

## The Plan

The vision for seven historic lands on or near the foreshores of Sydney Harbour. A plan to create a lasting legacy for the people of Sydney and Australia and to weave these special places into the life of the city.



Copyright © Sydney Harbour Federation Trust 2003.

First published 2003

This work is copyright. Apart from any use permitted under the Copyright Act 1968, no part may be reproduced by any process without written permission from the Sydney Harbour Federation Trust. Requests and enquiries concerning reproduction and rights should be addressed to the Director, Communications, Sydney Harbour Federation Trust, PO Box 607, Mosman, NSW 2088 or email to [info@harbourtrust.gov.au](mailto:info@harbourtrust.gov.au)

For more information about the Sydney Harbour Federation Trust or to view this publication online, visit the website at:  
[www.harbourtrust.gov.au](http://www.harbourtrust.gov.au)

Design: Harry Williamson Design Partnership  
Photography: Sydney Harbour Federation Trust, National Parks and Wildlife Service, National Artillery Museum, State Library of NSW, National Archives of Australia, Museum of Sydney, Hunters Hill Historical Society, Simon Kenny.  
Paintings: Nick Hollo  
Printer: The Image Machine

5	SUMMARY
8	FOREWORD
11	<b>Section 1. Introduction</b>
	Introduction
	Vision
	The Trust Approach to Planning
	Land to Which the Plan Applies
	How the Plan Works
19	<b>PART A – PLANNING CONTEXT, OBJECTIVES AND POLICIES</b>
21	<b>Section 2. Planning Context</b>
	Planning in the Whole Harbour Context
	Requirements of the SHFT Act
	Outcomes of Public Consultation
	Relationship to Other Plans and Policies
29	<b>Section 3. Objectives and Policies</b>
	Ecologically Sustainable Development (ESD)
	Geodiversity Conservation
	Biodiversity Conservation
	Bush Care
	Management of Native and Introduced Animals
	Water Quality and Catchment Protection
	Transport Management and Air Quality
	Bushfire Management
	Contamination
	Aboriginal Heritage
	Cultural Heritage
	Adaptive Re-use of Places and Buildings
	Removal of Buildings
	Design Approach
	New Buildings
	Access
	Consultation and Communications
	Education
	Open Space and Recreation
	Sporting Facilities
	Tourism
	Working Harbour
	Funding and Management of Leases
	Conflicting Policy Objectives

51	<b>PART B – THE SITES</b>
53	<b>Section 4. Woolwich Dock and Parklands</b>
73	<b>Section 5. Cockatoo Island</b>
93	<b>Section 6. Snapper Island</b>
101	<b>Section 7. Middle Head, Georges Heights and Chowder Bay</b>
137	<b>Section 8. Former School of Artillery, North Head</b>
155	<b>Section 9. Former Marine Biological Station, Watsons Bay</b>
165	<b>Section 10. Macquarie Lightstation</b>
175	<b>PART C – IMPLEMENTATION</b>
177	<b>Section 11. Implementation</b> Preparation of Management Plans Supporting Policies and Guidelines Assessment and Approval Procedures Monitoring and Review of the Plan Cost of Implementation and Potential for Revenue Determination of Priorities Nature of Future Owners and Management Ongoing Consultation Background Material
199	<b>Section 12. Background Material</b> Community Consultation & Communication Whole of Harbour Woolwich Dock & Parklands Cockatoo Island Snapper Island Middle Head, Georges Heights & Chowder Bay North Head Former Marine Biological Station Macquarie Lightstation
245	<b>Section 13. Supporting Studies</b> General References Woolwich Dock & Parklands Cockatoo Island Snapper Island Middle Head, Georges Heights & Chowder Bay North Head Former Marine Biological Station Macquarie Lightstation
249	<b>GLOSSARY &amp; ACRONYMS</b>

*The Sydney Harbour Federation Trust has prepared a comprehensive Plan for the future use of seven unique sites on or near the foreshores of Sydney Harbour.*

*The Plan has been prepared to implement the Trust's vision:*

***To provide a lasting legacy for the people of Australia by helping to create one of the finest foreshore parks in the world and provide places that will greatly enrich the cultural life of the city and the nation.***

*The Plan has five main functions. It:*

- Articulates the vision, core values, objectives and policies that will guide all of the Trust's activities
- Identifies land-use and environmental outcomes for each Trust land site
- Provides a framework for implementation through the development of detailed policies, site management plans and guidelines
- Provides a process for the assessment of activities
- Provides a framework for the future management of the Trust's land

*The Plan is divided into three main parts.*

**Part A** articulates the whole of harbour vision and presents a set of objectives and policies to guide the day to day decisions on the Trust sites and to ensure a consistent approach to implementation for each of the sites.

**Part B** deals with the individual sites. For each site it provides a description of the place including the local planning context, an overview of the cultural and environmental significance of each site, an outline of the outcomes of consultation which has informed the planning process, and a description of the outcomes recommended for each site.

**Part C** prescribes a number of implementation processes. These provisions will ensure that the Trust has a clear, consistent and transparent set of processes to guide the implementation of the Plan.

This part of the Plan also addresses the costs associated with its implementation.

## PROPOSED OUTCOMES OF THE PLAN

---

In broad terms, the Plan recommends the following outcomes for each site that will guide implementation over the next few years:

- The Plan proposes the creation of a maritime village at **Woolwich Dock and Parklands** with the adaptation of existing facilities for maritime activities. In addition, the consolidation of fragmented park pockets and a network of circuit paths would integrate the industrial and parkland aspects of the site
- The Plan proposes the revitalisation of **Cockatoo Island** as a landmark harbour attraction with the creation of maritime activities, the interpretation of its rich colonial and industrial heritage, and the creation of parklands and spaces for cultural events
- The Plan proposes the repair and conservation of **Snapper Island's** facilities
- The Plan proposes the creation of an exciting Headland Park at **Middle Head, Georges Heights and Chowder Bay**. The Park will link the natural and cultural assets of the site. Regeneration will double the area of bushland, a network of tracks will link the various military precincts, and facilities and buildings will be adapted for educational, community and recreational uses
- **North Head** lends itself to be planned and managed as one entity aimed at creating an environmental sanctuary. The Trust proposal for the **former Artillery School** is for the adaptive re-use of buildings and facilities with uses that will complement the proposed sanctuary balancing this with public access for experiencing and learning about the headland's remarkable natural and cultural heritage
- The **Former Marine Biological Station** is to be repaired, conserved and interpreted

- At **Macquarie Lightstation**, the Plan proposes ongoing conservation of the Lightstation and interpretative activities and tours. The relationship of the Lightstation to nearby coastal walks and adjacent parks will be improved.

## ACKNOWLEDGEMENTS

---

The Sydney Harbour Federation Trust acknowledges the contribution of many organisations and individuals in the preparation of this plan. Government departments and agencies at the Commonwealth and State levels contributed to the development of the plan. Local councils with Harbour Trust sites in their areas also contributed to the context in which plan outcomes were developed. They provided local knowledge, feedback and support. Community groups were instrumental in the Trust's whole of harbour approach to planning. They were the focus of strong community interest in the harbour as a place belonging to the people and were strong advocates of long-term outcomes. The Trust's Community Advisory Committee was a forceful representative of the diversity of community views. Individuals, through submissions and informal contact with the Trust, often over extended periods, were sources of information, advice and expertise.

*The Sydney Harbour Federation Trust was established to manage and return to good order various lands on or near the foreshores of Sydney Harbour. Over the past three years, the Trust has prepared a broad plan for the future uses of these lands in consultation with the community and other interested parties. At the same time, it has progressively made the lands accessible to the public.*

*An important concern of the Australian Government when it established the Trust was to promote a comprehensive approach to the planning process and to ensure maximum benefit to the people of Sydney and of Australia. Sydney Harbour is the birthplace of the European settlement of Australia. It has always held a pre-eminent position in the growth, first of the colony of New South Wales, and later of multi-cultural Australia as it emerged following the Second World War. Sydney and its harbour are as much the face of Australia as are Uluru, the outback and the Great Barrier Reef.*

*This plan recognises the pivotal relationship between Sydney Harbour and each of the seven sites managed by the Trust. It is the harbour – natural feature, strategic port and colonial lifeline – that determined the location of Trust sites and their uses. The beauty and heritage of Trust sites, the celebration of their proximity to the harbour, have informed the plan's broad vision.*

*The implementation of the plan during the life of the Trust will follow priorities set*

*in accord with three guiding policies: increased public access; demonstrable benefits in the context of the outcomes proposed for sites; and the realisation of the Trust's financial objectives. Consultation with the community will continue as a hallmark attribute of the Trust's approach to implementation, as will the recognition of the harbour's national significance.*

*Most of the sites covered by the plan have been largely off limits to the public for significant periods of Sydney's history since the arrival of the First Fleet. One of the great legacies of the plan, once implemented, will be the integration of these sites into the public life of Sydney and of Australia. They will change the texture of the harbour's foreshores, open them up and give people both a sense of history and an experience of the immediacy of land, light and water.*

*The opportunity to create something of lasting value, worthy of a city and a nation with a strong sense of themselves and their potential, that is the promise of this plan. I commend it to anyone with an interest in Sydney Harbour and its environs, those cognisant of its past and those protective of its future.*



David Kemp  
Minister for the Environment and Heritage

# 1

*In September 1998, an Interim Sydney Harbour Federation Trust was established by the Commonwealth Government to manage surplus Defence lands on Sydney Harbour foreshores prior to the passage of legislation.*

*On announcement of the establishment of the Interim Trust, the Prime Minister, the Hon. John Howard MP, reminded Australians that Sydney Harbour is '...probably the world's greatest harbour. It is one of the great natural beauty spots of our nation. It is the cradle of European settlement in Australia and it is one of those parts of our country which gives immense pride and immense pleasure, not only to the residents of Sydney, but also to all Australians because it wins such wide acclaim around the world.'*



## INTRODUCTION

---

Prior to this it had been proposed to sell portions of the sites for redevelopment. This resulted in vigorous community opposition and as a consequence the Government decided to establish the Trust to devise a long-term plan to return the vacated land to the People of Australia, '*...not just to the people of Sydney, not just to the people of the suburbs around Sydney Harbour but to all of the people of Australia.*'

The Trust was established as a statutory body under the *Sydney Harbour Federation Trust Act 2001* to manage the vacated lands with the objectives of maximising public access to the sites, cleaning up contaminated areas and preserving the heritage and environmental values of the sites. It was also required to develop plans for the sites within 2 years of the proclamation of the Act.

The importance of establishing the Trust and giving it the responsibility of developing a management plan, was outlined by the Prime Minister:

*'...[the establishment of the Trust] will prevent any ad-hoc treatment of the return of the land to the people and it will ensure that there is maximum weight given to the desire of all Australians that the maximum advantage be derived in open space and recreational purposes in relation to the land.'*

This plan aims to achieve the goals identified by the Prime Minister.

The Trust currently has the responsibility of preparing plans for lands, which include the former Defence lands at Middle Head–Georges Head and Chowder Bay in Mosman; the North Head former School of Artillery; Macquarie Lightstation near South Head; Woolwich Dock and Parklands; Cockatoo and Snapper Islands; and the former Marine Biological Station at Watsons Bay. The location of these lands is shown in Figure 1.1 *Area to which the Plan Applies*.

These lands have been isolated from the rest of the community by their former tenure and use as Defence facilities. It is now time to weave these lands into the life of Sydney.

## VISION

---

*The vision of the Trust is:*

**To provide a lasting legacy for the people of Australia by helping to create the finest foreshore park in the world and to provide places that will greatly enrich the cultural life of the city and the nation.**

## THE TRUST APPROACH TO PLANNING

---

In many planning initiatives, there is an underlying intent, to redevelop or facilitate development for a pre-conceived purpose. In such circumstances, planning seeks to make the new development fit in, minimise the negative impacts, ameliorate unavoidable adverse effects and provide trade offs to compensate.

The Trust, by contrast, is seeking the most appropriate outcome, inspired by the intrinsic values of the lands, one that will be of most benefit to all Australians now and for the future.

The Trust, on behalf of the Commonwealth Government, is both the planning agency and manager of the land. The plan therefore fulfils a number of functions. It provides the basis for:

- Carrying out conservation and rehabilitation works over the life of the Trust
- Seeking suitable uses to occupy the buildings and places by lease
- Management, maintenance and operation of the sites

To achieve the best outcome, the Trust will allow the sites to evolve gradually, rather than determining specific uses and actions for each building and place at this point in time. Therefore, the plan has to provide a framework for making decisions over time. It will also provide assurance about the environmental qualities of the outcomes that are expected to fulfil the Trust's objectives, as determined by the Act.

## LAND TO WHICH THE PLAN APPLIES

---

On December 1, 2001 the Trust gave public notice in accordance with the SHFT Act of its intention to prepare a plan for the following:

### *Trust Land Sites*

- Cockatoo Island
- Snapper Island
- Macquarie Light Station
- The former Defence lands at Georges Heights, Middle Head and Chowder Bay
- Woolwich Dock and Parklands
- The former Marine Biological Research Station at Camp Cove

### *Harbour Land Sites*

- The former School of Artillery at North Head including the Royal Australian Artillery National Museum
- HMAS *Penguin*
- and the site of the Australian Institute of Police Management

The boundaries of the Plan area are shown in Figure 1.1 *Area to which the Plan Applies*.

The Plan applies to all of this land, although not equally. The Trust has the power to make plans for *Trust Land Sites* and *Harbour Land*. Both of these types of land are defined in the Trust's Act.

A *Trust Land Site* is land that is either in the ownership of the Trust or land that has been formally identified for transfer to the Trust.

*Harbour Land* is any land in the Sydney Harbour region irrespective of its ownership.

In the case of *Trust Land Sites* any Commonwealth body, including the Trust, must comply with the Trust's Plan when carrying out any activities on the land.

In the case of *Harbour Land* the Plan is not legally binding but it has clear strategic value. More importantly, the inclusion of *Harbour*

*Land Sites* in the Trust's Plan allows the Trust to take a holistic approach to its planning.

HMAS *Penguin*, the Australian Institute of Police Management and the Royal Australian Artillery National Museum have been included in the Trust's Plan as *Harbour Land Sites*. The Plan does not develop detailed outcomes for these sites. However, the Plan's overarching objectives and policies provide guidance for any development proposals relating to them. Furthermore the Trust has included these sites when researching base line information for matters like flora and fauna and has endeavoured to integrate these sites with the planning of the Trust's land.

The former School of Artillery at North Head also falls into the category of *Harbour Land*. Although the Commonwealth has had "the use, occupation and enjoyment" of the land since 1910 it does not have title to it, and as such the Trust is constrained in its ability to implement the Plan. The ability of the Trust to implement the Plan will depend upon the resolution of title to the land by the Commonwealth and the State of New South Wales. However, it is considered essential to include the land at North Head in the Trust's Plan, in order to adequately achieve the intention of Parliament.

In addition to the Plan Commonwealth land and activities are subject to environmental legislation such as *the Environment Protection and Biodiversity Conservation Act 1999*, and *the Australian Heritage Commission Act 1975*. This means that any future proposal on Commonwealth land would also have to be consistent with these Acts.

## HOW THE PLAN WORKS

---

The Plan has five main functions. It:

1. Articulates the vision, core values, objectives and policies that will guide all of the Trust's activities
2. Identifies land-use and environmental outcomes for each Trust land site
3. Provides a framework for implementation through the development of detailed policies, site management plans and guidelines
4. Provides a process for the assessment of actions or development
5. Provides a framework for the future management of the Trust's land

### Part A – Planning Context, Objectives and Policies

Part A articulates the whole of harbour vision and core values that will guide the Trust's activities.

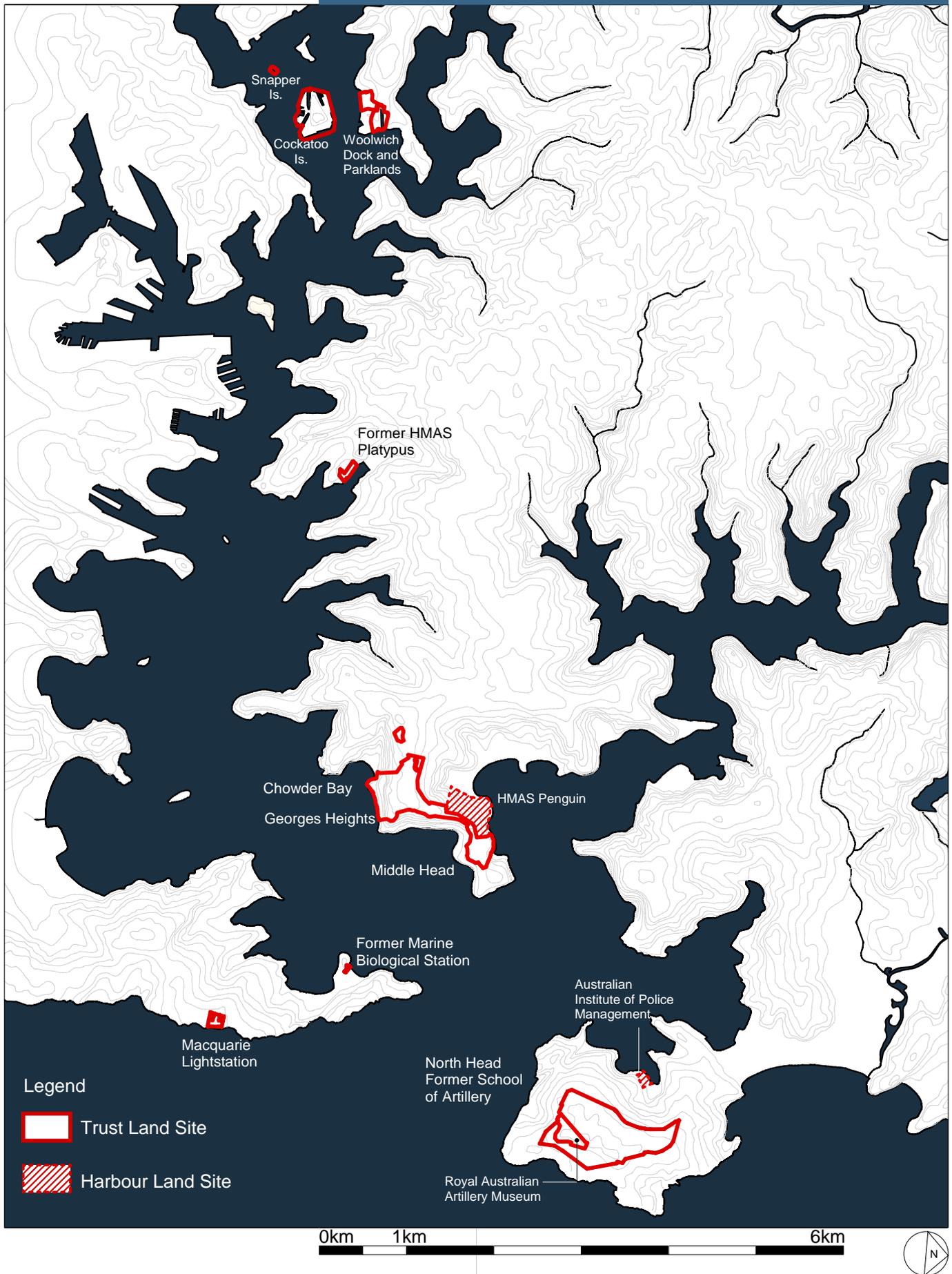
It describes the harbour context for the plan, the statutory matters that the SHFT Act requires it to address, the issues arising from the Trust's public consultation process and the existing plans and policies that are relevant to the plan.

Most importantly, it includes a set of overarching Objectives and Policies for matters such as water quality and public access. The Plan makes it mandatory for these Objectives and Policies to be addressed when any more detailed plans, policies, guidelines or developments are being considered on *Trust Land Sites*.

Part A applies equally to all of the *Trust Land Sites* and encapsulates the subregional values of the sites. The overarching objectives and policies outlined in Part A will also provide guidance for development proposals relating to the *Harbour Land Sites*.

Fig. 1.1 (Amendment 1)

Area to which the Plan Applies



## Part B – The Sites

Part B deals with the individual *Trust Land* Sites. There is a discrete section for each of the sites that describe its history, values, and inter-relationship with the surrounding area, site conditions and opportunities.

Each section also spells out the proposed land-use and environmental outcomes. It identifies areas to be revegetated, buildings and places to be conserved, buildings to be removed, contaminated areas to be remediated and most importantly how public access is to be improved.

Each section identifies generic land use outcomes such as new parklands and areas suited for other activities. However, it does not specify particular uses for individual buildings. There are over four hundred existing and mostly unoccupied buildings in the Plan area and it is not possible or desirable to identify specific uses for each at this time. These will be dealt with in greater detail in the Management Plans.

As mentioned previously, the Trust is constrained in its ability to implement a plan for the *Harbour Land* at North Head. However, a vision and outcomes for the North Head site are included in this Part of the Plan.

## Part C – Implementation

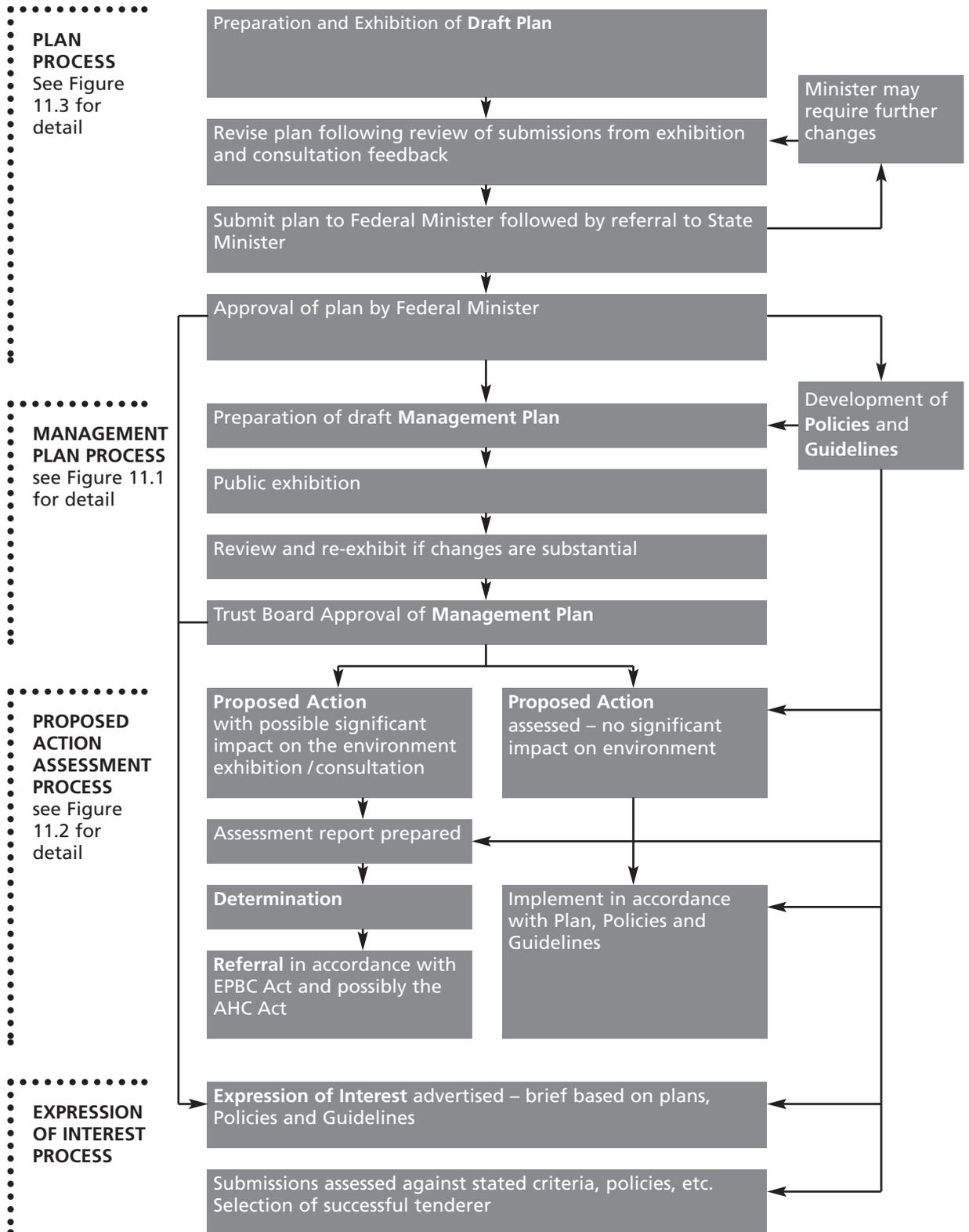
Part C applies to all of the *Trust Land Sites*. It deals with the mechanics of how the Trust will implement the Plan and describes the way in which the Trust will set priorities for implementation.

Details of how and when the Trust will prepare more detailed management plans, policies and guidelines, and what their role is, is outlined in Part C. This part also includes a description of how proposed actions are approved, the matters the Trust will consider when deciding whether to grant approval to an action, an outline of how the community will be involved in these processes and the way in which the Trust will make decisions about the leasing of Trust properties.

It also prescribes a process for the inclusion of new sites into the Trust's Plan and when and how the Plan will be reviewed and amended.

Refer to **Figure 1.2** *Planning and Implementation Processes*.

**Fig. 1.2** Planning and Implementation Processes



# 2

*Each of the Trust lands embodies interesting and important heritage in its own right. However, their significance is derived in a large part from their relationship to Sydney Harbour. Moreover, it is the harbour itself that has aroused so much passion and debate within the community, urging government to retain foreshore land for the public. There is now the potential for the public to use and enjoy the harbour in ways that have not been possible before.*

## PLANNING IN THE WHOLE HARBOUR CONTEXT

---

Although not at the geographic centre of Sydney, the harbour gives Sydney its identity. It is its birthplace and is known worldwide for its beauty. It is characterised by a curious juxtaposition of bush covered headlands, maritime facilities and industry, dwelling houses set in gardens and the towers of the city, which create an impression of a haphazard, unplanned city. And yet the underlying forces that have shaped this remarkable maritime city in adapting to its natural form still have a strong presence.

The Trust lands occupy only a small part of the harbour, but they are representative of a wide range of its natural and cultural heritage. With the rapid changes occurring in our time, such as the redevelopment of redundant industrial, maritime and defence facilities, it is important to retain these places before we lose these telling traces of our past. They provide diversity and opportunities to enrich our experience and understanding of the harbour – helping to preserve Sydney as a great Maritime City.

In studying and analysing the Trust lands and understanding their role in the evolving history of the harbour, it became increasingly clear that a whole harbour planning approach was essential to achieve the full potential of the lands to contribute to the cultural life of the Sydney region.

Feedback from the exhibition 'Sites Unseen', the consultative advisory committees and many of the community groups the Trust has consulted has endorsed the whole harbour approach and the need to consider each of the lands in a holistic manner. This plan has therefore been prepared as a comprehensive document, which embraces all of the sites, to ensure that the relationship of each site to the harbour and the regional planning context is clearly reflected.

### **The Importance of the Harbour**

In a great maritime city, the life on the land is inextricably bound to the activities on the water. This requires access to and from the water. Water should be considered as a place, not just something to be looked at from the land. We need to have diversity and contrast – places of work as well as the ability to gather by the water's edge. In a busy metropolis, it is important to provide places with a sense of remoteness, solace and respite for the whole community.

### **The role of the Trust lands in the Harbour**

With the recent redevelopment of most former maritime and industrial sites around the harbour for predominantly residential use, the Trust lands have strategic importance for sustaining a rich and diverse maritime city. They are well located or have particular facilities for maritime or public uses that are becoming increasingly difficult to accommodate around the harbour and, without which, Sydney may lose important services or amenities.

North Head and Middle Head-Georges Heights are two of the three main headlands that provide the seemingly extensive bushland character of the foreshores. Restricted use of these areas by Defence has meant that much of the remnant bushland (though fragmented) occurs here. The coastal dune heath on the wind blown sand dunes of the old Artillery School at North Head is particularly important because it has become so rare.

Cockatoo Island and Woolwich have three of the four remaining large dry docks in Sydney Harbour as well as other industrial infrastructure

that is being displaced elsewhere around the harbour – primarily by residential development.

The Trust lands have been isolated from the rest of the community. Public access to these hitherto unknown, wonderful parts of the harbour should be provided in a way that links other features of the harbour and the neighbourhood as well. We therefore need to develop networks of paths in relationship to the existing network of roads and paths, land and water transport, and other attractions around the harbour.

While the Trust lands have many unique qualities, they also have elements that recur up and down the harbour. These are described at Section 12 under ‘Whole of Harbour Background Material’.

To fully appreciate the fortifications at Georges Heights, it is necessary to understand them as part of the evolution of a whole system of defence – including Fort Denison, Dawes Point and other defence installations. The docks at Woolwich and Cockatoo are representative of the industrial development of Sydney and as such, have associations with other sites around the inner harbour.

The bushland at North Head and Middle Head-Georges Heights are valuable remnants of vegetation formations and types that occurred elsewhere over more extensive areas around the Sydney Harbour catchment and that complement the bushland within the Sydney Harbour National Park. The planning and interpretation of the Trust lands aims to highlight these associations.

Most people are unaware that this city of over 4 million people is at the edge of a wild and relatively unexplored aquatic habitat – Sydney Harbour. Two of the Trust sites (Chowder Bay and the former Marine Biological Station at Camp Cove Beach) adjoin clean harbour waters with a rich diversity of marine life that requires further study, protection and appreciation. The growing importance of improving water quality will need to be taken into consideration in the management of water run-off from the former industrial and Defence sites of the Trust.

## REQUIREMENTS OF THE SHFT ACT

---

The Act (Part 2 Section 6) requires the Trust to prepare a plan within two years of proclamation of the Act (September 2001). The Plan must accord with the objects of the Trust, which are as follows:

- to ensure that management of Trust land contributes to enhancing the amenity of the Sydney Harbour region
- to protect, conserve and interpret the environmental and heritage values of Trust land
- to maximise public access to Trust land
- to establish and manage suitable Trust land as a park on behalf of the Commonwealth as the national government
- to co-operate with other Commonwealth bodies that have a connection with any Harbour land in managing that land
- to co-operate with New South Wales, affected councils and the community in furthering the above objects

The plan must also accord with the principles of Ecologically Sustainable Development.

*Section 28 of the SHFT Act requires that the plan must contain the following:*

- a history and description of the plan area, including an identification of current land uses of the area or parts of the area
- an assessment of the environmental and heritage values of the area
- an assessment of the interrelationship between the plan area and the surrounding region, including other public land in the Sydney Harbour region and other Trust land
- objectives for the conservation and management of the area
- policies in respect of the conservation and management of the area
- an identification of proposed land uses in the area or parts of the area
- an identification of the nature of possible future owners of the area or parts of the area
- guidelines, options (if necessary) and recommendations for the implementation of the plan
- detailed estimates of costs that may be incurred in respect of the area, including costs for remediation, rehabilitation and conservation of the area
- anything else required by the regulations

## OUTCOMES OF PUBLIC CONSULTATION

---

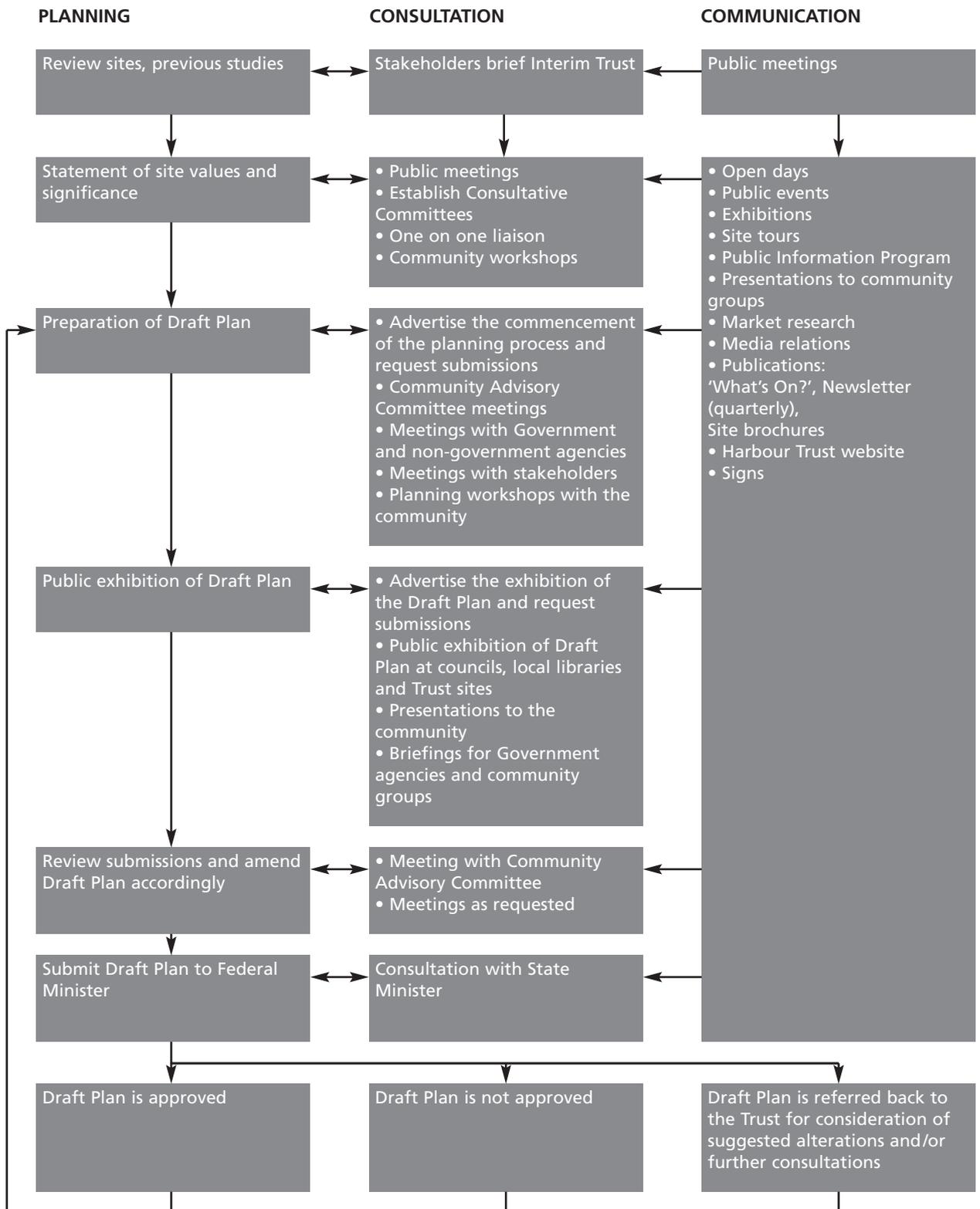
Consultation has helped the Trust to understand the communities' needs, expectations and concerns and has guided the concepts developed in the Plan. The scope and extent of the Trust's Consultation programme are summarised in the Background Material to this plan and are illustrated in Fig. 2.1.

Feedback to the Trust is received in various forms such as verbal comments, written submissions, questionnaires, website feedback forms and through surveys undertaken by the Trust. Both quantitative and qualitative feedback has been taken into consideration during the planning process. This is done on a case-by-case basis, as some issues relate to the whole of harbour planning and others are site specific.

Based on both Government and community consultation, the following is an outline of the issues that have been identified as important to be addressed by the Plan:

- It is important to plan for the Trust sites as a 'whole' using a consistent framework that applies to all sites
- The Plan needs to be developed within the context of all other land in public ownership on the harbour
- A 'whole of government' approach to planning needs to be maintained and encouraged. This includes ensuring the Trust plans are consistent with relevant State Government outcomes and legislation including the Building Code of Australia, Fire Safety Regulations etc
- Ensure that the visual impact of proposals on each site is considered in a whole of harbour context, and that the amenity of sites and views to and from the harbour are protected
- Implementation of sustainable practices through comprehensive and site based plans
- Recognition of the importance of biodiversity, threatened species and natural system management. This includes issues such as soils, fire and bushland management and the aquatic environment
- Need to protect and enhance bushland nature of the Harbour

**Fig. 2.1** Consultation During the Planning Process



- Recognition of the impact that activities could have on water quality and the need for adequate stormwater management to improve water quality of the harbour
- Integration of land use and transport to help to achieve the air quality management goals of the NSW Government
- Identification and remediation of areas of contamination
- Preservation of the natural, cultural and historical characteristics of the harbour
- Importance of conservation and interpretation of the military heritage of the harbour
- Protection of the harbour from new and inappropriate residential or commercial development
- Public access to sites to be maintained and improved, including water access where appropriate
- Importance of aspects of public safety, security, acoustics and signage
- Importance of continuing consultation with the community, interest groups and government agencies during the development and implementation of the plan
- Provision of facilities for interpretation and education about the sites
- Provision of recreational and sporting opportunities, facilities for youth/ children and access for older people and people with disabilities
- Importance of conservation and interpretation of the Aboriginal heritage of the Harbour
- Recognition of the Trust sites as a valuable 'National' asset and tourist destination
- Need for working harbour facilities and land based access to working harbour facilities
- Need to balance commercial activity and leasing arrangements with public access and community use whilst ensuring the Trust has adequate ongoing funding and resources
- Financial burden of implementation of the Plan should be borne by the government in rehabilitating these sites with no burden to future generations

Issues raised that are specific to particular sites are summarised in the relevant site sections of the plan.

## RELATIONSHIP TO OTHER PLANS AND POLICIES

---

The Trust's Plan area is covered by a wide range of existing plans and policies that have been prepared by both State Government agencies and local government. None of these plans or policies has legal force in respect of *Trust Land Sites*. However, they provide an important planning and policy context that the Trust has reflected in its Plan. To facilitate this, a detailed analysis of existing plans and policy documents was undertaken. The results of these investigations and their relevance for each Trust site area are summarised in the Plan. The full details are contained in a supporting study – *Planning Context, Harbour Trust Lands, (MG Planning 2002)*.

At a regional level there are policies and plans prepared by the various State Government agencies. Some of these apply to the whole State and aim to set long term goals. A good example is 'Action for Air' – the State Government's 25 Year Air-Quality Management Plan. Where relevant these policies have been reflected in the Trust's whole of harbour objectives and policies. Others, like 'Sharing Sydney Harbour', the State Government's vision for the

harbour, provide more explicit guidance on the State's strategic planning objectives for the harbour including some of the Trust's sites. These are reflected in the Plan's site-specific land use and environmental outcomes. An example of this is Cockatoo Island, which has been identified by the State Government as a site to be retained as part of Sydney's working harbour.

There are also local plans prepared by local councils, for example *Mosman Local Environmental Plan 1998*. This Plan covers Rawson Park and the bushland areas adjoining Middle Head-Georges Heights and Chowder Bay and while it is a statutory planning instrument, its aims and objectives are relevant to the land use and environmental outcomes for the Trust's sites and these have also been reflected in the Plan's site-specific outcomes.

Finally, and most importantly, there are management plans prepared by the owners of adjoining land. A good example is the *Little Penguin Proposed Critical Habitat and Recovery Plan* prepared by the National Parks and Wildlife Service for North Head. These have also been reflected in the Plan's site-specific outcomes.

### Whole of Harbour Plans and Policies

The State policies that are relevant to all or more than one of the Trust lands are:

*Sharing Sydney Harbour*

(Department of Urban Affairs and Planning, 2001)

*Sharing Sydney Harbour, Regional Action Plan Update*

(Planning NSW 2003)

*Action for Air*

(Environment Protection Authority, 1998)

*Action for Transport 2010*

(Department of Transport, 1998)

*NSW Biodiversity Strategy*

(National Parks and Wildlife Service, 1999)

*Draft State Environmental Planning Policy No. 66 – Integrating Land Use and Transport*

(DUAP, 2001)

*State Environmental Planning Policy No. 56 – Sydney Harbour Foreshores and Tributaries*

(DUAP, 1998)

*Sydney Regional Environmental Plan No. 14 – Eastern Beaches*

(DUAP, 1988)

*Sydney Regional Environmental Plan No. 23 – Sydney and Middle Harbours*

(Department of Planning, 1985)

*Sydney Regional Environmental Plan No. 22 – Parramatta River*

(Department of Planning, 1990)

*Sydney Harbour and Parramatta River Development Control Plan (DCP) for SREP 22 and SREP 23*

(DUAP, 1998)

*Sydney Regional Environmental Plan No. 32 – Sydney Harbour Catchment, Working Draft*

(Planning NSW 2003)

*Sydney Harbour National Park – Plan of Management*

(NPWS, 1998)

*State Environmental Planning Policy No. 55 – Remediation of Land*

(DUAP, 1998)

*Planning for Bushfire Protection*

(NSW Rural Fire Service and Planning NSW, 2001)

*Manly – Mosman District Bushfire Management Plan – Operations*

(Bush Fire Management Committee, 2001)

*Manly – Mosman District Bushfire Management Bushfire Risk Management Plan*  
 (Bush Fire Management Committee, 1997)  
*State Environmental Planning Policy No. 19 – Bushland in Urban Areas*  
 (Department of Planning, 1986)  
*Sydney Harbour, Invertebrates – Intertidal Protected Area*  
 (NSW Fisheries, 2002–2007)  
*North (Sydney) Harbour Aquatic Reserve*  
 (NSW Fisheries, 1982)  
*Water Quality and River Flow Interim Environmental Objectives for Sydney Harbour and Parramatta River Catchment*  
 (EPA 1999)  
*Sydney Harbour Catchment Management Board’s Catchment Blueprint*  
 (2002)

#### **Relationship to Local Plans**

In addition to the specific State planning and environmental policies there are a number of local council plans and policies that are important. The details of these plans are contained in the Supporting Study – ‘Planning Context, Harbour Trust Lands’ (MG Planning 2002).

For each site, other than the two islands, a diagram has been prepared that summarizes the local planning context – see diagrams 4.3, 7.3, 8.3, 9.2 and 10.2.

To ensure that the Trust’s sites are effectively integrated with the surrounding area the Trust will have full regard for these plans and policies when considering any new activities.

#### **Relationship to Commonwealth Environmental Legislation**

The Commonwealth Environmental Legislation that applies to the Plan area are:

*Sydney Harbour Federation Trust Act 2001*  
*Environment Protection and Biodiversity Conservation Act 1999*  
*Australian Heritage Commission Act 1975*

#### **Relationship to State Environmental Legislation**

In addition to the State planning and environmental policies, there are a number of State laws that are important to the planning process and environmental conservation. These acts do not have statutory force in respect of the Trust’s lands. However, the Trust’s Plan has had regard to the objectives of the following State acts:

*Threatened Species Conservation Act 1995*  
*Fisheries Management Act 1994*  
*Contaminated Land Management Act 1997*  
*Environmental Planning and Assessment Act 1979*  
*The Heritage Act 1977*  
*National Parks and Wildlife Act 1974*  
*Protection of the Environment Operations Act 1997*  
*Rural Fires Act 1997*

# 3

*To guide all of the Trust's activities – its day-to-day decisions about plan implementation including conservation works, management and the provision of public access, as well as other activities like the leasing of buildings, public consultation etc, the Trust has developed a comprehensive set of objectives and policies. These objectives and policies cover a wide range of matters from natural heritage to design, education and interpretation. The Plan identifies each objective and its relevance to sites covered by the Plan. Most importantly it also establishes the way in which the objectives are to be applied.*

*The objectives are grouped thematically and apply to all of the land covered by the Plan including Harbour Land where they will provide guidance for the assessment of development proposals.*

*The Plan makes it mandatory for these objectives and policies to be addressed when more detailed plans, policies, guidelines or developments are being considered on Trust Land Sites.*

## Ecologically Sustainable Development (ESD)

ESD is central to the Trust's management, strategic planning and development decision-making. The concept of ESD has been defined as: *"Development that improves the quality of life, both now and in the future, in a way that improves the ecological processes on which life depends"* – National Strategy for ESD (1992).

The Environment Protection and Biodiversity Conservation Act 1999 provides the following core principles of ESD:

- Decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations
- If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation
- The principle of inter-generational equity – that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations
- The conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making
- Improved valuation, pricing and incentive mechanisms should be promoted

The Trust recognises that the implementation of these objectives is not straightforward. This is partly because they provide minimal instruction for practical action and contain some ambiguity. The Trust also recognises that the principal objective is to achieve the effective integration and balance of economic, environmental and social considerations.

To meet this objective the Trust will ensure that:

- The natural biological diversity is protected, conserved and interpreted with particular emphasis on threatened species and endangered populations and communities as an integral part of any redevelopment or use of Trust land sites.
- Trust sites are accessible to the community and offer a high quality of life for those who live or work at the site and a highly desirable recreation destination
- Re-use and redevelopment preserves significant areas for open space as a resource for generations to come
- Development and adaptive re-use achieves reductions in the use of energy from sources which are non-renewable or emit greenhouse gases in energy generation or consumption compared to previous uses or comparable uses
- All development and ongoing management activities on Trust sites maximise the appropriate use of recycled and reused materials and reduce waste generation
- Development minimises the use of materials, which deplete natural resources or create toxic pollution in their manufacture, use or disposal
- Buildings to be removed will be reused where possible and where demolition is necessary materials will be recycled where possible
- Use of Trust sites minimises the negative impact on Sydney's air quality and avoids ozone-depleting substances. This includes encouraging the use of public transport, walking or cycling
- Measures are taken to minimise impact of noise and light pollution on environmental conservation areas and surrounding land uses
- Any use of the Trust lands results in improvement to water quality entering the harbour from the site

- Any development remediates the results of polluting activities of the past and ensures protection of soil and sediments within the developed area
- It remains accountable in the achievement of ESD, by measuring, monitoring and reporting with respect to the key indicators for sustainability and use this information to continually improve policies, plans and practices
- Contracting and procurement methods are developed, implemented and reviewed so that environmental objectives supporting ESD are adopted by contractors and suppliers
- The formation of partnerships and works with the community, stakeholders and other agencies to achieve environmental outcomes
- Adhere to Water Sensitive Urban Design principles when developing any future plans
- Investigate and where appropriate use renewable energy on Trust sites

### Geodiversity Conservation

One of the things that the community most values about the natural heritage of Sydney Harbour is the complex of cliffs, bushy slopes and rocky edges that meet the water along a shoreline of sandy beaches and rock platforms. These features form part of the harbour's geodiversity.

Geoconservation aims to protect the natural diversity of the non-living environment. This means protecting significant landforms, bedrock and soil features and processes. The Australian Natural Heritage Charter sets out the principles, processes and standards for the conservation of natural heritage places including geodiversity. It defines geodiversity as the range of earth features including geological, geomorphological, palaeontological, soil, hydrological and atmospheric features, systems and earth processes.

While geoconservation can relate to bioconservation in that geodiversity provides the variety of environments and environmental dynamics that directly influence biodiversity, many geoheritage items are significant in their own right, independent of any ecological role that they might play. A good example of this is the Pleistocene-aged sand dunes found on the plateau at North Head.

Geodiversity has contributed much of the character of Sydney Harbour. This applies not only to its natural features but also to the way in which the city has developed around it. This is particularly relevant for the former defence sites that were located so as to maximise the natural fortress like qualities of the cliffs around the entrance to the harbour.

In protecting the geodiversity of its sites, the Trust will:

- Adopt the conservation principles, processes and practices contained in the *Australian Natural Heritage Charter (2002)* to guide its decisions relating to matters that may impact on the geodiversity values of the sites
- Identify, protect, conserve and interpret significant sites such as volcanic dykes, Pleistocene sand dunes and laterites etc

### Biodiversity Conservation

The conservation of biodiversity and the maintenance of ecological processes and systems within the Trust's Plan area are fundamental goals of the Trust's ESD policy and will be integrated into the Trust's management, strategic planning and development approval processes.

Biodiversity refers to the diversity of plants, animals, aquatic species, insects, invertebrates and microorganisms found in nature, not just threatened species. It can also refer to the variety of ecosystems that are found and in living organisms includes both species diversity and genetic diversity.

The Trust is undertaking fauna and flora studies of all its sites including neighbouring land administered by NPWS, to provide base line information to enable the Trust to identify and manage the sites' biodiversity.

In protecting the biodiversity of its sites, the Trust will:

- Adopt the conservation principles, processes and practices contained in the 'Australian Natural Heritage Charter (2002)' to guide its decisions relating to matters that impact on biodiversity
- Protect native animals, vegetation, habitats and habitat corridors to ensure that their ecological function and integrity is maintained or enhanced, with priority to those species, populations and communities which have been identified as rare, endangered or vulnerable
- Undertake comprehensive fauna and flora surveys for all of the sites where this information has not already been gathered
- Promote an integrated approach to biodiversity conservation with neighbours, Local Councils, fire authorities and adjoining land owners and participate in joint biodiversity conservation and interpretation programs
- Cooperate with the NPWS and Environment Australia where appropriate in the implementation of species recovery and threat abatement plans on the Trust land sites
- Consult with the Aboriginal community in the identification, conservation and interpretation of significant biodiversity values on Trust land sites
- Ensure that all activities proposed for Trust sites undergo appropriate environmental assessment and that all activities are in accordance with the biophysical limits of the area
- Implement both State and Commonwealth species recovery plans and threat abatement plans on Trust land sites where appropriate
- Control threats such as feral animal species, weeds, disease, sedimentation, storm water runoff, increased nutrient levels, harmful chemicals and other threatening human activity, so that their impact on the aquatic and terrestrial biodiversity of the Plan area is minimised
- Ensure that bush fire hazard reduction measures take into account habitat requirements for native species and the appropriate fire regimes required for the survival and continued functioning of native vegetation. Adverse impacts of altered fire regimes on biodiversity will be avoided
- Repair and rehabilitate appropriate areas to enhance their biological diversity
- Maintain natural watercourses and adjoining riparian land
- Monitor, regulate and minimise processes and activities that have or are likely to have significant adverse impacts on the conservation of biological diversity and be able to respond appropriately to any emergency situations that may arise

## Bush Care

The sheer beauty of the green headlands and the remnant natural bushland around the harbour foreshores are two of the things that the community most values about the harbour. Eighty percent of the respondents to the Trust's Sites Unseen Exhibition Questionnaire ranked "protecting and enhancing bushland" as essential.

The vegetation on Middle Head and North Head is an important remnant of the original plant communities that once covered much of the coast around Sydney. It includes areas of angophora forest, tea tree scrub, heath land and hanging swamps, as well as endangered ecological plant communities such as the Eastern Suburbs Banksia Scrub at North Head and threatened species such as *Acacia terminalis* ssp. *terminalis* and *Eucalyptus camfieldii*.

The bushland is also important because it provides habitat for native wildlife including endangered species or populations like the Long-nosed Bandicoot *Parameles nasuta* population and the Red Crowned Toadlet *Pseudophryne australis*.

However, in many adjoining areas the bush land is in poor condition due to previous land fill activity, changes in drainage patterns, increased soil nutrient levels and the absence of fire. At Middle Head increased storm water run off and increased nutrient levels have resulted in moderate to severe weed invasion around the edges. The absence of fire at Middle Head has resulted in a decline in species diversity with Sweet Pittosporum emerging as the dominant species and while at North Head it has resulted in unusually mature heath and tea tree scrub. Mature trees, particularly smooth barked apple *Angophora costata*, Sydney peppermint *Eucalyptus piperita* and Bangalay *Eucalyptus botryooides*, are dying in significant areas. At Middle Head the soil borne pathogen *Phytophthora cinnamomi* is active.

To protect the nature conservation and scenic values of the vegetation in the Plan area the Trust will:

- Increase the amount of vegetated land within the Plan area by revegetating and regenerating areas that are currently degraded or where buildings, paving or fill have been removed
- Revegetate using seed collected from plants that are indigenous to the Plan area and where possible, from material propagated from the area being revegetated
- Remove and control introduced plants that are of no historical or cultural importance
- Control weed growth
- Ensure that inappropriate non-indigenous plants will not be deliberately introduced to natural areas and will be managed and controlled to limit their dispersal
- Give priority to bushcare programs, which protect rare, vulnerable and endangered plant species and communities from disturbance and manage them in a way that will ensure their long-term conservation. This includes maintenance and ongoing management
- Control access to vulnerable bush land areas
- Remediate areas where there have been changes in landform, drainage patterns and nutrient levels and where these changes are having an adverse impact on neighbouring vegetation
- Work jointly with adjoining land managers, Local Councils and bushcare groups to develop and implement a local management strategy aimed at reducing the risk of dieback within the bushland areas of Middle Head and Georges Heights
- Be guided by the Threat Abatement Plan for *Phytophthora cinnamomi* prepared by Environment Australia
- Adopt best practice protocols for contractors and others undertaking bush regeneration, construction work and the like as recommended by the Royal Botanic Gardens in its report dated October 2002 on the control of *Phytophthora* at Middle Head
- Control access to areas where *Phytophthora cinnamomi* is known to be present

- Manage fire, including controlled burns, having regard for the ecological consequences and with a view to maintaining species diversity
- Integrate bushcare programs with management practices and programs of neighbours, Local Councils, fire authorities and adjoining land managers

## Management of Native and Introduced Animals

The Trust's lands and the adjoining Sydney Harbour National Park provide important habitat for native animals. However, fragmentation and predation by introduced animals like foxes, cats and dogs have greatly reduced the number and variety of species. This process has also been exacerbated by urbanisation and an associated increase in the numbers of highly competitive birds like Noisy Miners (*Manorina melanocephala*) and predators like Pied Currawongs (*Strepera graculina*).

Conversely the waters of the harbour and the intertidal foreshores support diverse plant and animal life. This includes undersea meadows and forests as well as many species of fish, invertebrates, mammals and birds. The waters near Chowder Bay are particularly rich and support a variety of marine life such as sea horses, sponges, sea squirts, octopus and many other invertebrates.

The Trust has completed a fauna survey of its Middle Head lands and has initiated similar surveys for North Head, Woolwich and Cockatoo Island. The Middle Head study did not identify any rare or endangered species although the Common Bent Wing Bat *Miniopterus schreibersii* is known to spend the winter months in the fortifications located there and the glossy Black Cockatoo *Calyptorhynchus lathami* is an occasional visitor. Both of these species are identified as vulnerable species in Schedule 2 of the NSW Threatened Species Conservation Act 1995.

At North Head there are resident populations of Long-nosed Bandicoots *Parameles nasuta* and Little Penguins *Eudyptula minor*. These populations are among the few remaining in the Sydney region and have been listed as endangered populations under the NSW Threatened Species Conservation Act 1995.

The other sites have been greatly modified and there are no known populations of significance. However, since shipbuilding ceased, Cockatoo Island has become a nesting site for Silver Gulls *Larus novaehollandiae* and this will require specific investigation and management.

Feral animals are commonly found on the Trust lands and include rabbits, foxes, cats, rats and mice. They are having a significant impact on native animal populations and will require ongoing management in collaboration with neighbouring land managers. At North Head and Middle Head, rabbits are a particular problem and although they have been subject to ongoing eradication programmes their numbers remain high.

The Trust will manage native and introduced animals on its sites by:

- Maintaining and enhancing native animal habitats including migratory wildlife habitats
- Identifying and maintaining habitat corridors between remnant areas of bushland habitat and where appropriate creating new corridors as part of the revegetation program
- Undertaking feral animal control programs in co-operation with NPWS, Councils and other neighbouring land managers

## Water Quality and Catchment Protection

- Working co-operatively with NPWS, neighbouring Local Councils and other agencies on environmental management programs
- Adopting a policy of not allowing the tenants of Trust properties, particularly at North Head, to keep pets such as cats or dogs, that are likely to be a threat to wildlife

All of the Trust's lands drain directly into Sydney Harbour or onto land that drains into it. As a consequence the way in which the Trust manages its land can make an important contribution to the improvement of the harbour's water quality.

The community has a reasonable expectation that it will be able to swim at harbour beaches such as Clifton Gardens and to eat fish caught in the harbour without suffering any adverse health impacts. Similarly there is an expectation that beaches will be free of litter and rubbish.

There is also an expectation that the harbour's aquatic ecosystem will be protected and fostered. NSW Fisheries has identified the harbour's intertidal zone to be a Protected Area. It has also declared two areas near North Head to be Aquatic Reserves. One reserve is within the harbour while the other is on the ocean side of North Head at Cabbage Tree Bay. Similarly Mosman Council has prepared a draft Local Environmental Plan that identifies wetlands including seagrasses in sheltered bays such as Chowder Bay, for protection.

The Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC & ARMCANZ 2000) recognises six environmental values that the community may want protected. These range from ecosystem protection – the most pristine, to industrial water – the poorest quality.

A certain level of water quality is needed to achieve each environmental value. Water Quality Objectives, WQOs, set the limits at which water quality is suitable for the desired use.

In the case of Sydney Harbour the NSW Environment Protection Authority has set Interim WQOs and River Flow Objectives. For the Lower Estuary including the waters around North Head, Middle Head and Camp Cove, WQOs have been set for the protection of aquatic ecosystems, primary contact recreation such as swimming and aquatic foods (cooked). In the case of the Upper Estuary including the waters around Cockatoo Island, Snapper Island and Woolwich similar WQOs have been set. However, the time frame in which the outcomes are to be achieved will be longer than those for the Lower Estuary.

To achieve these WQOs, it is essential that pollution is managed on a catchment wide basis. In respect of the Trust's sites the Trust will:

- Manage each site taking into account:
  - The Interim Water Quality and Flow Objectives for Sydney Harbour
  - Relevant targets and actions in the Sydney Harbour Catchment Management Board's Catchment Blueprint (currently being drafted)
  - Relevant Stormwater Management Plans prepared by Local Councils
- Manage stormwater by adopting best practice management for stormwater with the aim of minimising its impacts through on-site detention, treatment and reuse
- Ensure that soil erosion and sedimentation control measures are in place prior to and during construction and maintenance activities

- Monitor ground and surface water discharges from Cockatoo Island and use this information in the ongoing management of pollution on the island
- Eliminate point source pollution
- Work cooperatively with Sydney Water in implementing water conservation measures and implementing appropriate sewage and grey water treatment programs.

## Transport Management and Air Quality

One of the key objectives of the Trust Act is to maximise public access to the lands identified in the Plan so that the whole community has the opportunity to experience and appreciate them. However, five of the sites are located at the end of peninsulas and two are islands. This presents particular challenges for the Trust in implementing ecologically sustainable solutions and in meeting the objectives of the State government's policies – *Action for Air, Action for Transport 2010* and *SEPP No. 66 – Integrating Land Use and Transport*. These policies promote the use of public transport, a reduction in Vehicle Kilometres Travelled (VKT) and as a consequence, emissions from motor vehicles – a key environmental objective in the Sydney air shed.

Consistent with these objectives the Trust will:

- Locate any significant trip-generating activities in places that optimise accessibility, encourage and facilitate public transport use and reduce car travel and reliance on cars
- Improve transport choice by creating an environment that accommodates a range of transport modes, and especially encourages public transport use, cycling and walking
- Make decisions about land use and new activities in a way that encourages people to use sustainable modes of transport
- Limit travel demand by private car, including the number of trips generated by development and the distances travelled, by setting maximum parking numbers for Trust land sites that are consistent with their traditional operational levels
- Limit the amount of long stay car parking where there is good alternative access by public transport
- Ensure the location of parking areas do not impact on the unique characteristics of the sites and ensure parking areas are linked to more sensitive features of each site with safe pedestrian and cycle ways
- Enhance existing infrastructure and encourage service providers to provide new opportunities for water-based and other public transport. This is particularly important for Middle Head and Chowder Bay
- Ensure that traffic generated by uses within the Trust's sites has minimal impact on the surrounding residential areas
- Encourage the use of alternatives to the motor car by providing reliable information to people visiting Trust sites about routes, connections, timetables, etc
- Consider the cumulative traffic impacts of both developments on Trust lands and neighbouring sites when preparing a Management Plan
- Include Transport Management as a matter to be addressed in the preparation of a Management Plan

## Bushfire Management

Fire has been an essential element in the evolution of the plants and animals that characterise Sydney Harbour. However, the two most extensive bushland areas covered by the Trust's Plan – North Head and Middle Head, have had few fires over the last 25 years. This is less than ideal for maintaining structural and species diversity as it has resulted in changes to the vegetation, higher fuel levels and increased risk of more intense fire.

The Trust has a responsibility to manage bushfire risk on its lands to:

- Protect life and property on both its land and adjoining lands
- Protect the natural, scenic and cultural values
- Minimise the risk of unplanned bush fires on its land
- Minimise the potential for bushfires to spread onto and from its lands

To satisfy these responsibilities the Trust will:

- Prepare a bushfire management plan having regard for Planning for Bushfire Protection (NSW Rural Fire Service & Planning, 2001) for Middle Head that takes into account ecological management requirements
- Participate and co-operate with Manly/Mosman Bush Fire Management Committee in the implementation and review of the district bush fire risk management plan and operations plan
- Co-operate with all relevant authorities and neighbours to ensure co-ordination of fire management on Trust lands and on adjoining lands

## Contamination

Following their history of industrial and military uses, all of the Trust lands have a degree of contamination which has resulted from activities that have taken place on or adjacent to the lands. The contamination includes: 'point source' related contamination (such as that arising from storage tanks, oil or fuel stores), deteriorating building materials (such as lead based paints and asbestos materials) and land-fill where wastes associated with the former uses, including military related wastes, have been deposited.

Detailed environmental assessments have previously been carried out for Cockatoo Island, Woolwich Dock and parklands, Middle Head-Georges Heights and Chowder Bay precincts, and North Head. Preliminary assessments have also been carried out for Snapper Island and Macquarie Lightstation. These assessments indicate varying levels of contamination on each site.

The nature and extent of contamination includes pollutants in soil, groundwater, surface waters and marine sediments, and deteriorating hazardous materials and wastes associated with buildings and structures. All of the contaminated materials have some kind of environmental and/ or aesthetic impact. In terms of its nature and extent, this impact is most significant on Cockatoo Island. However, at the other end of the scale, impacts such as lead based paint breakdown and dust release will need to be addressed at sites like Macquarie Lightstation.

In managing the impacts of this contamination the Trust will:

- Ensure that public health and the environment are protected with the application of consistent and sound environmental management practices
- Reduce the potential for offsite migration and environmental impact of contaminations
- Develop management and remediation strategies in accordance with its commitment to ESD
- Apply methods for remediation that meet currently available engineering best practice and community standards
- Conform with applicable State and Commonwealth guidelines, processes and requirements. Of particular relevance are guidelines made under the *Contaminated Land Management Act 1997* including the *National Environment Protection (Assessment of Site Contamination) Measure (NEPM) 1999*
- Engage accredited auditors to review the assessment and remediation process, where these issues are significant, and to ensure the

Trust's environmental obligations are met as the lands are opened to the public

## Aboriginal Heritage

Aboriginal heritage includes sites showing evidence of Aboriginal occupation and places that are of contemporary or spiritual importance according to Aboriginal culture or custom. Aboriginal sites include items such as midden deposits, rock engravings and painting sites. They may also include natural features of the environment such as ridges, creeks or beaches, as well as ceremonial or story places. The site of Bungaree's Farm at Georges Heights is an example of early contact.

