HERITAGE IMPACT STATEMENT

Glebe Island Silos
Victoria Road, Glebe Island

January 2019 | J3362

Weir Phillips Heritage

Level 19, 100 William Street,
Woolloomooloo NSW 2011
Phone: (02) 8076 5317

CONTENTS **PAGE**

1 INTRODUCTION

1.1 Preamble

This Heritage Impact Statement (HIS) has been prepared in conjunction with a Development Application for remediation works to the Glebe Island Silos, Glebe Island, NSW.

The site is located within Bays Precinct State Significant Development Site. The principal planning control for the site is the *Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005, State Environmental Planning Policy (State Significant Precincts) 2005 and the Sydney Regional Environmental Plan No 26-City West.* The site is listed on the Sydney Ports Corporation s.170 register (Listing No. 4560016) under the auspices of the *NSW Heritage Act 1977*.

The subject site is within the area of 'Sydney Harbour Port and Related Employment Lands' under SEPP (State Significant Precincts). In accordance with Schedule 6, Clause 4 of this SEPP, the Minister is the consent authority, as the proposed development is within the aforementioned area, has a capital investment value of less than $10 million, and is being carried out by a party other than a public authority.

This statement has been prepared at the request of Cement Australia and accompanies plans prepared by Aurecon.

1.2 Authorship

This statement has been prepared by Anna McLaurin, B.Envs. (Arch.), M.Herit.Cons., and James Phillips, B.Sc.(Arch), B.Arch, M.Herit.Cons.(Hons), of Weir Phillips Heritage.

1.3 Limitations

A land title search was not provided for. Research was limited to readily available sources.

1.4 Methodology

This HIS has been prepared with reference to the NSW Heritage Division publication *Statements of Heritage Impact* (2002 update).

A site visit was carried out in October 2018. Unless otherwise stated, the photographs contained in this statement were taken at this time.

1.5 Documentary Evidence

1.5.1 General References

- Reynolds, Peter, Glebe Island, Dictionary of Sydney, 2008, http://dictionaryofsydney.org/entry/glebe_island, viewed 06 Nov 2018
- GML Heritage (2011) Glebe Island Silos Olympic Mural – Heritage Assessment Report

1.5.2 Heritage Listing Sheets

- *Glebe Island Silos*, Victoria Road, Glebe Island, NSW State Heritage Inventory No.: 4560016
- *Glebe Island Bridge,* Bank Street, Victoria Road, Pyrmont State Heritage Inventory No. 5051118
- White Bay Power Station, Victoria Road, Rozelle. State Heritage Inventory No.: 5001335

1.5.3 Planning Documents

- *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act)
- *NSW Heritage Act 1977*
- *Sydney Regional Environmental Plan* (Sydney Harbour Catchment) 2005
- *State Environmental Planning Policy* (State Significant Precincts) 2005
- *Sydney Harbour Foreshores and Waterway Area Development Control Plan 2005*
- *Sydney Regional Environmental Plan No 26-City West*

1.6 Site Location

The site is located at the south western end of Glebe Island to the north of Anzac Bridge along Sommerville Road. (Figure 1).

