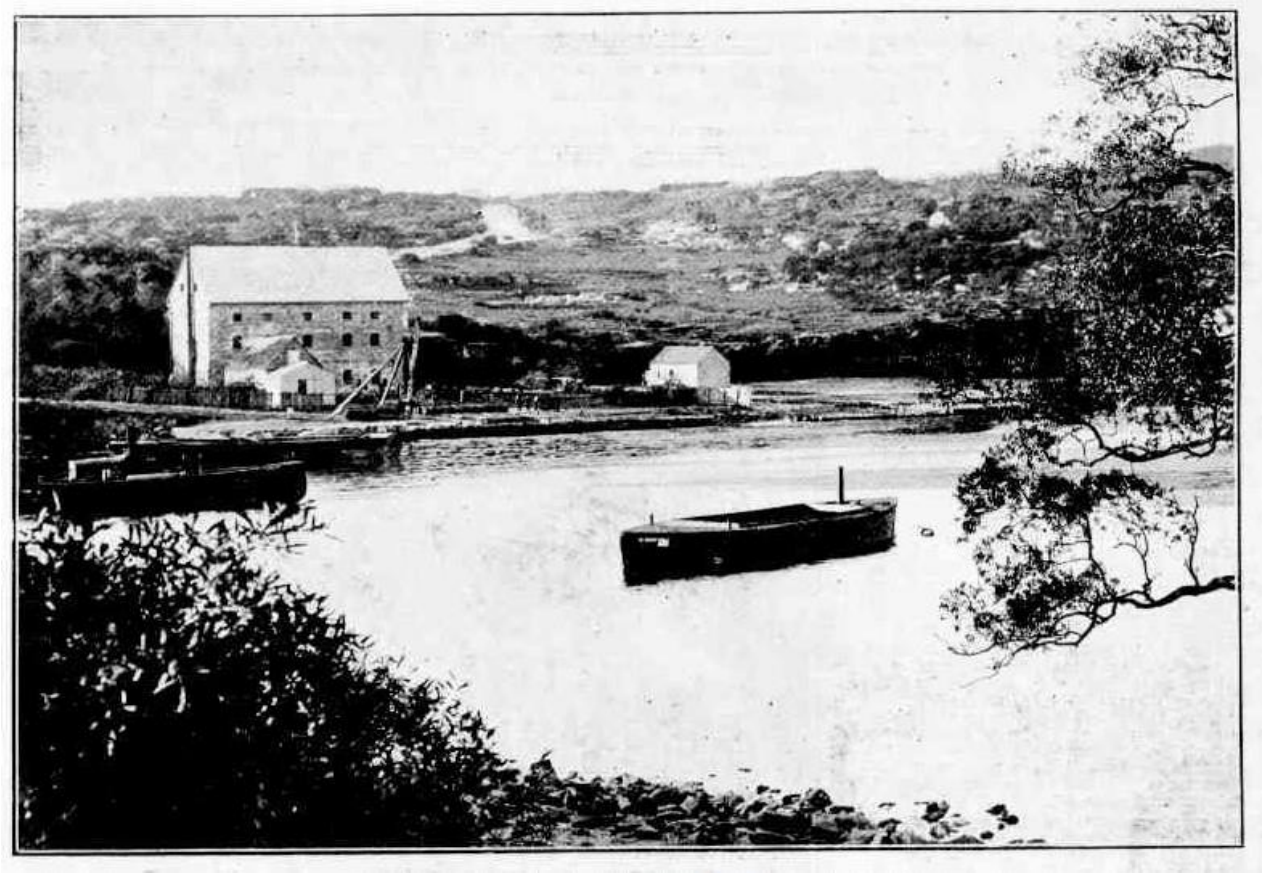


Figure 2-7: The former warehouse and other works in 1908 (ATCJ 25 Mar 1908, p.21)

The description of 1908 also noted that, "*not above fifty yards from the storehouse is an old cottage, now in rather a dilapidated state but once the residence of the manager*". This contradicts earlier evidence which indicates that the building that had immediately adjoined the warehouse had been the manager's residence.

At this time the works in operation on the site were the New South Wales Powell Wood Process Company. It was a patent method that not only fumigated timber for insects, but fungus and dry rot and protected it from warping and splitting. The works at Berrys Bay were capable of treating quarter of a million feet of timber per week if necessary. This was one of several similar processing plants in the country (Eve New 14 Jul 1908, p.3).

2.7.3 Balls Head Quarantine Depot

Located next to Woodley's boat yard was a quarantine station leased by the Commonwealth Government in 1912 (Figure 2-8). It served as a depot for fumigation of goods undertaken by the Federal Quarantine Service. This operated in conjunction with the fumigation works established in the former North Head Quarantine Station. The Berrys Bay station may have been established in response to a report published in 1912 concerning the vulnerability of the country to a small pox epidemic.

In 1921 it came under the control of the Port Health Quarantine Division of the Commonwealth Department of Health. Two launches were stationed here that operated between their base and a fumigation line at Bradleys Head where ships were decontaminated. Two cottages were built at the base for crew manning these boats. There was also a bunker used to store rat poison.

The depot continued operations as part of the Department of Health into the 1970s. Prior to that in the 1920s-1930s facilities were expanded and decorative landscape components were added. After the 1970s the site was used for a short time by the Department of Primary Industry as a "non-dairy quarantine depot". It was closed in 1988

Figure 2-8: Quarantine Launch from Berrys Bay c. 1912 (Stanton Library LH REF PF733)

2.7.4 Oil

The biggest and most lasting impact of the industrialisation of Berrys Bay commenced in 1922 after the Commonwealth Government formed a joint venture with a British Company, the Anglo-Persian Oil Company in 1919. The APOC was founded in 1909 following the discovery of a large oilfield in Persia (now Iran). It was renamed in 1935 to the Anglo Iranian Oil company and in 1954 to the British Petroleum company.

The first Australian refinery was constructed at Laverton in Victoria. The joint-venture partnership was named the Commonwealth Oil Refineries and sold fuel under the COR brand in Australia. This company purchased the site at Berrys Bay in 1922 although it may have partially occupied the place from 1908. If this was the case the buildings recorded on the naval plan of 1915 might be early works from that date (Section 2.5). They are not shown on the earliest aerial images of the site.

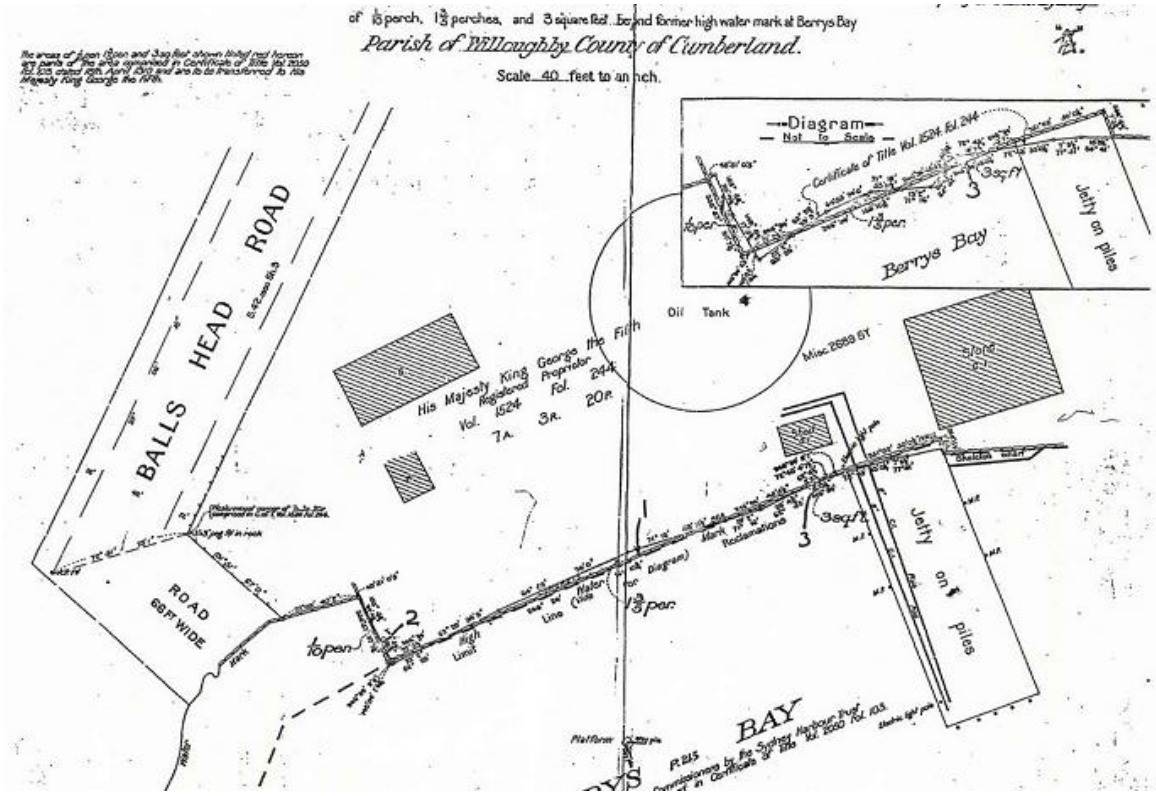


Figure 2-9: A plan of c. 1928 showing the first tank installed on the site and the other improvements then extant (LPI, FP 180075)

The first tank was installed here in 1923 (Figure 2-9). The tank had a capacity of 10,000 gallons and was used to store marine fuel oil. A survey plan of the site in 1928 shows this tank as well as the stone warehouse and several other buildings. These are visible in an aerial image of 1930 (Figure 2-10) and a photograph taken around the same time (Figure 2-11). The original stone warehouse is also visible in both images.

Figure 2-10: Aerial image of 1930 showing the site of the works; the stone warehouse is indicated with the yellow arrow

Figure 2-11: Extract from a 1930s photograph of Berrys Bay by Hall and Co. Chau Chak Wing Museum, The University of Sydney HP83.66.180

The Oil Refinery was responsible for demolishing the Berry-Wollstonecraft warehouse in the 1930s (Figure 2-12). In its place were constructed fuel storage tanks. The stones from the store were used to create a bund wall to prevent spillage on the site; this is still standing within the public reserve. The creation of the refinery in this site extensively modified the pre-existing landscape through excavation to create wide sandstone benches. Much of the vegetation was removed for the same purpose.

By 1939 there were eleven tanks which had been constructed between 1926 and 1937 (GML, 2000) (Figure 2-13). More tanks were added in the 1950s. In 1952 the Anglo-Iranian (formerly Anglo-Persian) Oil Company purchased the Government's share in the Commonwealth Oil Refineries. More tanks were added to the site; by 1967 there were thirty-one tanks. By that date the site was operated by the parent company of the Anglo-Iranian Company being British Petroleum, BP (Figure 2-14).

BP ceased operations on the site in the 1980s. The tanks were dismantled by the mid-1990s although their impact can be seen by excavations made into rock faces to accommodate these structures.