European settlement was devastating to the Aboriginal people living around Sydney Harbour and nearby areas. Today much of the evidence of the traditional way of life of the Aboriginal people in Sydney has been removed as the city has developed. Aboriginal sites have survived mostly on land which was reserved for defence purposes, was too difficult to develop, or was reserved for recreational purposes.

Any information relating to Aboriginal heritage provided by members of Aboriginal communities must be treated with respect, and any agreement regarding access and/or confidentiality is to be honoured.

The Aboriginal sites and places on the Trust lands are significant to local Aboriginal people. These sites provide evidence of a traditional way of life of the original occupants and provide an opportunity for the education of Aboriginal children and the wider public. For this reason it is important to document and interpret the presence of ancient and living culture on the harbour, enabling visitors to gain a greater appreciation of Aboriginal culture and its connections to the harbour and to the Trust lands more specifically. In doing this, the Trust must be guided by the Aboriginal community. To this end the Trust has established an Aboriginal Steering Committee to advise on all indigenous issues including consultation and matters relating to a Cultural Centre.

In order to work with the Aboriginal community in the interpretation and documentation of Aboriginal heritage on Sydney Harbour and to ensure that all visitors to the Trust lands gain a greater appreciation of Aboriginal culture, the Trust will:

- Ensure that the Aboriginal community is consulted on all Aboriginal heritage related matters
- Develop plans and ensure planning processes implemented by the Trust recognise and consider Aboriginal cultural values
- Conserve and manage Aboriginal sites on Trust lands in consultation with local Aboriginal communities
- Ensure an archaeological assessment is carried out prior to any work that has the potential to impact on Aboriginal sites. Works will be modified as necessary to avoid impacting on Aboriginal sites
- Identify, make publicly accessible and promote, where appropriate, places for contemporary Aboriginal celebration and places that reflect and celebrate the existence of Aboriginal culture
- Investigate the feasibility of establishing an Aboriginal Cultural Centre, on an appropriate site, selected in consultation with and managed by, the Aboriginal community
- Endeavour to use culturally appropriate Aboriginal names to describe Trust sites. In conjunction with the Aboriginal community, the Trust will research and verify Aboriginal names so as to ensure that any names used, bear relation to the cultural significance and use of the sites

## Cultural Heritage

- Encourage people to experience Aboriginal culture by identifying, interpreting and making accessible Aboriginal sites on Trust lands. These sites will be selected and managed in a sustainable and culturally appropriate manner with the guidance of the Aboriginal people

Sydney Harbour is a complex historical place with a rich layering of past occupations and uses that are still evident. Its qualities are drawn from its origins and its history as well as its communities, patterns and form.

The opening to the harbour through the massive sandstone cliffs of North and South Heads is a gateway in both a real and spiritual sense. The Harbour was a place of arrival and refuge for the first Europeans. It also developed as a place of defence, a place of incarceration and a place of maritime industry around which other activities clustered.

These harbour related themes of defence, incarceration and maritime industry as well as navigation and marine research are all represented on the Trust's sites.

All of the Trust Land Sites and the former School of Artillery are entered on the Register of the National Estate and include specific places of national heritage importance. There is the convict prison on Cockatoo Island – the only surviving Imperially funded convict works in NSW. The fortifications on Georges Head – part of the most diverse collection of coastal defence heritage in Australia, the School of Artillery at North Head, the Macquarie Lightstation, the former Biological Research Station at Camp Cove and of course the Fitzroy, Sutherland and Woolwich dry docks.

This heritage is of great importance to the people of Sydney. Protecting convict and industrial heritage, conserving and interpreting military heritage and ensuring that new uses fit with the special qualities and heritage significance of buildings were all ranked highly by respondents to the Sites Unseen Exhibition.

To do this the Trust will:

- Adopt the *Burra Charter of Australia ICOMOS (1993)* and the *Australian Natural Heritage Charter (2002)* for the assessment of cultural significance and natural significance and to guide the conservation of items of environmental heritage. *The Natural Heritage Charter* incorporates the Principles of Inter-generational Equity, Existence Value, Uncertainty and the Precautionary Principle
- Prepare and implement Conservation Management Plans in consultation with the Australian Heritage Commission, for important items of environmental heritage prior to any works (including adaptive re-use proposals) other than routine maintenance or urgent stabilisation works
- Respect the existing fabric and setting of a place and undertake the least possible intervention when undertaking any work involving an important item of environmental heritage
- Undertake an archaeological assessment and recording before any work with the potential to impact on subsurface archaeology proceeds
- Prepare best practice guidelines for all contractors requiring them to immediately stop work in the case of the unintentional discovery of archaeological relics
- Conserve and interpret portable objects of environmental heritage in situ whenever possible. If objects have to be removed to allow essential conservation they will be fully documented before they are removed

- Interpret the cultural heritage of the Trust sites in the most appropriate manner and in the context of the whole harbour
- Work cooperatively with neighbouring land managers such as the NPWS and the Royal Australian Artillery National Museum, specialist groups such as the Small Ships Association and Friends of Cockatoo and the Trust's volunteers to interpret historic places such as the Middle Head and Georges Heights fortifications including access by the public

### Adaptive Re-use of Places and Buildings

Fulfilment of the Trust's objectives and the desire to weave these formerly isolated sites back into the life of the city so that they enrich our understanding and appreciation of the harbour will require the adaptive re-use of the places and buildings. The Plan's aim is to ensure that the future uses and activities are '*enhanced*' by the nature and character of each place and that they reflect the sense of the place.

New uses will need to:

- Enhance the character and heritage value of each place and its context. Whilst the heritage values may pose significant constraints, they also contribute to the identity of each site
- Enhance and sustain desirable functions and characteristics of the harbour
- Further the understanding, appreciation and enjoyment of the harbour, its origins and the adaptation of human habitation in response to it
- Contribute towards a mutually supportive mix of activities. The sense of place may generate a central idea, which provides the basis for identifying possible uses for a range of buildings and areas at one site
- Provide opportunities for people to come and experience the lands and the harbour in ways that would otherwise not be available
- Be compatible with the objective of maximising public access
- Have minimal adverse impact on the environment and local amenity
- Be consistent with Conservation Management Plans prepared for the place or building where the place or building has been identified as having significant heritage value
- Where possible use existing buildings and facilities before considering the construction of new ones. The suitability of these structures for a range of possible uses is an important consideration

The relationship of each site with the other Trust sites, adjacent lands and the harbour needs to be reflected in the possible uses for each site. For example the Trust has several 'mess' facilities all of which may be suitable as a reception centre, but it is unlikely that there is a demand for all of these facilities to be used in this way. The Trust will need to consider what makes a particular use more suitable at one site in preference to other sites

In assessing future adaptive re-use of places or buildings, the suitability of potential uses for each site will be considered prior to the consideration of cost and revenue implications.

### Removal of Buildings

There are in excess of 400 buildings and works within the plan area. The range of buildings is very wide. Some are rough-and-ready structures while others are iconic examples of environmental heritage significance. However, they all contribute to an understanding of the place – its history and operations.

The plan recognises that the sites have both natural and cultural values and that both have to be conserved and enhanced.

To achieve this the Trust will allow the sites to evolve gradually and so the only buildings identified in the plan for immediate removal are temporary structures and buildings that are of little heritage value and are a clear impediment to the planning vision for the area. An example of the latter is the One Commando Company buildings at Georges Heights.

The plan also recognises that although some buildings have little heritage value they are valuable community assets that can be used by community groups or leased to generate supplementary income to assist the Trust in the timely implementation of the plan.

Buildings and works will be removed where they:

- Conflict with the planning vision for the land and
- Have low heritage value, or
- Impede the effective interpretation of the heritage and the place, or
- Remain intrusive visually, or
- Adversely impact on bush regeneration or the condition of the surrounding bush, and
- Have little potential to be put to a community use or to enhance the visitors' experience of the park, or to raise revenue for site improvements

The Trust will review the need to retain buildings which have been kept solely for income purposes 8 years after the date of approval of the plan.

## Design Approach

The Trust lands vary from natural bushland to formal parade grounds surrounded by symmetrically arranged buildings. The Trust's approach to the urban design of these places will be to recognise and conserve their unique characteristics that distinguish them from the surrounding city. Planning for the future of the Trust lands can be approached in a number of ways: as areas of bushland and habitat, as places for both passive and active recreation, as the setting for groups of buildings and as distinct places defined by groups of buildings.

The starting point for the Trust's planning for a place or area is to look at what is there, why it is the way it is, what its values are and what it might be in the future. The full opportunity of the lands will only be realised by considering how all these aspects can work together.

Much of the character of the sites derives from their evolution. The sites have generally developed in a quite haphazard manner that is typical of many institutional and industrial establishments. There has not been an overall plan that has been gradually implemented. Rather, as the need for new buildings arose or new functions or processes were introduced, the topography, road layouts and precinct boundaries and fences have been modified to accommodate them.

Appreciation of the places is a sequential experience. This experience is made up of various elements from entry points, to constricted pathways and to points of open vistas or glimpses of distant destinations and panoramas that are gradually revealed.

Within the lands there are places that have a particular quality – of quietude or outlook. The character and qualities of the lands extend beyond their boundaries. The way the sites are approached from their immediate surroundings and from the rest of the city, the nature of the entry to the sites – the gateways, the spatial qualities of the sites;

the way buildings are disposed on the site, the way roads and tracks have been laid out, all contribute to the quality of the place.

The Trust's design approach to pathways and tracks is to recognise these intrinsic qualities and then to articulate them further; for example by making the opening out of a view more dramatic or if a feeling of bushland is disrupted by intrusive elements, by their removal.

The layout of paths and roads for the industry and military that previously occupied the lands have a distinct pattern comprising single entry points for security which then branch to lead to the outer points. Arguably these same routes should be used to best appreciate the history and former function of the sites. On the other hand the location of paths for a park are quite different. They are along brinks, around foreshores, to lookouts or to facilities. In many instances they lead to the back of the precincts and buildings. It is important for building precincts to be defined so that they can be better appreciated and understood.

The Trust will need to introduce car parking, pathways and new areas of planting to make the sites more accessible and useable. However, the weaving of the Trust lands back into the life of the city does not mean simply extending the typical pattern of the surrounding development because this could destroy some of the most distinguishing characteristics of the sites. For example, to provide car parking immediately adjacent to buildings that it serves may destroy much of the aesthetic appeal and character of the place.

The pattern of development on the lands tends to have the actual buildings and 'urban spaces' occupying only a small part of each site area. The edges of precincts and groups of buildings tend to be ragged and poorly defined. This has a detrimental impact on surrounding areas which are often bushland. Generally the Trust's approach will be to better define and restore the edges of these precincts by both rehabilitating the surrounding bushland and more clearly demarking the extent of the more formal landscape.

The adaptive re-use of these places must be done with care to retain their simplicity, sometimes harshness, quirkiness and haphazard qualities. The juxtaposition of buildings, the variety of plant species and odd leftover spaces that haven't been designed gives the places much of their atmosphere.

In the development of outcomes the Trust will:

- Gain an understanding of the natural and cultural history of the places and the patterns they reveal to provide the basis for design
- Regenerate the character of each place by developing a palette of planting, forms, materials and finishes based on an understanding of what is there
- Allow for a gradual evolution of the lands
- Avoid adverse impacts on the harbour landscape and protect the natural setting of the Trust lands

## **New Buildings**

The primary objective of the Trust is conservation rather than redevelopment of these harbour lands. The Trust has a great number of buildings which are capable of being adaptively re-used and although there is generally little need for new buildings, some new buildings may be required or have considerable benefits. For example on Cockatoo Island where the primary significance and future direction of the island is to provide for maritime related activity.

Accordingly, the Trust will only consider the construction of a new building if it:

- Is essential to the functional requirements of a desirable outcome and significantly improves the viability and synergy of uses
- Has minimal visual, heritage and environmental impact
- Re-establishes a desirable urban or building form or introduces a function of high civic/public significance and is of outstanding architectural design
- Is consistent with Conservation Management Plans for the place where the place has been identified as having a significant conservation value

## Access

The provision of public access to the Trust lands is a fundamental objective of the Trust's Act. It is also an intrinsic part of the Trust's ongoing planning process. The Trust lands have been cut off from the rest of the community for a long time by virtue of their defence role and so they are unfamiliar to most people – even people in their immediate neighbourhood.

The Trust is committed to providing access as part of the planning phases to enable the public to become familiar with the sites. This early access will be provided by pathways that can be constructed simply, events and open days.

Access should not merely provide a means of getting from one point to another. It should be carefully designed to provide a sequence of unfolding experiences. They must enable an appreciation of the setting, heighten the expectation, provide a sense of arrival, reveal many facets of a place, create vantage points, gathering areas and quiet, contemplative retreats along the way.

Access is also an important part of interpretation – retracing the historical routes into and through heritage places helps to understand how they functioned and enriches our experience.

To do this the Trust will:

- Design longer-term access to link up with existing foreshore walks and pedestrian networks around the harbour. This will be done in collaboration with State Government agencies and neighbouring Local Councils
- Collaborate with the NSW Government in the implementation of its Sharing Sydney Harbour Access Plan
- Consider the needs of people with impaired mobility and maximise opportunities for access in a manner consistent with the natural and cultural values of the places and buildings
- Seek to continually improve existing amenity and access to the sites
- The Trust lands also provide opportunities to increase access from the water for a range of activities such as:
  - Small boats to moor short term when visiting a site
  - Canoes, row boats or kayaks
  - Charter vessels for tours or functions
  - Possible future ferry services
  - Boat or barge launching ramps

The nature of the access will be determined by the capacity of each water frontage, its ecological values and vulnerability, its character and heritage and its compatibility with neighbouring uses and activities

## Consultation and Communications

Community consultation and communication is integral to the development of the Plan. Importantly it is also critical to the future implementation of the Plan.

The community includes the broad community, special interest groups, non-government organisations, industry groups, professional associations and Local, State and Federal Governments. The Trust has been consulting with the community since the inception of the interim Trust and prior to a formal Community Advisory Committee being established.

The objective of the Trust is to develop an understanding of community expectations and concerns and to work closely with the community to ensure that the sites are planned and managed appropriately for the benefit of future generations.

In line with this objective, the Trust will:

- Actively seek the involvement of all stakeholders and communities of interest
- Communicate frequently through public meetings, events, newsletters and media with regard to the:
  - Trust
  - Planning process
  - Plan implementation and site management
- Encourage the community to contribute ideas and concerns through the Community Advisory Committee, public workshops, forums, or direct contact with Trust staff
- Ensure that sites are made accessible so that the community can appreciate their significance and provide informed comments
- Be receptive to ideas and suggestions from the public, responding as quickly and clearly as possible
- Ensure that all individuals and organisations with an interest in these sites will be encouraged to participate in the planning and management processes
- Be fair and reasonable in all of its dealings with the public, regardless of whether the Trust is being supported or opposed
- Take particular care to understand the views of those less able to articulate or present their ideas or proposals
- Make publicly available all submissions made to the Trust through the Harbour Trust library
- Make available to the community all non-confidential reports through the Harbour Trust library
- Monitor, evaluate and continually improve its consultation and communication performance
- Report annually on consultation and communication activities and performance

The Trust Act also requires that two board meetings per year are open to the public. As such, board meetings that are open to the public will be advertised in local newspapers and on the Trust website

## Education

Education is a powerful tool in encouraging both an appreciation of and a sense of ownership of the Trust sites. It is important that the Trust provides the widest possible audience with educative experiences of the sites that showcase their history, natural features and future directions. Providing an enhanced understanding and appreciation of the sites will instil a greater sense of community ownership.

In addressing the educational potential of its sites, the Trust will:

- Develop and implement an Education Policy that will:
  - Showcase the unique features of the Trust sites

- Encourage and inspire a sense of community ownership of and an enhanced appreciation of the Trust sites
- Target identified formal and informal groups through guided and self-directed learning experiences
  - Consult from an early stage in the program's development with a broad range of formal education representatives including teachers, academics and NSW Curriculum Support Directorate staff
  - Consult and incorporate all relevant guidelines from NSW Curriculum documents and support material
  - Create a diverse range of formal educational opportunities including on-site visits, lecture programs, outreach programs and school competitions
  - Create a diverse and on-going range of informal and entertaining activities that draw on the 'sense of place' at each site
  - Enhance and adapt existing Harbour Trust tools and resources such as the website and Resource Centre to provide educational material and information on the program
  - Work collaboratively with other bodies, organisations and cultural institutions such as museums to create and host joint education programs
  - Develop and display informative interpretive signage on all sites, and produce publications that enable self-guided visits of the sites
  - Develop interpretive and educative tour programs in conjunction with other organisations, in particular NPWS
  - Encourage and provide on-going professional development for Staff, Volunteers, Tour Guides and prospective Teacher Guides to equip them with the necessary skills and latest information and technologies
  - Encourage and undertake research activities in collaboration with tertiary institutions, adjoining land managers, other authorities and local councils which assist in the understanding of the values of the sites. This includes emphasising the scientific research value of the sites

### Open Space and Recreation

One of the most important roles of the harbour, its foreshores and islands is as a place of recreation for Sydney's residents and visitors. It offers a wonderful array of passive and active recreational opportunities.

Sydney is world famous for the beauty of its bushland and waterways. This setting is both unique and important in attracting international, national, regional and local visitors and business to the city. The provision of a network of open spaces providing a range of passive and active recreational opportunities is an essential component of the Trust's objective of maximising public access and of establishing a high quality park.

In providing open space and recreational facilities the Trust will:

- Provide recreational opportunities that enhance the character and values of the locality and are sympathetic with the cultural and natural significance of the place
- Ensure that the recreational facilities are available to the broad community of Sydney while still contributing to some of the needs of the local community
- Promote co-operative management between the Trust and adjoining open space owners and managers
- Manage recreational activities, including special events so that the cultural, natural and recreational values of the locality are not compromised
- Improve public access to the harbour foreshores in locations where this will not diminish the environmental values of the foreshore

- Maximise public access by constructing a network of walking tracks that do not compromise the sites' cultural and environmental values, provide a high standard of walking experience and which integrate with the walking track systems for neighbouring lands
- Close and revegetate informal walking tracks where they can not be incorporated into the preferred network
- Provide useable open space that is accessed by public transport, cycle ways and walkways
- Connect new open spaces to the existing open space network
- Design open spaces and walking tracks to retain, enhance and reveal views whilst maintaining and enhancing the views of the site from elsewhere
- Enhance the diverse nature of the harbour through the provision of a range of open space and recreational areas such as picnic areas, small parks, children's playgrounds, boat launching facilities, scenic lookouts, community spaces and natural bushland that cater for a range of age groups and activities
- Co-locate recreational facilities to allow for the shared use of services and facilities, such as parking and to encourage multi-purpose journeys
- Ensure that organised group activities are managed to avoid conflicts and environmental impacts
- Provide amenities such as picnic areas with appropriate furniture and signage facilities

## Sporting Facilities

The Trust has a range of existing sporting facilities including ovals and fields at Middle Head, Georges Heights and North Head, gymnasiums and multi-purpose courts. Some of these facilities such as the ovals at Middle Head and Georges Heights are currently used by a broad range of sporting groups and schools. The Trust proposes that these facilities will be retained and enhanced and will continue to be available for community use. Others such as the oval at North Head and some of the built facilities will be reviewed.

In some cases, new or upgraded sporting facilities may be suitable to achieve the objective of maximising public access, providing a diversity of activities, or may have considerable community benefits. Public access may be maximised by providing sporting facilities in addition to those that already exist.

Although in general, there is little need, or justification to develop new sporting facilities when our priority is to protect, conserve and interpret the environmental values and heritage values of the Trust lands and to enhance the amenity of the Sydney Harbour region, the Trusts' priority is also to maximise public access to the Trust lands and to establish and manage parklands.

Accordingly, the Trust will only consider new sporting facilities, whether using new or existing buildings where they:

- Are compatible with the physical capacity of the site
- Are compatible with the overall objectives and planning direction for the site, including the protection, conservation and interpretation of the sites
- Can be integrated into the overall landscape design as attractive open spaces when not being used for sports activities
- Complement the network of paths and access routes and improve or provide linkages between existing sporting facilities on Trust lands and in the vicinity
- Enhance the visual connections and continuity between parkland areas
- Have minimal negative visual, heritage and environmental impact

- Provide equity of access to all appropriate user groups
- Are co-located, where possible, to allow for shared use of essential services such as parking and amenities

## Tourism

*Tourism New South Wales* has identified Sydney Harbour as vital to Sydney's role as an international tourist destination. Similarly the *NSW Tourism Task Force* identified Sydney Harbour as "Australia's No. 1 tourism asset". The Task Force also identified tourism as being of enormous importance to the economy of NSW and Australia.

Experiences on and around the harbour are core to the itineraries of most visitors. Of the 2.6 million international visitors to NSW in 1996, almost half took a harbour cruise with even more visiting specific harbour sites such as the Opera House.

With increasing numbers of visitors there are opportunities to improve the harbour experience and the attraction of Sydney as a tourist destination.

The Trust lands are of interest to both residents and visitors because of their rich colonial, maritime and defence history, their potential to provide access to and views of the harbour, and for their bushland environment. Bringing the Trust lands back into the life of the city, making the land available for the enjoyment of the community and enhancing the amenity of the harbour will contribute greatly to the experience of visitors.

The potential to adaptively re-use some of the former defence buildings for accommodation and tourist related activities will also contribute to the diversity and vitality of tourism.

In addressing the tourism potential of its sites the Trust will:

- Develop a cultural tourism strategy that is consistent with the International Cultural Tourism Charter: Managing Tourism at Places of Heritage Significance (1999) and the Australian Heritage Commission's 'Successful Tourism at Heritage Places (2001)'
- Ensure that the sites provide for improved access to the harbour edge or water, allowing more people to have access as well as an enhanced appreciation of these places
- Encourage visitors to explore the full range of experiences that are available on the Trust sites
- Integrate the opportunities for maximising views of the harbour and other significant points of interest. Retain views to and from significant features of the area and enhance the amenity of Sydney Harbour
- Provide access and linkages to and between other key tourist sites such as Taronga Zoo and Balmoral beach, whilst contributing to some of the missing links in the regional harbour walks
- Explore the opportunities for themed tours of the harbour such as the fortifications and convict sites, in collaboration with other agencies like NPWS
- Establish and encourage active public places and harbour gatherings with special views of the harbour. Appropriate Trust lands should be used as a stage for major festivals and public expressions, providing a variety of year-round experiences
- Provide opportunities for 'back of house' operations for cruise ships, ferries, marinas and charter vessels at the Trust's working harbour sites – Cockatoo Island and Woolwich Dock
- Provide opportunities and supporting facilities for visitors to experience and understand a wide range of working harbour activities and the cultural heritage precincts at Cockatoo Island and Woolwich Dock

- Implement management practices to ensure tourism pressures do not adversely impact on sensitive areas and activities are complementary to the character and significance of the buildings and bushland

## Working Harbour

Working Harbour includes a variety of land and water based activities vital to the viability of maritime industries and important to the NSW and national economies. The diversity of working harbour activities in Sydney Harbour include facilities for ports, maritime repairs, commercial waterfront contractors, recreational boating, commercial tourism, Naval Defence and maritime support services.

The harbour has an 'industrial ecology' as well as a natural ecology that is of great importance both as part of Sydney's cultural heritage and because of its contribution to Sydney's economy. Cockatoo Island has been the harbour focus for shipbuilding and repairs – both naval and commercial, as well as technological achievement for over 100 years. Similarly the dockyard at Woolwich has had a long history in both commercial and defence maritime industry. These two sites retain much of their industrial infrastructure including three of the four remaining large graving docks in Sydney Harbour.

In 1998 the State Government commissioned two independent studies into the needs of maritime industry in Sydney Harbour and the Parramatta River. These studies suggested that the demand for waterfront land by a range of maritime industries would grow steadily over the next 20 years and that demand would generally be greater than supply. As a consequence the State Minister for Transport identified thirteen publicly owned sites – including Cockatoo Island, Woolwich Dock and Chowder Bay, as working harbour maritime precincts that should be kept.

The Trust supports the State's policy and believes that the adaptation of Cockatoo Island and Woolwich to current maritime industry requirements is an important objective that has the potential to contribute to economic development and employment by underpinning the revival of maritime industry and supporting tourism. It would also help people to interpret and understand the cultural heritage values of the places.

However, the future success of Cockatoo Island as a place for maritime industry will be largely dependent on the provision of a land base that is accessible by heavy trucks and that allows for cost effective barge access to the island. The original land base for Cockatoo Island was located near the Iron Cove Bridge and has now been redeveloped for housing. The location of appropriate land bases is an issue that needs to be resolved on a whole of harbour basis. It is a requirement that is common to all of the harbour's islands as well as many harbour front sites. It is critical that the remaining land bases that are linked to the regional road network are reserved. It is also important that there is a geographic spread of bases so that the impact is shared equitably and that access to the bases is through non-sensitive environments and provides cost effective travel time.

In addressing the implementation of the Working Harbour concept the Trust will:

- Work with the Sydney Harbour Executive and appropriate State Government agencies to identify both the strategic role that Cockatoo Island and Woolwich Dock play as part of the working harbour concept and appropriate land bases

- Contribute to the supply of land for waterfront industry to ensure that commercial and recreational boating industries are not squeezed out of the harbour by competing uses
- Determine how the waterfront lands should be used to assist in the long-term viability of activities that contribute to the life and vitality of the harbour. A range of other complementary uses that contribute to diversity on the waterfront will also be investigated
- Safeguard the amenity of surrounding residential areas by ensuring that the environmental practices of the proposed uses (which may include measures to mitigate noise or other impacts) and their hours of operations, are appropriate for their location
- Integrate public access and tourist visitation with working harbour activities where this is consistent with the statutory requirements for occupational, health and safety and does not impose undue constraints on work operations. Where possible, barriers between the working harbour activities and adjacent public areas should be minimised

### **Funding and Management of Leases**

The Trust is responsible for an extensive array of built and natural assets. On-going conservation of these assets and public access to them will be assisted by adaptive re-use and leasing of some of these properties. Funding generated by these sources is essential to assist in the economic viability of the Trust and will enable it to carry out other works of public benefit.

The generation of funds through management and leasing of the Trust assets is a sensitive process.

In order to ensure that management of commercial leases and the generation of funds through the use of Trust assets are carried out in a publicly transparent and consistent manner, the Trust will:

- Develop a Leasing Policy that is compatible with the goals and objectives of the Trust and offers leasing of premises through a publicly transparent and competitive process
- Ensure commercial leases and other funding generating activities are drawn from the nature and character of the place and assist in the enhancement of the character and heritage value of each place and its context
- Ensure commercial activities are compatible with provision of public access
- Maintain generally market-based rentals and use terms, whilst permitting some community groups to occupy buildings at rental less than full market rates utilising a contestable process
- Ensure funding pressures do not adversely impact on sensitive areas and are complementary to the character and significance of the buildings and bushland

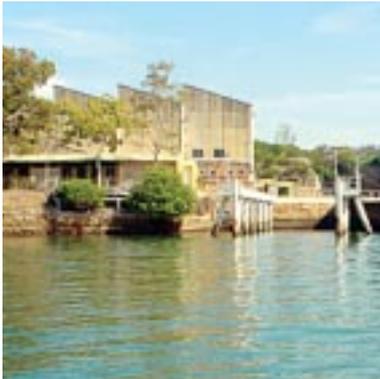
### **Conflicting Policy Objectives**

On any one site, a number of the overarching objectives and policies will be relevant. Depending on the proposal put forward to implement outcomes, there is the likelihood that conflict will arise between different policies.

The Trust will set up a process that enables either a balance to be struck or a priority to be determined between any conflicting policies and the outcomes recommended for a particular site in the Plan. This process will be set up to ensure conflicting policies are dealt with in a transparent and consistent manner.

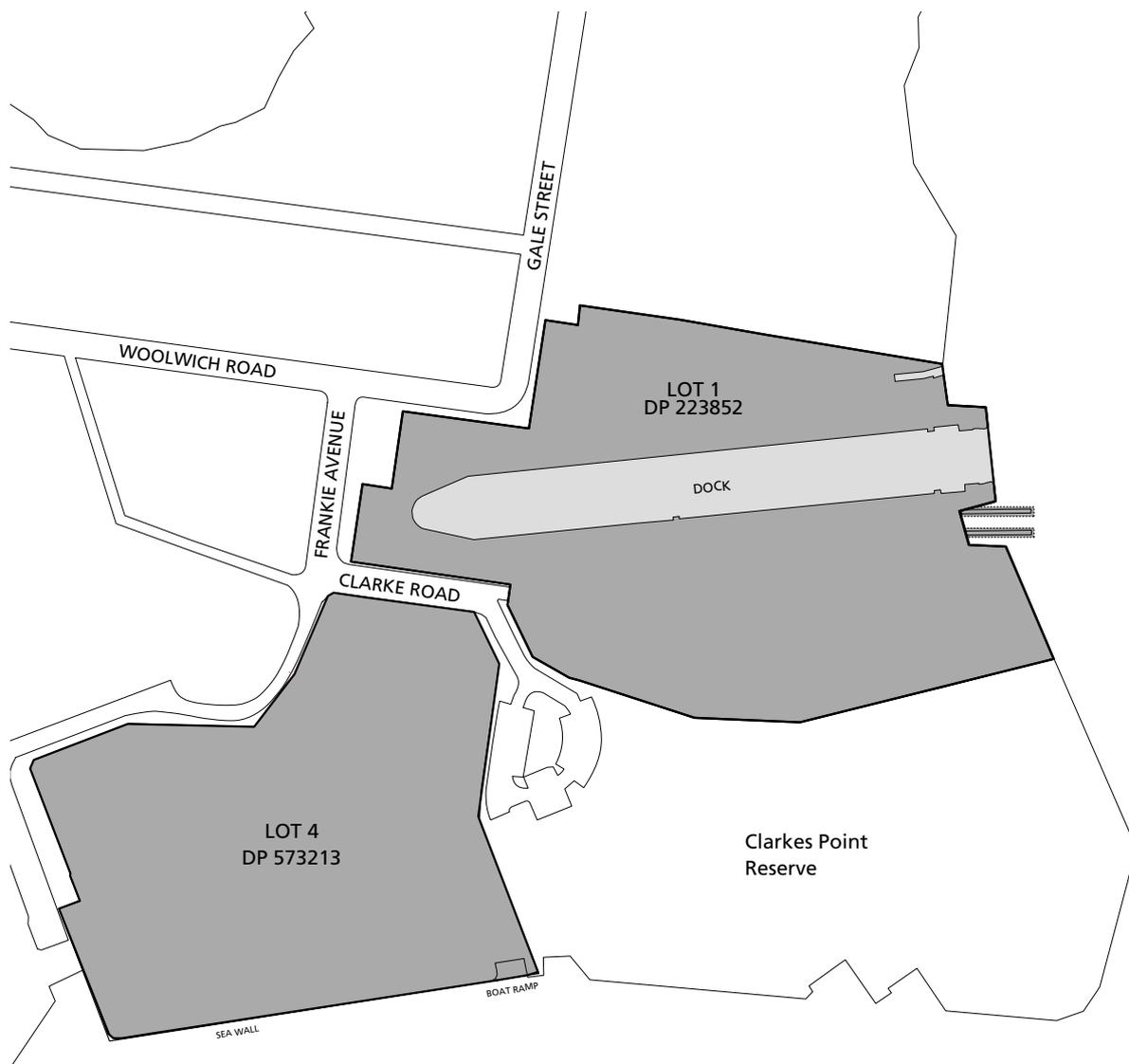
*Moocooboola*  
(Woolwich / Hunters Hill peninsula)

# 4

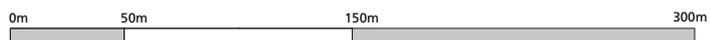


**Fig. 4.1** Plan Area

*Woolwich Dock and Parklands*



-  Boundary of Trust Land Site
-  Boundary of Harbour Land Site
-  Land within Plan area
-  Water within Plan area



## THE PLACE

---

Refer to Figure 4.1 Plan Area

The Woolwich Dock and Parklands Site is a clear example of some of the patterns that have shaped the harbour: The maritime industrial activity evidenced by the dock, sheds, factories and reclaimed hardstand, sit by the water below the carved cliff face, interspersed with parklands and residential uses.

Its centrepiece is an exceptional dry dock carved into the rock, concealed from view, overlooking the meeting point between the Parramatta and Lane Cove Rivers – *Moocooboola*.

The retail and commercial centre on the ridge grew to service the needs of both the industrial workforce and the surrounding residential community.

The surviving elements of the original foreshore topography – sandstone outcrops and cliffs, are now set back from the water by an apron of reclaimed land defined by a sandstone retaining wall. The area's form and development pattern have seen dramatic changes since the nineteenth century residential development by the Clarke family. Pioneer settlers came to Hunters Hill in the 1830s, followed by maritime industry (Atlas Engineering and Morts Dock) and later the Army's marine transport operations.

More recently, the site has been used to assemble the 'sea creatures', which formed part of celebrations for 1999/2000 New Years Eve on Sydney Harbour and by the Water Police during the Sydney Olympics.

The subdivision and subsequent sale of the Morts Dock site has led to the alienation of its slipways (located in Clarkes Point Reserve) from the dock itself.

Remaining today is the magnificent dry dock and the sawtooth roofed building that is a rare reminder of the scale of industrial buildings on the Parramatta River.

From the army era the site contains metal prefab buildings, concrete pier supports for a travelling crane (removed to Townsville) and an adjoining bunded hardstand area.

The Woolwich lookout area and stone wall are the interface between the dock area and the Woolwich village. An entry and new walking track now provide a link to the sloping plane of the Goat Paddock, an excellent harbour viewing area and a view corridor from the water up to Woolwich Pier Hotel.

The legacy of the industrial past has resulted in areas of contaminated fill material and the need to stabilise the dock's cut rock faces.

Adjacent to the Horse Paddock are a launching ramp at the end of Margaret St, the Woolwich Marina and the Hunters Hill Sailing Club. The sailing club has a launching ramp that is alongside an existing ramp within the Horse Paddock.

### How the Place Evolved

Refer to Figure 4.2 Historical Development

#### *Natural Forces*

The dock at Woolwich cuts into Hawkesbury sandstone that was laid down by an ancient inland river system. Weathering has resulted in a spur off the Hunter's Hill/Woolwich ridgeline forming Clarkes Point at the meeting of the Lane Cove and Parramatta Rivers. The cliff lines on the Horse Paddock are part of the original land profile.

There are no apparent creek lines, although water seepage does occur through the layers of rock, particularly on southern facing slopes. The original open forest and woodland vegetation have been cleared.

### *Cultural History*

#### *Pre 1788*

The Hunters Hill area was inhabited by the *Wallumedegal* clan and Aboriginal people would have used the Woolwich area for thousands of years prior to European settlement. However, due to industrial use of the dock and parklands no evidence has been found of Aboriginal habitation although evidence exists at Kellys Bush.

#### *The Clarke family, Atlas Engineering and subdivision 1835 – 1898*

The original grantees in the area were John Clarke senior and John Clarke junior, in 1835. They built several houses on the site including 'Viewforth'. The western portion of the grant was subdivided in 1880, creating Alfred and Margaret Streets.

The 10 acre eastern portion remained in the family until 1883 when it was sold to Davy & Co., iron founder and then to Atlas Engineering Company. The site was favoured for its deep water frontage and proximity to shipbuilding works on Cockatoo Island. One of the Clarke's houses was used as an office and new workshops were erected. A floating dock was imported from England. Areas of foreshore land were reclaimed and slipways were created on the southern side (now Clarkes Point Reserve).

In 1895 subdivision of the rest of Clarke's land resulted in 24 residential lots and the formation of Edgecliffe Road, Fernbank, Charlotte and William Avenues, the last three streets now lost within the Horse Paddock site. The 100 feet foreshore reservation was acquired for incorporation into the subdivision.

The Atlas Engineering Company went into liquidation in 1893 but work at the site continued until final closure in June 1898.

#### *Morts Dock 1898 – 1958*

The site was purchased in 1898 by Morts Dock and Engineering Company which began work on the new dry dock, reclamation work and sea wall construction. The dock, some 30 metres wide, was cut 175 metres directly into the sandstone point.

On 4 December 1901 the dock was officially opened and used for the repair and fitting-out of large ships.

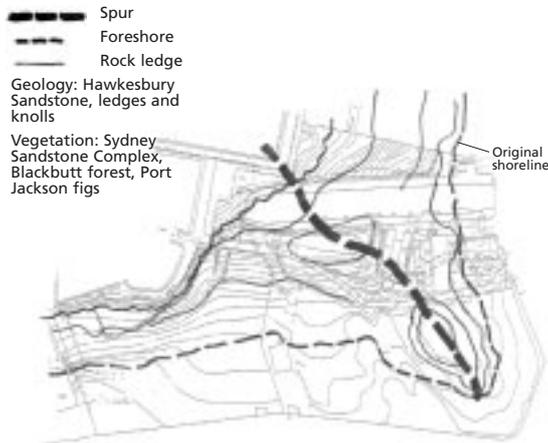
Several extensions were carried out between 1902 and 1918 by W. Solomon & Sons, which had completed the dock after the termination of the original contractor, and the dock was lengthened to 260 metres. To achieve this William Street was acquired and a new road constructed – Franki Avenue, named after the general manager and later managing director of the company.

The scale of the industrial enterprise influenced the character of the surrounding development with the provision of the Woolwich Pier Hotel and workers' housing.

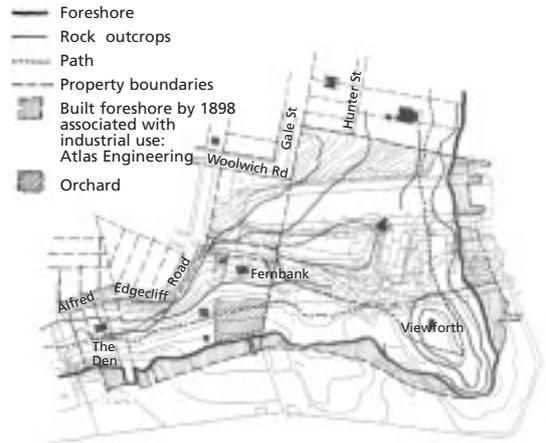
The Invincible Motor Construction Company and the Wallace Power Boat Company both set up near Clarkes Point around 1916–18 on leased land. The latter started reclamation works between Margaret Street and the point but went into receivership in 1923.

**Fig. 4.2** *Historical Development*

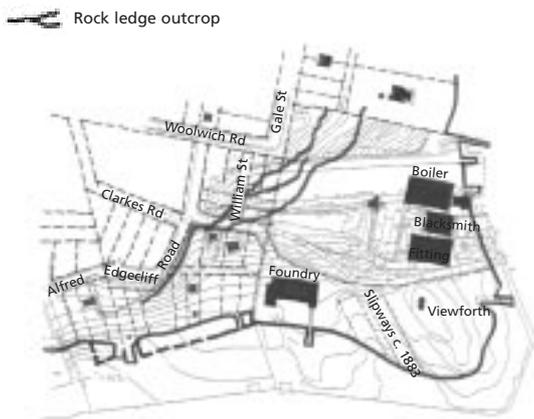
*Woolwich Dock and Parklands*



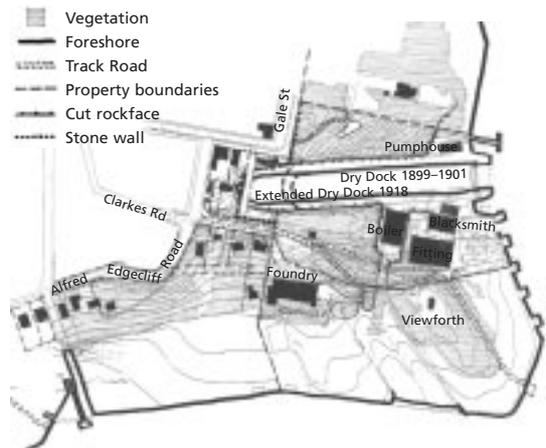
*Geology, land form, water form, vegetation*



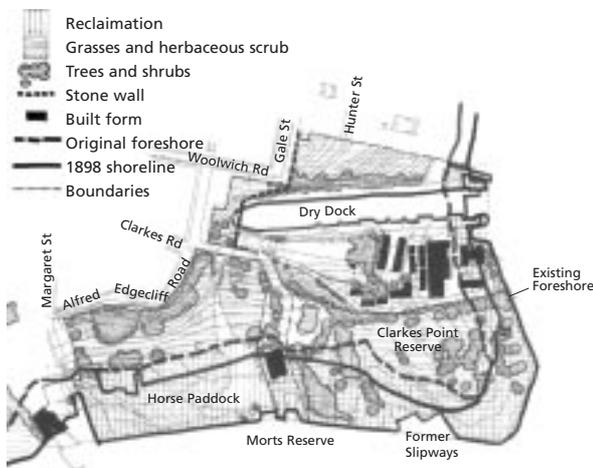
*Clarke family occupation 1835–1890s*



*Residential subdivision and Atlas Engineering 1883–1898*



*Morts Dock 1898–1939*



*Army period (1963–97) landscape character*



After the Depression of the 1930s, work did not pick up until the Second World War. The original blacksmiths and machine shop were replaced in the early 1940s by the current sawtoothed roof building. Other buildings on the site date from around this period.

The company ceased operations in 1958 and then went into voluntary liquidation.

#### *Army 1963 – 1997*

The site lay idle until the Army purchased it in 1963 for its water based transport operations. During this period the three oldest buildings on the site were demolished, the relocated Atlas boiler shop, the pump house and an old galvanised iron shed. The Army erected a number of metal prefabricated buildings, added timber fender piers and timber wharves to the dock itself and constructed a travelling boat crane beside the dock.

In 1997–8 the 35 Water Transport Division was relocated to Townsville.

## Site Conditions Summary

### *Flora and Fauna*

Although much altered, the Woolwich Dock and Parklands site retains important natural features such as knolls and small cliff lines of the original topography.

The original vegetation would have been forest on the lower alluvial areas and ridge-top woodland on the rocky slopes, similar to the present vegetation in the neighbouring Kellys Bush. The vegetation in the Horse Paddock is now mostly exotic grassland, with high to moderate weed infestation and little or none of the indigenous vegetation remaining. The Dock Area has some remnant coastal shrubland along the cliff top south of the dock. Ferns and fern allies including three uncommon species – Fork Fern (*Tmesipteris truncata*), Scrambling Clubmoss (*Lycopodium cernuum*) and Skeleton Fork Fern (*Psilotum nudum*) occur in the exposed sandstone cliff. These fern are important ecologically and require sensitive management. There are landscaped grasslands with planted native and exotic trees within the Goat Paddock. The highly disturbed and modified nature of the bushland within the site renders traditional vegetation classifications irrelevant. The original open forest and woodland vegetation has been largely cleared.

Some native species have been planted in Clarkes Point Reserve and cultural plantings of exotic species exist from most periods of occupation. Some recolonising, mostly by Port Jackson Figs has occurred.

Two animal species that are listed as vulnerable in Schedule 2 of the Threatened Species Conservation Act, 1995 have been identified as visitors to the site – the Grey-headed Flying-fox (*Pteropus poliocephalus*) and the Common Bent-wing Bat (*Miniopterus schreibersii*). The Grey-headed Flying-fox uses the Port Jackson and Moreton Bay fig trees located on the Horse Paddock for foraging.

Baseline flora and fauna studies of the site have been prepared.

### *Buildings and Services*

All of the buildings on the Woolwich site are located in the dock area. There are 16 buildings (excluding the concrete finger wharves and the historic dry dock). The buildings range in size and function with the largest being the sawtooth roofed, industrial workshop that is clad with corrugated asbestos cement sheeting and is approximately five

storeys high. There is an asbestos management issue to be addressed with this building.

There are a number of brick ancillary buildings at Woolwich that are in serviceable condition requiring some basic maintenance. There are also the former military mess buildings requiring major maintenance if they are to be retained, and a number of Armco storage sheds on the site.

Mains sewer and water service the site, with Energy Australia providing the electricity. Five of the buildings have water supply and sewerage systems connected. The existing stormwater system is in a serviceable condition and fire systems will require an upgrading. Power is available to most buildings but switchboards will require upgrading and rewiring. All of the services at Woolwich Dock and Parklands will require some level of cleaning, repairs or upgrade to bring them up to existing standards. A more detailed summary of the site conditions is located at Section 12.

#### *Contamination*

The site's history of industrial engineering, dockyard and defence use has resulted in some elevated levels of contaminants in localised areas. Apart from the Horse Paddock, no levels have been identified that would require significant remediation or prohibit use of the site as parkland or open space.

A large proportion of the Horse Paddock (approximately 40%) has been reclaimed from the river by the placement of fill. The contaminant levels in the Horse Paddock are considered to be safe for immediate parkland use as long as a stable grass cover is maintained over contaminated areas. The sea wall along the shore of the Horse Paddock is deteriorating, causing erosion of the fill behind it during high tides. The Trust intends to repair the sea wall for safety reasons and to limit the migration of contaminated fill into the harbour.

The majority of the dockyard area has been cut out of a sandstone ledge, including the dock itself; therefore this area generally consists of sandy fill over shallow sandstone. The inclusion of small volumes of ash and other process wastes in fill in the dockyard are responsible for elevated and localized concentrations of heavy metals, PAHs and trace asbestos in the dockyard. Previous studies have indicated that levels of these contaminants meet requirements for parkland/public open space.

The dock area includes structures that may have been point sources for contamination including diesel and waste oil tanks, workshops, a grit blasting facility and chemical storage areas. It is possible that minor soil contamination is associated with these structures. Other hazardous materials associated with buildings in the dockyard area include asbestos, synthetic mineral fibre, PCBs in light fittings and lead-based paints. These are generally in good condition and will require continued maintenance.

A more detailed summary of Contamination Conditions is in Section 12.

#### **Planning Context**

Refer to Figure 4.3 Planning Context

The Trust land is located in the Municipality of Hunters Hill. It is on a peninsula, surrounded by a range of existing uses that need to be considered in the integrated planning of the area.

Woolwich is accessed by a single ridge road and as with other Trust sites, traffic management is an important issue. The ridge road is a bus route terminating at the Valentia Street Ferry Wharf. Vehicular access to the Trust site is via Franki Avenue and Clarke Road. Clarke Road also provides entry to an unformed road sloping down to the Horse Paddock and a 62-space car park serving Clarkes Point Reserve and the Hunters Hill Sailing Club. Margaret Street terminates in a boat ramp beside the Woolwich Marina.

Traffic analyses carried out in 1997 for the Department of Defence showed capacity problems with morning peak traffic at the Ryde Road/Burns Bay Road eastern ramps. Other intersections along the ridge road provided good levels of service. The environmental capacity of Woolwich Road as a collector road (500 vehicles/hour) is exceeded at some point west of Gladstone Avenue (probably near Wybalena Road).

Pedestrian access will be provided by a walking track via the Goat Paddock, across the dock on a temporary bridge then into Clarkes Point Reserve and across the Horse Paddock. Stage 1 of this track was opened in November 2002.

The plan recognises the potential for water-based access and the need for such links to respond to the ferry and bus network, small-scale local tours, boat operators and the public.

The main points where water and land interchanges are likely to occur will be adjacent to the existing dock and jetty areas, Clarke's Point Reserve carpark and the marina and boat ramp in Margaret Street.

State legislation and planning documents prepared by Hunters Hill Municipal Council have specific implications for the Trust in formalising its plan.

State plans highlight the maritime potential of Woolwich Dock and Parklands and the potential for open space and water access. This potential needs to be explored with the adjoining State-owned land at Clarkes Point Reserve and Kellys Bush.

The Trust site shares borders with Clarkes Point Reserve, which was an integral part of the Morts Dock site and is under the care and control of Hunters Hill Council. The Trust and Council will collaborate to produce the best outcomes for public access and integration of these sites as well as the Woolwich Lookout area.

More detailed information on these matters can be found in Section 12 – Background Material.

## Consultation Outcomes Summary

Consultation with the community has revealed that the things that the community most values about Woolwich Dock and the Parklands include their:

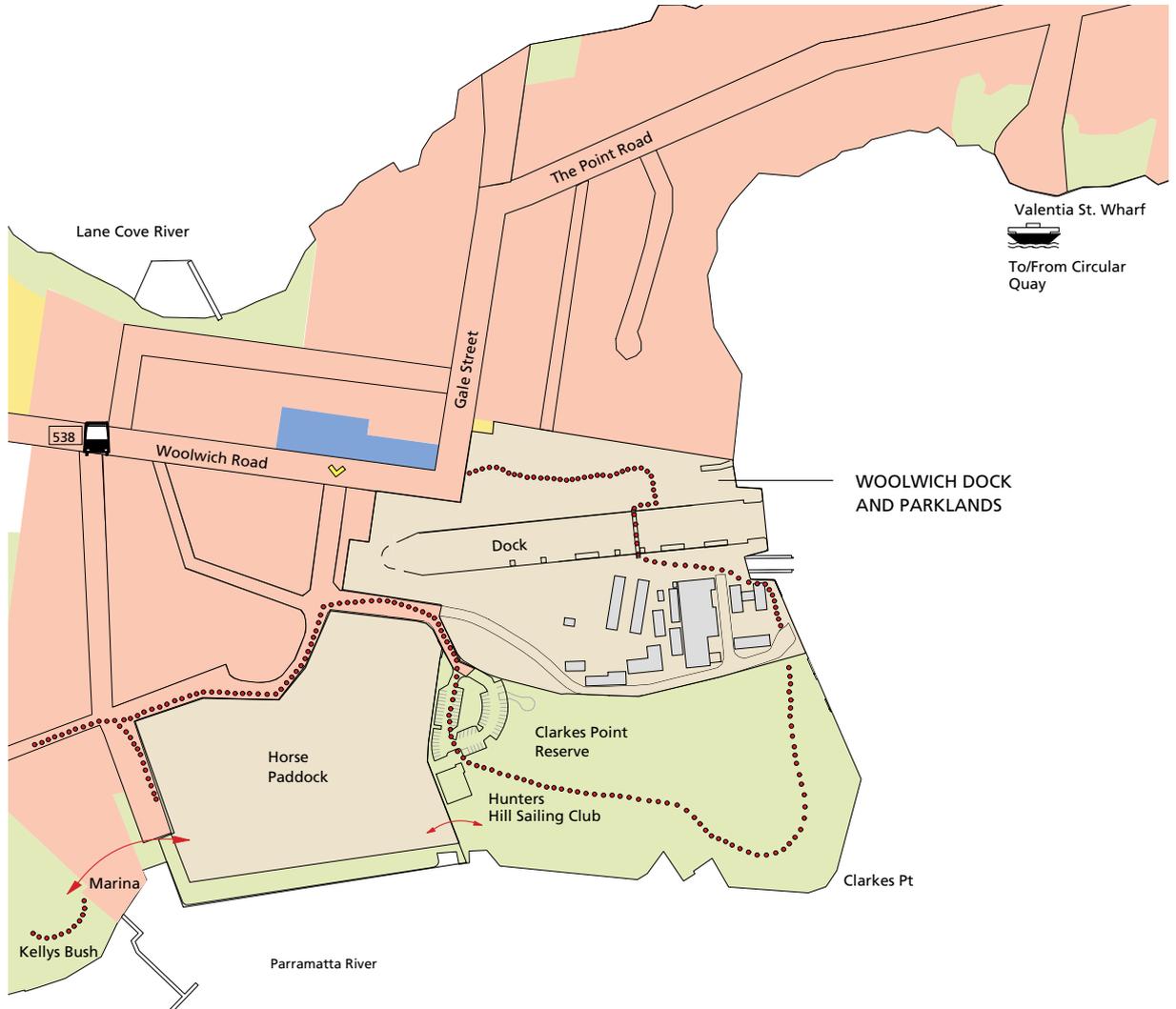
- Maritime and defence history
- Open space and links to Clarkes Point and Kellys Bush

The community also identified the need for a holistic approach to the planning of the publicly owned lands (at the meeting of the rivers) as very important.

Issues for consideration include identification and remediation of contamination, provision of water access to the site, opening up the

**Fig. 4.3** Local Planning Context

Woolwich Dock and Parklands



- Residential
- Open Space
- Business
- Special Uses
- Pedestrian Access
- Vehicle Access
- Major roads
- Proposed pedestrian link



parklands to public access and revegetating and linking the fragmented parks. Traffic and parking were also identified as requiring consideration.

Potential future uses identified included revitalising the dock for maritime use and a marine-oriented 'village' – provided land wasn't alienated from public use. There was strong opposition to the sale of land for private housing and this reflected the history of the local community fighting to protect Woolwich from sale for residential development in the past.

## Qualities

Woolwich Dock is cut into the end of the peninsula that separates the Lane Cove and Parramatta Rivers. The open space at the end of the peninsula is a legacy of former industrial uses that relied on access to the waterfront and occupied large areas of land. Now surrounded by gracious houses and approached from the mainland through tree lined streets, the remnants of industry now appear out of place. In the past industry would have been the predominant character of the area and although the vestiges are not conspicuous, they relate to the original reason for the development of the peninsula as one of a series of water-based industrial sites up the Parramatta River.

The dock is largely concealed from view by being cut straight into the bedrock, distinguishing it from the other dry docks in Sydney. The fill was used to create reclaimed land for ship building activities. The buildings are set well into the hill and the traces of shipbuilding in Clarke's Point Reserve are subtle. This concealment adds to the surprise of the dock from both the land and water.

The concentration of activity on the waterfront has meant that original outcrops of rock ledges and the sandstone knoll on the upper part of the sites have been left. The irregularity of these natural features contrast with the functional geometry of the constructed water's edge and the relatively flat aprons of the Horse Paddock.

The seawalls, jetties for the travelling crane, bunded work area, stubs of original timber wharfs, the sawtooth roofed building and steps cut into the dock itself all suggest maritime activity of various sorts.

The overall quality of the site is a hidden, compact maritime precinct with a diversity of water edge conditions and built forms set into the original rugged sandstone topography.

### *Horse Paddock*

- Large informal open area by the waterfront
- Sloping area behind the flat apron overlooks the river – the view gradually broadens moving down the slope
- Strongly defined at either side by sailing club and marina

### *Goat Paddock*

- Informal but high quality passive recreation area
- Long views down the harbour are surprising after blockage by sandstone fence
- Strongly directional – a relatively narrow passage straight out to the harbour – the long view to Point Piper

### *Dock*

- Sheltered from the strongest southerlies
- Scale of buildings: the landform is still dominant and the buildings are hidden. Although the sawtooth roofed building is large, the views are around it

- Nestled and close knit building group
- Mixed building scales – suggesting a mix of uses
- The aesthetic of the place can be contemporary and will emerge from judicious juxtaposition of new and old – eg. Stainless steel and sandstone; the old derricks directly fixed to the rock along the dock provide a clue
- Military use was extravagant. The actual activity was very specific and not as active as a private place would need to be in order to be economically viable
- The quality of the waterfront space in front of the buildings derives from its military use. Alongside the functional buildings, military personnel invariably create personalised places which also distinguishes it from private enterprise

## SIGNIFICANT VALUES AND CONSIDERATIONS

**Natural Values**

Refer to Figures 4.4 Heritage Values and 4.5 Natural and Cultural Values

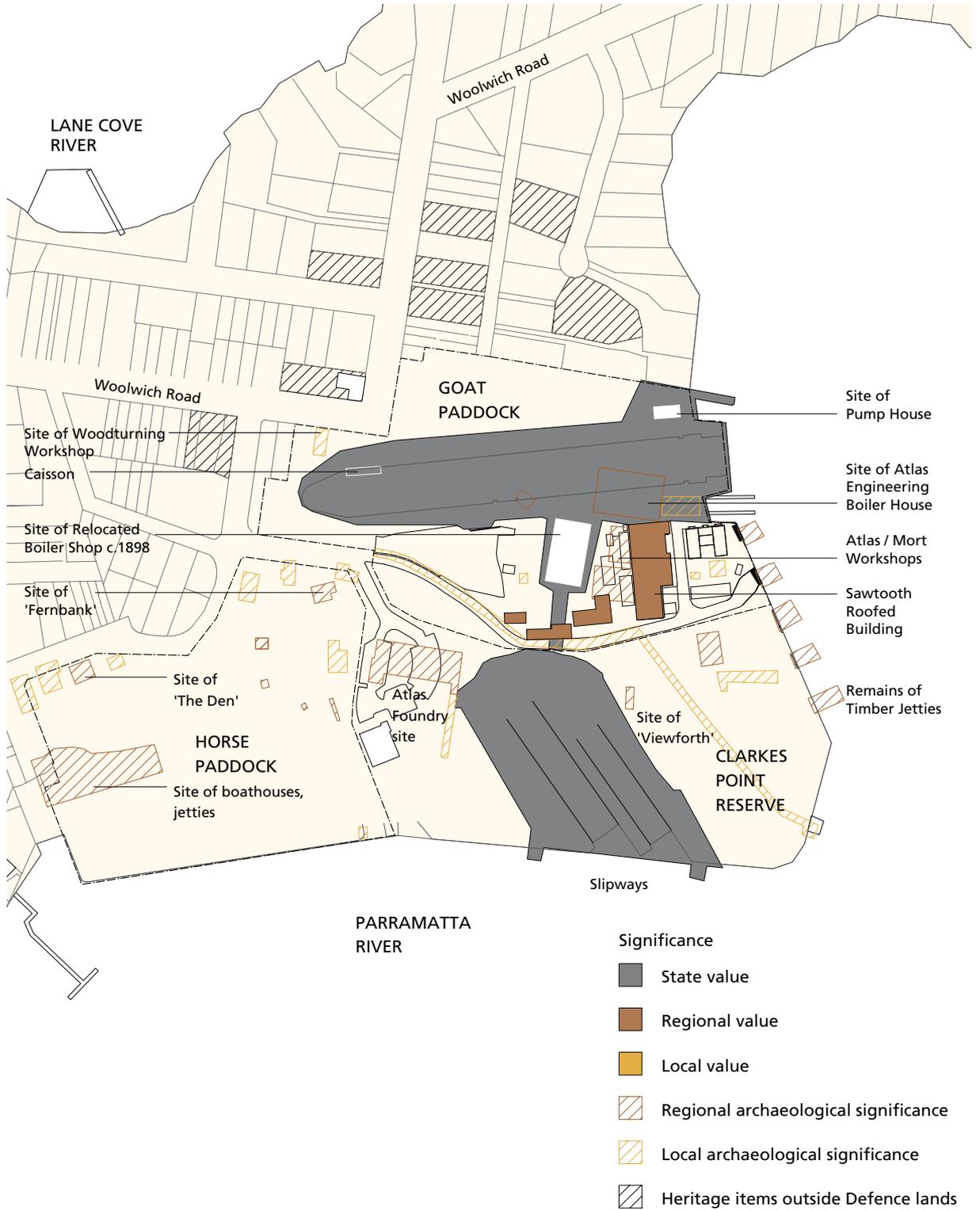
- A special space in harbour/river sequence; Lane Cove and Parramatta Rivers, Iron Cove, Cockatoo, Spectacle and Snapper Islands
- Spur off main Hunters Hill/Woolwich ridge affording excellent harbour views to and from the peninsula
- The much modified cliff/knoll topography still retains pockets of remnant vegetation
- The original cliff line is still visible and the dramatic dock cutting has revealed the sandstone strata

**Cultural Values**

- The site is integral with Clarkes Point Reserve for understanding the cultural evolution of this part of Woolwich
  - The form and scale of the sawtooth roofed building (building.11) provides a strong visual reminder of the increasingly rare maritime industrial activity on this part of the Parramatta River
  - Archaeological remains and the subdivision pattern of the Clarke family's occupation of the site are still evident and could be interpreted to explain the site's European pre-industrial heritage
  - The influence of the dockyard enterprise on the development of the surrounding neighbourhood with small lot subdivision for workers' housing and the hotel and shops
  - Visual and maritime industrial links with Cockatoo Island
  - Theme of excavation/land reclamation as the dock spoil has modified the topography in creating the apron; sandstone, excavation/fill, seawalls, slipways, dock
  - The dock, caisson, slipways, reclaimed land and sea walls are reminders of Morts Dock and Engineering Company, the largest shipbuilding and repair enterprise in Australia from the late 19th to the mid 20th century and are important statements of the maritime heritage of this area
  - The Dock and slipways are an excellent example of the theme of peninsula/deepwater/industry location
  - Community involvement in fighting to protect the site's natural, cultural and aesthetic qualities and recreational potential from high rise development, expansion of defence activities and sale of the land, and also the fight to save nearby Kellys Bush
  - The Horse Paddock name most probably relates to the pasturing of work horses there by the firm of W. Solomon and Sons, a leading Hunters Hill and Sydney contractor, who finished the construction of the dock and complete the later extensions
- Figure 4.4 *Heritage Values* shows the ranking of buildings resulting from the Conservation Plan for Woolwich Dry Dock and the Horse Paddock carried out by Edward Higginbotham & Associates and others for the Department of Defence dated March 2000 and surrounding items from the Council LEP

**Fig. 4.4** *Heritage Values*

*Woolwich Dock and Parklands*



Conservation Plan, Edward Higginbotham & Associates, 2000 and Hunters Hill Council's LEP



**Fig. 4.5** *Natural and Cultural Values*

*Woolwich Dock and Parklands*



Above  
*View of the end of the dock*

Left  
*View from dock towards dockside buildings*

*View eastwards down the dock*

## OUTCOMES

---

### Vision and Benefits

Refer to Figures 4.6 Outcomes and 4.7 Concept Sketch

The plan for Woolwich proposes the consolidation of parklands to create a unified place at the meeting of the rivers with a maritime hub as its centrepiece.

The dock area and associated maritime facilities could be adaptively reused and a new water arrival and gathering place created. This could include studios, maritime repairs and the storage of boats including heritage vessels, café or restaurant facilities and other places of interest.

The dock could also be the starting point for tours of Hunters Hill and the harbour that would enable people to experience the rich contrasts of maritime industry, the bushland and heritage of the area.

The dock, adjacent parklands and neighbourhood could be integrated through:

- A network of circuit pathways – with the dock as the centrepiece
- The provision of pedestrian access across the dock
- The modification of the existing carparks, access ways, paths and landscaping to unify the sites
- The re-opening the cutting that originally ran from the dock to the slipway in Clarkes Point Reserve
- The extension of the bushland character of Kellys Bush along the slopes and the remnant knoll above the southern edge of the dock
- The landscape treatment of the horse paddock to relate to the northern apron on Cockatoo Island

It will be important to retain, enhance and re-instate views such as the:

- Dock, the water and the city from the hill top and Goat Paddock
- Water and Cockatoo Island from the approach roads
- Woolwich Pier Hotel from parts of the shore and the water

### *The Dock*

The remarkable cutting of the dock will be revealed, explained and become operational again as the centre of a maritime hub.

This will be a new water arrival and gathering place where maritime functions including boat building and maritime services and repair are complimented by a diversity of activities and attractions including café and other refreshment outlets.

The cutting (now filled in and with the road constructed over it) that originally connected the slipways in Clarkes Point Reserve and the dock could be reinstated.