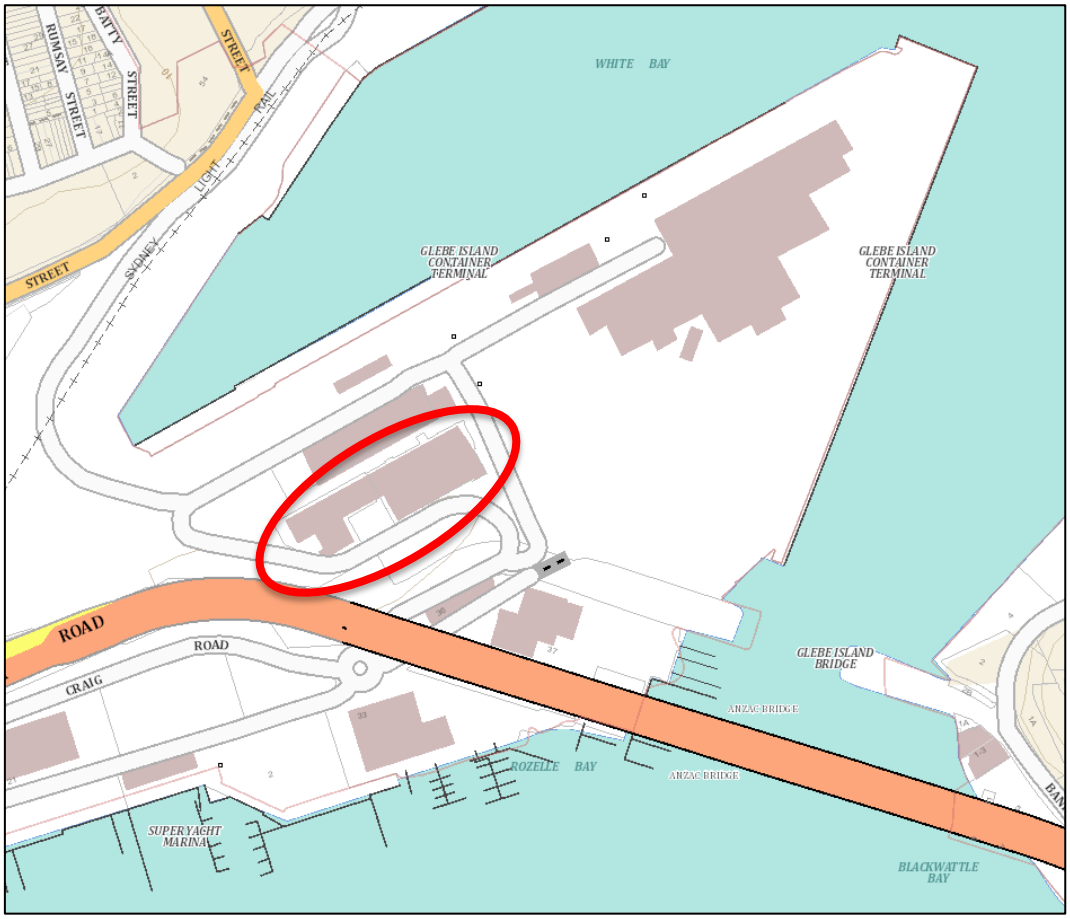

Figure 1: Approximate site location outlined in red.

SIX Maps 2018. Annotations by WPH.

2 BRIEF OUTLINE OF THE HISTORICAL DEVELOPMENT OF THE SITE

The following is a summary of the history of Glebe Island and the Glebe Island Silos has been sourced from the Dictionary of Sydney entry (2008) by Dr. Peter Reynolds.[1] As well as GML Heritage (2011) Glebe Island Silos Olympic Mural – Heritage Assessment Report.

2.1 Glebe Island

The rocky outcrop known as Glebe Island was originally accessible from the Balmain shoreline only at low tide until a causeway was laid in the 1840s. In 1841 surveyor William Wells created a subdivision for the Balmain end of the island with four intended streets and six sections containing a total of 86 lots. The subdivision did not eventuate.

2.2 Abattoirs and bridges

In 1850–54 Colonial Architect Edmund Blacket designed stone buildings for a public abattoir on the island. According to Joan Kerr, Blacket's chosen architecture was Norman in inspiration – round-headed openings and simple decoration. Kerr states that the abattoir was almost certainly based on an American design.

On 7 September 1860, Balmain Council resolved to approach the owners of the unsold parts of the Balmain Estate for a grant of land to build a road to the island. The Pyrmont Bridge Company built a low-level timber-framed bridge that connected the island to Pyrmont, and thus to the city, in 1861. See Figure 2.

The abattoirs featured prominently in the 1882 Royal Commission into noxious and offensive trades, instigated by complaints from Balmain and Glebe Point residents. The commission found that in 1882, 524,415 sheep, 69,991 cattle, 31,269 pigs and 8,348 calves were slaughtered there.

On 28 June 1903 the new bridge to Pyrmont, designed by Percy Allan, Assistant Engineer for Bridges in the NSW Department of Public Works, opened. Like the ground-breaking Pyrmont Bridge being built at the same time, the second Glebe Island Bridge was a swing bridge swivelling on a massive central stone pivot-pier with timber-trussed side spans. The two bridges 'are among the structures standing as monuments' to Allan's skill. Under the Local Government Act of 1906, the 34-acre (13.7-hectare) Glebe Island was added to the municipality of Balmain.

See Figure 3 for a photograph of the Blackett Designed Abattoirs prior to the demolition.

2.3 Wharves and silos

From 1912, the Sydney Harbour Trust (later Maritime Services Board) planned broadside wharfage at Balmain East and along the southern shore of Balmain, including Glebe Island. Also in 1915 the Metropolitan Meat Industry Board resolved to abolish the abattoirs and build a new facility at Homebush. By 1915 Robert Saunders, the Pyrmont quarry master, had been commissioned to level the island to make it suitable for wharves. Saunders's firm dumped a great quantity of excavated ballast at the eastern end of the island for wharfage. Many cubic feet of quality dimension stone, however, were carefully cut away and almost certainly used for construction projects. Some 250 of Saunders's men were still working on the island in 1920.