Figure 2-12: Aerial view of the Commonwealth Oil Refinery in c. 1940; after the removal of the stone warehouse (E. W. Earlie NL PIC P838/2179 LOC PIC Album 172)

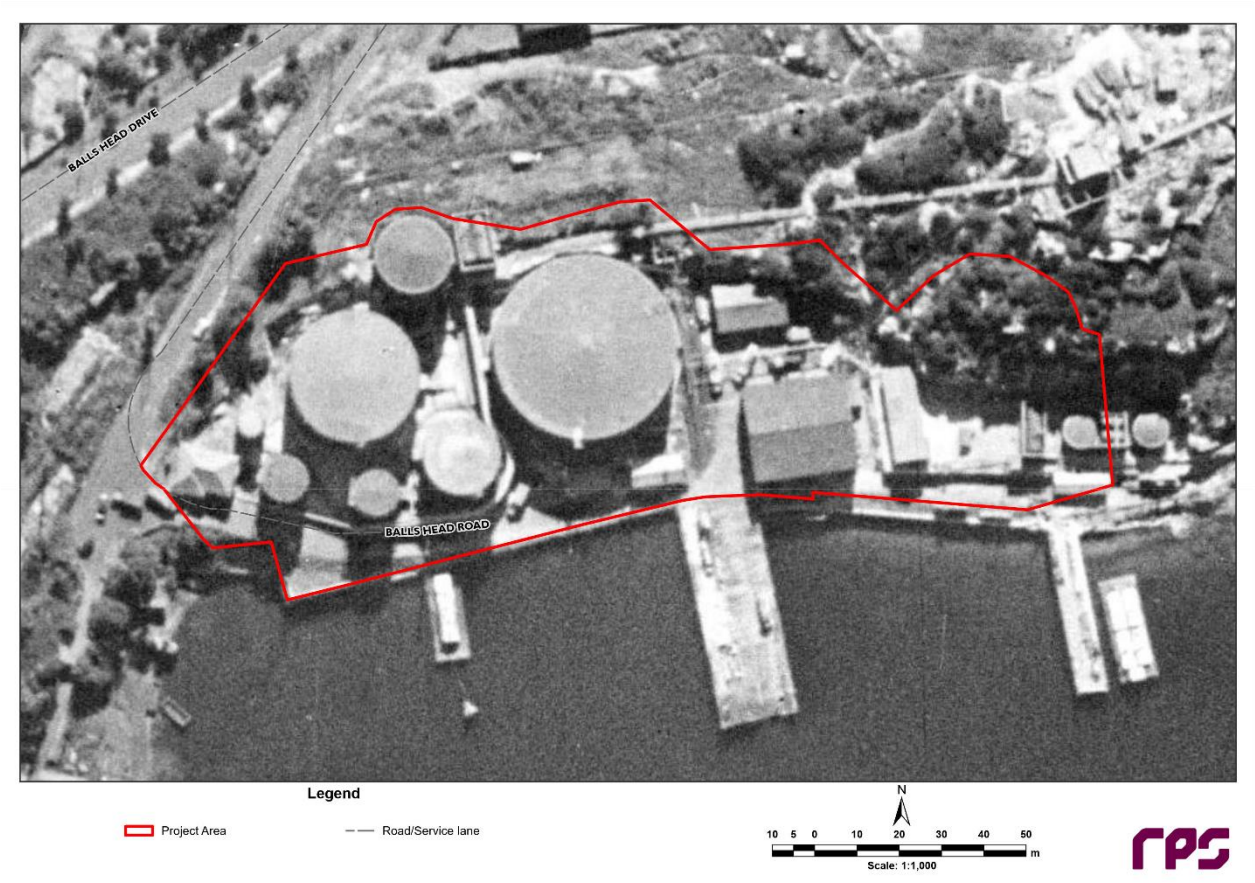


Figure 2-13: Aerial view of the site in 1942 after its expansion in the 1930s; the former site of the warehouse has now been built over after its demolition in 1936.

Figure 2-14: The BP oil refinery at Berrys Bay at its greatest extent (https://www.visitsydneyaustralia.com.au/berrys-bay.html)

2.8 Landscape 7: The Landscape of Renewal

At the beginning of the twentieth century, before the heavy industrialisation of the site for the oil refineries, Berrys Bay had acquired a patina of age and an aesthetic of old and new that attracted artists and visitors including Roland Wakelin (Figure 2-15).

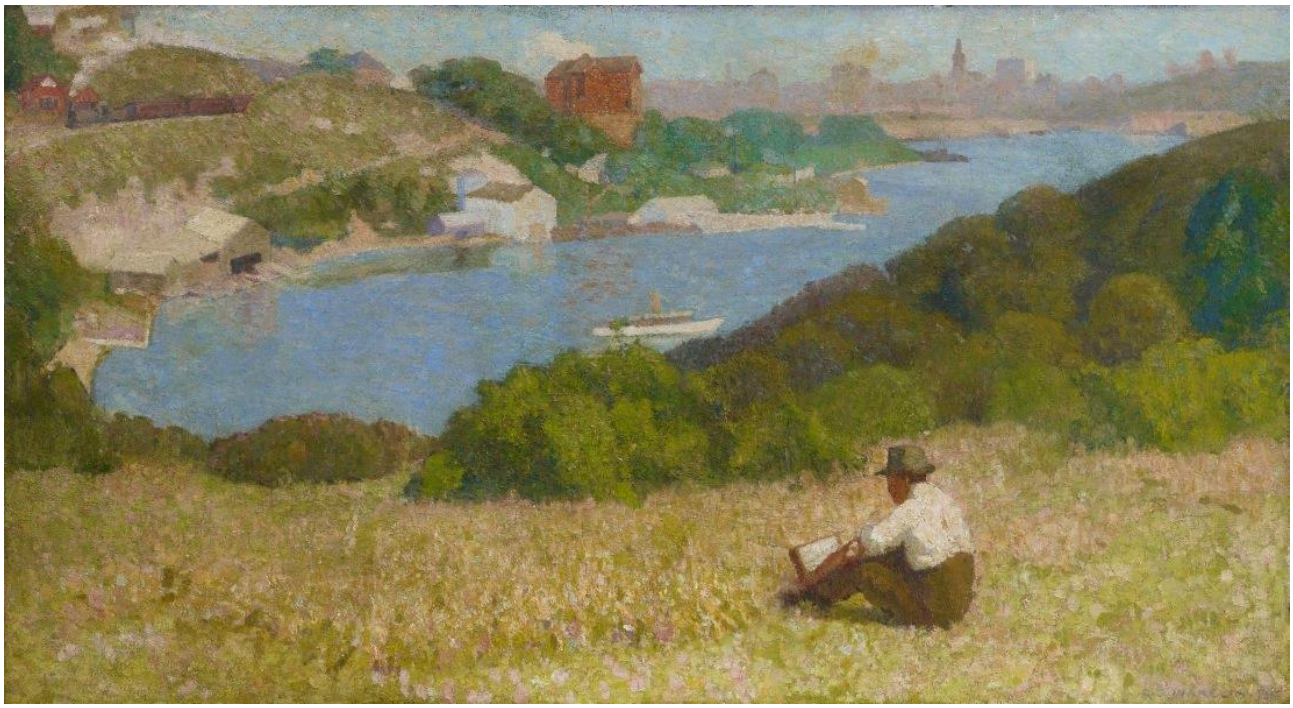


Figure 2-15: Down the Hills to Berrys Bay (1916) Roland Wakelin (Oil Painting Reproduction Stanton LPF 0522)

In 1916 North Sydney Council was given a 15 year permissive occupancy of Berry Island, west of the project site, which was then joined to the mainland by a tidal isthmus and stone path constructed in the nineteenth century. Subsequently two reserves were gazetted on 25 June 1926. Both reserves, Lidgball and Berry Island were vested in North Sydney Council. Berrys Island was proclaimed a nature reserve in1926. In the 1960s the former stone causeway was planted as a grassed access then making the former island a part of the mainland. Most recently the Gadyan Track has been created here which informs visitors about the importance of the place to the Aboriginal community and its history and association. At the time of the reservations Balls Head, including the project site, was a barren landscape; it was also dedicated as a nature reserve in 1926 and from the 1930s there were annual tree planting which has contributed to the current landscape.

The impact of the introduction of the oil industry to this area was overwhelming. It almost comprehensively removed all traces of past uses and development as well as making major alterations to the landforms and environment. After the site was decommissioned in the 1990s it was found that the ground was so contaminated that it required a substantial programme of remediation. An aerial image of 2000 indicates that extensive areas of ground were removed although the depth of this impact is unknown.

In 2005 after intensive site works to remediate the place BP Park was opened; it comprises paths and stairs an observation platforms. The design incorporates some elements of the former industrial past. The area is the subject of a Master Plan to create a large park.

Figure 2-16: Ongoing remediation of the former refinery site in 2000 showing the extent of landscaping and soil movement the green boxes indicates the former site of the warehouse and cottage (Google Earth).

3 THE ARCHAEOLOGICAL LANDSCAPE

The archaeological landscape is the sum of all the changes made to the project site and the traces those changes have left, considering the cumulative processes of the impacts of later changes on older places of use. It can result in a patchwork of evidence of multiple phases, in places with multiple phases overlying each other, or a jumble of these various changes that occurred. In addition, at the base, there may be evidence of the pre-1788 environment that can also encompass traces of Aboriginal land use.

3.1 Previous Assessments of the Project Site

This evaluation is not the first work of its type; two earlier reviews were made, both of which are now over twenty years old. The supporting document prepared for the EIS (Jacobs, 2020) did not undertake a new evaluation, rather it listed sites known or potential acquired from current heritage lists. Therefore, the two earlier site-specific assessments are reviewed here as a means of contributing towards the present assessment and determination of any future site work.

3.1.1 Baseline Archaeological Assessment, Former BP (Australia) Ltd Oil Depot, Waverton, NSW. Archaeological Management & Consulting Group, report to BP (Australia) Ltd, 1999

This baseline assessment used documentary research and physical analysis to determine an indicative level of significance for the potential historical archaeological resource present at the BP Oil Depot on Larkin Street. This includes the present project site, and the land to the northeast.

Three phases of historical occupation were identified:

- 1820s-1850s initial development;
- 1870s-1890s – mixed usage and development; and
- 1908-1996 – extensive us as an oil depot.

These are a simplified and less detailed breakdown of occupation the more specific analysis of which is contained in the present report.

One area of the site was assessed as having ‘archaeological sensitivity’ meaning there was potential for an archaeological resource to be present. This area, located entirely within the present project site, included the sites of the stone warehouse, cottage and later COR warehouses all located in the western half of the present project site. This is shown on the following diagram coloured brown (Figure 3-1). However, a separate plan shows areas of site remediation which largely encompasses all of the sensitive sites or areas of significance (Figure 3-2). The sensitivity diagram, therefore, only addresses identified locations of past works or activities. It does not address the likelihood or otherwise of the preservation of this evidence.

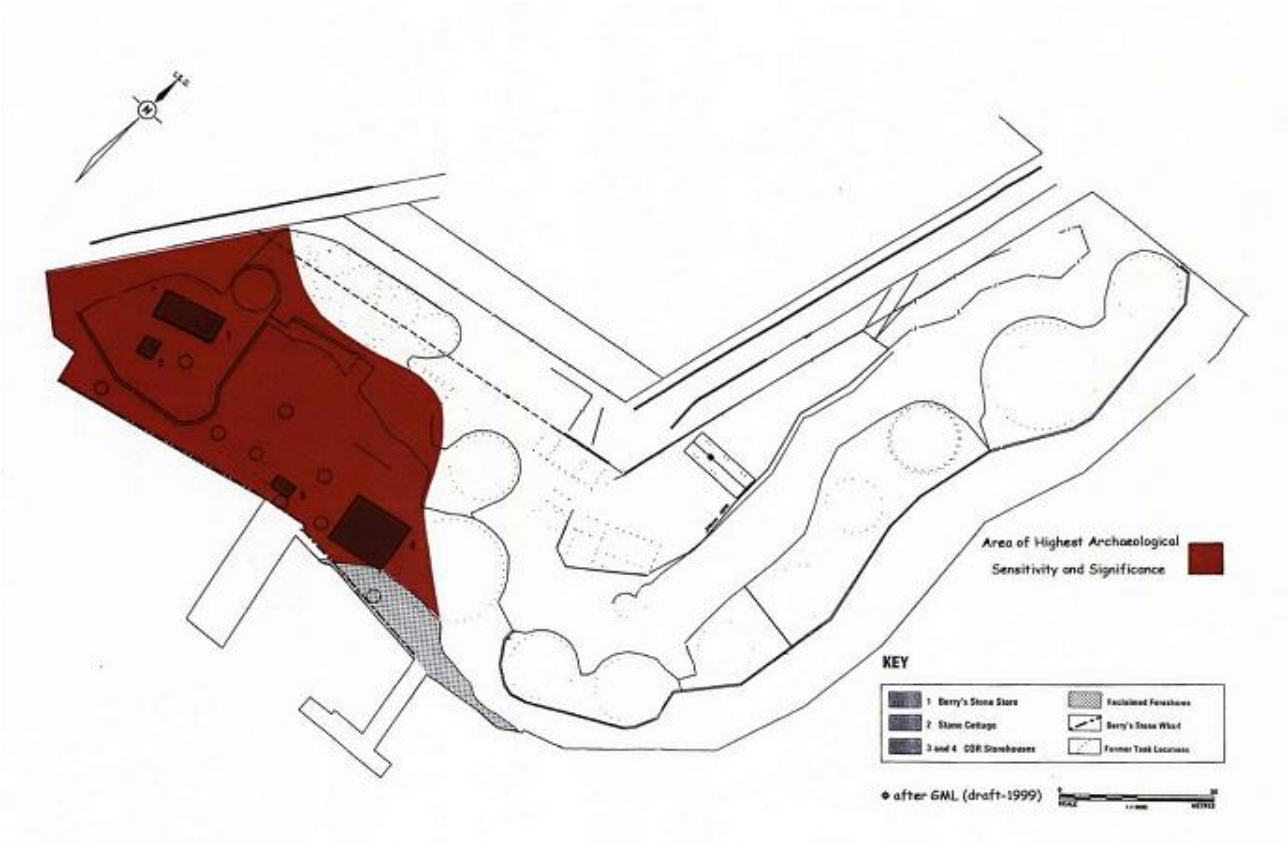


Figure 3-1: Area assessed to be of the highest archaeological potential in 1999 (AMAC 1999)