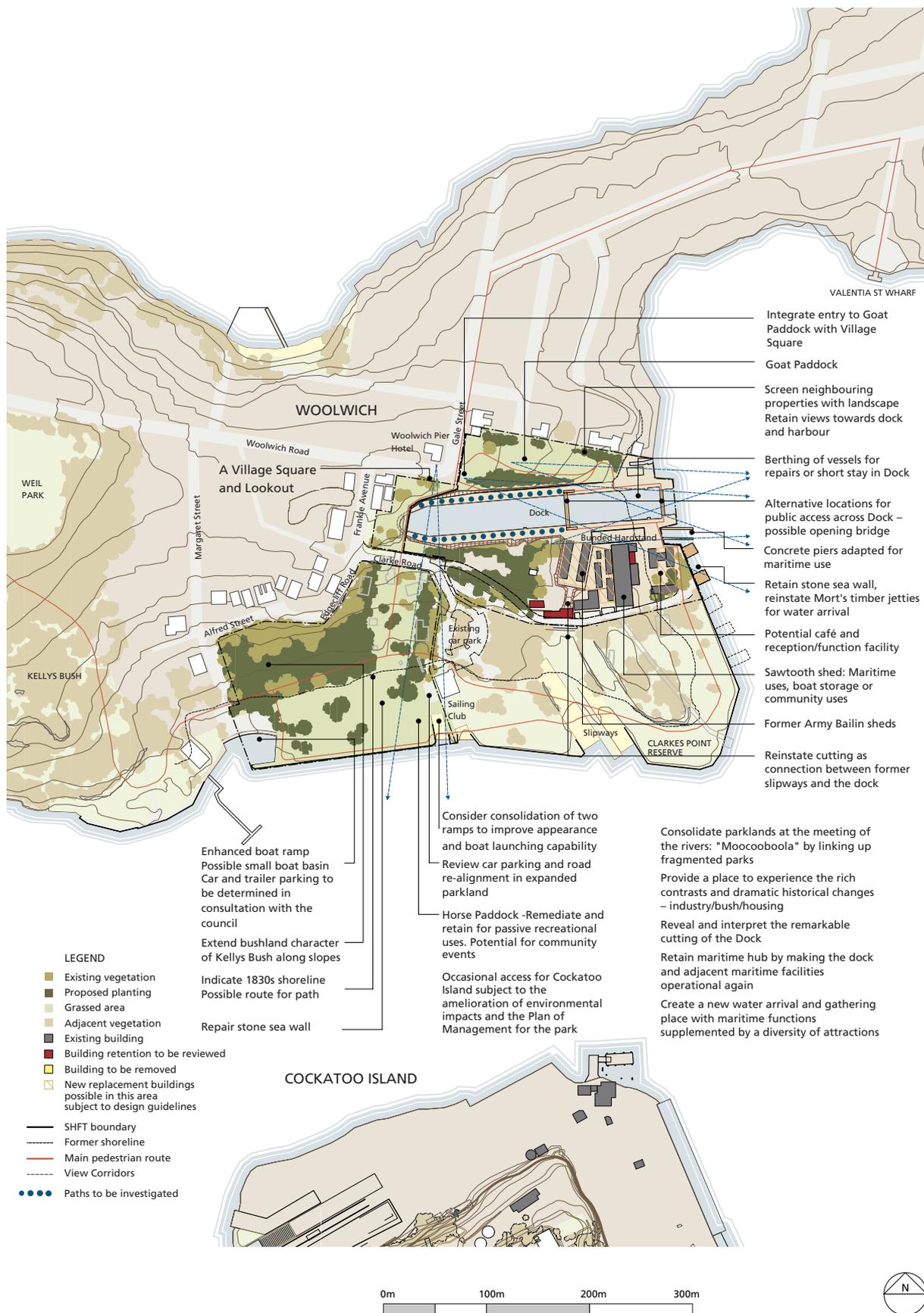
The dock has the capacity for alongside berthing for vessels being repaired, short stay visiting vessels and possibly permanent berths for small boats and/or heritage vessels.

The concrete piers could be re-used as part of the working maritime hub. The lifting crane could be re-instated or the piers could be used to accommodate an adjustable boat ramp/slipway or water arrival/berthing.

The stone sea wall would be retained, Mort's timber jetties reinstated and additional works carried out for small boat and possibly ferry moorings.

Fig. 4.6 Outcomes

Woolwich Dock and Parklands



The waterfront lawn area has the potential for a café or reception/function facility.

The sawtooth roofed building is suitable for maritime uses, boat storage, studios or to be adapted for community uses.

The dock could also be used as an occasional base for the transfer of supplies to Cockatoo Island.

#### *Woolwich Lookout*

The plan proposes the creation of a 'Village Green' at the lookout. This would be the culmination of the parkland extending down the hillside, once more linking the ridge with the waterfront.

#### *Goat Paddock*

It is proposed the Goat Paddock is developed as a park that will provide magnificent views of the harbour and special events. It will also give access to the dock with a walk that can be taken along the dock cutting. Neighbouring properties to be screened from the path, while retaining views toward the dock and harbour.

#### *Horse Paddock*

It is proposed that the Horse Paddock is remediated and developed as a place for passive recreation and community events.

It is proposed that the patterns of past uses, including changes in the shoreline, subdivision patterns and the sites of significant buildings are interpreted in a simple and subtle manner that allows the feeling of informal parkland to predominate. For example, the former shoreline could be interpreted through a new pathway and revegetation of the hillside.

There is potential to improve the area around the sailing club by landscaping and reconfiguring the existing carpark and boat ramps. To facilitate this the benefits of combining the boat ramp in the Horse Paddock with the one in front of the sailing club will be investigated.

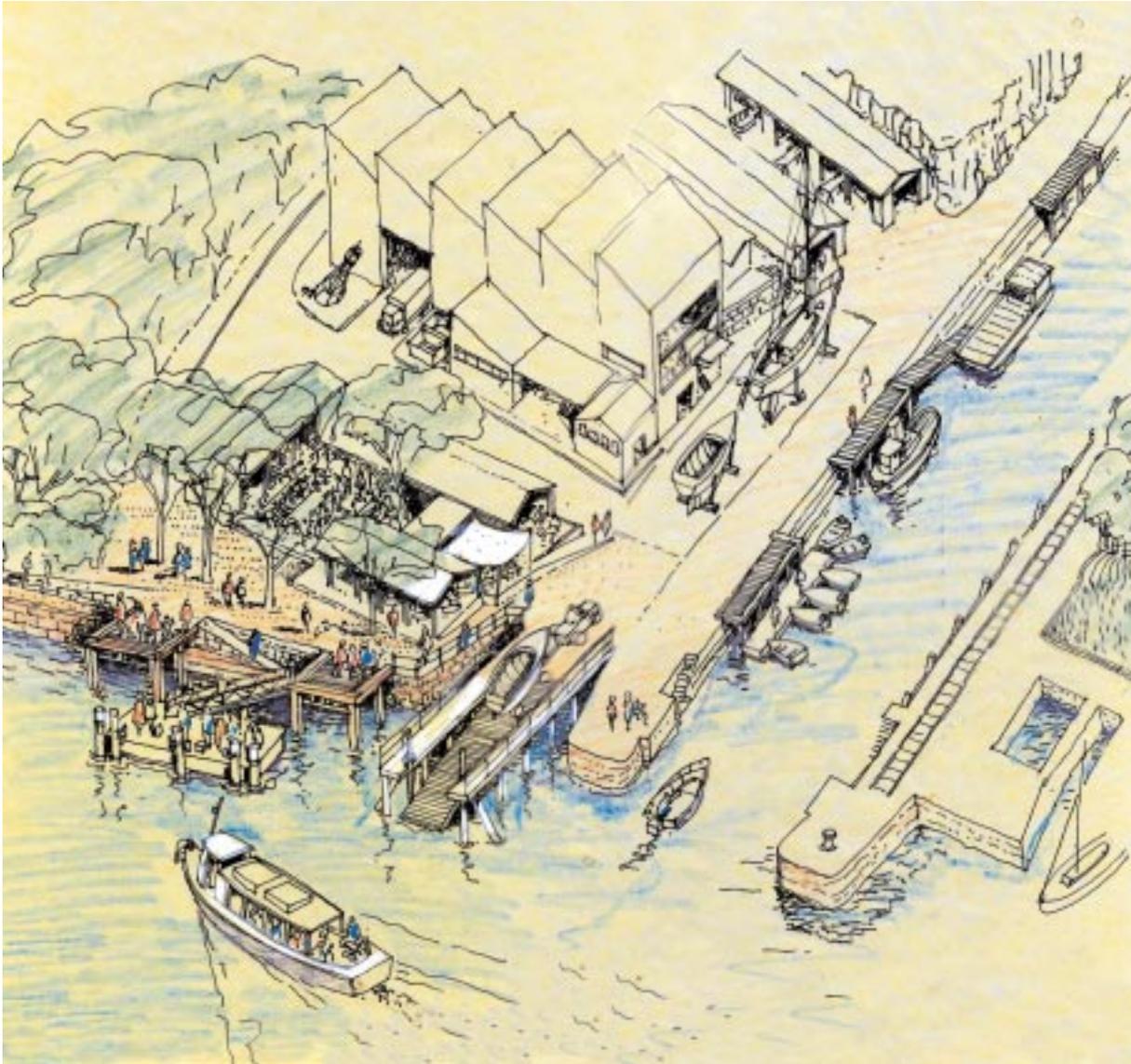
Existing car parking and road alignments within the parklands require investigation to cater for the expanded park and boat ramp facilities. The location and appearance of the car parking is to be subservient to the landscape and will be resolved in consultation with the council.

The existing ramp located in the Horse Paddock, adjacent to the Sailing Club, could be used as an occasional access point for vehicles being barged to Cockatoo Island. This would be subject to a detailed management plan that recognises the primacy of the site as a public place and protects the environmental values and amenity of the park and local area.

A small boat basin could be created at the edge of the Horse Paddock, adjacent to Woolwich Marina. This will be investigated with NSW WaterWays Authority and the council.

**Fig. 4.7** *Concept Sketch*

*Woolwich Dock and Parklands*



*Sketch of the mouth of the dock showing conversion of sheds to cafe/reception facility at the junction of the dock and parkland. The dock is sufficiently large to provide some day visit berths as well as berths for boats being worked on. The rebuilt timber jetties could provide the basis for a ferry or charter boat embarkation.*

### Possible Uses – summary of principles

Future uses at Woolwich must contribute to the:

- Working maritime hub: the dock, sheds and associated hardstand e.g. boat building, repair and courses, commercial business, storage of historic vessels and associated workshops and boat storage
- Water gateway: potential for ferries, charter vessels, day visit private boats
- Diversity of attractions and activities: e.g. café, restaurant, functions, cultural facilities, related office studios
- Protection of the local amenity through environmental controls for matters such as hours of operation, noise, etc
- Public access network
- The significance of the dock, rock cuttings and benchings

### Principles for Building Retention, Removal and New Buildings

The existing configuration of paired piers, bunded hardstand, sawtooth roofed workshop and other buildings is not ideal for maritime operations.

The priority is to:

- Retain the significance of the dock, cuttings and benchings
- Retain the site's character – its '*grain*'
- Create a viable maritime hub and public gathering place

New buildings will only be permitted on the site if they:

- Are necessary for the viability of a desirable activity such as the maritime hub
- Interpret or reinstate significant elements of the site's history
- Do not obstruct significant views and vistas
- Are located and have a footprint, scale, form and finishes that are sympathetic with the setting

The alteration or demolition and replacement of the Army sheds could occur subject to any alterations or new building:

- Remaining below the adjacent rock face
- Not interfering with the reinstatement of the link via the cutting between the slipways in Clarkes Point Reserve and the dock
- Being consistent with the existing building line along the edge of the dock apron

### Repairs and Remediation

Services and buildings in the dock area all require basic maintenance and upgrading. The sawtooth roofed building requires asbestos management while the sea wall is in need of repair for both safety reasons and to limit the migration of contaminated fill into the harbour.

A remediation strategy and an environmental management plan will be prepared for the site to ensure the continued management of hazardous materials.

*Wa-rea-mah*

# 5



## THE SITE AND ITS CONTEXT

---

### The Place

Refer to Figure 5.1 Plan Area

Cockatoo is the largest of the Sydney Harbour islands. Its history is a rich mix of convict, penal, social reform and maritime industry.

The island lies at the junction of the Parramatta and Lane Cove Rivers – ‘*Moocooboola*’.

The courtyard cluster of prison barracks, the water towers, workshops and houses all sit atop the hill, like an acropolis of sheer-sided sandstone, quarried to make the flat aprons for maritime industry.

An enormous complex of industrial workshops, cranes and a power-house furnish the island.

This is a place of cuttings – two magnificent docks lying nose-to-nose, rail tracks, slipways, tunnels and grain silos carved by hand into the top of the sandstone hill.

The island has been vacant since 1992 and many of the buildings have deteriorated. Some areas also contain contamination and industrial hazards from over a century of shipbuilding activity.

### How the place evolved

Refer to Figure 5.2 Historical Development

#### *Natural Forces*

This largest harbour island dominates a special triangular space bounded by Balmain, Drummoyne, Hunters Hill, Woolwich and Greenwich, with the other two smaller knolls of Spectacle and Snapper Islands nearby.

The landform is distinctive as a drowned knoll (with Spectacle and Snapper) at the end of the ridge following Lyons Road, Drummoyne. The knoll rises to a height of about eighteen metres above sea level and the sandstone geology is similar to the Woolwich and Drummoyne peninsulas.

Originally only 12.9 hectares in size, the island has been expanded over the years to 17.9 hectares through extensive cutting and filling forming extensive aprons at the lower levels.

A variety of woodland vegetation and shrubs would have once covered the rocky knoll, and almost all have been removed. Some plants grow on the cliff faces and cultural plantings have occurred in many areas. The deserted island has a nesting ground for seagulls and fig trees provide a food source for bats.

#### *Cultural History*

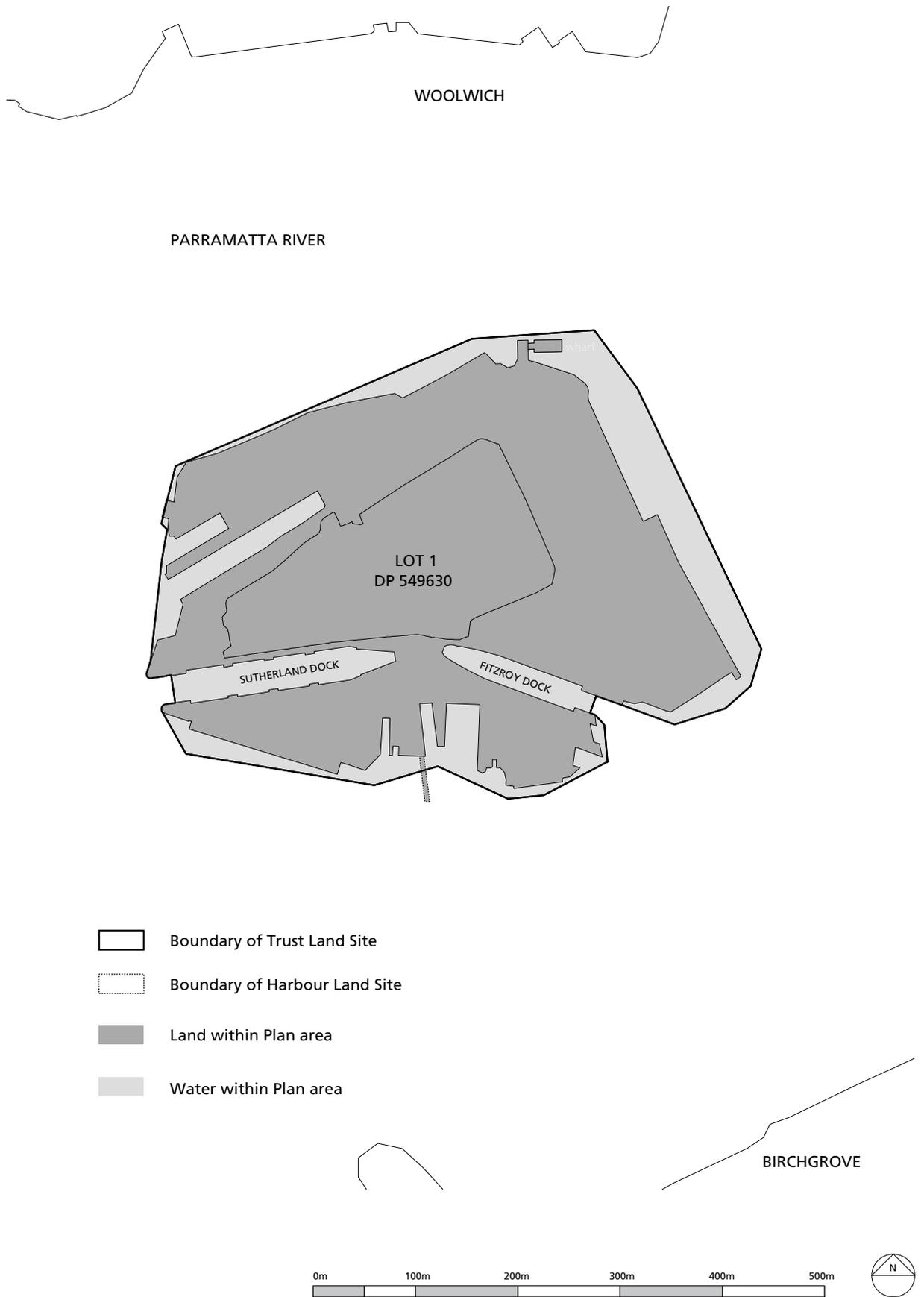
*Indigenous.* Aboriginal people would have used the island although no record has been found. Further research will be carried out into both pre and post European occupation. The Aboriginal name for the island is *Wa-rea-mah*.

*Convict.* The isolation of the island and its proximity to Sydney Cove made it ideal for construction of a prison to house convicts withdrawn from Norfolk Island.

From 1839–40 convict labour was used to cut deep into the rock and construct silos for storing the colony’s grain supply. Quarrying on the island provided stone for a group of penal buildings on the island and for construction projects around Sydney, including the wall for semi-Circular Quay.

**Fig. 5.1** Plan Area

*Cockatoo Island*



Prisoners built the large Fitzroy Dock and the machine shop from 1851 to 1857. The stone remains of the machine shop are now embedded in later industrial buildings on the island.

In 1864 the administration of the island was split between the NSW Department of Prisons and the Public Works Department who took over and expanded the dockyard around the foreshores.

*Industrial School and Reformatory.* In an attempt to give the island a new image, it was renamed '*Biloela*' (Aboriginal for cockatoo) in 1870. The Cockatoo Island prisoners were relocated to Darlinghurst Gaol and the island's prison buildings became an Industrial School for Girls and a reformatory from 1871 until 1888. At the same time the Training Ship *Vernon* was anchored off the Island and was used to accommodate wayward and orphaned teenage boys. It was later replaced by the TS *Sobroan*.

#### *Dockyard*

Sutherland Dock, the second of the dry docks, was completed in 1890. For a short time it was the largest in the world. Shipbuilding and repair activities on the island expanded steadily.

The island became the Commonwealth Naval Dockyard in 1913 and the first steel warship built in Australia, HMAS *Huon*, was completed there in 1916 along with her sister ship *Torrens* and the cruiser *Brisbane*.

A new power station with a fine brick chimney was completed in 1919.

In 1933 the shipbuilding and repair facilities were leased to a private company, *Cockatoo Docks and Engineering Co*.

Following the fall of Singapore during the early part of World War II the island became the major shipbuilding and dockyard facility in the Pacific. Repairs and refits included work on the *Queen Mary*, *Queen Elizabeth* and major vessels of the Australian and US Navies.

Two tunnels were constructed under the plateau of Cockatoo Island in addition to the central one (circa 1912) and a new road provided access to the upper level.

Vickers Ltd took over Cockatoo Docks and Engineering Co Pty Ltd in 1947. Additional buildings were constructed during the 1950s and 1970s.

The maintenance and refit program for O-class submarines commenced on Cockatoo Island in 1968 and continued until 1991.

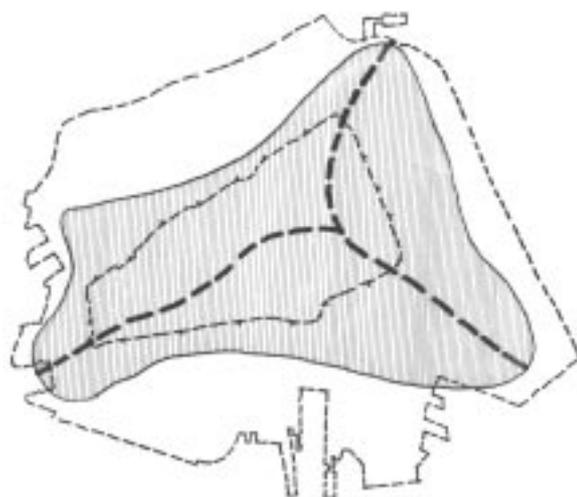
Following a review of naval dockyard requirements during the early 1980s, the Commonwealth Government decided that the lease of the dockyard would not be renewed after its expiry in 1992. Control of the island reverted to the Commonwealth Government at the end of 1992. A significant amount of plant and machinery was sold and some 40 buildings demolished during 1991. A number of wharves were also removed because of their condition.

**Fig. 5.2** *Historical Development*

*Cockatoo Island*

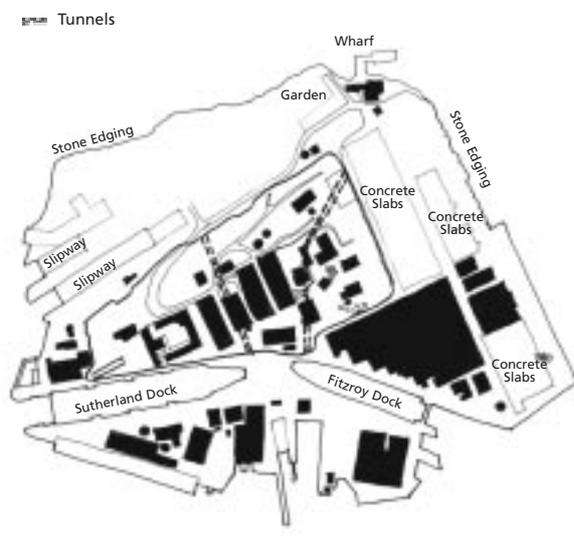
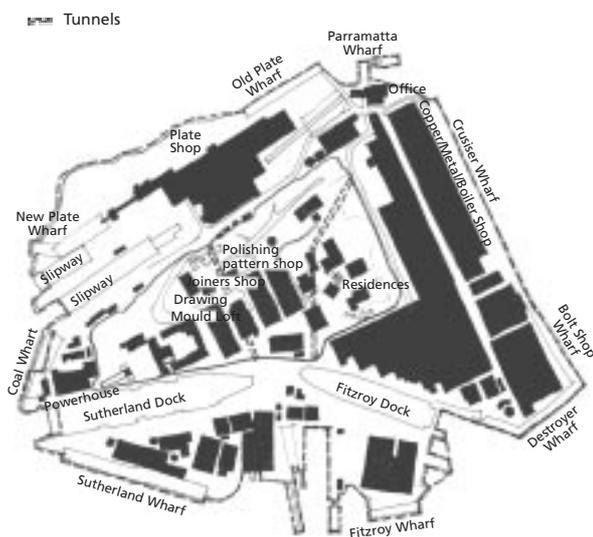
-  Reconstructed extent of island pre-1839
  -  Existing extent
  -  Reconstructed ridge and spur lines
  -  Outline of existing plateau area
- Geology: Hawkesbury Sandstone  
Vegetation: Sydney Sandstone Complex

-  Existing foreshore
-  Gardens
-  Steep sandstone slopes
-  Cliff/ wall
-  Built form
-  Former grain silos



*Cockatoo Island: Wah Rea Mah*

*1839-1869 Prison*



*1933-1991 Dockyard*

*Post-industrial island 1991-present*



## Site Conditions Summary

### *Flora and Fauna*

Almost all of the island's original vegetation and habitat has been removed to make way for development. However, the sandstone knoll of Cockatoo Island would have once been covered in a variety of woodland vegetation and shrubs. It would have been an unusual mixture of species due to an absence of fire, isolation, the lack of a reliable source of fresh water and the strong marine influence. It is unlikely that the island would have had a high diversity of species when compared to the mainland.

Today, some ferns, mosses and hardy shrubs grow between layers of rock on the cliff faces. The undulating plateau and northern slopes have many exotic species including large Moreton Bay Figs and Camphor Laurel trees. There is no evidence of permanent streams and water troughs and tanks were cut into the rock.

There are no known threatened species on the island. However, two trees that are listed as vulnerable in the NSW *Threatened Species Conservation Act, 1995*, were identified: the Magenta Lillypilly (*Syzygium paniculatum*) and Narrow-leaved Black Peppermint (*Eucalyptus nicholii*). Both of these specimens have been planted.

Of special note is the relatively high number of ferns and fern allies (10) growing in areas of reliable seepage on the exposed rock faces. These include the uncommon Skeleton Fork Fern (*Psilotum nudum*) and Slender Club Moss (*Lycopodium laterale*).

The island does not provide much habitat for native fauna. The lower level of the island supports few trees and consists mostly of introduced grass species on the northern and eastern sides. These grassed areas provide some foraging habitat for birds such as the Masked Lapwing, the White-faced Heron and Common Starling.

The plateau area provides slightly better feeding and shelter areas. The Moreton Bay (*Ficus macrophylla*) and Port Jackson (*Ficus rubiginosa*) fig trees on the northern slopes of the island provide a food source for the vulnerable species – the Grey-headed Flying-fox (*Pteropus poliocephalus*).

The tunnels running through the sandstone knoll is suitable habitat for bat species however, no micro-bats have been detected.

The rocky foreshore provides habitat for water rats (*Hydromys chryso-gaster*) and a wide variety of marine animals and plants while the armour rock wall on the northern side of the island and the cliff areas around the convict buildings have become popular nesting grounds for Silver Gulls (*Larus novaehollandiae*).

Baseline flora and fauna surveys have been prepared for the island – see report prepared by *GIS Environmental Consultants*.

### *Buildings and Services*

There are eighty buildings on Cockatoo Island with examples surviving from each era of the island's history. The range of functional and constructional types includes:

- convict era sandstone buildings
- steel-framed and clad industrial workshops dating from around World War I
- several individual residences built in timber, masonry and stone
- brick administration buildings erected during the 1930s
- concrete air raid shelters from World War II

- masonry industrial buildings constructed during and after World War II
- various structures including 40 cranes, several wharves, and the historic pumping machinery, switchboards and rectifiers housed in the Powerhouse

The current condition of the buildings and other structures on Cockatoo Island can be gauged by the fact that the island has been disused since 1992. There has been no maintenance of any description carried out until the Trust began undertaking repair and stabilisation works in 2001. The decision to close the dockyard was taken in 1987 and it is assumed that regular maintenance of buildings was wound down during the final years of operation.

The convict era buildings are structurally sound and require some maintenance and restoration works in keeping with their heritage significance. Most of the industrial buildings, constructed using steel, masonry and timber in combination with steel or timber cladding, are structurally sound. The houses, constructed of sandstone or brick masonry with timber used for verandahs, roof and floor structures and some cladding, are also structurally sound and in relatively good condition. The island's wharves and many of the cranes will require significant structural repair and conservation work.

The island's water reticulation is in reasonably good condition and currently supplies water to virtually all buildings and apron areas. The sewerage system and electricity networks are outdated and will require a major overhaul. Stormwater and fire systems will also require repairs to bring them up to standard. A more detailed summary of the site conditions is at Section 12.

#### *Contamination*

Cockatoo Island has a rich history that includes over 160 years of development, engineering and shipbuilding activity. Understanding this history provides a key to understanding the environmental condition of the island. Contamination on the island has resulted from the previous filling and waste disposal practices as well as the spillage and release of chemicals and materials that may have occurred on site. Consequently, various types of contaminants exist in soils, surface-water, groundwater and near shore sediments. Hazardous materials are also associated with the various buildings and structures that remain.

Examples of the range of contaminants on and around Cockatoo Island are listed below:

- Chippings, quarry rubble, building rubble, and other solid and trade wastes have been used as fill for reclamation and shoreline advancement since early development of the island. As a result, fill on the island includes sandstone, demolition rubble, slag, ash, coke, scrap metal, fibro cement and rubbish. Contamination in these materials is predominantly heavy metals, polyaromatic hydrocarbons (PAHs) and asbestos
- Localised areas of contamination are associated with sumps, tanks and areas where chemicals were stored and used. Other areas where chemicals were stored or used may also have localised areas of contamination
- All known underground storage tanks were removed during the Stage 1 Rehabilitation works carried out by the Department of Defence in 1999. It is likely that other unknown tanks remain on the site and will require removal

- The residential precinct and garden areas have become contaminated largely due to the fallout of contaminated airborne dusts. The source of these dusts would have been primarily the powerhouse, incinerator and other furnace operations around the site. Contaminants of concern in these areas are mainly lead, with some PAHs and benzo(a)pyrene
- Deteriorating lead-based paints on buildings and structures has contributed to contamination of the site. In many areas, flaking paint can be seen on walls and on adjacent ground. Lead, copper and zinc concentrations in these flakes can be very high
- A large volume of asbestos may be assumed present in fill and asbestos materials are also present in some remaining buildings. Most of this asbestos is in the form of asbestos cement sheeting. Small amounts of fibrous asbestos millboard, insulation or rope also remain on-site
- Other types of hazardous materials in buildings include synthetic mineral fibre, and polychlorinated biphenyls (PCBs) in lighting capacitors and electrical equipment. Specific buildings may also contain other hazardous materials such as mercury vapour lamps, drummed chemicals and oils, and solid and aqueous wastes
- Contaminated wastes from site operations have been either disposed of, or washed into the stormwater and wastewater systems over the years. Much of this system is currently in questionable condition, with residual sludge and grit remaining in pits and lines. Assessment of these materials has shown elevated levels of heavy metals and occasionally high levels of hydrocarbon contamination
- The washing of process wastes and contaminated sediments into the stormwater or wastewater system, or directly into the harbour, has been the primary mechanism for contamination of near shore sediments surrounding the island. These have included formulations used as marine anti-foul over the years. Contaminants from this source include TBT, mercury and copper
- The erosion of contaminated waste fill from behind deteriorating seawalls has also been a significant source of contamination of near shore sediments
- Assessment of near shore sediments has identified elevated levels of heavy metals and hydrophobic organic compounds such as TBT and PAHs. The most significant metals in sediments are mercury, copper and lead. While a 'halo' of contamination may surround the island, the highest concentrations may be found in the region of Sutherland Dock. Contaminated sediments are also likely to exist within the docks themselves

A more detailed summary of the Contamination Condition and priorities for remediation is in Section 12, Background Material.

## The Planning Context

Cockatoo Island is unincorporated. This means that it does not fall within any Local Government area. However, it has a visual and historic relationship with surrounding islands (Spectacle Island and Snapper Island) and the land-based Local Government areas of (Leichhardt, Canada Bay and Hunters Hill).

The southern apron of Cockatoo Island faces the foreshore area of Canada Bay and Leichhardt. These areas are generally zoned for medium to high-density residential development. Potential impacts such as noise and visual amenity will need to be carefully considered with regard to future waterfront industry on Cockatoo Island. The northern apron of the island faces Hunters Hill. The areas of Hunters Hill most visible from Cockatoo Island are open space, with a number of low-density residential developments.

At present there are no public transport services to the island. However, a number of ferry services pass the island each day and have the potential to include Cockatoo Island as a stop.

State plans nominate Cockatoo Island as part of the 'Working Waterfront' and as an opportunity for open space and water-based access. State departments and the Trust have identified potential sites for land-based facilities for servicing the harbour's islands, particularly in relation to heavy materials and storage, as an important part of Working Harbour.

More detailed information on these matters can be found in Section 12 – Background Material.

### Consultation Outcomes Summary

During consultation it became evident that the history of Cockatoo Island is very important to the community. This includes all aspects of its history from Aboriginal to convict and maritime history.

Issues that were highlighted for consideration included the need to identify the contaminated areas of the island and to develop a program of remediation and the need to study the Aboriginal heritage of the island.

The community also highlighted the requirement for land bases to support working harbour activities and the role of the island in apprenticeship training.

The most common themes for future uses included revitalising the 'working harbour' by introducing small scale maritime industry back onto the island whilst at the same time, preserving the historical buildings and allowing for public space and tourism activities.

There was also a strong view expressed by the community that residential and high-rise buildings should not be permitted on the island.

### Qualities

The island is the farthest knoll at the end of the Drummoyne (Lyons Road) ridge. Snapper and Spectacle Islands are also outcrops on this same submerged ridge.

Cockatoo Island is the dominant landform in the large basin of water bounded by the shores of Woolwich, Drummoyne, Birchgrove and Balmain. The island breaks this body of water into a series of passages between it and the mainland, and the dominant form of the island actually disrupts the appreciation of the basin as a single body of water.

The name Cockatoo Dockyard gives a false impression of a single function when in fact the island's function was highly varied, ranging from heavy shipbuilding and engineering to small boat construction and design, fine joinery and cabinet making. This diversity of activity is reflected both in the buildings, their materials, scale and pattern of windows and the spaces created between them. As a result, when on the island, even on the top, the harbour outlook is restricted to occasional glimpses and is secondary to the view of contained and defined spaces. Conversely, many of the buildings and places are not apparent from the water and can only be appreciated by actually being in them. The gaol courtyard is the most obvious example, but it applies to even the largest buildings like the turbine hall that is absorbed into the mass of the whole island.

In this way Cockatoo Island is quite different to the smaller islands of the harbour where the surrounding waters are always apparent. The sheer diversity and interesting detail of the buildings and ground-form draws attention away from the harbour.

The island's evolution has been organic and accretive as it has been modified and adapted as required – to fulfil a particularly large contract or to accommodate changes in ship size and building technology. The fundamental character of the island derives from this reworking of existing buildings and facilities. Over time there was also an articulation of the activity, whereby administration occupied the old gaol buildings, residential, white-collar design, lofting and fine joinery occupied the top of the island and the heavier industry the aprons. Many buildings were demolished and replaced over the life of the island but more commonly they were modified, enlarged and adapted. This applied to even the oldest buildings and the apparent disregard for their cultural value in the past is indicative of the primary need to maintain a functional dockyard often with very limited means.

Similarly, all of the original vegetation was removed and the island has had a bare appearance for many years. The harshness of the bare scraped rock on both the cutting faces and the top of the island near the granaries is also part of its character. A few Moreton Bay and Port Jackson figs have established themselves on the last remnant of the original rock outcrops on the northern face. The 'softest' part of the island is the residential area that has a number of large Camphor Laurels.

The most extensive demolition of buildings and wharves occurred after the closure of the dock, resulting in large open areas on the northern and eastern aprons. These give the impression of grassed open space with a vegetated slope backdrop facing north and a large harsh plane facing east with a bare cliff backdrop. The extensive boulder rock 'rip-rap' shoreline also dates from this period.

The overall quality of the island is its diversity that derives from its organic development over a long period of time. This diversity, combined with the complexity of the topography and outlook means that it is difficult to perceive the island as a single unified entity. The Trust is seeking to retain this diversity and richness through its planning work.

#### *The Plateau*

- There is generally little outlook from the top of the island apart from particular points such as the tennis court
- An overall organic layout that has developed over time
- There are no streets because there were no vehicles
- Residential atmosphere is disrupted by the juxtaposition and insertion of alien elements – granaries, searchlight tower, water tower
- Orientation of building fronts towards the harbour looking outward and back towards the city
- Houses with 'higgledy-piggledy' back yards
- Lawns, garden beds, exotic tree species
- Maze-like/domestic/paling fences – suburban

#### *Workshops and drawing offices*

- Straight-forward circulation between 'civic' urban spaces at each end – sunken court to the north and open area near joinery shop to the south

- Rigid and simple geometry determined by light and air and light-weight activities that allowed multi-storey accommodation

#### *Gaol*

- Harsh, enclosed, paradoxically introverted
- Sandstone walls, sandstone buildings, sandstone flagging and bedrock
- The same use of on-site quarried stone as at Goat Island

#### *North Apron*

- Open to waterway
- Waterway open, informal objects in the landscape, hints of former use – geometry of sheds

#### *East Apron*

- Vast and simple – cliff-water-horizontal plane
- The feeling that something has been removed, perhaps something could be put back

#### *Main Halls*

- 'Cathedral' of industry
- Haphazard juxtapositions of buildings added over time
- Unforgiving, tough and bare, human comfort is not a consideration
- Hidden concealed in the bulk and profile of the island
- Individual building blocks built onto each other to form a single building mass
- Clearly defined single street

#### *South Apron*

- Interventions can be contemporary
- No clear ordering apart from dock alignments
- Utilitarian village due to modest scale of buildings – modest scale of boat building
- Scattered glimpses through between buildings

## SIGNIFICANT VALUES AND CONSIDERATIONS

---

### **Natural Values**

Refer to Figures 5.3 Heritage Values and 5.4 Natural and Cultural Values

Cockatoo Island is the largest harbour island. Located at the meeting of three waterways, it affords magnificent harbour views and is a visual landmark with its distinctive silhouette. The man-made cliff lines clearly reveal the Hawkesbury sandstone.

### **Cultural Values**

- As an island within this widened area of harbour it has been chosen as a:
  - gaol – isolated but overlooked
  - site for granary silos – secure yet accessible
  - site for maritime industry/shipbuilding – deep water, close to other industrial sites
- The convict remains are of particular importance. The convict period and subsequent uses as female reform institution and criminal gaol provide a wealth of evidence of military, penal and charitable practices in New South Wales
- The convict gaol is the only surviving, imperially funded public works establishment in New South Wales. It is a remarkable remaining collection of sandstone structures
- The convict-constructed silos are the finest and probably the only group of rock cut silos in Australia. They demonstrate the value of food supply to the young colony and their lack of use was an expression of the relationship between England and its colony

- The Fitzroy Dock (1851–57) is the first proposed and the oldest surviving dock in Sydney
- The Fitzroy Dock and remains of the stone workshop building were convict built for the Royal Navy and were the beginning of ship repair and construction facilities on the island
- The island provides evidence of technological achievement in the development of Australia maritime industry – both naval and commercial
- It has a significant collection of buildings, wharves, slipways, cranes and associated shipbuilding machinery (despite sale and demolitions) remaining to interpret the shipbuilding activities of the island – the legacy of a major dockyard in Australia’s main port city
- It represents the growing industrial independence of the colony in ship repair, maintenance and shipbuilding and from government ownership to private ownership
- Sutherland Dock is an engineering milestone in Australia and was the largest dock in the world at the time of its construction. It contains its original travelling jib, steam cranes and caisson rollers
- The powerhouse is an unrivalled combination of original buildings and rare electrical equipment
- The importance of the dockyard in Australian industrial development; fabricating equipment for power stations etc and training apprentices
- The strong associations many former workers feel for the island and remains of the dockyard

Figure 5.3 *Heritage Values*, shows the ranking of buildings resulting from the Conservation Management Plan carried out by Godden Mackay Logan for the Department of Defence dated May 1997.

## OUTCOMES

---

### Vision and Benefits

Refer to Figure 5.5 Outcomes and 5.6 Concept Sketch

As an island, Cockatoo has the potential to be a special place to visit. The cuttings and the central, remnant knoll provide distinct elements, like islands within an island. Each should be developed as a collection of complementary attractions – a combination of maritime/convict, history/cultural and venue/place of ceremony.

The plan for Cockatoo Island proposes the revival of working maritime facilities at the heart of the historic maritime industrial precinct of Sydney Harbour.

The island’s achievements will be recognised and inspire the future direction.

Its potential as a cultural venue at a landmark harbour location will be realised.

The island will provide a rich diversity of places to visit by an expanded network of water transport for leisure and convenience.

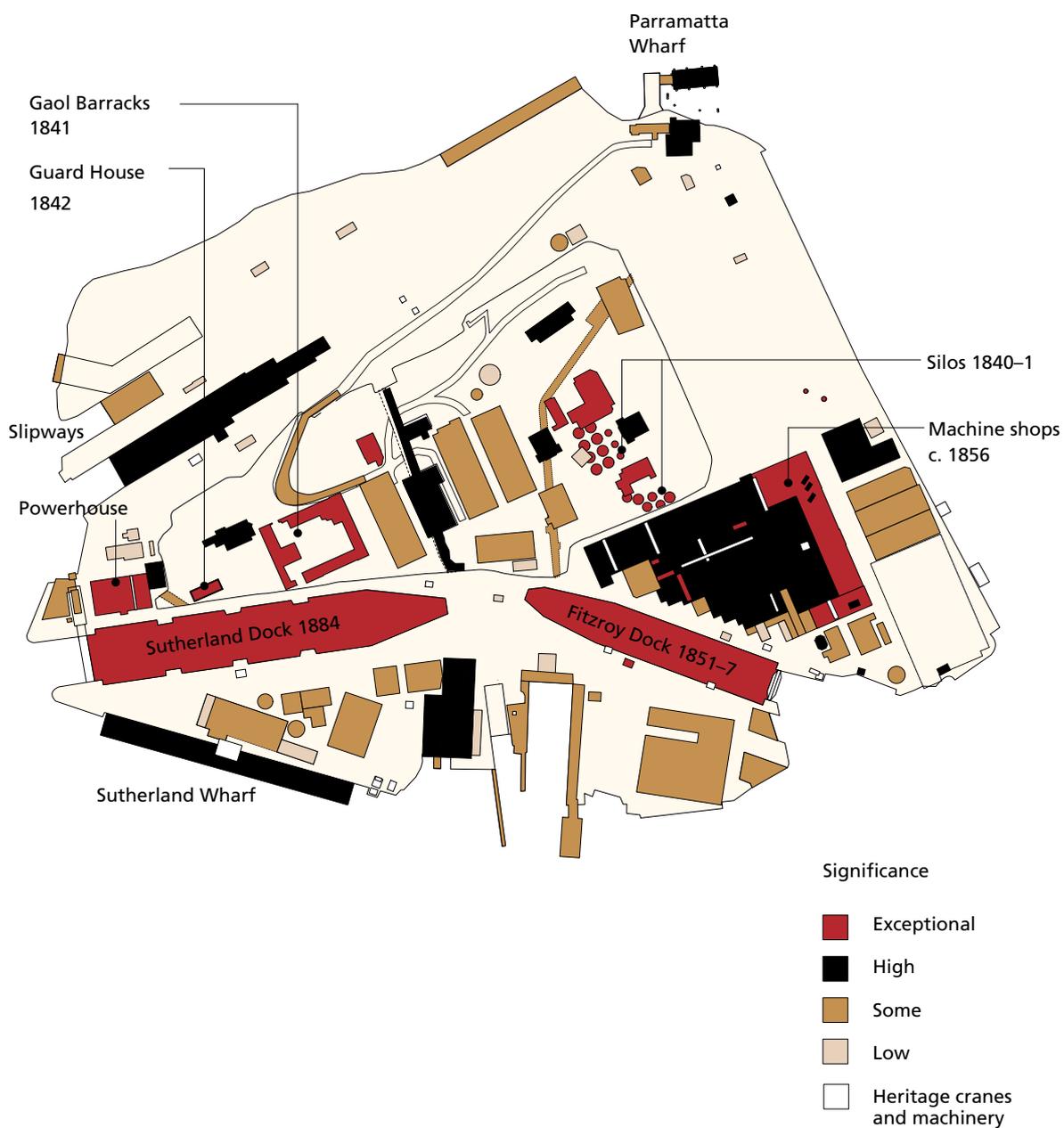
### Actions

The island’s revival needs a diverse range of activities and a considerable population to overcome and compensate for its isolation. Resuscitation of the island in a befitting manner will take time. The first task is to protect the island and its extraordinary buildings and fixtures from further deterioration prior to commencing restoration and remediation.

Cockatoo Island requires a step-by-step process of re-occupation. Activity needs to start small and compact, providing a density and

Fig. 5.3 Heritage Values

Cockatoo Island



Conservation Management Plan, Godden Mackay Logan, 1997



**Fig. 5.4** *Natural and Cultural Values*

*Cockatoo Island*



Above  
*View eastwards*

Left  
*1857 Convict built workshops*

*The main 1912 tunnel*

sense of vibrancy. Later it can expand to provide active nodes rather than scattered activities throughout the island.

Initial actions may include the:

- Facilitation of water transport and public access
- Facilitation of 'back-of-house' boat building and repair
- Maintenance and upgrade of fragile infrastructure, including slips, winches, wharves and docks
- Remediation and management of contamination
- Provision of modular and expandable services

The southern apron is the most appropriate place to start these uses.

The northeast apron also has the potential as a major venue for cultural activities in the immediate term. Initially the buildings may not be able to be occupied or used. However, the outside spaces can provide a wonderful setting for smaller events and exhibitions.

The island tours will be built upon with the gradual addition of supporting facilities and attractions.

An island walk is to be developed that retraces the pattern of occupation from convict gaol to maritime industry.

### Access and Pathways

A number of land bases to service Cockatoo and the other harbour islands with bulky goods and services is required. These bases should have good arterial road and ideally rail connections. So far, State Government agencies have identified five potential sites: Berrys Bay, Darling Harbour Wharf 8, Rozelle Bay, White Bay and the Horse Paddock at Woolwich (refer to Section 4, Woolwich).

Visitors and workers could arrive at the island by ferry, as in the past, or by a shuttle boat service. There is also an opportunity for landing quays for smaller craft.

Public pathways need to be designed so that they do not detract from the heritage values and character of the island, its buildings and their setting. It is important that their design assist with the interpretation of the island and its values.

Interpretation and visitor facilities could be created and the island tours expanded.

The convict gaol precinct requires repair, restoration and interpretation. This work could include the excavation of the underground isolation cells.

Interpretation of the granary silos could involve exposing the sandstone and creating a plaza/forecourt between the residential area and workshops. A walk along the cutting (possibly within the edge of the adjacent turbine workshop) would also reveal the convict carved granaries.

The dwellings and gardens, repaired and improved, could be included in the island tours.

### Outcomes for Specific Precincts

#### *Northern Apron*

The northern apron could provide a venue for low-key boat building, repair and hardstand storage in a park-like area that extends up the hillside. It has the potential to become an open space that conveys

dramatic changes and uses such as the original shoreline, demolished workshops, rails, cuttings, cranes and convict terraced gardens.

The northern apron also provides a landing place for barges transporting goods.

Contamination of the north apron needs to be contained and managed as will the on site treatment of storm and wastewater.

#### *Southern Apron*

The workshop areas south of the docks are most suited to maritime activity such as small boat construction, amateur, community or commercial boat building activities and back-of-house repair or servicing of charter vessels.

The large hardstand and workshop spaces could be used for boat storage, repair, maintenance and chandlery or even utilised by groups such as the Australian National Maritime Museum, Sydney Heritage Fleet or as training facilities. In the interim they may be suitable for special events or as film sets and studios.

#### *The North East Apron*

There is potential to create a significant civic space facing the city and the historic coal loader at Waverton that lies across the expanse of water. The northeast apron could become a place for boat repair and storage, events on a grand scale or the site for a major cultural facility. There is a need to retain flexibility in determining the uses for the apron as the island is brought back to life.

The waterfront sheds might be adapted for shipbuilding and repair, studios or commercial uses.

#### *The Workshops*

There is potential to better reveal the convict-built workshop and to form a waterfront plaza. This will be guided by the findings of a conservation management plan to be prepared for the dockyard precinct.

#### *Fitzroy and Sutherland Docks*

Neither of the docks is currently operational. However, the long-term plan is to recommission one of them and although some essential repairs have been made to the Fitzroy Dock Caisson the Sutherland Dock may be more suited for this purpose. In the meantime both docks offer areas for sheltered water for small boats.

#### *The Submarine Re-fit Workshop*

This building is suitable for refurbishment and adaptation for a range of uses including: office studios, archival storage, maritime research or accommodation for collections or exhibits.

#### *Power Station/Pump House*

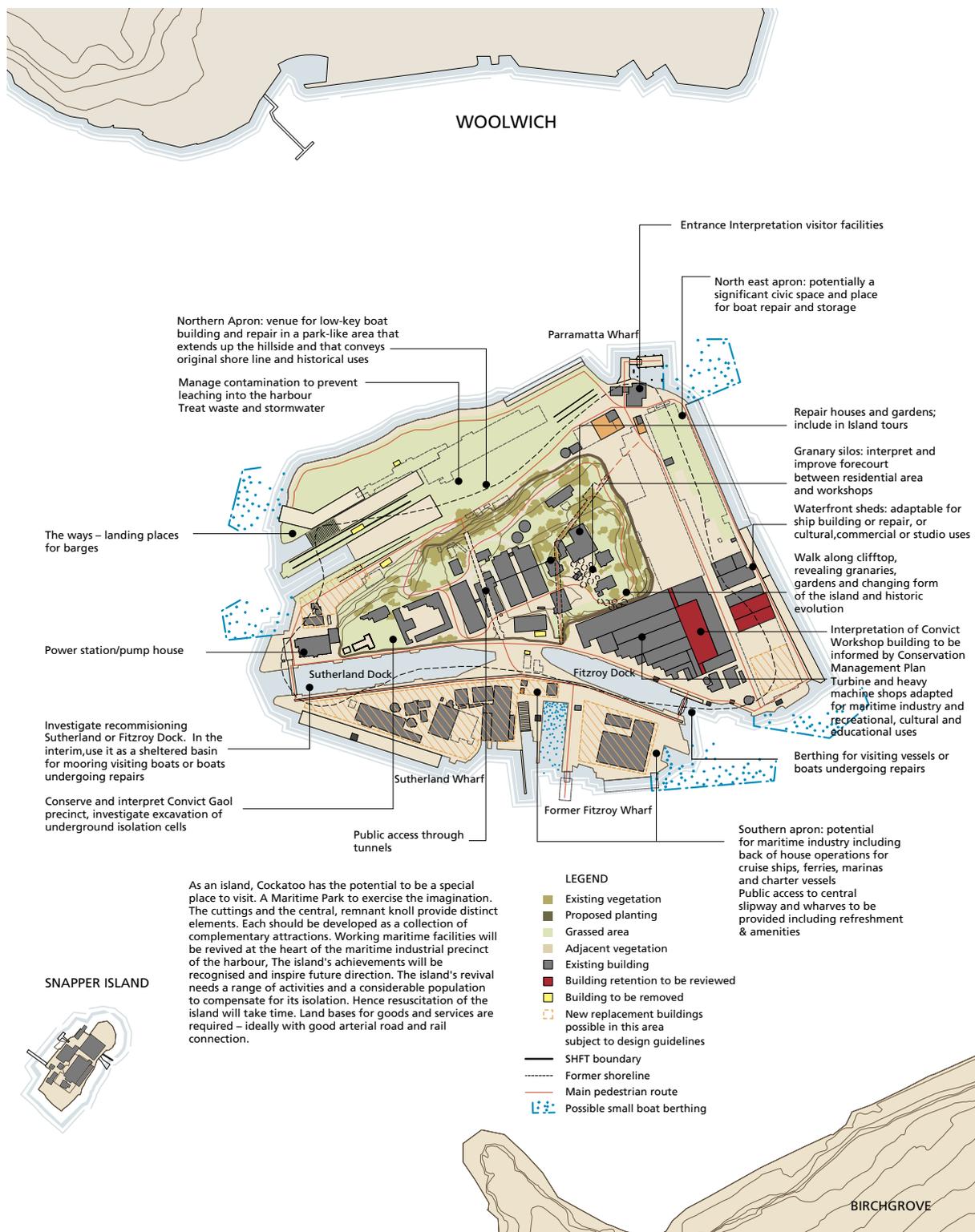
The power station is an unrivalled combination of rare electrical equipment and original buildings and will be retained as a historical artefact.

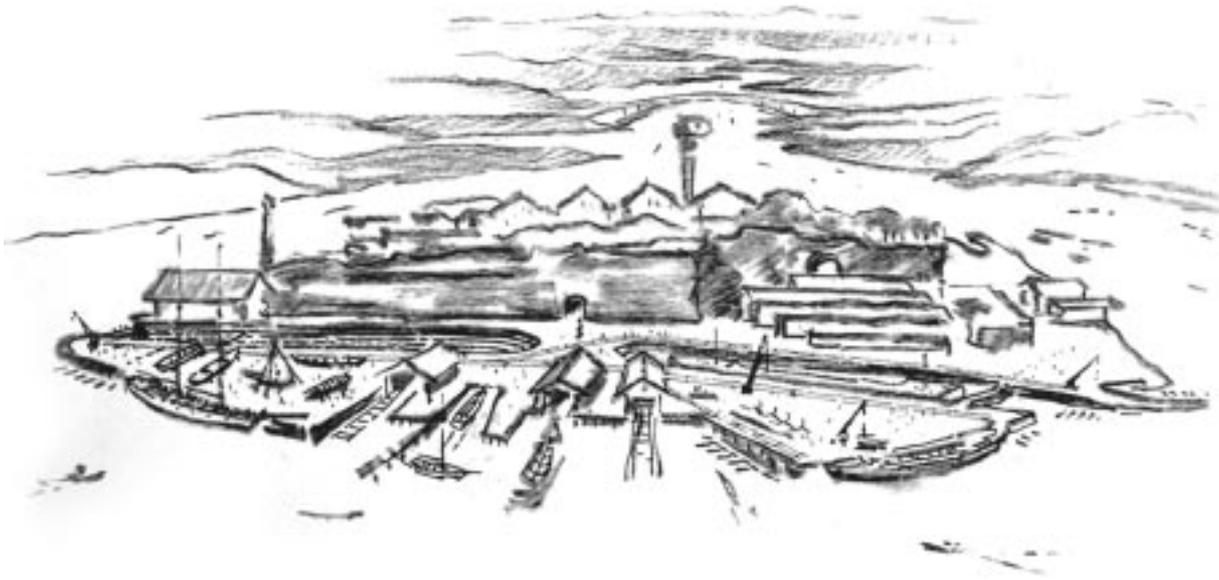
#### *The Plateau*

The residences, workshops and offices could provide for a mix of function/meeting facilities, visitor accommodation, commercial offices/studios and venues for conferences, functions and special training, e.g. as part of summer-school campus.

Fig. 5.5 Outcomes

Cockatoo Island



**Fig. 5.6** *Concept Sketch**Cockatoo Island*

*Use of Southern apron for small scale boat building/repairs and associated maritime uses beginning the revitalisation of this remarkable island through the reuse of existing facilities.*

Overnight accommodation could enhance the island's attraction, from simple hostel to self-contained accommodation.

The convict gaol precinct requires careful interpretation and any future uses will be determined by a conservation management plan to be prepared for the precinct.

New service infrastructure is required and this provides an opportunity to develop and promote ecologically sustainable water, waste and energy systems.

#### **Principles for Building Retention, Removal and New buildings**

The adaptive re-use of buildings on Cockatoo Island must convey their past uses. The character, such as the harsh convict precinct or the industrial scale and form of the workshops, must be retained.

New building and structures may be required to fulfil the primary objectives for the Island. The scale, form, materials, finishes and interface with the public domain of new buildings must provide a sympathetic relationship to the heritage values of the island, its buildings and fixtures and assist with interpretation of heritage buildings or fixtures that have previously been removed.

#### **Criteria for uses**

Future uses must draw from the island's significance and contribute to:

- Maritime working harbour facilities
- Accessibility and interest for visitors
- A diversity of uses and activities
- On-island accommodation
- Maritime-related tourism and training activities
- An interesting working environment
- The creation of a special venue for certain types of events
- An understanding and appreciation of the island's rich heritage

#### **Other initiatives**

Conservation works, educational and other cultural programs to convey the totality of the island's heritage will be developed in association with others – such as the Australian National Maritime Museum, the Heritage Fleet, the Powerhouse Museum and former workers.

The feasibility of establishing an aboriginal cultural centre on the island will also be investigated in consultation with the Aboriginal community.

Opportunities for sponsorship to realise the above programs and the resuscitation of the island will be explored.

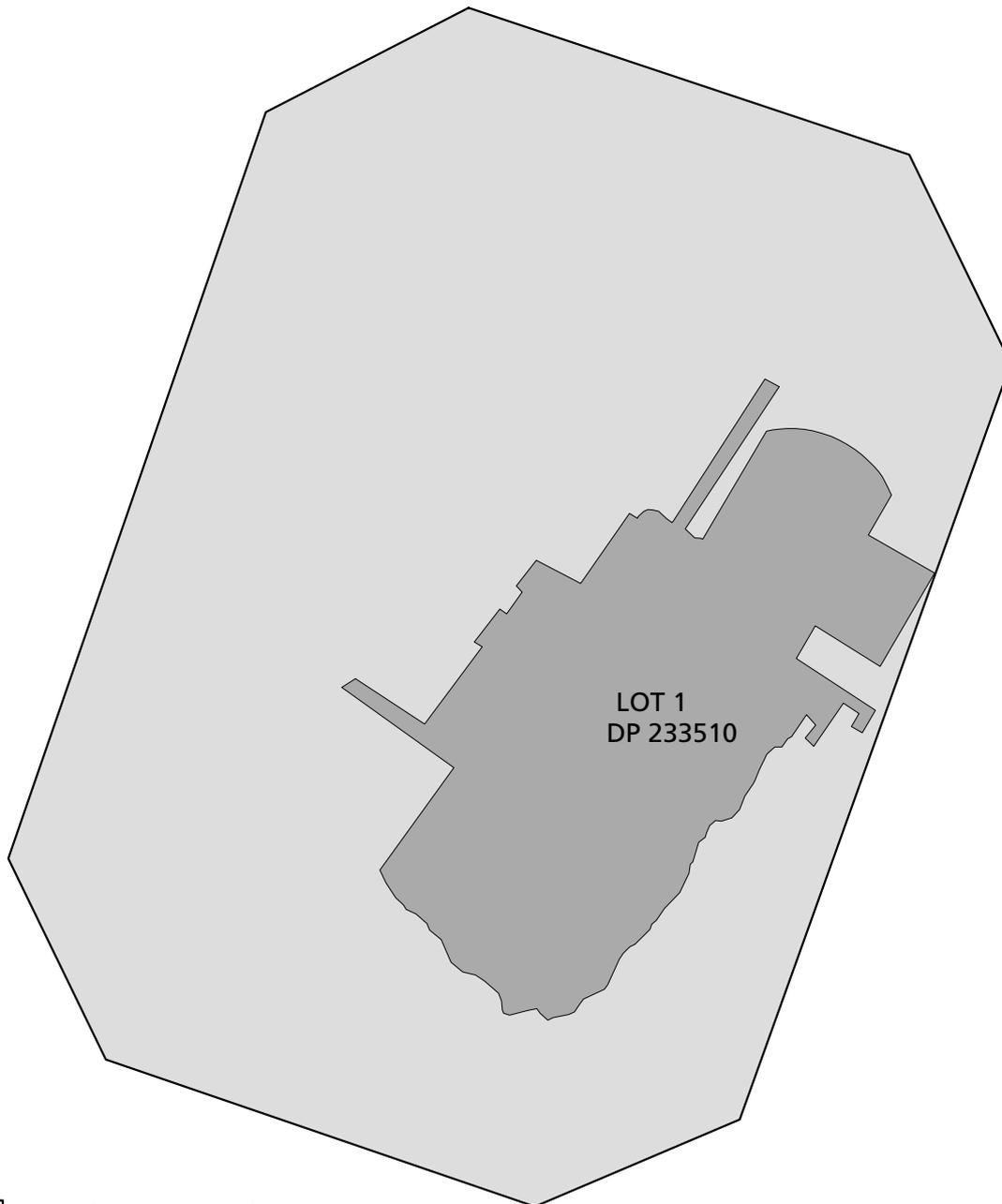
*Ar-ra-re-agon*

# 6

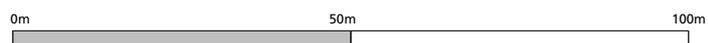


**Fig. 6.1** Plan Area

*Snapper Island*



-  Boundary of Trust Land Site
-  Boundary of Harbour Land Site
-  Land within Plan area
-  Water within Plan area



## THE SITE AND ITS CONTEXT

---

### The Place

Refer to Figure 6.1 Plan Area

Snapper Island is a picturesque grouping of buildings, slipways, boat storage, gardens, flagpoles, and jetties – all arranged in the pattern of a ship.

Snapper Island's history is as a training base for Naval cadets. Today, it is home to a rich and wide ranging collection of naval artefacts and memorabilia. The buildings and structures are in varying states of repair.

The island is run by a private company, *Sydney Training Depot Snapper Island Limited*, and is currently closed to the public.

### How the Place Evolved

Refer to Figure 6.2 Natural and Cultural Values

#### *Natural Forces*

Snapper Island, like Cockatoo Island, is part of the series of drowned knolls along the ridges between the flooded river valleys of the Parramatta and Lane Cove Rivers.

The island has been flattened and formed roughly into the shape of a ship with longer sides oriented to the northwest and southeast. There is little evidence of its natural form and there are no remains of the original vegetation. Two Cabbage Tree palms that were planted in the 1930s are local landmarks.

#### *Cultural History*

In 1879 Snapper Island was declared a public recreation reserve but it remained a rarely visited rocky outcrop

The island was leased to the Cockatoo Island Dockyard for additional storage during World War I.

From 1931–2 Snapper Island was flattened and expanded by blasting and reclamation to set up the training depot 'Sydney' for naval cadets and so fulfilling the vision of Leonard Forsythe, a founder of the Navy League in NSW. The stone seawalls created the shape of a ship with a bow and a stern. Building work commenced on a signal station and other buildings. The names and layout of buildings and structures on the island model that of a naval ship.

The Navy League Sea Cadets salvaged many items from HMAS *Sydney* when it was stripped at Cockatoo Island in 1932. This collection forms the basis of a museum, opened in 1952, which still exists on the island. It contains an extensive range of naval artefacts.

### Site Conditions Summary

#### *Flora and Fauna*

There is little remaining evidence of the natural form of the island and none of the original vegetation remains.

Two Cabbage Tree palms were planted in the 1930s and these are local landmarks.

There are no known threatened flora or fauna species on the island.

#### *Buildings and Services*

There are currently no services connected to Snapper Island. The Island originally operated in a self-sufficient manner with its own septic system, water collection tanks and diesel-powered generator for power. At present, these facilities are considered to be sub-standard. There are no fire services, stormwater systems or sanitary services on the island.

There are 13 distinct buildings on the island. With the exception of one steel-framed structure, these are all timber-framed structures clad and roofed in corrugated steel. The structures sit on either masonry piers or badly damaged timber piles. As there has been no regular maintenance carried out on the island over the past few years, the built structures are all in poor condition having suffered from extensive termite, water and corrosion damage. The island contains seawalls, retaining walls, two main wharves constructed of timber piles and framing, numerous timber walkways and decking, a boat ramp and various paths. These are all considered to be in poor and unsafe condition. A more detailed summary of the site conditions is in Section 12, Background Material.

#### *Contamination*

A preliminary environmental assessment has been carried out for Snapper Island. In its original form this island was a smaller rocky outcrop, and filling was carried out to reclaim land and expand the island. It is likely that contaminated materials were used in this fill and further assessment is required to confirm this.

