

Appendix D

Statement of heritage impact



Commuter Wharf Upgrade

Statement of Heritage Impact Balmain Thames Street Wharf, NSW

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Summary

RPS has been engaged by Hansen Yuncken Pty Ltd on behalf of NSW Roads and Maritime Services (RMS) to prepare a Statement of Heritage Impact (SoHI) for the proposed redevelopment of the Balmain Thames Street Wharf under the *Environmental Planning and Assessment Act 1979* (EP&A Act). The purpose of a SoHI is to convey the impact or impacts of a proposal. A SoHI, together with supporting information, addresses: the reasons why an item is of heritage significance; the impact proposed works will have on that significance; measures proposed to mitigate any negative impact; and why more sympathetic options are not viable (NSW Heritage Office and Department of Urban Affairs and Planning 2002: 2). When considered along with a policy or plan for conservation and management, an informed decision can be made whether to allow the development to proceed. Both Aboriginal and European (historic) cultural heritage were considered during the course of this assessment.

The project area is located on Sydney Harbour, at Thames Street, Balmain approximately six (6) kilometres west of the Sydney General Post Office (GPO). The existing wharf structure is situated at the northern end of Thames Street. The wharf is thought to have been constructed in 1895 (Leichhardt Council undated: Online), and stands in its original location.

The proposed works include a complete removal and replacement of the wharf structure underneath the existing waiting shelter which will be removed, restored and reinstated. The shelter will be raised 150 millimetres to mitigate against the risk of damage due to stormwater run-off and flooding impacts on commuters (wharf patrons). Throughout this process the existing shelter will remain intact and its heritage significance maintained.

As part of the Due Diligence procedures for Aboriginal Heritage, which this SoHI incorporates, Aboriginal Heritage Information Management System (AHIMS) searches of the area surrounding the Balmain Thames Street Wharf were conducted on 7 May 2012 by Senior Coastal and Marine Archaeologist, Sarah Ward with a buffer of 50 metres. The searches were again conducted on 25 June with a buffer of 200 metres. The basic searches confirmed a total of zero (0) sites recorded and zero (0) places declared within 200 metres of the project area.

The purpose of a due diligence report is to demonstrate that reasonable and practicable measures were taken to prevent harm to an Aboriginal object or place and has been undertaken in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales 2010*. Additionally, a review of previous archaeological and heritage reports and State, regional and local Heritage registers showed no Aboriginal sites recorded or places declared within the boundaries of the Balmain Thames Street Wharf project area.

European (Historic) heritage searches were also undertaken. These searches identified no National or Commonwealth heritage items in or near to the project area and one (1) item of State heritage significance (the remains of Mort's Dock and Engineering Company Limited, now Mort Bay Park) in the vicinity of the project area. Mort Bay Park is located adjacent to and outside of, the Balmain Thames Street Wharf project area. If the project area changes going forward and the listed area cannot be avoided (see Recommendation 7), an exemption will need to be obtained from the Heritage Branch, Office of Environment and Heritage in order to use part of the listed area for construction purposes.

A site inspection was undertaken on Tuesday 1 May 2012 by RPS Senior Coastal and Marine Archaeologist, Sarah Ward. No Aboriginal objects, sites or places were identified during the course of the survey. Other than NSW State Heritage Register listed Mort Bay Park (the remains of the former Mort's Dock and Engineering Company), the Balmain Thames Street Wharf itself, and the existing waiting shelter it contains

(which are listed as local heritage items on the Leichhardt Local Environmental Plan and Sydney Harbour Catchment Regional Environmental Plan) no new European (Historic) heritage items were identified within the project area during the course of the survey.

In accordance with the *Burra Charter* (Australia ICOMOS 1999:18-19) 'procedures for undertaking studies and reports', this report has considered: the environmental, heritage and archaeological context of the project area; information gained during the site inspection; the significance of the Balmain Thames Street Wharf; the development proposal; potential heritage impacts; alternate options; and mitigation measures in order to draw conclusions and provide recommendations intended to guide future decision-making.

The following management recommendations have been formulated with consideration of all available information and have been prepared in accordance with the relevant legislation.

Recommendation 1

All relevant staff, contractors and subcontractors should be made aware of their statutory obligations for heritage under NSW *National Parks and Wildlife Act 1974*, NSW *Heritage Act 1977* and best practice outlined in the *Burra Charter 1999*, which may be implemented as a heritage induction.

Recommendation 2

If any Aboriginal site/s are identified in the project area, then all works in the area should cease, the area should be cordoned off and contact made with: the Office of Environment and Heritage (Enviroline 131 555); a suitably qualified archaeologist; and the relevant Aboriginal stakeholders, so that the site/s can be adequately assessed and managed.

Recommendation 3

In the unlikely event that skeletal remains are identified, work must cease immediately in the vicinity of the remains and the area cordoned off. The NSW Police Coroner must be contacted to determine if the material is of Aboriginal origin. If determined to be Aboriginal, the proponent, must contact: the Office of Environment and Heritage Enviroline 131 555; a suitably qualified archaeologist; and representatives of the local Aboriginal Community Stakeholders to determine an action plan for the management of the skeletal remains, formulate management recommendations and to ascertain when work can recommence.

Recommendation 4

If, during the course of development works, suspected European (Historic) cultural heritage material is uncovered, work should cease in that area immediately. The Heritage Branch, Office of Environment and Heritage (Enviroline 131 555) should be notified and works only recommence when relevant permits and an appropriate and approved management strategy instigated.

Recommendation 5

As the Balmain Thames Street Wharf is a heritage item of local heritage significance the proponent must carry out full archival recording of the wharf structure, prior to any works taking place. This must be carried out in accordance with the Heritage Branch, Office of Environment & Heritage's (formerly NSW Heritage Office) Guidelines on *How to Prepare Archival Records of Heritage Items* prior to any works taking place.

Recommendation 6

In order to ensure that the identified State Heritage Register listed Mort Bay Park is not impacted during construction; the site boundary should be flagged and roped off by a suitably qualified archaeologist prior to

commencement of works. A plan of the area showing the heritage exclusion zone should be retained on site, and the need to remain outside of the listed item, should form part of the heritage induction.

Recommendation 7

All staff, contractors and subcontractors are required to conduct all construction activity in such a way as to prevent any impacts by construction or related works within the heritage exclusion zone, or to the existing waiting shelter, including impacts from plant and equipment that is not directly engaged in construction.

Recommendation 8

It is recommended that heritage information be placed on site during the construction phase to interpret the historic development and use of the Balmain Thames Street Wharf. Information could be in the form of heritage images and text on construction phase hoarding, or laminated posters put up beside general project information on site.

Post construction, opportunities should also be explored by RMS to provide heritage interpretation on an ongoing/permanent basis so that the wharf's significance is communicated even after significant components are removed. Interpretation of an item through the care (or treatment) of the fabric, is central to heritage conservation in Australia. This heritage interpretation should be developed in accordance with the Australia ICOMOS *Burra Charter 1999* and the NSW Heritage Office's 2005 *Interpreting Heritage Items and Places Guidelines*. Ways of achieving the funding for this can be explored through the Heritage Branch, Office of Environment and Heritage, Heritage Grants Program.

1.0 Introduction

Hansen Yuncken in conjunction with GSA Architects was engaged by RMS to develop concept design solutions for the upgrade of a number of ferry (commuter) wharves throughout Sydney Harbour. The wharves are within the inner harbour and are currently being used by ferry commuters, recreational vessels, and by the general public.

In March 2012, RPS was engaged by Project Managers Hansen Yuncken (on behalf of RMS) to complete a gap analysis of a number of existing Statements of Heritage Impact (SoHI) and Heritage Assessment Reports for the Balmain, Double Bay and Huntleys Point Commuter Wharf Upgrade projects. These gap analyses were completed by RPS in March 2012.

RPS was subsequently approached to 'fill the gaps' and complete one (1) Statement of Heritage Impact (SoHI) for each of these three wharf upgrade projects. The purpose of a SoHI is to convey the impact or impacts of a proposal. A SoHI, together with supporting information addresses: the reasons why an item is of heritage significance; the impact proposed works will have on that significance; measures proposed to mitigate any negative impact; and why more sympathetic options are not viable (NSW Heritage Office and Department of Urban Affairs and Planning 2002:2). When considered along with a policy or plan for conservation and management, an informed decision can be made as to whether to allow the development to proceed. The concept designs provided by Hansen Yuncken have been considered in preparation of this SoHI, which follows the abovementioned model guidelines for the preparation of Statements of Heritage Impact.

As part of this SoHI, RPS understands that Hansen Yuncken requires appropriate assessment and reporting relating to Aboriginal and European (i.e. Historic) cultural heritage, associated with the Balmain, Double Bay and Huntleys Point Commuter Wharf Upgrade projects to support the various applications being prepared by Hansen Yuncken on behalf of RMS. The SoHI will further contribute to the Review of Environmental Factors (REF) being prepared by RPS, as part of Sydney Harbour Wharf Upgrade Program. The Balmain Thames Street Wharf is the first of the three (3) sites RPS has assessed, and its SoHI is contained herein.

1.1 Project Area

Balmain is an inner western suburb of Sydney. Located on the Balmain Peninsula and part of the Leichhardt Local Government Area (LGA), Balmain is approximately six (6) kilometres west of the Sydney General Post Office (GPO) located at 1 Martin Place, Sydney. The Balmain Thames Street Wharf is located at the end of Thames Street, where the street meets the Sydney Harbour seawall (Figure 1-1), approximately 3.4 kilometres from the CBD by ferry and 6.4 kilometres by road.

The Balmain Thames Street Wharf is a predominantly timber structure of late Victorian design, originally thought to have been constructed in 1895. It is a remnant of 'possibly the last nineteenth century ferry structure remaining in use on Sydney Harbour' (Leichhardt Council undated: Online).

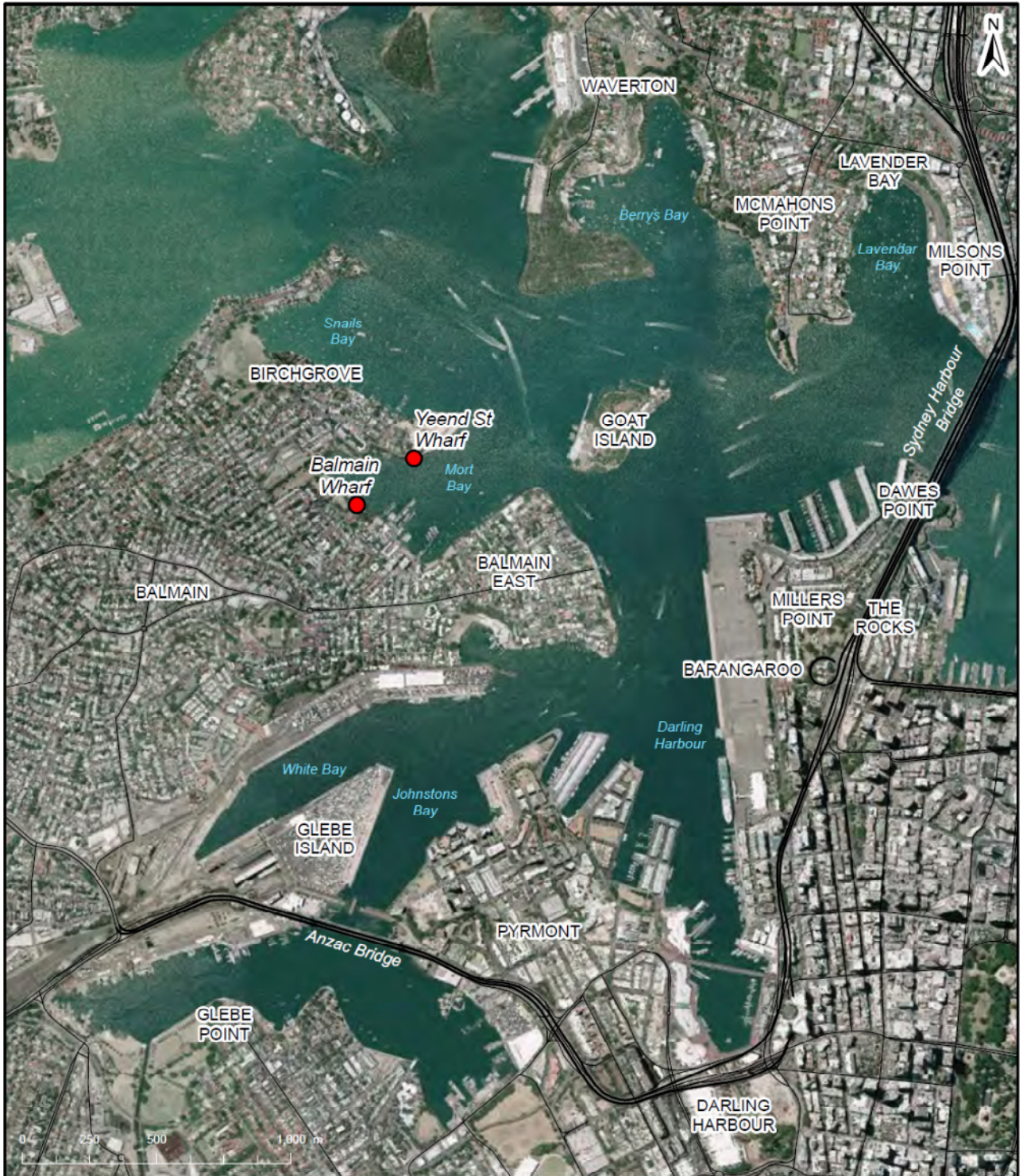


Figure 1-1 Site Location – Balmain Thames Street Wharf

1.2 Proposed Works

The purpose of the Commuter Wharf Upgrade Program is to: 1) upgrade passenger facilities to meet increasing public needs and expectations; 2) create a functional, distinctive and unique design theme for Sydney Harbour which will both unify and identify the harbour wharves and the ferry commuter system, thus extending the design life of the structures; 3) meet requirements of the *Disability Discrimination Act 1992* and current disabled access standards; 4) facilitate cost effective ongoing maintenance through standardising wharf design; and 5) build wharves to significantly increase the speed at which passengers embark and disembark.