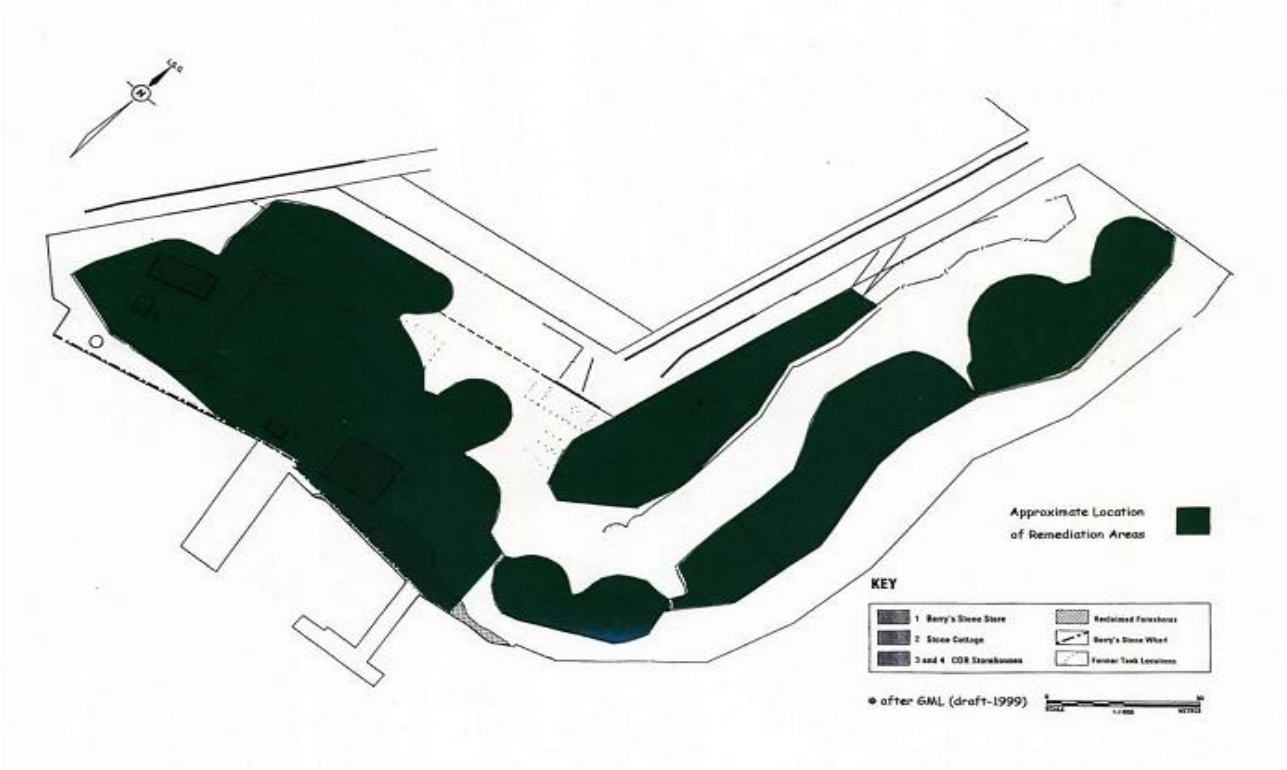


Figure 3-2: Areas of identified remediation in 1999 (AMAC, 1999)

Archaeological deposits that related to Berry and Wollstonecraft and the NSW Torpedo Corp were assessed as being of State significance in the report. It was noted that at the time, historical archaeological deposits relating to the initial development of the north shore were rare and that evidence of the military use of the site was of historical significance. The possibility of associative significance with Berry and Wollstonecraft was also raised with evidence of that also being considered to be of State significance. This assessment was made independently of the assessed presence or absence of the evidence. It is a statement of value if evidence of these periods of development or association were located; it is not an assessment of probability of intact evidence and the value of that material.

3.1.2 Waverton Peninsula Industrial Sites: BP, Caltex, Coal Loader Conservation Management Plan, GML report to North Sydney Council 2000

GML was commissioned by the North Sydney Council in 2000 to produce a Conservation Management Plan (CMP) for all of the former industrial sites on the Waverton Peninsula which included the present project site, discussed as the BP Site. The CMP included a history of the BP site, a draft version of which was utilised by AMAC a year previously and later by Jacobs in the EIS ARDEM.

The area of identified archaeological potential included in the CMP was smaller than that in the baseline assessment from the previous year (Figure 3-3). The area along the cliffs at the northern boundary of the present project site was excluded, as was much of the centre of the site. Included were two areas of reclamation, a small triangular area in the southwestern corner of the present project site and a strip along the southern edge in the south eastern corner. The diagram following shows the different evaluations of potential archaeological resources between the GML and AMAC reports, both however, apparently not addressing the issue of remediation.

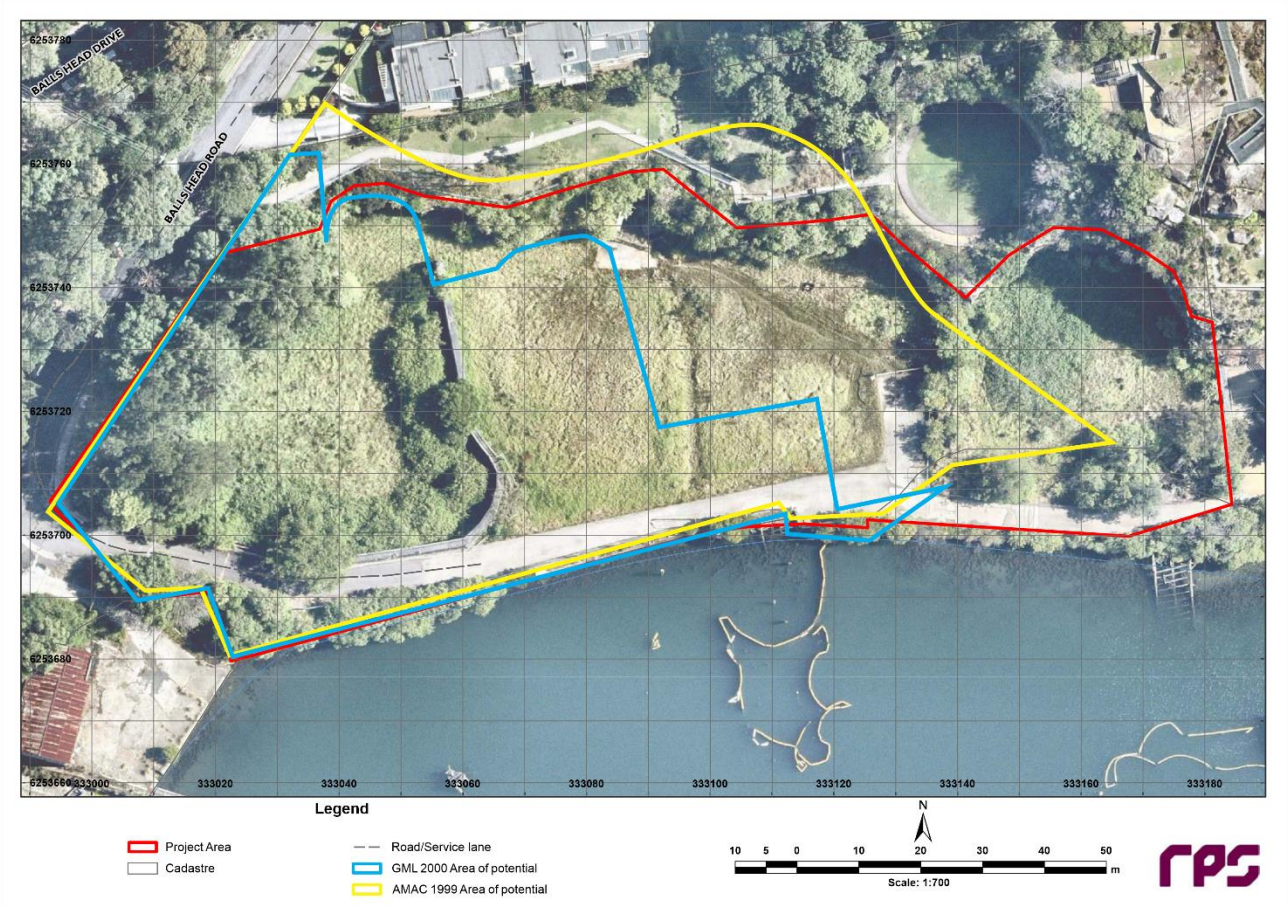


Figure 3-3: Areas that have been previous assessed as having archaeological potential in the project site.

3.2 Sites in Proximity to the Project site

Very little historical archaeological investigation has been undertaken in proximity to the project site, the largest being works undertaken at Blues Point for the Sydney Metro Project. None of the projects are directly comparable to the present project site having very different histories of occupation and site formation.

3.2.1 Ivycliffe

Ivycliffe was a house constructed in the 1860s facing Berrys Bay. In 1920 Council commenced negotiations to dedicate land at the head of Berrys Bay for public recreation. The reserve was gazetted in 1943 and in the same year the land including Ivycliffe and its grounds was included in the park. The house was demolished around this time and the land became part of Waverton Park.

In 1988 the site of the house was the subject of an archaeological excavation; the work exposed the foundations of the entire house (North Sydney Heritage Centre Heritage Leaflet 5). No formal reporting of this excavation has been located and it is not in the Heritage NSW digital library, Stanton Library, or the University of Sydney NSW Archaeology Online collection.

3.2.2 Berrys Bay Stannard's Boatyard Archaeological Monitoring (GML 1993)

This is the closest site in proximity to the project site being located on Berrys Bay foreshore just the east of the project site. It may have been in use in the 1860s using a stone pier built by a descendent of Billy Blue. Boat-building commenced there in 1877 with several significant firms in the industry operating from here at various times. During redevelopment works in the early 1990s a monitoring and recording brief was undertaken to identify and record any substantial archaeological evidence. The result of the work is summarised as follows:

- Evidence of the natural landform including benched sandstone platforms
- Reclamation along the foreshore to enable construction of slips and other works; the fill encompassed sand and soils, boiler ash and other industrial wastes, wood, rusted metal to a depth of 1750 millimetres
- Possible remnants of an old sandstone sea wall
- An extension of the existing sea wall using cement faced sandstone block
- Piles and joists in the fill behind the wall to stabilise the work
- The site of a former structure adjoining the sea wall built on a cement slab
- Another building foundation close to Munro Street
- Rubbish dumped in the twentieth century, possibly from demolition works, some uses for fill and some an old waste pile

It was concluded that the natural topography had largely been removed through excavation for industrial works commencing in the nineteenth century. Most of the evidence related to works to enable the twentieth century development of the boat building yard. The stone pier might still exist but the site was not excavated.

3.2.3 Blues Point Sydney Metro Project (Casey and Lowe 2018)

An extensive archaeological resource was uncovered prior to the Metro works commencing on this site relevant to domestic occupation of the second half of the nineteenth century and sea walls and other foreshore works. This uncovered evidence of the house of John Stevens, built prior to 1857, and which had a large artefact assemblage that included: toys like dolls and tea sets; cooking equipment; glass and crystal drinkware; buttons made from materials including mother of pearl and pressed porcelain; dress and boot hooks; jewellery including a copper alloy brooch; and ink pens (https://www.sydneymetro.info/article/life-1800s-sydney-unveiled-harbour-foreshore).

3.3 Comparable sites

As demonstrated in the analysis of historical landscapes in Section 2, the project site has a multi-layered historical development evolving through commercial, defence and industrial use of several types before being subject to substantial land-forming. No other one site will have a similar profile. In terms of comparisons only specific examples that relate to individual phases have any value for this purpose.

