

STATEMENT OF HERITAGE IMPACT

Proposed Drainage Works at Hornby Lighthouse Watsons Bay



Job No. 10519
March 2025

Heritage21
CULTURAL BUILT HERITAGE IN THE 21ST CENTURY

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Acknowledgement of Country

Heritage 21 wishes to acknowledge the Traditional Owners of country throughout Australia and recognise their continuing connection to land, waters and community. We pay our respects to them and their cultures and to elders both past and present.

Name of the heritage item:

South Head Cultural Landscape (including RMP 9-inch and 12-ton gun);
Hornby Lighthouse group comprising: Hornby Lighthouse and interiors; 2 cottages and interiors; gun emplacements and fortifications

State Heritage Register / LEP heritage schedule item number and name:

02071 – State Heritage Register
I462 – Woollahra Local Environmental Plan 2014
SHI 4560002 – Port Authority of NSW Section 170 Heritage and Conservation Register

Address and location:

South Head (inner) (within South Sydney Harbour National Park)

Statement of heritage impact for:

Proposed removal of 150-250mm of soil surrounding the lighthouse for contamination remediation works and introduction of new drainage works including backfilling of the site with clean drainage fill, topsoil and turf.

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Cover image: View to Hornby Lighthouse, external facade.
(Source: Heritage 21, 28 August 2024)

The following table forms part of the quality management control undertaken by Heritage 21 regarding the monitoring of its intellectual property as issued.

Issue	Description	Date	Written by	Reviewed by	Issued by
1	Draft report (D1) issued for comment.	24.02.2025	EM	-	EM
2	Report issued (RI).	10.03.2025	EM	-	EM

1.0 INTRODUCTION

1.1 Background

This Statement of Heritage Impact (“SOHI” or “report”) has been prepared on behalf of Port Authority of NSW to accompany an application made under Section 60 of the *Heritage Act 1977*, submitted to Heritage NSW for removal of soil for contamination remediation works and drainage works proposed to Hornby Lighthouse, Watson’s Bay.

In 2024, largescale conservation works were completed to Hornby Lighthouse (owned and operated by Port Authority of NSW), approved under NSW Government Gazette No 9, dated 13 January 2023. The removal of 150-250mm of soil surrounding the lighthouse for lead remediation and drainage works were not captured within the original scope of conservation works.

A Baseline Archaeological Assessment by AMAC Archaeological is attached at Appendix A and an Aboriginal Cultural Heritage Assessment Report by AMAC Archaeological is attached at Appendix B. Further information regarding the contamination can be found at Appendix C which contains the Preliminary and Detailed Site Contamination Investigation, prepared by Geo-Environmental Engineering.

1.2 Site Identification

The subject site is located at South Head, within the Sydney Harbour National Park, which falls within the boundaries of the Woollahra Local Government Area (LGA) and it comprises Lot 415 DP 752011. As depicted in Figure 1 below, the site is located on the eastern side of South Head and faces towards the ocean. Hornby Lighthouse is a red and white painted sandstone masonry structure which was constructed in the mid-Victorian period (c.1858). The setting and topography of the site will be more fully described in Section 3.0 below.



Figure 1. Aerial view of the site, which is highlighted in yellow (Source: NSW Spatial Services, “SIX Maps,” accessed 20 March 2024 <http://maps.six.nsw.gov.au/>, annotated by Heritage 21).

1.3 Heritage Context

1.3.1 Heritage Listings

The subject site is listed as an item of environmental heritage under Schedule 5 of the Woollahra Local Environmental Plan 2014 (“WLEP”). It also is listed on the NSW State Heritage Register, the Port Authority of NSW Section 170 Heritage and Conservation Register, the National Trust Register (NSW), and the former Register of the National Estate.¹

The details of the listings follow:

¹ The Register of the National Estate ceased as a statutory heritage list in 2007, but it continues to exist as an inventory of Australian heritage places.

Statutory List – Legislative Requirements				
List	Item Name	Address	Significance	Item No.
Woollahra Local Environmental Plan 2014	Hornby Lighthouse group comprising: Hornby Lighthouse and interiors; 2 cottages and interiors; gun emplacements and fortifications	South Head (inner) (within South Sydney Harbour National Park)	Local	1462
State Heritage Register	South Head Cultural Landscape (including RMP 9-inch and 12-ton gun)	Cliff Street, Watsons Bay	State	02071
Port Authority of NSW Section 170 Heritage and Conservation Register	Hornby Lighthouse	Inner South Head	State	4560002
Non-Statutory List – Information Only				
List	Item Name/ Description			Item No.
National Trust Register - National Trust NSW	Inner South Head (Part of Hornby Light and Cottages Group)			7940/7941
Former Register of the National Estate	Hornby Lighthouse Hornby Lighthouse Group			2517 2516