Glebe Island was an early success for the Harbour trust. Wharves were built on three sides of the levelled rocky outcrop from 1912. The reconstructed fourth side was attached to

[1] Reynolds, Peter, Glebe Island, Dictionary of Sydney, 2008, http://dictionaryofsydney.org/entry/glebe_island, viewed 23 Oct 2018

the Rozelle shoreline as part of the extensive reclamation of Rozelle Bay and White Bay which had begun in the 1890s.

Glebe Island became the site of a grain elevator and tall concrete silos, operated from 1921 by the Grain Elevators Board of NSW. The 1958 Australian Encyclopaedia records that the bulk wheat terminal had a capacity of 7,500,000 bushels (202,500 tonnes). See Figures 4-6 showing the silos under construction.

During World War II, Glebe Island was used as a major armament supply depot and troop embarkation area for the U S Army. By the 1950's horizontal silos were replacing vertical ones and the Grain Elevators Board was established. Record wheat harvests and the post war growth led to further expansion in the 1960's and in the 1970's other grains were also handled and capacity was doubled. The then NSW Governor Sir Roden Cutler opened a $4 million extension to the system, including included 30 cylindrical concrete silos 38.4 m high, each having a capacity of 2,400 tonnes.

However in 1984 Glebe Island ceased operation as a grain storage terminal when a new facility at Port Kembla became the major grain export site for NSW.

In 1994 part of the silo complex was modified for cement storage. The complex is also used for sugar storage.

In the 1990s a high-level, cable-stayed, reinforced concrete six-lane bridge spanning 345 metres between two 120-metre towers was built above the older Allan-designed Glebe Island Bridge. Named Anzac Bridge, the arterial structure opened on 3 December 1995. See Figure 7.

In the lead up to the Sydney Olympics in 2000, the silos were painted to mimic Grecian columns and a massive entablature was attached to the top of the structure to take advertising. With the lack of research characteristic of such claims, it is often referred to as 'the largest billboard in the southern hemisphere'. The murals do not form part of the heritage listing for the site.

Figure 2: The original Glebe Island Bridge in 1871.

State Library of NSW

Figure 3: The Edmund Blackett designed abattoirs originally on site were demolished in the 1920s.

State Library of NSW

Figure 4: The Silos under construction in the 1920s.

State Library of NSW

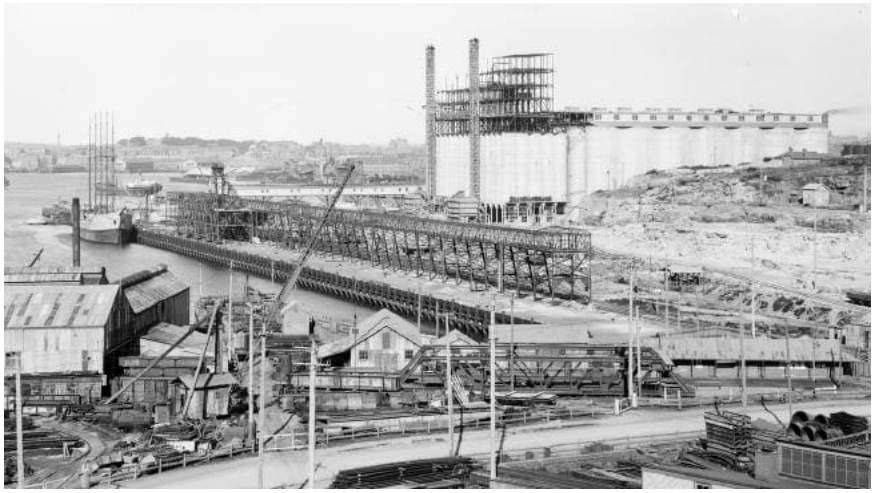

Figure 5: The Glebe Island Silos in the 1920s when they were used for storing wheat.

State Library of NSW

Figure 6: The expanded Glebe Island Silos in the 1930s. State Library of NSW.

Figure 7: The Anzac Bridge under construction, the c.1975 Silos are in the background.

3 SITE ASSESSMENT

3.1 Glebe Island

Glebe Island is located on the south eastern side of the Balmain Peninsula to the west of the Sydney CBD. It is surrounded by White Bay to the North, Jones Bay to the east, and Blackwattle Bay and Rozelle Bay to the south. Anzac Bridge is located on the southern side of the island, while the former Glebe Island Bridge is located on the eastern end of island.