3.3.1 Early Nineteenth Century Warehousing

Sydney was the principal maritime port in the colony for many years and had the majority of warehouses that were comparable to those established by Berry and Wollstonecraft within the subject site at Berrys Bay. Almost all of those warehouses have now been removed from the city. Those that remain, such as 16-18 Bulletin Place ,22 York Street, 6-20 Munn Street Millers Point, 139-153 Sussex Street Sydney and 121-127 Sussex Street Sydney, are generally representative of mid to late nineteenth century. There are more warehouse buildings listed in regional areas such as the Winchombe Carson Warehouse and the Dalgety Warehouse in Newcastle and the former Seppelt's Warehouse at Broken Hill however, they are all of a much later date.

The most comparable examples include the former Metcalfe Bond or Campbell's Stores in The Rocks built progressively from the 1820s, the Argyle Stores (from the 1820s) and Moore's wharf which had a store built on it the 1830s which was removed and rebuilt close by in 1978. It was much larger than the store at Berrys Bay. The report of this work noted that the artefact assemblage was not particularly informative concerning trading activist undertaken in the building, but some aspects of the sub-floor area were informative concerning changes to the building (Lampert & Truscott 1984).

With reference to the specific commercial works of Berry and Wollstonecraft the best examples remain at Coolangatta Estate in the Shoalhaven, the farm and other works that supplied the goods that were warehoused in Sydney. This place had a similar waterside development encompassing a wharf and other works, established in the 1820s. There were, though, no storage sheds close to the wharf in its original form; these were added in the 1850s (Higginbotham, 2003).

3.3.2 Defence Sites

Sydney has a large assemblage of nineteenth century sites associated with the defence of the colony as do other places such as Newcastle. The warehouse at Berry Bay was not specifically built for this purpose being the reused warehouse of Berry and Wollstonecraft. Other buildings are known to have been added to the site for this purpose but, apart from a small weatherboard shed near the warehouse the locations of the others are unknown. The site is not comparable to other sites used for munitions such as the military magazine at Newington or works at Spectacle Island.

3.3.3 Industrial Sites

While the project site has been associated with several industries the oil industry was the most substantial occupant and the cause of the most substantial change. The tanks along the shoreline and other works behind occupied a substantial portion of the site. Between 1920 and 1996 it was one of the largest fuel processing facilities in Australia.

It was one of several industrial sites in Sydney that relate to this industry in the early decades of the twentieth century. They were associated with production, for example Kurnell Refinery (1953-1004) although after its closure as a refinery it too became a storage facility. Clyde Refinery also produced crude oil between the years 1925 and 2013. There was a Shell Oil Refinery at Clyde in operation from 1928 – 2014; it then became a storage facility. Boral established a bitumen and oil refinery from 1947 at Matraville; it was still in production in 2021.

3.4 Understanding the Archaeological landscape

Berrys Bay as a whole, and the project site within it, has been understood to be a place of historic values and potential archaeological importance for historical archaeology for at least thirty years. It has been recognised for having multiple levels of occupation and association although no investigation has been undertaken on any part of it to establish the probability of intact physical evidence of this resource. Little

archaeological investigation has been undertaken on any sites in proximity and this work has been on places with very different profiles. The impact of the development of the oil refinery has been recognised to some degree but until the present study the impact of remediation works undertaken after the removal of that industrial process has not been understood as a major component in the integrity or otherwise of an archaeological profile.

Within the wider context of comparable sites, there are none that have been identified that have the same complex and uniquely different multi-layered history that began in the early years of the nineteenth century and reach throughout the twentieth century. The historical development and associations of the project site are unusual as they encompass multiple different elements in rare or unusual settings. This includes elements of commercial activity more usually seen in the City of Sydney or at the source of warehoused goods, elements of defence sites that area usually purpose-built and in dedicated reserves, and elements of heavy and light industry that are often in larger dedicated complexes. The overlapping purposes of the project, as a warehouse, a distillery, a torpedo base, an oil refinery, and others, is unique and may reflect the specific location of the project site, it's relationship to the wider settlement of NSW, and the longevity of ownership by the one family.

If an archaeological resource is present on the project site it would be defined first by the construction works undertaken by Berry and Wollstonecraft (warehouse, secondary buildings and reclamation and wharf-building), and secondly by the additions made to those existing improvements or their adaptation in the second half of the nineteenth century for defence purposes.

The archaeological sites of Berry and Wollstonecraft's commercial works within the project site date would be relatively early examples of this site type but far from the earliest which were founded in Sydney in the decades preceding. They are best understood as part of a much larger commercial enterprise that commenced in the Shoalhaven and which had establishments in several places including Sydney (George Street and Darling Harbour) and within the project site. The works at Berrys Bay were relatively minor components of the larger commercial enterprise. The form of the warehouse, of which there is minimal evidence, appears to have referenced or was similar to many buildings of this type in the town although very few remain.

Similarly, the manager's cottage appears to have been a typical and very simple domestic structure of the period. Archaeological evidence of these works, as well as other improvements at the site for this period, are unlikely to be informative in respect of their type or age beyond what is already known from other better documented or extant examples. The extent of demolition, particularly, of the warehouse, is likely to have even removed those aspects that were noted in the excavation of the Moore's Wharf warehouse. Figure 3-4 shows the demolition of the warehouse and demonstrates that expansive destruction that occurred which likely had a major impact on the potential archaeological resource.

Figure 3-4: Sandstone blocks from the warehouse being laid for the bund wall in the 1930s (taken from AMAC 1999)

Archaeology of the site associated with the torpedo store, if it exists, has the potential to be a more productive source of evidence and information as this was a unique site with very limited documentation survives for its management and evolution in terms of built fabric. It represents a very specific requirement and a response to new technology.

In both cases, though, the physical evidence of these works may have more value as landmarks identifying these past periods of use, occupation and association rather than as resources that can be used to explore and document them, that is, as an archaeological resource. This is entirely dependent on the integrity of the profile.

The industrial history of the twentieth century at Berrys Bay is represented on several comparable sites in the Sydney region most having a similar period of use. The extreme changes made to the site in 2005 and onwards, apart from the impacts on the archaeological landscape, demonstrate the increasing environmental concerns of society as well as the importance placed on recreational areas as part of living in the city.

The key factors in understanding the archaeological landscape include:

- The early nineteenth century occupation seen on the site was a typical strategy of most merchants, and as a secondary facility, it was less substantial and less used than those warehouses in Sydney. The importance or role of this establishment can only be understood in relation to its role in the greater business strategy and enterprise of Berry and Wollstonecraft and the land grants amassed by them. The relationship of the principal components of the site (warehouse, other structures, and the wharf) to the harbour are typical and critical components of the purpose of this place.
- In terms of the site being used as part of the nineteenth century defensive strategy of Sydney, it reflects the heightened tension of the second half of the nineteenth century to possible warfare or invasion. It also represents the importance of new technologies developed to meet this climate of concern and the relative unpreparedness to manage these new processes. The history of the place reflects the changes in mindset during this period in relation to foreign policy, but the fabric of the place is not representative of the defence landscape then being established around the harbour and city at this time. Instead of purpose built facilities, it consists of a reused warehouse, and it was not typical of other and existing munitions storage places.
- In terms of its role as an industrial site, it is typical of several comparable sites established in the metropolitan region in this period and reflects the importance of the new fuel and the issues of being able to produce it in the country.
- The extreme changes made to the landscape, demolition of the industrial buildings, site remediation and reshaping to create a recreational area and one partly recognizant of its past is very demonstrative of the concerns and requirements for the modern city.

The issue in terms of managing any resources within the site is whether those resources are able to address these values, explore or demonstrate them or whether they can only act as physical landmarks or signposts to the past.

3.5 Contextual Values

Placing a site within a larger context contributes to evaluating its significance in a regional or national scale. The contextual perspective is made by evaluating the known historical development and associations of a place against themes that have been determined to be characteristic of the evolution of the country and of NSW. The themes are defined in *New South Wales Historical Themes* (NSW Heritage Office 2006). The following table (Table 3-1) discusses the evaluated profile of the project site identified above in relation to those National and State level themes relevant to the project site. It does not address the cultural values of the place to the traditional owners, the Gamaragal people although this is a recognised and highly important component of the place.

Table 3-1: Summary of National, State and local themes

National Themes	NSW State Themes	Local themes: the project site
Tracing the natural evolution of Australia	Environment - natural	The environmental context of this place was characteristic of the dramatic landscape of the North Shore with sandstone ridges and outcrops and vegetation typical of that landscape. This is now a highly modified landscape impacted by several periods of occupation but particularly that of the

National Themes	NSW State Themes	Local themes: the project site
		twentieth century refinery. The park that has been created here also has modified the pre-existing environment although revealing more of what remained of after the removal of the industrial site.
Peopling Australia	Convicts	The first British works undertaken within the project site for Berry and Wollstonecraft, the warehouse, cottage and wharf, were built using convict labour. It is representative of the reliance placed on this free source of manpower to achieve the aims of the government and free settlers. Berry and Wollstonecraft's business was enabled by the work of many convicts working on their Shoalhaven estate and their Sydney sites.
Developing local and regional and national economies	Commerce	The project site was initially developed for British occupation by two merchants; this became a component of their shipping and warehousing functions. The site appears to have been minimally altered but was added to with buildings and a wharf specific to the requirements of the business. Later in the nineteenth century this was also the site of a short-lived distillery
	Environment – cultural landscape	The project site is entirely a cultural landscape within the setting of Sydney Harbour. It now largely reflects a recent period of development to make it into a parkland but it has components of its previous industrial use.
	Transport	The Berry/Wollstonecraft development was dependent on water transport and they constructed a long-side wharf for this purpose; it survived into the early years of the twentieth century.
	Industry	In the nineteenth century, for a short period this was the site of a distillery and in the early twentieth century a timber yard. The majority of its industrial development and the biggest impact on the site was the development of an oil refinery here in the early decades of the twentieth century and its long-term use throughout that period.
Governing	Defence	For a short period this was the site of the first torpedo storage unit; changes and additions were made to the site to accommodate the requirements of the place.

3.6 Revised Assessment of Archaeological Potential

3.6.1 Overview

The project site has been previously assessed for archaeological potential and significance multiple times, including in the reports discussed earlier in Section 3.1. The information and perspectives included in these assessments have been utilised here and combined with the new research outlined in Section 2 to formulate a revised assessment of the likelihood of an archaeological resource being present on the site, and whether the resource has heritage significance or cultural value.

3.6.2 Previous assessments

As discussed in Section 3.1 the two most comprehensive earlier assessments of this project site and its environs identified large zones that were considered to encompass some opportunity to contain archaeological evidence (Figure 3-5). These zones are not predictions or assessments of where evidence is likely to be preserved though, and they are based only on where past evidence is known to have occurred and do not consider later activity that may have impacted the probability of retention of that evidence. These zones are shown below; both include large portions of the project site.