The proposed works (Figure 1-2) include the complete removal and replacement of the existing wharf structure whilst retaining, restoring and reinstating the existing waiting shelter. The existing shelter will be raised by 150 millimetres to mitigate against the risk of damage from stormwater run-off and negate any possible impact of flooding on commuters (wharf patrons)

The process for undertaking the proposed works (Blair 2012, pers. comm.) is as follows:

- demolition and removal of the existing Balmain Thames Street Wharf
 - » demolition and removal of the existing timber footbridge including posts, fencing and associated facilities including information totem and closed circuit television (CCTV) system;
 - » demolition of the existing 'dogleg' wharf including tidal stairs, posts, fencing and timber and steel piles;
- removal of the existing waiting shelter and demolition of all pile supports
 - » cross-brace and install supports for the heritage structure so it can be lifted out by crane;
 - » lift out heritage structure by 'favco crane' and store at a licensed facility;
 - » the exterior of the shelter structure will be recoated while removed; the paint type and colour selected will be matched to the existing heritage colour;
 - » the shelter structure substructure is to be removed; good condition undersized girders will be re-used on other RMS Maritime structures;
 - » recovered turpentine piles will be placed in the existing pile sockets; to improve drainage control and match the new sections of the wharf; the piles are to be 150 millimetres higher so the complete structure will be 150 millimetres higher than original;
 - » the double capwales will be reattached to the installed piles or replaced with materials salvaged from other parts of the demolished wharf;
 - » the new girders will be placed on the pile heads and double capwales and connected; where the capwales sit on the old concrete sea wall, HEPD paters will be used to raise the timber off the seawall to prevent water damage and reduce the potential for termite attack;
- reconstruction of the existing shelter supporting substructure and floor 150 millimetres higher
 - » timber decking planks will be secured to the girders with the drainage grate also being returned; the new floor will be constructed at 150 millimetres higher as a result of the higher piles;
- reinstatement of the existing waiting shelter
 - » the shelter structure will be lifted back into place and resecured to the substructure;
- construction of a new concrete footpath
 - » construction of a new footpath minimum 1.5 metres wide, with a concrete kerb and gutter and a kerb ramp for disabled access to the car park on the eastern end of the proposed footpath;
 - » improved line-marking of the parking area will be installed and disabled parking provided;

- upgrade of the existing Yeend Street Wharf on western side of Mort Bay
 - » installation of five timber piles adjacent to the existing Yeend Street Wharf to allow the temporary use of the wharf during construction of the new Balmain Thames Street Wharf;
 - » installation of safety and security facilities at Yeend Street Wharf including lighting and closed circuit television (CCTV);
- construction of a new wharf at the same location
 - » construction of a concrete entry platform between the shelter and the gangway; the entry platform would be supported by three steel piles and would span across to meet the newly raised shelter;
 - » construction of a covered aluminium gangway about 16 metres long and up to three (3) metres wide; the gangway would connect to the concrete entry platform and the floating pontoon; the gangway would contain a curved zinc roof and glass and stainless steel balustrades; the gradient of the gangway would vary according to the tides;
 - » construction and installation of a rectangular steel floating pontoon off the gangway; the nine (9) metre wide by approximately 18 metres long pontoon would have two berthing faces; ferries would berth from the new berthing face on the seaward side (north east), whilst recreational vessels would use the berthing face on the landward side (south west) of the new ferry wharf; the pontoon would contain a curved zinc roof, glass and stainless steel balustrades and seating; the floating pontoon would be held in place by four steel piles;
 - » the concrete entry platform and the wharf (including the gangway and pontoon) would be constructed to be accessible to people with a disability for no less than 80 percent of the high and low tide levels listed in standard tide charts;
 - » installation of safety and security facilities including lighting, closed circuit television (CCTV), ladders to the water from the jetty and the pontoon; a life ring on the pontoon platform and tactile floor treatments;
- construction of ancillary facilities
 - » installation of a stainless steel clad services pod on the floating pontoon including, for example, an electricity distribution board, bins, signage boards and a help point;
 - » temporary compound site would be established including site sheds, an amenities shed and storage containers for tools and some materials; the compound site would be within the car parking area adjacent to the existing (arch) waiting shelter;
 - » installation of electrical power lines to provide power to the wharf for lighting and security;
 - » installation of water lines and meter to provide water to the wharf for maintenance; and
 - » provision of space for a future electronic ticketing system (not included as part of this proposal).

The 'Plan of proposed new ferry wharf and likely location of site compound' shown below indicates that the 'indicative location of the temporary site compound (to be confirmed)' and importantly that area set aside for 'hoarding' may impact the State Heritage Register listed Mort Bay Park (Figure 1-2).

RPS understands that the (Blair 2012: pers. comm.) project area boundary will be amended going forward to ensure that it does not extend into, or infringe that listed area (Figure 1-3). If this is the case then the project will have no tangible impact on the State Significant Mort Bay Park. This will also negate the need for an exemption under the *Heritage Act 1977*.

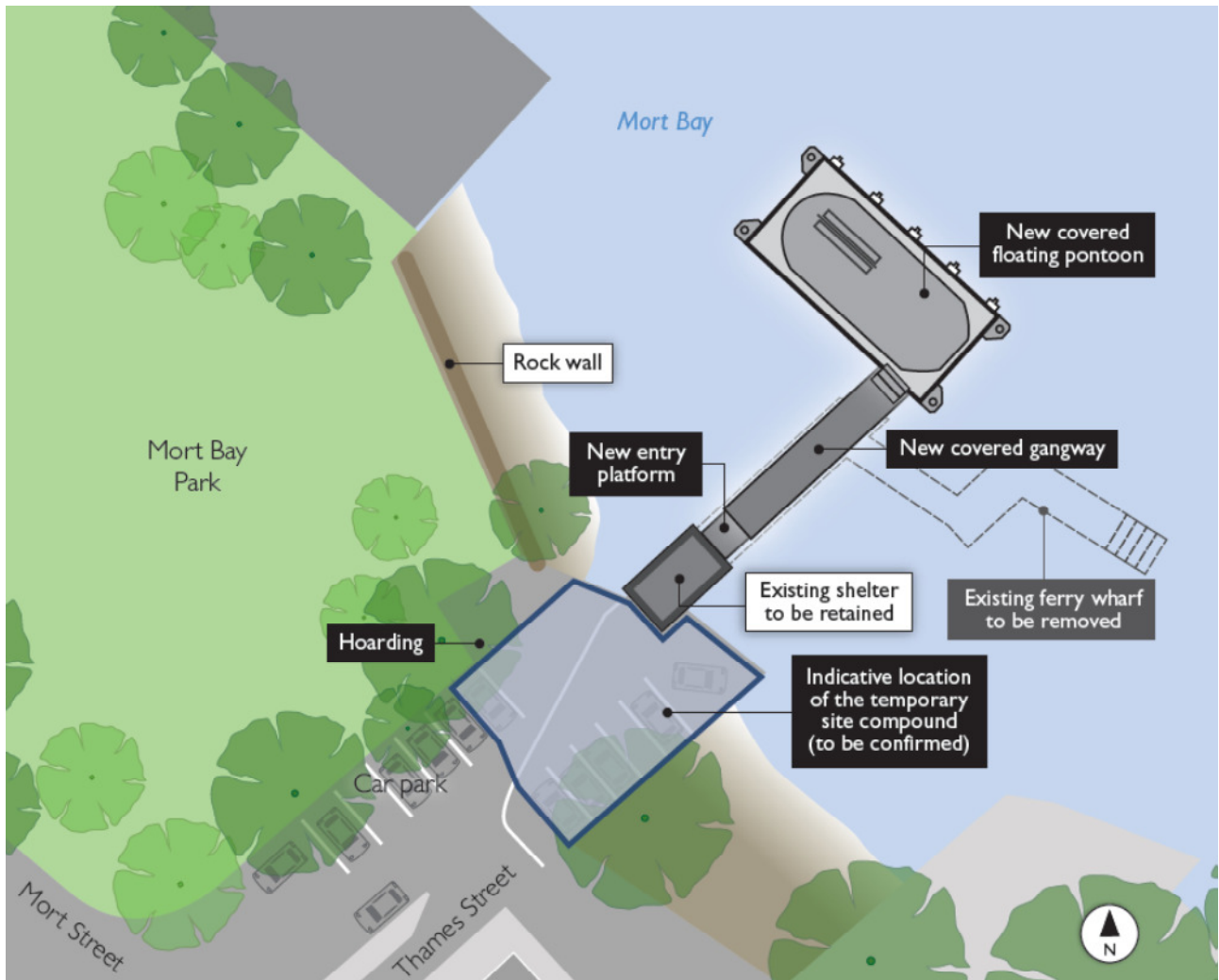


Figure 1-2 Proposed new ferry wharf at Balmain showing original Project Area



Figure 1-3 Proposed new ferry wharf at Balmain boundary that does not infringe the Mort Bay Park listing curtilage

1.3 Legislative Context

Aboriginal heritage in NSW are protected by the *National Parks and Wildlife Act 1974* which is overseen by the Office of Environment and Heritage (formerly Department of Environment, Climate Change and Water (DECCW)), now a part of the Department of Premier and Cabinet. In some cases, Aboriginal heritage may also be protected under the *Heritage Act 1977*, which is also overseen by the Heritage Branch, Office of Environment & Heritage (OEH) (formerly the Heritage Branch of the Department of Planning).

The *Environmental Planning and Assessment Act 1979* and relevant environmental planning instruments, trigger the requirement for the investigation and assessment of Aboriginal heritage as part of the development approval process. For crown land, provisions under the *Aboriginal Land Rights Act 1983* and the *Native Title Act 1993* (overseen by the Office of the Registrar of the *Aboriginal Land Rights Act 1983*) may also apply.

1.3.1 National Parks and Wildlife Act 1974

Aboriginal heritage within NSW are protected by the NPW Act. Although there are other Acts protecting and managing cultural heritage in New South Wales (see Appendix 1), the due diligence procedure is only available to projects applicable under this Act.

The NSW Government is working towards stand alone legislation to protect Aboriginal cultural heritage which will be a significant reform for NSW. The first stage of this work has been completed and includes significant changes to the primary state legislation relating to Aboriginal cultural heritage in NSW, the NPW Act. The legislation is now overseen by the OEH as part of the NSW Department of Premier and Cabinet.

Changes to the NPW Act were made effective on 1 October 2010 and include:

- increased penalties for Aboriginal heritage offences, in some cases from \$22,000 up to \$1.1 million in the case of companies who do not comply with the legislation;
- ensuring companies or individuals cannot claim 'no knowledge' in cases of serious harm to Aboriginal heritage places and objects by creating new strict liability offences under the Act;
- introducing remediation provisions to ensure people who illegally harm significant Aboriginal sites are forced to repair the damage, without need for a court order;
- unification of Aboriginal heritage permits into a single, more flexible permit; and
- strengthened offences around breaches of Aboriginal heritage permit conditions.

It should be noted that the term 'sites' is 'sometimes used as another name for Aboriginal objects and material traces of past Aboriginal land use' (DECCW 2010:38). The term is commonly used in archaeological assessments and by AHIMS when returning its search results.

Along with the new offences summarised above, there are new defences that have been introduced which will apply where a person harms an Aboriginal object without knowing what it was and without a permit from OEH. One of these defences is the 'due diligence' defence (s87(2)), which states that if a person or company has exercised due diligence to ascertain that no Aboriginal object was likely to be harmed as a result of the activities proposed for the site, then liability from prosecution under the NPW Act will be removed or mitigated if it transpires that an object was harmed. As a consequence of this provision, OEH released a publication entitled *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales 2010*. This publication sets out a minimum benchmark for acceptable due diligence investigations to be followed.

These investigations include:

- the carrying out of a search of the Aboriginal Heritage Information Management System (AHIMS) database to ensure there are no registered sites within the project area;
- a review of previous archaeological investigations in the Project Area; and
- an assessment of the relevant landscape features and visual inspection to determine whether there are Aboriginal objects present within the Project Area or that they are likely.

One of the benefits of the due diligence provisions are that they provide a simplified process for investigating the Aboriginal archaeological context of an area without the need for an Aboriginal Heritage Impact Permit (AHIP). Aboriginal consultation is also not required for an investigation under due diligence. However, if the due diligence investigation reveals that the activities proposed for the area are likely to harm objects or likely objects within the landscape, then an AHIP will be required with full consultation. The due diligence assessment contained within in this report does not conclude that Aboriginal objects are likely to be harmed, thus the AHIP procedures have not been triggered thus full Aboriginal consultation following the *Aboriginal Cultural Heritage Consultation Requirements 2010* (ACHCRs) is not required.

1.3.2 Heritage Act 1977

This Act protects the natural and European cultural history of NSW with emphasis on non-indigenous 'historic' cultural heritage (such as place, building, works, relic, moveable object, precinct, historic shipwreck, or archaeological site) of State of local significance, through protection provisions and the establishment of a Heritage Council and a State Heritage Register. Additionally, Government agencies have special obligations under the NSW *Heritage Act 1977*. Agencies are required to compile a register of heritage assets (known as a Section 170 State Government Agency Heritage and Conservation Register) and look after their assets on behalf of the community. The Heritage Act also protects historic shipwrecks and their relics that are more than 75 years of age, as well as relics that may be submerged.

Although Aboriginal heritage places and objects are primarily protected by the NPW Act, if an Aboriginal site, object or place is of great significance, it may be protected by a heritage order issued by the Minister subject to advice by the Heritage Council. Penalties of up to \$1.1m are in place for breeches of the Heritage Act and its Regulations.

1.3.3 Environmental Planning & Assessment Act 1979

This Act regulates a system of environmental planning and assessment for NSW. Land use planning requires that environmental impacts are considered, including the impact on cultural heritage including Aboriginal heritage. Assessment documents prepared to meet the requirements of the EP&A Act including Reviews of Environmental Factors (REF), Environmental Impact Statements (EIS) and Environmental Impact Assessments (EIA) should address European and Aboriginal heritage, and planning documents such as Local Environment Plans (LEP) typically contain provisions for European and Aboriginal heritage where relevant.

1.3.4 Aboriginal Land Rights Act 1983

The purpose of this legislation is to provide land rights for Aboriginal people within New South Wales and to establish Local Aboriginal Land Councils. The land able to be claimed by Aboriginal Land Councils on behalf of Aboriginal people is certain Crown land that (s36):

- (i) is able to be lawfully sold, leased, reserved or dedicated;
- (ii) is not lawfully used or occupied;

- (iii) will not, or not likely, in the opinion of the Crown Lands minister, be needed for residential purposes;
- (iv) will not, or not likely, be needed for public purposes;
- (v) does not comprise land under determination by a claim for native title;
- (vi) is not the subject of an approved determination under native title.

Claims for land are by application to the Office of the Registrar, *Aboriginal Land Rights Act 1983*.

1.3.5 Native Title Act 1993

The Commonwealth Government enacted the *Native Title Act 1993* to formally recognise and protect native title rights in Australia following the decision of the *High Court of Australia in Mabo & Ors v Queensland* (No. 2) (1992) 175 CLR 1 (“Mabo”).

Although there is a presumption of native title in any area where an Aboriginal community or group can establish a traditional or customary connection with that area, there are a number of ways that native title is taken to have been extinguished. For example, land that was designated as having freehold title prior to 1 January 1994 extinguishes native title, as does any commercial, agricultural, pastoral or residential lease. Land that has been utilised for the construction or establishment of public works also extinguishes any native title rights and interests for as long as they are used for that purpose. Other land tenure, such as mining leases, may be subject to native title, depending on when the lease was granted.