The primary use for the site is as a bulk storage and port facility. Figure 2 below shows Glebe Island Looking East. The Glebe Island Silos are pictured to the centre of the image.

Figure 8: Glebe Island looking east. The c.1975 Glebe Island Silos are to the centre of the image.

Sydney Morning Herald

3.2 Glebe Island Silos

The Glebe Island Silos are a series of 30 cylindrical bulk storage silos. The Silos are constructed from reinforced concrete, are 32m high and are approximately 20cm thick. The base of the silos is conical in shape, which originally enabled wheat to be discharged via a valve to a chute which led directly via a conveyor belt for shipment. Concrete walls with steel framed windows enclose the base of the silos for use as the site offices for Cement Australia and Sugar Australia.

The southern elevation is painted to mimic Grecian Columns. The works were undertaken for the Sydney Olympics in 2000. The mural comprises 17 painted stylised Grecian columns, one on each of the 15 silos facing south and one on each of the 2 silos facing west. The colour palette includes cream, terracotta and brown shades and from a distance the images appear three-dimensional. Mid-way up each of the columns on the south facing mural is a small rectangular image of an athlete, again painted to appear three-dimensional and painted the same colour palette. The Olympic Mural does not form part of the heritage listing of the silos.

See Figures 9 – 15 below.

Figure 9: The painted south eastern elevation facing the Anzac Bridge.

Figure 10: The western elevation of the silos.

Figure 11: The unpainted northern elevation of the silos.

Figure 12: Access to the site offices on the western elevation.

Figure 13: The conical base of the silos visible underneath.

Figure 14: The principle site office for Cement Australia

Figure 15: The conical base of the silos visible underneath.

3.3 The Surrounding Area

3.3.1 The General Area

For the following, refer to Figure 16, an aerial photograph over the site and the surrounding area.

The site is located to the north is the Anzac Bridge, with the Pyrmont Peninsula to the east, the Balmain Peninsula to the north, and the suburb of Glebe to the south. Sydney CBD Skyline is visible further afield to the east.

In closer proximity to the site, there is:

- The White Bay Power Station complex, is located to the north west of the site. an item of State Heritage Significance. This item is listed on the State Heritage Register.
- The former Glebe Island Bridge is located to the west of the Silos. This item is also listed on the State Heritage Register.
- The Anzac Bridge (Victoria Road) is located to the south of the site.
- The Sydney Super Yacht Marina and other Rozelle Bay Maritime Services are located to the south of the site beyond the Anzac Bridge.

Figures 17 – 20 illustrate the surrounding area.