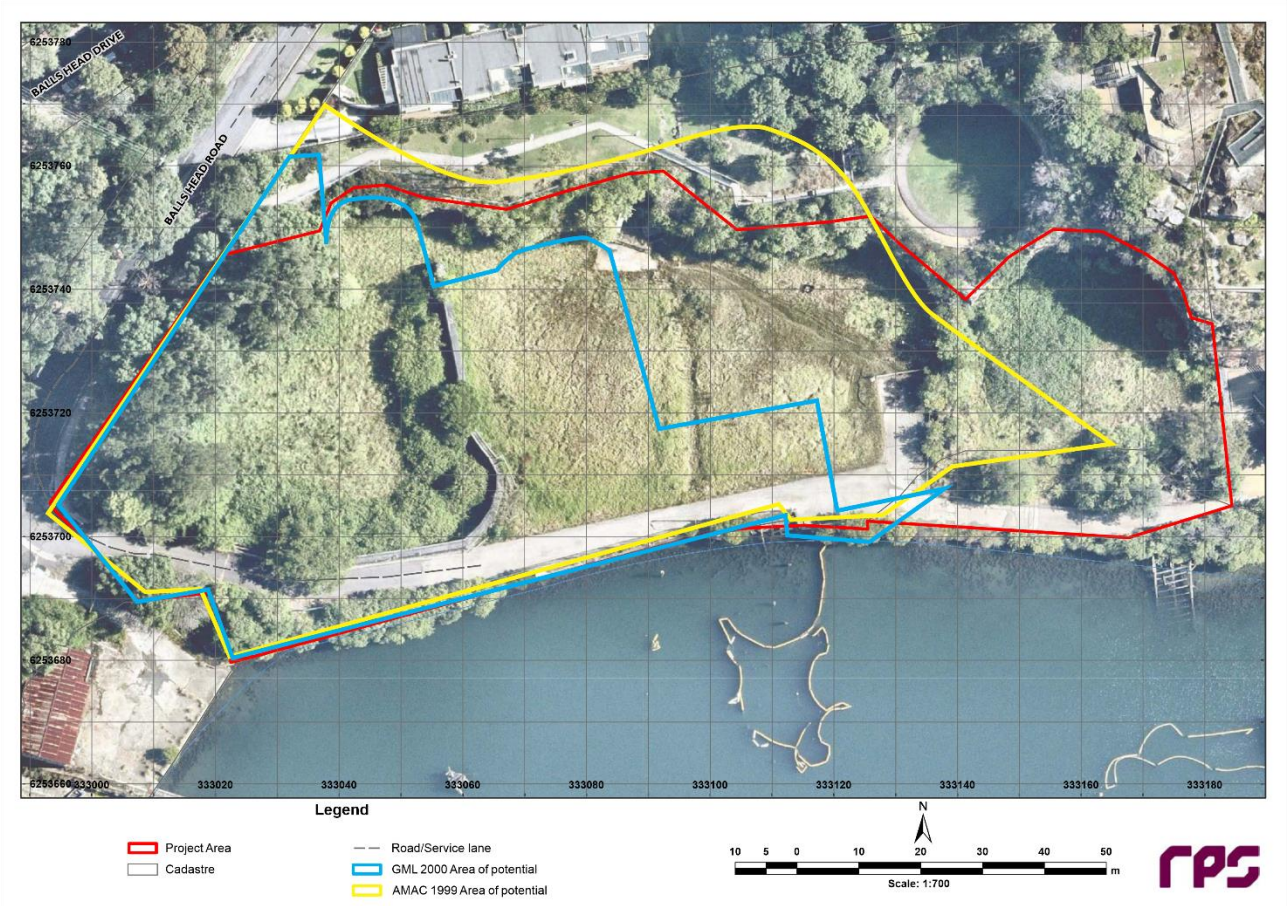


Figure 3-5: Areas that have been previously assessed as having archaeological potential in the project site

3.6.3 The Archaeological Resource

Based on the primary archival evidence presented and discussed in Section 2, it is possible to broadly define what archaeological evidence may have been generated within the project site. The impacts that may have reduced or removed this resource are discussed below in Section 3.6.4. It is noted that the majority of areas of possible past use in the project site have minimal or no documentary evidence, meaning the nature of the potential archaeological resource is based on professional experience and knowledge of comparable sites.

The nature of the potential historical archaeological resource of the project site, based on the Cultural and Archaeological landscapes discussed above, is summarised as follows.

3.6.3.1 Landscapes 1 and 3

The archaeological evidence from these landscape (Landscape 1: The Environmental Context, and Landscape 3: The Landscape of Transition) dates from before 1788 and through to the 1820s. It would include:

- Evidence of the pre-settlement environment in the form of soil profiles, palynological evidence (pollens and other preserved plant material), preserved land forms, geology and waterways.
- Impacts to the environment required to establish the first British settlement being clearing and stumping, possible fire clearing, possible reclamation or land-forming works.

3.6.3.2 Landscapes 3 and 4

The archaeological evidence from these landscapes (Landscape 3: The Landscape of Transition and Landscape 4: The Landscape of Commerce) dates from 1788 through to the end of the 19th century with elements surviving into the 20th century. The evidence would include:

- Structural evidence of a warehouse (very large stone-built foundation); demolished in the 1930s.
- foundations of a stone-built wharf on the foreshore and works associated with its construction;
- Stone foundations of the original manager's cottage close to the warehouse
- Possible foundations of workers' cottages; sites unknown
- Foundations (material unknown) of a stables located between the store and the first of managers' cottages
- Two wells located near the warehouse on the eastern side of the road; other water reserves
- Reclamation works on the shore line
- Paths and other earth-works, fences or enclosures
- Artefact assemblages (rubbish dumps, assemblages specific to structures or work areas)

3.6.3.3 Landscape 5

The archaeological evidence from Landscape 5: The Landscape of Defence dates from the 1870s and potentially into the 1910s. It includes:

- Possible evidence of demolition of existing buildings
- Foundations of a new weatherboard building close to the warehouse/store
- Foundations and work areas of workshops, a packing room, hydraulic testing office, other offices (locations unknown)
- Three large buildings located to the east of the warehouse are shown in addition to that building in 1915; their purpose, form and structure are unknown. They may have been additions made for the Torpedo Store or early buildings associated with the refinery
- Foundations or platforms associated with infrastructure such as cranes; at least two are recorded in 1915 that may have been left over from this period of use after the store was removed from the site or been part of the early refinery
- Chimney bases; three are recorded in 1915 but might also have been from the first works for the refinery
- Fences, enclosures and paths
- Artefact assemblages (ordnance has been assessed and is unlikely to be found within the site however, small personal artefacts or casual losses from the occupation could be located here)
- Possible graffiti; associated with the military occupation and workspaces

3.6.3.4 Landscape 6

The archaeological evidence from Landscape 6: The Landscape of Industry dates from the 1910s through to the turn of the millennium and includes:

- Extensive land-forming
- Wastes and by-products
- Remnant foundations of some structures or other works possibly from the first years of its establishment
- New paths
- Removal of the wharf and changes to the waterfront.

The relative values of cultural significance of these phases and their works are discussed in Section 4. Historically, the initial Berry and Wollstonecraft period is evaluated as being of principal importance because of its importance to local settlement, its rarity in terms of age for that area and as the progenitor of the later nineteenth century use of the site.

In terms of distribution of archaeological evidence, the western portion of the site, west bund wall, is the area where most of the known improvements for Berry and Wollstonecraft were located, although some may be found within the centre of the site (Figure 2-3). This western area could also contain elements of the Torpedo base, as the former warehouse was used for this purpose. The central portion of the site is shown in 1915 to have large buildings, crane bases and chimneys which may relate to the Torpedo base but are likely to be later as the 1908 photograph (Figure 2-7) shows the land relatively clear assumed to have been an output of this period occupation. The eastern portion of the site has not been identified as the site of any particular improvement in the nineteenth century, although it was extensively built upon for the refinery.

3.6.4 Impacts to the Archaeological Resource

The archaeological resource, defined in the preceding section, indicates that by the beginning of the twentieth century, there was likely to have been an extensive and complex archaeological landscape within the project site. This resource likely encompassed elements from all periods of prior use, some quite extensive.

However, there have been two phases of very substantial change that certainly would have acted to reduce or remove much of this evidence of older landscapes, and periods of occupation and association. Principally these were the development of the oil refinery in the 1920s and its expansion over several decades. Secondly, the removal of the oil refinery at the end of the 20th century and subsequent remediation and development in the 21st century.

The series of aerial images presented in Section 2 (e.g., Figure 2-5, Figure 2-10, Figure 2-13, and Figure 2-16) show that the warehouse and cottage were built over by tanks and other infrastructure after their demolition in the 1930s or earlier. Areas of the site, including rock faces, were cut back to accommodate these large structures with other parts of the site levelled for the same purposes. These large industrial works almost certainly removed all but deep-cut features such as wells, tanks, or at best, severely reduced the integrity of those elements.

Whatever may have survived the construction phase of the refinery was most likely removed in the aftermath of its removal. Aerial images taken during the process of soil remediation indicate that the whole project site was cut back, and soil moved or removed from the place including those areas identified as being the more likely to encompass archaeological evidence (See Figure 2-16).

The three factors of industrial construction, demolition and remediation are most likely to have comprehensively removed or severely fragmented any evidence of the nineteenth or early twentieth century periods of occupation.

3.6.5 Physical Evidence

The site was inspected by Dr Gary Marriner in December 2022. At that time there was no surface evidence that indicated any intact sub-surface archaeological evidence is present. The majority of the project site was grassed with trees and large shrubs on the margins (Figure 3-6).

Evidence of previous use of the site was clear in the form of substantial rock cutting for the former oil tanks (Figure 3-7) and the extant bund wall built from sandstone blocks (Figure 3-8).

Figure 3-6: The site as viewed in late 2022. The largely grassed nature of the site with tree lined margins is clear, view to the west.

Figure 3-7: The northern edge of the project site which has been substantial cut and altered to make way for oil tanks in the 20th century. View to the north.

Figure 3-8: The bund wall in the southwest corner of the project site. View to the northwest.

3.7 Conclusions

The conclusions to be drawn from the evidence presented in this assessment, particularly in respect of the impacts from the development of the refinery and remediation works undertaken after its removal, suggest that very little is likely to have survived within the project site of the potential archaeological resource as defined in Section 3.6.3.

There is the possibility that some deeply cut elements, such as wells or tanks, or more heavily engineered items, such as crane bases, may have left some evidence cut into the bedrock. If any evidence of this type does survive it is likely to be isolated or in a heavily fragmented landscape, and thus of limited research value. There may be factors that have acted to leave or preserve some aspects of this profile that are not evident from archival sources, requiring ground truthing via investigation.

4 REVISED ASSESSMENT OF CULTURAL SIGNIFICANCE:

4.1.1 Previous assessments

The previous assessment of significance in the EIS paper primarily utilised the RMS s170 register listing and the North Sydney LEP listing to provide information. They key data used in each of these assessments is summarised in Table 4-1.

Three statements of significance were included in the 2020 Working Paper:

- Waverton Peninsula Conservation Management Plan,
- Section 170 Heritage and Conservation Register
- North Sydney LEP 2013

All three sources state the site is of significance but do not determine the level of significance. Common aspects of the site's history and associations within the statements include:

- Association with Wollstonecraft & Berry and their use of the land
- The industrial history of the site including by various oil companies
  - With a clear focus on the physical evidence including rock cuttings, retaining walls, drainage channels and work areas
- Potential physical evidence of several sites of activities spanning the entire post-1788 history of occupation; later assessments have reviewed and reduced the expected archaeological profile of the area
- Associations with convict labour including repurposed blocks in the extant bund wall
- Views of Sydney Harbour and the city CBD

The key components of these evaluations are summarised in Table 4-1.

Table 4-1 - Key evidence used in significance assessments in the LEP and RMS s170

Criteria	CMP 2000 (BP Site)	North Sydney LEP (2013)	RMS s170
a) Historical significance	• Berry and Wollstonecraft development • Important industrial site which can be seen in the landscape (*at this time substantial elements of the refinery remained*)	• Edward Wollstonecraft & Alexander Berry – early merchants • Convict labour • Government and private oil refineries • Early use of torpedos for defence	• Product of 19th century alienation and 20th century subdivision • Government and private oil refineries in particular Anglo-Persian Oil, COR and BP • The bund wall
b) Historical association	• Berry and Wollstonecraft • Other industrial purposes including the Steam Screw Company and refineries	• Edward Wollstonecraft • Alexander Berry	• Edward Wollstonecraft • Alexander Berry • NSW Torpedo Corps
c) Aesthetic significance	• Important views towards the city • Changes to the landform indicate the past industrial uses	• Dramatic views of Sydney Harbour/skyline • Remnant industrial elements which are becoming a rarity	• Carved and cut rock and large structural walls recognisable as an industrial place
d) Social significance	• N/A	• A community asset • Important to Waverton Peninsula's 'sense of place'	• A community asset being returned to the people as a result of community action
e) Research potential	• Archaeological potential to address multiple periods of use	• Aboriginal archaeological deposits below reclaimed land.	• Aboriginal archaeological

Criteria		CMP 2000 (BP Site)	North Sydney LEP (2013)	RMS s170
			• Mr W G Mathews, Berry's manager • Reclamation, and landscape modification including drains • Environmental and legal aspects of fuel management	deposits below reclaimed land
f)	Rarity	• N/A	• The use of Sydney Harbour foreshore for industrial activity for more than a century	• N/A
g)	Representativeness	• Particularly of industrial history	• Early 20th century proposal to industrialise North Sydney • Convict hewn blocks in the bund wall	• Industrial harbour side places • Foreshore straightening to create workspaces
	Integrity/Intactness	• *At the time of writing it was still largely an industrial landscape which was noted – no longer the case*	• Fuel tanks gone but significant evidence of industrial use remains • Archaeological potential for 19th century occupation	• N/A

These previous assessments define the historical values and associations of the project site which are important to the community but that do not necessarily require any physical manifestation. However, while archaeology is occasionally considered in these assessments, the viability of the potential archaeological resource of the site to also address historical values and contribute towards meaningful research has not been addressed. The following assessment focuses on the cultural significance of the potential archaeological resource.