Other contamination issues identified as part of the preliminary assessment include:

- Elevated lead levels in surface soils, likely to be associated with deteriorating lead paints
- Potential localised contamination associated with the storage of diesel fuel and small volumes of chemicals
- Hazardous materials in buildings and structures

#### **The Planning Context**

Snapper Island is unincorporated. This means that it does not fall within any particular Local Government Area. However, the island does have a visual and historic relationship with surrounding islands (Spectacle and Cockatoo) and land-based Local Government areas including Canada Bay and Leichhardt.

Snapper Island is located at the entrance to Iron Cove and is visible from the foreshore areas of Canada Bay and Leichhardt. These areas are generally zoned for medium to high-density residential development.

At present there are no public transport services to the island.

#### **Qualities**

- Organic growth over time
- The building forms are merged by the overall grey paint scheme, exactly as it is intended to do for naval vessels
- Stationary metaphorical ship with parts corresponding to, and named after, parts of a ship
- Displays have been arranged by service personnel rather than through the filter of professional curatorial intent
- A 'wunderkammer' or cabinet of curiosities

## SIGNIFICANT VALUES AND CONSIDERATIONS

---

Refer to Figures 6.2 Heritage Values and 6.3 Natural and Cultural Values

This, the smallest island in the harbour, is part of a grouping with Cockatoo and Spectacle Islands, known in the 1820s as the '*Hen and Chickens*', that contribute to the aesthetic quality of the harbour.

The levelling of the island in 1931 led to the creation of a unique collection of buildings constructed by the sea cadets and their instructors to resemble the layout of a ship. This was largely the vision of one man, Leonard Forsythe.

Forsythe saw the training depot, known as TS *Sydney*, as a memorial to HMAS *Sydney*. It was opened in November 1932 and became the headquarters of all Sydney's Navy League units for 45 years.

The beginning of the collection of memorabilia on the island was the retrieval of many items from the *Sydney* when it was broken up in Sutherland Dock, Cockatoo Island in 1932. The collection opened as a museum in 1952 and consists of a vast array of ships' badges, flags, models, brass plates, photographs, etc. It is one of the most important collections in Australia and is very much related to the island – with areas being modified to house it.

Figure 6.2 *Heritage Values* shows the names of buildings and areas which all relate to functional parts of a ship.

## OUTCOMES

---

Refer to Figure 6.4 Outcomes

The Trust's plan for Snapper Island proposes the repair, maintenance and enhancement of this extraordinary facility. The continuation of maritime training activities will be encouraged.

The Trust is keen for professional curatorial assistance. Partnerships could be encouraged, such as with naval history organisations, the Australian National Maritime Museum and Spectacle Island.

Programs and activities could be developed for the interpretation and appreciation of the island, its buildings, workshops and collection.

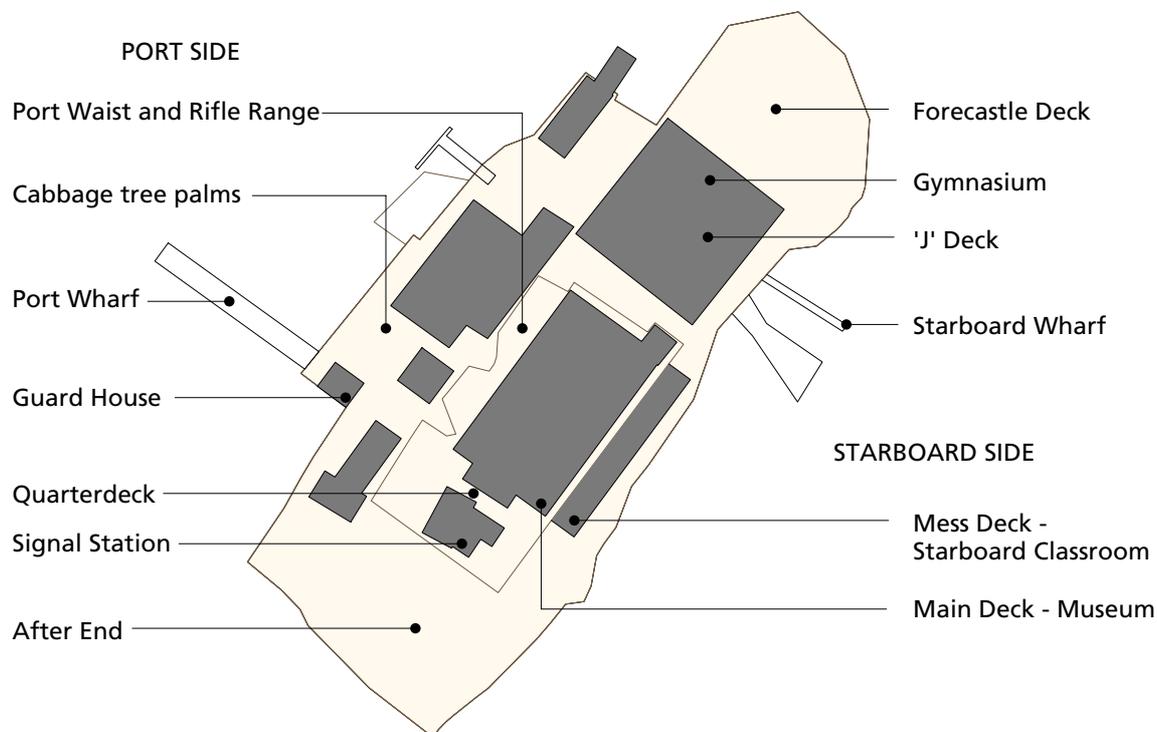
Improvements to the island require the preparation of a remediation strategy and environmental management plan.

*Repairs and maintenance will be required to:*

- Manage tidal erosion of fill to seawalls
- Make good the surface cover that currently exists over the island
- Upgrade services on the site
- Ensure structural soundness of buildings
- Ensure occupational health and safety requirements are met

Fig. 6.2 Heritage Values

## Snapper Island



Snapper Island has been assessed for its Cultural Significance in a Draft Preliminary Heritage Study (Clive Lucas, Stapleton and Partners, February 2001). This concluded it was of National Significance for its collection of naval memorabilia and of State Significance, as the headquarters of The Navy League in NSW for 45 years and as an island in Sydney Harbour. The buildings have not been individually assessed but are very much a part of a cohesive group which replicates the layout of a ship.



**Fig. 6.3** *Natural and Cultural Values**Snapper Island*

Above  
*Snapper Island with the eastern end of  
Cockatoo Island in the background*

Left  
*Slipway and sheds*

*Part of collection of memorabilia*

**Fig. 6.4** Outcomes

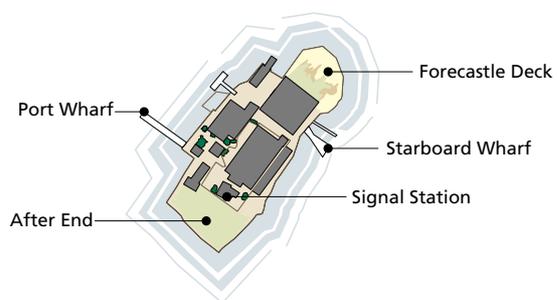
*Snapper Island*



Repair and rehabilitate island in partnership with maritime and naval heritage organisations

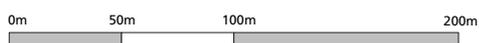
Develop a conservation and interpretation program for buildings and fixtures

Potential to continue maritime training activities



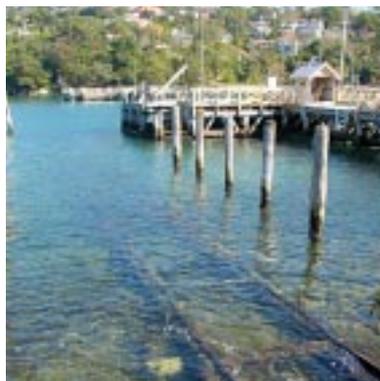
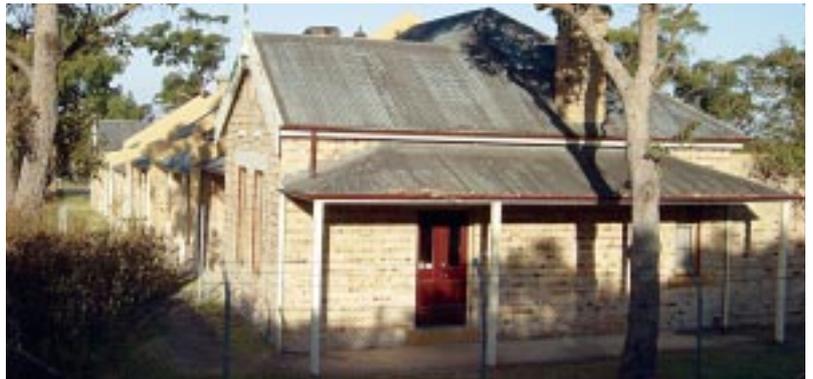
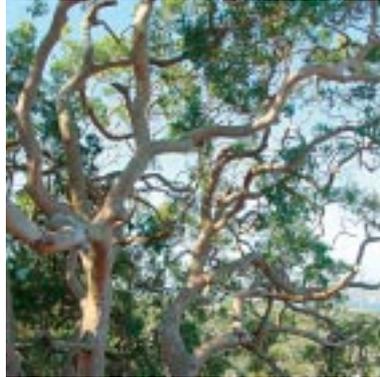
**Snapper Island**

- LEGEND**
- Existing vegetation
  - Proposed planting
  - Grassed area
  - Adjacent vegetation
  - Existing building



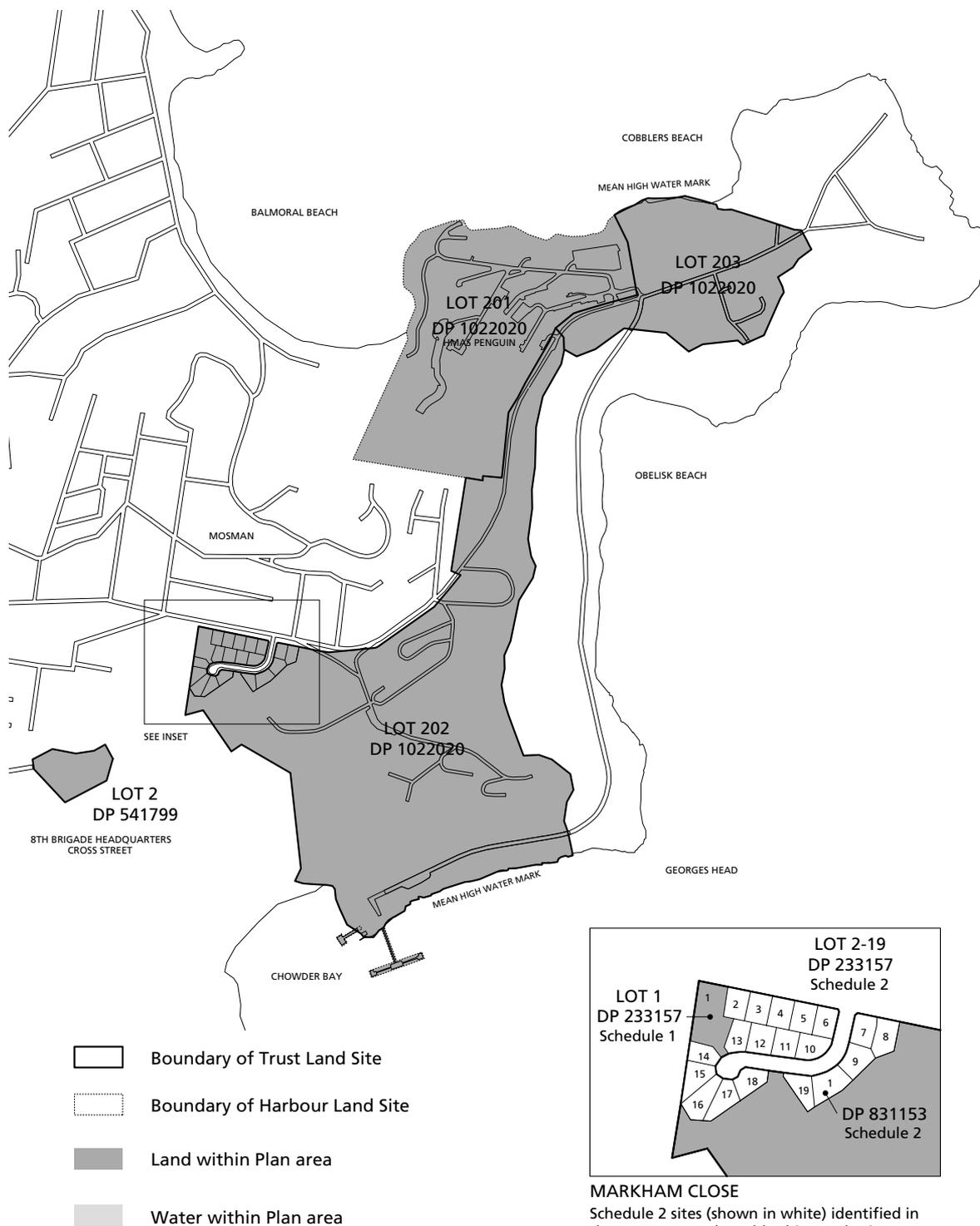
*Caba-Caba*  
*Middle Head, Georges Heights and Chowder Bay*

# 7



**Fig. 7.1 Plan Area**

*Middle Head, Georges Heights and Chowder Bay*



## THE SITE AND ITS CONTEXT

---

### The Place

The sheer sandstone cliffs and steep wooded slopes of Middle Head and Georges Heights form the impression of a 'green' entry to Sydney Harbour.

The descending ridgeline of the peninsula links back via the Military Road and the former villages of Mosman, Cremorne and Neutral Bay to North Sydney. It forms the watershed between Middle Harbour and Sydney Harbour with excellent views of both.

Cobblers and Obelisk Beaches reveal the marked climatic differences between the northern and southern sides of the headland.

Middle Head and Georges Heights are characterised by natural bushland on the steeper slopes and ovals, defence complexes and associated landfill on the undulating plateau. The former army buildings are mainly barracks, training facilities and workshops. Most are simple constructions with lightweight frames and many are susceptible to deterioration. Some like the Officers' Mess are valued landmarks while others detract from the appreciation of the area's natural and cultural heritage.

The escarpment on the southern side of the headland is a natural rampart along which a series of historic fortifications and associated buildings have been built.

The Headland's strategic military importance has resulted in an unrivalled collection of historic fortifications and associated buildings on the escarpments.

At Chowder Bay, the former Submarine Mining Depot nestles on the harbour foreshores at a sheltered cove that is characterised by calm, clear water that supports a rich aquatic habitat.

Land clearing, landfill and altered drainage patterns have adversely affected much of the natural environment.

The Plan provides an opportunity to integrate these separated, former defence bases into a magnificent headland park, enveloped by an expanded bushland above the slopes and linked with the neighbourhood and the foreshore by a sequence of walks which provide superb views of the harbour.

### How it Evolved

Refer to Figure 7.2 Historical Development

#### *Natural Forces*

Warped, tilted and uplifted sandstone layers and flooding of the river valley at the end of the last Ice Age have given rise to the steep cliffs, ledges and rocky bays overlooking the Heads and the harbour with some more moderate slopes towards Middle Harbour.

A volcanic dyke has helped to create the headland area.

There are areas of original Hawkesbury sandstone vegetation on the slopes. The vegetation varies from angophora forest to wet gullies and on the drier land, coastal heath, low woodland and open scrub.

The bushland provides habitat for a variety of common native animals including water dragons, blue tongue lizards, ring tailed possums, kookaburras, rainbow lorikeets, pacific white face herons and dollar birds. No endangered species have been identified at

Middle Head although the Common Bent Wing Bat is believed to spend the winter months in the fortifications.

The remaining bushland areas on the defence lands are important in providing a setting for and contrast to the defence building clusters and supplementing the adjacent bushland of Sydney Harbour National Park.

The quality of the bushland has been affected by changes to drainage, landfill and the introduction of weeds and feral animals such as rabbits and foxes. Several areas of dieback are clearly visible. These areas are predominantly in the adjoining National Park.

The surrounding waters are home to many marine plant and animal species.

#### *Cultural History*

Middle Head was the home of the *Borogegal* clan and middens and rock engravings provide valuable evidence of their life on the peninsula.

In 1788 Captain Hunter's party was hailed from the clifftop at Middle Head by Aborigines who pointed to the best landing place. *Bungaree's Farm*, Governor Macquarie's experiment in trying to introduce a selected group of Aborigines to the settled ways of European agriculture, was sited on the peninsula. The most likely location is the area now occupied by Georges Heights Oval.

Middle Head has played an extremely important role in the defence of Sydney. Over the years a series of gun emplacements that reflect different defence strategies, new threats and changed defence technology were constructed along the escarpment.

The first gun emplacement was established in 1801 (north of Obelisk Bay) in response to the Napoleonic wars.

From 1825 onwards, early land grants were made to Europeans who farmed the area. The Middle Head peninsula was then left largely unoccupied until the 1850s.

Four sets of fortifications were built on Georges Heights in the 1870s. They were part of a network of 'outer harbour' defences designed to fire at enemy ships as they entered the harbour. The fortifications were upgraded in the 1880s on the advice of British experts.

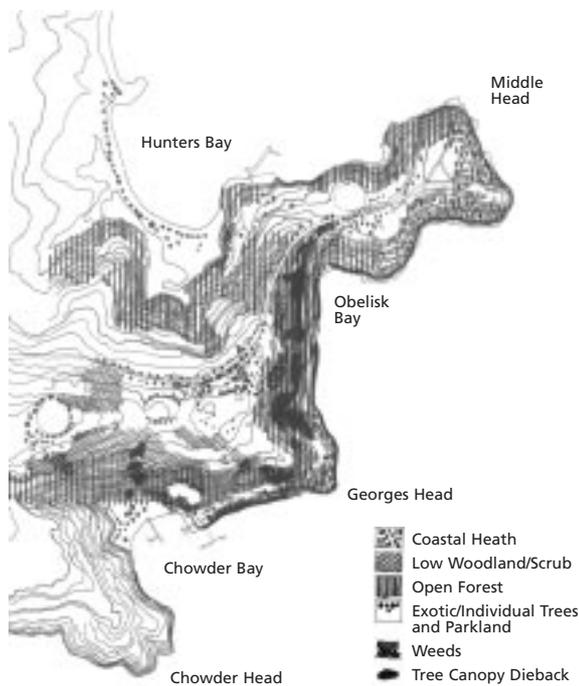
The Submarine Miners' Depot was established at Chowder Bay in the 1890s and operated until 1922 when the Submarine Mining Corps was disbanded. Chowder Bay then became a depot and barracks for Army engineers. It was used for the Army's Maritime Transport Wing from the 1940s and in the 1970s became the Army Maritime School. The School closed in 1997.

During World War I, the third largest military hospital in Australia operated at Georges Heights. It continued to operate until 1923. Many of the timber-framed hospital buildings remain today.

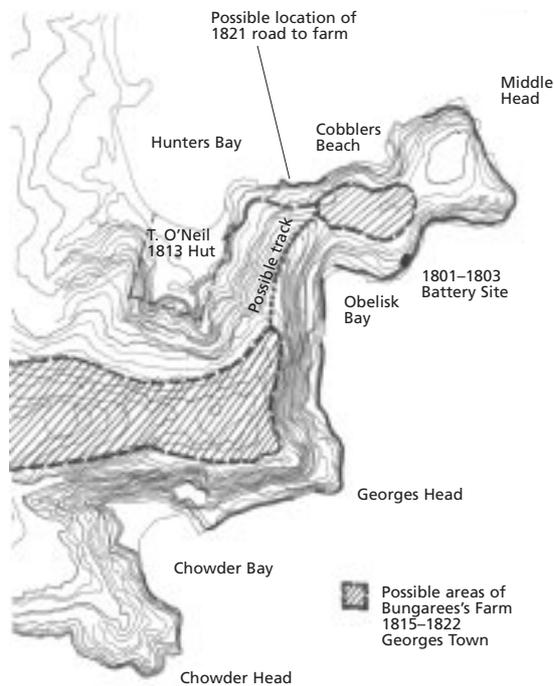
Just before the outbreak of World War II, three concrete fuel tanks were built to the south of Georges Heights oval. In 1942, the tanks were camouflaged with roofs to protect them from enemy attack.

**Fig. 7.2** *Historical Development*

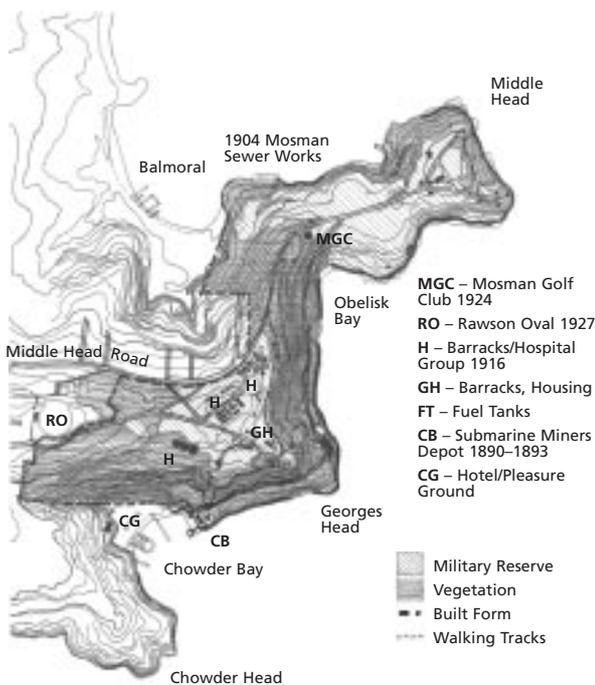
*Middle Head, Georges Heights and Chowder Bay*



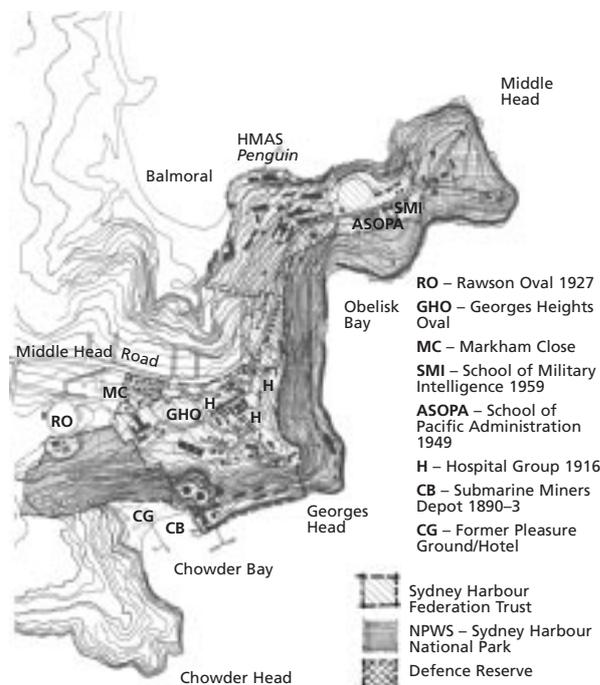
*Existing vegetation formations*



*1801-1822 Battery and Bungaree*



*Military occupation 1890-1939*



*Military to National Park and Federation Trust*



During World War II, barracks were constructed on Middle Head for the Army Signals Unit on land that had been cleared for a golf course. The clubhouse became accommodation for married officers. By the end of the war, the buildings housed Italians who were interned and employed as maintenance workers.

In 1942 a submarine net was erected across the harbour between Georges Head and Green Point. Quick firing guns were set up at Obelisk Point and Georges Head. In May 1942 Japanese midget submarines penetrated the still incomplete defences in a daring raid on allied shipping moored in the harbour.

The core of HMAS *Penguin Naval Base* was built from 1941–45.

The batteries on Georges Heights and Middle Head were dismantled during the 1950s. Training and barrack facilities, including the Army Intelligence Centre and One Commando Company, moved into the area. The Australian School of Pacific Administration was established at Middle Head in the former weatherboard barracks buildings to train administrators of Australian territories.

In the mid-1960s housing for defence personnel was constructed at Markham Close, Imperial Close and Middle Head Road. These residences are considered to have no significant heritage value.

In 1979 large areas of land covering the foreshore slopes and the Middle Head headland were dedicated as part of the Sydney Harbour National Park.

## Site Conditions Summary

### *Flora and Fauna*

The Trust lands at Middle Head are characterised by Hawkesbury sandstone geology, comprising steep slopes, sandstone rock outcrops and sandstone cliffs, with some plateau areas above the cliffs. The drier plateaux contain coastal heath, low woodland and open scrub while the moist and sheltered slopes contain tall, open forest and gully forest. The characteristic tree species are *Angophora costata*, *Eucalyptus botryoides* with *Eucalyptus gummifera*, *Eucalyptus piperita* and *Allocasuarina littoralis*. The coastal heath is restricted to the exposed eastern edge of Middle Head. Preliminary results from a flora study of the site have identified the threatened *Acacia terminalis* subsp. *terminalis* in a number of locations on the site.

Weeds have invaded many areas as a result of disturbance, landfill and altered drainage patterns with Crofton Weed, Lantana, Asparagus Fern and Morning Glory particularly evident.

Areas of dieback are clearly visible along the slope to Chowder Bay Road. However, despite the pressures of surrounding urban areas, some bushland on the site remains in a relatively natural state. The bushland located in the western section of HMAS *Penguin* contains a high diversity of native plant species. This area has greater potential to support a diverse range of fauna species.

Long term changes to fire frequency, increased isolation, predation and competition from feral animals are considered to have resulted in the local extinction or reduction in abundance of many native species. Despite this, the area remains an important habitat for a number of species and provides potential habitat for a number of threatened species.

Small bird species, such as Fairy Wrens and Scrubwren have been located in dense vegetation that affords these species protection. The Green Tree Snake (*Dendrelaphis punctulata*) is also likely to forage in this vegetation. Further, the abundance of native fruiting species such as *Cissus hypoglauca* and *Acmena smithii* provides potential habitat for the threatened Superb Fruit-Dove (*Ptilinopus superbis*).

Vegetation within the study area is also likely to provide foraging habitat for the threatened Powerful Owl (*Ninox strenua*), and may also provide potential foraging habitat for the threatened Common Bent-wing Bat (*Miniopterus schreibersii*).

#### *Buildings and Services*

There are over 150 buildings on this site. The range of functional and constructional types includes the following:

- 10 Terminal – mainly single storey full brick and tile structures and two timber framed two storey barracks buildings
- 30 Terminal – the majority of the buildings dating from World War 1 are single storey, gable ended small span structures, timber framed and clad in metal sheeting or timber weatherboard. There are also a number of service buildings constructed during World War II
- School of Pacific Administration – comprises a number of single storey timber framed small scale buildings, predominantly clad in timber weatherboard and arranged around a series of landscaped pathways
- Chowder Bay – structures range from a single storey Victorian cottage, the 1890s submarine miners depot, two storey brick and timber barracks buildings, two storey brick mess buildings and 1980s brick and FC sheeted office accommodation
- One Commando Company HQ – comprises a mixture of single and two storey buildings, typically steel framed and brick clad. There are also a number of smaller scale structures and demountables
- 8th Brigade HQ, Cross Street – the main structure is a steel-framed medium span hall clad in corrugated steel with sandstone piers. There are also a variety of other smaller scale demountable buildings in the grounds
- The James Barnet designed Officers' Mess is architecturally one of the most impressive nineteenth century Australian military structures. It demonstrates stone and iron workmanship of outstanding quality. However, it has been re-roofed in corrugated asbestos cement and has some unsympathetic additions. The building was in use as a mess until September 2002 and it is assumed that it is in sound condition.
- The World War I Hospital and WRAAC buildings are typically single storey metal roofed and clad in timber weatherboards and asbestos cement sheeting. They are predominantly timber-framed structures supported on brick piers.
- Housing – buildings are typically single storey brick and tile of modest size dating from the mid 60s. There is also a group of 1950s fibro houses on Middle Head Road

Although services are connected to all precincts, levels of servicing vary across the site. Services to the precincts that are currently occupied or only recently vacated including Training Command, One Commando Company and Chowder Bay are all considered to be more or less in reasonable condition, requiring some repairs and minor upgrades. In other precincts, where buildings have been left vacant for longer periods of time, including Cross Street, School of Pacific Administration, 30 Terminal and 10 Terminal, tree roots, water leakages and termites have been the cause of degradation of pipes and structural damage to buildings. The Trust has undertaken basic

waterproofing to stabilise some buildings, however, most buildings will require further repairs prior to occupation.

#### *Contamination*

In general across all of the precincts of this site, contamination sources include:

- Existing structures such as above ground and below ground fuel storage tanks, grease traps, service pits, workshop areas, transformers, drainage and pollution control pits
- The disused camouflaged fuel tanks and the operational navy marine diesel tanks at Chowder Bay
- Shallow fill materials in various areas that contain boiler or furnace ash, or other fill types related to former operations. Some fill types may also have been sourced from off-site. Contaminants in this fill are mainly lead, zinc, copper and PAHs, and are generally below levels applicable for parkland/open space use. However, in some localised areas these levels are exceeded
- Hazardous materials in buildings and structures, particularly deteriorating lead based paints or asbestos
- Previous pesticide use

### **The Planning Context**

*Refer to Figure 7.3 Local Planning Context*

Middle Head, Georges Heights and Chowder Bay are located in the Municipality of Mosman.

There are various State planning policies and local plans that apply to this locality and these are summarised in Figure 7.3. There are also a number of management plans that have been prepared by neighbouring land managers – like the National Parks and Wildlife Services that are relevant to the planning of the Trust's land.

Transport Management and accessibility by motor vehicle are issues that are particularly important at Middle Head. The headland is served by a single ridge road that is a constraint on traffic flows. Peak hour performance of the main intersections Military/Spit, Military/Raglan and Military/Middle Head is satisfactory (Geoplan Study 1998) but Saturday morning is near capacity for the Military/Spit intersection. Middle Head Road is within its environmental capacity (500 vehicles/hour) for a collector road during weekday peak hours but exceeded this slightly during the Saturday morning peak (525 v/h), (Traffix Study 1996). With the relocation of HQ Training Command (2002) and other units (1997) and the closure of informal car parks there has been a significant decrease in the traffic generated from the Plan area. However, the Trust will monitor traffic flows as part of its detailed planning for the area.

Conservation of bushland and scenic qualities is also extremely important. State and Local plans and policies acknowledge the need to:

- Improve flora and fauna habitats
- Connect pathways and provide foreshore links
- Connect with neighbouring parklands
- Ensure that any development is subservient to the bush setting

The Trust will work closely with the NPWS on matters such as bushfire management, flora and fauna management and the interpretation of fortifications.

Similarly the protection of the marine habitat and the quality of the water for recreation have been identified in both state and local plans as important. The waters of Chowder Bay are currently the subjects of research by the Centre for Research on Ecological Impacts of Coastal Cities at Sydney University.

Other managers of adjoining lands are the Navy and Mosman Council. The Navy has the ongoing responsibility for two facilities – HMAS *Penguin* and the Chowder Bay re-fuelling tanks. HMAS *Penguin* is to remain and will include new accommodation for One Commando Company. The Trust will collaborate with the base to improve its landscape setting, its vehicular entry arrangements and the opportunities for public access between parklands particularly the possibility of a walking track between Middle Head and Balmoral Beach.

The naval refuelling facility at Chowder Bay – the wharf, tanks, pipeline and pumps, will remain in use for some time. This will restrict some water access.

Mosman Council manages three areas of parkland that adjoin the plan area – Rawson Park, Clifton Gardens Reserve and Balmoral Park. The Council is currently preparing a Management Framework and Landscape Masterplan for Clifton Gardens Reserve and it is important that the planning work of the Council and the Trust is integrated.

The plan area also has common boundaries with residential areas to the south of HMAS *Penguin* and along Middle Head Road. Residents of the former have raised concerns relating to the proposed extension of the Chowder Bay to Middle Head Road walking track connection to Balmoral Park. Others have raised concerns about traffic issues.

More detailed information on these matters can be found in 'Background Material' in Section 12.

#### Consultation Outcomes Summary

Consultation over the past two years has identified that at Middle Head and Georges Heights the:

- Protection of bushland, biodiversity and open space and
- Conservation and interpretation of Aboriginal and Defence heritage is very important to the community

Matters that the community would like the Trust to consider include the restoration, conservation and interpretation of existing buildings, improving the natural ecosystems through revegetation and allowing for open space, recreational and sporting facilities. The community also considered it important that the social and environmental aspects of the site such as visual amenity, water runoff and traffic controls are improved.

Chowder Bay was highlighted as having an important marine biology that should be conserved.

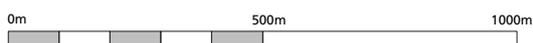
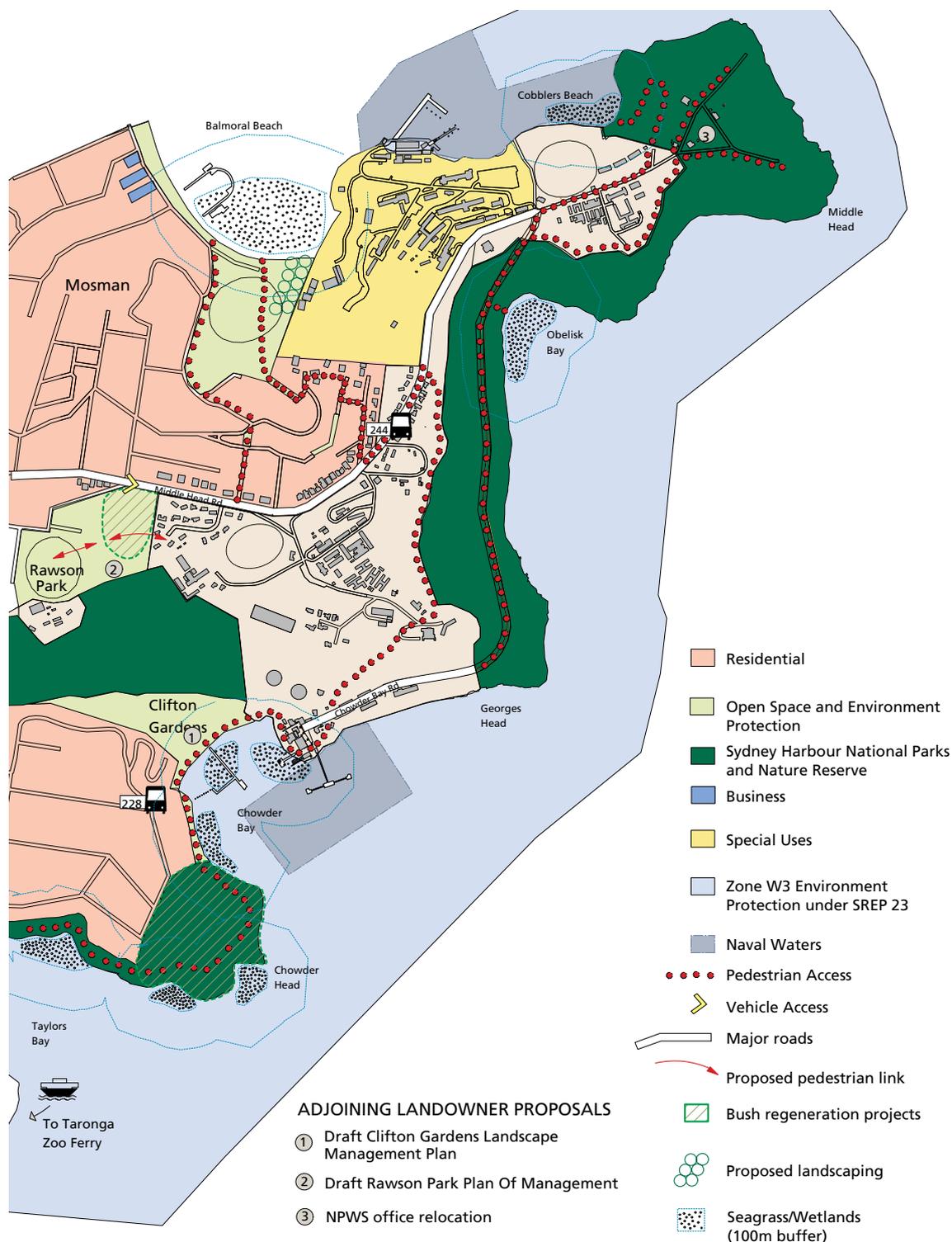
Uses that have been proposed include a mix of open space, walkways, parklands, recreation, educational facilities, museums and an Aboriginal cultural centre. A number of representations were also made supporting the provision of sporting facilities.

During the preparation of the plan the provision of a purpose built, indoor sporting facility at Georges Heights emerged as a significant issue and as a consequence the Trust undertook specific consultation with the various sporting groups regarding this.

Commercial and residential development – particularly in new buildings, is not supported by the community.

**Fig. 7.3 Local Planning Control**

*Middle Head, Georges Heights and Chowder Bay*



## Qualities

Middle Head is at the end of the ridge separating Middle Harbour from Sydney Harbour. The bluff at its end and the knolls on its heights command the entrance to the harbour. It is part of the subtle ramping up of the strata underlying the city towards the east. Compared to points westward, this increased height of the ridge and defined brinks that follow the line of outcrop, as at Dobroyd Point and North Head, provide an unusual perspective of the harbour – the water plane is laid out flat below while the height also allows glimpses of the ocean horizon.

Its extensive natural vegetation is a major part of the impression of green headlands at the entry to the harbour.

Its initial reservation for defence purposes used the salient knolls for fortifications with support functions set behind the ridge out of the line of fire.

The headland was extensively cleared of vegetation and when the perceived threat of attack lessened, other Army activities were located on the flatter areas on the ridge as a series of clusters of buildings. At Training Command, formerly the World War I hospital, the ridge-top cluster of buildings extended down the slope. Each 'village-like' cluster has a distinct character derived from its age and style of building, function and relationship to the topography. Within each cluster the internal streets and spaces have a sense of containment and there are occasional glimpses of the harbour. This is because the clusters on the ridge are actually set back from the edge of the steeper slopes which provide the most panoramic views of the harbour. There are a series of brinks which result from the outcropping of harder strata running around the slopes.

One exception to this pattern of ridge top development is the Submarine Miners' Depot at Chowder Bay which sits on a knoll not visible from the heads. Over time it was expanded as the Army Maritime School along the contour on excavated side slopes.

The original defence uses were related very closely to the potential of the topography for fortifications both on the ridge and at Chowder Bay. Later uses related less to the topography but took advantage of the existing facilities with minor modifications such as HQ Training Command, 30 Terminal Squadron and the School of Pacific Administration. Chowder Bay however continued with maritime uses.

All of the building clusters have institutional military characteristics that distinguish them from surrounding suburbia. The layout of buildings, road dimensions and ways of getting around the sites and from building to building is different to suburbia or other parts of the city. Generally there is external access to buildings, sometimes via covered ways and to rooms within buildings via verandahs. In the clusters the roads tend to be narrower, more closely follow the topography, the distance between buildings less and there may not be footpaths because the roads have always been shared zones.

The road pattern is also quite different and derives from the need for control and security. Roads spread out from a single entry point and are less interconnected than suburban roads.

The main connection between the clusters is Middle Head Road.

The main qualities of Middle Head are the sense of departure from normal suburbia first by the emergence of a park-like setting along

Middle Head Road and Clifton Gardens that then changes to mature native forest. These areas of bush set the clusters of buildings apart from the city. The clusters have a sense of containment and identity with the sequence of entries from Middle Head Road. Surrounding them is the coherence of bushland overlaying a strong topography that provides extraordinary views over both Middle and Sydney Harbours. These viewing points correlate closely with the original disposition of fortifications so the relationship between the bushland walking tracks and the reason for the original occupation of the land is repeated at a number of points.

#### *Chowder Bay*

- Tiered buildings stacked on the side of hill
- Maritime village – perched, nestled low on the slope but having a commanding position
- A narrow strip of road and buildings following the contour finishing on a knoll occupied by the parade ground with sweeping views which look back to Clifton Gardens
- Intricate paths and spaces between buildings
- Varied operational facilities whose use is obscure

#### *HQ Training Command and Georges Heights Fortifications*

- Stepping down the hill
- Internal courts between buildings, open air circulation
- Civic square
- Lightweight buildings
- Fortifications fed by the military road from Mosman

#### *Fortifications and 1872 Barracks*

- A direct relation to bare rock and the potential for modification for fortifications with minimal effort – a balancing of cutting and building up with stonework
- The fortifications are a savage intervention in a harsh cleared area, as evident in contemporary photographs
- A single integrated facility the barracks and the gun emplacements they serve
- At the farthest end of the road – a destination
- Clear functional logic underpinning the layout

#### *30 Terminal Squadron*

- Dramatic opening to views of the heads and the ocean horizon over the ridge from Middle Head Road
- Scattered objects and buildings in the landscape
- Humble buildings sheltered by ridge
- Little formality
- The only defined contained space is between buildings facing Middle Head Road

#### *10 Terminal Regiment*

- The provision of kitchens and common facilities relies on barracks on north side of road
- Architectural style is art deco, simple with some minimal decoration including soldier and projecting header courses
- A coherent group of buildings around a service court with poor amenity
- Former offices have a formal presentation to road – with a single point of entry
- The mess presents a formal face and terrace to the harbour side
- Gesture is as much towards the harbour as it is to the road
- Ragged arrangement of outlying buildings and areas
- Side courts between wings have garden quality

*Australian School Of Pacific Administration*

- Lightweight and off ground buildings
- Tropical appearance of internal pathways and courtyards
- Internal but with some places of outlook
- Street frontage along road – informal and multiple

## SIGNIFICANT VALUES AND CONSIDERATIONS

**Natural Values**

Refer to Figures 7.4 *Heritage Values* and 7.5 *Natural and Cultural Values*

- The geology of the headland has created a dramatic peninsula with a sinuous falling ridgeline opposite the entry to Sydney Harbour which provides superb harbour views
- With other headlands it helps create the impression of a bush covered, undeveloped harbour entry and is the subject of important harbour views from many external vantage points
- Middle Head is the watershed between Middle Harbour and Sydney Harbour
- Foreshore area boasts clean water and a rich intertidal and marine habitat
- The appearance of and species diversity within the HMAS *Penguin* Angophora forest has great aesthetic appeal

**Cultural Values**

- Middens and stone engravings provide valuable evidence of Aboriginal use of the area prior to 1788
- Governor Macquarie's experiment in setting up Bungaree's Farm – an important post-contact initiative
- Defence initiatives and their legacy are the main theme of the peninsula's European heritage. Its strategic military importance has resulted in a wealth of defence installations from the 1801–3 fort near Obelisk Beach, to the present
- The 1870s fortifications of gun batteries and buildings, particularly James Barnet's barracks, resulted in items of great heritage significance. Later works resulting from the advice of British experts, Jervois and Scratchley, produced more technologically sophisticated results
- The former Golf Clubhouse, now officers' married accommodation, is a significant landmark
- Military/institutional settlement pattern that offers a different experience and potential for civil/community activities unlike what is generally available in the prevailing suburban areas of our city
- A pedestrian friendly internal street pattern
- The juxtaposition of barracks, fortifications, industrial infrastructure (such as fuel tanks) and bushland

Significant groups of buildings that reflect military institutional planning are:

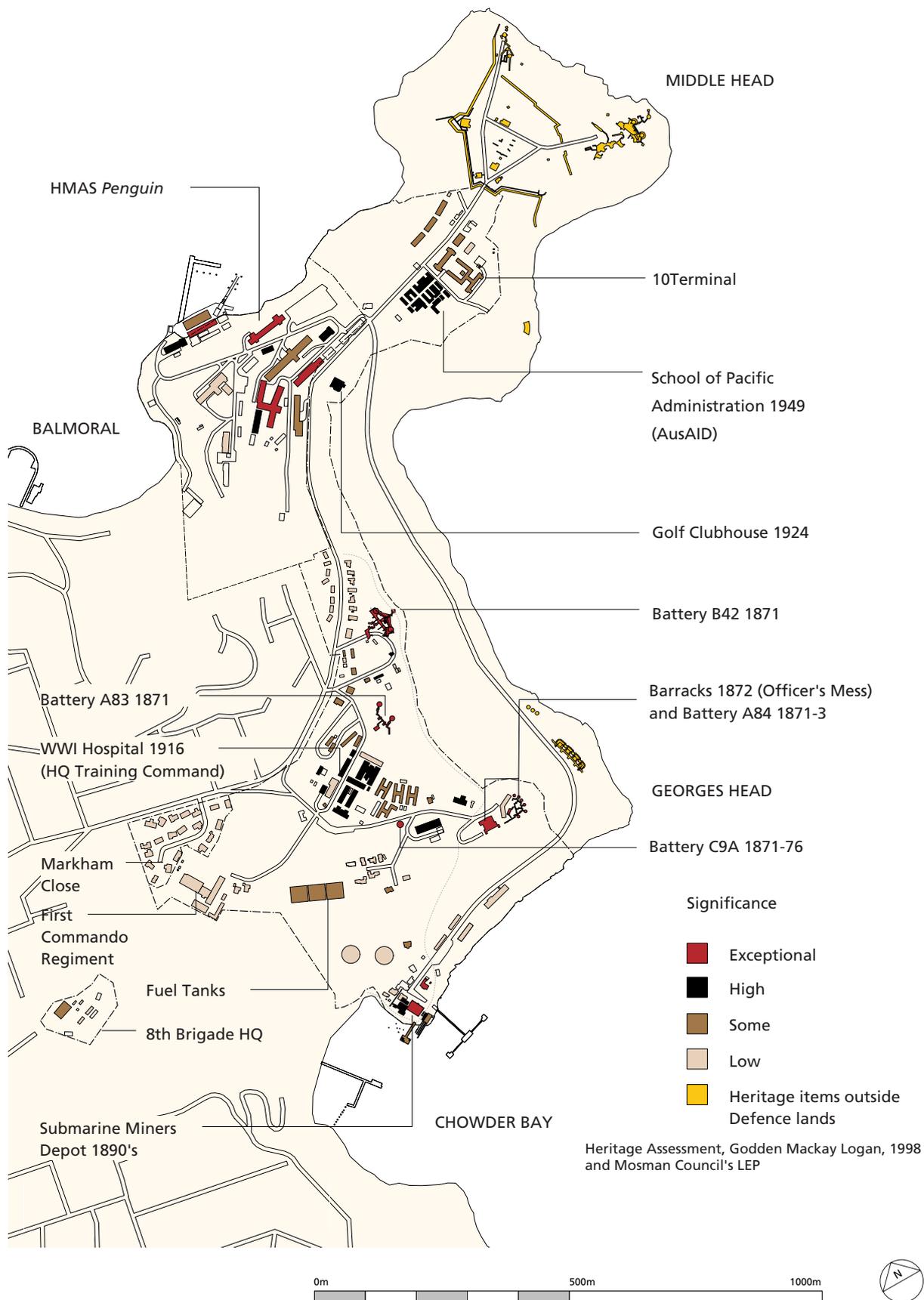
- Submarine Miners' Depot at Chowder Bay (1890–3)
- World War I Military Hospital buildings (1916–22, now part of HQ Training Command)
- World War II barracks converted to the Australian School of Pacific Administration in 1949
- Army School of Intelligence built in the late 1950s (former 10 Terminal Regiment)

Figure 7.4 *Heritage Values* shows the ranking of buildings resulting from the Heritage Assessment carried out by Godden Mackay Logan for the Department of Defence dated December 1998 and includes heritage items in the National Park.

Heritage Items at HMAS *Penguin* that are identified in Mosman LEP 1998 have also been included.

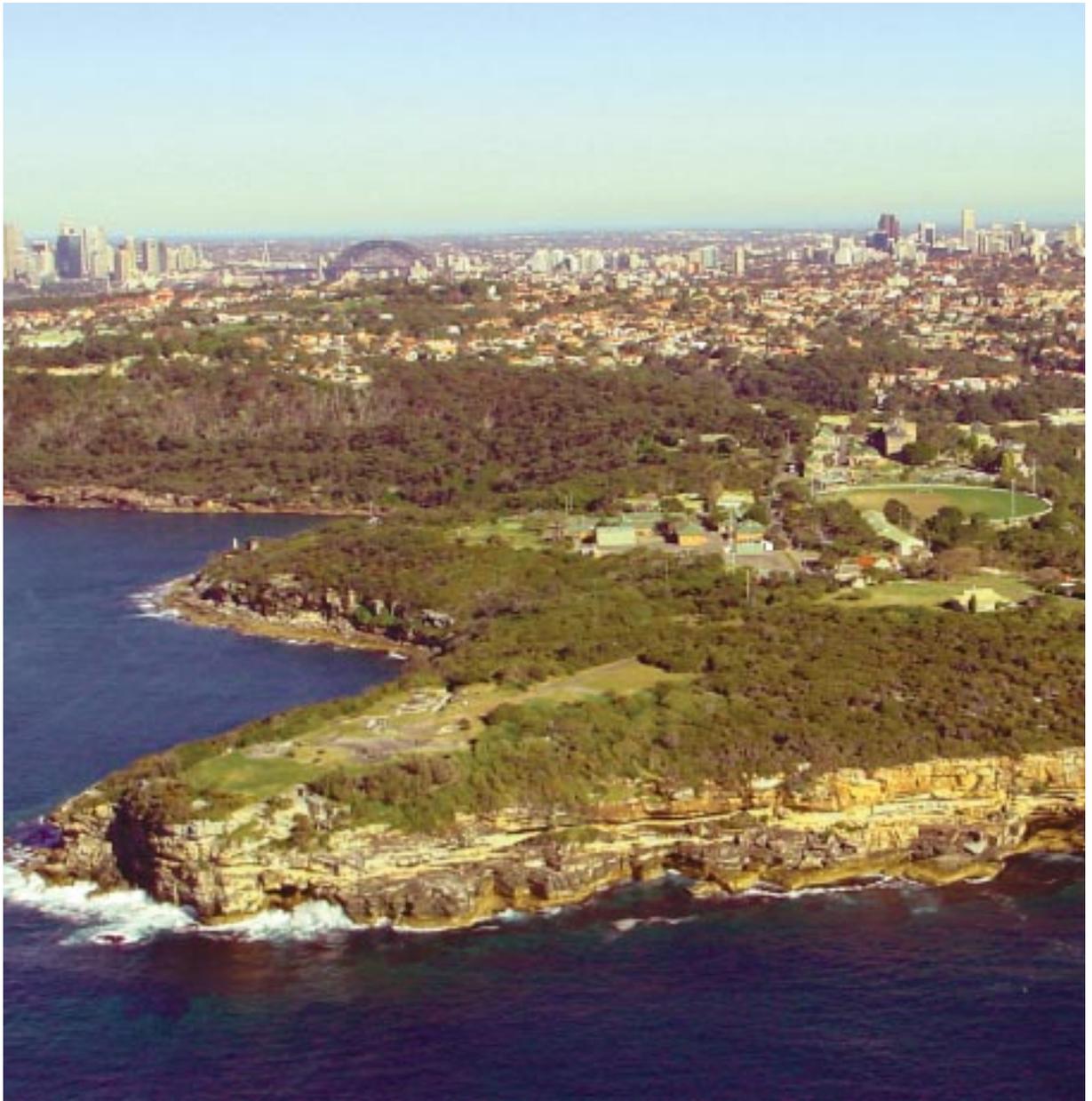
**Fig. 7.4** *Heritage Values*

*Middle Head, Georges Heights and Chowder Bay*



**Fig. 7.5** *Natural and Cultural Values*

*Middle Head, Georges Heights and Chowder Bay*



Above  
*Middle Head Peninsula*

Left  
*Chowder Bay*

*Gun Battery, Georges Heights 1870s*

## OUTCOMES

---

### Vision and Benefits

Refer to Figure 7.6 Outcomes

The Plan for Middle Head-Georges Heights and Chowder Bay proposes the creation of a Headland Park. A place of beauty, solace and respite.

The Headland Park would unify all the elements of the Middle Head peninsula, natural and cultural, bringing to the fore the connecting ridgeline of the peninsula running from Rawson Park and Georges Heights to the headland itself.

The regeneration and expansion of the bushland slopes of the peninsula would reinforce the strong sense of a 'green' gateway to Sydney Harbour.

Under the Plan, an area previously little known and closed off to the public would be opened up and experienced – the Aboriginal use of the area prior to 1788, early Aboriginal and European contact and the long defence history of the peninsula.

The configuration and institutional character of the Defence facilities, set in parkland, would contrast with the more usual urban/suburban pattern of the city and provide insights into the history of Sydney. The use of these facilities would contribute both to their appreciation and maintenance.

### A Place to Experience the Wonder of the Land and Water

The Plan for Middle Head-Georges Heights and Chowder Bay proposes the retention and strengthening of a diverse bushland environment, and the protection of the rich aquatic habitat.

Passive and active recreation in a spectacular outdoor setting will be enriched by the interpretation of the area's natural and cultural history.

Under the Plan, the establishment of an Aboriginal Cultural Centre, to explain the indigenous history of the Sydney region and to mark *Bungaree's* farm, Governor Macquarie's model farm experiment, would be investigated in collaboration with the Aboriginal community.

There will be opportunities for involvement in bush regeneration and cultural and educational activities.

The adaptive re-use of facilities and buildings for formal and informal education, and recreational and community uses will enrich and extend the experience of the Headland Park.

The buildings and services of the area require repair and upgrading prior to reoccupation. Remediation of contaminated sites will be undertaken in accordance with a Remediation Strategy.

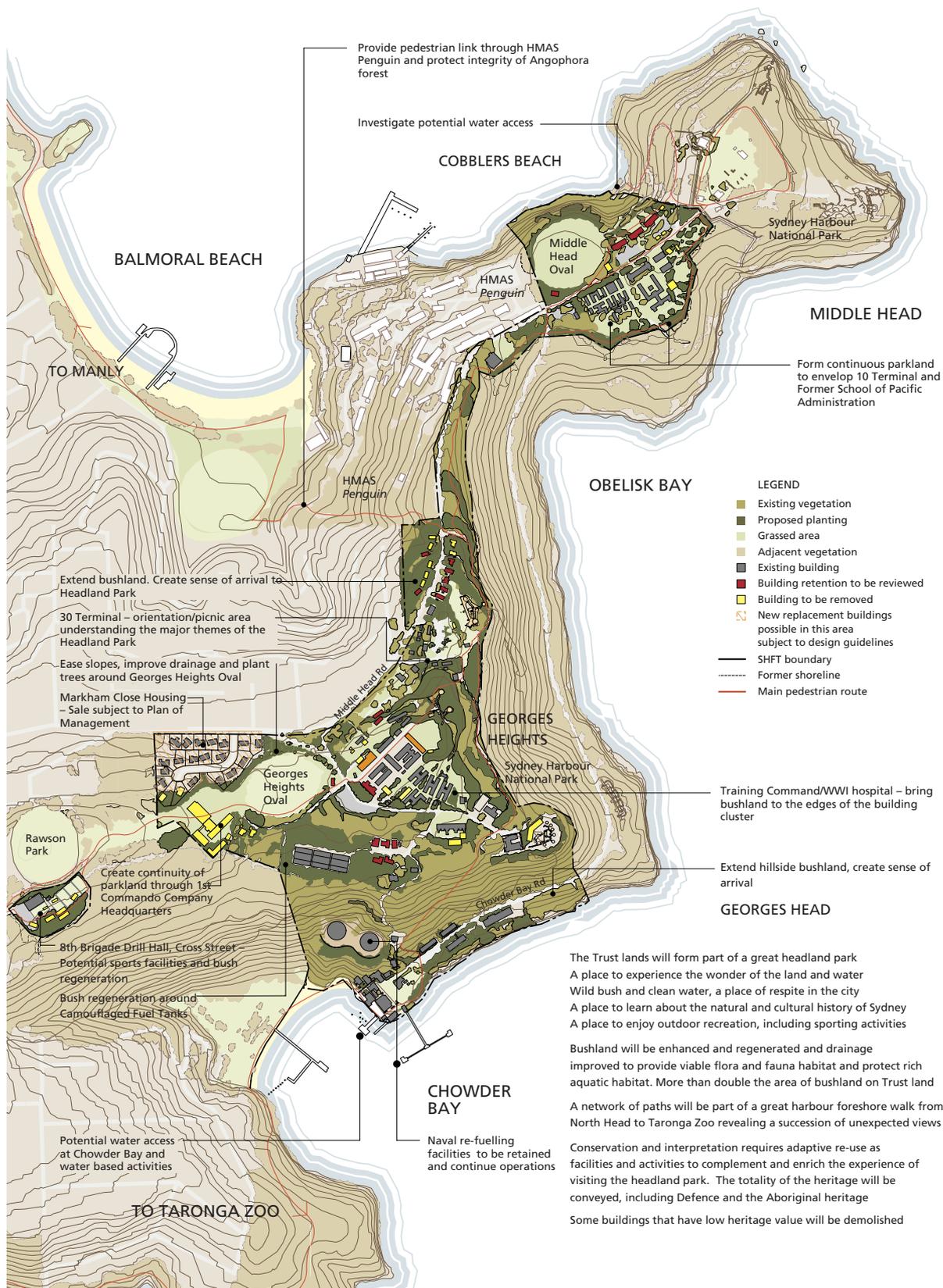
### Headland Park

#### *Park Entry*

The Plan for Middle Head-Georges Heights and Chowder Bay proposes the construction of an entry point to the Headland Park at the former 30 Terminal site. This location provides many magnificent vantage points over land and water and easy access to examples of all of the main elements: panoramic views, bushland, fortifications and military establishments.

Fig. 7.6 Outcomes

Middle Head, Georges Heights and Chowder Bay



The Trust lands will form part of a great headland park  
 A place to experience the wonder of the land and water  
 Wild bush and clean water, a place of respite in the city  
 A place to learn about the natural and cultural history of Sydney  
 A place to enjoy outdoor recreation, including sporting activities

Bushland will be enhanced and regenerated and drainage improved to provide viable flora and fauna habitat and protect rich aquatic habitat. More than double the area of bushland on Trust land

A network of paths will be part of a great harbour foreshore walk from North Head to Taronga Zoo revealing a succession of unexpected views

Conservation and interpretation requires adaptive re-use as facilities and activities to complement and enrich the experience of visiting the headland park. The totality of the heritage will be conveyed, including Defence and the Aboriginal heritage

Some buildings that have low heritage value will be demolished



The Trust will work with the NSW National Parks and Wildlife Service to integrate the interpretive experience of Trust land and the National Park.

#### *Regenerate and Enhance the Bushland*

The Plan for Middle Head-Georges Heights and Chowder Bay proposes the creation of a viable bushland park, a place in which natural features such as rock ledges, knolls and open spaces are protected, augmented and defined by new plantings and regeneration. The Plan proposes to more than double the area of bushland on Trust land. Bush regeneration will be extended up onto the plateau.

Drainage and stormwater runoff from the defence bases will be addressed to minimise its adverse impact on adjoining bushland and the harbour.

A particular objective of the Trust's stormwater management will be to ensure that nutrient rich runoff from disturbed areas does not occur. This will assist in the abatement of *Phytophthora cinnamomi*. Other measures will also be adopted to limit its spread.

Large open areas such as Georges Heights Oval will be treated like glades within a grove, circled by trees but not fenced.

#### *Paths and Access*

The balance between encouraging public access and maintaining the bushland character of the Headland Park will be achieved by a network of access points and paths. The network will form a link with the existing harbour foreshore walk from North Head to Taronga Zoo. This includes a proposed track linking Balmoral Beach with the Trust's existing Middle Head Walking Track along the perimeter fence line of HMAS *Penguin*. This track is proposed to be located in the Asset Protection Zone and will be subject to Defence security requirements.

Within the Headland Park itself, the network will reinstate historical access routes and reconnect the various military bases. Interpretive signage, picnic areas and seating will be designed to meld the natural and cultural landscape.

#### *Education and Interpretation*

The Plan for Middle Head-Georges Heights and Chowder Bay proposes cultural and educational activities to explain the heritage values of the area within a whole of harbour context.

The network of paths and access routes would themselves be interpretive signposts, linking the various precincts and highlighting the natural beauty of the area.

The legacy of defence initiatives and installations are directly related to the defence of Sydney from early Colonial days to World War II.

The whole defence heritage of Middle Head and Georges Heights is to be interpreted through the conservation of significant buildings and structures, re-instating or conveying previous patterns of land use and access to the gun emplacements. Provision of an interpretive centre will also be investigated. Partnerships with other agencies, historical societies and museums in Sydney and elsewhere could extend the educative and interpretive reach of the area.

The development of an Aboriginal Cultural Centre will be investigated with the Metropolitan Local Aboriginal Land Council. It could serve as a focal point for the Aboriginal people of the Sydney region to pursue cultural interests, to conserve and protect heritage sites and to interpret the headland and early contact between the Europeans and Aboriginal people, such as Bungaree's farm.

#### *Activities in the Park*

The Plan proposes that certain areas of the Headland Park be used for ceremonial purposes by virtue of their historical significance or the vantage points they offer of the harbour.

Sport and recreation facilities have the potential to enhance the diversity and accessibility of the Headland Park. The provision of such facilities, requiring levelled playing areas adjacent or near sloping terrain and bushland needs to be carefully managed. A number of sporting facilities exist on the Trust lands and they will continue. Improvements and additions to these facilities will be accommodated subject to the following criteria:

- They fit in with the objective of providing visual connection and continuity between the parkland areas along the plateau.
- They can be integrated into the overall landscape design of the park as attractive open spaces
- They require minimal land disturbance and provide opportunities for easing of slopes, improvements to drainage and bush regeneration on existing disturbed areas
- They have minimal adverse visual impact
- They complement the network of paths and access routes
- They are able to meet a range of sporting use requirements to an adequate standard within the given area
- Being on or near the plateau, they are designed to be sheltered from the wind
- They have good proximity to public transport and other sporting venues to minimise reliance on private car use
- The facilities would have a generous landscape buffer and be designed to have minimal impact on adjacent areas and the local amenity
- Car parking and other ancillary facilities can be on existing disturbed areas that are not intended for bush regeneration
- Car pooling arrangements would be encouraged as part of any use by sporting and organised visitor groups

Within the Headland Park, the reliance on private vehicle use will be minimised in favour of public transport, shuttle services and water transport.

#### *Adaptive Reuse of Buildings*

The adaptive re-use of former defence buildings will assist in the conservation and interpretation of their heritage values. The primary objective is to find uses that:

- Complement the Headland Park
- Enhance our understanding and appreciation of the natural and cultural heritage of the area and each former base
- Provide exceptional venues for people to appreciate the park, the headland and the harbour
- Suit the basic and simple character of buildings, ie. do not require extensive additional services or amenities that would inevitably alter and diminish the heritage value and character of the places
- Are compatible with public access through the areas around the buildings and will open significant heritage items to occasional public access

- Are compatible with the campus-like setting and provide an interface with the public domain that is welcoming and invites interaction
- Are able to operate within constraints of limited parking on existing disturbed areas that are not required for bush regeneration
- Retain the pedestrian friendly internal carriageway network of shared traffic zones characterising defence bases
- Respond to the particular characteristics of the place eg. calm, clean water and limited land-water access opportunities due to the heritage sea wall and fence at Chowder Bay, by providing opportunities for leisure, educational and marine research activities
- Have minimum reliance on private vehicle use at times of peak traffic flow in the neighbouring areas and are compatible with development of public transport, shuttle services or water transport

Uses that would fulfil the above requirements may include a range of leisure, recreational, cultural, informal educational and community uses. Other uses (such as residential in existing dwellings) may be acceptable subject to their compatibility with the primary objectives of creating a Headland Park.