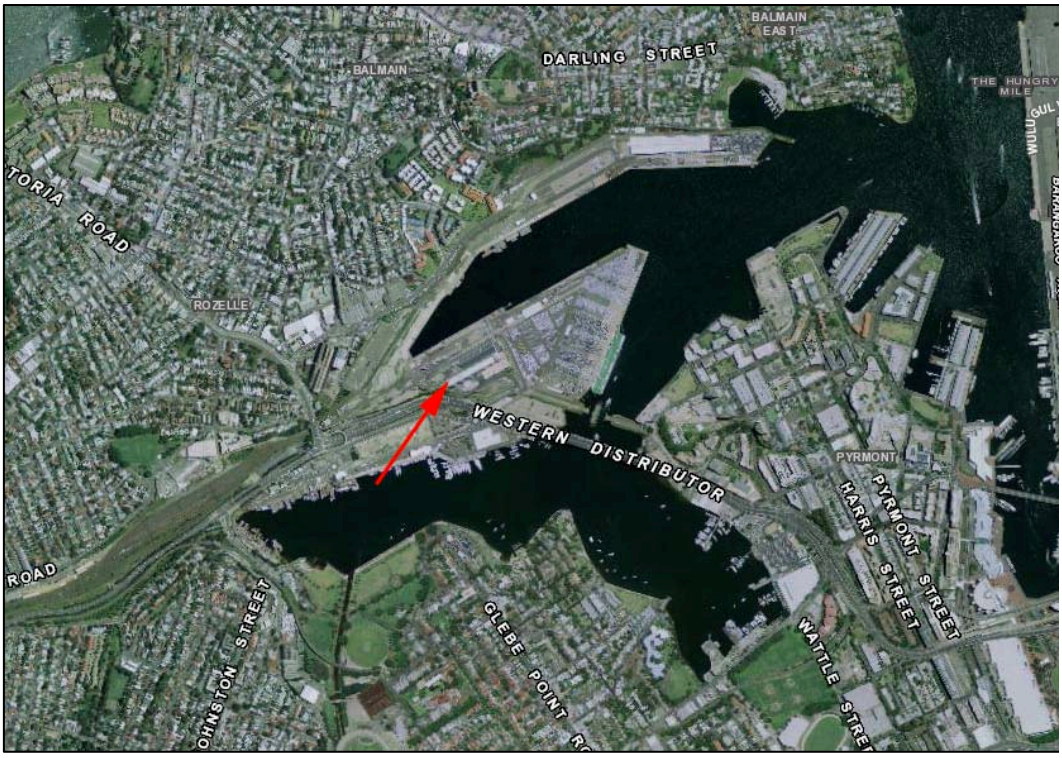

Figure 16: Aerial photograph over the site and the surrounding area.

NSW Lands Department, 2018.

Figure 17: The White Bay Power Station to the west of the site.

Figure 18: The Glebe Island Bridge, to the east of the site.

Figure 19: The Anzac Bridge to the south of the site.

Figure 20: Sydney Superyacht Marina to the south of the site beyond the Anzac Bridge.

4 ASSESSMENT OF SIGNIFICANCE

4.1 Summary of Existing Citations and Listings for the Site

The site contains the following heritage listings:

- Glebe Island Silos, Glebe Island, NSW Sydney Ports Corporation s.170 NSW State agency heritage register. Listing No. 4560016
- Glebe Island Wheat Silos, Glebe Island, NSW and Sydney REP No. 26 – City West Schedule 4 Part 3 Items in the Bays Precinct. Item 1.

It is noted that the site is:

- Is not located within a Heritage Conservation Area.
- Is not listed on the State Heritage Register under the auspices of the *NSW Heritage Act 1977*

The following Statement of Significance for the Glebe Island Silos has been sourced from the NSW State Heritage Inventory:[2]

> *Glebe Island Grain Terminal is a seminal site in the development of the bulk wheat storage and export industry in Australia. As such it has a pre-eminent position in the historical development of one of Australia's most important primary industries. It was the first and most important of the port terminals and encompassed technologies that were specific to the industry and influential in the development of that industry throughout the country. The first construction phase is particularly noteworthy because of the circumstances of its wholly imported design and technological expertise.*
>
> *The carefully planned and integrated system, by the 1930's , was considered to be one of the largest, most efficient and well planned installations of its type. The fabric contained within the site, although compromised by alterations and missing elements is capable of demonstrating and recording the evolution of the industrial processes that evolved over several decades. The silos, in particular are the most visible and easily interpreted elements of that former use and form a powerful and well known landmark. The site also*

[2] Glebe Island Silos | NSW Environment & Heritage . (2018). Environment.nsw.gov.au. Retrieved 29 October 2018, from https://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=4560016

has significance for its associations with, and demonstration of, Commonwealth and State government initiatives

GML Heritage Prepared a heritage assessment (dated December 2011)for the Olympic Mural located on the southern and western elevations of the c.1975 silos. The statement of significance below concludes that the mural does not have specific historic relevance to the silos and does not form part of its heritage listing.

The location of the Olympic Mural as part of the Glebe Island Silos has no direct connection with the Olympic site itself, and no specific historic relevance to the silos. The Olympic Mural is, however, a tangible remnant linked to possibly the most significant 20th century public event in the cultural life of Sydney, as it was developed and executed for the promotion of the city's Olympic bid. It is therefore considered to have Moderate historic significance at a State level.

The Olympic Mural remains largely intact and has a strong association with Sydney's bid to win the 2000 Olympic Games, an event of National significance, although it has no special association with a particular important person or group. It is considered to have Moderate significance at a State level for its association with the Olympics.

While the Olympic Mural is of interest due to its scale and location, technical execution, and its relationship with the form of the silos, it is not considered to be an artwork demonstrating a high degree of creative achievement. It could be viewed as having been created as a justification for providing an entablature of advertising signage, as the Olympic motifs themselves are a minor part of the composition. It is considered to have little aesthetic significance.

The Olympic Mural may have social significance to the Sydney community if it is recognised by the general population as having links to the Olympic bid. However, this may not be the case, as the Olympic imagery is a minor part of the overall composition. Notwithstanding that the work is considered to have little aesthetic significance, the sign is a landmark, as is often the case with painted signs, and the community may be attached to the sign simply because of its landmark qualities. It is therefore considered to have Moderate local social significance.