Further details on the relevant legislative Acts are provided in Appendix 1.

1.4 Aboriginal Consultation

As mentioned above, due diligence inspection relates to the physical identification of Aboriginal objects. Community consultation is only required once Aboriginal objects have been detected and an Aboriginal Heritage Impact Permit (AHIP) is deemed necessary. Section 5.2 of the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW 2010* specifically states that ‘Consultation with the Aboriginal community is not a formal requirement of the due diligence process’ (2010:3), and as no Aboriginal cultural heritage objects, sites or places of significance were identified during this process, no Aboriginal Consultation has been undertaken as part of this SoHI.

1.5 Authorship and Acknowledgement

This report was written by RPS Senior Coastal & Marine Archaeologist, Sarah Ward, with contributions from: RPS Senior Planner, Peter Mangels; RPS Senior Spatial Analyst, Thomas Wilson; and RPS Archaeologist Deborah Farina. Assistance with report preparation was provided by RPS Business Support Manager, Audrey Churm and RPS Archaeologist David White. The report was reviewed by RPS Senior Heritage Consultant, Joanne McAuley and RPS Planning Manager, Belinda Lewis. The RPS team acknowledges the assistance in preparing this report, and its previous iterations, of various organisations and individuals, including but not limited to:

Table 1: Acknowledgements

Name	Position	Organisation
Paul Blair	Design Manager	Hansen Yuncken
Peter Freeman	Director	Peter Freeman Architects
Kathleen Hamey	Secretary	The Balmain Association

Source: Sarah Ward, RPS Group

2.0 Environmental Context

Both SoHI and Aboriginal heritage due diligence assessments require that available knowledge and information relating to the Aboriginal cultural heritage resource is considered. The purpose of reviewing the relevant environmental and heritage information is to assist in identifying whether Aboriginal objects or places are present within the study area.

The reporting of environmental context is also required by OEH as specified in the NSW Department of Environment, Climate Change & Water, *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales 2010*. This report goes beyond the requirements of an Aboriginal heritage due diligence assessment to consider any potential impacts on European (Historic) heritage, as well as Aboriginal places, objects and sites.

2.1 Local Environment

An understanding of environmental context is important for the predictive modelling of Aboriginal sites, as well as, for their interpretation. The local environment provided natural resources for Aboriginal people, such as, stone (for manufacturing stone tools), food and medicines, wood and bark (for implements such as shields, spears, canoes, bowls, shelters, amongst others), as well as, areas for camping and other activities. The nature of Aboriginal occupation and resource procurement is related to the local environment and it therefore needs to be considered as part of the cultural heritage assessment process.

2.1.1 Climate

During the last glacial maximum (approximately 30,000-19,000 years ago), large ice sheets covered high latitude Europe and North America and the Antarctic ice sheet was more extensive than today. Sea levels stood some 120-130 metres lower than today (Lambeck et al 2002:343) and the earth's climate was distinctly different from that of the present interglacial conditions. As the ice began to melt climatic conditions began to alter (Lambeck et al 2002:343). This affected the movement and behaviour of past populations within their environs. Sea levels started to rise, with a corresponding increase in rainfall and temperature. Short's (2000:19-21) research suggests the change in climatic conditions reached its peak about 6,000 years ago. Up until 1,500 years ago, temperatures decreased slightly and then stabilised about 1,000 years ago, which is similar to the temperatures currently experienced. Consequently, the climate of the project area for the past 1,000 years would probably have been much the same as present day, providing a year round habitable environment.

Sydney is part of the subtropical east coast and experiences a warm wet summer-autumn and cool drier winter-spring (Benson & Howell 1995:11). Mean monthly temperatures at Observatory Hill are a maximum of 25.9 degrees Celsius in January and a minimum of 8.0 degrees Celsius in July (Australian Bureau of Meteorology 2007). Mean annual rainfall at two weather stations flanking Balmain, Observatory Hill and Riverview, are 1214mm and 1131mm per annum respectively.

2.1.2 Geology and Soils

The underlying geology can be important for Aboriginal occupation of an area, as siliceous rocks were used by Aboriginal people for manufacturing flaked stone tools. The exploitation of stone raw materials depends on the nature of the source, rocky outcrops (primary source) may be exploited by quarrying, but may also be procured as cobbles (secondary source) (Doelman et al. 2008).

The Balmain Thames Street Wharf project area is situated on the Balmain Peninsula, a large low-lying and gently undulating landform in the Sydney Basin. The Sydney Basin is a large geological feature that stretches from Batemans Bay in the south, Newcastle in the north and Lithgow in the west (Clark and Jones 1991). The formation of the basin began between 250 to 300 million years ago when river deltas gradually replaced the ocean that had extended as far west as Lithgow (Clark and Jones 1991). The oldest, Permian layers of the Sydney Basin consist of marine, alluvial and deltaic deposits that include shales and mudstone overlain by Coal Measures. By the Triassic period the basin consisted of a large coastal plain, with deposits from this period divided into three main groups; the Narrabeen Group, Hawkesbury Sandstone and the Wianamatta Group (Clark and Jones 1991).

The geology for the Balmain area chiefly comprises the Triassic Wianamatta Group, which is made up of sandstone and shale with the exception of the areas surrounding watercourses, such as Ropes Creek, Eastern Creek and South Creek, which are made up of Quaternary deposits of gravel, sand, silt and clay (Brunker & Rose, 1967). The Wianamatta Group is overlain by Triassic Bringelly Shale, Ashfield Shale and small deposits of Minchinbury Shale (Erskine, et al, 2003:128).

The Balmain Peninsula and much of the adjoining Sydney and Glebe peninsulas consist of Hawkesbury Sandstone. Moving southwards from Pymont peninsula, the underlying rock becomes Wianamatta Shale from just north of the Parramatta Road, but sooner on both the Sydney and Glebe Peninsulas. Wianamatta Shale is thus the dominant rock beneath the catchments of the major creeks feeding into Cockle and Blackwattle Bays; overall, some 60 percent of the catchments of the two bays are underlain by shale. The presence of sandstone in the project areas are important for Aboriginal occupation of the area because certain types of silicified tuff have been used by Aboriginal people for manufacturing flaked stone tools; and sandstone was used for grinding grooves, for shelter (if rock shelters present), engravings, amongst other uses.

There is however, an intrusion of Quaternary Alluvium (Botany Sands) into the catchment of Blackwattle Bay and Cockle Bay in its southernmost part (Herbert 1983). This is thought to reflect sedimentation since European settlement. Sedimentation was confirmed in Mort's Bay in 2012 during diving inspection in which observational data suggests at least seven (7) metres of reintroduced sandy sediment at the old entrance to Mort's Dock. This sediment measurement was taken against the historic depth indicator etched in the sandstone wall adjacent to the *in situ* caisson.

The dominant soil landscape of the Balmain Peninsula area is the Gynea soil landscape. This soil landscape comprises the core of Pymont peninsula and occurs extensively thorough out the Hornsby Plateau and along the foreshores of Sydney Harbour and the Parramatta Rivers. According to Chapman & Murphy (1989:64), the soils are shallow to moderately deep (30-100 centimetres) *Yellow Earths (Gn2.24)* and *Earthy Sands (Uc5.11, Uc5.23)* on crests and inside of benches, with: shallow (<20 centimetres) *Silaceous Sands (Uc1.21)* occurring on the leading edges of benches. Localised *Gleyed Podzolic Soils (Dg4.21)* and *Yellow Podzolic Soils (Dy4.11, Dy5.11, Dy5.41)* occur on shale lenses; and shallow to moderately deep (<100 centimetres) *Silaceous Sands (Uc1.12)* and *Leached Sands (Uc2.21)* appear along drainage lines. More broadly, this landscape is characterised by 'undulating to rolling rises and low hills on Hawkesbury Sandstone' (Chapman & Murphy, 1989:64), which is a medium to coarse-grained quartz sandstone with minor shale and laminate lenses. Local relief is approximately 20-80 metres; slopes of 10-25 percent are observed; and rock outcrops of less than 25 percent were evident during the site inspection.

2.1.3 Topography and Hydrology

The Balmain Peninsula includes the suburbs of Balmain East, Balmain, Rozelle and Birchgrove. Located north of Rozelle, Balmain has an area of 237 hectares and approximately eight (8) kilometres of coastline. Rising 40 metres above the waterline (Leichhardt Municipal Council 2012: Online), this eroded and uplifted sandstone peninsula affords views over the harbour with the dramatic backdrop of the city to the east, in

addition to views of Parramatta River and surrounding suburbs. Sideslopes with narrow to wide outcropping sandstone rock benches (10-100 metres) are evident, and often form broken scarps of less than five (5) metres. A small stream used to run through the Strathean valley (now Balmain Valley) into what is now Mort Bay. This was dammed in the early 1840's and is now thought to run underground. The entire area of Balmain is a heritage conservation area.

2.1.4 Flora and Fauna

Whilst there has been widespread clearance of natural vegetation in the project area, the dominant ecological community prior to European contact was low dry sclerophyll open-woodland which would have dominated the ridges and upper slopes, with species commonly present including Red Bloodwood *Eucalyptus gummifera*, Scribbly Gum *Eucalyptus haemastoma*, Brown Stringybark *Eucalyptus capitellata* and Old Man Banksia *Banksia serrata*. More sheltered slopes would have commonly supported Black Ash *Eucalyptus sieberi*, Sydney Peppermint *Eucalyptus piperita* and Sydney Red Gum *Angophora costata*. The understorey of these plant communities would have consisted of shrubs from the families *Ericaceae*, *Myrtaceae*, *Fabaceae* and *Proteaceae* (City of Sydney, undated: Online).

Typical animals which would have inhabited this vegetation community include *Macrodidae* (Kangaroos and wallabies), sugar gliders, possums, echidnas, a variety of lizards and snakes, birds, as well as rats and mice. The bones of these animals have been recovered from Aboriginal sites in the Sydney region suggesting that they were sources of food (Attenbrow 2002:70-76), although the hides, bones and teeth of some of the larger mammals may have been used for Aboriginal clothing, ornamentation, or other implements.

2.1.5 Previous Land Use and Disturbance

The Balmain project area has been substantially impacted by prior land use practices. Since the earliest period of European settlement, the Balmain Peninsula has been used for industrial purposes - a coal mine, dry dock and engineering facility, manufacturing plants, heavy industry and for shipbuilding - leading to large scale clearance of native vegetation, as early as 1842 when a stream which ran down from Balmain Hill through the valley of Strathean (the Balmain valley) was dammed and the water sold to visiting ships.

2.1.6 Environmental Context and Cultural Heritage

A review of the environmental data shows that the Balmain Peninsula, and Waterview/Mort Bay area in particular was suitable for Aboriginal occupation. Ample food sources in the form of fish and game were present, as was reliable water from the waterholes, stream, river and harbour. This is not however borne out by the AHIMS data that shows no Aboriginal sites in the area. This is thought to be as a result of the highly disturbed nature of the project area and adjacent lands due to its European occupation and long industrial usage.

3.0 Historical Context

European land settlement commenced in NSW in 1788 when Governor Phillip claimed possession of the land now known as Australia for a penal colony on behalf of the British Government. The heritage objects, sites and places associated with the European occupation of Australia point not only to the development of Australia as a modern nation, but to the places where people lived and worked. It can tell us about the way things were made and used and how people lived their daily lives.

3.1 European History

3.1.1 History of Sydney

Sydney was first visited by the British in 1770 when Captain James Cook and Joseph Banks sailed the *Endeavour* into Botany Bay (Karskens 2009). With plans to establish a penal colony, the First Fleet followed in 1788 (Karskens 2009). The Colony grew quickly. From 1830 Hackney carriages ran in the streets (Karskens 2009). From 1841 the streets of Sydney were lit by gas. By 1840 the colony's population was made up of mainly free immigrants and transportation ceased in 1842. In 1842 Sydney was incorporated and by 1847 the convict population of Sydney accounted for only 3.2 percent of the total population (Karskens 2009). The 1830s and 1840s were periods of urban development, including the development of the first suburbs, as the town grew rapidly when ships began arriving from Britain and Ireland with immigrants looking to start a new life in a new country. On 20 July 1842 the municipal council of Sydney was incorporated and the town was declared the first city in Australia, with John Hosking the first elected mayor (Karskens 2009).

As Sydney expanded in size many new buildings were erected. Government House was built in 1845 and the Sydney Observatory was built in 1858 (Karskens 2009). Macquarie lighthouse was built in 1883 and Customs House in 1885. Centennial Park was laid out in 1888 and Sydney Town Hall was built was completed in 1889 (Karskens 2009). The Strand Arcade in Sydney opened in 1892 and the Queen Victoria Building was erected in 1898 (Karskens 2009).

In 1901 the six British colonies in Australia formed a federation to become the Commonwealth of Australia. Sydney continued to grow and by 1925 became a metropolis of 1 million people (Karskens 2009). The First World War spurred an economic boom for Sydney, however, with the artificial spending stimulant of the war over, the economy went into rapid decline and over a third of Sydney side were unemployed during the Great Depression of the early 1930's (Karskens 2009). World War II marked the beginning of a long period of Australian economic growth. The war greatly increased the size and importance of the Australian manufacturing sector and stimulated the development of more technologically advanced industries (Karskens 2009). As part of this trend many workers acquired relatively high skill levels and female labour force participation rates greatly increased.

After 1945 Australia entered a boom period with refugees and migrants arrived in Australia in the immediate post-war period. This brief historical overview is important in setting the scene for our assessment and placing the site in context.

3.1.2 History of Balmain

The first phase of European settlement of the Balmain occurred between about 1820 and 1860. It commenced from the eastern end of the Peninsula (now Balmain East) due to the proximity and visual connection to the city, and spread west to what is now Rozelle Initial settlement consisted of gentleman's residences sited on the bluffs and ridges for prominence, views and ventilation on large lots.

More modest housing was built on smaller lots closely aligned to convenient access roads and lanes, particularly the ridgeline road, Darling Street, named after Governor Ralph Darling. This provided housing for tradesmen and service workers mainly employed in local industries such as shipbuilding, engineering and coal mining. The local industries took advantage of the waterfront access, servicing the City and port. They used local resources such as stone and they developed shops and services for a small but isolated community. Development was spurred on by small entrepreneurial activity, the best example being Thomas Mort's Mort Dock and Engineering Company, both in terms of business and industrial activity and investment in land development and housing. Hence, the original Crown grants were quickly subdivided and sold off in convenient parcels for access to the spine of Darling Street.