4.2 Assessment of the potential Archaeological Resource

4.2.1 Evaluation Criteria and Specific Archaeological Values

Archaeological evidence must be ranked according to its value to a particular community, of either local significance or State significance. If archaeological evidence does not reach the threshold for either category, then it is not considered a relic under the provisions of the *NSW Heritage Act 1977*.

Archaeological evidence is largely considered to address *Criterion (e)* of the standard assessment criteria. Its importance is largely based on its unique ability to add to, amend, illustrate, or narrate other values or specific cultural aspects of the past. That is how the physical evidence of archaeology manifests the significance of a place or components of a place. It also has providing novel and unique information that can transcend an individual place and contribute to an understanding of a large whole.

The present, evaluation has determined that the project site is unlikely to have a substantial or intact archaeological resource that will support investigation or interpretation in a meaningful way that can make those contributions. If an archaeological resource is present, it is likely to be minimal, reduced, and fragmented. Therefore, it is determined that the potential archaeological resources of the project site are unlikely to meet the requirements for *Criteria (e)* at either state or local levels. However, this conclusion requires physical testing to confirm or amend it (See Section 5.4).

4.2.2 Inclusion Guidelines for Archaeology

There are specific archaeological values that have been determined to contribute to cultural values or significance. The value of archaeological evidence is most usually defined by the specific information that can be acquired from this physical resource beyond other resources. This is termed its 'research potential'. This evaluation is generally made before the resource is revealed or investigated; physical investigation may alter the initial assessment. The significance of archaeological evidence may be linked to other categories of

cultural value, beyond its research potential. However, to define the value of the research capabilities several inclusion guidelines have been developed:

4.2.2.1 Does the site or its resource contribute knowledge that no other resource can?

The evidence that might remain here is very specific to this place in respect of the early commercial development, subsequent interim commercial operations, the use of the site as part of the overall defence network and later industrial uses. The value of any archaeological evidence that remains would be in illustrating very specific aspects of these periods of occupation which are largely undocumented as well as providing physical reference points in a landscape that has been substantially altered for each of these principal periods of use. The ability of the resource to achieve this is dependent on its condition or integrity as a complex site.

4.2.2.2 Does the site or its resource contribute knowledge that no other site can?

This is unlikely given none of the several uses of the project site have been unique and the probable condition of the evidence, highly fragmented if it remains, is unlikely to produce a coherent resource relevant to any of these phases. Finally, there are other places that provide some evidence of the different components of the site history. There are intact refinery sites, these are nineteenth century distillery sites (Benelight in Queensland founded in 1855, Bundaberg Distilling Company founded in 1888, Milne and Co Distillers in Adelaide). There are intact ordnance storage facilities and intact early-mid nineteenth century warehouses.

4.2.2.3 Is the knowledge relevant to general questions about human history or other substantive problems relating to Australian history, or does it contribute to other major research questions?

No, whatever fragmentary evidence that might be contained within the site is highly unlikely to address any questions, other than site specific. If the evaluation of the specific place or site is positive in relation to these questions, it is deemed to have research potential. In respect of the assessed archaeological profile at the project site, the following conclusions have been made:

- There is unlikely to be any substantial archaeological profile at the site and if any archaeological evidence does remain it is highly unlikely to contribute knowledge that no other resource can do so, in respect of the occupation of this place.
- The archaeological profile within the project site is unlikely to contribute knowledge that no other site can do so because of the likely impacts to the environmental profile and the absence of significant components of the first phase of occupation or any other

It is concluded, on the basis of the evidence currently available, that the archaeological profile within the project site is unlikely to be able to contribute to major research questions of any form. Therefore, it has no or limited value for its research values and it is not evaluated to be a culturally significant item.

Any physical evidence that might remain could be used to interpret or aid in the interpretation of the historical development of this place, but this is a different value to that as an investigative resource which is the basis of the accepted evaluation of this form of fabric.

4.3 Statement of significance

The project site has particular associations with the development of the suburb of Waverton, being one of the earliest places developed there. The site was used by the merchant firm of Berry and Wollstonecraft in the 1830s as a warehousing facility for overflow products and produce from their Shoalhaven Estate, Coolangatta. The principal warehouse and office facilities were located in Sydney City.

The site, in the possession of Wollstonecraft as part of his large estate of over 500 acres, was a convenient place to develop this secondary facility. Primary records indicate that it had minimal use and was sometimes vacant. The subsequent short-term use of the warehouse as a distillery reflects this incidental use by the firm. The use and development of the site for this purpose is not representative of the primary aspects of

settlement in the district, in the early or later nineteenth century period. It is particular to one person or one business.

The isolation of the site and the facilities did provide an opportunity to establish an early ordnance store during a period when there was heightened unease in the colony concerning invasion or warfare. It was one of many defence facilities commenced or completed in the last quarter of the nineteenth century in Sydney and beyond. The open landscape and its distance from settlement both on the northern and southern shores of the harbour made it a good short-term solution for the storage of explosive devices. Additions were made to the site to supplement the former warehouse facilities. The location of many of these works are unknown.

The use of the site for this purpose was, like the earlier period of commercial development, not representative of the development in Waverton. Although it provides an insight into the extent of its development at this time. The store, and any physical evidence of it, is more closely associated with the assemblage of sites spread around the harbour and foreshores developed in this period to address serious concerns over the security of the colony. There are other examples of ordnance storage still intact outside this site and, while this is an early example of a particular technology, the physical evidence of site is unlikely to identify or interpret this period of use.

The early twentieth century period of use, as a timber store for a particular patent, is representative of the growing industrialisation of this part of Waverton and the harbour foreshores but there is unlikely to be physical evidence of this use or its patent technology. Similarly, the use of the site for much of the twentieth century as a fuel storage facility is representative of the continuing industrialisation of the foreshores but particularly the growth of this as a new industry. The BP refinery within the project site was one of several developed at this time on the harbour and other foreshores. Apart from the changes to the environmental context of the site, such as rock cutting to house tanks, there is unlikely to be substantial evidence of this period of use.

Therefore, in respect of the possible archaeological evidence or resource within this site, if there are any *remains in situ,* it is very unlikely to document any of the principal phases of development or use, illustrate or explain any of the processes or works required of them. It is unlikely to be able to address either site specific issues or those that could extend beyond the parameters of this site.

It is concluded that, subject to some limited physical investigation to confirm these conclusions, any physical or archaeological evidence pertaining to the historical development and occupation is unlikely to meet the criteria of being a relic of local or State significance and, thus, does not warrant protection under the provisions of the *NSW Heritage Act.*

5 ARCHAEOLOGICAL EXCAVATION METHODOLOGY & RESEARCH DESIGN

5.1 Strategy

The previous sections have examined archival evidence to create and understand the evolving landscape of the project site, from its initial settlement to the present day. It has addressed aspects of works, particularly soil remediation in the early years of the twenty-first century, as well as the demolition of nineteenth century elements in the twentieth century that are likely to have removed or seriously damaged evidence of that development.

The conclusions are that there is unlikely to be any substantial physical evidence of the several phases of occupation present within the site. At most, there may be fragmentary elements or isolated elements such as wells, or a remnant wall footing. The seawall, created in the 1830s, also seems to have been removed. Otherwise, it has been sealed by the road that now runs along the foreshore, which will not be impacted by the proposed works. Examination of the site in its current form gives no surface indications of in-ground evidence identified anywhere. There is no evidence to support the contention that archaeology may contribute towards a better record or understanding of the use or evolution of this place.

However, the potential is recognised for random and fragmented elements to remain, although the locations of any such resource cannot be predicted on the basis of any current information. The probability of integrity depends on the scale and scope of the removal of the refinery infrastructure, particularly the remediation process that followed it. Elements of this type could have value as interpretive mediums for the new park as “signposts” of past occupation.

For this reason, a strategy has been determined to test and evaluate the impacts of past works, particularly the demolition of the refinery and the subsequent soil remediation, on an archaeological resource. This ground truthing of the assessment can be used to adjust the conclusions of that evaluation or confirm it.

To this end, the project site has been planned as three separate, but historically connected management units or areas.

5.2 Management Areas

Based on our knowledge of the use and development of the site it has been divided into three areas (Areas A, B and C) shown in Figure 5-1. They are based on the archival identification of places or items that predate the development of the refinery. The identification of the location of these areas on the ground is to be used in the testing strategy to confirm the presence or absence of an archaeological research and to provide an indication of the rightness of the above statement of significance.

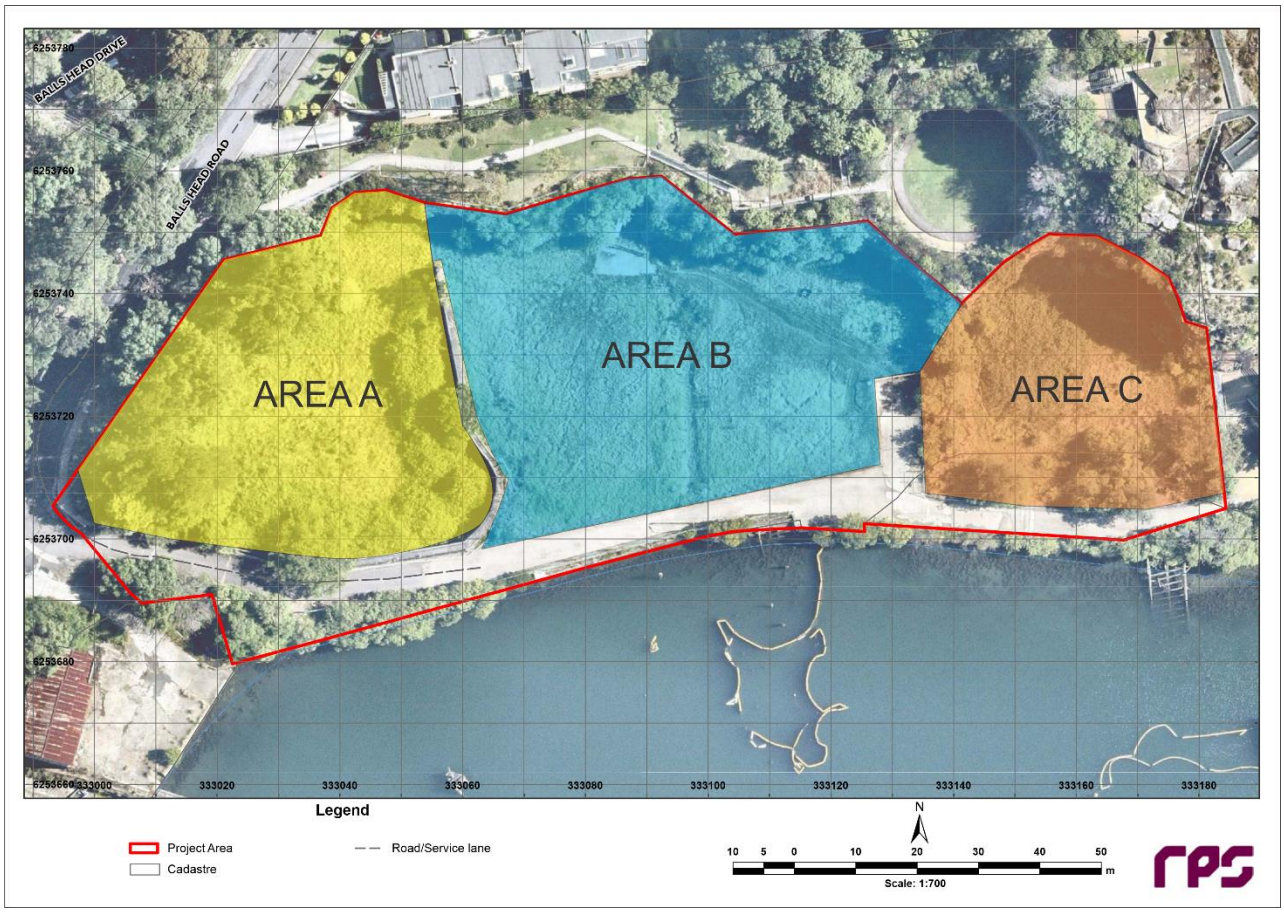


Figure 5-1: Archaeological Management zones defined for the project site

5.2.1 Area A

Area A is the westernmost of the management areas; it occupies all the land west of the bund wall created in the 1930s from the demolished warehouse to the extent of the project site. This is the area with the largest number of identified areas of nineteenth and (pre-refiner) twentieth centuries land use. The identified elements located here from the pre-refinery periods of occupation include:

- Environmental evidence
- The Berry and Wollstonecraft warehouse
- The Berry and Wollstonecraft first manager's cottage
- Potential for wells, paths and enclosures, discrete artefact assemblages
- A portion of the sea-wall (in an area which will not be disturbed for future works) and works associated with its construction including reclamation
- Possible foundations of workers' cottage; sites unknown
- Foundations (material unknown) of a stables located between the store and the first of manager's cottages; precise location unknown
- Two wells located near the warehouse on the eastern side of the road; other water reserves
- Potential for unidentified structures associated with the warehouse in either its period of early commercial use or for the distillery
- Potential for evidence of one large building constructed for the Torpedo store on the western boundary of the project site and portions of two others on the eastern boundary of this zone, only partly included within it
- Potential evidence of crane bases for the torpedo store and the bases of industrial chimneys

- Potential for wastes or artefacts from these phases and from the early twentieth century timber mill

5.2.2 Area B

Contains the central portion of the project site and is the largest of the three zones. The identified elements located here from the pre-refinery periods of occupation include:

- Environmental evidence
- Unidentified structure or works associated with the Berry-Wollstonecraft period but no specific identified sites
- Potential for reclamation works and evidence of the sea wall (in areas not to be disturbed by the proposed works)
- At least two substantial structures that may derive from the Torpedo Store (partly within Zone A) and one crane base; potential for other smaller unidentified structures and works
- Paths, enclosures, water storage from all periods; no specific sites identified

5.2.3 Area C

This has no identified features or work, other than perhaps the sea wall, from any period of work.

5.3 Research Design

5.3.1 Overview

A research design is an integral component of any archaeological program. It ensures that the excavation process, data collection and interpretation of results, is focused on answering and addressing specific questions and themes whilst ensuring that as much information as possible is gathered during the excavation. The archaeological resource is absolutely finite and the excavation of it an inherently and unreproducible destructive process.

The research design responds to the detailed analysis of the site that identifies what may be unique to a specific place or evidence which may be common throughout particular types of sites and which may contribute specific aspects not adequately addressed by other investigative excavations. The Historical Archaeology Code of Practice (Heritage NSW 2006) clearly highlights the need for clear research questions and objectives for any historical archaeological investigation. It is the purpose of this section to define the research design, that is, what questions will any testing programme address.

5.3.2 Research themes

This assessment has concluded that there is unlikely to be a substantial archaeological resource within the site. This is the outcome of the impacts of early twentieth century industrial development of the place, the remediation of this use in the early years of the twenty-first century and the subsequent reuse of the site for a park.

The primary purpose or research intent of the proposed programme of work is to determine if this assessment is correct and that the project site is likely to be devoid of an intact archaeological resource that can be used to document or investigate past periods of use and development. Answering this question is critically important to any future management requirements for the wider project.

If the investigate programme determines that there is an intact or fragmentary historical archaeological resource then, based on the evidence of its integrity, a second research design will be produced for the project. It will reflect the integrity of the profile, its ability to address specific research values, be as focused on which periods of use have survived and what this evidence may be capable of documenting.

If this becomes the case, the research design will be based on those themes and aspects discussed in Section 3.5 and defined in the thematic framework developed by the Australian Heritage Commission in 2001.

5.3.3 Research questions

The principal objective of the proposed programme of archaeological testing at the project site is to determine the presence or absence of an archaeological resource and, if present, its ability to address viable research objectives. To this end the objectives of the testing programme may be summarised as follows:

- Have the combined impacts of the twentieth century industrial development of the site, its remediation and subsequent reconfiguration as a park removed all or most traces of past activity preserved as an archaeological resource?
- Is this evidence consistent across the site?
- Is there a pattern or identifiable influences that determine whether evidence has survived or not?
- If not, what period or periods of occupation appear to have survived as an archaeological resource?
- What is the nature of the evidence that has survived?
- Is it capable of addressing research investigation that will provide new or expanded information about these phases of use that will compliment or expand documentary sources?
- Is the fragmentary evidence only capable of identify a past place of use and providing a landmark in the landscape?

In order to answer these questions it is necessary to undertake excavation at the site.

5.4 Excavation methodology

5.4.1 Overview

The objective of the excavation programme is to provide a sample across all areas to determine the impacts of past works on the survival or otherwise of an archaeological resource. The trenches will be placed on sites of identified past works as well as those areas of unknown, or possible no-past activity. The results of these widely spaced trenches should determine whether there is a consistent profile of comprehensive site reduction and whether there are areas that could retain evidence or positive evidence of a retained profile. The location of these trenches are discussed in the following sections.

The location of each trench will be geo-referenced to the site based on the evidence from archival sources, namely the 1915 Naval plan. This is to ensure that the trenches are accurately placed in relation to the presumed locations of the historical structures and features and, thus, able to meet the objectives of the work.

5.4.2 Area A

Three trenches are proposed for Area A that focus on the locations of Berry and Wollstonecraft's buildings and other buildings that are shown on the 1915 plan (Figure 5-2, Figure 5-4). The trenches have been laid out to minimise the impact to surrounding environment and none are located close to any substantial plants or trees. All trenches will be machine excavated as discussed in Section 5.4.5 and will initially measure 10 metres long, and 1.2 metres wide, with the option of extending to 2 metres wide if required. They will be excavated to a maximum depth of 1.5 metres, which is the maximum anticipated impact from the project works.

- Trench 1 (Tr01) is located in the north of Area A and aims to investigate the walls and interior space of the former warehouse building. It also will continue north of the building to examine the soil profile.
- Trench 2 (Tr02) is located in the east of Area A and straddles both a building and a chimney shown on the 1915 plan. This trench aims to investigate the presence of both features and provide a more accurate assessment of the date of the structures.
- Trench 3 (Tr03) is located in the west of Area A and straddles both the warehouse and cottage building that date from Berry and Wollstonecraft's use of the site. This trench aims to establish is either building is present, the nature of the internal deposits and walls and the soil profile between the buildings.

A trench was originally planned to target the southernmost crane base and the large rectangular building shown on the 1915 plan along the southern part of the project site. Due to identified areas of soil contamination this trench will not be excavated. Also, no excavation will occur in the vicinity of the c.1915 structure in the western part of Area A as it is currently heavily vegetated.

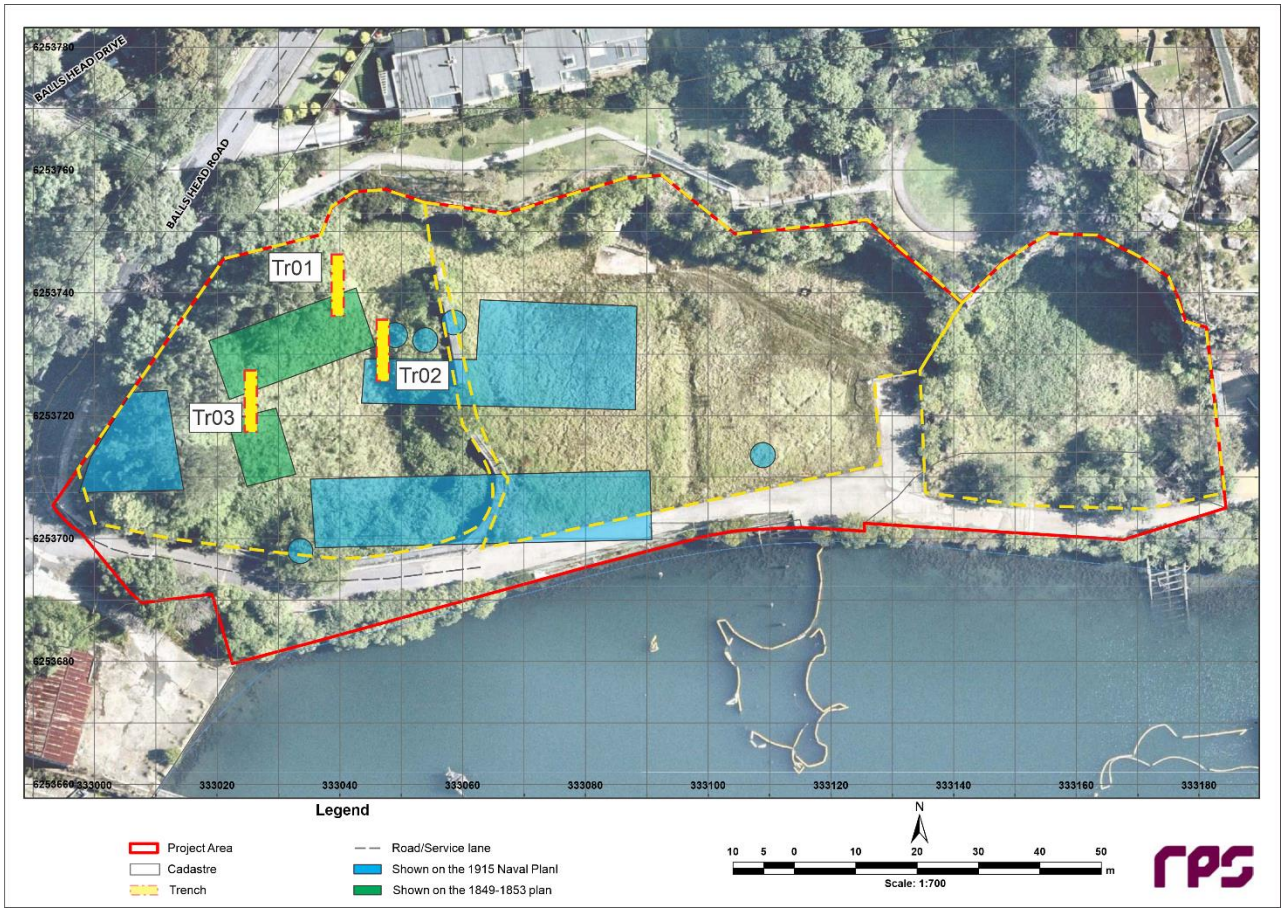


Figure 5-2: The location of Trenches in Area A.

5.4.3 Area B

Two trenches are proposed for Area B both of which focus on buildings shown on the 1915 plan that may relate to the Torpedo base or the early refinery (Figure 5-3, Figure 5-4). The trenches have been laid out to minimise the impact to surrounding environment and none are located close to any substantial plants or trees. All trenches will be machine excavated as discussed in Section 5.4.5 and will initially measure 10 metres long, and 1.2 metres wide, with the option of extending to 2 metres wide if required. They will be excavated to a maximum depth of 1.5 metres, which is the maximum anticipate impact from the project works.

- Trench 4 (Tr04) is located in the centre of Area B at the eastern end of the same building Tr02 is investigating. This trench aims to confirm the presence of this large structure, provide a more detailed assessment of its date and investigate its possible function. The trench also continues eastward of the building to examine the soil profile.
- Trench 5 (Tr05) is located in the south of Area B directly over a crane base shown on the 1915 plan. This trench aims to confirm the presence of the crane base.

A trench was also planned to investigate the large rectangular building on the southern part of Area B shown on the 1915 plan. Due to results of the soil contamination testing this trench will not be excavated.