#### *Building Retention and Demolition*

The Plan for Middle Head-Georges Heights and Chowder Bay requires the totality of the heritage values of the area to be considered when deciding which buildings are to be retained or demolished. The relationship of the buildings to each other and to the site, are important considerations.

The decision to retain or remove buildings has to be made through careful consideration of a broad range of values both natural and cultural.

Protection of the headland's landform and natural vegetation is a major consideration but the Trust lands are primarily the 'cultural' areas along the plateau, above the bushland slopes.

In applying the criteria outlined in 'Section 3, Policies and Objectives', the first priority will therefore be to remove highly intrusive buildings and pavements where this is required for the rehabilitation of bushland and drainage. These buildings are the ones that would remain intrusive even when landscape improvements are carried out.

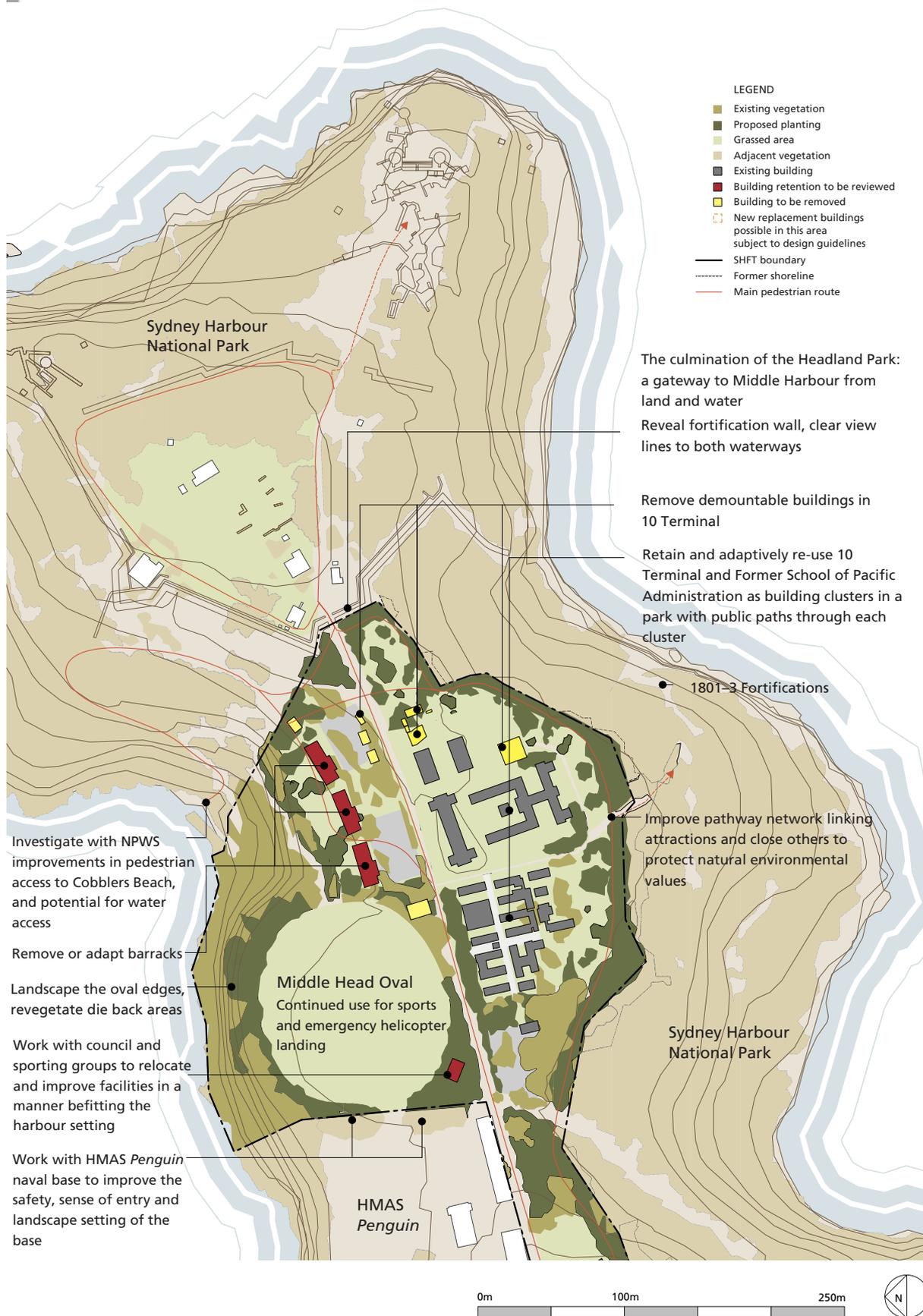
These include most notably:

- The 1950–60 Officers' barracks adjacent to the Officers' Mess and the fortifications on Georges Heights
- The last two houses on the south eastern side of Middle Head Road
- Most of the fibro cottages along Middle Head Road
- The One Commando Company HQ at Georges Heights
- A number of demountable buildings at 10 Terminal, Training Command and 30 Terminal

Once the park improvements and expansion of bushland is well under way, the removal of additional buildings of low heritage value will be re-considered subject to further detailed heritage assessment.

Fig. 7.7 Middle Head Outcomes

Middle Head, Georges Heights and Chowder Bay



### Outcomes for Specific Precincts

Refer to Figure 7.7 Middle Head Out comes, 7.8 and 7.9 Middle Head Concept Sketches

#### *Middle Head*

- A gateway to Middle Harbour from land and water
- Investigate with NPWS the possible improvements to the access to Cobblers Beach including the opportunity for access by water
- Create a continuous band of parkland that straddles the ridge and envelopes the buildings
- Create an open area which reveals the clarity of the fortification wall and defensive trench in the National Park on Middle Head
- Provide clear view lines to Middle Harbour and Sydney Harbour and places for people to sit and enjoy the scenery.
- Provide for the continued use of the Oval for sports and emergency helicopter landing.
- Improve the setting of the oval with tree planting similar to other attractive ovals in Mosman such a Rawson Park and Alan Border Oval
- Work with sporting groups and Mosman Council to relocate intrusive elements and to improve the usability of facilities at the oval and adjacent park
- Improve the management of stormwater
- Arrest the spread of *Phytophthora* root rot

#### *HMAS Penguin*

- Improve road safety and sense of entry to the naval base
- Enhance the landscape setting of the base and the park curtilage
- Work with *HMAS Penguin* to provide pedestrian links between Balmoral Beach, Middle Head and Georges Heights
- Continue to work in close co-operation and consultation with *HMAS Penguin* to ensure that the establishment's redevelopment is consistent with, and sympathetic to the Trust's vision

#### *10 Terminal and Former School of Pacific Administration*

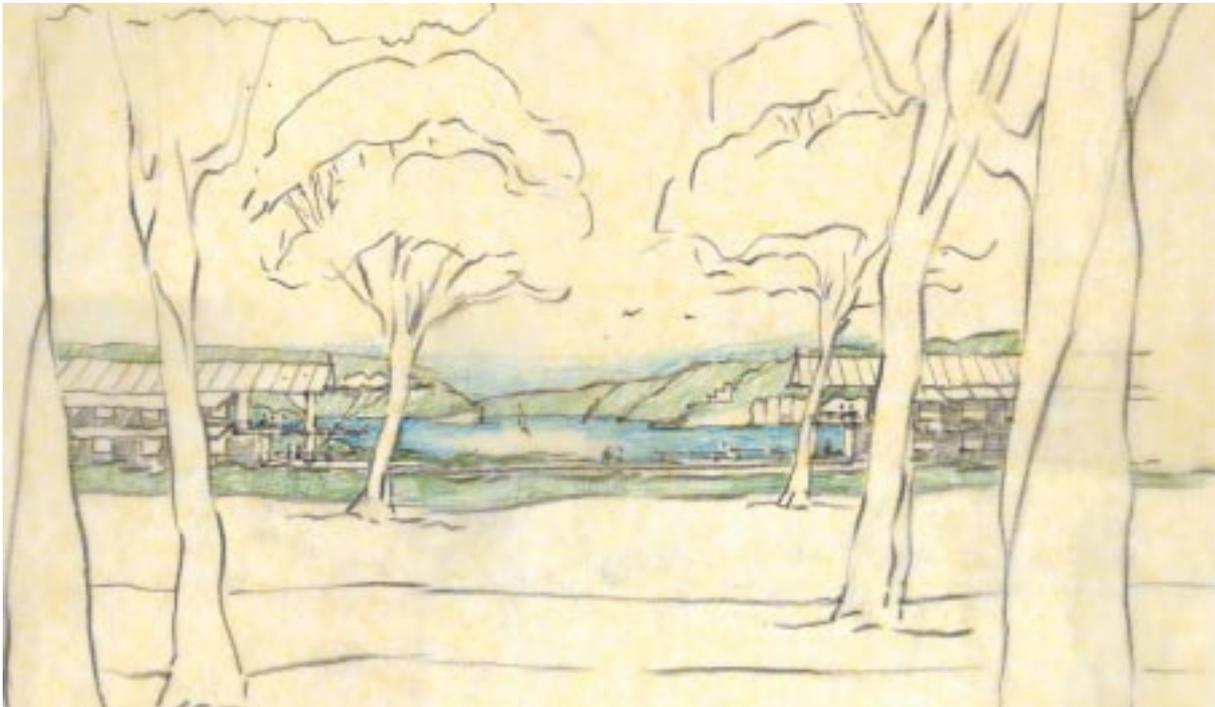
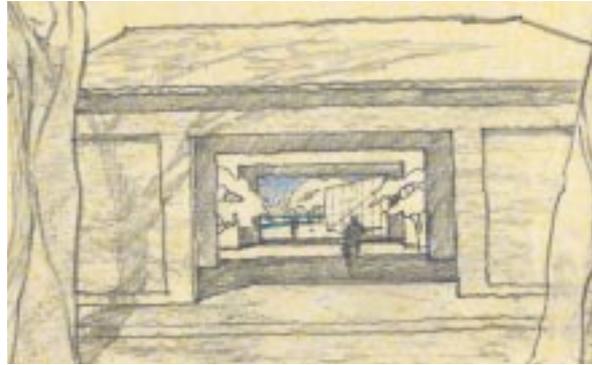
- Removal of demountable buildings at 10 Terminal and in the longer term removal or modification of the 3 northern barracks. See Fig 7.9
- Improve drainage and envelop the precinct with bushland
- Create a sense of permeable access through the building clusters
- Potential for uses that suit the buildings' character and location in the Headland Park including visitor facilities, places for refreshment, education and cultural studies and accommodation for visiting school groups

**Fig. 7.8** *Concept Sketches**Middle Head, Georges Heights and Chowder Bay*

*Middle Head Oval – Existing view of the oval and entry road to the School of Pacific Administration, 10 Teminal and Middle Head.*



*Middle Head Oval – Harbour Trust proposal to create a sense of entry to Middle Head, with avenue planting, improved views and setting to the oval, the former School of Pacific Administration and 10 Teminal. Investigate the relocation of intrusive elements such as the baseball cage, floodlights and amenities building.*

**Fig. 7.9** *Middle Head Concept Sketches**Middle Head, Georges Heights and Chowder Bay*

Top – Brick Garages, 10 Terminal – a series of views demonstrating how the garage buildings could be transformed as a sequence of pavilions in the park, culminating in a view to the Heads.

Above – Northern Barracks, 10 Terminal – Removal of the central barrack building would open panoramic views over Middle Head, whilst allowing the remaining structures to be adapted for park visitor facilities.

Refer to Figure 7.10 Training Command and 30 Terminal Outcomes and Figure 7.11 Concept Sketches

### *30 Terminal*

- Create sense of arrival at Headland Park
- Maximise the potential of 30 Terminal as representative of the values of Middle Head as a whole – topography, harbour defence, military training and natural heritage
- Realise potential for easy access including disabled access
- Create visitors' facilities, picnic areas, wetland, lookout
- Remove five of the fibro houses in Middle Head Road subject to further heritage investigation, revegetate and expose rock ledges
- Adaptive re-use of buildings for information, interpretive and community uses
- Incorporate the route of the original military road into network of paths and access routes to Training Command and fortifications
- Remediate stormwater run off to help arrest the spread of phytophthora root rot
- Extend the pathway from Georges Heights to Balmoral Beach and to Middle Head in a manner that retains the integrity of the Angophora forest and minimises the risk of the spread of phytophthora root rot
- Remove two of the brick houses in Middle Head Road and reveal the views to the harbour

### *Training Command and Former Hospital Complex*

- Bring the bushland to the edges of building clusters
- Remove demountable structures, redundant security fences and hardstand
- Improve pedestrian entries from Middle Head Road through Training Command
- Create a pedestrian connection between Georges Heights Oval, the central square formed by the former hospital buildings and a new look-out at the gun emplacements at 30 Terminal
- Re-grade the edges of the ceremonial Parade Ground to facilitate enhancement and regeneration of bush
- Remove the visually intrusive 1950–60 Officers' barracks behind Georges Heights batteries
- Investigate the adaptive reuse of the WW I Hospital buildings, the Officers' Mess and Gunshot Alley as a matter of priority so as to minimise deterioration whilst unoccupied
- Remediate stormwater runoff to help arrest the spread of phytophthora root rot

**Fig. 7.10** Training Command and 30 Terminal, Georges Heights Outcomes

Middle Head, Georges Heights and Chowder Bay



*Middle Head, Georges Heights and Chowder Bay*


*30 Terminal – Existing conditions with redundant structures, lighting, paved areas and vehicle washdown area.*



*30 Terminal – Harbour Trust proposal: Removal of non-heritage structures, opening of views through the entry of the Headland Park. Replanting to ameliorate strong winds, focus views and provide shade for picnic areas. Carparking areas could be softened with mainly gravel surfaces and with interspersed trees.*

Refer to Figure 7.12 Commandos and 8 Brigade, Cross Street Outcomes and Figure 7.13 Concept Sketches

#### *One Commando Company Headquarters*

- Remove all buildings, hardstand and security fencing
- Open up the site as part of a continuous belt of parkland along the plateau
- Provide a ridge walk beneath a canopy of trees from Rawson Park to Training Command, combining bushland scenes and corridors through which to view Middle Harbour and Sydney Harbour
- Provide a landscape buffer to the housing in Markham Close
- Improve pedestrian connection with the Bradley Bushland Reserve
- Interpret the Military use, including One Commando Company and the early road to the fortifications at Georges Heights

#### *Georges Heights Oval*

- Ease slopes, improve drainage and plant trees around the Oval so that it is similar to other attractive ovals in Mosman
- Reduce the visual intrusion of the change facilities
- Improve oval surface to allow better sports usage

#### *8th Brigade Drill Hall, Cross Street*

- Remove the non heritage demountable and ancillary buildings as well as security fencing
- Expand bushland and incorporate area in network of paths and access routes
- Provide multi-purpose courts behind the 8th Brigade Drill Hall near Rawson Park
- Make the former Drill Hall available for community uses while conserving its heritage values
- Investigate the upgrading of part of the proposed multi-purpose courts to a purpose-built community sporting facility in consultation with the local community
- Remediate stormwater runoff to help arrest the spread of *Phytophthora cinnamomi*

Refer to Figure 7.14 Concept Sketches

#### *Camouflaged Fuel Tanks*

Although some in the community view the tanks as unattractive, rehabilitation will reduce their visual impact while maintaining their heritage value.

The tanks are identified on the Interim List of the National Estate. They were built just prior to the outbreak of WW II and in the panic that followed the bombing of Pearl Harbour it was decided that they should be camouflaged to protect them from aerial attack. Consequently a false roof structure supported on massive timber posts was constructed over them. This is described in Register of the National Estate as "*the first large-scale example of camouflage in Australia*". More importantly it is most probably the only surviving example in Sydney.

The tanks are also a valuable asset with the potential to contribute to the Trust's ESD outcomes. Each tank has a capacity of approximately 5ML and have great potential for the storage of water – either collected or recycled on site, for fire fighting and the irrigation of the neighbouring ovals and parkland.

The Trust will investigate the:

- Potential to use the tanks for water storage for irrigation and fire fighting
- Potential to use the tanks as walled gardens interpreting successive changes in the natural environment of the headland
- Construction of a rooftop lookout that is linked to the pathway network

Fig. 7.12 Commandos and 8th Brigade, Cross Street Outcomes

Middle Head, Georges Heights and Chowder Bay



**Fig. 7.13** *Commandos and 8th Brigade, Cross Street, and 30 Terminal Concept Sketches*

*Middle Head, Georges Heights and Chowder Bay*



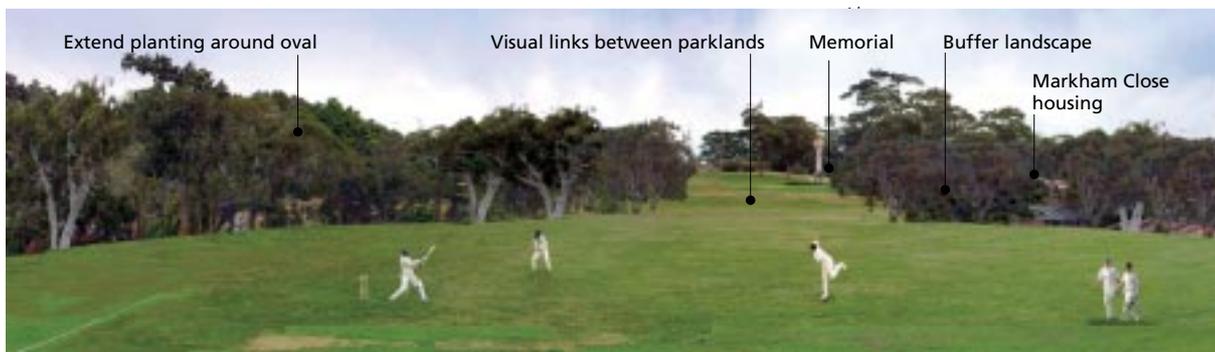
*Existing view of Middle Head Road*



*Harbour Trust Proposal*



*Existing view of Georges Heights Oval*



*Harbour Trust Proposal*

The Trust's primary objective is to rehabilitate this area by:

- Remediating the fuel remaining in the tanks
- Stabilising hazardous materials such as the asbestos cement roofing
- Regenerating the bushland around tanks
- Utilising the location and features of the site – such as the existing bunding, to form a wetland to improve the quality of the stormwater draining from Georges Heights

#### *Markham Close Residences*

There are nineteen houses – built in the 1960s as Officers' married quarters, and a Scout Hall in the Markham Close precinct. The Scout Hall is no longer used and is in a generally dilapidated condition.

All of the houses are identified in Schedule 2 of the SHFT Act, 2001, while the Scout Hall is in Schedule 1.

The Trust cannot sell or otherwise transfer any land identified in Schedule 1 of the Act or any other land identified as having significant environmental or heritage values. However, the Trust can sell land that is mentioned in Schedule 2 of the Act provided:

- It does not have any significant environmental or heritage values
- The Minister has approved of the sale, the terms and conditions of the agreement and the transferee

The Markham Close houses are the first part of the Defence lands to be encountered travelling along Middle Head Road. In appearance they relate more to the prevailing residential area despite differing from the other houses in design, siting and landscaping. They are on the Middle Head Road side of the ridge and in viewing the site they merge with the overall residential slope above Balmoral.

The heritage value of the houses was reviewed as part of the 1998 Godden Mackay Logan Heritage Assessment. It described them as a group of buildings "*which are unexceptional architecturally but they are a consistent group of single storey brick bungalows of low scale and low visual impact.*" The relative heritage value of the cottages was assessed as 4 – the lowest ranking. The Scout Hall was also assessed by Godden Mackay Logan and was also given a low heritage value.

Similarly, the precinct has no known biodiversity value nor does it contribute to the biodiversity values of any adjoining areas.

What environmental value the precinct has is derived from its visual relationship with the adjoining ridgeline and the proposed headland park. The importance of maintaining the visual integrity of the ridgeline is a fundamental objective of the plan. However, the relationship between the precinct and the ridge and adjoining parkland is not equal. The land fronting Middle Head Road and the land near the Scout Hall derive very little significance from this association. However, the two houses immediately adjacent to One Commando Company HQ have a much clearer relationship. The highest of these two cottages is already prominent when viewed from Rawson Park. Accordingly the Plan proposes that both should be demolished and the top part of this land integrated with the park.

It is proposed that the rest of the precinct, including the Scout Hall site, is sold and that the revenue from the sale is used to fund the implementation of the plan. To facilitate this and to ensure that any redevelopment melds into the landscape, specific planning controls will be developed for the precinct. These controls will address the layout, location and form of residences in Markham Close to allow

continuing residential use without having adverse impacts on the environmental and cultural significance of the place. The controls should address the:

- Retention of view corridors from Rawson Park
- Scale and form of the housing to enable landscape screening of buildings without losing the sense of openness from Georges Heights Oval and Rawson Park
- Provision of an adequate space for a landscape curtilage to the Oval and Rawson Park
- Provision of a streetscape design in keeping with the prevailing streetscape character of Middle Head Road
- Measures to protect the Bradley Bushland Reserve

It is also proposed that the detailed planning controls prepared for the precinct are reinforced by appropriate covenants on the title of the land to be sold. This could include the protection of any vegetation.

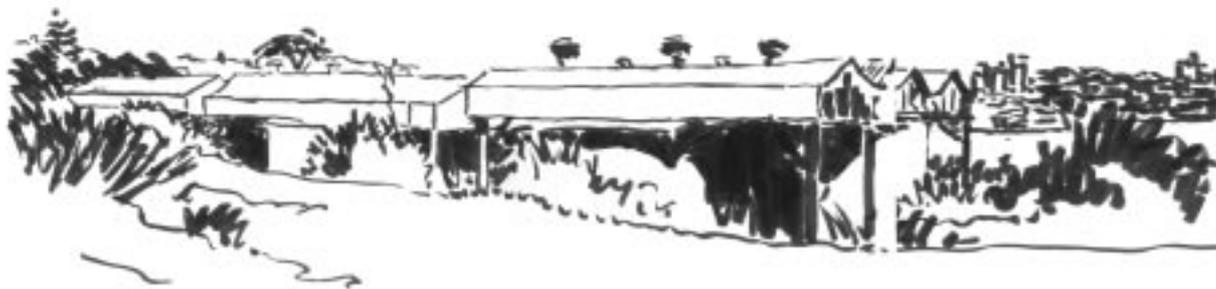
Refer to Figures 7.15 Chowder Bay Outcomes and 7.16 Concept Sketches

#### *Chowder Bay*

- Create a sense of arrival and make the road and parking areas less visually dominant
- Expand the hillside bushland to screen the barrack buildings
- Improve the amenity of the surrounding parkland including landscaping
- Use the existing wharves for ferry and charter vessels
- Adaptively re-use the Sergeant Major's Quarters and Submarine Mining Depot for either maritime orientated uses or uses that contribute to the public enjoyment of this harbourside location
- Adaptively reuse the barrack and mess buildings for short term accommodation, functions or similar uses
- Create opportunities for leisure, recreation, and education
- Create opportunities for marine research
- Reinststate the parade ground and enhance the setting of the existing memorial
- Control the quality and quantity of stormwater run off
- Modify the barrack and mess buildings to ameliorate their visual prominence (See figure 7.16)
- Retained the existing fuel tanks and refuelling facilities for use by the Navy

**Fig. 7.14** *Georges Heights Sketches*

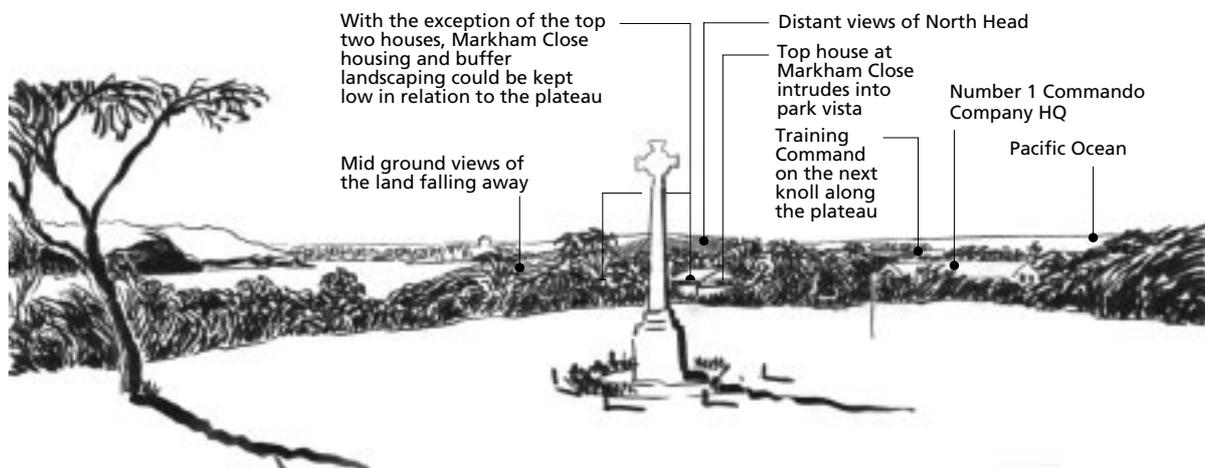
*Middle Head, Georges Heights and Chowder Bay*



*Existing Camouflaged Fuel Tanks:*  
 Although many people find the tanks unattractive, they are unusual structures and are identified on the interim list of the National Estate.



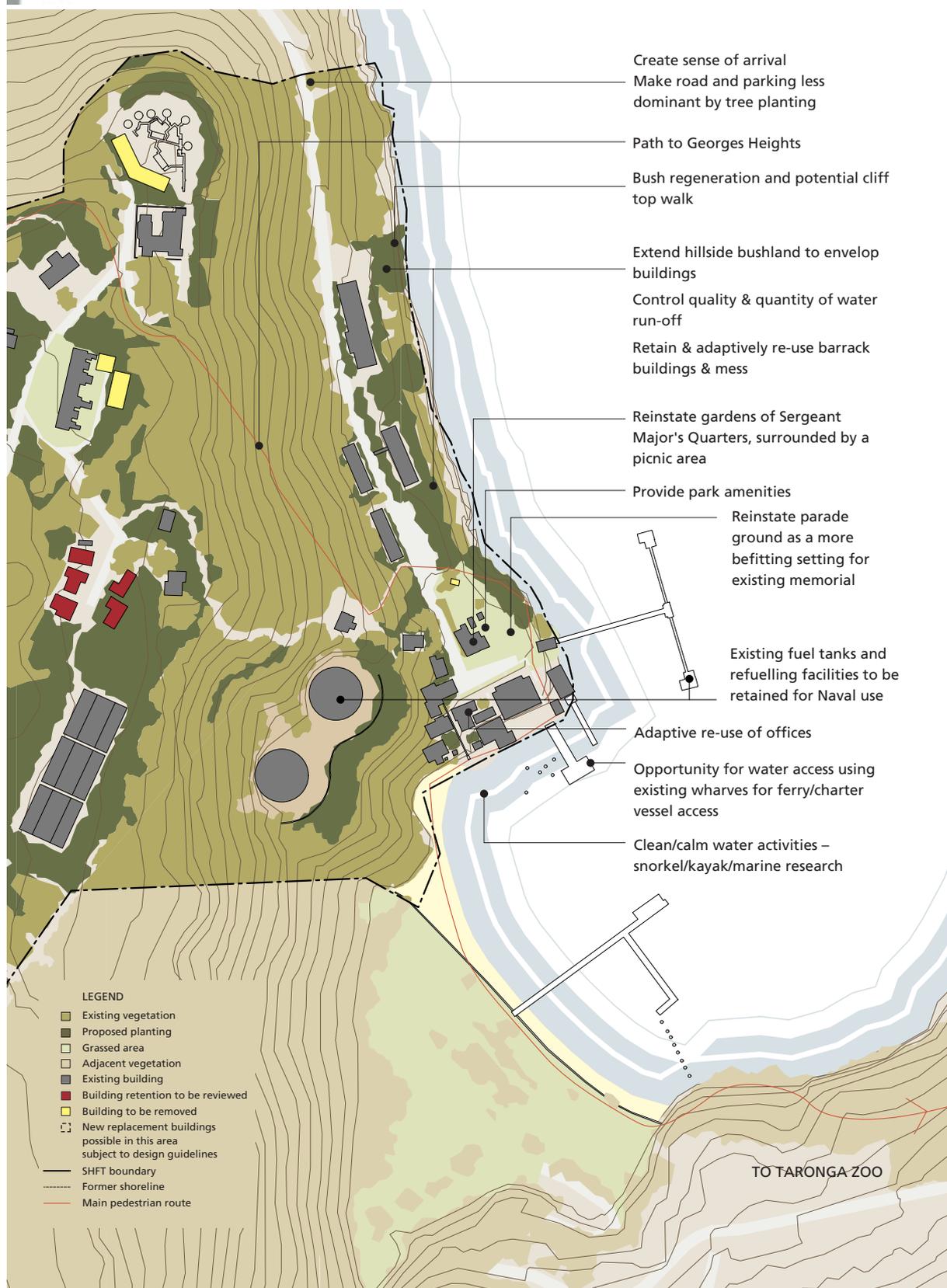
*Camouflaged Fuel Tanks Harbour Trust proposal:* The area lends itself to bush regeneration and the creation of a wetland to control stormwater quality and quantity from the plateau.



*View along the plateau from Rawson Park:* Landscape buffer to the housing edge of the ridge top park needs to remain low to preserve the sense of openness and being up high.

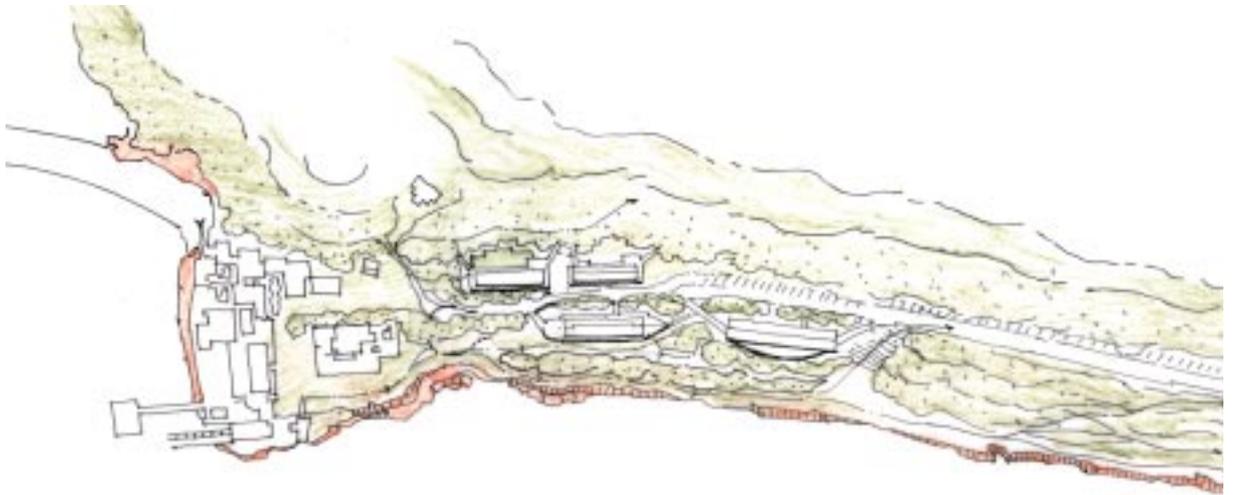
Fig. 7.15 Chowder Bay Outcomes

Middle Head, Georges Heights and Chowder Bay

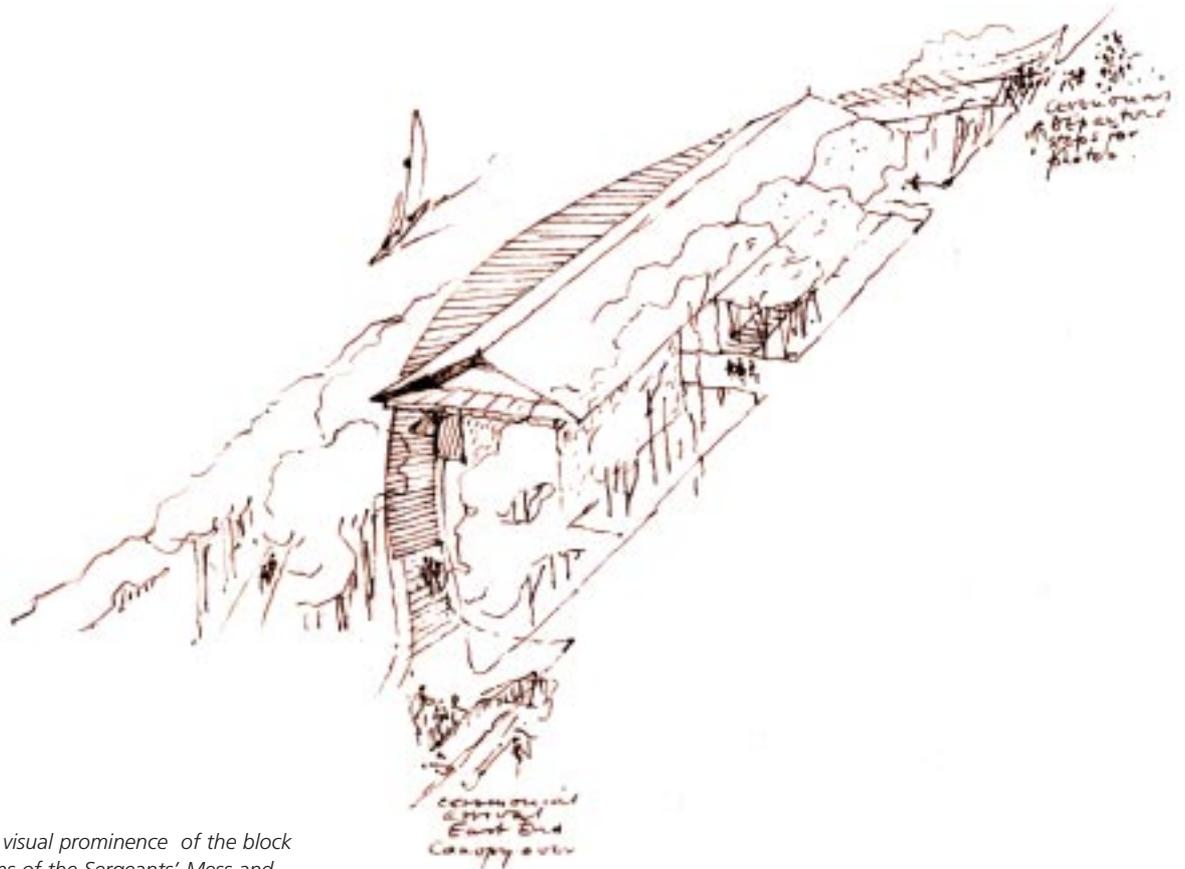


**Fig. 7.16** *Chowder Bay Concept Sketches*

*Middle Head, Georges Heights and Chowder Bay*



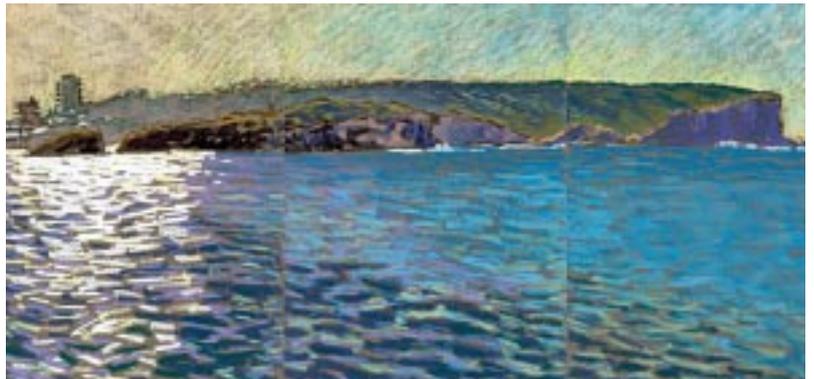
*At Chowder Bay, there is the potential for a series of interwoven paths at different levels. Some could be integrated with balconies as shown on the lower sketch.*



*The visual prominence of the block forms of the Sergeants' Mess and barrack buildings along Chowder Bay Road can be reduced by increasing eave overhangs, constructing new balconies, and new plantings to set the walls in shadow.*

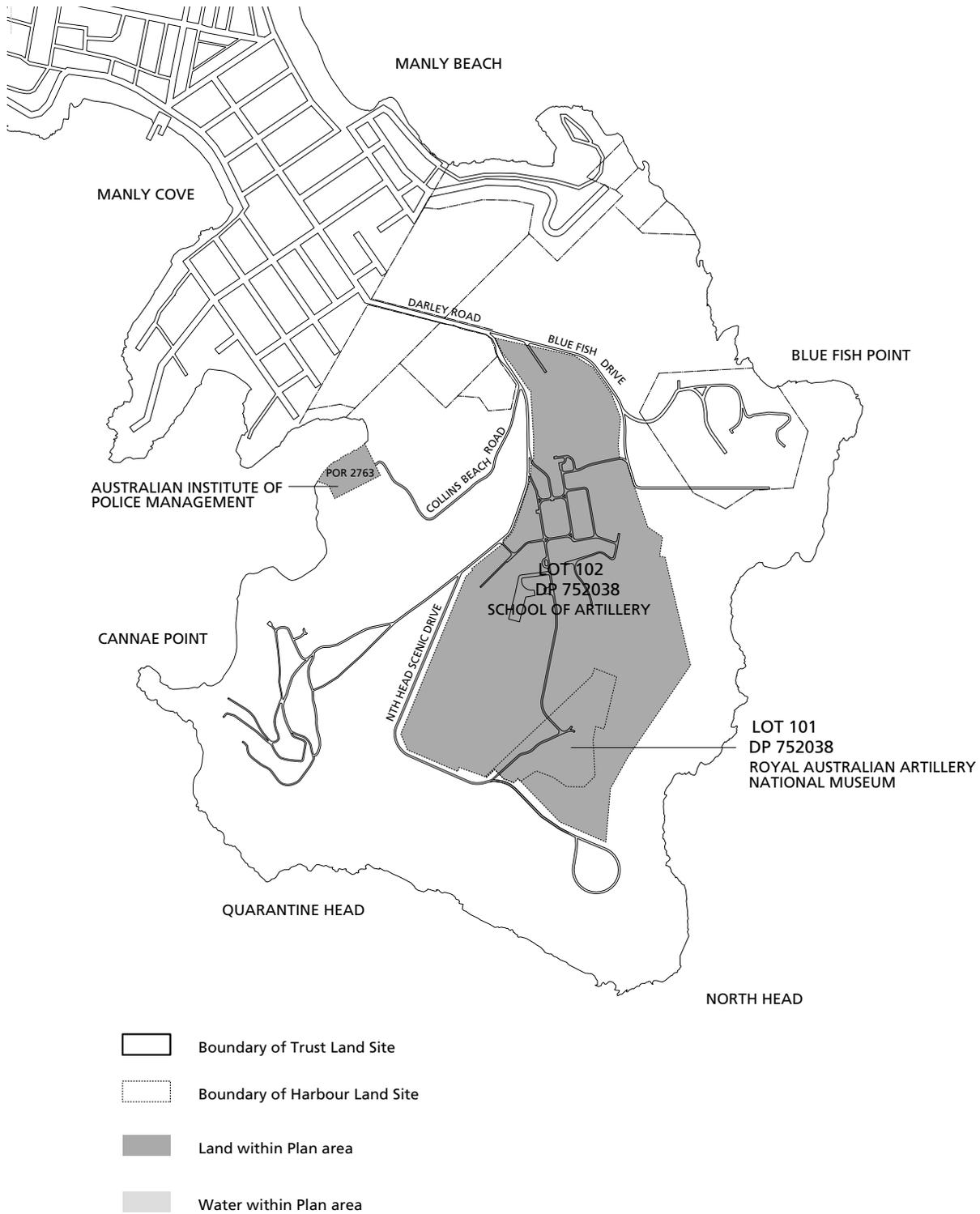
*Car-rang-gel*  
(lee or inner side of North Head)

# 8



**Fig. 8.1** Plan Area

*North Head Former School of Artillery*



## THE SITE AND ITS CONTEXT

---

### The Place

Refer to Figure 8.1 Plan Area

The island-like isolation and remoteness of North Head has contributed to the survival of its natural form. Its geodiversity is unique. The dramatic, mesa-like form is overlaid by wind blown sand dunes supporting intact natural vegetation formations. It is a rich habitat for many species of flora and fauna including the endangered Long-nosed Bandicoot. The dramatic cliffs of North Head form a memorable entry to Sydney Harbour with superb views of the harbour from the cliff tops.

The former School of Artillery is situated in the lee of the ridge, terraced within the dunes in a natural setting of coastal scrub and giving protection from the ocean weather and, as World War II approached, gave protection to the threat of ship-based shellfire.

The arrangement of the School's mess halls, teaching areas and accommodation reflects the hierarchical military organisation. At the core is a grand parade ground, Sydney's only 'urban' square within wild bushland overlooking the harbour. Around the periphery are training structures, sheds and hardstand, and the individual suburban dwellings for senior army personnel.

The North Fort area contains the remnant installations for the coastal guns and the associated facilities built prior to World War II – the culmination of the 'outer defence' strategy for Port Jackson.

The intense commercial area of Manly on its narrow isthmus constrains land access and the sensitive marine environment constrains water access. Access limitations continue to be an important issue but it is also an opportunity.

The interconnectedness of so many of the elements that make North Head such a special place and the constraints reinforce the need to plan holistically for the headland. Although the Trust has planning jurisdiction only over the Defence lands, its plan has been prepared in the context of the whole headland and the unique opportunity it offers. As a tied island with relatively intact and rare flora and fauna, owned by a few institutions, it has the opportunity to become a form of sanctuary, where in a city of four million, people would be able to appreciate its sense of remote isolation, its unique ecology and how successive generations have used and responded to its location and form.

### How the Place Evolved

Refer to Figure 8.2 Historical Development.

#### *Natural Forces*

The giant stone promontory of North Head is connected to the mainland by a sand spit, which has become the township of Manly. The massive landform was created from warped, weathered and uplifted layers of sedimentary rock which, over thousands of years, have been covered by a mighty dune of wind deposited sand. Wetlands (hanging swamps) have been created by drainage of water through the sand meeting the sandstone, while drainage percolating through the layers of sandstone has created springs at lower levels.

The isolation of North Head has given rise to a delicate and precious system of flora and fauna. The slopes vary from open scrub to woodland including open forest in sheltered sites with local variations due to exposure to salt spray, shallow soils and exposed rock surfaces.

The waters extending between Spring Cove and the Quarantine Station are home to a rich aquatic habitat.

### *Cultural History*

*Indigenous.* The Gayamaygal clan used North Head as a place for special gatherings and medicinal practices evidenced by rock engravings, rock art, campsites, burials, middens and artefacts.

The first European settlers sighted a large number of Aborigines there in 1788. In 1790 Governor Phillip was speared at a feast conducted over a stranded whale at Collins Flat. Three Aborigines, Arabanoo, Bennelong and Colbee, were captured in the area with the intention of using them as interpreters. These were early contact events of national significance that influenced the nature of relationships between Aborigines and colonists.

*Quarantine 1828 – 1984.* From the 1820s North Head was used for the quarantining of ships' infectious passengers. In 1833 Governor Bourke declared land within a quarter mile of Spring Cove a quarantine area and in 1837 permanent buildings were established.

New buildings were added to the Quarantine Station in the 1880s and a third cemetery built in 1881, coinciding with a smallpox epidemic.

In 1901 additional pavilions were erected to house victims of the plague and in 1902 to accommodate 'Asiatics'.

At Federation the Quarantine Station became the responsibility of the Commonwealth Government. The Seamen's Isolation Hospital was established in 1918 and accommodated sufferers of venereal disease and many flu victims. It is now the Australian Institute of Police Management.

In 1984 the Quarantine Station was handed over to the National Parks and Wildlife Service as part of the Sydney Harbour National Park.

*St. Patrick's Seminary and Palace 1859– present.* North Head remained isolated until 1859 when a grant of 60 acres was made to the Catholic Church. The Archbishop's Palace was built in 1886 and St. Patrick's Seminary in 1889. High stonewalls were constructed to separate church land from the Quarantine Station.

With the growth of Manly as a residential and recreational area, there was increasing demand from locals for access to North Head. In 1886 part of the Catholic Church's land was rescinded to allow for public access to Shelley Beach.

In 1996 the Seminary was adapted to become the International College of Tourism and Hotel Management and there have been recent approvals for residential development on both the Seminary and Palace sites.

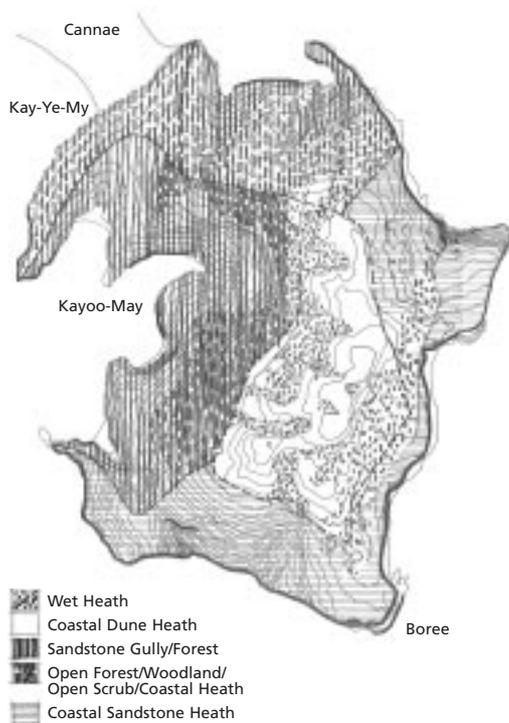
*Early Civil Works.* In 1916 work commenced on the Northern Suburbs Ocean Outfall Sewer near Bluefish Point with the first section being completed in 1926.

In 1927 the Prince of Wales opened part of the Quarantine Reserve for public recreation. A cobblestone 'Avenue of Honour' commemorating the 1914–18 war was opened in 1928 along the eastern part of the headland. It was lined with Norfolk Island pines, planted by Manly Council. Only remnants of the avenue remain today.

Manly Council was granted a permissive occupancy over 300 acres for public use in 1929 and this was formally opened as Parkhill Reserve in

**Fig. 8.2** *Historical Development*

*North Head Former School of Artillery*



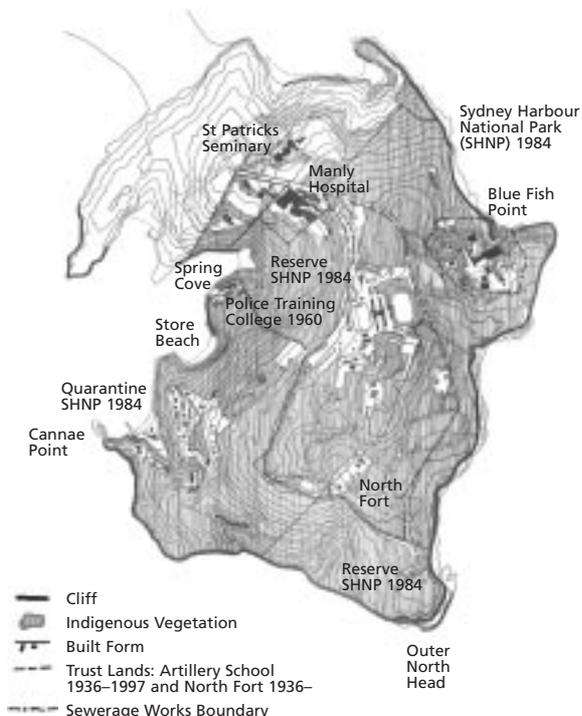
*North Head: Car-rang-gel vegetation formations*



*St Patricks, Seamans Hospital and Quarantine 1880-1917*



*Parkhill Reserve, Fort and Quarantine 1930-1936*



*Artillery Barracks and School, Quarantine and Sydney Harbour National Park 1938-1997*



1933 with its stone entry arch and scenic road. Stone walls were built as an Unemployment Relief Scheme to separate the reserve from the quarantine area.

*Artillery Barracks, Fort and School 1938 –97.* In 1934 the Federal Government withdrew most of the permissive occupancy in order to fortify the headland. Between 1935–36 the North Fort and Bluefish facilities were constructed including two 9.2 inch guns, tunnels, an underground plotting room and an anti-aircraft battery.

In 1936 113 acres were returned to the Council for public use with the remainder reserved for coastal defence.

The barracks complex for the 1st Australian Coast Artillery Brigade was completed in 1938. During the war radar was installed at Bluefish Point (1942) and huts were erected as barracks to house the additional personnel needed to man the North Head complex.

*Post World War II.* By 1945 a complete wind down had commenced.

The Coast Artillery Brigade Headquarters became the School of Artillery in 1953 as coastal artillery was confirmed as obsolete and the guns and equipment were later removed.

The North Head Sydney Harbour National Park Reserve was established in 1979 and the NSW National Parks and Wildlife Service acquired the redundant Quarantine Station in 1984.

In 1990 the Royal Australian Artillery National Museum was set up in the North Fort area. This remains a reminder of the defence use of the site after the relocation of the School of Artillery to Puckapunyal in 1998.

## Site Conditions Summary

### *Buildings and Services*

There are 36 buildings on the School of Artillery site. The major buildings are of full masonry construction, and there are also a number of steel clad sheds, garages and storage buildings. The main problem facing the full masonry buildings is the corrosion and failure of the steel cavity ties and poor quality mortar mix. These buildings will require significant repairs and repointing of brickwork. There are also problems with water penetration through roofing and flashings. The predominantly sandy foundation material has contributed to footing failure and structural damage.

There are 26 detached single storey full brick cottages on the North Head site, located along Scenic Drive and on St Barbaras Avenue. The majority of these houses were constructed in the 1960s and as they have been continually occupied, they have benefited from regular maintenance. Their condition is consistent with their age.

All major services are supplied to the site. However, all of the services are in need of major repairs or upgrades. The sewer pipe network and stormwater reticulation networks are in poor condition and are showing signs of structural failure. The main water supply and fire hydrant network are also in poor condition and will require major upgrades. Energy Australia has advised that the site substation is in poor condition and is possibly in need of a major overhaul. Electrical distribution boards will require additional rewiring to increase capacity and water and sewerage fixtures and services within the buildings are considered acceptable.

A more detailed summary of the site conditions can be found under Background Material at Section 12.

*Contamination.* At North Head some minor sources of contamination were associated with underground storage tanks, fuel and chemical storage areas and workshop areas. It is understood that these areas have been assessed and remediated by the Department of Defence.

Work carried out by Defence has also included survey and clearance of military debris from accessible field firing ranges. However, while the risk from these materials is low, not all areas have been cleared due to thick bushland restricting access. These areas will be surveyed and cleared as appropriate before public access is permitted.

Apart from continuing management of hazardous materials issues, there is not expected to be any other remediation requirements for this site.

*Flora and Fauna.* North Head is a massive headland, which forms the northern entrance to Sydney Harbour. It is surrounded on three sides by ocean and the Harbour. Its eastern and southern sides are characterised by dramatic sandstone cliffs, which rise up to 90 metres. Moderate to steep slopes are located on its northern and western flanks. High-level sand dunes cover much of the top of North Head generally above the 80-metre contour and cover the area of the School of Artillery.

The biology of North Head consists of isolated, remnant vegetation communities and populations and is outstanding in its diversity of habitats and genetic integrity. However, it is vulnerable to disturbances such as erosion, weeds, feral animals, inappropriate fire regimes and habitat reduction and fragmentation.

The vegetation on the western slopes of the headland is dominated by the Sydney Sandstone Complex. Coastal Dune Heath – covering most of the Defence lands, supports a structure of heath and scrub.

On the ancient Pleistocene Aeolian sand dune remnants the Eastern Suburbs Banksia Scrub ecological community survives. This ecosystem is characterised by *Banksia aemula*, *Eucalyptus camfieldii*, *Melaleuca nodosa* and *Xanthorea resinosa*. Eastern Suburbs Banksia Scrub is now listed as an endangered ecological community at both the State and National levels and a draft declaration of critical habitat has been issued by the NSW National Parks and Wildlife Service.

On the areas that were disturbed as a result of military activity the vegetation is now dominated by Tea Tree (*Leptospermum lavigatum*) and Tree Broom-heath (*Monotoca elliptica*). Weeds have also invaded some of these areas.

Where the soils are shallow the heath is dominated by Heath Banksia (*Banksia ericifolia*), Scrub She-oak (*Allocasuarina distyla*), Geebung (*Persoonia lanceolata*) and Epacris such as Heath fuscia.

North Head also supports populations of the endangered stringybark (*Eucalyptus camfieldii*) and other rare species including the Nodding Raspwort (*Gonocarpus salsoloides*), the ground orchid *Erythorchis cassythoides* and the Sunshine Wattle (*Acacia terminalis* ssp *terminalis*).

The development of the School of Artillery complex has seen the introduction of exotic species in the form of grassing and ornamental horticulture (mixed shrub and tree planting). The plantings reflect the stylistic influence of the inter-war period and consist of formal axial planting and symmetrical groupings of Hill's Fig, Moreton Bay Fig, West Australian Peppermint, Pencil Pines and oleanders. In contrast the Radiata pines around the upper level playing field are a distinctive and more informal element. Subsequent plantings from the 1950s and 70s incorporated various Eucalypt species, Norfolk Island pines and other Australian native plants.

The Australian Institute of Police Management site is mainly a built-up area surrounded by grasslands and some foreshore vegetation.

The majority of the National Park is in a natural state with limited introduction of exotic flora species.

Endangered fauna populations associated with North Head are the Long-nosed Bandicoot (*Parameles nasuta*) and the Little Penguin (*Eudyptula minor*). The habitat of the bandicoot includes both open foraging areas such as lawns and areas with protective low understorey. The Little Penguin population is known to occupy areas of the rocky foreshore adjoining Sydney Harbour National Park and a recovery plan has been adopted and is being actively implemented for the population. A declaration of critical habitat for the population was issued in 2002 by the NSW Minister for the Environment,

Other native fauna recorded at North Head include 13 mammal, 86 bird, 21 reptile and 5 frog species. Threatened species listed in the NSW Threatened Species Conservation Act, 1995 recorded at North Head include the population of Long-nosed Bandicoots (*Parameles nasuta*) the population of Little Penguins (*Eudyptula minor*), the Common Bent-wing Bat (*Miniopterus schreibersii*) and the Grey-headed Flying-fox (*Pteropus poliocephalus*). In addition two species of endangered seabird have been sighted from North Head – the Southern Giant-Petrel (*Macronectes giganteus*) and the Wandering Albatross (*Diomedea exulans*).

Several pest species are known to either inhabit the site – rabbits, or to visit the site – foxes, cats and dogs. These latter species are considered to present a significant risk to the survival of native fauna, particularly the Long-nosed Bandicoot and Little Penguin populations. Fox monitoring and control programs are currently underway in the surrounding Sydney Harbour National Park.

Baseline flora and fauna surveys have been undertaken for the sites.

The former Artillery School is on the crown of an island-like headland, surrounded by existing uses that need to be considered in the integrated planning of the area.

To the southeast of the School of Artillery is North Fort, the Royal Australian Artillery National Museum. Both sites are almost surrounded by Sydney Harbour National Park, including the Former Quarantine Station.

To the northeast of the site is the North Head Sewerage Treatment Works (owned and managed by Sydney Water) and to the west the Australian Institute of Police Management.

### The Planning Context

Refer to Figure 8.3 Planning Context

At the entrance to the Headland, land uses include residential, Manly Hospital and St Patrick's Estate including St Paul's College and the International School of Hotel Management.

A number of existing land uses have development issues that have broad implications for the planning of North Head. There is residential development occurring on the St Patrick's Estate, the future of Manly Hospital is unknown and Sydney Water has proposed an upgrade of its Sewerage Treatment Plant. The State government has also given approval in principle for the leasing and adaptive reuse of the Quarantine Station for accommodation and related tourist facilities. Final approval is expected in 2003. One of the conditions of consent is likely to require the proponents to contribute to any future initiatives focussed on the development of an integrated planning approach to North Head.

Access to North Head is highly constrained, with Darley Road being the only road in and out. Access is further limited as the lower section of Darley Road appears to exceed its environmental capacity of 500 vehicles per hour per land (Rust PPK).

Water access to North Head is constrained by the Little Penguin habitat area and the North Harbour and Cabbage Tree Bay Reserves. The threatened Long-nosed Bandicoot population at North Head also limits the capacity of the road for private vehicles at night. A bus service links the ferry wharf with Manly Hospital with a limited service as far as North Fort.

Walking and cycling provide important alternative means of access to the site. The walking tracks at North Head also provide a good extension to a number of regional walking tracks in the area including the Manly to Spit Bridge walk and the Manly to Shelly Beach Walk. See Background Report 'Transport Planning Review, Sydney Harbour Federation Trust Lands', September 2002 for further detail.

Because of the island-like nature of North Head and its special qualities, there is a need for all parties to work together to achieve a holistic planning outcome. As the Trust site is surrounded by National Park – programs and plans for bushfire management, bushland management, species recovery and investigation of the implications of the setting up of a sanctuary are all areas requiring close collaboration.

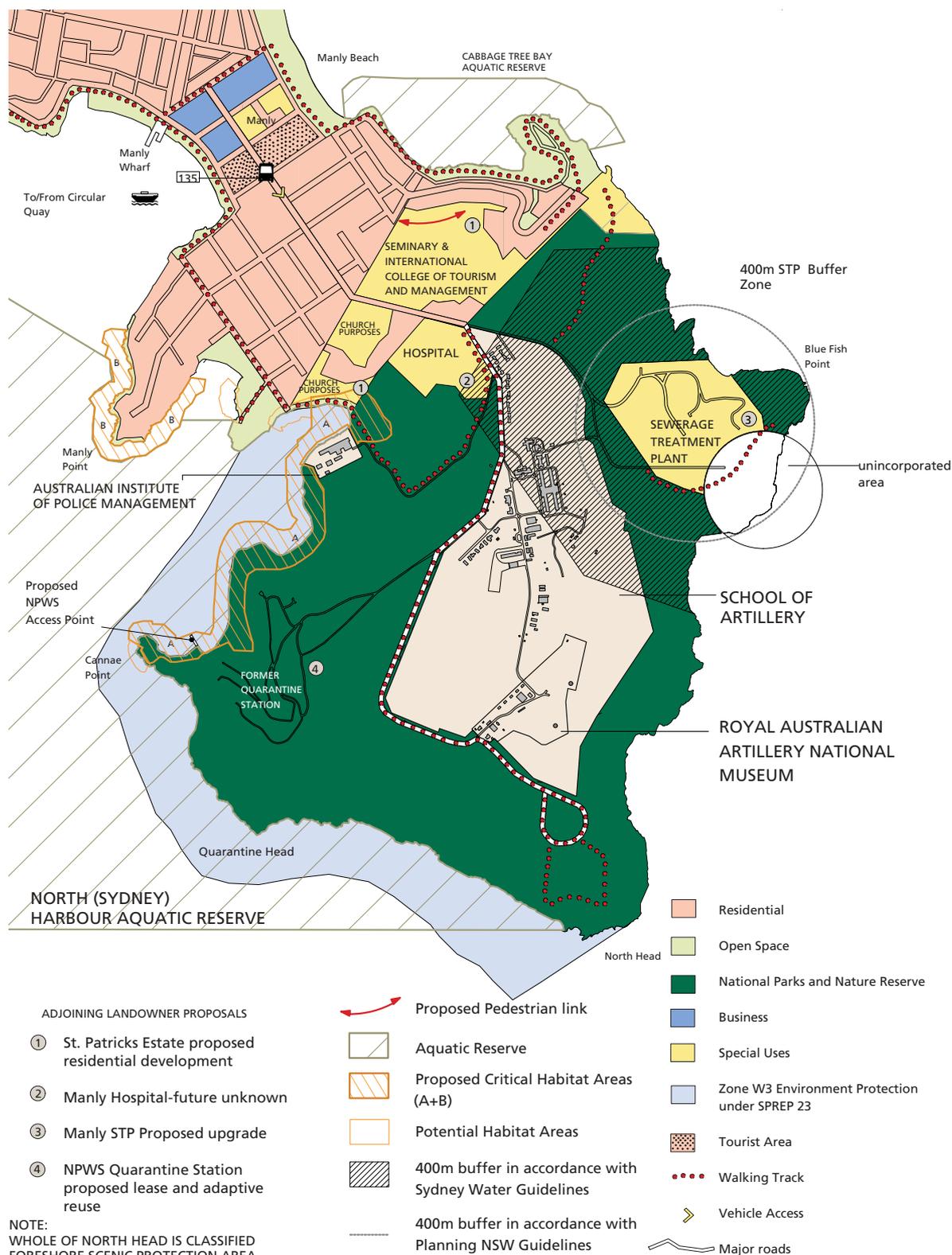
State policies and plans recognise the State significance of North Head and its potential to provide new open space, bushland regeneration and Aboriginal interpretation as part of 'Sydney Harbour Dreaming'. The aquatic reserve recognises the importance of the marine environment. Recovery programs are in place for the Little Penguin and the Long-nosed Bandicoot.

Planning NSW and Sydney Water both have policies that require a buffer of 400 metres around the Sewerage Treatment Plant. However, the policies differ in that the Planning NSW policy requires the 400 metres to be measured from the plant while the Sydney Water policy measures it from the boundary of the site. The extent of these buffers is shown on Figure 8.3.

Manly Council is concerned that planning should look at North Head as a whole so as to avoid piecemeal planning decisions. Council studies have shown that access and traffic problems are endemic to Manly Town Centre and that development on North Head has a

Fig. 8.3 Local Planning Context

North Head



direct impact on this. Development on the St Patrick's site will produce approximately 150 dwellings while the proposed use of the Quarantine Station for tourism and accommodation purposes will also impact on traffic flows.

More detailed information can be found in Section 12 – Background Material and in 'Planning Context Report – Harbour Trust Lands', MG Planning, July 2002.

### Consultation Outcomes Summary

Consultation with the local and broader community has identified that the aspects of significance at North Head Artillery School include the extraordinary geodiversity, which supports a range of native flora and fauna, including threatened species such as the Long-nosed Bandicoot and Little Penguin. Other features considered important include the Aboriginal history and defence history of the site.

The issues for consideration include management of North Head as a whole and integration of management between the neighbours including NPWS and Sydney Water. Other aspects that the community believes need further consideration include the marine environment, access and traffic management, amenity and connectivity between buildings and pathways.

Ideas for future uses at the site include the development of an 'Environmental Sanctuary' which has received overwhelming support. Along with this, environmental education, awareness and appreciation and supporting accommodation or a healing place and place of tranquillity are ideas that have been generated and supported by the community.

### North Head Qualities

North Head is at the farthest reach of the city. The rise up from Manly through decreasing density of development, the view back to the city and the sudden appreciation of distance, the sounds of the city subdued by the sound of wind and the views of city streets overwhelmed by the vastness of ocean horizon and big sky – all contribute to the quality of the place as a place of quietude, reflection and contemplation, extraordinary in a city anywhere in the world.