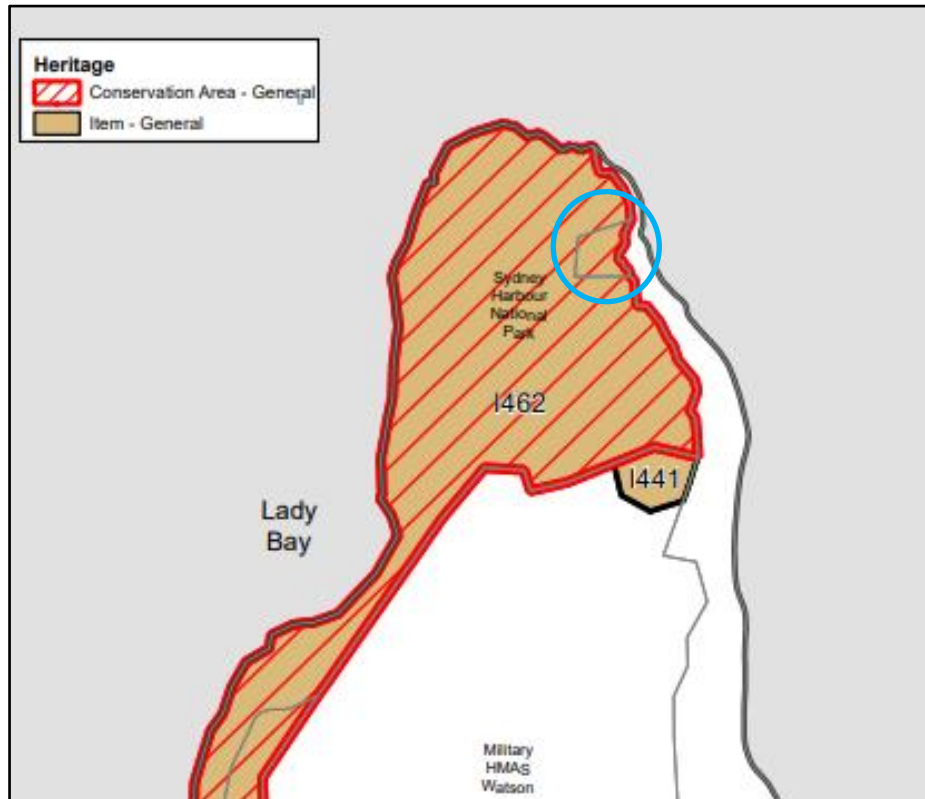


Figure 2. Detail from Heritage Map HER_004. The site is outlined in blue, heritage items shaded brown and heritage conservation areas are hatched red (Source: NSW Legislation Online, <https://www.legislation.nsw.gov.au/maps>, annotated by Heritage 21).



Figure 3. State Heritage Register – SHR 02071, Plan 3306 South Head Cultural Landscape (Source: NSW Government, State Heritage Inventory)

1.3.2 Heritage Conservation Areas (“HCA”)

As depicted in Figure 2 above, the subject site is located within the boundaries of the Watsons Bay Heritage Conservation Area (“HCA”), listed as “C14” under Schedule 5 of the WLEP 2014.

Properties located within the HCA fall into one of the three following classifications:

- Contributory Item – the property makes a positive contribution to the character and heritage significance of the HCA.
- Neutral Item – the property does not contribute nor detract from the character and heritage significance of the HCA.
- Non-Contributory Item – the property detracts from the character and heritage significance of the HCA.

Heritage 21 is of the opinion that the Hornby Lighthouse constructed in the mid-Victorian period (c.1858). is a contributory item within the HCA.

1.3.3 Heritage Items in the Vicinity

As depicted in Figure 2 above, the subject site is situated within the general vicinity of the following heritage item listed under Schedule 5 of the WLEP 2014. The details of the listings follow:

Item Name	Address	Significance	Item Number
South Head Artillery Barracks group comprising: officers’ quarters and interiors (asset 25); former officers’ mess and interiors (Cliff House quarters); former sergeants’ mess and interiors (officers’ quarters); former stable/carriage shed and interiors (garden store) (asset 29); gun carriage coach house and annex and interiors (garage/store) (asset 37); former guard house and interiors (asset 26); former artillery barracks and interiors (officers’ quarters) (asset 33); sandstone drainage moat and rifle post wall (adjoining asset 28); 80 pounder battery and five connected gun emplacements (1871/2) (north of asset 25); World War 1 and World War 2 artillery fortifications on seaward cliffs; HMAS Watson’s Naval Memorial Chapel of St. George the Martyr and interiors; Aboriginal rock carving seaward side of Chapel (spotlight mounted within)	HMAS Watson	Local	I441

The proposed works at the subject site would be limited to introduction of new drainage works and lead remediation works by removal of the soil surrounding the lighthouse and as such the proposed works are not located within the visual catchment of the aforementioned heritage item, nor is it considered to be sufficiently proximate to those places to warrant discussion in the Heritage Impact Assessment contained in Section 7.0 of this SOHI.

1.4 Purpose

The subject site is a heritage item listed on the NSW State Heritage Register. Section 60 of the *Heritage Act 1977* (NSW) requires the NSW Heritage Council, as the approval body, to assess the potential impact of non-exempt works (such as those described in Section 5.0 of this report) on the heritage significance of the item. Heritage 21 has carried out an independent assessment of the proposed works, which is presented in Section 7.0 of this report. Accordingly, this report provides the Heritage Council, as the approval body, to make an assessment of the proposal on heritage grounds.

1.5 Methodology

The methodology used in this SOHI is consistent with *Guidelines for preparing a statement of heritage impact* (2023) and *Assessing heritage significance* (2023) published by the NSW Department of Planning and Environment, *Standard Exemptions from Works Requiring Heritage Council Approval* (2006) published by the Heritage Division of the NSW Office of Environment and Heritage, and has been prepared in accordance with the principles contained in the 2013 edition of *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance*.

1.6 Limitations

- This Statement of Heritage Impact (“SOHI”) is based upon an assessment of the heritage issues only and does not purport to have reviewed or in any way endorsed decisions or proposals of a planning or compliance nature. It is assumed that compliance with non-heritage aspects of Council's planning instruments, the BCA and any issues related to services, contamination, structural integrity, legal matters or any other non-heritage matter is assessed by others.
- This SOHI essentially relies on secondary sources. Primary research has not necessarily been included in this report, other than the general assessment of the physical evidence on site.
- It is beyond the scope of this report to address Indigenous associations with the subject site.
- It is beyond the scope of this report to locate or assess potential or known archaeological sub-surface deposits on the subject site or elsewhere.
- It is beyond the scope of this report to assess items of movable heritage.
- Any specifics regarding views should be assessed by a view expert. Heritage 21 does not consider itself to be a view expert and any comments in this report are opinion based.
- Heritage 21 has only assessed aspects of the subject site that were visually apparent and not blocked or closed or to which access was not given or was barred, obstructed or unsafe on the day of the arranged inspection.