By the 1880's boom, the pressure on land led to re-subdivision. Terrace housing replaced single storey detached houses particularly on the more prominent sites. The newly affluent middle classes developed grander houses and enclaves in favoured locations such as to the harbour edges of Birchgrove and Elkington Park, further removed from the industry. This also occurred along ridgelines such as Rowntree and Smith Streets.

While Balmain became a municipality in 1860, the population did not support grand civic buildings until the 1880's when the Town Hall was built. Shortly after this, the Post Office and Courthouse on the main crest of Darling Street were constructed. By this stage, most of Darling Street was built up. Trams were introduced to improve access to the City. The dependence on water access declined.

Larger industries and multi-national companies moved into Balmain at the turn of the century including Unilever and Colgate Palmolive. This led to further consolidation to house the workforce on the skirts of the industry. The Labour movement became a major facet in the suburb's social make-up.

Smaller houses continued to be replaced, enlarged and re-clad through the twentieth century, with some housing demolished for industrial expansion earlier in the century and some 'slum clearance' after the second World War, for public housing. Some sporadic private flat development occurred, encouraged by the Council in the spirit of modernisation.

The role of major industry is evident in the workforce. At its peak Mort's Dock was the largest employer in the Colony with 2000 workers, whilst Unilever employed 800 workers and Colgate Palmolive some 300 workers. From the 1970's economic and technological shifts together with rising land values in the inner city and rising appreciation of inner city locations led to a de-industrialisation, a retreat of maritime and port activities and a residential regeneration process. This encouraged both conservation of the character of the suburb, and redevelopment of former industrial sites. On waterfront sites this also yielded new waterfront parks.

According to Leichhardt Council (undated: Online), Balmain has five distinctive neighbourhoods by virtue of topography, built form and street pattern as well as land uses. The Mort Bay Distinctive Neighbourhood (which contains the project area) is located on the north side of Darling Street between East Balmain and Birchgrove. The neighbourhood takes its name from Thomas Sutcliffe Mort who together with Thomas Rowntree, established Mort's Dock in the early 1850's. The dock and shipbuilding facility on the site of the present day Mort Bay Park was one of the main catalysts for the industrialisation and urbanisation of Balmain and it was to service Mort's Dock that the Balmain Thames Street Wharf was constructed.

The neighbourhood is situated on the northeast facing slope bounded by Darling Street, East Balmain and Birchgrove. Mort Bay Distinctive Neighbourhood stretches from Cooper Street in the east to Rowntree Street in the west.

The topography of the neighbourhood forms a natural basin around the 7.5 hectare Mort Bay Park (Leichhardt Council 2012: Online) and a knoll around the top of Campbell Street. The soils in the area are typical of the Balmain Peninsula with thin rocky soils along the upper slopes and some deeper, richer soils

toward the bottom of the slope. The present day park at the site of Mort's Dock was formed by backfilling after the dry dock was closed in 1965.

The orientation in the neighbourhood is across Mort Bay and Goat Island to the north/east providing views from the CBD to Chatswood. Originally stripped of vegetation by timber getters and graziers, trees for shade and amenity were reintroduced into the locality toward the end of the nineteenth century. Currently there is dense tree cover along the water's edge and mature trees throughout the neighbourhood. Due to the narrow streets, street trees are few along roads such as Waterview and Clayton Streets. On the wider streets there is a consistent pattern of native street trees. These trees form a significant part of the streetscape (Leichhardt 2010: Online).

Mort Bay is a small neighbourhood with a rich architectural heritage dating primarily from post 1850. The neighbourhood has numerous individually listed heritage items, mostly located in the eastern half of the neighbourhood, between Clayton and Cooper Streets. Many houses date from the 1850s – 1870s. At that time, Thomas Mort established the 'Town of Waterview' overlooking the (then) Waterview Bay (now Mort Bay) to help fund the establishment of Mort's Dock (Leichhardt 2010: Online).

The historical development pattern of the late nineteenth century is preserved in the corner buildings with most of these buildings being two storeys, with shops below and housing above. These premises tend to have their front doors oriented to the corner and generally contain posted verandas. The original development pattern was based on maritime and other industries that crowded the shore around Mort Bay as well as the spread of development from the ridge top commercial precinct along Darling Street (Leichhardt 2010: Online).

Mort Bay is observed to be one of the few remaining working bays in Sydney Harbour, with a number of maritime businesses operating there. These include the Sydney Ferries depot, the water taxi depot, the tug boat depot as well as Browns Marine Engineering firm. These firms are in addition to the former Colgate – Palmolive site at the end of Colgate Avenue (now converted for residential use). These industries overlook the disused Caltex site at Ballast Point and are representative of the industrial and maritime uses of Mort Bay over the past 150 years (Leichhardt 2010: Online).

The road pattern generally follows the topography of the neighbourhood. Curtis and Cameron Streets follow the contours and all other streets cross the contours and extend down to the water's edge. In the vicinity of the Campbell Street hill and further east, the roads are generally narrow with average widths ranging from five (5) metres to six (6) metres. This area in the east of the neighbourhood is steeper and has a tighter built form. It is also served by a series of laneways. Laneways such as Campbell Lane are narrow (3.6 metres) and unformed. This small laneway, with its stone houses, evokes strong images of the harsh living conditions in the late nineteenth and early twentieth century Balmain (Leichhardt 2010: Online).

In the west of the neighbourhood, the road pattern becomes more regular, with uniform and regularly spaced roads angled gently down the slope towards Ballast Point. Roads between Mort Street and Rowntree Street are 10 metres wide or 15 metres wide. There are only a few scattered service lanes in the neighbourhood. Sandstone kerbs remain on most streets (Leichhardt 2010: Online).

3.1.3 History of Mort's Dock and Balmain Thames Street Wharf

Balmain Thames Street Wharf is located adjacent to Mort Bay Park, the aforementioned site of the former Mort's Dock and Engineering Company, with industrial heritage spanning more than 100 years (1842 - 1979).

Mort Bay (the body of water in which the Balmain Thames Street Wharf stands) was originally known as Waterview Bay, and at the corner of the bay was the mouth of a small stream which ran down from Balmain

Hill through the valley of Strathean. On its way to the harbour, the stream collected in small waterholes known as the 'Curtis Waterholes' after the then landowner James Curtis. In 1842 James Reynolds purchased from Curtis an area of land bounded by what is now Curtis Road down to the waterfront between Mort and Church Streets, dammed the stream, built a stone house called 'Strathean Cottage' and sold fresh water to the ships anchored in the deep calm waters of the Bay (EP NSW 2004: 12).

The land was then sold to Captain Thomas Rowntree who in 1853 recognised the site as a prime location for a patent slip. To finance his venture, Rowntree sold his ship the *Lizzie Webber* and in doing so, met Auctioneer, Thomas Sutcliffe Mort. Mort further recognised the necessity for Sydney to provide docking facilities for ships needing repairs in the Colony, as at that time there were no such facilities south of Bombay (modern Mumbai), India. The location was ideal.

Rowntree and Mort formed the Waterview Bay Dry Dock Company (later Mort's Dock & Engineering Company) in 1853 and built Australia's first dry dock and patent slip on the site. The dock was operational by 1855, one year before Cockatoo Island. The company soon become the largest private employer in the colony, a cornerstone of the union movement and the birthplace of the Australian Labour Party (then the Labour Electoral League, later the Political Labour League), founded in 1891 by Balmain Unionists at the dock, who fielded four (4) candidates in the State elections.

In 1867, Mort's Dock became principally an engineering facility, manufacturing steam locomotives, ships and ship machinery, mining equipment, bridge-iron, steel pipe for the Sydney Water Board.

In 1895, the Balmain Thames Street Wharf was constructed to service the transport needs of the growing number of ferry workers travelling to and from Mort's Dock, and according to the NSW Maritime Heritage Database, it was modified four (4) decades later, and it is this modified wharf which is evident on site today.

In 1901 the company opened a second dry dock and slipway at Woolwich to cater for increased demand and by 1917 the Dock has built 39 steamships, seven (7) Manly ferries, pumping engines for the Waverley and Crown Street reservoirs, and the ironwork for the Sydney GPO. During the interwar period, an iron foundry was constructed, a slipway and floating dock purchased, and a virtual monopoly on industry in the area was obtained.

The outbreak of World War II proved to be a boom time for Mort's Dock. The 1920s and 1930s had seen a decline in the Royal Australian Navy with few vessels constructed and older ships sold off or scrapped. Japan's entry into the war led to a sudden demand for coastal protection and increased offensive power in the Pacific Ocean.

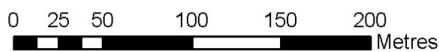
Between 1940 and 1945, Mort's Dock constructed 14 of the 60 Bathurst class Corvettes built in Australia, four (4) of the 12 River Class frigates, and a 1000 ton capacity floating dock. Following liquidation of the Mort's company in 1959, the site was purchased by ANL in 1960, and backfilled to create its newest container facility. The backfill has preserved the dry dock and other *in situ* remains providing a high archaeological potential and fabric integrity.

In 2010, the site was listed on the NSW State Heritage Register (Figure 3-1).

Heritage Council of New South Wales



State Heritage Register - Proposed Curtilage for Investigation



Scale: 1:3,300 @A4
Produced by: Michelle Galea
Date: 06 December 2010

- Legend**
- Proposed Curtilage
 - SHR Curtilage
 - LGAs
 - Suburbs
 - Land Parcels

Figure 3-1 Curtilage of the Heritage listed Mort's Dock site

4.0 Heritage Context

Heritage consists of those objects, sites and places that will be inherited by future generations. Australia has many rich and varied historic places and landscapes, both urban and rural. Identifying and understanding their particular qualities and what these add to our lives, is central to our engagement with our history and culture.

NSW's heritage is diverse and includes buildings, objects, monuments, Aboriginal places, gardens, bridges, landscapes, archaeological sites, shipwrecks, relics, bridges, streets, industrial structures and conservation precincts.

4.1 Aboriginal Cultural Heritage

4.1.1 Regional Overview

Aboriginal and Torres Strait Islander heritage is an important part of Australian heritage. Evidence of the occupation of Australia by Aboriginal and Torres Strait Islander people dates back more than 60,000 years. As well as being historically important, Aboriginal cultural heritage objects, sites and places provide valuable information about one of the world's oldest living cultures, and are of continuing significance, creating and maintaining continuous links with the people and the land.

Aboriginal heritage consists of those places and objects that contribute to the story of Aboriginal people in NSW. It can help identify the links that places may have with each other. Aboriginal people moved around NSW and passed on stories, information and knowledge by going to these special places. Aboriginal heritage includes places and items that are important to the local Aboriginal community or to Aboriginal people of NSW. These are places or objects that people have a connection to, both physically and spiritually, and can include natural features such as creeks or mountains, ceremonial or story places or areas of more contemporary cultural significance such as Aboriginal missions or post contact sites.

The Aboriginal heritage assessment process requires that the significance of Aboriginal sites within a project area is assessed. It is important that Aboriginal sites are contextualised within the local and regional landscape, in order to inform the assessment of significance. Historical information also provides additional information for the interpretation of archaeological sites.

The Sydney region has been inhabited by the Aboriginal people for at least 10,000 years according to available radiocarbon dates. Rock shelter sites in the King Tablelands site (Blue Mountains) and Darling Hills Creek (Pennant Hills), both provide dates over 10,000 years old (Stockton and Holland 1974). More recently, McDonald (2007) has reported on a date of over 30,000 years for a site in Parramatta, but this information has yet to be published in any detail. Further south along the NSW coast, sites at Burrill Lake and Bass Point produce dates of 20,000 and 17,000 years ago, respectively (see Bowdler 1970; Lampert 1971). All of these sites were occupied when the sea level was lower, about 120 metres below present day. Therefore, these sites would have been inland, surrounded by incising streams and rivers that crossed the exposed crustal shelf reaching the sea some 20 kilometres from the current coast line.

Few other Pleistocene deposits are known. Two sites are known to date to the early Holocene, those of Curracurrang, south of Sydney, a rock shelter, and an open campsite at Prince of Wales Hospital, Randwick (Steele 2002). Most archaeological sites within the Sydney region are dated to the late Holocene, about the last 2,500 years to present. Researchers believe that the Sydney Basin was not intensively settled until this time after the sea levels had risen and stabilised around 5,000 BP (Attenbrow 1987, 2002). Many believe open sites were occupied only in the 1,500 years before European contact. Attenbrow (2002) identified eight dated sites in the vicinity of Riverstone and Alex Avenue, specifically Power Street Bridge 2 (5 957±74 14C

BP) 4, Rouse Hill RH/CD7 (4 690±80 14C BP), Parklea OWR7 (4060±90 14C BP), Quakers Hill 2 (3 450±60 14C BP), Plumpton Ridge (2 250±80 14C BP), Parklea PK.CD1+2 (1 070±60 14C BP), and Second Ponds Creek (650±100 14C BP). All of which were identified as open artefact scatters and indicate the presence of Aboriginal people in this area in the mid to late Holocene.

Stone artefacts are an important source of information for archaeologists. Information about trade routes, raw material exploitation as well as manufacturing technology can be obtained through the study of these tools. Stone tools are also used by archaeologists to obtain relative dates for archaeological sites. A widely accepted system for the dating of sites containing stone tools on the east coast of Australia was introduced by Fred McCarthy in 1948 and is known as the Eastern Regional Sequence (ERS). Debates over the accuracy of the ERS system continue (Bird & Frankel 1991; Hiscock & Attenbrow 2002), and the sequence has been refined in recent years (Hiscock & Attenbrow 2004). However, it is generally accepted that the phases within the ERS are as follows:

Pre- Bondaian (previously Capertian) – Artefacts from this phase are typically of silicified Tuff, although where this material was difficult to obtain quartz and unheated silcrete were also utilised. Artefacts and cores vary widely size and are typically characterised by unifacial flaking. No backed artefacts, eloueras or ground stone implements have been identified within this phase. This phase generally dates to pre 8,000 years before present (BP).

Early Bondaian – Artefacts of this phase tended to be manufactured from local raw materials and a reduction in use of silicified Tuff is apparent. Both unifacial and bifacial flaking were dominant techniques, with bi-polar flaking becoming more widely used in the later stages. This phase dates from 8,000 to 4,000 BP.

Middle Bondaian – Raw materials used in stone tool manufacture vary widely between sites during this phase, although the use of quartz increases. Backed artefacts are most frequent in this phase in comparison to others. Tools and core size is reduced and the use of bi-polar flaking increases. This phase is generally dated from 4,000 to 1,000 BP.

Late Bondaian - Use of raw material types continues to diversify, whilst quartz is the dominant material type in use. Artefacts were typically manufactured through the use of bipolar flaking. Eloueras, bone artefacts and shell fishhooks are common in this phase. This phase is dated from 1,000 BP to European contact.