The buildings, roads and parade ground of the School of Artillery, despite being bricks and mortar and bitumen, feel impermanent. The wildness, the isolation and the dominance of the surrounding bush give the buildings a surprising lightness. The School of Artillery retains the rawness of a new suburb before it has 'settled in' when the underlying soil and vegetation are still evident. The forces of nature are visible and dominant, it feels as if left to their own devices the dune and surrounding heath would engulf the buildings and roads and the area would return to an original state.

The formal geometry of the school is set against this wild backdrop, the lurching dune made habitable by benching and forming. Although, each side of the parade ground is faced by substantial buildings and the main entries are aligned with the major axes, the bush works its way in at the corners, so that even here the bush intrudes. Over the years the central area has been planted with species from around Australia, which establish nostalgic links to other bases.

There is also a dichotomy, common in military bases, between the barracks in the central area, which at North Head were used by personnel attending training, and the married quarters, estab-

lished in a suburban pattern. The layout, placement on the high side of the road and lot size of individual houses refer to the external norms of suburbia on the one hand whilst the pattern of the central area is generated from the internal logic of function, ceremony and hierarchy.

The overall qualities of the School of Artillery are of a formalised habitable space created in a natural environment that has a feeling of quietude, reflection and humility.

#### *Main core*

- The contrast of vastness and detail: enclosure and intricate flora along bush tracks contrasts with grand vistas and open sky
- Military formality contrasting with places personalised by planting and barbeque areas, nevertheless still hierarchical and ranked
- Narrow roads to all buildings but designed to be car free – car parking confined to periphery
- A series of buildings – not a totally integrated or monolithic complex
- Buildings do not have an intimate scale. There is nowhere that has a sense of enclosure separate from the bush and open sky which are always apparent when moving between buildings
- Central space: the parade ground is defined by buildings but not strongly; the corners let the landscape in
- Art deco style: simple block forms with some stylistic elements including projecting and header brick courses to provide visual interest
- Desert-like and tough, not irrigated turf
- Pure geometry of a flat parade ground cut out of the tilted plane of sand with banks at the angle of repose of sand
- The core has the feeling of a base camp for the rest of the headland
- Despite the various ownerships on North Head, the overall impression is one of a single place unified by vegetation that respects no boundaries

#### *Residential*

- Linear alignment which follows contour – not grouped to form an urban space simply elements in a line
- A pattern different to both normal suburbia and the formal military core reflecting the juxtaposition of normal family life (the houses) with military activity in the core

#### *Outlying buildings*

- Located just off main road to the south – pragmatic and temporary, contrasting with ‘institutional’ and permanent ‘solid’ buildings in the core area

#### *Artillery Museum*

- Sheds and road, no feeling of a considered or formal space – pragmatic and unselfconscious

## SIGNIFICANT VALUES AND CONSIDERATIONS

---

### **Natural Values**

Refer to Figures 8.4 Heritage Values and 8.5 Natural and Cultural Values

- The dominant and memorable headland at the entrance to Sydney Harbour affording spectacular harbour views
- The geomorphology of the sandstone cliffs and headland
- Sense of isolation, contemplation, reflection

- Prominent and unique landform – tied island of tilted sandstone, topped by deep windblown sand dunes
- Hydrology system resulting in hanging swamps
- Unique sand dune, coastal heath and hanging swamp vegetation, rare and threatened species particularly the long-nosed bandicoot and fairy penguin, aquatic reserve along western and southern shores with important marine ecology

### Cultural Values

- Aboriginal heritage – special place of ceremony, healing and burial, with sites of middens, rock engravings, rock art, open camp sites and artefacts
- Association with significant early contact events between Aborigines and the First Fleeters
- The subdivision of areas for governmental/institutional uses which relate to the isolation of the headland and defined by stone walls protecting them from the original quarantine use
- The history, siting and special character of the Quarantine Station complex and associated elements
- The fine ecclesiastical buildings of *St Patricks Seminary*, a local landmark, and the Archbishop's Palace
- The system of Coastal Defence; gun emplacements, observation posts, tunnels and training facilities which were the culmination of the defence of Sydney by artillery
- Cohesive, civic core of School of Artillery buildings grouped around the imposing parade ground terraced into the land slope
- Cultural landscape of grassed areas and formal plantings associated with the School of Artillery
- History of community activism to obtain public access and protect headland – eg. Parkhill Reserve, Quarantine Station

Figure 8.4 *Heritage Values* shows the ranking of buildings on the Defence Lands resulting from the Heritage Assessment carried out by Peter Freeman Pty Ltd in association with Peter McLaren for the Department of Defence, August 2000 and includes surrounding heritage items from Manly Council's LEP.

### Interconnections and Linkages

One of the most important messages to emerge from the above review of background material is the interconnectedness of so many of the elements that make North Head such a complex and special place. This reinforces the need for a holistic approach to planning the headland.

### OUTCOMES

#### Vision and Benefits

Refer to Figure 8.6 Outcomes

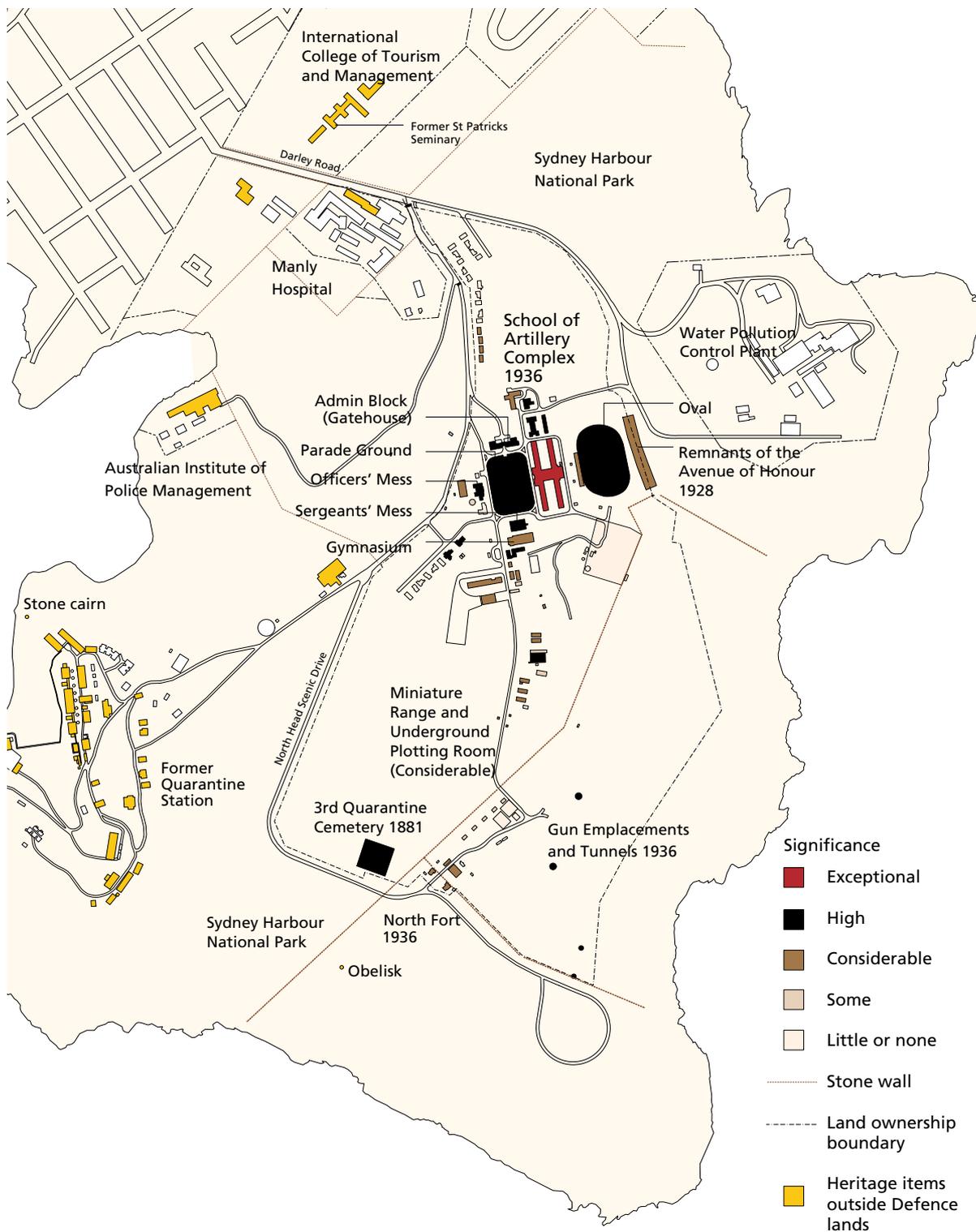
North Head, as a tied island with relatively intact ecosystem owned by few large institutions, lends itself to being planned and managed as one entity where the natural environment is protected and retains its prominence. The Trust's plan for the Artillery School is intended as a positive contribution towards this objective.

North Head has the potential to become an environmental sanctuary, at the same time bringing to life the headland's ceremonial, institutional and military past.

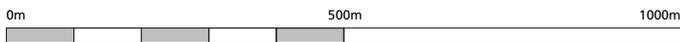
A sanctuary in which the natural and physical resources as well as the cultural and social aspects are managed in a sustainable way by all landholders and where endangered species are protected and conserved, native species are re-introduced and feral animals are managed effectively.

**Fig. 8.4** *Heritage Values*

*North Head Former School of Artillery*



Heritage Assessment, Peter Freeman Pty Ltd in association with Peter McLaren, 2000  
 Includes surrounding heritage items from Manly Council's LEP



**Fig. 8.5** *Natural and Cultural Values**North Head Former School of Artillery*

Above  
View eastwards

Left  
Track through bushland

Augustus Earle c. 1825,  
National Library of Australia

It has the potential to provide an integrated experience of one of Sydney's iconic places; a natural landmark appreciated in all its dramatic natural form, a sense of wilderness in the city.

It could also be a retreat, a place for contemplation and reflection, overlooking the harbour entrance and the city. A place that gives a strong sense of Aboriginal history and ceremony.

The indigenous, institutional and military past would be conserved and interpreted for present and future generations, and offer scope for research and education.

### **A Park that is a Sanctuary**

A sanctuary to protect the flora and fauna and to enable visitors to study and appreciate the geo-diversity and scenic beauty of the area would ideally encompass all of the land in NPWS, public reserve and institutional ownership, south of the residential areas.

Its implementation would require:

- Coordinated effort by each of the institutional landowners to eliminate feral animals and weed infestation and control public access to designated areas and in a manner that protects the environmental sensitivity of the site
- Controlled access from Darley Road and from pedestrian links with Spring Cove, Little Manly and Shelly Beach

In the interim, it may be possible to commence the implementation of the sanctuary at the former Artillery School. The natural environment would predominate. Public access would be encouraged, but controlled. Expansion of habitat and regeneration of bushland would emphasise the sense of sanctuary, with human activity concentrated in core areas, and traffic and parking carefully managed in a manner subservient to the viability of the natural environment, and in particular, the endangered species.

Again, the natural environment would offer scope for research and education.

The island-like form of North Head, the entry road, the Parkhill Gate and the progression to the Gatehouse of the Artillery School allow for a special sense of entry and arrival.

### **Access and Pathways**

The Plan for North Head proposes the creation of a network of paths to form circuits linking attractions such as the former School of Artillery, the Royal Australian Artillery National Museum, the Quarantine Station and cemeteries.

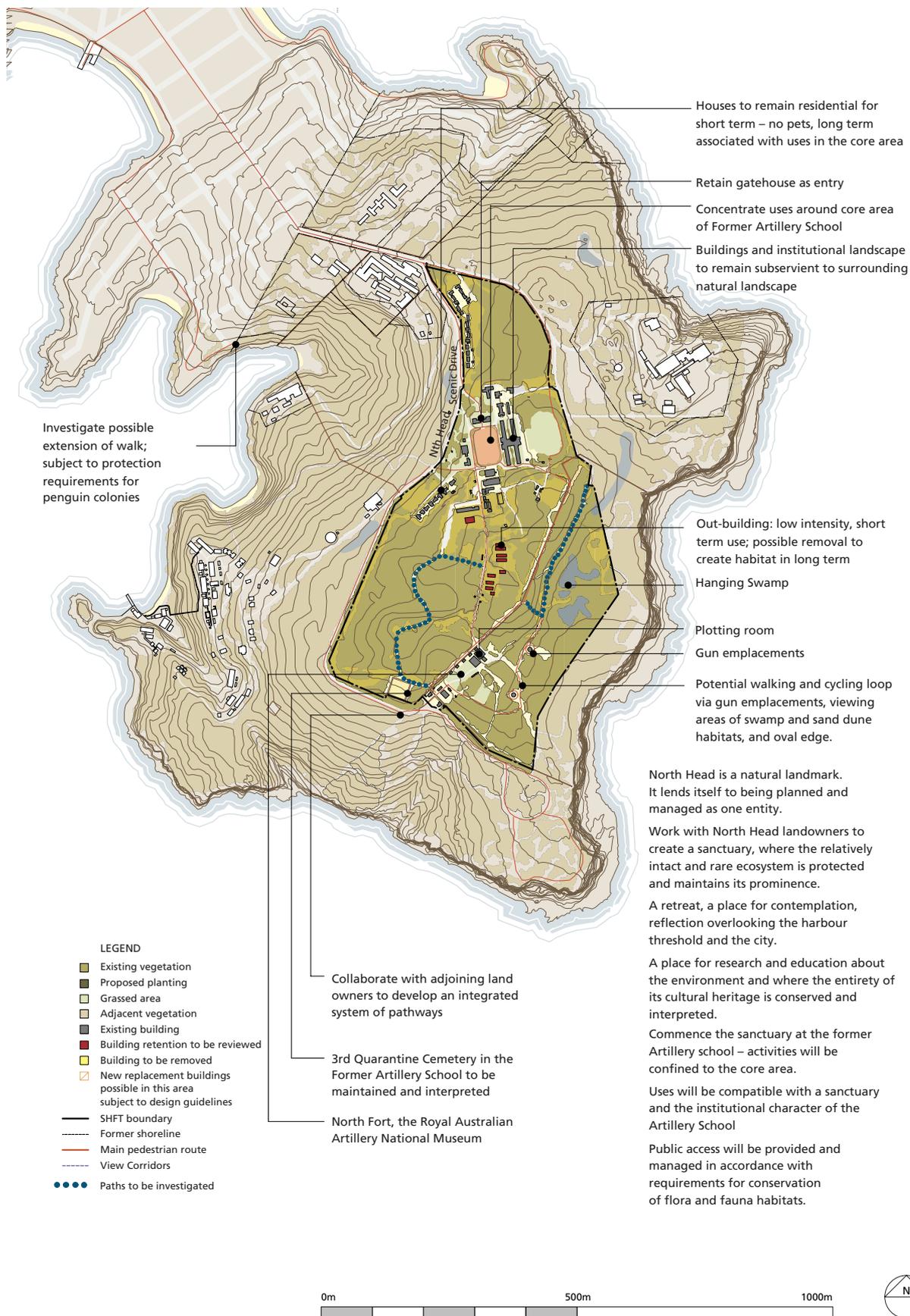
The network of paths would serve visitors and guided tours, and protect delicate dunes and wetlands by avoiding sensitive areas and using boardwalks. The network requires agreement and co-ordination between the land owners.

Subject to requirements for the protection of sea grass beds and Little Penguin colonies, water access may be established at the former 1930s wharf below the Australian Institute of Police Management.

The pedestrian amenity of internal streets and paths would be improved and a befitting entry created north of the gatehouse.

Fig. 8.6 Outcomes

North Head Former School of Artillery



## Criteria for Uses

The Plan for North Head proposes to concentrate uses around the core area of the former School of Artillery, with the buildings and institutional landscape to remain subservient to the surrounding natural landscape.

Uses will be compatible with the environmental requirements and enhance people's appreciation of the sanctuary for North Head and compliment the campus-like character of the former School of Artillery. The type of uses that may suit these criteria include:

- Research and education, for example, a research base to study the area's unique ecosystem
- Health/retreat/visitor accommodation
- Conference, function or reception centre
- Health and/or relaxation and retreat
- Visitor accommodation related to the appreciation of the unique natural and cultural environment
- Community facilities
- Health services – place of convalescence
- Retail and café visitor facilities
- Interpretative activities relating to the area's indigenous, military and institutional heritage

Under the Plan, houses attached to the former School of Artillery will remain residential (no pets) in the short-term and more closely allied to core activities in the long-term. The peripheral sheds on site will be used for studios and workshops.

## Other Initiatives

The Plan proposes a partnership with other landholders to achieve the sustainable management of the area. Common issues include:

- Sanctuary management
- Control of feral animals
- Bushfire management
- Transport management and provision of shuttle services
- Interpretation of natural values
- Interpretation of Aboriginal values
- Interpretation of cultural heritage

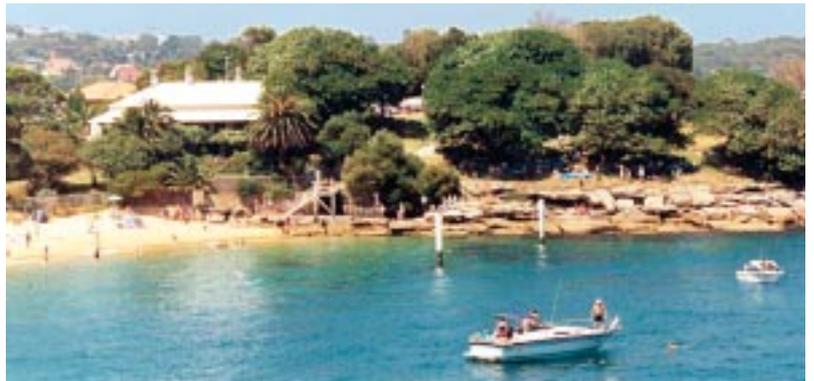
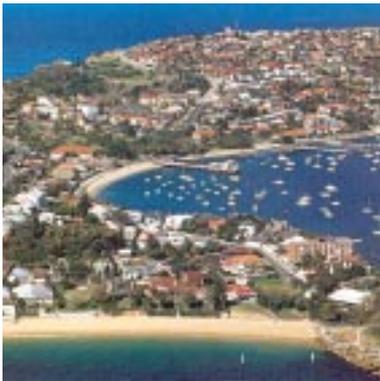
A close working partnership with the custodians of the Royal Australian Artillery National Museum will facilitate a comprehensive interpretation of North Head's installations. It is important that the former defence infrastructure is interpreted as one site and that in the future visitors are able to inspect not only the 9.2 inch gun emplacements and underground tunnels but also the observation posts, the underground plotting room, the barracks and ancillary buildings.

More broadly, partnerships formed with research, educational and community groups will advance the exploration and interpretation of the area.

The Plan proposes the repair and upgrade of all major services, the structural repair of damaged buildings, the survey and clearing of military debris prior to public access and continuing management of hazardous materials. The upgrade of services will also need to be done in collaboration with Royal Australian Artillery National Museum because the Museum is dependent on the School of Artillery infrastructure for many of its services.

*Mit-ta-la*  
(Green Point)

# 9



**Fig. 9.1** Plan Area

*Former Marine Biological Station*



## THE SITE AND ITS CONTEXT

---

### The Place

Refer to Figure 9.1 Plan Area

The north-facing Former Marine Biological Station at 31 Pacific Street, is tucked away at the Southern end of Camp Cove. With its strong roof form and verandahs, it is partially hidden by its garden setting, fences and siting. Once isolated, the house and adjacent Green Point Reserve (Laings Point) have been joined by the row of residential development running parallel to the Camp Cove Beach backing onto Victoria Street and the houses along Pacific Street fronting Watsons Bay. The local street system is tight and on street parking is at a premium.

### How it Evolved.

#### *Natural Forces*

Green Point Reserve is a sandstone knoll created by the erosion of wind, current and wave action. It is at the water's edge of the plane that tilts westward from the ocean cliffs to the sheltered harbourside bays. Originally an extensive coastal lagoon flowed out to the harbour through a channel that crossed the beach near what is now the western end of Victoria Street.

The station originally sat on a bare windswept peninsula, largely devoid of native vegetation as a result of the introduction of domestic goats.

It was located by the harbour's edge and wedged between a rocky headland and a sandy beach, fronting the mouth of the harbour. Today the Former Marine Biological Station sits within a well vegetated suburban context. The coral trees on the reserve are a distinctive feature of the waterfront.

#### *Cultural History*

*Indigenous.* The Watsons Bay area provided abundant fish, shellfish and food for the local Aboriginal community in a sheltered environment. Rock engravings in the area depict a range of marine creatures including whales and fish. There is also a rock shelter at the northern end of the Camp Cove Beach that shows evidence of habitation by the local Aboriginal people.

*European Occupation.* Governor Phillip and the First Fleet rested for a night in Camp Cove before landing at Sydney Cove in 1788. The bountiful nature of the area was also recognised by the early European settlers and a fishery was set up nearby in 1792 to help feed the new settlement at Sydney Cove.

Land in the area was granted to Edward Laing in 1793 (Laings Point) and to Robert Watson in 1801 (Watsons Bay). Subdivision of the land took place in the 1850s and the Camp Cove – Watsons Bay area developed as a village of fishermen, pilots, master mariners and merchants.

Military fortification of South Head commenced in the 1850s in reaction to the Crimean War and continued through the 1860s and 70s. Green (Laings) Point was the site of a submarine miners firing station for the electronic mines stretching across the harbour to Georges Head (1871–1890s). The 1942 anti-submarine boom was also anchored at this Point.

Prominent Russian scientist Nicolai Miklouho-Maclay arrived in Sydney in 1878 and convinced the NSW Government and the local scientific community of the importance of setting up a marine biological station. The site was chosen in 1879 and the station was completed in 1881. In selecting the site, Maclay had made a well-informed

choice, as it was ideal for studying the marine animals that his research was so focused upon.

The house, a good example of practical colonial architecture featuring beautiful pressed metal walls and ornate fireplaces, was acquired for military purposes in 1885 and served until recently as army officers' married quarters.

The property was transferred to the Commonwealth in 1908 for 600 pounds.

Alterations to the house involved extensions to the western side in c1905 and again between 1915–20.

## Site Conditions Summary

### *Flora and Fauna*

Green Point Reserve is a sandstone knoll created by the erosion of wind, current and wave action. Today the Former Marine Biological Station sits within a thickly vegetated suburban context. The coral trees on the reserve are a distinctive feature of the waterfront. The cultural plantings create a garden setting related to the residence being used as officers' accommodation and are a mixture of trees, palms, shrubs and hedges on three levels.

There are no known threatened flora and fauna species on the site.

### *Buildings and Services*

There are two buildings located on the site of the Former Marine Biological Station. The main building, a two level house is of weatherboard construction and the lower basement level is constructed of a rough-faced sandstone. The building has a simple hipped roof form that is clad in corrugated iron. The second building on the site is a single room garage built onto the street level.

The buildings are in reasonable condition, however, there is some minor, non-critical deterioration of materials due to lack of maintenance over the past few years. While the house is not under any immediate threat it does require some substantial maintenance work particularly in roof, joinery, stone and painting. The site also contains numerous types of boundary fences and paths that are in poor condition and will be replaced or restored in the near future.

Although not fully surveyed, the site is connected to the sewer, water and electricity, and has a smoke detection system connected back to the local fire station. All of these services will need to be properly assessed and repaired prior to public access being made available. A more detailed summary of the site conditions is at Section 12 – Background Material.

### *Contamination*

As would be expected for a site with no history of contaminating activities, the only contamination issue identified is that related to deteriorating lead based paint systems.

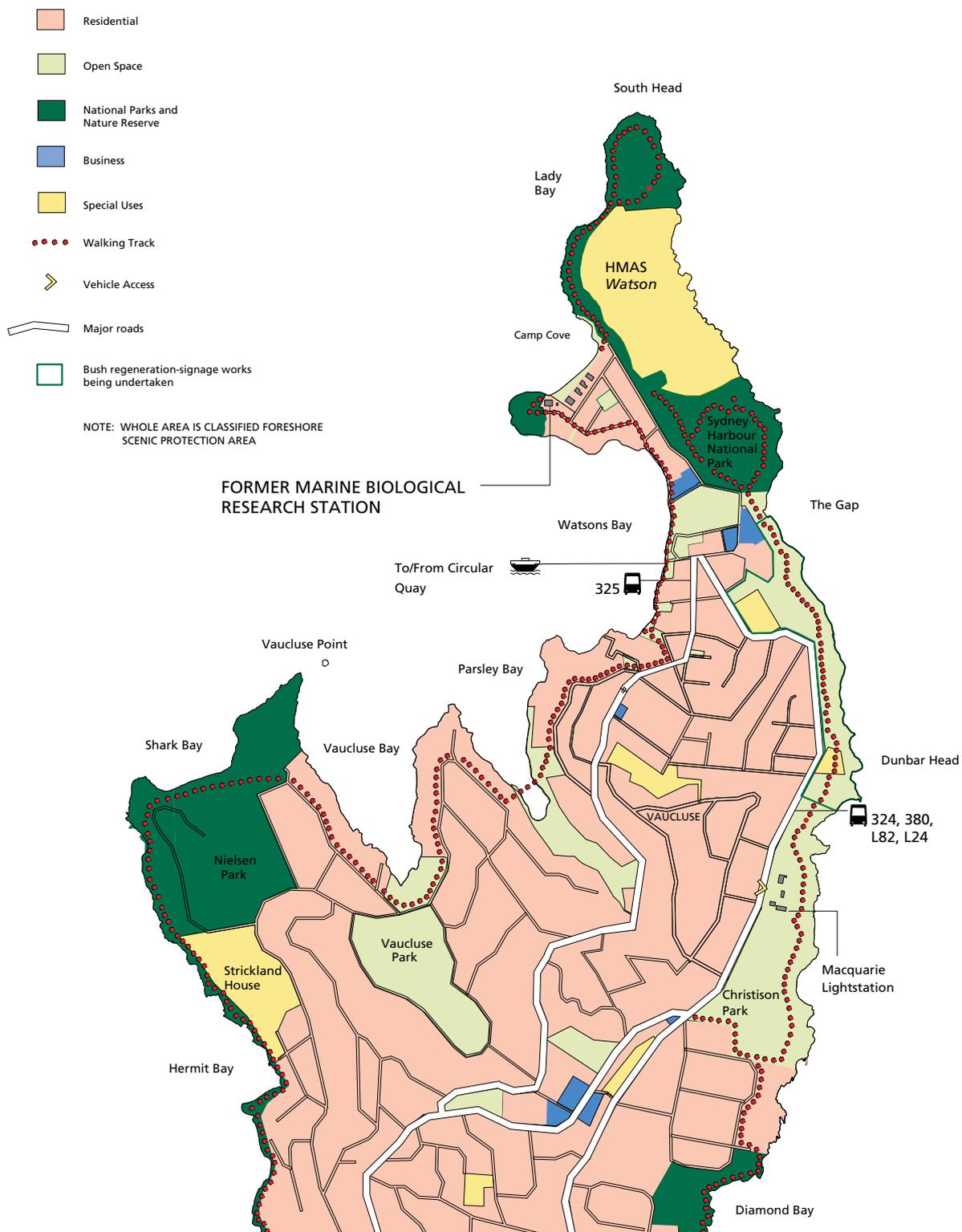
## The Planning Context

Refer to Figure 9.2 Planning Context

The Former Marine Biological Station is in the Local Government Area of Woollahra. The land is zoned for open space purposes and is adjoined to the east by Green Point Reserve which forms part of the Sydney Harbour National Park. To the northeast, the site is adjoined by land zoned residential although the Camp Cove Beach area is zoned for acquisition for future open space.

**Fig. 9.2** Local Planning Context

Former Marine Biological Station



The foreshore of the site currently acts as a link between Green Point Reserve and Camp Cove Beach, and the Research Station has the potential to provide a link from Victoria Street to Camp Cove Beach.

The local area is relatively constrained in terms of parking and traffic, and there are no dedicated parking spaces for the site. The Watsons Bay wharf is within walking distance of the site and there are a number of government buses operating along Old South Head Road, which provide reasonable access to the site.

More detailed information on the above matters can be found in 'Background Material' in Section 12.

### Consultation Outcomes Summary

Consultation on the Former Marine Biological Station has shown that the community values the history of the site both as the marine biological station and its use as defence housing. However, the association of the house with Nicolai Miklouho-Maclay and the marine biological environment is very important to the community.

The main issue that the community believes requires consideration is traffic and parking impacts that may be generated from the increased tourist attraction of the site. Other issues include conservation, preservation and interpretation of the station.

The main ideas generated by the community for future uses of the station include return of the station to marine biological studies for scientific and education purposes. Other ideas include making it a meeting place for scientific talks/lectures or leasing the house for a 'scientist in residence' similar to artist in residence.

### Qualities

- North facing overlooking Camp Cove – good quality aquatic environment
- Nestled against the knoll of Green (Liangs) Point – protected
- Settled into site – hipped roof and verandah roofs, supporting landscape – stone base, terraces
- Borders beach and Green Point Reserve – potential to contribute to public usage and enjoyment of this area
- Contrast of narrow walled streets and open lawn and harbour views
- Interior shows evolution as a military residence – pressed metal ceilings and dados

### SIGNIFICANT VALUES AND CONSIDERATIONS

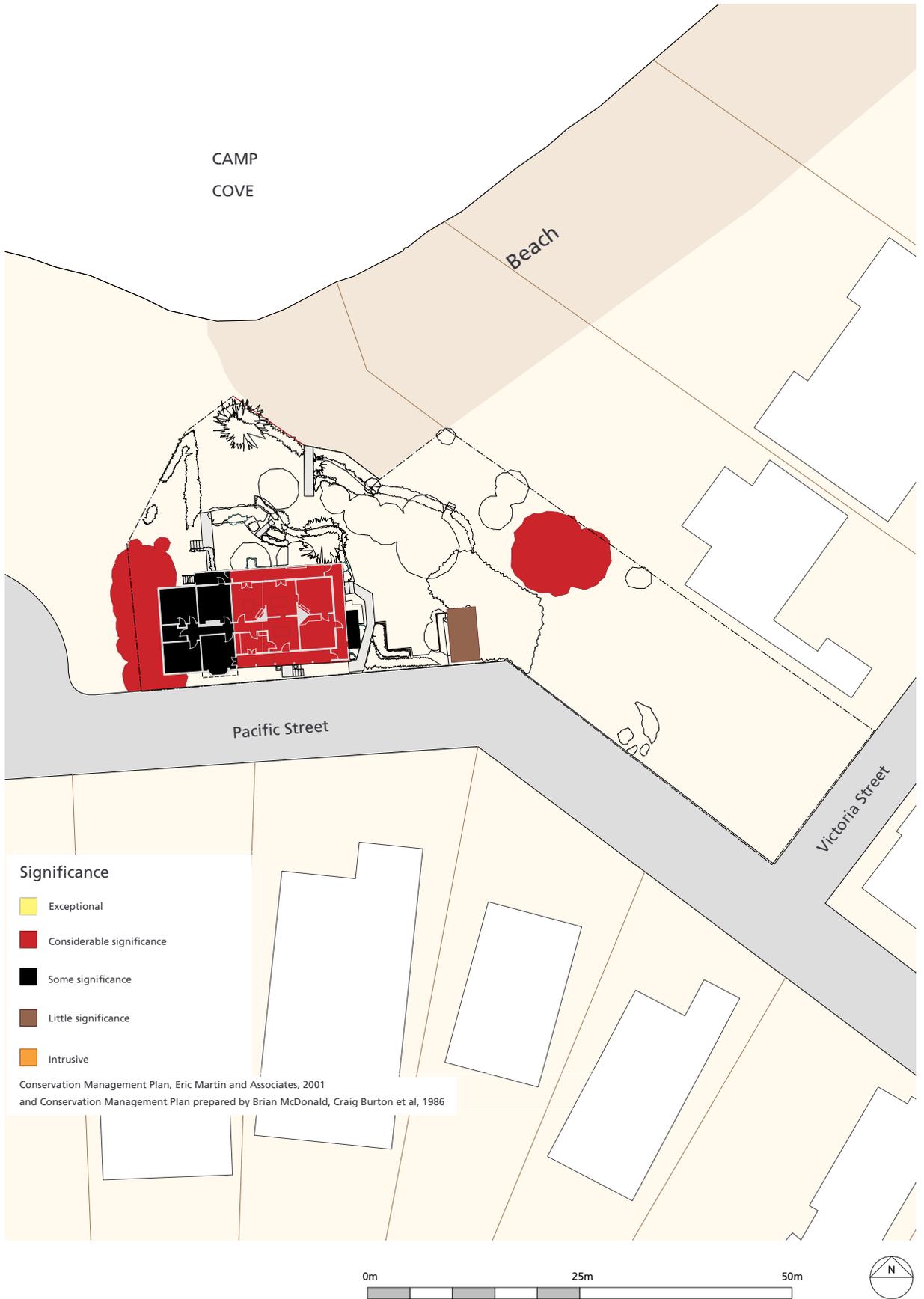
---

*Refer to Figures 9.3 Heritage Values and 9.4 Natural and Cultural Values*

- It was the first Marine Biological Station to be established in the Southern Hemisphere – its establishment due to the initiative and drive of the internationally famous Russian scientist and explorer Nikolai Miklouho-Maclay (who worked there when in Sydney from 1881–86)
- The period of use as army officers' married quarters is mainly associated with the School of Gunnery at South Head. One of the occupants, W A Coxen, became Chief of General Staff
- The design of the original building was by John Kirkpatrick, a prominent architect responsible for several major Sydney buildings
- One of the earliest remaining buildings in Watsons Bay, the Former Marine Biological Station was a landmark prior to the growth of landscaping on Green Point
- The character of the grounds has reflected the taste and lifestyle of the different periods of residential occupation, with the Coral Trees

Fig. 9.3 Heritage Values

Former Marine Biological Station



**Fig. 9.4** *Natural and Cultural Values*

*Former Marine Biological Station*



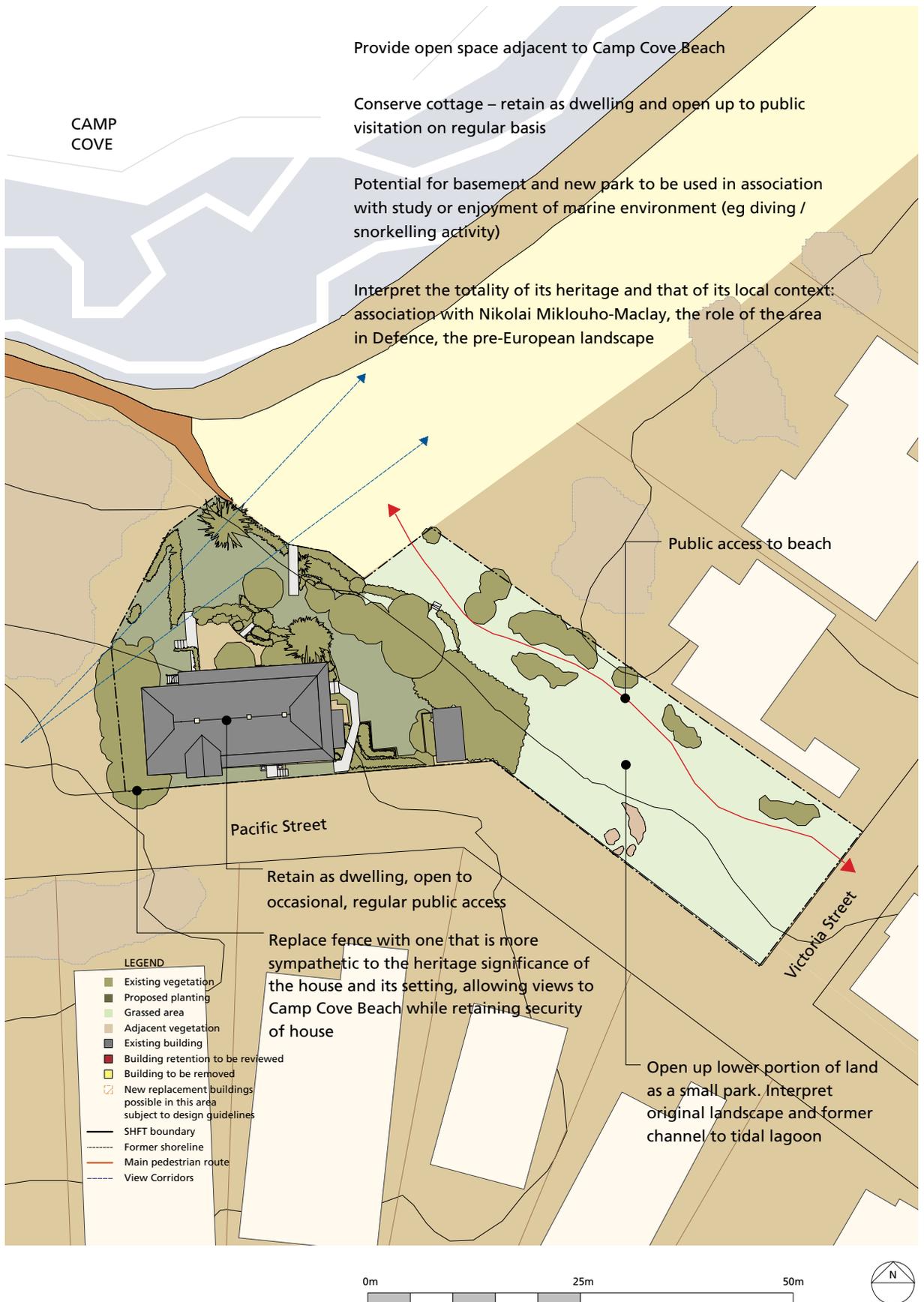
Above  
*House from Camp Cove Beach*

Left  
*Nikolai Miklouho-Maclay*

*View south westwards*

Fig. 9.5 Outcomes

Former Marine Biological Station



planted in the 1930s creating a strong landscape character for the site and adjoining reserve

- The building contains a rare collection of Wunderlich pressed metal walls, cornice and ceiling linings and the interior demonstrates the evolution of the residence as army married quarters over almost one hundred years

Figure 8.4 *Heritage Values* is based on the Conservation Plan carried out by Brian McDonald, Craig Burton *et al* for the Department of Housing and Construction, December 1986 and the Conservation and Management Plan by Eric Martin and Associates for the Defence Housing Authority, dated December 2000.

## OUTCOMES

---

### Vision and Benefits

Refer to Figure 9.5 Outcomes

The Plan for the Former Marine Biological Station proposes to:

- Provide public access to the open space/parkland adjoining Camp Cove Beach
- Interpret the original landscape and channel from the former tidal lagoon
- Promote uses for the house which convey the building's character and heritage
- Highlight the site's association with marine biology and the presence of clean water in the bay
- Convey the site's historical association with Nicolai Miklouho-Maclay, and with the Department of Defence
- Open up the grounds to provide views through the site from both the street and the Green Point Reserve to gain a better appreciation of the house in its historical setting, while retaining a secure enclosure

All services need to be properly assessed and repaired prior to the provision of public access.

Substantial maintenance work will be required particularly in roof, joinery, stonework and painting as well as the replacement and restoration of boundary fences and paths.

Contamination caused by deteriorating lead based paint systems will need to be addressed as part of the maintenance program for the site.

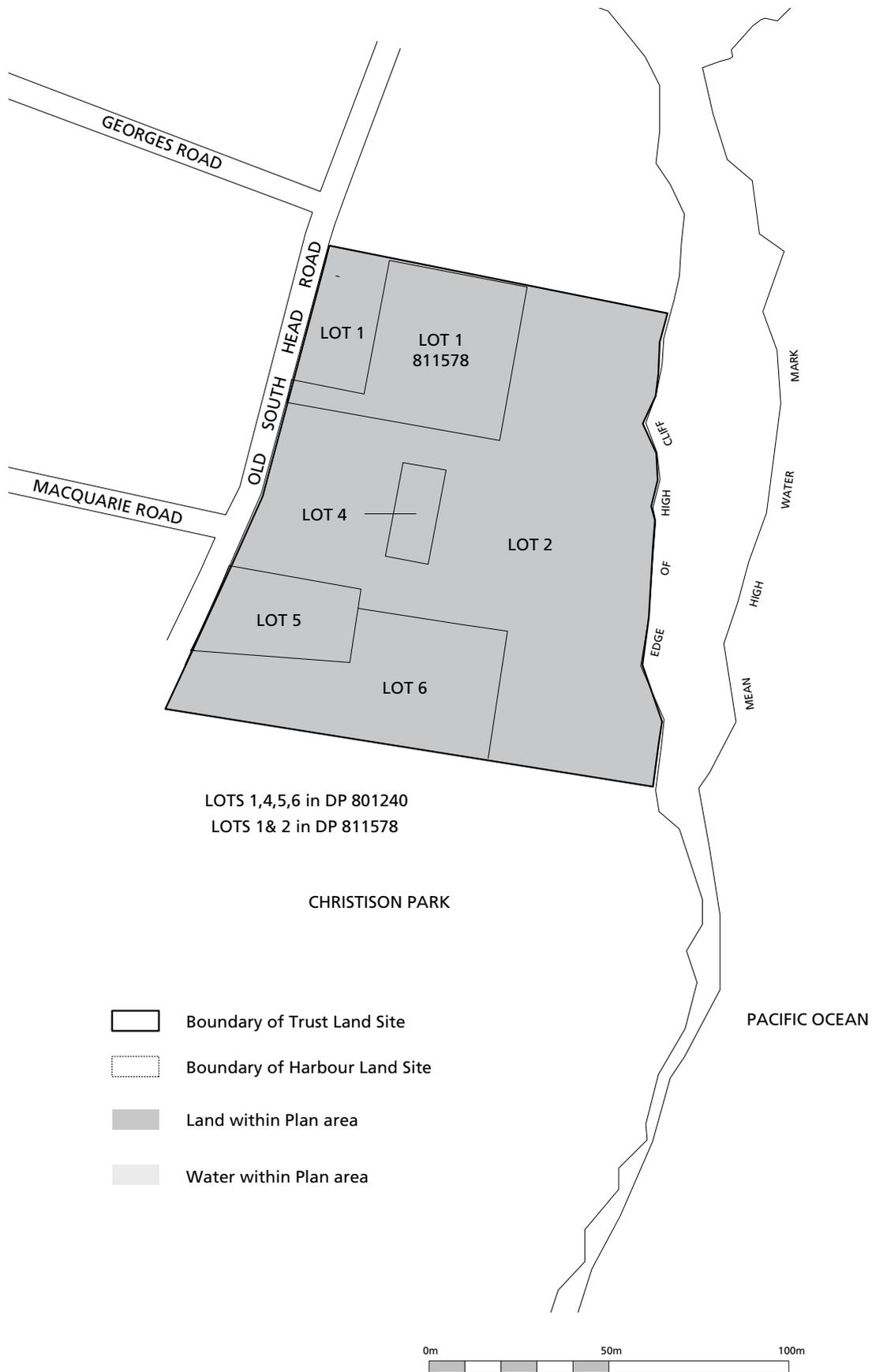
*Ta-ral-be*  
(outer South Head)

# 10



**Fig. 10.1** Plan Area

*Macquarie Lightstation*



## THE SITE AND ITS CONTEXT

---

### The Place

Refer to Figure 10.1 Plan Area

Macquarie Lighthouse, the head lighthouse keeper's quarters and semi-detached assistant keeper's quarters of the 1880s lightstation remain on 2.2 hectares on Sydney Harbour's southern headland adjoining a public coastal walkway.

To the East are sheer cliffs and the ocean and to the West lies land sloping towards the harbour with excellent views to the CBD. Open parkland lies on the northern and southern boundaries.

The area has an open, windswept character enhancing the bold white appearance of the lighthouse, a structure which is still used for its initially intended purpose – a guiding light for sailors showing the way to the Harbour entrance.

The site contains remnants of the (original) colonial 1818 lighthouse, retaining wall and various archaeological remains.

### How the Place Evolved

#### *Natural Forces*

The Peninsula of South Head has been formed by layers of sandstone (visible in the cliff faces) being warped and uplifted over millions of years.

Macquarie Lightstation sits in a prominent position near the cliff top at the high point of the ridge.

The area is highly exposed and has very shallow soil and rock outcrops. The lightstation and adjacent areas have been cleared with some of the open heath and open scrub vegetation being replanted in limited areas. The open areas are grassed and exotic species, of which the Norfolk Island pines are the most obvious, have been planted around the residences.

#### *Cultural History*

*Indigenous Occupation.* The Trust will be undertaking research into the former Aboriginal occupation of this area.

*Original Macquarie Lighthouse.* Macquarie Lighthouse, the first to be built in Australia, was designed and supervised by Francis Greenway and Captain John Gill. Work commenced in 1816 and the structure was completed in 1818 with Robert Watson (Watsons Bay) appointed the first lighthouse keeper that same year.

The Lighthouse, enclosed by a walled precinct with pavilions at each corner, was built using stone quarried on site. The stone was of poor quality and soon began to erode. This resulted in the tower having to be strapped with iron bands.

The Head Keepers Quarters, incorporating the southwest pavilion, were built in 1836.

*Replica Lighthouse.* In 1883 a new lighthouse was completed, designed by James Barnet to closely resemble the original Greenway tower. It was built less than four metres away from the original and was illuminated by gas generated electricity. For a short time, the old and new lighthouses stood side by side on South Head.

Semi-detached quarters were built for the Assistant Keepers in 1881 and quarters for the Engineer and his assistant were built in 1885. The Head Keeper's accommodation was upgraded in 1887.

*Technological Changes to the Light Source.* The new lighthouse ran on gas generated electricity.

In 1912 the electric light was converted to kerosene and in 1915 was transferred to the control of the Commonwealth Lighthouse Service. Reconversion to electricity took place in 1933.

The Engineer's and Assistant's quarters were demolished in 1970 and replaced by the four existing town houses.

The last lightstation staff left the site in 1989 after the light became automated. It is the oldest continually operating light in Australia.

## Site Conditions Summary

### *Flora and Fauna*

Macquarie Lightstation sits in a prominent position near the cliff top at the high point of the ridge.

The area is highly exposed and has very shallow soil and rock outcrops. The lightstation and adjacent areas have been cleared with some of the open heath and open scrub vegetation being replanted in limited areas. The open areas are grassed and exotic species, of which the Norfolk Island pines are the most obvious, have been planted around the residences.

There are no known threatened flora and fauna species on the site, however a community of striped Marsh Frog has been identified on the land surrounding the lightstation.

### *Building and Services*

There are seven dwellings on the Macquarie Lightstation site, two garage/stables buildings and the lighthouse.

The earlier dwellings are single storey and built of stone and rendered brick work with timber-framed roofs sheeted in corrugated steel. The recent two storey townhouses are of cavity brick construction with cement tile roofs. The lighthouse is built of stone and its roofs are lined in lead. The main stair to the lighthouse is of cast iron.

The built structures are all in good condition having remained continuously occupied. The Trust has recently undertaken repairs to the boundary fence and has begun upgrading balustrades and fire services in the lighthouse for compliance with the Building Code of Australia.

The site also contains archaeological remains, stores, paths, fences, stone retaining walls and an extensive grassed area, all of which are generally in good condition. The earlier stone remains will require some conservation and stabilisation work in the near future.

The seven dwellings are connected to sewer, water and electricity supplies. The only services to the lighthouse are a connection to the electricity grid. There is an on-site diesel generator servicing the lighthouse in the event of power failure. The essential electricity services to the lighthouse have been regularly tested and maintained by the Australian Maritime Safety Authority.

A more detailed summary of the site conditions is located at Section 12 Background Material.

### *Contamination*

A Phase 1 Environmental Assessment has been carried out for this site. As would be expected for a site with no history of contaminating activities, the only contamination issue identified is that related to deteriorating lead based paint systems.

No asbestos materials or PCB containing electrical capacitors were identified in the easily accessible areas of the lighthouse.

### **The Planning Context**

Refer to Figure 10.2 Planning Context

Macquarie Lightstation is located in the Local Government Area of Woollahra, which is subject to the provisions of Woollahra LEP 1995. As indicated on Figure 10.2 the site is zoned for open space purposes and adjoins Christison Park to the South and Signal Hill (and the Gap Park) to the North. These lands are similarly zoned for open space purposes. Land to the West across Old South Head Road is zoned 2 residential 'A', which allows predominantly single detached dwellings.

The area from the Gap to Christison Park, including the Macquarie Lightstation site, forms the start of the Eastern Suburbs coastal bushland corridor that extends to Maroubra Beach in the South. Council is currently undertaking significant bush regeneration works on the Gap Park to the North of the site.

Access to Macquarie Lightstation is from Old South Head Road, with a number of Sydney Buses (324, L24 and L82) operating past the site. The coastal walk upon which the lightstation is located, incorporates Watsons Bay to the West of the site, where a ferry service operates daily to and from Circular Quay. There is no car parking provided specifically for visitors to the lighthouse and street parking is relatively restricted in the summer months. More detailed information on these matters can be found in 'Background Material' at Section 12.

### **Consultation Outcomes Summary**

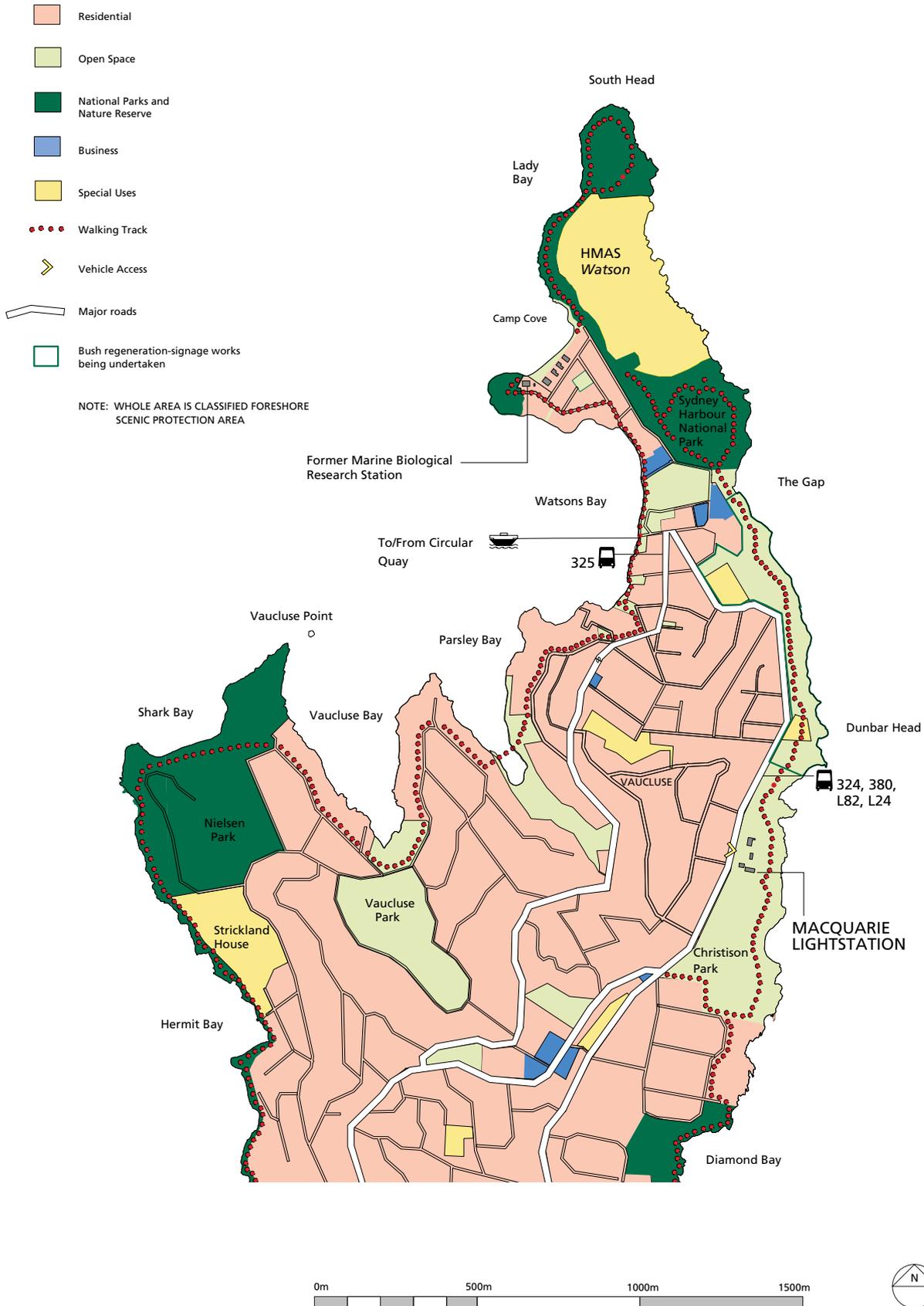
Community consultation has shown that the community values the history and architecture of the Macquarie Lightstation and acknowledges its significance as the first lightstation in Australia. The prominent location of the lightstation in Vaucluse is valued as it can be viewed from many locations around the Harbour. The scientific nature and technological mechanics of the lightstation are also considered to be important. Potential future uses identified by the community include preservation of the lightstation and incorporation of a range of uses such as educational facilities, exhibitions and a community meeting place.

### **Qualities**

- Clear and single function
- Mown grass and white painted simple form contrasts with the windblown coastal planting and exposed rock shelves
- The lightstation is an 'alien' element in relation to both the surrounding residential area and the natural environment of cliffs and crashing sea
- A natural high point extended even higher
- Invitation to enter the harbour safely – and a symbol of Sydney's relationship to shipping

**Fig. 10.2** Local Planning Context

*Macquarie Lightstation*



## SIGNIFICANT VALUES AND CONSIDERATIONS

Refer to Figures 10.3 *Heritage Values* and 10.4 *Natural and Cultural Values*

- Site of the first purpose built lighthouse and the longest-serving lightstation of national significance still extant in Australia
- Outstanding landmark quality and landscape setting on South Head ridge
- The buildings and the archaeological remains provide a direct historical association with Governor Macquarie and with colonial architects Greenway and Barnet
- One of an important group of lightstations designed by James Barnet who followed closely the design of Francis Greenway's original lighthouse and set a distinctive style for NSW lighthouses until the last one built in 1905
- The lightstation provides evidence of the changing living and working conditions of the lighthouse keepers and their families, who constituted a now redundant maritime community
- The light installed in the Barnet lighthouse was for some time the most powerful navigational beacon in the world
- The lightstation provides evidence of the development of lighthouse technology and navigational aids in general since the 1880s
- The building of the lighthouse and other site elements illustrate:
  - The dependence of the colony on shipping
  - The difficulties of construction in the early period of European settlement relating to the isolation of both the area and of the colony and the necessity of quarrying stone on site

The Plan Figure 10.3 *Heritage Values* shows the heritage items resulting from the Revised Conservation Management Plan carried out by Clive Lucas Stapleton and Partners for the Department of Finance and Administration dated June 2001.

## OUTCOMES

**Vision and Benefits**

Refer to Figure 10.5 Outcomes

The Plan for Macquarie Lightstation maintains the site's position as an important attraction along the coastal walk – a prominent landmark for all to see – preserved and enhanced.

Occasional public access to the lighthouse and the Lighthouse Keeper's cottage will be arranged.

The cliff top parkland will be expanded by the removal of the fence.

The archaeological remains of the original Greenway lighthouse offer potential for interpretation (lighthouse, compound and quarry), and further conservation, stabilisation and archaeological work.

The Plan for Macquarie Lightstation envisages minimising the impact of intrusive ancillary buildings and the removal of the modern town houses in the long term.

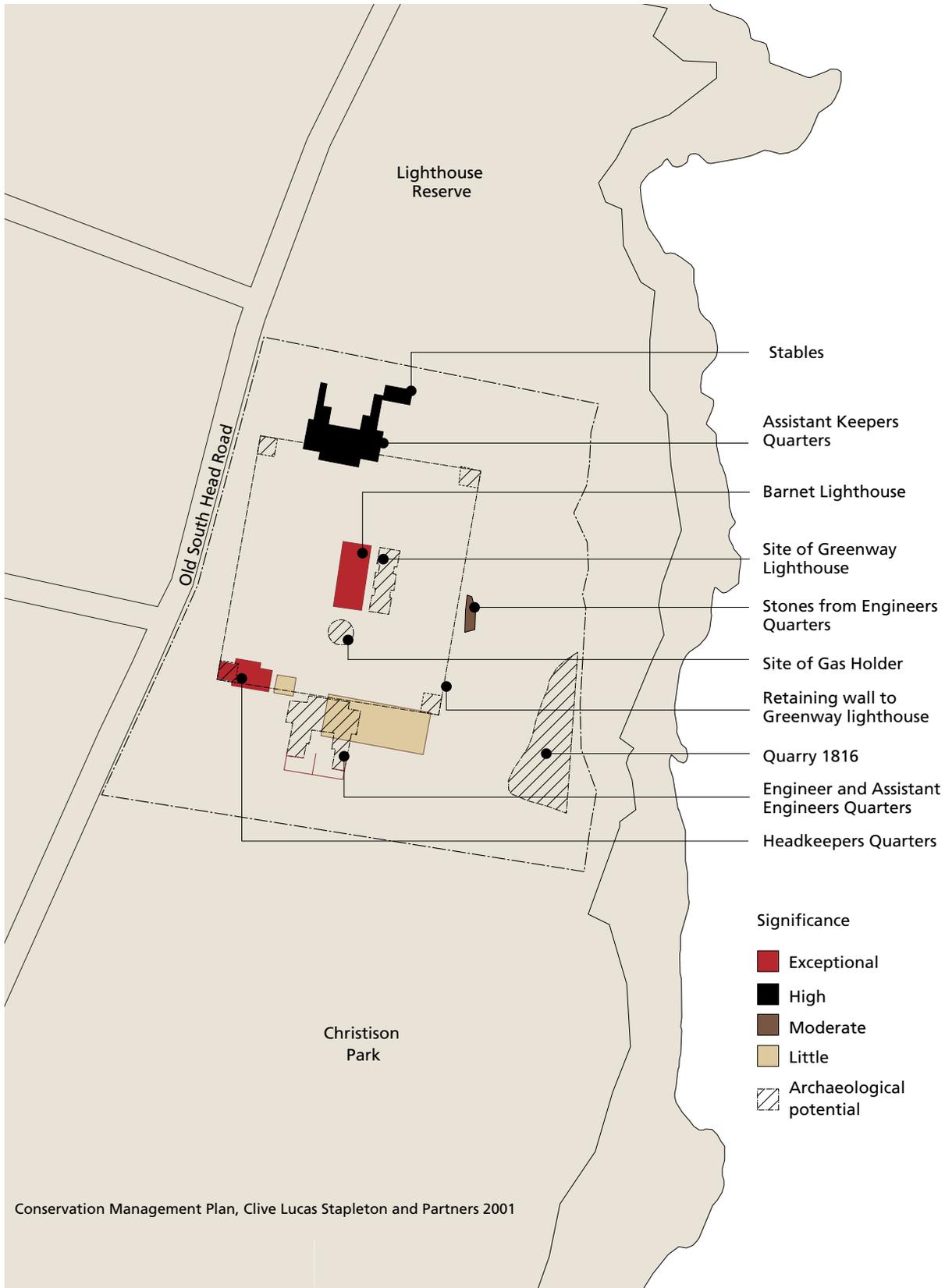
The landmark quality of the lighthouse would be retained and enhanced through the management of the recent landscape features, in particular the removal of the Norfolk Island Pines.

Work will be carried out to upgrade the fence and curtilage.

The possible contamination caused by deteriorating lead based paint will be addressed as part of the maintenance program for the site.

Fig. 10.3 Heritage Values

Macquarie Lightstation



**Fig. 10.4** *Natural and Cultural Values*

*Macquarie Lightstation*



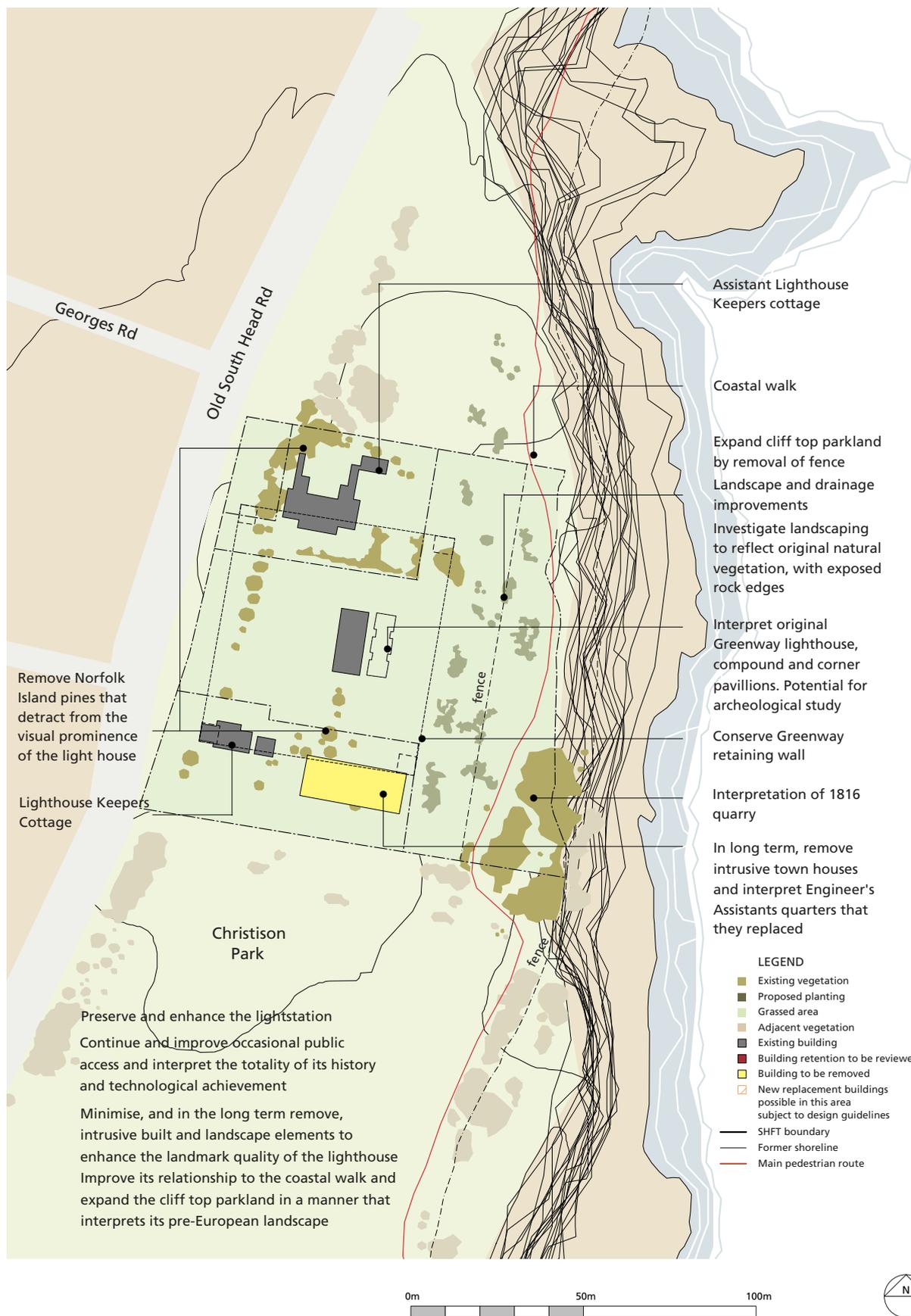
Above  
*View southwards*

Left  
*The two lighthouses, 1883*

*Chance Bros. Optic, 1933*

Fig. 10.5 Outcomes

Macquarie Lightstation



# 11



## PREPARATION OF MANAGEMENT PLANS, SUPPORTING POLICIES AND GUIDELINES

---

An essential element in the implementation of the Plan is the development of more detailed management plans for specific sites or buildings and supporting policies and guidelines for issues like public consultation. The purpose of these detailed plans, policies and guidelines is to provide more information about the matters addressed in the Plan. They will be a refinement of the Plan.