1.7 Copyright

Heritage 21 holds copyright for this report. Any reference to or copying of the report or information contained in it must be referenced and acknowledged, stating the full name and date of the report as well as Heritage 21's authorship.

2.0 HISTORICAL CONTEXT

The following is an extract from the Heritage Assessment Report, prepared by Kemp & Johnson Heritage Consultants for the current conservation works, dated February 2021:

Designed as a harbour light to guide shipping through the Heads, the Hornby Light, at slightly more than 9 metres in height is diminutive compared to most coastal lights directed to sea. It lacks the Doric elegance of taller towers such as Alexander Dawson's Port Stephens lighthouse. Constructed of locally-quarried sandstone, the tower was painted with red and white stripes to distinguish it from the nearby Macquarie Lighthouse. Dawson's drawing of the Hornby Light is held by State Records NSW; however, its location is currently unknown. The National Archives' larger collection of lighthouse designs holds no design records of this light, apart from designs for alterations and addition the two Keepers' cottages.

However, the tower and its setting was a favourite subject for photography and other graphic media so its exterior at least is well documented. The 1871 photo by Alexander Brodie depicts the resumption of work on the South Head battery while the images from 1875 record the battery's completed state. The picket fence surrounding the Lighthouse reserve seems to have appeared between 1875 and 1885.

The visual records also include two sketches by the prolific illustrator Samuel Thomas Gill.. Primarily based in Melbourne, ST Gill was in Sydney for most of the years between 1856 and 1862, sketching 'the principal buildings, churches, street and harbour views' and producing saleable lithographs of several. Gill's sketches are the earliest surviving views of the new lighthouse. One of them seems to show a straight flight of stairs running to the lighthouse entrance door. The existing stairs, attached to the curved face of the tower, were certainly in place by 1864 when they were depicted by the Illustrated Sydney News.

Given that the detail of Gills sketches is inaccurate in other ways - including the tower's proportions and fenestration - it is possible to doubt the accuracy of the stair detail. Another possibility is that the sketch was made during construction, when the stair was incomplete. During 1860 tenders were invited for the construction of 'additional Out-buildings at the Hornby Light-house. Tenders to be endorsed "Tenders for additions, Hornby Light-house"'.

Painting and routine maintenance of the Lighthouse was one of the duties of its Keepers, necessary in the harsh seaside location. However, the NSW Statistical Register recorded regular expenditure on the Lighthouse from 1860 when 'additions, repairs and fittings' were completed for £373.10.5. The following year 'additions etc.' cost £128.10.7. Until 1889 the Statistical Register recorded unspecified 'Repairs' almost annually, costing between £1 17 0 (1864) and £141 2 5 (1883).

During 1898 the Department of Public Works completed a report on all NSW lighthouses. The entry for the Hornby Light provides a detailed summary of the lighthouse structure:

Date of Construction: 1858

Latitude and Longitude: 33° 50' 21" S, 151° 18' 7" E

Description of light: 1st order catoptric fixed white.

Height of focal plane above high water mark: 90 feet.

Visible horizon in nautical miles: 11

No. of keepers: 3

Annual salaries: £513

Cost of erection: £5833

Tower: Situated on edge of cliff at Inner South Head Port Jackson. The tower is 25 feet high from ground to floor of lantern, painted outside in red and white stripes. Circular in plan 10 feet diameter with walls of 2 feet thickness at the bottom tapering to 1 foot thick at the top. Divided into 2 floors the lower floor used as an oil store an external flight of stone steps leading to the first floor the inner staircase from this level to the floor of lantern being of iron. The floors are of wood the walls are built of sandstone dressed both sides. The gallery round lantern is stone with an iron railing.

In 1901 the new Federal Government took charge of coastal lighthouses, including the Macquarie Light, while 'all beacons in the harbour, the Sow and Pigs lightship, as well as the Hornby Light, are now vested in the Harbor Trust Commissioners'. Gas replaced kerosene as the Hornby Light's fuel in 1905.

Since 1858 the light had been operated by a Lighthouse Keeper and two Assistant Keepers living in the nearby Keeper's cottage and the two semi-detached Assistants' cottages. Among their duties were signalling to ships via flags; by the 1930s radio communication with ships had usurped this role. The signal flagstaff, to the west of the tower and cottages, was removed. The cottages were taken over by the Défense Department for officers' accommodation though occasionally let to civilians.

During 1948 a more effective oscillating lens was installed at the Light; manufactured in London in 1877 it had been used in the warning light at Sow and Pigs reef in the Harbour. The new lens meant that the Light flashed regularly rather than emitting a constant beam. In 1966 the Light was upgraded from 100-watt power to 1000 watts.

Apart from improvements to the light, the National Archives extensive lighthouse collection holds no record of changes to the Hornby Light. For much of the twentieth century public access to Inner South Head was restricted due the increased use of the peninsula for military activity and installations, notably the artillery school established in 1912 and the training of conscript soldiers. South Head was a popular sightseeing locale, but only privileged ticket holders were permitted to enter the lighthouse reserve to view several major maritime events, including the departure of the US Fleet in 1908.

In 1977 the Army vacated South Head and the area was gazetted as part of Sydney Harbour National Park, although the light tower remains under the control of the Port Authority of NSW, successor to the Sydney Harbour Trust.