It is a common pattern in the Sydney Basin region, and along the east coast of Australia, that the majority of Aboriginal sites are found within close proximity to water sources, such as deflation basins and swamps. It is possible that such patterns may be the result of increased ground surface visibility or survey sample bias in these areas. Indeed, it is suggested by McDonald and White that the presence of erosion and surface exposures of artefact-bearing sediments as a result of sheet wash and gullying close to streams has biased results used for predictive modelling (2010:33).

4.1.2 Local Overview

The Port Jackson area was the traditional country of the coastal Darug speaking Aboriginal people, who were divided into land-owning clan groups, with a subsistence economy based on hunting, fishing and gathering. The area would have had abundant food resources in the sea, wetlands, forests and woodlands and supported a large Aboriginal population.

The Aboriginal history of Port Jackson is still very much in evidence, with Aboriginal names for many headlands and other features around the harbour. There is a rich ethnographic record from the first white explorers and settlers and the Aboriginal history is well documented in numerous publications, both academic and populist, for example in Attenbrow (2010) and Kohen (1993). Since the 1970s there has been

a considerable amount of archaeological research and site recording, from broad regional surveys to those concentrating on excavation of a single site. Many of the art sites were recorded in the 1930s by bushwalkers and many are popular destinations for visitors, wanting to learn more on Aboriginal culture. Despite extreme levels of landscape modification, the Port Jackson area still contains numerous archaeological sites, including middens, artefact scatters, burials, scarred trees, rock shelters with art and/or cultural deposit, axe grinding grooves, and rock engravings.

Although Port Jackson once contained hundreds of Aboriginal people, much of the evidence for thousands of years of occupation has been destroyed by urban development and the transformation of the water body into a major harbour. Generally the more developed and modified an area, the less likelihood for sites to be present, although sites have been recorded in very highly modified landscapes. It is possible to predict the location of certain site types through the presence of certain environmental variables. For example artefact scatters are nearly always found on flat well drained ground close to potable water.

The subject area contains minimal amounts of their original terrain and landform, reducing the likelihood of any sites being present. There is no remaining mature forests so scarred trees are not present. Shell middens are common around coasts and estuaries, but the water/land interface and sand dunes have been severely altered, although both middens and artefact scatters may still be extant in less disturbed back from the water's edge. Burials may be present in middens.

Engravings and axe grooves may be present if large flat sandstone slabs occur in the areas and rock art or cultural deposits may be present where there are rock overhangs in low cliffs. Bora grounds and stone arrangements are fragile sites, unlikely to have survived colonisation. Places of spiritual, cultural or historical significance to Aboriginal people may be present in the sea or on land, but knowledge of these tends to be held orally and requires consultation with relevant Aboriginal knowledge holders.

The Balmain Thames Street Wharf area is evidently a highly disturbed, modified landscape. There is a possibility, albeit unlikely, for artefact scatters and middens to be present in grassed areas in the undeveloped parklands. Intact dunes remnants appear to be absent.

4.2 European Cultural Heritage

European land settlement commenced in NSW in 1788 when Governor Phillip claimed possession of the land now known as Australia for a penal colony on behalf of the British Government. The heritage objects, sites and places associated with the European occupation of Australia point not only to the development of Australia as a modern nation, but to the places where people lived and worked.

European (historic) heritage is recorded in a number of ways/places including the Australian Heritage Database, which is an online database of items listed under the Commonwealth Heritage List, National Heritage List and the Register of the National Estate, along with a variety of State and local heritage registers and organisations such as the Balmain Association.

4.2.1 National Heritage

The National Heritage List is now the lead statutory document for the protection of heritage places considered to have national importance. This list comprises Indigenous, natural and historic places that are of outstanding national heritage significance to Australia. Listed places are protected under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

A search of the National Heritage List (Australian Government 2012: Online) indicates that there are zero (0) items within the Leichhardt LGA on the National Heritage List, and consequently zero (0) items in the suburb of Balmain, and zero (0) items in the Balmain project area on the National Heritage List.

Previously the Register of the National Estate was the primary document. While the Register of the National Estate still exists in archival form, items can no longer be registered and since February 2012 no longer has statutory status. However, the Minister is still required to considering the Register when making some decisions under the EPBC Act. The Register of the National Estate contains zero (0) heritage site within the Leichhardt LGA and consequently zero (0) items in the suburb of Balmain, and zero (0) items in the Balmain project area listed on the Register of the National Estate Archive.

4.2.2 Commonwealth Heritage

The Commonwealth Heritage List is a list of natural, Indigenous and historic heritage places owned or controlled by the Australian Government. These include places connected to defence, communications, customs and other government activities that also reflect Australia's development as a nation. As neither the project area nor adjacent areas are owned by the Commonwealth, there are zero (0) items in the suburb of Balmain and zero (0) items in the Balmain project area on the Commonwealth Heritage List.

The Australian Heritage Database is an online database of items listed under the Commonwealth Heritage List, National Heritage List and the Register of the National Estate Archive. A search of the Commonwealth Heritage List indicated that there are no items listed in both project areas.

4.2.3 State Heritage

Heritage items in NSW may be registered as important at the State level and/or at the local level. The Heritage Council has developed a set of seven (7) criteria to help determine whether a heritage item is of State or local significance to the people of New South Wales. Items are assessed by the Heritage Council of NSW, and if deemed eligible for listing, i.e. are of State significance, they are referred to the Minister for Heritage for Listing on the State Heritage Register, a statutory register of heritage items created by the NSW *Heritage Act 1977*.

Some heritage places and items that do not reach the threshold for listing on the State Heritage Register may be of heritage significance within a local government area. These places are listed by local council under their LEP and additionally may be included on the NSW Heritage Inventory database.

The NSW Heritage Inventory database is maintained by the NSW Heritage Office and lists items that have been identified as of State and local heritage value throughout NSW.

A search of the State Heritage Register on 2 May 2012 revealed eight (8) items of State heritage significance in Balmain (Table 2). Of these eight items, only one (1) is in the project area. This is the former site of Mort's Dock and Engineering Company (now Mort Bay Park). The site is adjacent to the project area, and wharf, and all care must be taken to ensure that the listed area is not impacted during construction, unless the relevant exemption under the *Heritage Act 1977* is obtained from the Heritage Branch, OEH prior to the commencement of works.

Table 2: Items listed under the NSW Heritage Act: Balmain

Item	Address	Heritage Listing
Mort's Dock	Thames, Mort, College, McKell, Cameron & Yeend Streets, Balmain	State Heritage Register
Balmain Hospital	Booth Street, Balmain	State Heritage Register
Dawn Fraser Swimming Pool	Glassop Street, Balmain	State Heritage Register
Ewenton	6 Ewenton Street, Balmain	State Heritage Register
Fenwick & Co Boat Store	2-8 Weston Street, Balmain	State Heritage Register

Hampton Villa	12B Grafton Street, Balmain	State Heritage Register
Louisville	2 Wells Street, Balmain	State Heritage Register
Waterview Wharf Workshops	37 Nicholson Street, Balmain	State Heritage Register

Source: Heritage Branch, Office of Environment and Heritage

Additionally, a search of the s.170 State Government Agency Heritage and Conservation Register revealed ten (10) sites within Balmain (Table 4), however zero (0) items are within or adjacent to the Balmain project area.

Table 3: Items listed on the S. 170 Stage Government Agency Heritage and Conservation Register

Item	Address	Heritage Listing	Significance
Balmain Courthouse and Post Office	368 Darling Street, Balmain	Attorney Generals Department s170 State Govt. Agency Heritage and Conservation Register	Local
Balmain Fire Station	391 Darling Street, Balmain	NSW Fire Brigades s170 State Govt. Agency Heritage and Conservation Register	Local
Balmain Police Station	368 Darling Street, Balmain	NSW Police Service s170 State Govt. Agency Heritage and Conservation Register	Local
Balmain Reservoir (Covered) (WS 0006)	Gladstone Park, Booth Street, Balmain	Sydney Water s170 State Govt. Agency Heritage and Conservation Register	Local
Balmain Water Pumping Station (former)	Booth Street, Balmain	Sydney Water s170 State Govt. Agency Heritage and Conservation Register	Local
Beattie St Stormwater Channel No 15	Robert St. to Beattie Street, Balmain	Sydney Water s170 State Govt. Agency Heritage and Conservation Register	Local
Electricity Substation No. 1464	46 Fitzroy Avenue, Balmain	Energy Australia s170 State Govt. Agency Heritage and Conservation Register	Local
Electricity Substation No. 1506	15 Reynolds Avenue, Balmain	Energy Australia s170 State Govt. Agency Heritage and Conservation Register	Local
Main Building	Booth, Stephen & Palmer Streets, Balmain	NSW Department of Health s170 State Govt. Agency Heritage and Conservation Register	Local
Sewage Pumping Station No 10 (SP0010)	Mort Street, Balmain	Sydney Water s170 State Govt. Agency Heritage and Conservation Register	Local

Source: Heritage Branch, Office of Environment and Heritage 2012

4.2.4 Historic Shipwrecks and Maritime Heritage

Historic shipwrecks more than 75 years of age are protected in NSW by the Shipwreck provisions of the *Heritage Act 1977*. A search of the NSW Maritime Heritage Online (MHO) (2012: Online) - the statutory database of Historic Shipwrecks in NSW - revealed four (4) Historic Shipwrecks in Mort Bay (formerly known as Waterview Bay), and a fifth (5 in total) ship wrecked in an unknown location in Sydney Harbour near Balmain (Table 4).

In addition to the Historic Shipwreck known to have foundered near Balmain (Table 4), several other shipwrecks are known to be in Sydney Harbour and remain unlocated. These shipwrecks include the *Siesta* (1942), *Nereus* (1942), *Silver Cloud* (1942), *Marlean* (1944), *Sea Nymph* (1882), *Cadet* (1912), *Rodney* (1938), *Robert Saywers* (1854), *Native* (1850), *Gem* (1880) and *Esther* (1920). The number in brackets is the year that the shipwreck was recorded as lost.

Note that MHO is the statutory record of historic shipwrecks protected under the shipwreck provisions of the NSW *Heritage Act 1977* and reflects the same data as the Australian National Shipwreck Database (ANSDB) which is the statutory record of historic shipwrecks protected under the Commonwealth *Historic Shipwrecks Act 1976*. Although the Commonwealth Act does not apply in inland waterways such as Sydney Harbour or Mort Bay, it is prudent to check both as the Commonwealth ANSDB will often make reference to shipwrecks or submerged sites outside of its jurisdiction.

Table 4: Historic Shipwrecks Protected by the Shipwreck Provisions of the *Heritage Act 1977*

Item	Address	Heritage Listing	Significance
<i>Arabian</i> (1857)	Waterview (Mort) Bay, Balmain	Heritage Act 1977	State
<i>Claude</i> (1908)	Waterview (Mort) Bay, Balmain	Heritage Act 1977	State
<i>Daphne</i> (1916)	Waterview (Mort) Bay, Balmain	Heritage Act 1977	State
<i>Jane</i> (1866)	Sydney Harbour, Balmain	Heritage Act 1977	State
<i>Leichhardt</i> (1916)	Waterview (Mort) Bay, Balmain	Heritage Act 1977	State

Source: NSW Maritime Heritage Online, Heritage Branch, Office of Environment and Heritage (2012: Online).

As exact positions of the Historic Shipwrecks listed in Table 4 are unknown, research has been undertaken to ensure that no Historic Shipwrecks or relics would be impacted when mooring the barge being used to take equipment and supplies on and off site via the Harbour, or during the removal and replacement of the wharf.

Archival information obtained from RMS (formerly NSW Maritime/Maritime Services Board) in July 2012 indicates that the area has been repeatedly and heavily dredged since the closure of Mort's Dock and that all lease agreements between RMS and Leichhardt Council since the Wharf has been used for ferry operations allow for dredging operations. It is considered highly unlikely that any of the Historic Shipwrecks remain submerged or buried within the Balmain Thames Street Wharf project area and there is an extremely low risk of impact to Historic Shipwreck material, as previous dredging would have ensured that the harbour-bed is clear of historic material (Ward 2012:1-2).

4.2.5 Local Heritage

Searches of the Heritage Branch, OEH State Heritage Inventory, and the Leichhardt Local Environmental Plan revealed a total of 214 Local Heritage Items within Balmain. For prudence we have listed only those within Thames Street, Balmain and adjacent to the project area. The Balmain Thames Street Wharf is itself listed on the Leichhardt LEP (Table 5).

A search was also undertaken of the Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005 in order to identify any further heritage items. The SREP covers all the waterways of the Harbour, the foreshores and entire catchment. It establishes a set of planning principles to be used by councils for the preparation of planning instruments, for the hydrological catchment of the Harbour. It also zones the waterways into nine different zones to suit the differing environmental characteristics and land uses of the harbour and its tributaries.

Table 5: Items of Local Heritage Significance listed on the Leichhardt Local Environmental Plan

Item	Address	Heritage Listing	Significance
Christian Brothers High School	4 Thames Street, Balmain	Leichhardt LEP	Local
Montrose	13 Thames Street, Balmain	Leichhardt LEP	Local
Three Terrace Houses	7-11 Thames Street, Balmain	Leichhardt LEP	Local
Wharf	Thames Street, Balmain	Leichhardt LEP	Local

Source: Heritage Branch, Office of Environment and Heritage (2012: Online)

The SREP includes a range of matters for consideration by consent authorities assessing development within the Foreshores and Waterways Area of the Plan. These are aimed at ensuring better and consistent development decisions and include such issues as ecological and scenic quality, built form and design, maintenance of views, public access and recreation and working harbour uses. The SREP includes provisions relating to heritage conservation and wetlands protection and provides planning controls for strategic foreshore sites, and lists a number of heritage items of State and local significance.

The SREP lists five (5) heritage items on the Balmain Peninsula that are near to the project area (Table 6), including Mort's Dock and Yeend Street Wharf. Yeend Street Wharf is proposed as the alternate wharf during the reconstruction of the Balmain Thames Street Wharf.

Table 6: Items of Local Heritage Significance listed on the Sydney Harbour REP

Item	Address	Heritage Listing	Significance
Site and remains of former Mort's Dock	Foreshore of park, Balmain	SREP Sydney Harbour	Local
Site and remains of wharf	Yeend Street, Balmain	SREP Sydney Harbour	Local
Urban Transit Authority Ferry Maintenance Depot	Alexander and Waterview Streets, Balmain	SREP Sydney Harbour	State
Site of Rowntree's Floating Dock	Hart Street and The Avenue, Balmain	SREP Sydney Harbour	Local
Remains of former Tasmanian Ferry Terminal	Yeend Street, Balmain	SREP Sydney Harbour	Local
Tidal Pool	13 Simmons Street, Balmain	SREP Sydney Harbour	Local

Source: Sydney Harbour Regional Environmental Plan, NSW Department of Planning and Infrastructure (2012: Online).