Large murals in the public realm are uncommon. This work is of a particularly large scale and is in a prominent setting. As one of the only pieces of Olympic promotion remaining in Sydney, it has rarity value.

The Olympic Mural is not considered representative of murals created in the public realm, which are not common in any case.

4.2 Integrity

The Glebe Island Silos demonstrate mixed integrity. The integrity associated with its use as a former use a bulk grain storage facility is still evident. In their current form, the Silos once formed part of a much larger bulk storage complex which is not understood in its current form. See Figures 5 to 7 above. Following demolition of these structures in the 1990s, the remaining silos were converted for use as to a bulk cement and sugar storage facility. As a result, some modification occurred to facilitate the change of use, mostly associated with strengthening works as cement is heavier than wheat. This included:

- Modification to the loading area for use as a cement loading area.
- Modification to the existing staff offices at Ground Level.
- Remedial modification to four existing silos to improve performance light of their adaptive reuse for the storage of cement. These works included:

- Constructing a 4m high x 300mm thick reinforced concrete ring internally in the base of each silo. This includes removing two aluminium framed windows. (Figure 21 & 25)
- Cutting a door sized access hatch into the silo and erected an access platform. The access opening was reinforced using rebar continuity couplers, the opening was then concreted up. (Figure 22)
- Reinforcement of existing footings with six layers of Carbon Fibre.
- Repaint areas were access points were installed to match existing Grecian column design. (Figure 23)
- Construction of two new square footings per silo. (Figure 24)

Figure 21: Previous patching work on the northern side of the silos.

Figure 22: Infilled window bay on the southern side of the silos

Figure 23: An infilled and repainted access hatch on the southern side of the silos.

Figure 24: New square footings at the base of the silos.

Figure 25: The 300mm thick reinforced concrete ring.

4.3 Heritage Items in the Vicinity of the Site

For the following, 'in the vicinity' has been determined with reference to physical proximity, existing and potential view corridors and the nature of the proposed works.

Item Name	Address	Significance	Item No.
Glebe Island Bridge	Bank Street, Pyrmont	State	SHR No. 01914
White Bay Power Station	Victoria Road, Rozelle	State	SHR No. 01015
Monument, Glebe Island	Glebe Island	Local	Sydney Regional Environmental Plan No 26—City West Schedule 4 Part 3, Item No. 5
Glebe Island Bridge approach	Adjacent to Anzac Bridge	Local	Port Authority of New South Wales Section 170 Heritage Register. *Item No.* 4560015

Glebe Island Dyke Exposures	Victoria Road Local Glebe Island	Local	Port Authority of New South Wales Section 170 Heritage Register. Item No. 4560056
Plaque- Opening of Container Terminal	Sommerville Road	Local	Port Authority of New South Wales Section 170 Heritage Register. Item No. 4560013
Glebe Island Sandstone Quarry Sample	Sommerville Road	Local	Port Authority of New South Wales Section 170 Heritage Register. Item No. 4560014
Glebe Island World War II Monument	Sommerville Road	Local	Port Authority of New South Wales Section 170 Heritage Register. Item No. 4560016