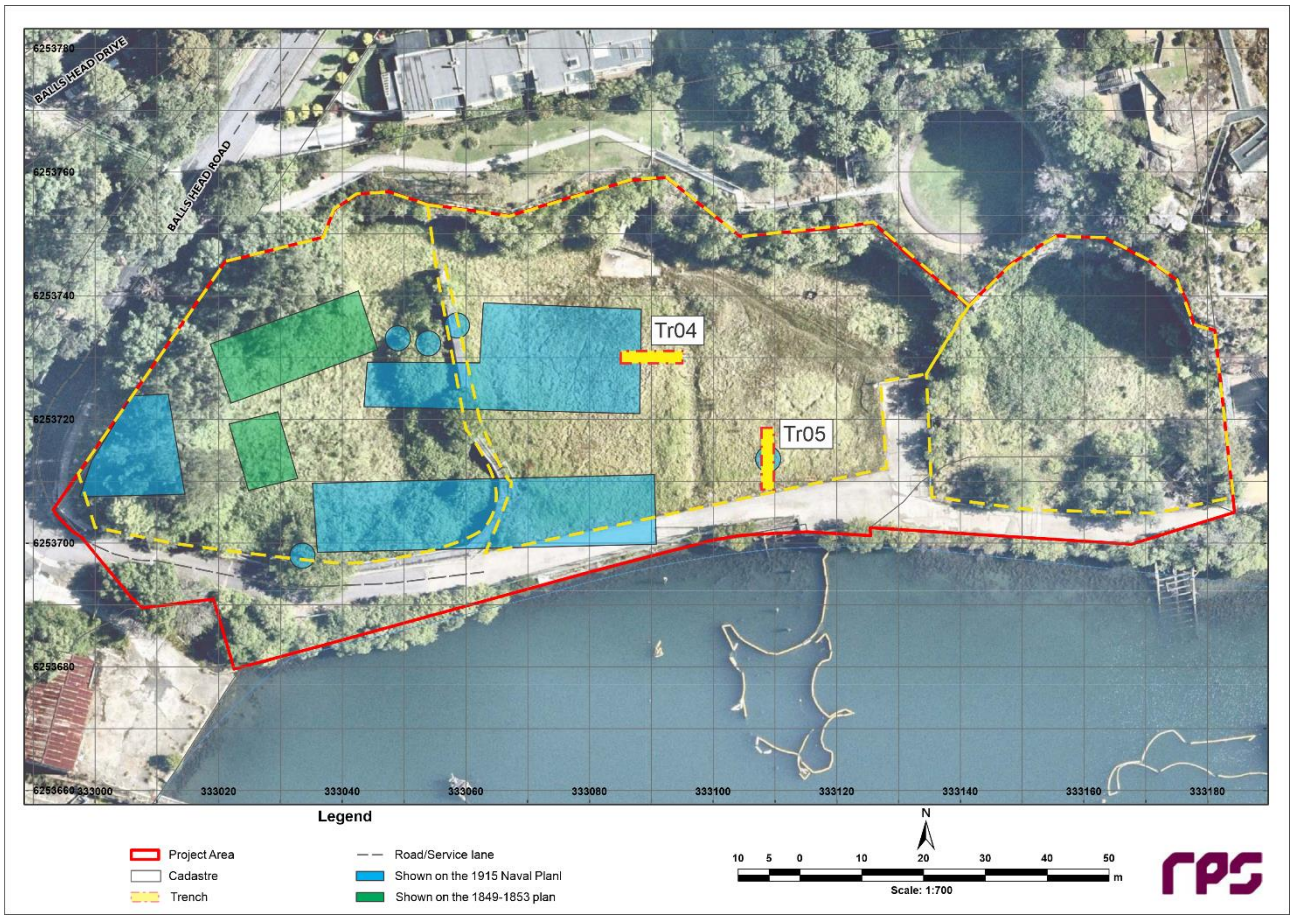


Figure 5-3: The location of Trenches in Area B

5.4.4 Area C

Area C has no identified works from any earlier periods than the refinery. Initially one trench was planned here the purpose of which was to provide a soil profile that can be compared with others from Area A and B to determine the impacts of more recent earthworks and soil remediation. Based on soil contamination levels in this area, this trench will not be excavated.

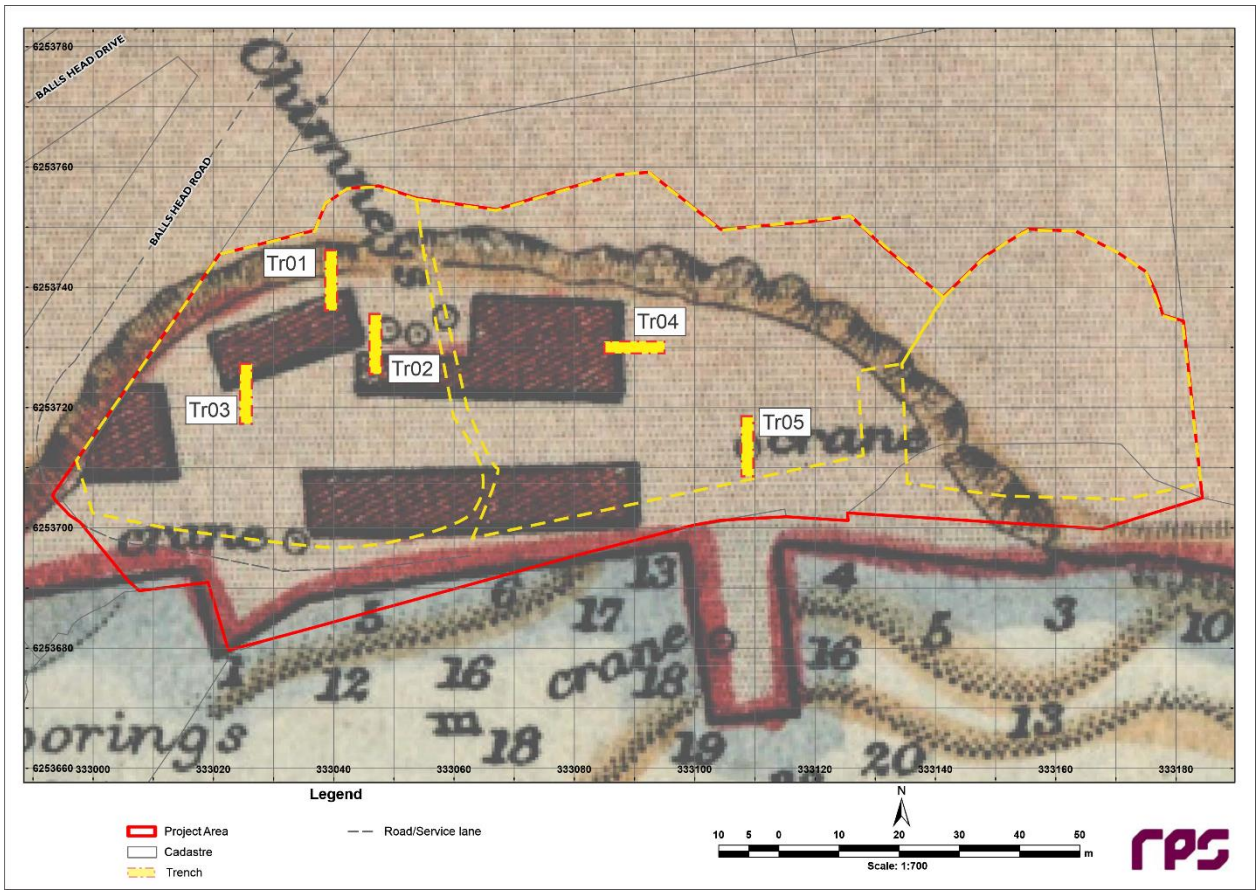


Figure 5-4: The location of all trenches overlaid on the 1915 naval plan demonstrating their targets.

5.4.5 Excavation

The investigation of each trench will be undertaken through a combination of mechanical and manual excavation. A small excavator (~5 tonne) will be used initially to excavate each trench stratigraphically under direction of the Excavation Directors. Any archaeological structures or features that are exposed will then be excavated manually by a small team of archaeologists. Each trench will be opened for a minimal amount of time only and will be backfilled as soon as possible after recording has been completed.

The excavation will cease under one of three different scenarios:

1. A depth of 1.5 meters is reached. No work is required below this depth as the project will have no impact.
2. There is a clearly observed archaeologically sterile deposit, which is a naturally formed sedimentary layer which contains no evidence of human activity.
3. Historical archaeological evidence has been encountered and the presence of a significant archaeological resource has been established.

Once excavations have been completed each trench will be backfilled using the excavated material. If clearly defined and easily separatable soil layers are found (i.e., topsoil, subsoil etc.) they will be temporarily stored individually adjacent to the trench at a distance of at least 1.5m. The trench will then be backfilled in stratigraphic order. The backfilled material will be periodically compressed by the excavator bucket or tracks if required.

Detail the approach to the management of soil contamination and sediment control is contained in the excavation Environmental Management Plan.

5.4.6 Recording

- Every individual stratigraphic unit, structures, excavations, or other elements will be identified by a unique number (context number) and will be documented according to standard practices including the use of context sheets and registered.
- Each trench will be individually planned by hand at 1:20 scale with RLs taken at the surface and all significant stratigraphic layers and features.
- If required, a section drawing from each trench will be drawn at 1:20 or 1:20 scale that demonstrates the stratigraphic profile.
- Each trench will be photographed at each stratigraphic unit and feature according to standard practice including the use of a scale and north arrow.
- A Harris matrix will be prepared if required.
- All trenches will be 3D scanned when completed and a point cloud generated.

5.4.7 Artefacts

All artefacts will be managed in accordance with the project Artefact Conservation Management Plan (ACMP). This includes the following:

- All artefacts will be retained except for those that come from unstratified fill.
- All artefacts will be collated by context number.
- Representative samples will be taken if there are large numbers of similar artefacts with low research potential or if they are fragmented. The decision to discard artefacts will be taken only by the Excavation Directors and notes will be taken of any material discarded.
- Representative samples will be taken of building materials in the event of demolition events or structural remains within the stratigraphy.
- A catalogue of artefacts will be prepared if required.
- Catalogued and boxed artefacts along with a copy of the excavation report and catalogue will be provided to the client for storage in a permanent repository to be identified by the Client.

5.4.8 Environmental Samples

- Samples of timber, soil, and other relevant materials will be taken where this evidence can be used to determine environmental conditions, the impacts of remediation or aspects of past occupation that might be identified from waste.

5.4.9 Reporting

- Within one week of the completion of excavations a short summary will be provided that demonstrates the work undertaken and initial conclusions.
- All site archive paperwork, including scale drawings, should be digitise and original copies scanned
- All digital survey should be processed and a shape file, in a commonly accessible format, should be generated
- Using this generated data, a comprehensive Excavation Report will be written that satisfies Ministers Conditional of Approval E62. This Excavation Report will:
  - Fully explains the archaeological program and all works that occurred
  - Describes and contextualises the archaeological stratigraphy and features and fully encapsulates the results of the excavation
  - Uses the artefact information to address the site chronology, and individual research questions

- Interprets the site formation processes, and archaeological record to address the research questions and provide advice on future works.
- Revises the established history of the site in light of new evidence

5.4.10 Excavation Team

The Primary Excavation Director will be Wendy Thorp (CRM for RPS) and the Secondary Excavation Director will be Dr Gary Marriner (RPS). The excavation team will utilise Irek Golka (RPS) and Yolanda Pavincich (RPS). Site survey will be undertaken by RPS and Mechanical excavation by Archstone.

6 REFERENCES

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6.3 Newspapers

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Jacobs (2020) Technical Working Paper: Non-Aboriginal Heritage. Archaeological Research Design and Methodology for the BP Site

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6.5 Maps and Plans

Detail from “Survey of Port Jackson, NSW” 1822, (John Septimus Roe NLA, Map British Admiralty Special Map Col./31)

Plan of the Allotments of Land on the Crows Nest Estate ML M2 811.1411/1852?/1

Plan of the Torpedo Corps Base in 1915 (Naval Chart State Library of NSW file FL3496471 *Sydney Harbour Dawes Point to Spectacle Island* 1915

LPI NSW: Folio Plan 180075

6.6 Images

Berry's Bay in 1927 (Sydney Long, Berry's Bay 1926. Line etching, ink on paper. Art Gallery NSW Accession Number 9883)

Down the Hills to Berrys Bay (1916) Roland Wakelin (Oil Painting Reproduction Stanton LPF 0522)

Quarantine Launch from Berry's Bay c. 1912 (Stanton Library LH REF PF733)

Panorama of Sydney Harbour Looking towards Berry's Bay and the project site showing the still dense cover of vegetation in the later part of the nineteenth century (Holtermann Collection ML)

Aerial view of the Commonwealth Oil Refinery in c. 1940; after the removal of the stone warehouse (E. W. Earlie NL PIC P838/2179 LOC PIC Album 172)

6.7 Websites

https://caportal.com.au/tfnsw/berrys-bay

https://www.bp.com/en/global/corporate/who-we-are/our-history/early-history.html

Appendix A Berrys Bay Masterplan