Figure 4. Entrance to Port Jackson, inner lighthouse and North Head. Gill, S.T. between 1856-1870 (Source. State Library Victoria, Record ID 9929895693607636)



Figure 5. Hornby Lighthouse, South Head, ca1900-1910 (Source. State Library NSW, Record Code 413132)

3.0 PHYSICAL EVIDENCE

3.1 The Setting

The site is located at South Head, within South Sydney Harbour National Park, which is part of Watsons Bay. The suburb of Watsons Bay is an eastern suburb of Sydney and is located approximately 11km north-east of the Sydney Central Business District.

South Head is a historic headland area which forms part of the entrance to Sydney Harbour. It contains numerous walking trails, Lady Bay Beach, lightkeepers cottages, and several gun emplacements. HMAS Watson, which is a Royal Australian Navy base, is located to the south of the subject site.

3.2 Physical Description

The following is an extract from the Port Authority of NSW Section 170 State Heritage Inventory for the site:

A small sandstone lighthouse structure erected in 1858. Constructed of curved dressed sandstone now painted to form a circular tapered tower with glass enclosed lamp above, set approx. 9 metres above ground and surrounded at the light housing level by a delicate nonferrous metal balcony and railing. The Lighthouse is painted in distinctive red and white stripes. It appears to have been painted in distinctive stripes from as early as the 1860s (NPWS 1999). This was to distinguish it from the nearby Macquarie Lighthouse. The light is currently powered by Mains electricity with a white light. Flash rate LFL5sec, 2 on 3 off (Sydney Ports Corporation 2004).²

The proposal would not involve any physical works to the structure of Hornby Lighthouse but would be limited within the immediate surroundings of the lighthouse structure. The works would be limited to the sub ground area around the Hornby Lighthouse and located to the north of the building. This area currently consists of a small open grassed area, with a downwards slope towards the north. The soil has been found to be contaminated with metals (specifically lead, copper and zinc) and, to a lesser extent, total recoverable hydrocarbons (TRH). The lead contamination may have resulted from lead-based paint used on the external façades of the lighthouse before the conservation works undertaken in 2024. There is also some evidence of protruding bed rock in this open grassed area, especially to the south of the lighthouse. The Hornby Lighthouse also consists of an existing drainage channel/outlet which is assumed to be 'blocked or damaged' based on the CCTV inspection undertaken there. The proposal would also include works to this drainage outlet. The blocked drainage channel has led to the water seeping in the surrounding soil and also impacting the bottom section of the sandstone masonry of the Hornby lighthouse.

² Port Authority of NSW Heritage Inventory, "Hornby Lighthouse", SHI Number: 4560002, dated 20 December 2022

3.3 Condition and Integrity

The Hornby Lighthouse underwent largescale conservation works in 2024, due to its poor condition. These works, completed in August 2024, have substantially enhanced the presentation of the tower and conservation of its significant heritage fabric.

3.4 Images

The following photographs have been taken by Heritage 21 at the site inspection undertaken on 22 November 2023 and 28 August 2024, unless stated otherwise.



Figure 6. External view to the lighthouse, at the completion of conservation areas in August 2024.



Figure 7. External view to the area of works, facing north.

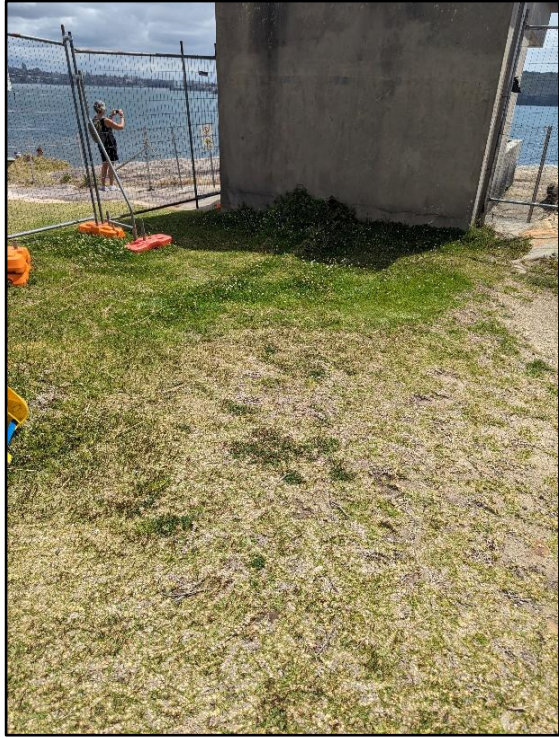


Figure 8. External view to the area of works, facing north.



Figure 9. View to damage on the base course of the lighthouse, due to water and soluble salt ingress (prior to the conservation works).



Figure 10. Section of study site north of Hornby Lighthouse, showing small amounts of fill on bedrock, facing south (Source. AMAC Group, 4 March 2024)



Figure 11. Section of study site south of Hornby Lighthouse, facing north (Source. AMAC Group, 4 March 2024)



Figure 12. Section of study site south of Hornby Lighthouse, facing south (Source. AMAC Group, 4 March 2024)

4.0 HERITAGE SIGNIFICANCE

In order to assess the impact of the proposed works on the heritage significance of the subject site and the Watsons Bay HCA (in which the subject site is located), it is necessary to first ascertain the heritage significance of these places. Accordingly, Statements of Significance for the subject site (refer to Section 4.1) and the Watsons Bay HCA (refer to Section 4.2) are provided below. The significance of these places will form part of our considerations in the assessment of heritage impact, undertaken in Section 6.0 below.