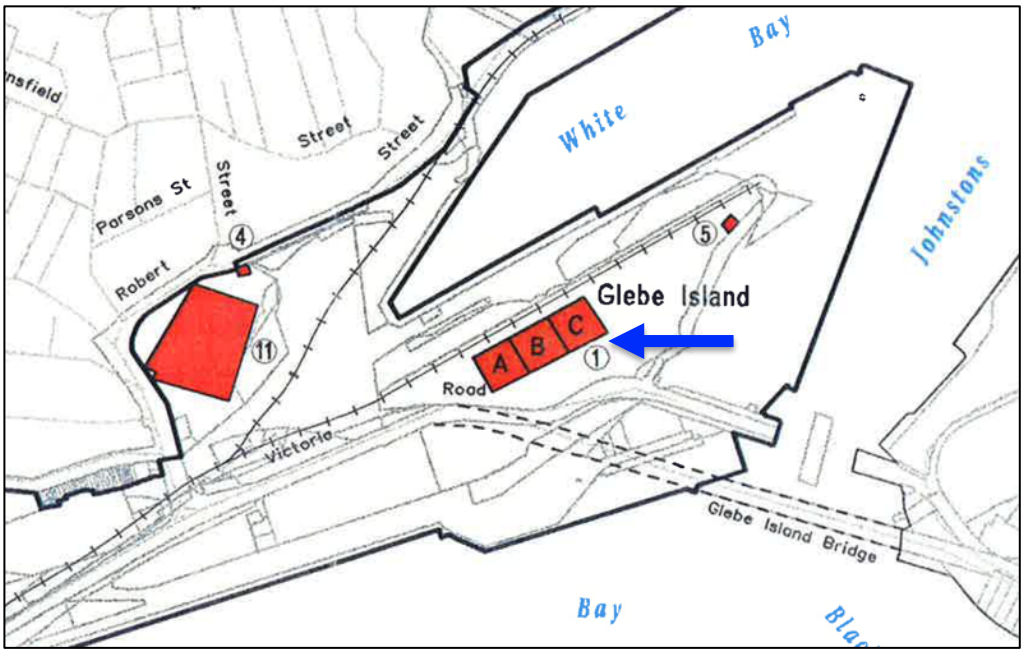

Figure 26: An extract from the Sydney Regional Environmental Plan No. 26 City West (Amendment No. 7 – Bays Precinct) showing the heritage items in red. The Glebe Island Silos are indicated by the blue arrow.

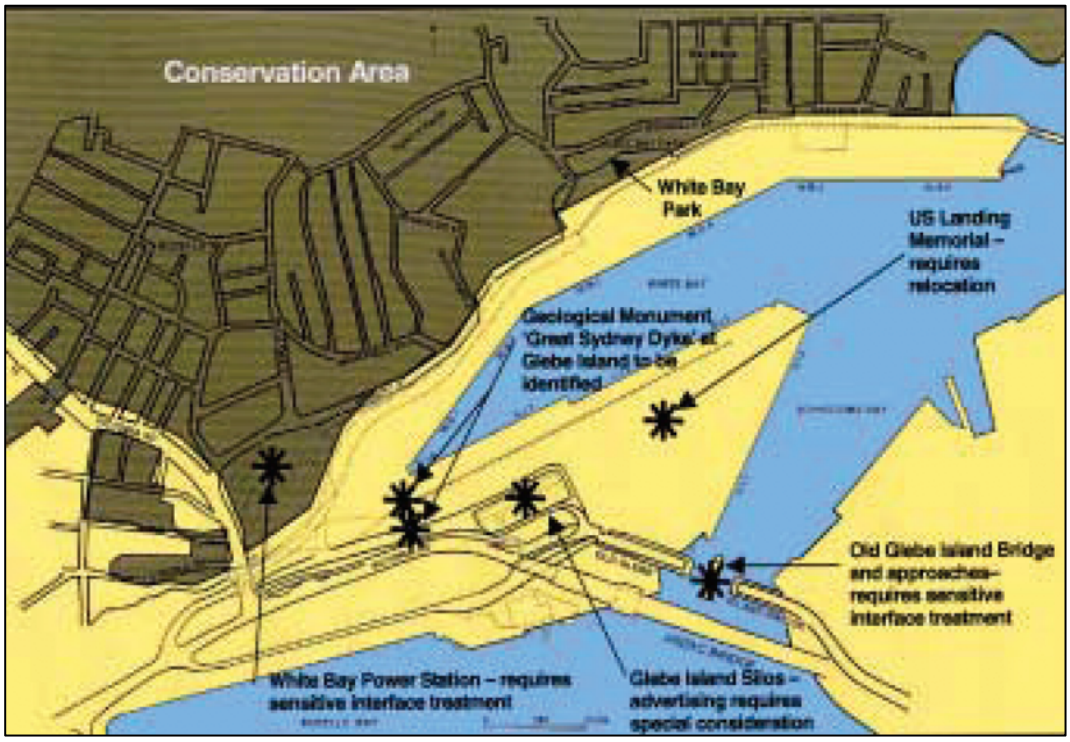

Figure 27: An extract from the Glebe Island and White Bay Masterplan

4.4 View Corridors

The Glebe Island Silos are highly prominent local landmarks, and are visible from all angles. The most prominent view corridor are from approaches on the Anzac Bridge (Figure 28 & 29). Other primary views are from Sommerville Road which circles the site, however, this area is sparsely populated with little vehicular or pedestrian traffic (Figure 30 & 31). Secondary views towards the site, are predominately from further afield, mostly from the surrounding peninsulas (Figures 32 & 33). There are further distant views towards the site from the Sydney CBD and Sydney Harbour Bridge.

Figure 28: View of the silos in Anzac Bridge.

Figure 29: View of the Glebe Island Silos from southern side of Sommerville Road.

Figure 30: View of the Glebe Island Silos from southern side of Sommerville Road.

Figure 31:The northern side of the Glebe Island Silos viewed from Sommerville Road. Note the Sydney Harbour Bridge in the distance.