The Yeend Street Wharf is located at the south-western entrance to the recently constructed Ballast Point Park. Originally built in 1938 by Leichhardt Council as a ferry wharf; Yeend Street Wharf was reconstructed to its present alignment in 1964. The Wharf continued operating as a public wharf and a calling place for ferries until its closure in 1991 (NSW Maritime 2012b: Online), following which it fell into disrepair. In 2010 works to reopen Yeend Street Wharf began and in August 2011, NSW Maritime completed the construction of a new day-berthing facility for recreational vessels at the Wharf at a cost of \$542,275 (NSW Maritime 2011: Online). This new facility provides temporary berthing pick-up and drop-off space for small vessels and water taxis, as well as a low-level landing for launching kayaks and other small passive watercraft. As part of the current proposal to use the Yeend Street Wharf as an alternate to Balmain, five piles will be installed at the Yeend Street Wharf. The piles are required so vessels can use this wharf whilst Balmain Wharf is under construction.

Given the recent works undertaken to reopen Yeend Street Wharf and the disturbance to the seabed as a result of these works, it is considered that the addition of the five piles required as part of this current proposal will have minimal impact on the heritage significance of the Yeend Street Wharf. It is understood that view corridors will not be adversely affected and as the current structure dates to 2011, it is considered that there are no significant heritage constraints associated with the addition of five piles.

5.0 Assessing Significance

Before making decisions about the future of a heritage item it is first necessary to understand its heritage significance and the values it embodies. The aim of this particular significance assessment was to explain the heritage values embodied by the Balmain Thames Street Wharf not only for the benefit of past, present and future generations, but as the basis for policies and management structures that will affect the item's future, such as: making decisions about whether to retain an item; considering changes to an item; preparing a heritage study or conservation management plan; and/or preparing a statement of environmental effects or a heritage or environmental impact statement as part of the development and building approval process such as this.

The assessment was carried out in accordance with 'Assessing Heritage Significance' (Heritage Office (former) 2001) with particular consideration given to the criteria stipulated in 'Significance 2.0', notably the modifying criteria about condition/completeness, and interpretative capacity.

5.1 Significance Assessment

The following assessment uses the NSW State Significance Criteria as specified under the *Heritage Act 1977*.

5.1.1 Historical Significance (SHR Criteria A)

The Balmain Thames Street Wharf site is historically significant as a key piece of maritime infrastructure that not only supported Mort's Dock and Engineering Company, an industrial site of State significance as Sydney's first dry dock (1842) in continuous operation till 1979, but also, the development of the Colony since its construction in 1895.

5.1.2 Associative Significance (SHR Criteria B)

The Balmain Thames Street Wharf structure is immediately adjacent to the Mort Bay Park, the site of the former Mort's Dock and Engineering Company Limited, which is of State heritage significance. Although Freeman (2012:2-2) suggests that the Mort's Dock listing is due primarily to its archaeological and associational significance, the site met all seven (7) of the seven Criteria for Listing (OEH 2012: Online). The former wharf ticket office site, adjacent to the extant waiting shelter, is considered to be of cultural significance for its archaeological values.

The Balmain Thames Street Wharf site has strong historical association with Mort's Dock and Engineering Company, and its proponents including Thomas Stephenson Rowntree, Thomas Sutcliffe Mort and latterly - as they both completed apprenticeships at Mort's Dock and Engineering Company - John Storey who became Premier of NSW and William McKell who became NSW Minister for Justice, and who both are believed to have used the wharf during their time at Mort's Dock. It is the successor to the wharf which served Mort's Dock for the previous four decades (NSW Maritime 2010: 58).

The Wharf is also associated with Henry Carter Perdriau, Albert Sims, and in modern times with Balmain Councillor and local protagonist Issy Wyner who worked at Mort's Dock before going into politics.

5.1.3 Aesthetic Significance (SHR Criteria C)

The Balmain Thames Street Wharf has a high level of aesthetic value as a distinctive landscape feature, with landmark qualities, townscape and architectural values, apart from its engineering and industrial/maritime

heritage value, which points to the development and operation of Sydney Harbour as a working harbour. Furthermore the aesthetic of the shelter is in its picturesque form and detail.

5.1.4 Social Significance (SHR Criteria D)

The Balmain Thames Street Wharf has both social and cultural significance, and is subject to a high level of community esteem. When the wharf was constructed in 1895 it was integral to the function of Mort's Dock, which was then the largest private enterprise in the colony, contributed substantially to the development of Balmain as a working class area through its role in the development of the trade union movement with the establishment of the Ship Painters and Dockers Union in 1872, and the formation of what is now the Australian Labour Party 1891.

The residential communities of the Balmain Peninsula have strong social, cultural, historical, technical and aesthetic associations with the Balmain Thames Street Wharf. This is in part due to the Wharf's long history of use for transport, recreation and maritime infrastructure. Today the Wharf acts as a reminder of the strong maritime history and character of the Balmain Peninsula and its working-class roots. As evidenced by the Balmain community's history of fighting to 'save the wharf, social significance can often only truly be determined via public consultation.

5.1.5 Research Potential (SHR Criteria E)

The site has the potential to yield scientific and archaeological information that will further contribute to an understanding of NSW cultural, industrial and maritime history. This research/archaeological potential is due to the survival of extant remains of the original wharf structure, which although intact has a low degree of integrity due to the degradation of many of the wharf piles. Despite this, the Balmain Thames Street Wharf is an important reference site, as it is believed to be the only original (despite signs of past modification and repair) nineteenth century commuter wharf left on the harbour and thus provides evidence of past maritime and industrial activity that is unavailable elsewhere.

5.1.6 Rarity (SHR Criteria F)

The Balmain Thames Street Wharf is rare in that it is thought to be the only surviving example of a nineteenth century wharf in Sydney Harbour and thus provides evidence of a particular custom, process and way of life in NSW. The Balmain Thames Street Wharf waiting shelter is the last of a series of iconic shelters built by the Balmain Ferry Co. There was a similar ferry at the Stephens Street wharf on White Bay - on the other side of the Balmain Peninsula - however that structure was demolished to make way for a container terminal (Freeman 2012: 2-2).

5.1.7 Representativeness (SHR Criteria G)

The Balmain Thames Street Wharf is visually and structurally representative of small ferry wharves built in the late nineteenth and early twentieth century in Sydney Harbour. The semi-circular roof form was a characteristic design for ferry shelters in the nineteenth century, and Balmain is believed to be the only surviving example. The wharf is further representative of a particular maritime custom, process and way of life in NSW, of the development of the colony and of Australia as a maritime nation. It is further representative of maritime infrastructure constructed to support heavy industry.

5.1.8 Comparative/Modifying Criteria

For the purposes of this SoHI, we will also consider four comparative criteria, which evaluate the degree of significance and act as modifiers of the main criteria. The criteria include provenance (because a provenanced item/site is likely to be more significant than an equivalent unprovenanced item), rarity/representativeness; condition/completeness and interpretive capacity.

In the case of the Balmain Thames Street Wharf, condition/completeness and interpretative capacity are the most applicable criteria, as the item is provenanced and the rarity/representativeness criterion has been addressed in the assessment in Sections 5.1.6 and 5.1.7 above.

With regard to condition/completeness, the visual inspection that was undertaken during the site visit indicates that the wharf is in a state of decay. Several of the wharf piles appear to be in urgent need of repair or replacement. As an apparent lack of structural integrity can reduce the assessed level of heritage significance of a structure, the replacement of the piles under the waiting shelter and the raising of the waiting shelter to enhance structural integrity and mitigate risk of stormwater run-off, is not considered to have a negative heritage impact. This is for two reasons: 1) the piles being replaced are themselves replacements of earlier replacement piles; and 2) the height of the current wharf walkway and waiting shelter is not historically significant as they were constructed to the height of the land adjacent, which itself is reclaimed, and does not represent the historic shoreline.

Regarding interpretative capacity, there is considered to be high community esteem for the wharf and consequently, high potential for interpretation and cultural tourism. The site is considered to offer considerable potential for interpretation through a variety of methods including enhanced signage (internally and externally), articles in local and state government heritage literature, and in illustrated articles for websites, magazines, academic journals and other educational publications aimed at adults and children alike. It is considered that this will not be reduced if the wharf is removed.

It is recommended, however, that full archival recording be carried out prior to any works being undertaken so that the wharf can be preserved by record, in perpetuity.

It is further recommended that an interpretation plan be developed so that its significance is communicated even after significant components of the wharf are removed. Interpretation of an item through the care (or treatment) of the fabric, is central to heritage conservation in Australia, as per the principles of best practice set out in *The Burra Charter: Australia ICOMOS Charter for Places of Cultural Significance 1999* (the Burra Charter).

5.2 Statement of Significance

The Balmain Thames Street Wharf is of local heritage significance, as the ferry wharf was erected for the workforce of the Mort's Dock and Engineering Company, the Balmain Thames Street Wharf and demonstrates the size and importance of that enterprise. Mort's Dock was the largest shipyard and engineering workshop in the colony in the latter half of the nineteenth century, was the birthplace of modern industry in Australia, became the colony's largest private enterprise, and was significant in both the development of the trade union movement and the creation of Australian Labour Party. The archaeological remains are possibly the only remains of a dry dock and associated engineering facility of this size in the southern hemisphere preserved *in situ*.

The Balmain Thames Street Wharf is a relic of the original industrial character of Balmain in the nineteenth and twentieth centuries. It is locally significant for its attractive decorative waiting shelter, the rarity of that shelter, its archaeological potential and the shelter's strong Victorian architectural style which reflects the dominant architectural style of the Balmain Peninsula.

The local heritage significance of the Balmain Thames Street Wharf is further contained in its location, its association with related transport routes and as physical evidence demonstrating its history of use (NSW Maritime 2010: 58).

6.0 Statement of Heritage Impact

The purpose of a Statement of Heritage Impact is to assess the impacts of a development proposal. When considered along with a policy or conservation management plan, an informed decision can be made whether to allow the development to proceed, and may form part of a Review of Environmental Factors (as it does in this case).

This investigation will not include the impact on view corridors as this has been adequately addressed in a report by Jane Irwin (2012).

In accordance with the New South Wales Government Guidelines for SoHI, this section investigates the anticipated impacts of proposed works on the heritage significance of Balmain Thames Street Wharf and on the wharf curtilage/project area; the viability of alternate proposals (Section 6.2) and the following section (7.0) will address measures proposed to mitigate any negative impacts.

6.1 Proposed Changes to Existing Wharf Structure

The impacts of the new ferry wharf and approaches will involve major change to the existing ferry structures, in that the: existing ferry wharf structure will be demolished from the existing shelter seawards; the piles under the existing waiting shelter will be removed and replaced; the shelter will be raised to mitigate risk of damage due to stormwater run-off and negate potential flooding impacts on wharf patrons; a new structure comprising a floating pontoon and gangway structure will be constructed in its place; and the existing approach ramp arrangement will be reconfigured.

The 'footprint' of the new ferry wharf will be larger than the existing wharf and the roofed shelter pavilion will replace the open, dogleg wharf and tidal steps. The 'presence' of the new ferry wharf within its Mort Bay context will be more evident than before, yet it will provide a consistent unique identity for ferry wharves in and around Sydney Harbour.

The new structures will make generous provision for disabled access, passenger comfort while waiting, easier embarkation and disembarkation from the ferries, safer transit for ferries and ferry passengers and will ensure compliance with the current statutory provisions.

Views from Mort Bay and surrounds towards the ferry wharf will be impacted by the new pontoon and gangway structure. When looking back toward shore from Sydney Harbour, the existing waiting shelter will be less visible from the water, partly because the new blue-zinc colour scheme is designed to blend in, rather than stand out (as the existing red shelter does) and views from Thames Street and surrounds will be somewhat reduced.

The visual impacts of the new gangway on the existing waiting shelter have been the subject of a detailed consideration to minimise potential impacts. Alternative options (Section 6.2) have been considered for this structure; however these failed to accord with the structural, operational, and functional exigencies of the proposed new wharf and were consequently abandoned in favour of the finalised proposal assessed herein.

Generally and consistent with best practice, physical changes to heritage components that are considered high or exceptional (Table 7) should be avoided, where possible. These components contribute most to maintaining the heritage significance of the heritage area/precinct. Any justified physical changes to components that are moderate or low should be considered with care and be sympathetic to original form, scale and location.

Changes to an intrusive component, such as the wharf piles or decking, is generally considered acceptable, especially when the removal of such components can restore the original form of the heritage item. Where intrusive components were added as essential structural support, more sympathetic and less visible replacements have been considered. Specifically, the impacts of the new ferry wharf and approaches will involve major change to the existing ferry structures, in that the existing ferry wharf structures will be removed and replaced by a new structure and the existing approach ramp arrangement will be reconfigured. The existing waiting shelter will be conserved and made ready for continuing use as a waiting shelter.

Table 7: Schedule of Significance of Balmain Thames Street Wharf Heritage

Wharf Component	Integrity of Fabric	Assessed Significance
Wharf approaches	Low Integrity	Low (local) Significance
Timber wharf decking	Low Integrity	Medium (local) Significance
Timber wharf piles	Low Integrity	No (local) Significance
Waiting shelter	High Integrity	High (local) Significance
Landscape setting	No Fabric Integrity	Medium (local) Significance

Source: RPS 2012

As this current assessment indicates, the local heritage values of the Balmain Thames Street Wharf extend beyond the fabric of the waiting shelter. The waiting shelter has high integrity of heritage fabric and high local significance, and it must be retained. The shelter will be removed to allow for the repair/replacement of the piles underneath and raised to mitigate against risk of damage as a result of stormwater run-off and negate any possibility of flooding impacts on commuters (wharf patrons). This must be done in such a way as to ensure it remains intact, is not damaged and can be replaced in its original location.

As the piles supporting the waiting shelter and deck structure are replacements of earlier replacement piles they are assessed as having low integrity of heritage fabric and low significance. It is considered that the replacement of these will not have a detrimental effect on the heritage significance of the structure.

Likewise, the timber deck structure is not original. Although it has the same 'look and feel' of the earlier timber decking, it is assessed to have low integrity of heritage fabric and medium (local) significance. The assessment of medium significance is more related to the history, use, location, aesthetic, social and associative significance of having a timber wharf at that location, than it is to the physical fabric and this has implications for the landscape setting, which also has medium local significance, but no fabric integrity.

As such, there will be some negative heritage impact as a result of the proposed works, particularly given that the existing structure will be removed and replaced and that introduced components (such as the covered gangway) will partially obscure view corridors. The design attempts to minimise any adverse impact on heritage significance, commensurate with operational and structural statutory obligations for ferries and ferry wharf structures.