This section describes the process for the preparation and adoption of management plans, policies and guidelines. Most importantly it empowers these plans by making them a mandatory prerequisite for most decisions about proposed activities or developments relating to Trust land sites.

It is not anticipated that all management plans, policies and guidelines will be prepared concurrently. The implementation of the Plan will take place over several years and it is not necessary for all of the plans to be in place to facilitate individual projects. Detailed plans will be prepared on a prioritised needs basis over the total implementation period of the Plan.

### Management Plans

Management plans are detailed plans that describe specific outcomes for each site. They provide a context and standards to guide the way particular sites are developed, adaptively reused or conserved.

Before an *action* is determined by the Trust, a management plan must have been adopted for the site of the proposed action. *Actions* are defined in the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and are similar to the concept of development in the State planning legislation. The process relating to the determination of an action is described in the next section of the Plan. The requirement that a Management plan be adopted before an action is determined does not apply to an action that:

- is of a minor nature
- does not have a significant environmental impact
- is of essential maintenance
- protects the health and safety of persons
- is temporary
- is an action declared by the Minister under section 32 of the EPBC Act not to require consent

### Preparation of Management Plans

A management plan may be prepared by or on behalf of the Trust and may be for:

- Whole site – such as Macquarie Lightstation
- Individual precincts – such as Chowder Bay or the parkland area at Woolwich
- Individual buildings or sites – such as the Officers' Mess at Georges Heights
- Thematic issues – such as bush fire management or transport management

A management plan must:

- Be consistent with the environmental and land use outcomes identified in this Plan
- Demonstrate how the Plan's objectives and policies are to be achieved and implemented
- Demonstrate how it integrates with the planning for the adjoining lands

- Be exhibited for public comment prior to adoption by the Trust

The process for the preparation and approval of a management plan is set out in Figure 11.1 *Process for the Preparation and Approval of a Management Plan and Supporting Policies*.

### **Supporting Policies and Best Practice Guidelines**

In addition to management plans the Trust will develop more detailed supporting policies for overarching issues such as:

- Its commitment to ESD and Total Catchment Management
- Matters such as public access, leasing and transport

Like management plans, supporting policies must be:

- Consistent with the Plan's objectives and policies and the land-use and environmental outcomes described in the Plan
- Exhibited for public comment prior to adoption by the Trust

The Trust will also adopt best practice guidelines to prescribe the way in which particular activities such as bush regeneration, remediation and construction are carried out. For example, best practice guidelines will be prepared to guide:

- The action that a contractor should take in the event that construction work uncovers an archaeological relic
- The procedures to be followed by bush regenerators to avoid the spread of the root rot disease, phytophthora

Best practice guidelines will be adopted as internal working documents and will not be required to go through the same formal approval process as management plans or supporting policies. However, they will be made publicly available.

### **Consultation During the Preparation of Management Plans and Supporting Policies**

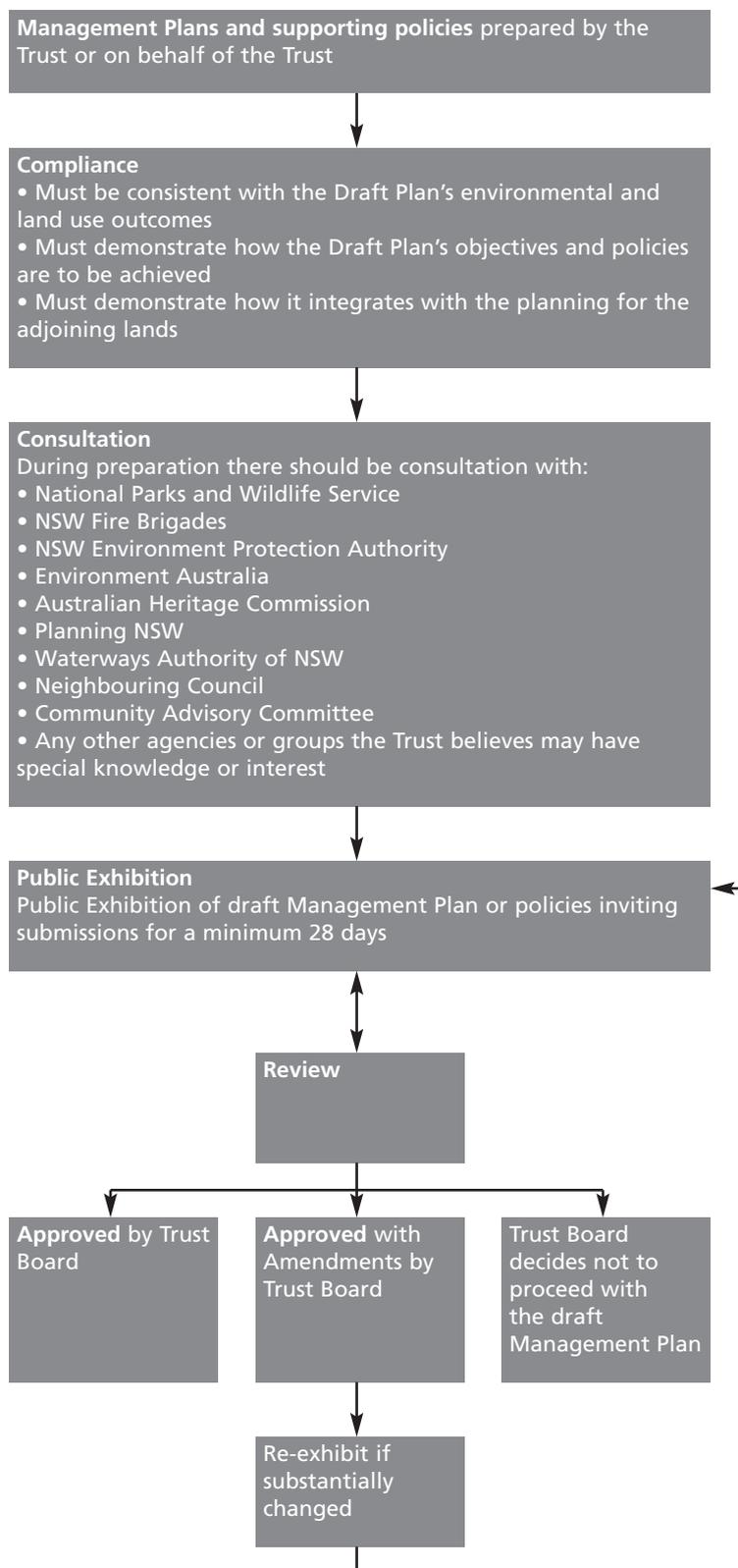
During the preparation of management plans and supporting policies the Trust will consult with the following agencies and groups where their core expertise or interest is a relevant consideration:

- Environment Australia re Environment Protection and Biodiversity Conservation Act and AHC Act
- The NSW National Parks & Wildlife Service in respect of matters relating to the NSW Threatened Species Conservation Act and Aboriginal heritage and any other relevant matters
- The NSW Fire Brigades in respect of matters relating to fire management
- The NSW Environment Protection Authority in respect of matters relating to contamination and remediation
- The Australian Heritage Commission in respect of matters relating to heritage conservation
- Planning NSW and the Council for the adjoining area for matters relating to land-use planning and any other relevant matter
- The Community Advisory Committee
- Waterways Authorities of NSW in respect of matters relating to the management of the harbour such as the provision of wharves, pontoons, boat ramps and associated foreshore works
- Any other agency or group that has a special knowledge or interest that is relevant to the specific plan area

### **Public Exhibition of Draft Management Plans and Supporting Policies**

Prior to the adoption of a management plan or supporting policy, the Trust will also invite members of the public to make submissions in respect of the draft plan or policy. To facilitate this, the Trust will make the draft plan or policy available to the public and will give notice in a newspaper circulating in the area concerned, advising of:

**Fig. 11.1** Preparation and Approval Process for Management Plans and Supporting Policies



- The place and times during which the plan or policy can be viewed
- The period during which submissions may be made; this period should not be less than 28 days
- The address to which submissions should be sent

### **Approval of Management Plans and Supporting Policies**

Management plans and supporting policies are approved by the Trust Board.

When considering draft plan or supporting policy the Trust will:

- Ensure that it is consistent with the objects of the Trust's Act
- Ensure that it is consistent with this Plan, including any subsequent amendments to it
- Take into account any advice received as a result of its consultation during the preparation of the plan
- Take into account any submissions received from the public

After considering all these matters the Trust Board may:

- Approve the draft plan or policy with or without alteration
- Decide not to proceed with the draft
- Amend the draft and where the changes are considered to be significant re-exhibit it for further public comment

The Trust will make all management plans and supporting policies publicly available.

The process for the preparation and approval of a management plan or supporting policy is set out in Figure 11.1 *Process for the Preparation and Approval of a Management Plan and Supporting Policies*

### **Amendment or Repeal of a Management Plan and Supporting Policy**

The Trust may at any time amend or repeal a management plan or policy. In the case of a significant amendment to the substance of a plan or policy the Trust will follow the process outlined for the initial preparation of the plan or policy. However, where the amendment is of a minor nature and does not affect the intent or operations of the management plan or supporting policy in a significant way this is not necessary.

### **When a Management Plan or Supporting Policy Takes Effect**

Management plans and supporting policies take effect from the date that they are formally adopted by the Trust or such later date as is stated in the plan or policy.

### **Compliance with a Management Plan or Supporting Policy**

The Trust and all other Commonwealth bodies must act in accordance with an adopted management plan and supporting policies.

## **ASSESSMENT AND APPROVAL PROCEDURES**

---

Implementation of the Plan will involve many decisions about matters like the assessment and approval of proposed actions or development, the granting of leases, setting of priorities etc. To guide the Trust when making these decisions and to provide for open and transparent decision-making, the Plan includes specific approval and assessment processes.

### **Control and Assessment of Proposed Actions**

Actions that are likely to have a significant impact on the environment are required to go through an assessment prior to determination. This process is illustrated in Figure 11.2 *Assessment Process of Proposed Action*.

Actions are defined in section 523 of the *Commonwealth Environment Protection and Biodiversity Conservation Act, 1999* (EPBC Act) and include:

- A project
- Development
- The use of any land
- The subdivision of land
- The erection of a building
- The carrying out of a work
- The demolition of a building or work

A decision to grant a licence, a permit or to provide funding is not an action.

The definition of action is similar to the commonly understood meaning of *development* and the definition of *development* contained in the NSW *Environmental Planning and Assessment Act, 1979*.

#### **Relationship with the EPBC Act 1999 – the AHC Act 1975**

The assessment and determination of an action under this plan does not obviate the need for consideration under the EPBC Act or the AHC Act.

Section 26 of the EPBC Act protects all aspects of the environment (natural and cultural) on Trust land from actions that may have a significant impact, while Section 28 protects the environment from those actions of the Trust, which may have a significant impact. However, in the longer term it is the Trust's intention to seek accreditation for this plan in accordance with Section 33 of the EPBC Act and a Ministerial declaration that actions approved in accordance with this plan do not require approval under Part 9 of the EPBC Act.

Many of the Trust's buildings and sites are listed on the Register of the National Estate. Section 30 of the AHC Act places direct heritage obligations on the Trust and require the Trust to consult with the Australian Heritage Commission when actions are proposed that could have a significant effect on the national estate values of a listed place.

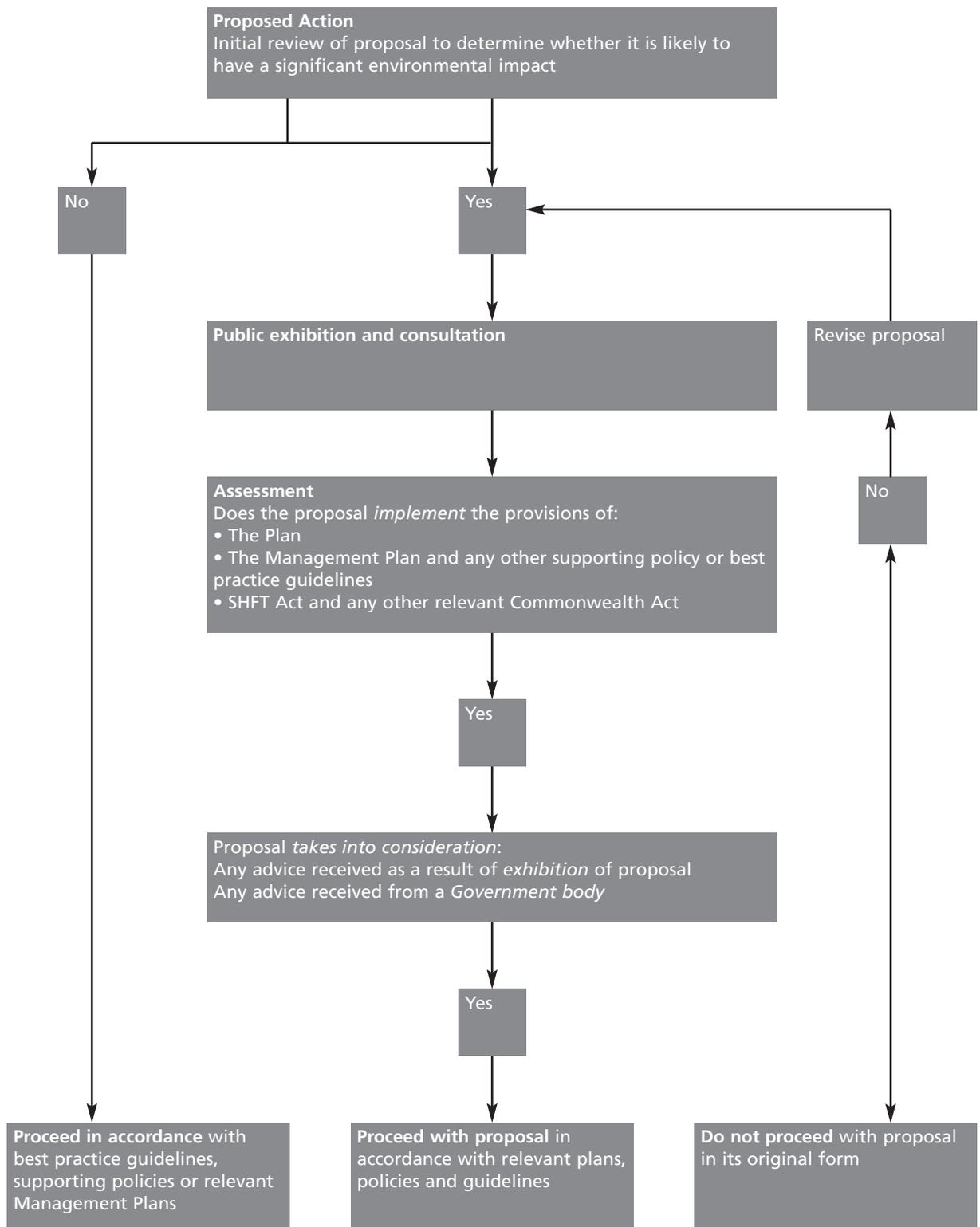
#### **What Actions do not Require Consent?**

For the purposes of this Plan certain minor actions are not required to comply with the formal approval processes described in the Plan. Consent is not required for any action that is:

- Consistent with Section 28 of the EPBC Act – that is, it does not have or is not likely to have a significant impact on the environment
- An action *declared* by the Minister under Section 32 of the EPBC Act not to need consent
- Of a minor nature
- Essential maintenance
- To protect the health and safety of persons
- Temporary
- A decision by the Trust or some other government body to grant a government authorisation for another person to take an action
- A decision to grant a licence, a permit or to provide funding is not an action

To determine whether a proposed action falls within one of the above categories the Trust will undertake an initial assessment and to demonstrate that the action is consistent with the relevant section of the *EPBC Act* or the literal meaning of the category.

Fig. 11.2 Assessment Process of Proposed Action



<b>Consent Authority</b>	<p>All other actions require the consent of the Trust or the relevant Commonwealth body and will be assessed in accordance with the approval process described in the following sections of this Plan. This process has been developed to mirror the requirements of the:</p> <ul style="list-style-type: none"> <li>● <i>Environmental Protection and Biodiversity Conservation Act 1999</i></li> <li>● <i>Australian Heritage Commission Act 1975</i></li> </ul>
<b>Public Involvement and Exhibition of Proposed Actions</b>	<p>Prior to the determination of an action that requires consent in accordance with this Plan, the Trust will invite members of the public to make submissions in respect of the proposal. To facilitate this, the Trust will make the proposal available to the public and will give notice in a newspaper circulating in the area concerned, advising of:</p> <ul style="list-style-type: none"> <li>● The place and times during which the proposal can be viewed</li> <li>● The period during which submissions may be made; this period will not be less than 14 days for minor matters and not less than 28 days for matters that because of their magnitude or complexity are likely to be of significant community interest</li> <li>● The address to which submissions should be sent</li> </ul>
<b>Consultation</b>	<p>Prior to the determination of an action that requires consent in accordance with this Plan, the Trust will consult with those Commonwealth, State and Local Government agencies that it considers have a substantial interest in the proposal or which are able to contribute special knowledge to the assessment.</p> <p>Where an action is the same as a recently approved management plan and is simply implementing the Plan further consultation is not required.</p>
<b>What Matters must be Considered when Assessing an Action?</b>	<p>In deciding whether to grant consent to an action the approving authority must ensure that the proposal implements the provisions of:</p> <ul style="list-style-type: none"> <li>● This Plan and in particular its objectives and policies</li> <li>● The management plan and any supporting policy or best practice guidelines that are relevant to the proposed action</li> <li>● The <i>Sydney Harbour Federation Trust Act 2001</i> and any other relevant Commonwealth Act</li> </ul> <p>It will also take into consideration:</p> <ul style="list-style-type: none"> <li>● Any advice received as a consequence of the exhibition of the proposal</li> <li>● Any advice received from a government body</li> </ul> <p>The process for assessment of proposed actions is illustrated in Figure 11.2 <i>Assessment Process of Proposed Action</i>.</p>
<b>Combined Approval of a Management Plan and an Action</b>	<p>Where a management plan has been developed to a level of detail consistent with that normally associated with the assessment of an action, the Trust can choose to undertake a single assessment and determination that satisfies the requirements of this Plan for both the approval of a management plan and an action. Where a joint management plan/action is assessed under these circumstances a single exhibition and consultation process is adequate to satisfy the requirements of the Plan.</p>
<b>Approval of Leases</b>	<p>The Trust is responsible for an extensive array of built assets. Ongoing conservation of these assets and public access to them will be assisted by their adaptive re-use and in some cases the leasing of some properties.</p> <p>The management and leasing of public assets is a process that requires transparency, public consultation and consistent market related procedures. To achieve this the Trust will prepare a detailed</p>

implementation policy relating to both the leasing and community use of its lands.

In general the Policy will include the following principles:

- Uses must be compatible with the goals and objectives of the Trust and the outcomes and overarching objectives and policies described in the Trust's Plan
- Premises will be offered through a publicly transparent and competitive process such as a call for *'Expression of Interest'* or a *'Request for Qualifications'* process
- Rentals and occupation terms will generally be market based. However, the Trust will permit some community groups to occupy buildings at rentals less than full market rates. The Trust will implement a contestable process to select such community groups
- All site and building maintenance or alterations will be strictly controlled by the Trust
- User selection criteria will be stated for individual properties

These selection criteria will vary for different buildings but will include at least the following criteria:

- Compatibility with the Trust's objectives particularly those relating to heritage, environmental protection and public access
- The contribution that the proposal makes to the implementation of this Plan
- Compliance with any Trust supporting policies, best practice guidelines and management plan (including a conservation management plan) applying to the site
- Suitability of the use for the location
- The impact of the activity on surrounding areas including traffic impacts, impacts on the surrounding natural environment and matters such as noise and light
- The economic package offered by the user

## MONITORING AND REVIEW OF THE PLAN

---

During implementation, the Plan and its objectives will be continuously monitored and reviewed.

Key Performance Indicators (KPIs) will be developed that reflect the commitments and policies made in the Plan. These KPIs will be measured by collecting data, both quantitative and qualitative, so that the Trust can monitor and continually improve the outcomes of the Plan for the benefit of the people of Australia, the environment and heritage.

KPIs, for example, could include:

- Improve surface water quality
- Improve public access
- Improve biodiversity
- Reduce waste and increase recycling
- Reduce reliance on Government funding
- Remediate contamination

KPIs will be developed in consultation with stakeholders and will be published on the Trust website.

### Amendments to the Plan

Under the Trust's Act, the Plan will take effect for the Plan area or part of the Plan area once the Minister has notified approval of the

Plan. The Trust must begin to implement the Plan as soon as practicable after it has taken effect.

Once the Plan has taken effect, any additions made to the Plan area, or any changes made to the Plan would require an amendment to the Plan.

The preparation of an amendment to the Plan must be carried out in the same way as the process of the preparation of this Plan.

#### **Additions to the Plan Area**

The is outlined in Figure 11.3 Process for Plan Preparation and Amendment

The Trust's Act anticipates that the Trust may be given custodianship of sites that are additional to those formally identified as Trust land sites. Schedule 1 of the Act identifies Middle Head, Georges Heights, Chowder Bay, Woolwich Dock and Cockatoo Island as Trust land sites and therefore land for which the Trust must prepare a Plan within two years of the commencement of the Act.

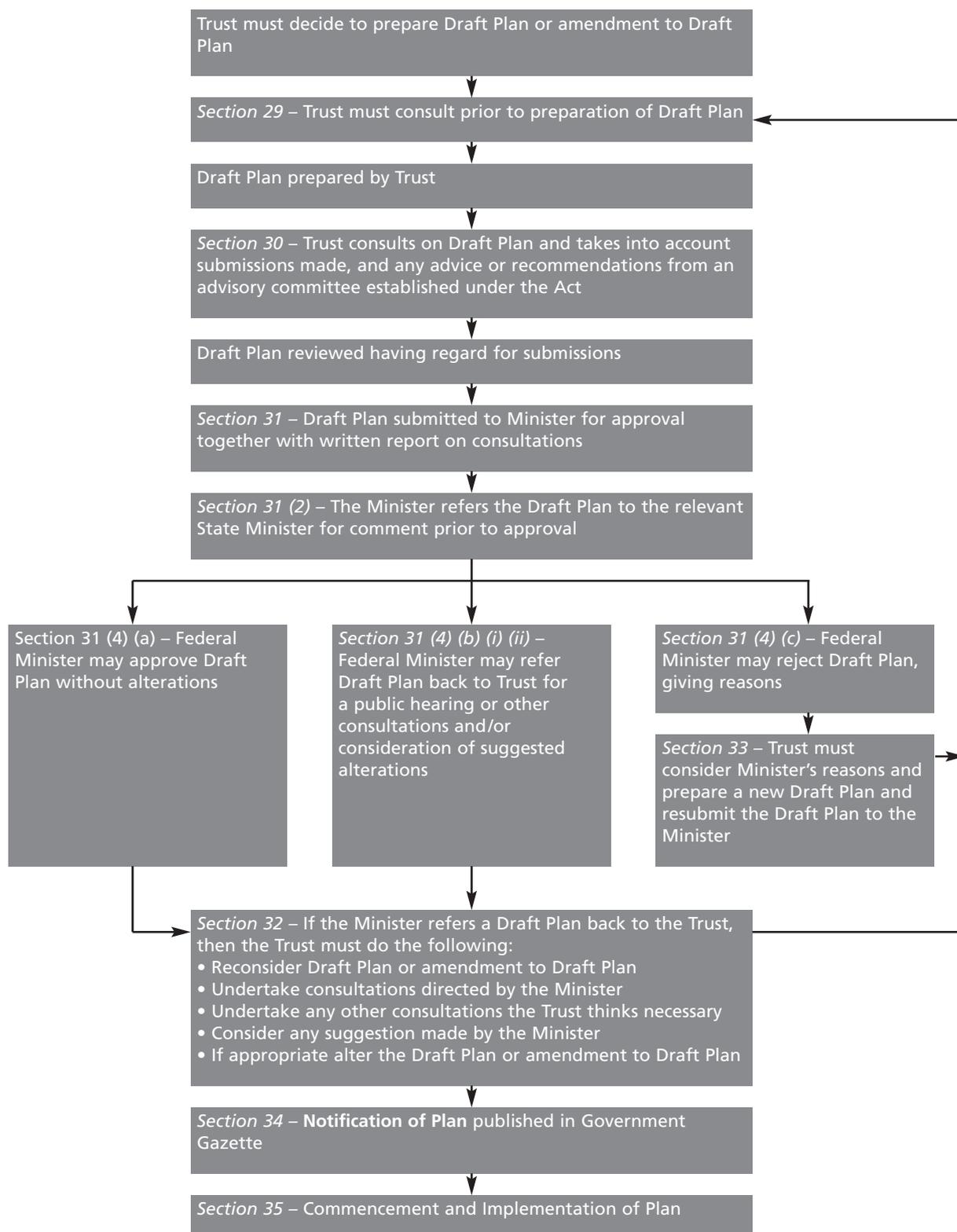
The Minister can add to these sites by specifying that any other harbour land that is a Commonwealth place is a Trust land site and once this happens the Trust is required to prepare a Plan within two years. Snapper Island, Macquarie Lightstation and the former Marine Biological Station at Camp Cove have all been added as Trust land sites in this way.

The Trust's Plan can also cover any Harbour land that is not vested in the Trust. However, the Plan only has statutory effect once the land is vested in the Trust. Harbour land is defined in the Act as land in the Sydney Harbour Region and includes Sydney Harbour's river system, catchment area and North and South Head. The former Artillery School at North Head, *HMAS Penguin* and the Australian Institute of Police Management have been included in the Trust's Plan as Harbour land and although the Trust's Plan is not legally binding it does provide a holistic Planning context for decisions relating to the future of these lands.

The creation of new Trust land sites after the approval of this Plan raises the issue of how these sites can be incorporated into the Plan. The structure of the Plan allows new sites to be added quite simply. There is no need for a new stand-alone Plan to be prepared. The whole of harbour values and principles in Part A and the machinery provisions in Part C apply to all Trust land sites equally and accordingly there is no need for them to be duplicated. To add a new site to the Plan, a discrete section containing the specific information relevant to the new site will be added to Part B as an amendment.

#### **COST OF IMPLEMENTATION AND POTENTIAL FOR REVENUE**

The Trust land sites, the former School of Artillery and the Royal Australian Artillery National Museum at North Head have an area of approximately 145 hectares including a substantial amount of open space and bushland and over 400 buildings many of which are of national heritage significance. The conservation and rehabilitation of these lands to make them usable by the public will involve significant costs over the implementation period of the Plan. In anticipation of this the Trust Act requires that the Plan include *"detailed estimates of costs which may be incurred in respect of the area, including costs of remediation, rehabilitation, and conservation of the area."*

**Fig. 11.3** Process for Plan Preparation and Amendment

In arriving at these costs, consideration has to be given to the past use of the land. Much of it has been in military and industrial use for over 100 years. During this time public access has been restricted and the uses and the way in which the land was developed reflected the needs of the military and heavy industry.

Some of the costs implications arising from these historical uses include:

- The buildings were designed for military and industrial use and very few comply with the Building Code of Australia for matters such as disabled access, fire protection and emergency egress
- Many of the past uses have left sites and buildings contaminated and significant remediation work is required before the lands can be used by the public
- Little long-term maintenance was carried out in recent years. This is particularly evident with services and infrastructure. As a consequence the infrastructure is generally in poor condition. General maintenance of buildings has also been minimal over recent years and there is a considerable backlog of maintenance work required
- Many of the buildings and locations are of national heritage significance and their restoration and conservation is both costly and time consuming with the potential for significant unknown factors to arise when work is being undertaken

## Detailed Cost Estimates

Cost estimates have been compiled for remediation, rehabilitation of buildings, conservation works, the provision of public access, the provision of public amenities, and associated operational costs.

These cost estimates were prepared by an independent quantity surveyor and include an amount for the work at the former School of Artillery at North Head. The site of the school is owned by the NSW Government and accordingly it is identified as a *Harbour Land Site* in this Plan. The Trust's power to carry out implementation works on a *Harbour Land Site* is limited. To facilitate the implementation of the Plan it is essential that the land is vested in the Trust. If agreement is not reached on this matter the cost of this work will be eliminated from the estimates.

A number of principles were established and assumptions made in preparing these estimates. These include:

- All estimates are based on costs prevailing as at September 2002, and do not take into account the effect of inflation
- The estimates were based upon the version of the Plan as amended to include the comments of the Community Advisory Committee at the meeting held 18th August 2002
- The estimates for remediation costs were based on previous studies and other information provided by Defence Estate. The assumed standard for remediation is in accordance with the guiding principles contained elsewhere in this Plan. These standards require compliance with the appropriate Commonwealth and State legislation and policy. It should be noted that this legislation and policy may change in the future resulting in an increase in cost
- The estimates relate to work to be carried out on the existing buildings and lands. The estimates include provisions for the demolition of some buildings, and for the rehabilitation of buildings suitable for rehabilitation and adaptive reuse. The estimates do not include provisions for the construction of new buildings
- The estimates are summarised into the cost categories outlined in the Trust's legislation. There were some assumptions required in this allocation process. For example, some building remediation works

may contain items of public access, conservation, and remediation expenditure

- The Trust has had limited access to certain of the sites. For example, the sites occupied by One Commando Company and Training Command at Middle Head. The estimates for these sites are based on information supplied by Defence Estate together with some reports prepared for the Trust. The limited access that the Trust has had to the sites reduces the level of confidence in the estimates and the costs may increase following a detailed review of the sites.

- The cost estimates assume the works are carried out in a programmed and efficient order

Accordingly the detailed costs provided are in accordance with the Trust's Act, but must be regarded as provisional and subject to revision as remediation, rehabilitation and conservation work is undertaken on specific sites and buildings. It is likely that the costs will be revised upwards over time. The Trust will report annually to the Minister on the revision of cost estimates.

<b>Project Cost Details</b>	<b>Remediation</b>	<b>\$45,936,000</b>
	This is made up of:	
	Remediation projects	\$23,442,000
	Remediation works associated with services	\$4,979,000
	Remediation of public spaces	\$4,392,000
	Remediation works on buildings	\$13,123,000
	<b>Rehabilitation</b>	<b>\$56,932,000</b>
	a. Rehabilitation of infrastructure	\$12,191,000
	This is made up of:	
	Services etc	\$8,378,000
	Public space	\$3,813,000
	b. Rehabilitation of buildings	\$44,741,000
	This is made up of:	
	Demolition	\$558,000
	Public space	\$1,700,000
	Buildings	\$42,483,000
	<b>Conservation</b>	<b>\$24,613,000</b>
	a. Public areas/bushland etc	\$11,739,000
	b. Buildings of heritage significance	\$12,874,000
	<b>Total project cost</b>	<b>\$127,481,000</b>

#### **Trust Operational and Maintenance Costs**

In addition to the cost of remediation, rehabilitation and conservation projects, there will be costs associated with the Trust's ongoing responsibilities to undertake detailed design and Planning of the sites, to insure its assets, to provide security to the lands and buildings, to undertake routine maintenance and to enable the buildings and lands to meet health and safety requirements for use by the public.

There is also a need for an administrative support structure together with a communications and a community education program to inform the public about the lands and their significance.

The composition of these operational costs will change over time as parts of the lands are rehabilitated and occupied. For example, the cost of security will decrease as some buildings become occupied. However, the estate management costs of the Trust will increase.

The following assumptions were made in estimating these costs:

- All estimates are based on costs prevailing as at September 2002 and do not take into account the effect of inflation or changes in legislation such as the Building Code of Australia
- The estimates assume a seven year program, commencing July 2003, to complete all of the required project and planning works
- The estimates assume a programmed development of the sites enabling efficient use of Trust staff and resources

The Trust is required to forecast its operational and maintenance costs for a seven year period. Some of these costs are inherently volatile, for example, insurance. Accordingly the costs provided must be regarded as provisional and subject to revision as more knowledge of these costs is obtained in the future. The Trust will report annually to the Minister with an update of the maintenance and operating costs.

*Maintenance and operating cost details*

Total Cost	<b>\$56,000,000</b>
This cost is made up as follows:	
Site Security	\$7,800,000
Public Health and safety works	\$4,800,000
Repairs and Maintenance	\$4,300,000
Community liaison and education	\$11,900,000
Design, Planning and consultation	\$10,800,000
Estate Management	\$4,800,000
Insurance	\$3,900,000
Trust Administration	\$7,700,000

**The Potential for the Trust to Generate Income**

The cost of implementing the Plan does not have to be met entirely from public sources. There is the potential to offset the ongoing costs of implementation by the rehabilitation, adaptive re-use and lease of some of the buildings. This income will increase over time as a greater number of buildings are rehabilitated and are available for leasing.

Such uses can provide income whilst maintaining public access to the sites. This income can be used to reduce the ongoing costs of land and public area maintenance, site remediation and for the improvement of public access to the lands.

However, there is a very direct relationship between the potential rental income and the extent of building rehabilitation undertaken. Full rehabilitation to a standard that enables a user to occupy a building with little further expenditure will provide the highest gross rental. Conversely rehabilitation that is limited to essential remediation and building compliance works may still leave substantial building refurbishment costs to be undertaken by the user. Under these circumstances the rent received by the Trust will be less.

The objective for the Trust is to find the appropriate balance between building rehabilitation, expenditure, and net income. Accordingly the revenue forecasts and the rehabilitation costs have been prepared on the assumption that the Trust will only undertake full rehabilitation

of buildings with significant heritage value. For buildings that do not have significant heritage value the cost estimates assume that the Trust will carry out remediation, structural and services rehabilitation so that the building is waterproof and complies with relevant BCA standards. Other building improvement work is assumed to be at the expense of the user.

Consultant valuers have prepared rental estimates for the Trust's buildings. These estimates assume normal commercial leases for the buildings and are prepared on a net of outgoings basis. The rental estimates contain a range, depending on the likely use of individual buildings.

These estimates indicate that the Trust can expect a net annual revenue of between \$8 million and \$12 million per annum once the remediation and rehabilitation works are completed. The rental estimates also indicate that revenue of \$27.8 million will be earned during the seven year project completion period.

These income projections include rental and other incomes generated by the former School of Artillery at North Head. In the event that the tenure of the school is not vested in the Trust these projections will have to be revised downwards to eliminate the estimated income from this source.

A further potential source of income is from the sale of land. The Act specifically prohibits the sale of any land other than 19 existing dwellings located in Markham Close, Mosman. These properties are identified in Schedule 2 of the Act. The sale of these houses will provide an important source of funds to assist the Trust in the implementation of the Plan. The Plan proposes that two of the houses are removed and that part of their sites is incorporated with the adjoining parkland. It also proposes that the site of the Scout Hall is included in Schedule 2 – see Section 7, Markham Close Outcomes. The estimated revenue from the sale of this land is \$22.0 million.

The Trust also believe there may be potential for it to attract sponsorship and grants for specific projects. This has not been allowed for in the cost/revenue estimates, however, the Trust will explore the opportunities for sponsorship from the private sector.

As in the case of cost estimates, the estimates of revenue must be regarded as provisional at this stage, and subject to revision as operating experience and knowledge in respect of the sites improves. An annual report will be given to the Minister on this item.

### **Timing of Rehabilitation and Public Access Works**

The implementation of the Plan will take place over a number of years and the Trust has discretion as to when and what work is carried out. How the Trust will exercise this discretion is discussed in the section of the Plan dealing with priority setting. The Trust believes that the remediation and rehabilitation works should be undertaken as quickly as possible for the following reasons:

- Early remediation and rehabilitation will prevent further deterioration of lands and buildings and will lessen the possible impacts of contamination on surrounding areas
- Early rehabilitation will make sites available to the public quickly
- Early rehabilitation will facilitate the early generation of income from buildings and sites. This is the most favourable financial outcome when considered from a discounted cash flow perspective
- Early occupation of the sites will reduce the cost to the Trust for maintenance and security

The Trust's revenue projections assume that rehabilitation works are carried out progressively with all major rehabilitation works being completed within seven years of the Plan being approved.

#### Timing of the Removal of Buildings and Structures

Buildings that have been identified in the plan for removal will be removed as soon as practical so that the costs of maintenance are reduced and the implementation of revegetation and other programmes is facilitated.

#### Cost and Revenue Summary

Assuming a seven-year program to rehabilitate the lands the cost is as follows.

Total cost of remediation, services and building rehabilitation, public space provision and conservation	\$127,481,000
Cost of maintaining the lands and buildings, security, insurance, and operating the Trust over the period	\$56,000,000
<b>Total cost</b>	<b>\$183,481,000</b>
Revenue during the period	
Sale of Markham Close houses	\$22,000,000
Rental income received	\$27,800,000
<b>Total revenue</b>	<b>\$49,800,000</b>
<b>Net Cost after revenue received</b>	<b>\$133,681,000</b>
Cost of remediation of contaminants	\$45,936,000
Funds required for other works	\$87,745,000

#### DETERMINATION OF PRIORITIES

---

As discussed in the previous section, implementation of the Plan will take place over a number of years. As a consequence the Trust requires a process that enables it to select the most worthwhile projects while balancing a range of considerations like public benefit, cost, ease of implementation etc.

To do this the Trust has developed a draft policy that involves the consideration of priorities from three different perspectives. The three perspectives enable a balance to be achieved between the variety of factors that influence priority. The policy allows the higher priority projects to be identified from each of the different perspectives and these highly ranked projects then provide a shortlist for final project selection.

The three perspectives are:

Perspective 1 identifies a range of projects that, collectively, open up the sites to the public by gradually building up an access network with places of interest along the way, through the following stages:

- Provide a path or an entry that links with adjacent areas and networks in the simplest manner while linking as many points of interest as possible. At this stage points of interest can be seen but are not yet safe for occupation, all items of interest are stabilised, re-connection or provision of trunk services would commence

- Some of the more important places and items of interest are made accessible and safe for possible interim/or long term use. This includes additional public domain improvements, remediation, Building Code of Australia compliance, building restoration beyond simply stabilisation. This stage includes the core area(s) of some precincts, improvements to site entry(ies)
- Expansion of the network – additional access paths, expansion of areas started in stage 2, and new areas opened up around additional points of interest
- And beyond – further expansion of the network with most buildings accessible/occupied

Perspective 2 ranks projects against a range of benefits and the ease or difficulty with which the project can be implemented. This perspective is illustrated in the diagram below:

Greatest Benefit Least	Priority 2	Priority 1
	Priority 3	Priority 2
	Difficult	Easy
	<b>Implementation</b>	

Implicit in this perspective is that the benefits relate to the Plan outcome proposed for the site.

Some of the benefits that are considered are:

- Maximising community benefit
- Increased public access
- Cultural heritage benefits
- Environmental improvements
- Visual prominence
- Experience and understanding of the place
- Community use
- Infrastructure to facilitate other projects
- Revenue potential

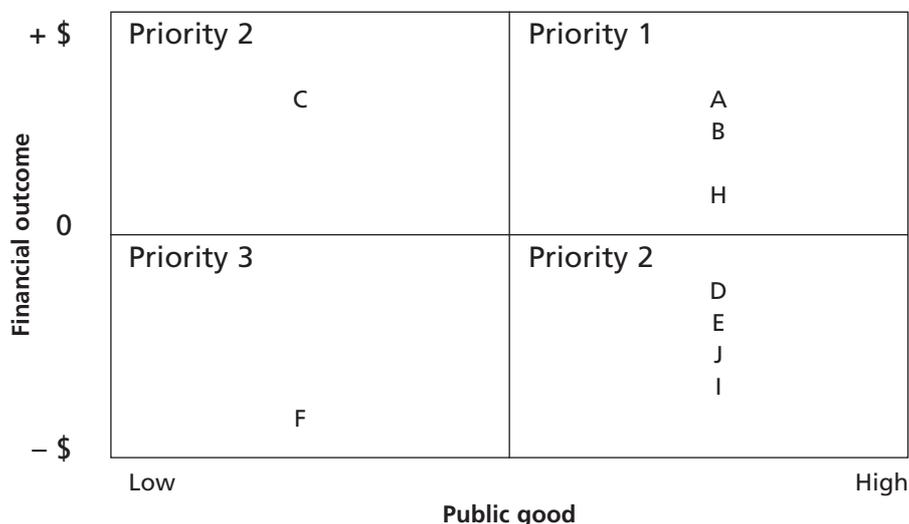
While some of the matters considered when assessing the ease or difficulty with which a project can be implemented, are:

- Level of upfront infrastructure investment required
- Amount of work required to repair buildings or land
- Potential for the work to be undertaken in partnership
- Community acceptability
- Dependency on other studies or works
- Environmental impacts
- Cost

Perspective 3 considers projects having regard for the Trust's financial objectives as well as the '*public good*' objectives set out in the Trust Act.

Some projects will result in outcomes that will reduce the Trust's ongoing monetary costs, provide revenue for other implementation projects and assist the long-term financial stability of the Trust.

The Diagram below illustrates how the balance between '*public good*' and financial considerations can be achieved.



In considering this approach there are also two types of facilitating projects that need to be undertaken so that other projects can proceed. These projects are remediation projects and projects involving the restoration of services.

#### NATURE OF FUTURE OWNERS AND MANAGEMENT

The Trust Act requires the Plan to identify *“the nature of possible future owners of the area or parts of the area”*. Implicit in this is the more general issue of the future management of the Trust lands.

Sydney Harbour and its foreshores have been described by both the Prime Minister and Premier as one of the renowned natural urban features in the world and a matter that is genuinely vital for all Australians. It has the potential to be one of the nation’s great urban parks. However, how well it achieves this vision will be largely dependent on the management structure that is adopted.

Fragmented ownership represents the single greatest impediment to the achievement of the Prime Minister’s and Premier’s vision for the Harbour. It also raises a number of fundamental questions that need to be considered prior to specific decisions being made about the future owners of the Trust lands.

There are a number of differing examples of urban open space management systems currently operating in Australia and overseas. The majority of these agencies are set up with clear goals for particular pieces of land, or clear goals for certain outcomes. The Trust Act and objectives of the Trust, although similar in many ways to the objectives of other organisations, are also different.

The preamble to the Act identified Parliament’s intention that the Trust was set up to:

- Conserve and preserve land in the Sydney Harbour region for the benefit of present and future Australians
- Return suitable land with significant environmental and heritage values to the people of Australia
- Be a transitional body to manage the land and facilitate its return to good order
- Transfer suitable land to New South Wales for inclusion in the national parks and reserves system

Apart from this, there is no clear guidance about who should be the future owner of the harbour lands. However, the Act does allow for the transfer of land to Commonwealth, State and Local Government.

The Trust has reviewed the management frameworks of existing urban park authorities and has concluded that there is no single management model that can easily be adopted and that ensures that the objectives of the Act and the vision enunciated by the Prime Minister and Premier are achieved.

At this early stage in the planning process, much of the future success of the Plan is unknown. The Plan is flexible enough to accommodate a range of uses on different sites. However, it also needs to be able to accommodate an evolving management framework. As demonstrated on a number of occasions in Sydney, changes in community expectations and the political environment can have a significant impact on the development and management of urban parks. For this reason it is not considered appropriate that the Plan should attempt to identify specific owners or managers for particular sites. It is more appropriate for the Plan to describe the type of management structure and the general nature of future managers that will best produce the outcomes anticipated when the Trust was established. More importantly this approach is consistent with the requirements of the Act.

The future management of the harbour lands should ensure that the '*whole of harbour*' significance of the lands is not depleted. It is also important that the organisation is robust and is not impacted on at an operational level by sectional interests. The organisation needs to be committed to a '*whole of harbour*' direction and have clear responsibilities and goals.

It is proposed that the Trust continue to investigate options for the future ownership and management of the lands currently under its control and that detailed negotiations be held with the NSW Government.

Investigations will be focused on the elements identified in this section as important for any future managing agency and to do this the Trust will:

- Further investigate future owners and management frameworks through the implementation of the Plan
- Utilise the implementation period as an opportunity to evolve a suitable model for future management of regional open space on Sydney Harbour

The Trust will promote a future management model that:

- Reflects the original intentions of Parliament, as set out in the Act's preamble. This includes:
  - The Conservation and preservation of land in the Sydney Harbour Region
  - Ensure that the land benefits present and future generations of Australians
  - Return suitable land to the people of Australia in good order to be managed as part of the national parks and open space reserves system
- Incorporates the objects of the Trust as defined by the Act:
  - Ensure that the land contributes to the enhancement of the amenity of Sydney Harbour region
  - Protect, conserve and interpret the environmental and heritage values of the lands

- Maximise public access to the lands
- Provides for a process of planning and implementation that is transparent and remains acceptable to the community
- Provides for ongoing community consultation
- Ensures that the 'whole of harbour' significance of the lands is not diminished
- Ensures that the organisation is robust, is able to withstand sectional interests, is autonomous by nature and has committed leadership with clear responsibilities and goals
- Ensures that the organisation is large enough to operate in an efficient economic environment, whilst being autonomous

## ONGOING CONSULTATION

---

Community involvement will continue once the Plan has been approved. It is imperative for the Trust to continue to consult with the community and agencies during the implementation of the Plan, which involves:

- Developing supporting policies
- Developing site specific management Plans
- Commencing projects/activities on sites
- Leasing of buildings/areas of sites

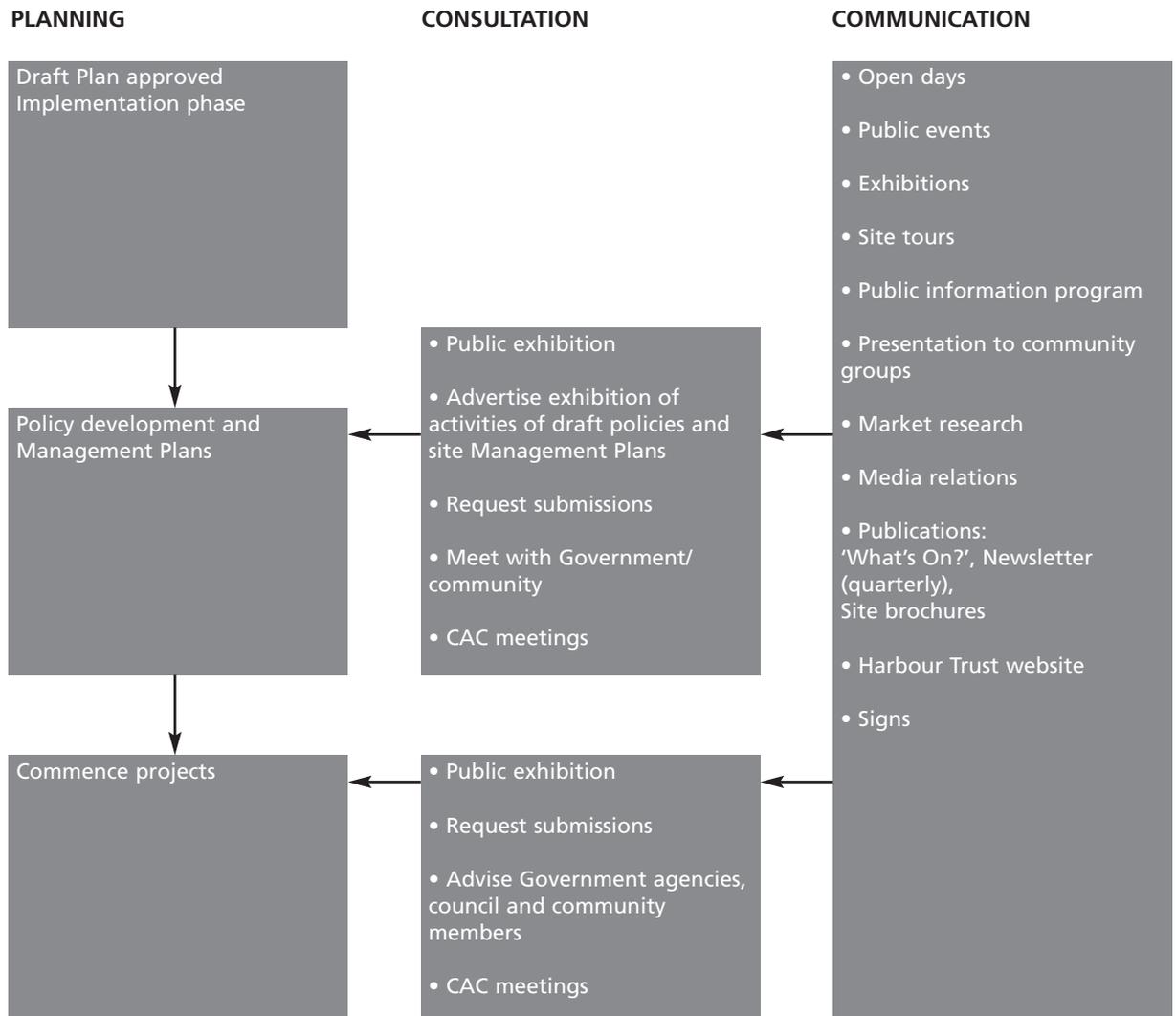
This is shown on Figure 11.4 *Consultation and Communication during the Implementation Phase*

As described in more detail in the Sections dealing with the adoption of management plans and supporting policies, the Trust will invite members of the public to make submissions in respect of these matters. To facilitate this, the Trust will make the draft plan or policy available to the public and will give notice that the plan or policy is available for comment and request submissions.

The Trust will also make available to the public all final management plans and supporting policies.

Prior to commencing any specific projects, the Trust will determine whether the proposal is going to have a significant environmental impact and whether consent is required under this Plan. Any activities that the Trust determines may have a significant impact will also be exhibited for public comment prior to determination.

Apart from the official advertised consultation activities, the Trust will continue to meet with stakeholders as requested, continue the communication activities and public information programs and provide access to the sites and invite the community to continually provide input to the planning process.

**Fig. 11.4** Consultation During the Implementation Phase

# 12



## COMMUNITY CONSULTATION AND COMMUNICATION

---

Community consultation and communication has been essential to the Trust in developing a shared vision for the future of the Trust lands. The Plan has therefore been prepared with extensive Community and Stakeholder consultation.

The Trust is mindful that it is not dealing with a single community. There are many different communities, groups and individuals with varying interests. The Trust needs to understand all of the issues associated with each of the lands and balance the interests of all the different communities to develop the best possible outcome for the lands and for the people of Australia. For this reason it was considered essential that the community was engaged in the planning process early and was encouraged to participate throughout the duration of the process.

Community consultation has been conducted since the Interim Trust began, and will continue into the future. As shown in Fig 1.2 *Consultation and Communication during the Planning Process*, the community has so far helped the Trust understand the intrinsic values and significance of each site, the issues that need to be considered in developing concepts, developing ideas for proposed uses, and in giving feedback to the Trust during development of the Plan. The community will be further consulted during implementation of the Plan over the forthcoming years.

Consultation and communication has been conducted via a range of activities including:

### *Community Briefing*

During the Interim phase of the Trust, a number of meetings were organised at each of the sites where representatives of community organisations and Councils briefed the Planning Team. This provided valuable background about the history of each site, issues, concerns, and expectations that community groups and stakeholders had.

### *Community Consultative Committees*

During the interim phase of the Trust, four community consultative committees were set up to cover the sites. The committees met regularly with the Trust to discuss concepts and plans for the sites. Members provided valuable local knowledge of the sites and ensured ideas being proposed were viable and met community needs. These committees were informal with no statutory basis.

### *Community Advisory Committee*

Under the Act, the Trust is required to have a Community Advisory Committee (CAC) to participate in the planning process. As the Trust is preparing one comprehensive plan for all the lands to ensure a Whole of Harbour approach is taken, it was decided to create one CAC. The CAC has around 80 members, drawn from a wide cross-section of people with skills and expertise relevant to the lands. The Local, Federal and State Members of Parliament are on the CAC as well as representatives from Local Government.

The role of the CAC is to act as a sounding board regarding:

- The form and content of the plan
- Specific land use issues
- Strategies for the management of the Trust lands
- Public access to the Trust lands
- Specific conservation issues
- The consultation process

The Trust will continue to seek the Committee's advice on the broad strategic framework as well as the site-specific issues that the plan must address.

#### *Public Submissions*

Under Clause 29 of the Trust Act, the Trust was required to give public notice of its intention to prepare a plan and to invite interested persons to make representations in connection with its proposal. Public Notice was given on December 1, 2001 and submissions were received until February 22, 2002. One hundred and three submissions were received and these were considered in the preparation of the draft plan.

Section 30 of the Act requires the Trust to exhibit its draft plan to invite the public to make submissions. The draft plan was exhibited from November 2, to December 20, 2002. A total of 344 individual submissions and 2680 form letters were received. The matters raised in these submissions have been reviewed by the Trust's planners and incorporated in the plan where appropriate.

#### *Workshops/Forums*

The Trust recognises that many in the community have devoted significant amounts of time to investigating and considering these sites, and we wish to learn from these efforts. As such, a number of workshops and forums were held in order to determine the significance and values of each of the sites.

#### *Open Days and Events*

The Trust has held a number of open days and events to generate public awareness and to encourage community participation in the planning process. The events also provided the Trust's planners with insights into practical issues such as public access to and use of the sites.

#### *Exhibitions and Displays*

An Exhibition called 'Sites Unseen' was staged at Customs House in 2001. The aim of the exhibition was to raise awareness of the Harbour Trust sites and to stimulate public discussion about their potential of these lands.

A permanent display on the Trust and planning concepts for all of the sites was also mounted in the former Sergeant Major's Cottage at Chowder Bay.

While specific displays were mounted at community events, including the Hunters Hill Fair, 'Moocooboola', the NSW National Parks and Wildlife Service's Middle Head Open Day and the National Maritime Museum's Classic and Wooden Boat Festival.

#### *Public Programs and Interpretation*

The Trust has constructed a walking track and installed interpretative signage at Chowder Bay and Middle Head. These are designed to provide an enhanced experience for visitors to the sites, most notably emphasising their history and special features.

Guided tours of Cockatoo Island commenced in August 2001, with four tours every weekend.

The Trust's Public Programs officer also gives presentations to community groups such as Probus and Rotary Clubs.

*Publications*

The Trust has produced 'What's On' brochures to inform the community of upcoming events and activities, and opportunities for input into the planning process. These are distributed widely to museums, visitor centres, schools, libraries, and to some 3,000 people and organisations on the Harbour Trust's mailing list. The Trust's Update newsletter is also produced and distributed through the mailing list.

A general brochure outlining the role of the Harbour Trust and brochures on individual sites have also been produced.

*Website*

The Trust's website ([www.harbourtrust.gov.au](http://www.harbourtrust.gov.au)) is regularly updated with details of progress in planning, minutes of meetings, notice of open days, tours and events. An electronic feedback form is included on the website allowing for comments and suggestions to be instantly transferred to the Trust's Community Consultation Manager.

*Market Research*

Baseline qualitative and quantitative market research was undertaken to establish the level of community awareness, attitudes and values in relation to the responsibilities of the Harbour Trust.

---

**WHOLE OF HARBOUR BACKGROUND MATERIAL**


---

**The Prevalent Patterns that Characterise the Harbour and the Trust Lands**

In order to plan for the future we must understand what is and was there so that we respond to the special qualities of the place and do not destroy its character. We are all awed by the sheer beauty of our harbour, yet seldom have its characteristics been articulated. As part of our planning for the Trust lands, we have attempted to identify some of the key patterns that make it so special.

The influence of ancient and vast processes are evident in the overall development pattern of Sydney and even in some of the most detailed elements such as the precise disposition of a gun emplacement, a flight of stairs cut in the rock or where a jetty comes to shore. They are opportunities provided by processes that may have taken millions of years.

**The Influence of the Underlying Geophysical Form**

The warping, faulting and lifting of the thick sandstone beds underlying the Sydney Basin millions of years ago resulted in the raising of the Blue Mountains and Hornsby and Woronora Plateaus, fracturing along the coast and a south westerly tilt in the layers.

The Trust and Harbour land sites are on the southern edge and lower parts of the Hornsby Plateau and consist primarily of sandstone and shale derived soils. Evidence of Jurassic aged basaltic dykes, Pleistocene terrestrial sand dunes and Holocene fluvial-deltaic sand and mud deposits are also present. The landform is one of a drowned river valley that has eroded into Hawkesbury Sandstone and in places into the underlying Narrabeen Group of sandstones and shales, in an incised meander pattern. The pre-holocene river valley was inundated by a transgressing sea about 10,000 years ago.

Warming of the earth since the last Ice Age has caused the sea level to rise to its present level 6000 years ago. It flooded the river valley to form one of the great harbours of the world with its characteristic sandstone block erosion pattern, fractured peninsulas, its broad bays on the south and higher, rockier and impassable shoreline on the north.

**Maritime and Estuarine Influences** The flooded river valley has created two distinct places in the harbour.

The outer harbour is open and exposed to the influences of the marine environment, strong winds, salt and an inflow of clean ocean water. The remnant vegetation and the underlying landform are the dominant features. Plateau tops, dunes, cliffs, rock outcrops and steep slopes provide a rich contrast and diversity. Their exposure and succession of vantage points overlooking the entrance to the harbour made North Head, Middle Head and Georges Heights suitable locations for defence.

By contrast, the inner harbour is estuarine. It has a sense of enclosure provided by the surrounding, undulating ridges and relatively narrow water body. There is more intensive residential development down to the water's edge.

Where Cockatoo and Woolwich are located is the place where the rivers meet:– the Lane Cove and Parramatta Rivers, the harbour and Iron Cove. Cockatoo Island and Woolwich Dock, like so many of the peninsulas west of the bridge, were primarily places of industry, though the isolation of Cockatoo meant that it was first a place of incarceration and secure storage.

**Fragmented Indigenous Vegetation**

What is commonly regarded as natural bush around the harbour has been affected by human habitation including large scale clearance and fragmentation and by the introduction of increased nutrients, pest animals, weeds and plant pathogens, as well as the limits imposed by the soils and climate.

The Aborigines modified the vegetation primarily through 'mosaic' firing to encourage particular plant and animal communities. We still have the legacy of this fire management in the particular plant communities on some of the headlands of the harbour.

Fire and hydrological regimes have since been altered and the vegetation has responded to these changes. The regular firing has ceased. Reticulated watering systems, altered landforms, exotic organisms and increased nutrients have left indigenous vegetation in a fragmented state within the Sydney Harbour catchment area. And yet, on some Trust lands the perception of native vegetation predominates (North Head, Georges Heights).

**Aboriginal Use of Sites**

The foreshores and intertidal zones were an important source of food for the Aboriginal inhabitants of Sydney and the marine areas around Middle Head, Camp Cove, Woolwich (Clarkes Point Reserve and the Horse Paddock) and the western shores of North Head were well frequented. Middens containing the remains of fish, shellfish and crustaceans are evidence of this. (e.g. Kellys Bush, Woolwich; Cobblers Beach, Balmoral Beach, Vaucluse). Overhanging rock ledges provided shelter. Islands like Cockatoo and Snapper may have been the destination of fishing expeditions but because of their extensively altered state there is no evidence to support this to date. The Trust will undertake further study to try and understand what role these islands played.

The elevated ridgelines and cliff edges would have provided useful vantage points and are the location of rock engravings at Middle Head and North Head.

Manly was observed as the scene of a large gathering which feasted on the remains of a stranded whale (1790) and North Head is known

in Aboriginal oral history as a place of burial and medicinal practices carried out by *Koradgee*, medicine men, and also by female healers.

### Settlement Pattern

The articulation of the social hierarchy in the first European settlement has had a lasting influence on the pattern of development around the harbour. Government and institutions were located to the east of the Tank Stream at Sydney Cove. Over time, mansions were built on the headlands eastward enjoying views and a northern aspect. The grand estates were of course subdivided over the years but some were taken over for institutional uses and conserved or were dedicated as parkland.

The unruly area of the Rocks, where most of the convicts lived, was to the west of the Tank Stream. The west became the site of industry, commercial wharfage and the neighbourhoods where the workers lived. As the land close to the city became occupied, industry sought out the points of land further upstream that had deep water and the potential for anchorage.

A gentler topography and northerly aspect meant more intensive development on the southern side of the harbour and less on the north, which became a place of large land grants to the military and free-settlers. Whilst the southern shore has a romantic vista of the bushland across the Harbour, the northern shore views the city through a veil of vegetation.

### The Harbour as a Fort

Fortifications to the east and industry to the west – the protector and the protected Sydney Harbour had the potential to be the fortification itself. In the time of square rigged ships, the difficulty of manoeuvring caused by the narrowness of the passage in combination with a signal station on South Head which could give the inner township time to prepare was thought to be sufficient defence. The form of the landscape and the nature of the water body itself were the primary fortification. Over time, defence has taken advantage of the strategic potential of the outer Harbour – the depth of water access, observation, safety and trajectory of cannon balls and shells. Generally the settlements are nestled in to the landscape. Buildings, cut and fill are relatively small-scale when compared with the topography. The system of gun emplacements on the succession of headlands into the harbour has been developed and re-configured a number of times until World War II, after which construction ceased. In addition to the fortifications, the Navy's support functions have similar needs to civilian industry and this resulted in the development of more remote sites further up the Harbour. These included victualling stores, graving docks cut into the sandstone at Garden and Cockatoo Islands and a variety of shore bases for mine laying, submarines and munitions. The need for access to deep water and the Heads has given rise to the shore bases at Chowder Bay, HMAS *Penguin* and HMAS *Platypus*.

### Headlands, Landing Places and Ridge Roads

Where the spur or ridge meets the deepest water provides the connections in the land – water access network. On both north and south shores, the harbour is deeper at the points. These are the places of anchorage, strands, jetties and wharfs. From these points the ferries still serve the city. The interconnection of land and water at these points holds a vital key for the future planning of our maritime city. Examples: Woolwich (Clarkes Point), Chowder Bay, Cremorne Point.

### Village-like Settlements Along the Ridges

Our winding arterial roads probably follow the line of the pathways of the original inhabitants. From the ridges, occupied by the main

roads, such as the Pacific Highway, Victoria Road and those named Military Roads (leading to the fortifications), the spur roads fall down towards the points of the peninsulas. Village like settlements – now our retail strips, formed along these ridge roads, for example, Neutral Bay, Cremorne and Mosman along Military Road; Paddington and Bondi Junction along Oxford Street and Old South Head Road.

### **Institutional Settlement Pattern**

There are two essentially different development patterns development that can be observed in the city. One is typical of residential areas where streets define blocks which are subdivided into individual lots for houses. The other is where large land holdings are developed for industry or institutional use.