4.1 Established Significance

4.1.1 Hornby Lighthouse group comprising: Hornby Lighthouse and interiors; 2 cottages and interiors; gun emplacements and fortifications (Item 462)

The following Statement of Significance is available for the site on the State Heritage Inventory:

*The Hornby Light is one of the oldest extant lighthouses in Australia. It is a prominent and picturesque landmark with long historic associations in connection with the operation and management of the Port of Sydney and with important organisations such as the Colonial Architects office, army and military network and NPWS. The Hornby Lighthouse is an integral component in a system of lighthouses and other harbour lights that ensure the safe navigation of the Port of Sydney. This system of lighthouses and light towers is collectively of State significance.*³

4.1.2 Hornby Lighthouse (SHI Number: 4560002)

The following Statement of Significance for the site is an extract from the Port Authority of NSW Section 170 State Heritage Inventory for the site:

*Hornby Lighthouse is among the oldest extant lighthouses, still in operation in Australia. It is a prominent and picturesque landmark with long historic associations in connection with the operation and management of the Port of Sydney and with important organisations such as the Colonial Architects Office, army and military network and National Parks and Wildlife Service. Hornby Lighthouse is an integral component in a system of lighthouses and other harbour lights that ensure the safe navigation of the Port of Sydney. This system of lighthouses and light towers is collectively of State significance.*⁴

4.1.3 South Head Cultural Landscape (including RMP 9-inch and 12-ton gun) (SHR 02071)

The following Statement of Significance is available for the site on the State Heritage Inventory:

³ Heritage NSW, "Hornby Lighthouse group, comprising: Hornby Lighthouse and interiors; 2 cottages and interiors; gun emplacements and fortifications" State Heritage Inventory, Heritage Item ID: 2711418, accessed 20 March 2024, <https://www.hms.heritage.nsw.gov.au/App/Item/ViewItem?itemId=2711418>.

⁴ Port Authority of NSW Heritage Inventory, "Hornby Lighthouse", SHI Number: 4560002, dated 20 December 2022

As one of several dramatic headlands with soaring sandstone cliffs and open green spaces South Head is a prominent part of the outstanding natural beauty of Sydney Harbour. The South Head Cultural Landscape is of State heritage significance for its historic, associative, social, research, aesthetic/technical and rarity values.

South Head has strong historical and archaeological links to the Birrabirragal people of the Eora Nation, containing markers of Aboriginal occupation into the middle of the 19th century including that of Cora Gooseberry, significant Aboriginal leader and a wife of Bungaree.

As the likely site of the first landfall of Captain Arthur Philip, the South Head Cultural Landscape contains many elements which demonstrate important themes in the history of Australia and NSW. Green Point (Laing's Point) and the beach at Camp Cove are well-documented sites of very early encounters between English and Indigenous people in 1788 and early 1789.

Tangible evidence of the history of Sydney's working harbour and its role in defence remains at South Head. Links to the Water Police service in Australia include slipways and archaeological remains of boat sheds constructed at Camp Cove for the police upon their professionalisation in 1840. The 1890s built Constable's Cottage was Sydney's second Water Police Station and a rare and important example of military accommodation in NSW.

Marking the entrance to Sydney Harbour the Hornby Lighthouse and the lightkeepers cottages, designed by NSW Government Architects Alexander Dawson and James Barnet, illustrate a major leap in maritime safety in NSW and are a rare and intact example of a 19th century light station in NSW.

The fortifications at Inner South Head form part of an important and extensive defence system developed along the Sydney coastline in the 1850s and modified at various times until the end of the Second World War. The surrounding area and the coastline at Lady Bay were also part of the first submarine defence installation built in Australia. The military links to the area persist into the present day, with HMAS Watson being located on the head.

In more recent years the recreational value of South Head, as part of Sydney Harbour National Park and as one of a series of semi-natural areas that circle the harbour has been recognised. Lady Bay is one of a few nude bathing beaches in Sydney and was one of the first to be officially designated as such in 1976 and its use by the community continues to this day.⁵

4.2 The Watson's Bay HCA

The following Statement of Significance is available for the Heritage Conservation Area on the State Heritage Inventory:

⁵ Heritage NSW, "South Head Cultural Landscape (including RMP 9-inch 12-ton gun" State Heritage Inventory, Heritage Item ID: 5066508, accessed 20 March 2024, <https://www.hms.heritage.nsw.gov.au/App/Item/ViewItem?itemId=5066508>.

Watsons Bay is a place of great natural and scenic beauty. It is a rare combination of a dramatic and varied coastal landscape and a village that evolved from the first landing point in Sydney Harbour in 1788, the third permanent settlement in New South Wales from 1790 and a pilot station established in 1792.

It conveys a strong sense of its maritime heritage in its built and landscape features that evidence four key historic themes:

- The growth of a village: Evident in the subdivision and development pattern that occurred during the 19th century and continued throughout a number of phases. These phases are demonstrated in the range of building types still present in the area, from moderately scaled fisherman's cottages, more substantial houses and marine villas to Inter-war period housing and community buildings.*
- Navigation: Evidenced by the key role South Head has played in piloting ships into Sydney. A number of navigation structures, such as the lighthouse, wharves and jetties, have important historic and aesthetic significance.*
- The defence of Sydney at The Heads: Reflected in the 19th century South Head batteries and artillery establishment, complex of fortifications, HMAS Watson and the extent of the untouched landscape typical of defence occupation of the foreshores.*
- Recreation and tourism: Dating from as early as 1803, there has been a strong emphasis on water related tourism facilities, such as hotels, beach promenades and parks. Tourism was further enhanced as a result of the area's association with shipwrecks and by association with important cultural figures such as Christina Stead and Zane Grey. The extensive and varied landscape and village character also contributes to the appeal of Watsons Bay to tourists.⁶*

⁶ Heritage NSW, "Watsons Bay Heritage Conservation Area," State Heritage Inventory, Heritage Item ID: 2712297, accessed 20 March 2024, <https://www.hms.heritage.nsw.gov.au/App/Item/ViewItem?itemId=2712297>.