The negative impacts of the removal and replacement of the existing wharf structure can be mitigated via full archival recording of the wharf structure and the development and implementation of an interpretation plan. Archival recording will ensure that the locally significant wharf structure will be recorded in perpetuity, and the development and implementation of an interpretation plan will:

- a) help people to connect with the past by identifying what is unique and special about the Balmain Thames Street Wharf/Mort Bay area;
- b) attract, engage and inspire visitors to the area;
- c) demonstrate RMS' concern for heritage and care for community views;

- d) minimise environmental and cultural damage by explaining the impacts of various actions;
- e) act as a substitute for things we cannot experience directly (i.e. the former wharf structure);
- f) help to meet increasing demand for educational visitor experiences;
- g) provide a vehicle for developing understanding and enjoyment of maritime structures; encourage social cohesion by giving communities a sense of place and belonging; brings social, environmental and economic benefits.

Given statutory requirements and that only the less significant elements and fabric of the wharf structure and approaches will be impacted, the following aspects of the proposal respect or enhance the heritage significance:

1. reconstructing the wharf in its original historical location maintains place as part of its cultural significance, whilst conserving use, and retaining setting;
2. the sympathetic restoration and retention of the existing waiting shelter respects aesthetic and historical significance whilst maintaining rarity and representativeness'
3. the adaptive re-use of salvaged turpentine piles, timber and decking structure conserves historic fabric;
4. full archival recording of the existing structure will ensure the wharf is preserved by record for future generations; and
5. the development and implementation of an interpretation plan/strategy will ensure that social significance and a sense of place are maintained through participation.

6.2 Alternative Options

In 2006 the former NSW Maritime took control of all ferry commuter wharves in Sydney Harbour and proceeded to undertake maintenance and upgrade works and to develop a program of substantial works for the years ahead. The upgrade of each wharf was prioritised based on a comprehensive risk assessment and a review workshop which considered: 1) strategic need for the proposed works; 2) the requirement to minimise the impacts of the proposal on the surrounding environment; 3) safety of both ferries and passengers; and 4) cost. Balmain Thames Street Wharf was scheduled for upgrade in 2012/2013.

Three options were identified for Balmain Thames Street Wharf:

1. do nothing (base case);
2. upgrade of the existing Balmain Thames Street Wharf while retaining the existing waiting shelter; and
3. upgrade of the existing Balmain Thames Street Wharf including demolition of the existing waiting shelter.

The do nothing approach (Option 1) would have involved no active measures, outside of routine maintenance, to improve the existing Balmain Thames Street Wharf. The existing Balmain Thames Street Wharf would continue to be used for ferry commuter services, however would not meet statutory requirements going forward.

Option 2 (the selected option) would involve demolition and removal of the existing Balmain Thames Street Wharf, retaining the existing waiting shelter, and replacement of the existing wharf with a new ferry wharf. The new wharf would be accessible to people with a disability and consistent with the unifying visual theme developed for wharves to be replaced and upgraded throughout Sydney Harbour.

The final alternative, Option 3, would involve demolition and removal of the existing Balmain Thames Street Wharf and existing waiting shelter, and replacement of the structure with a new wharf ferry wharf. The new wharf would be accessible to people with a disability and consistent with the unifying visual theme developed for wharves to be replaced and upgraded throughout Sydney Harbour, however it would lose the most significant heritage component, the waiting shelter. .

Option 2 was selected as it was considered to have the most beneficial effects of all three (3) alternatives, would best meet the project objectives; and would best assist in the delivery of the objectives of the Sydney Commuter Wharf Upgrade Program by providing:

1. improved accessibility of the ferry wharf for all ferry commuters, particularly for people with a disability;
2. compliance with requirements of the *Disability Discrimination Act 1992* and current legislative standards for disabled access;
3. provide patrons with protection from wind, rain and the elements;
4. improve commuter safety with safety gates and screens;
5. views to and from the bay and harbour and their important elements would be largely maintained;
6. improvements to the public domain and the quality of commuter experiences;
7. standardisation of wharf structures throughout Sydney Harbour, which would improve maintenance timeframes and costs as well as unifying and identifying the harbour wharves and ferry commuter system; and
8. the general maintenance of heritage significance.

The upgrade of existing wharf structure is essential for the heritage item to meet statutory requirements and thus continue to function as a commuter wharf. Option 2 would ensure that the Balmain Thames Street Wharf would remain in its original, historic location. This is positive from a heritage perspective as the physical location of a place is part of cultural significance. By retaining the historic location, which the Burra Charter states 'is an appropriate and preferred form of conservation' (Australia ICOMOS 1999: 8), the wharf will retain its visual setting and relationship with other heritage items (such as Mort's Dock) which is crucial for retaining significance (Australia ICOMOS 1999: 5)

In addition to conserving use of place, Option 2 proposed to adaptively re-use the existing waiting shelter and existing timbers/structural elements in the new structure:

- a) seven (7) poor condition turpentine piles were replaced two (2) to 18 months ago and three (3) others replaced approximately three (3) years ago; the best condition turpentine piles will be used as replacements for the two (2) deteriorated and two (2) concrete encased piles set aside for removal;

- b) the girders under the shelter structure are in a good to poor condition, however it is understood the timbers in good condition are not of sufficient size to be considered for re-use as girders in the new structure, but may be used in other RMS Maritime structures elsewhere;
- c) the double capwales appear to be in good condition. It is proposed to reuse these in the new structure. If during the proposed works they are deemed to be in a condition not suitable for reuse, salvaged timbers from other parts of the wharf (such as the girders) will be substituted;
- d) deck timbers are in good to average condition. It is proposed to replace those in average condition with good condition salvaged timber as required;
- e) the shelter structural timbers, iron sheeting and frame were replaced approximately four (4) years ago and as such, no repairs are required;
- f) the existing waiting shelter, the key feature of the current wharf, will not be negatively impacted by the proposed changes, as it will be removed prior to demolition of the wharf structure, sympathetically restored (see Hansen Yuncken 2012 for details) and reinstated so as to ensure its continued use which is in accordance with Article 23 of the *Burra Charter* (1999:8) in which reinstatement is a preferred form of conservation.

Some elements will not be able to be re-used due to the condition of structural fabric. For example, several of the turpentine piles have at least a 30 percent to 40 percent section loss (Hansen Yuncken 2012: 1) and are near the end of the operational life. These elements are not original and are existing replacements of previously replaced piles.

Neither Options 1 or 2 are considered to be viable sympathetic alternatives. Option 1 would not meet the requirements of the *Disability Discrimination Act 1992*, the *Disability Standards for Accessible Public Transport 2002* or the *Disability (Access to Premises - Buildings) Standards 2010*. This option would limit commuter comfort and experience and the use of the ferry by commuters from this location would not be maximised. Under this option the wharf would continue to deteriorate increasing maintenance works/costs and decreasing heritage significance through subduing aesthetic value, diminishing integrity and intactness, and reducing associated archaeological/ research potential.

Option 3 did not utilise the existing waiting shelter or allow for the reuse of existing wharf timbers. As aforementioned, the waiting shelter has been identified as a significant historic and aesthetic feature of the wharf's heritage value. Best heritage practice promotes the continued and appropriate use/adaptive re-use of heritage fabric to ensure that heritage significance is maintained. This option was discounted as it would not maintain the aesthetic heritage significance of the wharf.

6.3 Summary of Heritage Impact

Generally, and consistent with best practice, physical changes to heritage components that are considered high or exceptional, such as the existing waiting shelter, should be avoided where possible. These components contribute most to maintaining the heritage significance of the heritage area/precinct. Any justified physical changes to components that are moderate or low should be considered with care and be sympathetic to original form, scale and location. Changes to intrusive, introduced components such as refurbished, replaced or newly introduced timber piles or decking structure, are generally acceptable, especially when the removal of such components can restore the original form of the heritage item. Where intrusive components were added as essential structural support, such as replacement turpentine timber piles, more sympathetic and less visible replacements will be considered. These less visible replacements will include the reuse of existing turpentine piles salvaged from the demolition.

Specifically, the impacts of the new Balmain Thames Street Wharf and approaches will involve major change to the existing ferry structures, in that the existing ferry wharf structures will be removed and replaced and the existing approach ramp arrangement will be reconfigured. As the current state of the piles requires them to be replaced and they are not understood to be original, the impact of replacing the piles under the waiting shelter will be minimal.

The following aspects of the proposal respect or enhance the heritage significance of the Balmain Thames Street Wharf: 1) reconstructing the wharf in its original historical location maintains place as part of its cultural significance, whilst conserving use, and retaining setting; 2) the sympathetic restoration and retention of the existing waiting shelter respects aesthetic and historical significance whilst maintaining rarity and representativeness; 3) the adaptive re-use of salvaged turpentine piles, timber and decking structure conserves historic fabric; 4) full archival recording of the existing structure will ensure the wharf is preserved by record for future generations; and 5) the development and implementation of an interpretation plan/strategy will ensure that social significance and a sense of place is maintained through participation.

The existing waiting shelter will be restored and made ready for continuing use as a waiting shelter. Generally, the impacts on significance values of the waiting shelter, timber structure and other significance values have generally been minimised, commensurate with the statutory obligations to meet operational requirements, safety standards and commuter requirements for ferries and ferry wharf structures.

Although the visual corridors will be reduced (Irwin 2012), change is often necessary to retain cultural significance. Change is undesirable where it reduces cultural significance, however in this case, the proposed change is being managed to ensure that significance of the Balmain Thames Street Wharf will be maintained, as its significance extends beyond fabric to aspects such as use, setting, location, social context, aesthetic values and the associations and meanings of different periods or different aspects of cultural significance

Given this assessment, the strategic objectives of the Commuter Wharf Upgrade Program, statutory and commuter (wharf patron) requirements, the adaptive re-use of fabric that has integrity and intactness; the conservation of use, retention of the historic location and setting, the proposed development is considered to be reasonable and acceptable in heritage terms.

There will be no known impacts on Aboriginal cultural heritage sites or places of significance.

7.0 Mitigation, Conclusion and Recommendations

The NSW Heritage Council guidelines require that the SoHI, together with supporting information, address what measures are proposed to mitigate the negative impacts of the proposal, and why more sympathetic solutions are not viable. This section investigates the options considered for the replacement of the Balmain Thames Street Wharf, and for the interventions into the existing wharf curtilage.

In accordance with the *Burra Charter* (Australia ICOMOS 1999:18-19), 'procedures for undertaking studies and reports', this report has considered the environmental and archaeological context of the project area, information gained during the site inspection, the significance of the Balmain Thames Street Wharf, the development proposal, potential heritage impacts, and mitigation options in order to draw conclusions and provide recommendations intended to guide future decision-making. The following mitigation measures, management recommendations have been formulated with consideration of all available information and have been prepared in accordance with the relevant legislation.

Recommendation 1

All relevant staff, contractors and subcontractors should be made aware of their statutory obligations for heritage under NSW *National Parks and Wildlife Act 1974*, NSW *Heritage Act 1977* and best practice outlined in the *Burra Charter 1999*, which may be implemented as a heritage induction.

Recommendation 2

If any Aboriginal site/s are identified in the project area, then all works in the area should cease, the area should be cordoned off and contact made with the Office of Environment and Heritage Enviroline 131 555; a suitably qualified archaeologist; and the relevant Aboriginal stakeholders, so that the site/s can be adequately assessed and managed.

Recommendation 3

In the unlikely event that skeletal remains are identified, work must cease immediately in the vicinity of the remains and the area cordoned off. The NSW Police Coroner must be contacted to determine if the material is of Aboriginal origin. If determined to be Aboriginal, the proponent, must contact: the Office of Environment and Heritage Enviroline 131 555; a suitably qualified archaeologist; and representatives of the local Aboriginal Community Stakeholders to determine an action plan for the management of the skeletal remains, formulate management recommendations and to ascertain when work can recommence.

Recommendation 4

If, during the course of development works, suspected European (Historic) cultural heritage material is uncovered, work should cease in that area immediately. The Heritage Branch, Office of Environment and Heritage (Enviroline 131 555) should be notified and works only recommence when relevant permits and an appropriate and approved management strategy instigated.

Recommendation 5

As the Balmain Thames Street Wharf is an item of local heritage significance the proponent must carry out full archival recording of the wharf structure, prior to any works taking place. This must be carried out in accordance with the Heritage Branch, Office of Environment & Heritage's (formerly NSW Heritage Office) Guidelines on *How to Prepare Archival Records of Heritage Items*, prior to any works taking place.

Recommendation 6

In order to ensure that the identified State Heritage Register listed Mort Bay Park is not impacted during construction the site boundary should be flagged and roped off by a suitably qualified archaeologist prior to commencement of works. A plan of the area showing the heritage exclusion zone should be retained on site, and the need to remain outside of the listed item, should form part of the heritage induction.

Recommendation 7

All staff, contractors and subcontractors are required to conduct all construction activity in such a way as to prevent any impacts by construction or related works within the heritage exclusion zone, or to the existing heritage waiting shelter, including impacts from plant and equipment that is not directly engaged in construction.

Recommendation 8

It is recommended that heritage information be placed on site during the construction phase to interpret the historic development and use of the Balmain Thames Street Wharf. Information could be in the form of heritage images and text on construction phase hoarding, or laminated posters put up beside general project information on site.

Post construction, opportunities should also be explored by RMS to provide heritage interpretation on an ongoing/permanent basis so that the wharf's significance is communicated even after significant components are removed. Interpretation of an item though the care (or treatment) of the fabric, is central to heritage conservation in Australia. This heritage interpretation should be developed in accordance with the Australia ICOMOS *Burra Charter 1999* and the NSW Heritage Office's 2005 *Interpreting Heritage Items and Places Guidelines*. Ways of achieving the funding for this can be explored through the Heritage Branch, Office of Environment and Heritage, Heritage Grants Program.

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9.0 Acronyms and Units

AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
cal. years BP	Calibrated years before present
DECCW	Department of Environment, Climate Change and Water
DSEWPC	Department of Sustainability, Environment, Water, Population and Communities (Federal) (formerly DEWHA)
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EP&A Act	Environmental Planning and Assessment Act
GDA	Geodetic Datum Australia
GIS	Geographic Information System
LALC	Local Aboriginal Land Council
LEP	Local Environment Plan
NPWS	National Parks and Wildlife Service
OEH	Office of Environment & Heritage
PAD	Potential Archaeological Deposit
REP	Regional Environment Plan
REF	Review of Environmental Factors

10.0 Plates



Plate 1: Balmain Thames Street Wharf looking south toward shore. The Historic Shelter can be seen protruding into the Harbour.
(Source: Sarah Ward RPS 1/5/2012)



Plate 2: Balmain Thames Street Wharf looking south east toward shore. The Historic Shelter can be seen protruding into the Harbour.
(Source: Sarah Ward RPS 1/5/2012)



Plate 3: Balmain Thames Street Wharf looking west across the wharf.
(Source: Sarah Ward RPS 1/5/2012)



Plate 4: Looking north west toward a ferry arriving at Balmain Commuter Wharf. (Source: Sarah Ward RPS 1/5/2012)

Appendix I

Legislative Requirements

Summary of Statutory Controls

The following overview of the legal framework is provided solely for information purposes for the client, it should not be interpreted as legal advice. RPS will not be liable for any actions taken by any person, body or group as a result of this general overview, and recommend that specific legal advice be obtained from a qualified legal practitioner prior to any action being taken as a result of the summary below.