Figure 32: The Glebe Island Silos viewed from Pyrmont

Figure 33: The Glebe Island Silos viewed from Glebe.

5 SCOPE OF WORKS

The following should be read in conjunction with the plans prepared by Aurecon and Cement Australia accompany this application.

It is proposed to undertake remedial modifications to twelve existing silos to improve their performance light of their adaptive reuse for the storage of cement. Currently, the Silos are only engineered to be half filled with cement. Cement is a much heavier material per cubic metre than wheat, the material they were originally designed to store. The proposed works include:

- Cut a door sized access hatch into the silo and erected an access platform to enable the works to be undertaken safely.
- Construct a 4m high x 300mm thick reinforced concrete ring internally in the base of each silo. This includes removing two aluminium framed windows.
- Reinforce the access opening using rebar continuity couplers. The access hatch will then be concreted up.
- Construct two new footings per silo.
- Reinforce existing footings with six layers of Carbon Fibre. Each layer gives the equivalent strength of 50mm of concrete.
- Repaint areas were access points were installed to match existing Grecian column design where necessary.

6 METHOD OF ASSESSMENT

The following is a merit-based assessment. It does not consider compliance or otherwise with controls unless non-compliance will result in an adverse heritage impact. Refer to the Statement of Environmental Effects (SEE) that accompanies this application. The three questions raised by the NSW Heritage Division publication *Statements of Heritage Impact* (2002 update) have been taken into consideration.

The recommended management provisions on the NSW Heritage Inventory listing sheet for the Heritage Item have been read and understood.

7 EFFECT OF WORK

7.1 Effect of work on the Heritage Item

The proposed strengthening work to the Glebe Island Silos will have a minor but acceptable impact on the heritage significance of the site.

Constructed in 1975, the current silos have undergone adaptive reuse to for the bulk storage of cement products and sugar, following the relocation of the bulk wheat storage facilities to Port Kembla in 1984. The adaptive reuse of the silos has allowed the understanding of the site as a historic bulk storage facility to remain. This is compared to other wheat silos in the immediate vicinity e.g. The Crago Mill Silos in Newtown which have been converted for use as apartments. The proposed strengthening works are necessary to ensure the ongoing viability of the site as a bulk storage facility. Currently the silos are only engineered to store half the capacity of dry cement, as the weight of cement per cubic meter is much higher than the original storage of wheat.

Four out of the sixteen silos utilised by Cement Australia have already undergone remedial strengthening works. These works are essentially the same as the scope of works outlined in Section 5 above. Although invasive to the original fabric, they did not reduced the integrity or significance of the silos. The most invasive change to the silos is the proposed internal thickening, resulting in the removal of two aluminium framed windows. To mitigate the impact and to retain an understanding of original openings, a recess to indicate the original outline of the windows is proposed (Figure 22 above indicates how this will appear).

To facilitate the remedial strengthening of the silos, temporary access hatches are proposed to be cut into the main body of the each silo from the northern side only. To ensure the visual impact is minimised when the proposed construction is complete, the hatch will be patched to the best match existing concrete. In areas where penetration occurs on the southern side, patches will be repainted to match the existing Grecian Column design (the columns do not form part of the heritage listing of the site but own right it is considered to have historic, social and associational significance, and some rarity value). Figure 23 above, indicates the change will be only partially visible on close inspection. This way the history of upgrades to the silos can be understood, without significant effecting the outward appearance.

The proposed installation new footings and columns per silo will have an acceptable impact on the heritage significance of the site. The new footings and columns will be square as opposed to the existing cylindrical columns. This way there is a clear understanding of the original and new footings, helping to illustrate the ongoing evolution of the site. The conical bases of the silos will remain unobstructed by the new proposed footings and columns.

7.2 Effect of work on the Heritage Items in the Vicinity

The proposed works are largely contained to the interior of the Glebe Island Silos and where works are occurring externally, they are located at the base of the silos, away from any major view corridors.

It is acceptable for the following reasons:

- The proposed works will have no impact on the ability to understand historic significance the items.
- The proposed works will not block significant views to or from the items.
- The proposed upgrades will ensure the Glebe Island Silos continue to operate as a bulk storage facility, thus preserving much of the industrial setting of the heritage items in the vicinity.

8 CONCLUSIONS

This Heritage Impact Statement has outlined the history and significance of Glebe Island Silos. The proposal will ensure the site can continue to viably operate as a bulk storage facility which is a major component of its heritage significance. The works, which are largely contained to the interior will not reduce the landmark status of the silos nor will they reduced the significance of any heritage items in the vicinity.