5.0 WORKS PROPOSED

5.1 Proposal Description

The proposed works would include:

- Remediate the contaminated soils immediately surrounding Hornby Lighthouse. The soil, assumed to be approx. 150-250mm deep overlying natural rock outcrop, would be excavated and replaced with clean drainage fill, topsoil and turf. These works would also include regrading the surrounding ground level to address existing areas of ponding ensure that the water flows to the north and away from the lighthouse following existing flow paths.
- The installation of a porous “Agline” within the reinstated fill to direct flow away from the lighthouse basement. The “Agline” would be fully contained within the body of the reinstated fill and not visible.
- Existing drainage channel of the Hornby Lighthouse to be cleared of accumulated soil and grass.

5.2 Background

5.2.1 Pre-lodgement Consultation

There has been no pre-lodgement consultation with Heritage NSW for these works.

5.2.2 Considerations of Alternatives

Heritage 21 was not involved in the design process of the proposed development. Notwithstanding, no solutions of greater sympathy with the significance of the subject site, heritage conservation area or heritage items in the vicinity are known to us. The proposed solution was developed to reduce the impacts of the first solution which proposed installing fixed drainage pipes into the rock which would have been more intrusive, especially with regard to potential Aboriginal cultural heritage.

5.3 Drawings

Our assessment of the proposal is based on the following drawing prepared by PCB Building, dated 18 April 2024, and received by Heritage 21 on 18 February 2025. These are reproduced below for reference only; the full set of drawings accompanying the s60 application should be referred to for any details.

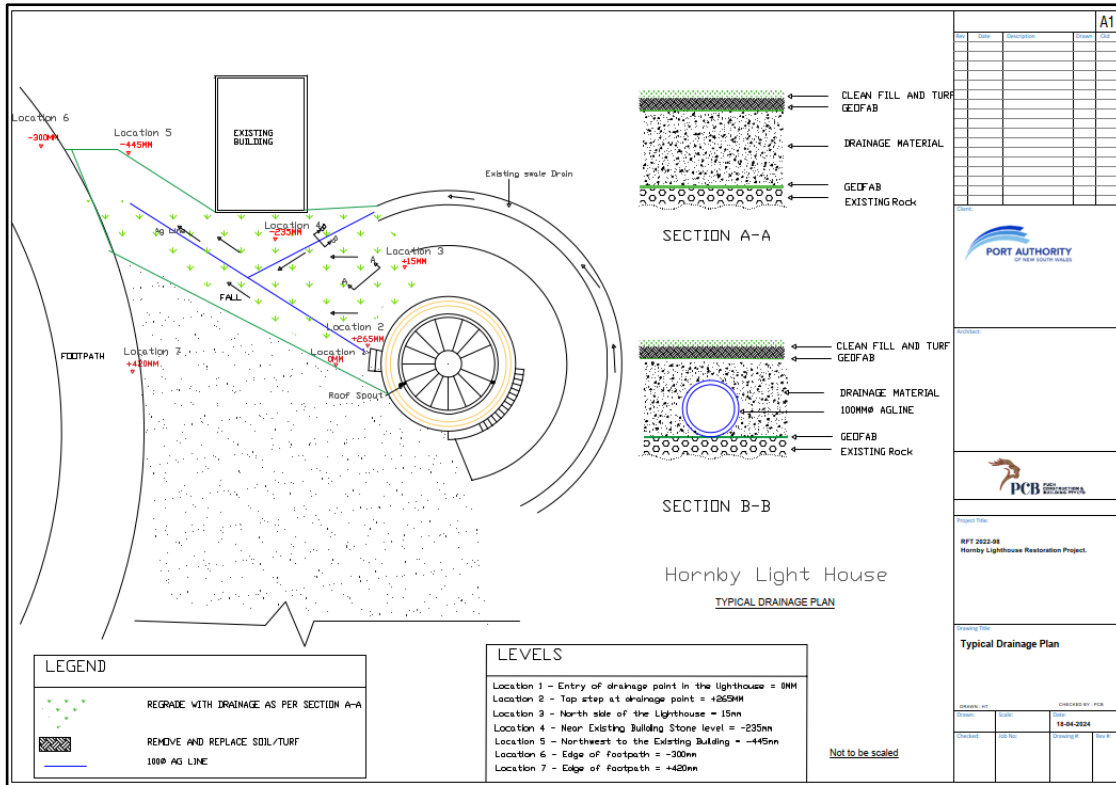


Figure 13. Typical Drainage Plan

6.0 HERITAGE MANAGEMENT FRAMEWORK

Below we outline the heritage-related statutory and non-statutory constraints applicable to the subject site including the objectives, controls and considerations which are relevant to the proposed development as described in Section 5.0 above. These constraints and requirements form the basis of this Heritage Impact Assessment.

6.1 State Environmental Planning Policy (Transport and Infrastructure 2021)

The proposed works are development permitted without consent as ‘environmental management works’ pursuant to clause 2.80(2)(a) and 2.87(7)(c) and, as such, are being assessed separately in a Review of Environmental Factors with Port Authority of NSW as the proponent and primary determining authority.

6.2 Woollahra Local Environmental Plan 2014

As the works are development permitted without consent, the requirements for consent under the *Woollahra Environmental Plan 2014* (“WLEP”) are not applicable. However, the relevant clauses of the *Woollahra LEP 2014* have been considered as part of the heritage impact assessment. The relevant clauses for the site and proposal are outlined below:

- (1) Objectives
- (2) Requirement for consent
- (4) Effect of proposed development on heritage significance
- (5) Heritage assessment

6.3 Woollahra Development Control Plan 2015

These works are development permitted without consent; however, our assessment of heritage impact also considers the heritage-related sections of the *Woollahra Development Control Plan 2015* (“WDCP”) that are pertinent to the subject site and proposed development. These include:

Part C – Heritage Conservation Areas

Chapter C3 – Watsons Bay Heritage Conservation Area

6.4 Heritage Act 1977 (NSW)

The subject site is listed on the NSW State Heritage Register. Listing on the state heritage register provides statutory heritage protection to the site under the *Heritage Act 1977* (“the Act”).