COMMONWEALTH

Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (ATSHP Act), amended 2006
The purpose of this Act is to preserve and protect all heritage places of particular significance to Aboriginal and Torres Strait Islander people. This Act applies to all sites and objects across Australia and in Australian waters (s4).

It would appear that the intention of this Act is to provide national baseline protection for Aboriginal places and objects where State legislation is absent. It is not to exclude or limit State laws (s7(1)). Should State legislation cover a matter already covered in the Commonwealth legislation, and a person contravenes that matter, that person may be prosecuted under either Act, but not both (s7(3)).

The Act provides for the preservation and protection of all Aboriginal objects and places from injury and/or desecration. A place is construed to be injured or desecrated if it is not treated consistently with the manner of Aboriginal tradition or is or likely to be adversely affected (s3).

The Australian Heritage Commission Act 1975

The *Australian Heritage Commission Act 1975* established the Australian Heritage Commission which assesses places to be included in the National Estate and maintains a register of those places. Places maintained in the register are those which are significant in terms of their association with particular community or social groups and they may be included for social, cultural or spiritual reasons. The Act does not include specific protective clauses.

The *Australian Heritage Council Act 2003* together with *The Environment Protection and Biodiversity Conservation Act 1999 (Amended)* includes a National Heritage List of places of National heritage significance, maintains a Commonwealth Heritage List of heritage places owned or managed by the Commonwealth and ongoing management of the Register of the National Estate.

STATE

It is incumbent on any land manager to adhere to state legislative requirements that protect Aboriginal Cultural heritage. The relevant legislation in NSW includes but is not limited to:

National Parks & Wildlife Act 1974 (NPW Act)

The NPW Act provides statutory protection for all Aboriginal heritage, places and objects (not being a handicraft made for sale), with penalties levied for breaches of the Act. This legislation is

overseen by the Office of the Environment & Heritage (OEH) (formerly Department of Environment, Climate Change and Water (DECCW)), now part of the Department of Premier & Cabinet. Part 6 of this Act is the relevant part concerned Aboriginal objects and places, with the Section 86 and Section 90 being the most pertinent. In 2010, this Act was substantially amended, particularly with respect to Aboriginal cultural heritage requirements. Relevant sections include:

Section 86

This section now lists four major offences:

- (a) A person must not harm an object that the person knows is an Aboriginal object;
- (b) A person must not harm an Aboriginal object;
- (c) For the purposes of s86, “circumstances of aggravation” include (a) the offence being committed during the course of a commercial activity; or (b) that the offence was the second or subsequent offence committed by the person.
- (d) A person must not harm or desecrate an Aboriginal place.

Offences under s86 (2) and (4) are now strict liability offences, i.e., knowledge that the object or place harmed was an Aboriginal object or place needs to be proven. Penalties for all offences under Part 6 of this Act have also been substantially increased, depending on the nature and severity of the offence.

Section 87

This section now provides defences to the offences of s86. These offences chiefly consist of having an appropriate Aboriginal Heritage Impact Permit (AHIP), not contravening the conditions of the AHIP or demonstrating that due diligence was exercised prior to the alleged offence.

Section 87A & 87B

These sections provide exemptions from the operation of s86: Section 87A for authorities such as the Rural Fire Service, State Emergency Services and offices of the National Parks & Wildlife Service in the performance of their duties, and s87B for Aboriginal people performing traditional activities.

Section 89A

This section provides that a person who knows of an Aboriginal object or place and does not advise the Director-General of that object or place within a reasonable period of time, is guilty of an offence.

Section 90

This section authorises the Director-General to issue an AHIP.

Section 90A-90R

These sections govern the requirements relating to applying for an AHIP. In addition to the amendments to the Act, DECCW issued three new policy documents clarifying the requirements with regards to Aboriginal archaeological investigations: *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* and *Code of Practice for Archaeological Investigations in NSW*. The Consultation

Requirements formalise the consultation with Aboriginal community groups into four main stages, and include details regarding the parties required to be consulted, and the methods of establishing the necessary stakeholders to be consulted, advertisements inviting Aboriginal community groups to participate in the consultation process, requirements regarding the provision of methodologies, draft and final reports to the Aboriginal stakeholders and timetables for the four stages. The Due Diligence Code of Practice sets out the minimum requirements for investigation, with particular regard as to whether an AHIP is required. The Code of Practice for Archaeological Investigation sets out the minimum requirements for archaeological investigation of Aboriginal sites.

Aboriginal Heritage Impact Permits (AHIP)

DECCW encourages consultation with relevant Aboriginal stakeholders for all Aboriginal Heritage assessments. However, if an Aboriginal Heritage Impact Permit (AHIP) is required for an Aboriginal site, then specific DECCW guidelines are triggered for Aboriginal consultation.

Aboriginal Cultural Heritage Consultation Requirements for Proponents

In 2010, the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (ACHCRs) were issued by DECCW (12th of April, 2010). These consultation requirements replace the previously issued *Interim Community Consultation Requirements* (ICCR) for Applicants (DEC 2004). These guidelines apply to all AHIP applications prepared after April 12, 2010; for projects commenced prior to April 12, 2010 transitional arrangements have been stipulated in a supporting document, Questions and Answers 2: Transitional Arrangements.

The ACH Consultation Requirements 2010, include a four stage Aboriginal consultation process and stipulates specific timeframes for each stage. Stage 1 requires that Aboriginal people who hold cultural information are identified, notified and invited to register an expression of interest in the assessment. Stage 1 includes the identification of Aboriginal people who may have an interest in the project area and hold information relevant to determining the cultural significance of Aboriginal objects or places. This identification process should draw on reasonable sources of information including: the relevant DECCW EPRG regional office, the relevant Local Aboriginal Land Council(s), the registrar, Aboriginal Land Rights Act 1983, the Native Title Tribunal, Native Title Services Corporation Limited, the relevant local council(s), and the relevant catchment management authority. The identification process should also include an advertisement placed in a local newspaper circulating in the general location of the project area. Aboriginal organisations and/or individuals identified should be notified of the project and invited to register an expression of interest (EoI) for Aboriginal consultation. Once a list of Aboriginal stakeholders has been compiled from the EoIs, they need to be consulted in accordance with ACH Consultation Requirements Stages 2, 3 and 4.

For projects commenced before the 12th of April, 2010, Section 1 (Q1) of the transitional arrangements indicates that if Aboriginal consultation was commenced prior to the 12th of April 2010 (including advertising and notification of stakeholders) then consultation is to be continued under the previous ICCR guidelines. *Interim Community Consultation Requirements (ICCR) for Applicants* (DEC 2004) required a three stage process of which timeframes were stipulated for specific components. Stage 1 required the notification and registration of interests. Notification included an advertisement in a local print media, as well as, as contacting the Local Aboriginal Land Council(s), the registrar of Aboriginal Owners, Native Title Services, local council(s) and the

Department of Environment and Conservation. Stage 1 also required the invitation for expressions of interest (EoI) to be sent to interested Aboriginal parties and an Aboriginal stakeholder list compiled. Stage 2 required the preparation of an assessment design to be sent to the Aboriginal stakeholders for comment and review. Stage 3 required that the assessment report be provided to registered Aboriginal stakeholders for review and comment.

ENVIRONMENTAL PLANNING & ASSESSMENT ACT 1979 (EP&A ACT)

This Act regulates a system of environmental planning and assessment for New South Wales. Land use planning requires that environmental impacts are considered, including the impact on cultural heritage and specifically Aboriginal heritage. Within the EP&A Acts, Parts 3, 4, and 5 relate to Aboriginal heritage.

Part 3 regulates the preparation of planning policies and plans. Part 4 governs the manner in which consent authorities determine development applications and outlines those that require an environmental impact statement. Part 5 regulates government agencies that act as determining authorities for activities conducted by that agency or by authority from the agency. The National Parks & Wildlife Service is a Part 5 authority under the EP&A Act.

In brief, the NPW Act provides protection for Aboriginal objects or places, while the EP&A Act ensures that Aboriginal cultural heritage is properly assessed in land use planning and development.

Part 3A of the EPA relates to major projects, and if applicable, obviates the need to conform to other specific legislation. In particular, s75U of the EPA Act explicitly removes the need to apply for s87 or s90 permits under the NPW Act. This means that although Aboriginal cultural heritage is considered during the planning process, a permit is not required to disturb or destroy an Aboriginal object or place. However, the Director-General of Planning must nonetheless consult with other government agencies, including OEH/DECCW and National Parks & Wildlife, prior to any decision being made. Aboriginal consultation under part 3A is required under the *draft 2005 Part 3A EP&A Act Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation*. This document stipulates that the ICCR process should be adhered to.

THE HERITAGE ACT 1977

This Act protects the natural and cultural history of NSW with emphasis on non-indigenous cultural heritage through protection provisions and the establishment of a Heritage Council. Although Aboriginal heritage sites and objects are primarily protected by the *National Parks & Wildlife Act 1974* (NPW Act), amended 2001, if an Aboriginal site, object or place is of great significance, it may be protected by a heritage order issued by the Minister subject to advice by the Heritage Council.

Other legislation of relevance to Aboriginal cultural heritage in NSW includes the NSW Local Government Act (1993). Local planning instruments also contain provisions relating to indigenous heritage and development conditions of consent.

Appendix 2

Glossary of Site Types

Glossary of Site Types

The following is a brief description of most Aboriginal site types.

Artefact Scatters

Artefact scatters are defined by the presence of two or more stone artefacts in close association (i.e. within fifty metres of each other). An artefact scatter may consist solely of surface material exposed by erosion, or may contain sub-surface deposit of varying depth. Associated features may include hearths or stone-lined fireplaces, and heat treatment pits.

Artefact scatters may represent:

- Camp sites: involving short or long-term habitation, manufacture and maintenance of stone or wooden tools, raw material management, tool storage and food preparation and consumption;
- Hunting or gathering activities;
- Activities spatially separated from camp sites (e.g. tool manufacture or maintenance); or
- Transient movement through the landscape.

The detection of artefact scatters depends upon conditions of surface visibility, including vegetation cover, ground disturbance and recent sediment deposition. Unfavourable conditions obscure artefact scatters and prevent their detection during surface surveys.

Bora Grounds

Bora grounds are a ceremonial site associated with initiations. They usually comprise two circular depressions in the earth, and may be edged with stone. Bora grounds generally occur on soft sediments in river valleys, although they may also be located on high, rocky ground in association with stone arrangements.

Burials

Human remains were often placed in hollow trees, caves or sand deposits and may have been marked by carved or scarred trees. Burials have been identified eroding out of sand deposits or creek banks, or when disturbed by development. The probability of detecting burials during archaeological fieldwork is extremely low.

Culturally Modified Trees

Culturally modified trees include scarred and carved trees. Scarred trees are caused by the removal of bark for use in manufacturing canoes, containers, shields or shelters. Notches were also carved in trees to permit easier climbing. Scarred trees are only likely to be present on mature trees remaining from original vegetation. Carved trees, the easiest to identify, are caused by the removal of bark to create a working surface on which engravings are incised. Carved trees were used as markers for ceremonial and symbolic purposes, including burials. Although, carved trees were relatively common in NSW in the early twentieth century, vegetation removal has rendered this site type extremely rare. Modified trees, where bark was removed for often domestic use are less easily identified. Criteria for identifying modified trees include: the age of the tree; type of tree (the bark of many trees is not suitable, also introduced species would be unlikely

subjects); axe marks (with the need to determine the type of axe - stone or steel – though Aborigines after settlement did use steel); shape of the scar (natural or humanly scarred); height of the scar above the ground (reasonable working height with consideration given to subsequent growth).

Fish Traps

Fish traps comprised arrangements of stone, branches and/or wickerwork placed in watercourses, estuaries and along coasts to trap or permit the easier capture of sea-life.

Grinding Grooves

Grinding grooves are elongated narrow depressions in soft rocks (particularly sedimentary), generally associated with watercourses, that are created by the shaping and sharpening of ground-edge implements. To produce a sharp edge the axe blank (or re-worked axe) was honed on a natural stone surface near a source of water. The water was required for lubricating the grinding process. Axe grinding grooves can be identified by features such as a narrow short groove, with greatest depth near the groove centre. The grooves also display a patina developed through friction between stone surfaces. Generally a series of grooves are found as a result of the repetitive process.

Isolated Finds

Isolated finds occur where only one artefact is visible in a survey area. These finds are not found in apparent association with other evidence for prehistoric activity or occupation. Isolated finds occur anywhere and may represent loss, deliberate discard or abandonment of an artefact, or may be the remains of a dispersed artefact scatter. Numerous isolated finds have been recorded within the project area. An isolated find may flag the occurrence of other less visible artefacts in the vicinity or may indicate disturbance or relocation after the original discard.

Middens

Shell middens comprise deposits of shell remaining from consumption and are common in coastal regions and along watercourses. Middens vary in size, preservation and content, although they often contain artefacts made from stone, bone or shell, charcoal, and the remains of terrestrial or aquatic fauna that formed an additional component of Aboriginal diet. Middens can provide significant information on land-use patterns, diet, chronology of occupation and environmental conditions.

Mythological / Traditional Sites

Mythological and traditional sites of significance to Aboriginal people may occur in any location, although they are often associated with natural landscape features. They include sites associated with dreaming stories, massacre sites, traditional camp sites and contact sites. Consultation with the local Aboriginal community is essential for identifying these sites.

Rock Shelters with Art and / or Occupation Deposit

Rock shelters occur where geological formations suitable for habitation or use are present, such as rock overhangs, shelters or caves. Rock shelter sites generally contain artefacts, food remains and/or rock art and may include sites with areas of potential archaeological deposit, where

evidence of rock-art or human occupation is expected but not visible. The geological composition of the project area greatly increases the likelihood for rock shelters to occur.

Stone Arrangements

Stone arrangements include lines, circles, mounds, or other patterns of stone arranged by Aboriginal people. These may be associated with bora grounds, ceremonial sites, mythological or sacred sites. Stone arrangements are more likely to occur on hill tops and ridge crests that contain stone outcrops or surface stone, where impact from recent land use practices has been minimal.

Stone Quarries

A stone quarry is a place at which stone resource exploitation has occurred. Quarry sites are only located where the exposed stone material is suitable for use either for ceremonial purposes (e.g. ochre) or for artefact manufacture.