Listing on the State Heritage Register signifies that the site is:

- Of particular importance to the people of NSW and enriches the understanding of our history and identity;
- Is legally protected as a heritage item under the NSW *Heritage Act*; and

- Requires approval from the Heritage Council of NSW for major changes.

The proposed works are to be assessed under the provisions Section 60 of the *Heritage Act 1977*, which apply to non-exempt works at places listed on the NSW State Heritage Register. This Statement of Heritage Impact has been prepared by Heritage 21 in order to allow the Heritage Council of NSW to assess the potential heritage impact of the proposed works.

6.5 NPWS Lighthouses – Conservation Management Plan

Our assessment of heritage impact also considers the relevant sections of the NPWS Lighthouses Conservation Management Plan (CMP), prepared by Graham Brooks and Associates Pty/Ltd in 2001, and endorsed by NSW Heritage Council in 2002 (note that this document expired in 2007; however, it has been referenced as a revised CMP is not publicly available).

The relevant policies from Chapter 4.0 - Primary Conservation Policies for the Hornby Lighthouse Cottages of the CMP include:

- *The buildings and site elements shall be conserved by the implementation and long-term continuation of a rigorous, cyclical and appropriate maintenance regime, starting immediately. This regime shall seek to maintain the buildings and site elements in a character and condition that equates to the time when the complex was an operating lighthouse facility, with a full-time staff.*

The following conservation policies from Chapter 5.0 - Site Specific Conservation Policy Implementation of the CMP are also relevant to the subject site:

5.5 Historical Archaeology Policy Implementation

SHORT TERM

- *Review known information regarding historical archaeological resources.*
- *Collect copies of relevant historical documentary material that may provide background research in future archaeological assessments.*

MEDIUM TERM

- *Undertake an upgraded documentary assessment of the defense sites on the headland to provide additional information for the zoning and interpretation plans.*
- *Formulate an archaeological zoning plan for the Headland, taking particular note of the 19th century and WW2 defence sites, gun emplacements and the colonial period cobblestone road.*
- *Undertake additional archaeological assessments of areas with known potential, particularly if development or infrastructure proposals are under consideration.*

LONG TERM

- *Ensure that any archaeological management activities are undertaken in accordance with the NSW Heritage Act and Service policies.*

6.6 Port Authority of NSW Heritage Inventory – Hornby Lighthouse

Our assessment of heritage impact also considers the Recommended Management for the subject building within the s170 Heritage and Conservation Register for the subject site. These are as follows:

Retain in situ and conserve

Preparation of an updated Heritage Interpretation for the site

Preparation of a more detailed and comprehensive SHI form for the site commensurate to the item's assessed significance, and surrounding context including Aboriginal history.⁷

6.7 NSW Department of Planning and Environment Guidelines

In its guidelines for the preparation of Statements of Heritage Impact, the NSW Department of Planning and Environment provides a list of considerations in the form of questions aiming at directing and triggering heritage impact assessments.⁸ These are divided into sections to match the different types of proposals that may occur on a heritage item, item in a heritage conservation area or in the vicinity of heritage. Below are listed the considerations which are most relevant to the proposed development as outlined in Section 5.0 of this report.

New landscape works and features

- *How has the impact on the heritage significance of the existing landscape been minimised?*
- *Are works to the landscape or pathways necessary to comply with the access requirements of the Disability Discrimination Act 1992?*
- *Has evidence (archival or physical) of previous landscape work been investigated? Is the original landscape work being reinstated?*
- *Will any known or potential archaeological relics be affected by the landscape works? How will this be mitigated? Has advice been sought from a suitably qualified archaeologist?*
- *Do the proposed works impact views to, from and within adjacent heritage items?*

⁷ Port Authority of NSW Heritage Inventory, "Hornby Lighthouse", SHI Number: 4560002, dated 20 December 2022

⁸ Department of Planning and Environment, *Guidelines for preparing a statement of heritage impact* (Paramatta: Department of Planning and Environment, NSW Government, 2023), <https://www.environment.nsw.gov.au/research-and-publications/publications-search/statements-of-heritage-impact>.

7.0 HERITAGE IMPACT ASSESSMENT

Below we assess the impact that the proposed development would have upon the subject site and the Watsons Bay Heritage Conservation Area in which it is located. This assessment is based upon the Historical Context (refer to Section 2.0), the Physical Evidence (refer to Section 3.0), Heritage Significance (refer to Section 4.0) the Proposal (refer to Section 5.0) and a review of the Heritage Management Framework (refer to Section 6.0).

7.1 Summary

The proposed soil remediation and drainage works pertain to the Hornby Lighthouse, located at South Head, Watsons Bay, Sydney. Hornby Lighthouse forms part of the South Head Cultural Landscape (including RMP 9-inch and 12-ton gun) listing, on the State Heritage Register (SHR 02071). It is separately listed on the Port Authority of NSW Section 170 Heritage and Conservation Area (SHI: 4560002). It also is associated with Hornby Lighthouse group comprising: Hornby Lighthouse and interiors; 2 cottages and interiors; gun emplacements and fortifications, listed under Schedule 5 of the *Woollahra LEP 2014* (Item I462).

During 2024, extensive conservation works occurred at Hornby Lighthouse, endorsed within NSW Government Gazette No 9, dated 13 January 2023. The soil remediation and drainage works, which form a part of this s60 Fasttrack application to Heritage NSW have not been captured within the original approved scope of works. These drainage works were identified during the conservation works in 2024 as a necessary passive conservation treatment to protect the fabric of the lighthouse.

Once the works commenced on site for the conservation of the Hornby lighthouse, it was noted during the testing conducted by PCB Building and Geo-Environmental Engineering, within their Preliminary and Detailed Site Contamination Investigation (located at Appendix c), that the soil was contaminated with metals (specifically lead, copper and zinc) and, to a lesser extent, total recoverable hydrocarbons (TRH). As a result, it was recognised that remediation works would need to be undertaken for the soil surrounding the lighthouse and a Remedial Action Plan was prepared by Geo-Environmental Engineering. The proposed additional works involve the remediation of contaminated soils immediately surrounding Hornby Lighthouse. The soil, assumed to be approx. 150-250mm deep overlying natural rock outcrop, would be excavated and replaced with clean drainage fill, topsoil and turf. Following that, a porous “Agline” would be introduced within the reinstated fill to direct flow away from the lighthouse basement. The “Agline” would be fully contained with the body of the reinstated fill and not visible.

The proposal would not involve any physical works to the significant fabric of the Hornby Lighthouse, nor would they have any visual impact on the item. Whilst there is no specific Recommended Management for the South Head Cultural Landscape (including RMP 9-inch and 12-ton gun) listing, on the State Heritage Register (SHR 02071), the works would not in any way visually detract from the Hornby Lighthouse which is considered significant in this context for marking the entrance to Sydney Harbour and as intact example of a 19th century light station. The Recommended Management for

the Hornby Lighthouse, for the s170 Heritage and Conservation Register listing, notes that the lighthouse should be retained and conserved in situ. We are of the opinion the proposed works are in accordance with that guideline.

Generally, these works are considered to be conservation works, as they would prevent further deterioration to the item as a result of ongoing water and soluble salt ingress to the sandstone masonry.

7.2 Archaeological Assessment

We also note that the proposed works would involve excavation works in the immediate vicinity of the lighthouse structure for the lead remediation works. Heritage 21 has considered the following extract from the Hornby Lighthouse Section of CMP:

HISTORICAL ARCHAEOLOGICAL RESOURCES

The Lighthouse precinct has the potential to yield information related to the initial construction of the complex and subsequent use and development of the area through the surviving archaeological material. It should be regarded as an area of high archaeological sensitivity

In addition to the Lighthouse aspects there is considerable material relating to the Military use and association with the headland which spans pre-Lighthouse to the present. Camp Cove is one of the most historic precincts of Sydney. The convict built cobblestone access road is of considerable significance and adds another dimension to the place which can contribute to the overall story of the headland. (p 21).⁹

Due to this, Heritage 21 thought it pertinent to also include an archaeological assessment within the Fasttrack S60 application. A Baseline Archaeological Assessment was prepared by AMAC Archaeological, dated March 2024 (located at Appendix A of this report). It was determined that there would be no negative impact to the values of the site as no relics are known to exist within the study site boundary. However, it was recommended within this report that an unexpected finds protocol is developed and implemented by the contractors conducting the works as a mitigation measure.

An Aboriginal Cultural Heritage Assessment Report, also prepared by AMAC Archaeological, dated January 2025 (located at Appendix B) was also prepared due to the presence of a registered Aboriginal site, AHIMS Site #45-6-0715, on the sandstone outcrop with includes Hornby Lighthouse. We note that an Aboriginal Heritage Impact Permit (AHIP) will be obtained for these works and all recommendations within this report would be followed.

⁹ Graham Brooks and Associates Pty Ltd et al, 2001, *NSW National Parks and Wildlife Services – NPWS Lighthouses*, pg.21

8.0 CONCLUSION & RECOMMENDATIONS

8.1 Impact Summary

The NSW Department of Planning and Environment's guidelines require the following aspects of the proposal to be summarised.¹⁰

8.1.1 Aspects of the proposal which respect or enhance heritage significance

In our view, the following aspects of the proposal would respect the heritage significance of the subject site:

- The proposal would not involve any physical works to the significant fabric of Hornby Lighthouse;
- The proposed works would be sub-ground and would have no visual impact to the subject building;
- The proposal aims to improve upon the current surface and subsurface drainage at the site to avoid water accumulation on the Ground floor of the Hornby Lighthouse; and
- The archaeological assessment, prepared by AMAC Archaeological, dated March 2024, determined that there would no negative impact to the value of the site.

8.1.2 Aspects of the proposal which could have detrimental impact on heritage significance

In our view, there are no aspects of the proposal which could be detrimental to the significance of the subject site. The positive impacts of the proposal have been addressed above in Section 8.1.1.

We note that recommendations for mitigation measures have been proposed by AMAC Archaeological in their assessment, dated March 2024.

8.2 General Conclusion

Heritage 21 is therefore confident that the proposed development complies with pertinent heritage controls and would have a positive impact on the heritage significance of the subject site. We therefore recommend that Heritage NSW view the application favourably on heritage grounds.

¹⁰ Graham Brooks and Associates Pty Ltd et al, 2001, *NSW National Parks and Wildlife Services – NPWS Lighthouses*, pg. Department of Planning and Environment, *Guidelines for preparing a statement of heritage impact*.

9.0 SOURCES

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APPENDIX A

Baseline Archaeological Assessment – Hornby Lighthouse, Watsons Bay

Prepared by AMAC Archaeological

March 2024

APPENDIX B

Aboriginal Cultural Heritage Assessment Report

Prepared by AMAC Archaeological

January 2025

APPENDIX C

Preliminary and Detailed Site Contamination Investigation Report

Prepared by Geo-Environmental Engineering

3 December 2024