One defines the open space – the public domain by fences and houses setback for front gardens – the other has buildings set in the landscape with plenty of space around them.

Industrial uses tend to develop organically over time as technologies change or the buildings are adapted to different uses to the ones for which they were constructed. In terms of building hierarchy there is usually a distinction between administration (white collar) and production (blue collar).

In military establishments the layout reflects the more diverse levels of rank as well as separation of functions – the higher the function and rank, the closer to the central axis. At the centre is always the main gathering space, the quarterdeck, the parade ground. This neutral field is where the relationship of the ranks is clearly expressed by the geometry of the parade and reinforced by the hierarchy of mess halls and accommodation.

These archetypal architectural arrangements are most clearly evident in the Artillery school on North Head, but are also evident in the WW I hospital on Georges Heights and even the School of Pacific Administration at Middle Head.

Away from the central buildings, the support functions tend to resemble both the layout, in their more opportunistic siting, and function of industry. Detached married quarters are spread along internal roads.

Therefore, it is not just the obvious heritage items of sandstone barracks, gaols, gun emplacements and store houses that are important but the layout and the relationship between all these elements. Unlike the settlement pattern of residential and retail areas, defence bases are characterised by the rational overlay of military roads, hierarchical arrangement of buildings, the benching of sand dunes and the creation of waterfront hard-stand. Examples: School of Artillery, HQ Training Command.

### **Juxtaposition of Use**

The intense juxtaposition of uses is unique to Sydney industry, bushland and residential.

In many cases, including Woolwich, industry was the first activity from the almost pristine bush or cleared grazing land. The neighbourhoods that grew around these sites were quite isolated from the rest of the city and relied on water transport as the primary form of communication. It has resulted in the unique pattern of juxtaposition of smaller industrial areas with bushland and residential areas but which are also close (by water) to the main port and can integrate with its activity as happened at Woolwich.

In the early part of the century a variety of pleasure grounds were developed around the foreshores. Often these pleasure grounds were developed and served by ferry companies. At Clifton Gardens, these facilities co-existed with the submarine mining base at Chowder Bay.

#### Carved Sandstone

Cliff walls, aprons for factories and hardstand, cuttings for docks and slipways – adapting the natural form of escarpments and ledges.

Major cut and fill with large scale built elements are the dominant characteristics of the industrial and goods handling precincts of the harbour. The sandstone cuts of the hillsides are flanked by aprons of fill, constructed from and contained by walls of the quarried stone. The broad terraces of cut stone and concrete contrast with the undulating upper plateaux and ridges. Examples: Cockatoo Island, Woolwich Dock and Chowder Bay.

#### Reclaimed Land in the Bays

The wooded hillsides extending to the natural shoreline and the open grassed areas of the reclaimed land.

The counterpoint to the industrial developments on the headlands in the western harbour are the headwaters of the bays and the network of streams and watercourses. Being more difficult to build on and less accessible both by water and land, these bay side areas were the leftover spaces of little utility. Often they were 'reclaimed' and used for industry or turned into parkland.

There is a clear differentiation between the generally open grassed flat lands of the reclaimed areas and the more densely wooded hillsides beyond the natural shoreline. Examples: Clifton Gardens and Mosman Bay (Reid Park).

#### Incremental Change

Although 'industry' often implies large scale and homogenous landscapes, the opposite is often the case for 19<sup>th</sup> century complexes with many sites resembling small towns or villages. The industrial sites have grown over time and the interventions tended to be the minimum required for adapting existing infrastructure to a new or expanded function. The form of buildings and waterfront tended to be adaptable to a variety of uses. Their character is the end result of a myriad of small interventions and actions over time (e.g. Cockatoo Island).

The above patterns are embodied in different ways in the Trust lands and they need to be revealed to enable the sympathetic adaptation and interpretation of these formerly isolated areas to their new role as part of the public domain on Sydney Harbour.

#### WOOLWICH DOCK AND PARKLANDS – BACKGROUND MATERIAL

---

#### Existing Heritage Listings

The heritage importance of Woolwich Dock and Parklands is reflected by listings in the following inventories:

- Register of the National Estate Database No 002651 – Woolwich Dock
- Hunters Hill Municipal Council LEP No.1 lists the following
  - Mort's Dry Dock (Woolwich Dock), Clarke Rd and Franki St
  - Site of Clarke's Houses, Clarke Rd, Army Reserve
  - Clarkes Point Reserve, Clarkes Point
  - The subject area is also within the Hunters Hill Conservation Area No.1
- The National Trust lists the Dock

The Heritage Values Figure 4.4 shows the ranking of buildings resulting from the Conservation Plan for Woolwich Dry Dock and the Horse Paddock carried out by Edward Higginbotham & Associates and others for the Department of Defence, March 2000 and surrounding heritage items.

The description of heritage values and statements of significance can be examined in the 'Heritage Issues' Background Report. (in preparation)

## Planning Context

Most items are based on 'Planning Context Report – Harbour Trust Lands', MG Planning, July 2002:

### *State Government*

A number of State Government Agencies have responsibilities and policies which are relevant to the future of Woolwich Dock. Plans and policies prepared by these agencies which have implications for the future of Woolwich Dock are outlined below.

*Draft Sydney Harbour Catchment REP No. 32.* The Sydney Harbour Catchment Regional Environmental Plan and associated Integrated Land and Access Plan may have implications for this area to be used as an access point to the Harbour Islands including Cockatoo and Snapper Islands. This will be reviewed when complete.

*Sharing Sydney Harbour – Regional Action Plan.*

- Woolwich Dock is an identified site for a Framework Plan – the Harbour Trust's plan will fulfil this role
- Woolwich Dock is identified as part of the Working Harbour
- Woolwich Dock is identified as an opportunity for new open space and/or land and water-based access.

The Harbour Trust's planning is addressing these issues.

*Sydney Harbour and Parramatta River Development Control Plan*

The Horse and Goat Paddocks are within the area detailed by the DCP in terms of ecological communities and landscape character. These foreshore areas are designated as Landscape Character Type 12 that applies to the distinctive bays of the Parramatta River (flat to sloping open spaces). In both cases the Statement of Character and Intent and the Performance Criteria, which relate to development within the Type 12 landscape, are compatible with the content of this plan.

*Hunters Hill, Lane Cove, Ryde and Willoughby Bush Fire Risk Management Plan (NSW Bush Fire Coordinating Committee, 2002)*

### *Local Government*

*Zoning and Land Use.* The Goat and Horse Paddocks are both zoned 5(a) Special Uses – Defence under Hunters Hill LEP No. 1. Surrounding landuses include Clarkes Point Reserve which is zoned 9(c) Reservation – County Open Space and Morts Reserve which is zoned 6(a) Open Space – recreation existing. These two pieces of land divide the two paddocks in addition to the access road Clarkes Point Road. Surrounding land is primarily zoned residential 2(a2) or 2(a3) with the exception of a small area of land zoned 3(c) Business Neighbourhood located on the northern side of Woolwich Road opposite Franki Avenue (refer Figure 4.3).

The whole of the area is identified as a Foreshore Scenic Protection Area under LEP No.1.

*Adjoining Landholders.* Clarkes Point Reserve is State-owned land under the care of Hunters Hill Council. Council also maintains the area above the head of the Dock known as the Woolwich Lookout, which it leases from the Department of Defence. A restaurant at 103 Woolwich Road forms part of the western boundary of the lookout area. Four residences and a Sydney Electricity sub-station share the northern boundary of the Goat Paddock. Consultation took place between the Harbour Trust and these residents over the Goat Paddock path.

## Traffic and Access

The Woolwich site is located towards the end of a peninsula adjoining Clarke's Point Reserve, is close to Kellys Bushland reserve and to Valentia Street Wharf and provides the opportunity for the Woolwich area to become a strategic link in the regional open space network along the harbour foreshores.

Pedestrian access will be provided by a walking track via the Goat Paddock, across the Dock on a temporary bridge then into Clarkes Point Reserve and across the Horse Paddock. Stage 1 of this track is scheduled to open in November 2002.

As with other Trust lands, Woolwich is accessed by a single ridge road so that traffic is an important issue. Church Street links to the sub-arterial Ryde Road, which in turn links to the grade separated Burns Bay Road (arterial road). The ridge road is a bus route terminating at Valentia Street Wharf. Vehicular access to the Defence Lands is via Franki Avenue and Clarke Road. Clarke Road also accesses entry to an unformed road sloping down to the Horse Paddock and a 62-space car park serving Clarkes Point Reserve and the Hunters Hill Sailing Club. Margaret Street terminates in a boat ramp beside the Woolwich Marina. See Figure 4.3.

Traffic analyses carried out in 1997 for the Department of Defence showed capacity problems with morning peak traffic at the Ryde Road/ Burns Bay Road eastern ramps. Other intersections along the ridge road provided good levels of service. The environmental capacity of Woolwich Road as a collector road (500 vehicles/hour) is exceeded for the length at some point west of Gladstone Avenue (probably Wybalena Road). More detail is provided in the Background Report 'Transport Planning Review', Christopher Hallam & Associates.

A Sydney Ferries service operates between Valentia Street Wharf and Circular Quay about 22 services in each direction on weekdays, 18 on Saturdays and 5 on Sundays. The walk from the wharf is approximately 620m to the Goat Paddock. Sydney Buses provide a service between Valentia Street Wharf and Gladesville (No. 538) passing the Woolwich site, stopping adjacent to Franki Avenue. There are some 20 services each way on weekdays and 11 each way on Saturdays. There is no bus service operating on a Sunday. Buses connecting to Ryde and the City are available at Gladesville.

## Site Usage

Servicing of 35 Water Transport Squadrons watercraft as part of Terminal Regiment

## Services Conditions

### *Sewer*

The site sewerage system consists of reticulation pipes, a pump station and a 50mm diameter UPVC rising main taking sewage from the pump station to a Sydney Water access chamber on Woolwich Road. The pump station and rising main are currently serviceable while the

pipe reticulation network requires cleaning, repair and some replacement.

#### *Water*

The existing 100mm water mains are made up of a number of materials ranging from galvanised steel to DICI. These mains vary in condition from 'acceptable' to 'failure imminent'

#### *Fire*

The system is capable of supplying sufficient pressure to operate one hydrant only. A fire booster pump is required to bring the system up to standard to operate two hydrants concurrently

#### *Electricity*

Energy Australia provides HV power to a 200kVa pole mounted transformer on-site from which it is reticulated at 415V. This mains network is in acceptable condition. Electrical distribution boards and power outlets currently work but require upgrading to meet contemporary standards.

#### *Stormwater*

The stormwater system is in serviceable condition although some repair to pipe work and pits is required. The system discharges to the harbour and require a gross pollutant trap.

## **Building Conditions**

#### *Description*

There are 16 buildings (excluding the concrete finger wharves and the historic dry dock). The buildings range in size and function with the largest being the sawtooth roofed industrial workshop that is asbestos cement sheet clad and approximately five stories high (Building 11). There are also a number of brick ancillary buildings, former military mess buildings and a number of Armco storage sheds.

#### *Condition*

The brick ancillary buildings are in serviceable condition requiring basic maintenance to roofs and joinery. There is an asbestos management issue to be addressed with Building 11, while the former mess buildings require major maintenance if they are to be retained.

#### *Services*

Five of the buildings have water supply and sewerage.

Power is available to most buildings but switchboards require upgrading and rewiring is necessary.

#### *Compliance with Building Code of Australia and Relevant Standards*

The primary compliance issues are the absence of access for people with disabilities and the provision of appropriate amenities.

There are issues arising from the use of some asbestos cement wall and roof sheeting, lead based paint systems, non-compliant glazing and safety issues along dock edges.

## **Contamination Conditions**

Resulting from its history of industrial engineering, dockyard and defence use this site has some elevated levels of contaminants in localised areas. Apart from the Horse Paddock, no levels have been identified that require significant remediation or would prohibit use of the site as parkland or open space. The requirements are summarised as follows.

A large proportion of the Horse Paddock (approximately 40%) has been reclaimed from the river by the placement of fill. Some of this activity has been relatively recent, taking place up to 1946. The reclaimed land extends about 75 metres in from the current shoreline. While this part of the site has been used for industrial activities in the past, its assessment has focussed on contamination that may be associated with fill placed here. This includes elevated levels of mainly copper, lead, zinc, mercury, arsenic and Polyaromatic Hydrocarbons (PAHs). These are generally associated with ash and grit blast waste in fill used to reclaim areas. Trace asbestos has also been identified. There is evidence that these elevated levels are affecting groundwater in the area, potentially causing offsite migration of some metals.

Contaminant levels in the Horse Paddock are considered safe for immediate parkland use, provided a stable grass cover is maintained over contaminated areas. This action would also reduce the potential for erosion of surface soils from the site. In the longer term, it may be desirable for a more robust cover to be installed over the reclaimed areas. This cover would take the form of a low permeability landscaped barrier.

The sea wall along the shore of the Horse Paddock is deteriorating, causing the fill from behind it to erode during high tides. The Harbour Trust intends to carry out repairs to the sea wall, for safety, and to limit potential offsite migration of contaminated fill to the harbour by this action.

The majority of the dockyard area has been cut out of sandstone ledge, including the dock itself. Therefore the lithology of this area is generally sandy fill over shallow sandstone. A strip of about 15 metres adjacent to the waterfront was reclaimed by placement of fill early in the site's history. Ripped sandstone and sand from the dock construction is the major component of this fill. The dockyard area is paved with concrete or bitumen with small grassed and garden areas.

The inclusion of small volumes of ash and other process wastes in fill in the dockyard are responsible for elevated and localised concentrations of heavy metals, PAHs and trace asbestos in the dockyard. Previous studies have shown that levels of these contaminants meet requirements for parkland/public open space. The Harbour Trust intends to maintain the stable surface that exists and soils will also only be disturbed in accordance with an environmental management plan (EMP) for the site.

The dock area has included structures that may have served as point sources for contamination. These include diesel and waste oil tanks, workshops, a grit blasting facility and paint and chemical storage areas. It is possible that minor soil contamination is associated with these structures. This will need to be addressed as these structures are removed.

There is evidence of contamination of sediments within the dock itself. This includes elevated levels of cadmium, copper, mercury, lead, zinc and (mainly Tributyltin) TBT. These levels may have a direct impact on the ecological health of the sediment. Remediation of sediments within the dock has not been demonstrated at this stage as the risk to human health is considered to be low. The Harbour Trust intends to manage this issue through the implementation of a comprehensive EMP for the site.

Most of the remaining buildings are located in the dockyard area. Hazardous materials associated with these buildings include asbestos, synthetic mineral fibre (SMF), Polychlorinated Biphenyls (PCBs) in light fittings and lead-based paints. These are all generally in good condition. Continuing management of these materials only will be required.

The remaining areas of the site have low or insignificant levels of contamination. These areas are suitable for the uses planned by the Harbour Trust, without any requirement for remediation.

## COCKATOO ISLAND – BACKGROUND MATERIAL

---

### Existing Heritage Listings

The heritage importance of Cockatoo Island is reflected by listings in the following inventories:

- Register of the National Estate
- National Trust

The Heritage Values Figure 5.3 shows the ranking of buildings resulting from the Conservation Management Plan carried out by Godden Mackay Logan for the Department of Defence dated May 1997.

The description of heritage values and statements of significance can be examined in the 'Heritage Issues' Background Report (in preparation).

### Planning Context

#### *State Government*

A number of State Government Agencies have responsibilities and policies which are relevant to the future of Cockatoo Island. Plans and policies prepared by these agencies which have implications for the future of Cockatoo Island are outlined below.

*Draft Sydney Harbour Catchment REP No. 32.* This plan and the associated Integrated Land and Access Plan may have implications for Cockatoo Island, particularly with regard to proposed sites on the mainland to be used as access points to the harbour islands (refer section 2.1). The document will be reviewed when completed to identify any implications.

#### *Sharing Sydney Harbour – Regional Action Plan*

Under this plan, Cockatoo Island is identified as:

- a strategic site for the preparation of a framework plan (this will be satisfied by the Harbour Trust's plan)
- a maritime precinct ('working waterfront')
- a significant place in terms of 'harbour culture' (together with Spectacle and Snapper Islands)
- an opportunity for new open space and water-based access

#### *Local Government*

Cockatoo Island does not fall within any local government area. Notwithstanding it has a visual and historic relationship with Leichhardt, Canada Bay and Hunters Hill Local Government areas.

*Zoning and Landuse – Canada Bay.* Canada Bay Council has indicated that it does not anticipate any significant increase in density of land on the foreshore that has a visual relationship with either Cockatoo or Snapper Islands (i.e. the areas around Birkenhead Point and St Georges Crescent to Drummoyne Bay). These areas are either fully developed or are zoned for heritage conservation. There is some

potential for redevelopment of single dwellings to a maximum of 2–3 storeys as the land is zoned Residential 2(b) which allows residential flat buildings.

In terms of potential uses for the islands, the council has indicated that its major concerns relate to access and parking at jumping off points. It accepts that some development will occur however this should be within the historical context and should retain significant buildings. Council is concerned to ensure that all appropriate contamination studies are undertaken and appropriate remediation completed.

*Zoning and Landuse – Leichhardt* Leichhardt Council has advised that there is currently no significant potential for changes to the existing density or development form on the Balmain Peninsula. Some potential does exist for redevelopment of existing properties however this is likely to be at a similar scale to that currently existing. The area generally allows for development to a maximum floor space ratio of 0.7:1 with all major redevelopment sites having either already been developed or planned development approved and currently under construction (i.e. Balmain Shore site).

It is understood that there is a proposal to undertake some work on the Balmain High School site to increase the school's capacity in line with the State Government's rationalisation of schools within the inner west. The school is keen to gain direct access to the harbour via a pontoon used solely for school recreational purposes.

Council has advised that it is not aware of any proposed changes to the existing Department of Housing development in Elliott Street, Rozelle however this area is already developed to its maximum potential of three-storey walk up flats.

While some more major development is proposed further from the foreshore (e.g. Balmain Leagues Club and Callan Park) it is not considered that this would have any impact on development of Cockatoo or Snapper Islands. Council has indicated that the residents of Balmain / Rozelle have a longstanding historical relationship with these islands and any development proposals would therefore attract significant interest in the local area.

#### *Adjoining Landholders*

As an island there are no adjoining landowners. The Waterways Authority is responsible for the bed of the harbour.

## Traffic and Access

As an island, access is a most important issue. With the disappearance of the previous land base at Balmain Power Station a new land base location is needed. Three categories of transportation will be required:

- transport of staff/employees
- transport of visitors
- transport of heavy material and removal of material, including sewerage

Island staff are expected to come from different directions using their employer's water transport, private water transport and ferries. Visitors will mostly arrive by ferry. Mooring facilities should be provided for private yachts and boats.

A suitable location for a land-base to serve the harbour's islands must be found that does not conflict with residential areas. It must be able

to handle heavy vehicles, have a drive-on drive-off facility and a material storage area.

Detailed analysis of the traffic / access issues is contained in the background report 'Transport Planning Review', Christopher Hallam & Associates, 2002.

#### Site Usage

The Island was vacated in 1992. During its recent occupation, the site was used for shipbuilding and repair facilities including ancillary administrative facilities.

#### Building Conditions

There are eighty buildings on Cockatoo Island with examples surviving from each era of the island's history. The range of functional and constructional types includes the following:

- Convict era sandstone buildings
- Steel framed and clad industrial workshops dating from around WW I
- A number of individual residences built in timber, masonry and stone
- Brick administration buildings erected during the 1930s
- Concrete air raid shelters from WWII
- Masonry industrial buildings constructed during and after WW II

The current condition of buildings and other structures on Cockatoo Island can be gauged by the fact that the Island has been in disuse since 1992. There has been no maintenance of any description carried out until the Harbour Trust began undertaking repair and stabilisation works in 2001–02. The decision to close the dockyard was taken in 1987 and it is assumed that regular maintenance of buildings was wound down during the final years of operation.

No maintenance occurred between 1992–2001 when the Harbour Trust began undertaking basic repairs to selected buildings. The lack of maintenance combined with the island's location (surrounded by saltwater), and demolition carried out after closure of the dockyard, has had a deleterious effect on many of the island's buildings and structures.

In addition to deterioration resulting from neglect, the condition of the island's buildings is reflected in the individual building's age, function, construction, type and setting.

#### Services Conditions

##### *Sewer*

The island's self-contained sewage system consists of a treatment plant, a pump station, and reticulation pipes most of which date from 1971. The treatment plant has been abandoned and would not adequately service any of the proposed future uses of the island

The pump station is structurally sound but the machinery is not serviceable.

Pipework is likely to be in poor condition with potential root infestation and structural cracking.

##### *Water*

The Cockatoo Island water reticulation system is in reasonably good condition with water supplied to virtually all buildings and apron areas. The two water reservoirs are out of service and not necessary for current operation of the island.

*Electricity*

The high voltage supply network is out of date and in very poor condition. New substations and mains reticulation are required for the future operation of the site.

*Stormwater*

Stormwater discharges to the harbour from outlets scattered around the island. Many of the existing lines are blocked with silt and debris and these may require renewal.

*Fire*

Existing sprinkler systems within buildings have been serviced and recommissioned. Further upgrading of sprinklers and hydrants is required to bring the site up to Building Code of Australia (BCA) compliance.

**Buildings and Services Conditions***Convict Era Sandstone*

Most of the convict sandstone buildings and structures are structurally sound requiring maintenance and restoration commensurate with their age and heritage status.

*Industrial Buildings*

The majority of the island's buildings are industry-related and were constructed during the first half of the 20<sup>th</sup> century using steel, masonry and timber structural systems in combination with steel or timber cladding. They are structurally sound for the most part but require maintenance to roofing, rainwater goods, cladding and joinery.

Water is available to most of the industrial buildings but sewer and power services are not. There is some availability of telecommunications.

*Residences*

The houses are constructed of sandstone or brick masonry with timber used for verandahs, roof and floor structures and in some cladding. Roofs are either terracotta-tiled or corrugated steel sheeting.

The houses are structurally sound and in relatively good condition. Repairs to roofs and rainwater goods on three of the houses have been undertaken by the Harbour Trust. Further internal repairs to items such as plastering, floors and joinery will be required.

Water is available but sewer and power are not. Kitchens and bathrooms require restoration/upgrading and all houses will need new switchboards.

*Other Structures*

*Cranes.* There are forty cranes on the island dating from the 1850s through to the 1970s. The outdoor cranes require significant structural repair and conservation work. The indoor gantry cranes are in better condition but will require regular inspection and maintenance.

*Wharves.* The island has a number of wharves constructed from timber and concrete which all require major structural repair work. The Harbour Trust has begun this in the case of the timber patrol boat wharf.

*The Powerhouse.* This brick building and its contents, including historic pumping machinery, switchboards and rectifiers, requires mainte-

nance and conservation work commensurate with its heritage significance.

*Compliance with Building Code of Australia (BCA) and Relevant Standards*

The buildings on Cockatoo Island have a range of features that do not comply with the BCA. Principal among these are stairs, handrails and balustrades. There are also issues of access and mobility for people with disabilities.

The use of hazardous materials in the form of asbestos-cement sheeting and lead-based paints was widespread on Cockatoo Island. The Harbour Trust has undertaken the removal / management of hazardous building materials in buildings on both the Southern Apron and the Eastern Apron.

## Contamination Conditions

Cockatoo Island's rich history includes over 160 years of development, engineering and shipbuilding activity. Understanding this history provides a key to understanding the environmental condition of the island. Contamination on the island has resulted from the previous filling and waste disposal practices as well as the spillage and release of chemicals and materials that may have occurred on-site.

Various types of contaminants exist in soils, surface-water, ground-water and near shore sediments. Hazardous materials are also associated with the various buildings and structures that remain.

From the establishment of the penal settlement in 1839 and the development of stone quarries, stone waste (chippings and other quarry rubble) was disposed of by addition to the island's foreshore. After the completion of the Fitzroy Dock in 1857, the industrial component of this waste is likely to have increased. From 1910, industrial trade wastes were transported and dumped at sea, however the disposal of building rubble and other solid wastes continued along the foreshore.

From 1940–1960 barge disposal at sea was stopped and trade wastes were added to the rubble used for shoreline advancement. During this time reclamation was only taking place on the North Western apron area. As a result, fill in this area includes sandstone, demolition rubble, slag, ash, coke, scrap metal, fibro cement and rubbish. Contamination in these materials is predominantly heavy metals, polyaromatic hydrocarbons (PAHs) and asbestos. Historical evidence suggests that process wastes were routinely disposed in this area. These wastes may have included electroplating sludge (heavy metals, cyanides) and anti-foul wastes, mainly tributyltin (TBT).

Studies have shown that fill in other areas is likely to be composed of more natural materials, being mainly sandstone, marine sands and silt with some building rubble. There may have been other mechanisms for contamination in these areas.

Localised areas of contamination are associated with sumps, tanks and areas where chemicals were stored and used. For example, sub-floor pits containing oily wastes remain in the former heavy machinery and turbine workshop buildings. Soils in these areas are likely to be contaminated with petroleum hydrocarbons and PAHs. Other areas where chemicals were stored or used may also have localised areas of contamination. These areas may be small in extent, but potentially related to a variety of chemicals. Examples include:

- Mercury residues that may remain in the power-house

- Grit blast waste containing heavy metals that remain in the coal bunker area
- Solvents in the former pipe cleaning area
- Cyanides in the former electrical assembly shop

All known underground storage tanks were removed during the Stage 1 Rehabilitation works carried out by the Department of Defence in 1999. This included the remediation of associated soil impact where possible. These tanks contained diesel, petrol, fuel oil and kerosene. It is likely that other unknown tanks remain on the site and will require removal. Two above-ground tanks also remain on top of building 106 (air raid shelter) and a number of septic waste tanks remain on the island. These will be a structural hazard and may also be a contamination source.

Contamination has affected areas of the island where there were no industrial operations, such as the residential precinct and garden areas. These areas have become contaminated largely due to the fallout of contaminated airborne dusts. The source of these dusts would primarily have been the powerhouse, incinerator and other furnace operations. Small volumes of fill may also have been placed in these areas for landscaping. Contaminants of concern in these areas are mainly lead, with some PAHs and benzo(a)pyrene, which exceed applicable guidelines for residential or public open space use.

Another important mechanism for contamination on the island is the deteriorating lead-based paints on buildings and structures. In many areas, flaking paint can be seen on walls and on adjacent ground. Lead, copper and zinc concentrations in these flakes can be very high. Addressing this issue is a high priority for clean-up of the site.

The same may be occurring for asbestos materials. While a large volume of asbestos is assumed to be present in fill, asbestos materials are also present in some remaining buildings. Most of this asbestos is in the form of asbestos cement sheeting, some broken or chipped and deteriorating. Small amounts of fibrous asbestos millboard, insulation or rope also remain on the island. These materials are generally isolated and stable. Much work has already been done to remove these materials, however this activity remains a priority for restoration of the site. Asbestos that has been disposed in fill material is less of a concern, although it will be important to manage these materials should they be uncovered to ensure that there are no unhealthy exposures or release of asbestos. Air monitoring carried out by the Harbour Trust to date has not identified any levels that are unsafe for current visitation. These results have mostly been below detectable levels, or well below applicable guidelines in accessible areas.

Other types of hazardous materials in buildings include synthetic mineral fibre, polychlorinated biphenyls (PCBs) in lighting capacitors and electrical equipment. Other materials may be present in specific buildings, including mercury vapour lamps, drummed chemicals and oils and solid and aqueous wastes. These materials present less of an immediate human health risk but require appropriate management during rehabilitation of the island.

Contaminated wastes from site operations have been either disposed of or washed into the stormwater and waste-water systems over the years. Much of this system is currently in questionable condition, with residual sludge and grit remaining in pits and lines. Assessment of these materials has shown elevated levels of heavy metals and occasionally high levels of hydrocarbon contamination. It is possible

that these sediments may mobilise under high flow conditions and migrate into the surrounding aquatic environment.

The washing of process wastes and contaminated sediments into the stormwater or waste-water system, or directly into the harbour, has been the primary mechanism for contamination of near shore sediments surrounding the island. These have included formulations used as marine anti-foul over the years. Contaminants from this source include TBT, mercury and copper.

The erosion of contaminated waste fill from behind deteriorating seawalls has also been a significant source of contamination of near shore sediments. Priority seawall restoration carried out on the eastern and northern aprons in previous rehabilitation projects has largely addressed this problem. Seawall restoration in localised areas, and the maintenance of seawalls, is a continuing requirement.

Assessment of near shore sediments has identified elevated levels of heavy metals and hydrophobic organic compounds such as TBT and PAHs. The most significant metals in sediments are mercury, copper and lead. While a 'halo' of contamination may surround the island, the highest concentrations may be found in the region of the Sutherland Dock near where the main waste-water outfall for the island was located. Contaminated sediments are also likely to exist within the docks themselves. Elevated levels of similar contaminants are also present in other areas of the harbour.

Inherent in the required remediation and management strategy is its application on a staged basis, allowing for the island to be gradually opened up for public access and use. This will require consideration of the effects of non-remediated areas on any adjacent 'clean' areas. An important requirement is to conserve the heritage values of the site and find an effective balance between heritage and environmental concerns.

This approach is predicated on preparation and implementation of a comprehensive environmental management plan (EMP) that would include requirements for environmental monitoring and managing disturbed contaminated soils and other aspects.

## SNAPPER ISLAND – BACKGROUND MATERIAL

---

### Existing Heritage Listings

#### *Register of the National Estate*

The Plan Figure 6.2, shows the ranking of buildings resulting from the Heritage Assessment carried out by Clive Lucas Stapleton and Partners for the Department of Finance and Administration dated 2000.

The description of heritage values and statements of significance can be examined in the 'Heritage Issues' Background Report. (in preparation)

### Planning Context

Most items are based on 'Planning Context Report – Harbour Trust Lands', MG Planning, July 2002:

#### *State Government*

A number of State Government Agencies have responsibilities and policies which are relevant to the future of Snapper Island. Plans and policies prepared by these agencies which have implications for the future of Snapper Island are outlined below.

*Draft Sydney Harbour Catchment REP No. 32.* The Draft Sydney Harbour Catchment Regional Environmental Plan No. 32 and associated Integrated Land and Access Plan may have implications for this area, particularly with regard to proposed sites on the mainland to be used as access points to the harbour islands.

#### *Local Government*

Snapper Island does not fall within any Local Government area, although it has a visual and historic relationship with both Leichhardt and Canada Bay Local Government areas.

*Zoning and Landuse – Canada Bay.* Canada Bay Council has indicated that it does not anticipate any significant increase in density of land on the foreshore that has a visual relationship with either Cockatoo or Snapper Islands (i.e. the areas around Birkenhead Point and St Georges Crescent to Drummoyne Bay). These areas are either fully developed or are zoned for heritage conservation. There is some potential for redevelopment of single dwellings to a maximum of 2–3 storeys as the land is zoned Residential 2(b) which allows residential flat buildings.

In terms of potential uses for the islands, the council has indicated that its major concerns relate to access and parking at jumping-off points. It accepts that some development will occur, however this should be within the historical context and should retain significant buildings. Council is concerned to ensure that all appropriate contamination studies are undertaken and appropriate remediation completed.

*Zoning and Landuse – Leichhardt.* Leichhardt Council has advised that there is currently no significant potential for changes to the existing density or development form on the Balmain Peninsula. Some potential does exist for redevelopment of existing properties, however this is likely to be at a similar scale to that currently existing. The area generally allows for development to a maximum floor space ratio of 0.7:1 with all major redevelopment having either already occurred or is planned development approved and currently under construction (i.e. Balmain Shore site).

It is understood that there is a proposal to undertake some work on the Balmain High School site to increase the school's capacity in line with the State Government's rationalisation of schools within the inner west. The school is also keen to gain direct access to the harbour via a pontoon, solely for school recreational purposes.

Council has advised that it is not aware of any proposed changes to the existing Department of Housing development in Elliott Street, Rozelle. This area is already currently developed to its maximum potential of three-storey walk up flats.

While some more major development is proposed further from the foreshore (e.g. Balmain Leagues Club and Callan Park) it is not considered that this would have any impact on the development of Cockatoo or Snapper Islands. Council has indicated that the residents of Balmain and Rozelle have a longstanding historical relationship with these islands and any development proposals would therefore attract significant interest in the local area.

#### *Adjoining Landholders*

As an island there are no adjoining landowners. The bed of the harbour is the responsibility of the Waterways Authority of NSW.

<b>Traffic and Access</b>	Current users have their own arrangements to access the island.
<b>Site Usage</b>	The Island was previously used by the Training of Navy League Cadets as a training depot and to house a museum collection. The site is currently occupied by the Sydney Training Depot Snapper Island Limited.
<b>Services Conditions</b>	<p><i>Sewer</i> There is no operating sewage system on the island. An old defunct septic system exists.</p> <p><i>Water</i> The island is not connected to town water. Collection of water is via water tanks. The collection and reticulation of water is sub-standard.</p> <p><i>Electricity</i> A diesel generator provides power to the island. The standard and extent of wiring is unsurveyed but expected to be sub-standard.</p> <p>There is no telephone connection to the island.</p> <p><i>Stormwater</i> All stormwater is discharged into the harbour. There is no detention system for discharge.</p> <p><i>Fire</i> There are no fire services on the island.</p>
<b>Building Conditions</b>	<p><i>Description</i> There are 13 distinct buildings on the island dating back to the 1930s. With the exception of one, these are all timber-framed structures clad and roofed in corrugated steel. The exception is a steel-framed structure. These structures are generally single storey with skillion or gable roof forms. They sit either on masonry piers or badly damaged timber piles.</p> <p><i>Condition</i> The built structures on the island are all in poor condition having suffered from extensive termite, water and corrosion damage. No regular maintenance has been carried out on the island for at least 10 years. The Harbour Trust has undertaken no repairs to the structures to date. Many of the structures appear not to be structurally sound or waterproof. The lead-based exterior paints are in poor condition.</p> <p>The island also contains seawalls, retaining walls, two main wharves constructed of timber piles and framing, numerous timber walkways and decking, a boat ramp and various pathways. These are all in poor and unsafe condition, and in some cases, in a state of collapse.</p> <p><i>Services</i> There are no essential or sanitary services on the island. The on-site diesel generator and the wiring have not been tested for safety.</p> <p><i>Compliance with Building Code of Australia and Relevant Standards</i> The compliance issues on the island are many and include:</p> <ul style="list-style-type: none"> <li>● Absence of safe access for all visitors, including those with disabilities</li> <li>● Absence of all amenities</li> <li>● Absence of all essential services</li> <li>● Lack of structural compliance of structures</li> <li>● Lead-based paints and non-compliant glazing</li> </ul>

## MIDDLE HEAD – BACKGROUND MATERIAL

**Existing Heritage Listings**

The heritage importance of Middle Head /Georges Heights and individual items is reflected by listings in the following inventories (see Figure 7.4):

- Registered on the National Estate Database No.101087
- Mosman Municipal Council LEP
- National Trust

The text of the above listings and the detailed breakdown and description of heritage values and statements of significance can be examined in the 'Heritage Issues' Background Report, which is in preparation.

**Planning Context**

Most items are based on 'Planning Context Report – Harbour Trust Lands', MG Planning, July 2002:

*State Government*

*SEPP 56 – Sydney Harbour Foreshores and Tributaries.* The former Defence sites are significant – on Schedule 1

*SPEP 23 – Sydney and Middle Harbours.* Middle Head/Georges Heights land around the foreshore zoned W3 with small section at Chowder Bay zoned W4 – Naval Waters no heritage items are noted.

*Sydney Harbour and Parramatta River Development Control Plan.* Most of the Defence Lands are within the area detailed by the DCP in terms of ecological communities and landscape character. The foreshore areas are designated as Landscape Character Type 2, which applies to the entry to Sydney Harbour. In both cases the Statement of Character and Intent and the Performance Criteria, which relate to development within the Type 2 landscape, are compatible with the content of this plan.

*Sharing Sydney Harbour- Regional Action Plan.* Middle Head is an identified site for a Framework Plan.

The naval facilities at Chowder Bay and *HMAS Penguin* are identified as part of the Working Harbour.

Bushland areas identified for linking and rehabilitation.

Middle Head /Georges Heights key site to be interpreted as part of the 'Sydney Harbour Dreaming' project.

Chowder Bay identified as part of part of possible new access link for Zoo to Balmoral Beach circuit.

*Draft Middle and Georges Heads Model Interpretation Plan and Application (National Parks & Wildlife Service).* This Draft Interpretation Plan focuses on interpretation of the headlands and divides the headlands into 7 precinct areas linking them via a series of walking tracks plus a visitors and resource centre, carparking and restaurant/gallery. The centre and staff facilities are proposed on Trust land on the 10 Terminal Regiment site adjoining the Middle Head part of the National Park. The report recommends that this land be acquired by the NPWS.

*Sydney Harbour National Park – Middle and Georges Heads Fortifications Conservation Management Plan*

This Plan is a detailed conservation plan addressing the fortifications contained within the Sydney Harbour National Park at Middle and

Georges Heads. The report identifies items of State and local heritage significance. Middle and Georges Heads themselves are identified as items of State significance which means that under State legislation a Management Plan must be prepared and endorsed by the NSW Heritage Council. The Plan proposed maintenance and management works.

*Other NPWS Initiatives.* The NPWS is currently in the process of preparing detailed plans for Middle Head. Changes to the current pedestrian access is proposed and the Service is also relocating its office from North Head to Middle Head. In the short term this will involve additional access through 10 Terminal for staff vehicles entering the National Park. This is a matter which the Service would like to discuss further with the Trust. Whilst no formal plan is currently available of the Service's proposals for Middle Head, a range of concept plans are in the process of being prepared. These are not currently available but will be synthesized into a Precinct Plan in the next financial year. The Precinct Plan will use as a base the existing Draft Interpretative Plan, Draft Conservation Plan for the Fortifications and Draft Conservation Plan for Buildings (currently being prepared). In addition the NPWS, Mosman Council and the Trust are currently in the process of commissioning an Aboriginal Heritage Study which will cover the whole of Mosman LGA.

Within the North Harbour area, five formal bush regeneration areas exist. One is located within the local area at Chowder Head.

Stormwater drainage is also an issue within the Park. Stormwater currently runs onto the site from inadequate pre-existing structures. While this situation is unsatisfactory, the NPWS focus is on preventing new development impacting on the Park in terms of stormwater drainage.

*Manly-Mosman District Bush Fire Management Plan.* A lookout tower for the whole region is located at Imperial Place at Georges Heights on Trust land. Access needs to be maintained.

#### *Local Government*

*Zoning and Landuse – Mosman.* The whole of Middle and Georges Heads bounded by Middle Head Road, Cobbittee Street and Balmoral Park is deferred under Mosman LEP 1998 including the residential properties at Markham Close so that Mosman LEP No. 1 1982 continues to apply to Middle and Georges Heads. Various zonings apply to surrounding land and 10 heritage items on defence land are listed. The former sewerage works in *HMAS Penguin* are listed as an archaeological site.

Mosman Council has prepared a draft LEP Mosman LEP 1998 (Amendment No. 9) in respect of Acid Sulphate Soils and Wetlands. The draft LEP has been finalised and is currently with the Minister awaiting gazettal. The LEP shows area containing wetlands, the definition of which includes marches, saltmarshes, mangroves, seagrasses, etc. The Planning Context map for the area (Figure 7.3) shows areas of 'wetlands' adjacent to Chowder Bay, Obelisk Bay, Cobblers and Balmoral Beaches. The LEP requires that Council must not consent to the carrying out of works on land containing wetlands or within a wetlands buffer area (100m around wetlands), unless it has made an assessment of the predicted environmental impacts of the proposed works.

### *Adjoining Landholders*

Mosman Council has a number of management plans for nearby parks and open space areas. These are as follows:

*Rawson Park and Surrounds – Plan of Management (Oct 2001).* See Planning Context for Middle Head for the location (Figure 7.3). The plan provides for the upgrading of drainage within the Park and Bradleys Bushland Reserve and provides for the conversion of the existing netball courts into multi use facilities. Proposals for upgrading of the Park are likely to result in increased usage. The plan notes existing pathways through Bradleys Bushland Reserve and recommends continued liaison with the Trust in regard to the future use of 8th Brigade land and 1 Commando site and its potential links to Rawson Park and the development provision of complementary facilities (such as parking and the potential relocation of the netball courts and provision of an improved multi-purpose facility).

*Balmoral Reserves – Plan of Management.* See Planning Context (Figure 7.3) for location. This Plan outlines proposed management arrangement and action plans for the Balmoral Reserves. It also proposes a landscape management plan for the reserves. Relevant recommendations include reducing the visual impact of the boundary with *HMAS Penguin* by:

1. Providing appropriate native planting to screen the southern boundary
2. Negotiating with *HMAS Penguin* to increase the amount of planting at the boundary on their side. Plan also includes proposal for weed removal in bushland areas

*Clifton Gardens Reserve.* See Planning Context Map for location (Figure 7.3). Council is also in the process of preparing a Management Framework, Landscape Masterplan and Implementation Plan for Clifton Gardens Reserve. The aim of the Plan is to improve generally the level of recreational amenity currently provided in this reserve, whilst maintaining the historical and natural features associated with the site.

*Plan of Management: Natural Areas (Bushland).* This plan of management (POM) applies to all land within Mosman zoned 7(a) Environment Protection (Bushland). The objectives of this zone are to retain and manage bushland areas for their scenic and environmental values; conserve native plant and animal species through the maintenance of suitable habitats; and contribute to the scenic quality of Mosman and the Harbour. All development is prohibited in the zone other than bushland regeneration, bushfire hazard reduction and pedestrian access to facilitate recreational use of the bushland. The plan applies to small areas of bushland within the LGA including Bradley Bushland Reserve. The plan includes proposed works to conserve bushland including a weed removal program, creek rehabilitation, stormwater quality improvement devices, community education program etc.

*Recreational Needs Assessment (January 2000).* This study provides a detailed assessment of recreational needs within the Mosman area. The main areas of need identified relate to the lack of an existing aquatic facility within the LGA. A public facility (25m swimming pool) has recently been approved within a development in Vista Street, Spit Junction to meet this demand. In addition the study refers to the need to retain use of the Georges Heights and Middle Head Ovals and the need to improve these facilities. The study also suggests the need to link open space through land negotiation and pedestrian and cycle links to National parks. The study also identified a potential

cycle/triathlon track in the area and the desire for a walking track linking Clifton Gardens with Balmoral Beach.

*Recreation Strategy Action Plans (July 2001)*. These Action Plans follow on from the Recreational Needs Assessment referred to above, and propose implementation measures. The Action Plans relate to actions on the 0–5 year timeframe. Relevant actions include liaison with the Harbour Trust on retaining the use of Georges Heights and Middle Head Ovals and obtaining one or more additional ground/s to cater for sports, particularly junior cricket, junior soccer and junior rugby as well as development if land obtained. In addition it is proposed to undertake a review of paths (walking and cycle) in Mosman in order to address issues and improve the provision. Another action is to “in consultation with hockey associations/clubs, investigate the opportunities to establish an indoor hockey facility possibly as part of Sydney Harbour Federation Trust planning for Georges Heights and Middle Head.”

### Traffic and Access

The report by Traffix titled *Traffic Assessment Report of Proposed Redevelopment of Middle Head and Georges Heights*, prepared in October 1996 provided information on the existing functional use of roads in the Mosman area. The ‘major through route’ is Military Road (West)-Spit Road, acting as an arterial road which has been a longstanding concern to Mosman and the other northern peninsula Councils. A parallel ‘major through route’ is along Ourimbah Road and roads to its east. Military Road between Spit Junction and the roundabout at its intersection with Middle Head Road, Bradleys Head Road and Prince Albert Street is the ‘Main Street’ of Mosman, with a high concentration of retail activity, with resulting high pedestrian concentration and kerbside parking turnover.

The report *Assessment of Existing Traffic Situation in Mosman Council Area* prepared for Mosman Municipal Council by Geoplan in April 1998 defined Military Road through the Main Street area and Bradleys Head Road as a ‘regional’ road, and Middle Head Road as a ‘collector’ road.

As with other Trust lands, Middle Head /Georges Heights is a peninsula with access restricted to Middle Head Road (except for 8th Brigade site). More detailed analysis of the Traffic/ access issues is contained in the Background report ‘*Transport Planning Review*’, Christopher Hallam & Associates, 2002.

### Defence Housing – Site Usage

Site Usage: Defence Housing  
Status: Occupied

### Defence Housing – Services Conditions

*Site Services*  
Generally the majority of the houses at Middle Head have direct service connections to the consumer network of water, sewer, gas and electricity. The relevant authorities maintain these services. The reliability of the services for those houses located within or immediately adjacent to Training Command is limited by the existing condition of this infrastructure.

### Defence Housing – Building Conditions

*Description*  
The main housing type is single storey brick and tile of modest size.

They typically date from the mid 1960s and are located in three distinct areas. Markham Close to the north west of Training Command has 19 houses. 6 are located on Middle Head Road to the east of 30 Terminal and there are a further 3 houses located south of the sports oval on Imperial Place. There are in addition to these main housing

groups a number of individual houses across the site as varied as 1950s fibro housing on Middle Head Road, weatherboard housing adjacent to Commandos Training and pre WW II brick housing attached to Training Command

#### *Condition*

The houses have been continually occupied and as such benefited from regular maintenance. Their condition is consistent with their age. The building fabric is in reasonable condition but in some houses the kitchens and bathrooms require upgrading.

#### *Services*

Services within the allotments have been regularly maintained and upgraded as required.

A number of the houses located on or adjacent to Middle Head Road are connected directly to the general consumer network.

However, those houses connected to the site infrastructure of Training Command experience reduced levels of serviceability. (Refer Training Command services assessment)

#### *Compliance with Building Code of Australia and Relevant Standards*

The houses predate the BCA, but the essential safety actions would be the installation of smoke alarms, electrical safety switches as required and an assessment of non-compliant glazing.

The use of lead based paints poses a risk that requires management.

### **10 Terminal – Site Usage**

Site usage: Vehicle servicing, garaging and ancillary administrative functions for 10 Terminal Regiment. Vacated in 1997.

### **10 Terminal – Services Conditions**

#### *Sewer*

Sewage discharges via a 150mm pipe to an access chamber located on *HMAS Penguin* from where it flows to the Sydney Water pumping station at Balmoral. The system is untested since Defence vacated the site. CCTV survey revealed extensive root blockage and some structural failure of pipe work.

#### *Water*

The site is feed from a 150mm diameter Sydney Water pipe along Middle Head Road.

Site reticulation is via a 100mm CICL ring main. The pipe work is approximately 50–60 years old.

The system has suffered a number of pipe failures since the Trust assumed responsibility.

#### *Electricity*

Existing supply is adequate and is via a 415V 300kVa overhead supply feed from a pole transformer located approx 200m west of the site. This line also supplies AusAid. Reticulation is a ring main with two points of attachment on Middle Head Road and an overhead supply to all buildings. The transformer requires upgrading and additional switchboards installed.

#### *Stormwater*

Roof and surface water is collected via an under ground pipe work. There is an uncontrolled discharge from the site to the southeast into surrounding bushland. There is no detention system for discharge.

The pipe conditions are similar to sewer.

#### *Fire*

The system is capable of supplying water for both domestic and fire demands directly from pressure supplied by Sydney Water.

### **10 Terminal – Building Conditions**

#### *Description*

The majority of the buildings are single storey full brick and tile structures. Part suspended flooring and part slab on ground; they are of a small scale. They are located around a central hardstand space associated with vehicle servicing.

Associated with 10 Terminal are three timber framed simple two storey barracks buildings. They are timber clad and arranged parallel to the car parking north of 10 Terminal proper.

#### *Condition*

The Trust has undertaken basic waterproofing to stabilise the buildings. The buildings require some structural repair resulting from water penetration. Extensive floor repairs are required to suspended floors resulting from poor ventilation and termite damage. The predominantly timber joinery is in poor repair. There is evidence of minor footing failure and spreading of the tiled roofs. The timber barracks buildings have suffered some structural damage from termites and water damage.

#### *Services*

The condition of internal water and sewer systems is unknown but partial inspection suggests that water reticulation requires renewal and waste points have collapsed in some instances.

Power is available to most buildings but switchboards require upgrading and internal cabling replaced.

#### *Compliance with Building Code of Australia and Relevant Standards*

The primary compliance issues are the absence of access for people with disabilities and the provision of appropriate amenities.

Dependent on building classification there are potential difficulties with fire services and paths of travel.

There are issues arising from lead based paint systems and non-compliant glazing.

### **30 Terminal – Site Usage**

Site usage: Vehicle servicing, garaging and ancillary administrative functions. Vacated: 1997.

### **30 Terminal – Services Conditions**

#### *Sewer*

Discharge from site is predominantly to the Board's sewer on Middle Head Road with a secondary discharge to the pumping station at Clifton Gardens. The lines are in poor condition and are heavily choked with tree roots. There is localised collapse of risers and pits and structural damage to pipe work.

#### *Water*

The site is fed from a 150mm diameter Sydney Water pipe.

Reticulation network is mainly CICL pipe work approximately 40–60 years old.

It appears to be in useable condition but has not been fully loaded since Defence vacated the site.

#### *Electricity*

Existing supply is adequate and is via a single 11kV/415V, 400kVA transformer substation located on Suakin Drive. The substation is 30–40 years old. Reticulation is via overhead cabling.

A separate switchboard would be required for the site.

#### *Stormwater*

Main discharge of majority of the buildings located to the west is via a direct connection to the drainage system on Middle Head Road.

There is an uncontrolled discharge from eastern buildings to the surrounding bushland. There is no detention system for discharge.

The pipe conditions are similar to sewer.

#### *Fire*

The system is capable of supplying both domestic and fire water demands directly from pressure supplied by Sydney Water. The fire booster pump installed is not required under existing pressure profiles.

### **30 Terminal – Building Conditions**

#### *Description*

The majority of the buildings on the site are single storey, gable ended small span structures, timber framed and clad in metal sheeting or timber weatherboard.

The majority of the structures date from World War I with a small number of service buildings constructed during World War II and later.

#### *Condition*

The Trust has undertaken basic waterproofing to stabilise the buildings. The buildings require some structural repair resulting from water and termite damage. The predominantly timber joinery is in poor repair. The lead based exterior paint system is in poor condition.

#### *Services*

The buildings have minimal sewer and water systems. Power is available to most buildings but switchboards require upgrading and internal cabling replaced.

#### *Compliance with Building Code of Australia and Relevant Standards*

The primary compliance issues are the absence of access for people with disabilities and the provision of appropriate amenities.

There are issues arising from the use of some asbestos cement wall and roof sheeting, lead based paint systems and non-compliant glazing.

### **School of Pacific Administration – Site Usage**

Site usage: Educational facility and associated administrative functions. Vacated: 1996.

### **School of Pacific Administration – Services Conditions**

#### *Sewer*

Sewerage discharges via a 150mm pipe to an access chamber located on *HMAS Penguin* from where it flows to the Sydney Water pumping station at Balmoral. The lines require water jetting.

*Water*

The site is fed from a 150mm diameter Sydney Water pipe located in Middle Head Road with a branch line feeding the site. There is an additional minor line connected to 10 Terminal that feeds the Northeastern corner of the site. The reticulation network is mainly CICL pipe work approximately 40–50 years old.

It appears to be in useable condition but has had a number of leaks develop since the site was vacated.

*Electricity*

Existing supply is adequate and is via a single 415V 300kVa overhead supply feed from a pole transformer located approx 200m west of the site. This line also supplies 10 terminal. Reticulation is via overhead cabling to the eastern sector and then underground reticulation running east/west. The supply requires upgrading and additional switchboards installed.

*Stormwater*

There is no record of an underground stormwater system. All roof water discharges direct to ground and both roof and ground flows are overland to the bushland south of the site. There are no detention systems installed.

*Fire*

The system is capable of supplying both domestic and fire water demands directly from pressure supplied by Sydney Water.

## **School of Pacific Administration – Building Conditions**

*Description*

The site comprises a number of single storey timber framed small-scale buildings. Predominantly clad in timber weatherboard and arranged around a series of landscaped pathways, the facility is approximately 40–50 years old.

*Condition*

The Trust has undertaken basic waterproofing to stabilise the buildings but progressive additions to the structures over its life have resulted in an unreliable roof design prone to water penetration. The buildings require some structural repair resulting from water and termite damage. The predominantly timber joinery is in poor repair.

*Services*

The buildings have a number of toilet facilities but there has been damage to both sewer and water reticulation internally and it requires extensive upgrade.

Power is available to most buildings but switchboards require upgrading and internal cabling replaced.

*Compliance with Building Code of Australia and Relevant Standards*

The primary compliance issues are the absence of access for people with disabilities and the provision of appropriate amenities.

There are significant issues associated with large expanses of non-compliant glazing and the existing fire services in particular paths of travel.

## **Chowder Bay – Site Usage**

Short course training and accommodation for the Army Maritime School. Currently partially occupied by the Trust Offices. Vacated: 1997 by Defence.

## **Chowder Bay – Services Conditions**

### *Sewer*

Discharge from the site is via a 225mm pipe to the Sydney Water pumping station at Clifton Gardens. There is no sewer on the lowest level of the site (West) due to the pump station invert levels. The lines are in reasonable condition.

There is however structural failure of the line from Training Command in the Navy fuel depot that causes frequent surcharge upstream.

### *Water*

Water is supplied to the site from pressure reducing tanks (break tanks) located in training Command. The tanks are prone to valve failure and leaking.

Reticulation at the site is via a 150mm CICAL pipe that appears to be in reasonable condition. There is localised leaking at a number of landing valves.

### *Electricity*

Existing supply is adequate and is via a single 11kV/415V, 500kVA substation located in Building 1. The substation is 30–40 years old. The HV supply is susceptible to brownouts. 415V reticulation is via underground cabling.

### *Stormwater*

The site is the lowest point on the southern side of the peninsular. Surface run off from hardstand is collected in a series of pits and along with roof water discharges into the harbour.

Overland flows are not collected and discharge direct to the harbour.

The major part of the stormwater system is 30–40 years old and in reasonable condition. The system is unable to handle peak flows during heavy rain.

### *Fire*

The supply rate from the break tanks is adequate, however; the unreliability and possible failure of the break tanks could result in loss of hydrant capabilities.

## **Chowder Bay – Building Conditions**

### *Description*

The structures on the site range from a single storey Victorian cottage, the heritage listed submariners building, two storey brick and timber barracks buildings, and two storey brick mess buildings and contemporary brick and FC sheeted office accommodation.

### *Condition*

The Trust has undertaken substantial repair and modifications to the later period structures and they are in good condition. Major conservation works have been undertaken on the Submariners building and cottage.

The remaining buildings are generally in good condition with only minor repair works required to maintain structural stability.

### *Services*

The buildings are well serviced and the internal systems are relatively intact.

*Compliance with Building Code of Australia and Relevant Standards*  
The primary compliance issues are the absence of access for people with disabilities and the provision of appropriate amenities. The topography of the site presents particular issues with access to the buildings.

## NORTH HEAD – BACKGROUND MATERIAL

---

### Existing Heritage Listings

Figure 7.4 shows the ranking of buildings on the Defence Lands resulting from the Heritage Assessment carried out by Peter Freeman Pty Ltd in association with Peter McLaren for the Department of Defence, August 2000 and includes surrounding heritage items from Manly Council's LEP.

The heritage importance of North Head is reflected by listings in the following inventories:

- Registered on the National Estate Database No 101621
- Sydney Harbour National Park, Manly. Register of the National Estate – Database No.002584
- State Heritage Inventory – Quarantine Station and Reserve

Manly Municipal Council LEP lists the following Architectural and Archaeological Items:

- Various houses
- St Matthew's Anglican Rectory (1 Darley Road)
- St Patrick's College Seminary and associated buildings (Darley Road)
- St Patrick's College Complex (Darley Road)
- Cardinal's Palace (Darley Road)
- Manly District Hospital – former principal buildings (Darley Road)
- Site of Gas Works (Little Manly Point)
- North Head Fortifications (Artillery School, North Head)
- Stone Walls (North Head)
- North Head Scenic Drive, Parkhill (North Head)
- The School of Artillery (North Head)
- The Australian Police Staff College North Head)
- Quarantine Station (Sydney Harbour National Park)
- Cemetery (Sydney Harbour National Park)
- Group of Institutional Buildings (Commonwealth Military Reserve)

Landscape Items:

- Various street trees
- Cardinal's Palace Grounds (Darley Road)
- St Patrick's College Grounds (Darley Road)
- St Patrick's College Stone Walls (boundary of St Patrick's College)
- Ocean Foreshores (boundary of Municipality adjacent to the ocean)
- Harbour foreshores (boundary of Municipality adjacent to the Harbour)
- National Park (North Head)
- Obelisk (North Head, Sydney Harbour National Park)
- Quarantine Station Stone Cairn
- Quarantine Station Stone Walls
- Quarantine Station
- Park Hill Reserve Gateway

The following items are either within the School of Artillery site or immediately adjacent:

- North Head Fortifications
- Roadway: North Head
- Walls: North Head
- School of Artillery
- Cemetery: North Head

Register of the National Trust:

- North Head Quarantine Station
- St Patrick's College Seminary and Associated Buildings, Darley Road
- St Patrick's College Complex, Darley Road
- Cardinal's Palace, Darley Road
- North Head Fortifications
- Cemetery, School of Artillery
- Sydney Harbour Entrance

The description of heritage values and statements of significance can be examined in the 'Heritage Issues' Background Report (in preparation).

## Planning Context

This section draws from the particular sections of State and local government legislation and planning documents that specifically have implications for the Harbour Trust in formalising its Plan and is summarised from the 'Planning Context Report – Harbour Trust Lands', MG Planning, July 2002.

### *State Government*

A number of State Government agencies have responsibilities and policies which are relevant to the future of North Head. Plans and policies prepared by these agencies which have implications for the future of North Head are outlined below:

*SEPP 56 – Sydney Harbour Foreshores and Tributaries.* The North Head Defence lands are listed in Schedule 1, Sites of State Significance, of this Plan (see Whole of Harbour section for more detail).

*SREP 23 – Sydney and Middle Harbours.* See Whole of Harbour section for more detail. No heritage items are noted on Defence Lands.

*Sydney Harbour and Parramatta River DCP.* The Defence site and the Australian Institute of Police Management are within the boundary of the Plan which deals with land fairly closely related to the waterline. As a result the upper part of North Head is not detailed for ecological communities and landscape character. The Police College is designated as Landscape Character Type 1; Type 2 applies to the entry to Sydney Harbour. In both cases the Statement of Character and Intent and the Performance Criteria are compatible with the content of this Plan.

*Sharing Sydney Harbour – Regional Action Plan.* North Head and the western part of St Patrick's Estate are shown as strategic sites requiring the preparation of a framework plan.

Bushland areas are identified for linking and rehabilitation.

North Head is identified as a key site to be interpreted as part of the 'Sydney Harbour Dreaming' project and is identified as an opportunity for new open space

*North Harbour Aquatic Reserve (NSW Fisheries) see Figure 8.3.* The North Harbour Aquatic Reserve applies to the water area from Mean High Water Mark including the majority of North Harbour with the exception of the area from Manly Point to Forty Baskets Beach and Little Manly Cove. Within the Reserve a person may not wilfully disturb, injure or interfere with fish or wilfully damage, destroy or interfere with marine vegetation. Fin fish are able to be taken by hook and line.

Manly Council has applied to have the North Harbour Aquatic Reserve extended to include the whole North Harbour area north of Dobroyd Head to Cannae Point. The application is currently on hold.

The marine importance of this area has implications for any potential water access.

*Cabbage Tree Bay Aquatic Reserve (NSW Fisheries).* The area from Manly Surf Life Saving Club to the north end of Shelly Beach headland known as Cabbage Tree Bay has been identified as an Aquatic Reserve. This area is also listed on the Register of the National Estate. The area is designated as a no take aquatic reserve.

*Little Penguin Critical Habitat Declaration and Recovery Plan (NPWS).* On January 1, 2003 the Minister for the Environment made a declaration under the Threatened Species Conservation Act in respect of the critical habitat for the Little Penguin colony at North Head. The critical habitat declaration describes the current understanding of the Little Penguin population and documents the critical significance of the areas around Manly Point and from Collins Beach to Cannae Point for the survival of the colony. It also includes an assessment of the social and economic consequences of the declaration. The area declared as critical habitat is shown at Figure 8.3. The declaration identifies three classes of critical habitat – critical habitat area A, critical habitat area B and potential habitat areas. The following restrictions apply to each category of area:

#### Area A regulations

- No companion animals (except for assistance animals) in Critical Habitat
- No fishing in Critical Habitat between sunset and sunrise during the Little Penguin breeding season (from July 1 through to February 28)
- No tampering with or damaging Little Penguin nest boxes, nesting burrows, moulting penguins or approaching within 5m of a Little Penguin on land

#### Area B regulations

- No companion animals (except for assistance animals) in Critical Habitat (residential back yards excluded)
- No fishing in Critical Habitat between sunset and sunrise during the Little Penguin breeding season (from July 1 through to February 28)
- No tampering with or damaging Little Penguin nest boxes, nesting burrows, moulting penguins or approaching within 5m of a Little Penguin on land

#### Potential habitat area regulations

- There are currently no regulations that apply to potential habitat areas

The Little Penguin Recovery Plan include measures such as those above to protect the existing Little Penguin colony in the area.

*Draft Recovery Plan – Grey Nurse Shark (NSW Fisheries).* Council has advised that a monitoring station for Grey Nurse Sharks has been installed by NSW Fisheries at Little Manly Point. Grey Nurse Sharks are on the endangered species list under the NSW Fisheries Management Act and the eastern coast species is listed as ‘critically endangered’ under the Commonwealth Environment Protection and Biodiversity Conservation Act. NSW Fisheries has prepared a Draft Recovery Plan (currently on exhibition) for the Grey Nurse Shark. The Plan proposes 13 areas of critical habitat although the area within the North Harbour Aquatic Reserve has not been identified. The Conservation Lobby is currently proposing that the Reserve be included as critical habitat.

*Draft Long Nosed Bandicoot Recovery Plan (NPWS).* This recovery plan notes that the Long Nosed Bandicoot population at North Head is listed as endangered under Part 2 Schedule 1 of the NSW TSC Act 1995. The Long Nosed Bandicoot population on North Head faces a number of key threats. These include threats that affect habitat (habitat loss, habitat fragmentation, habitat modification and/or degradation), threats that have a direct impact on individuals (i.e. predation, road mortality, disease) and threats which result from the small population (i.e. inbreeding depression, loss of genetic variability and the ability to recover from stochastic events such as catastrophic wildfire).

The objective of the Recovery Plan is to maintain the population of Long Nosed Bandicoots on North Head at a secure status in the wild, ameliorate threats and de-list the population as an endangered population under the NSW TSC Act. The Plan outlines actions targeted at achieving this objective.

The Recovery Plan indicates the need to revise the existing plan for the management of Long Nosed Bandicoot population and implement plans to address matters of habitat management and enhancement (i.e. weed control, fire management and bushland rehabilitation), threat reduction (predator control and road mortality), education of occupants and monitoring of bandicoots.

*Draft North Head Planning Strategy (North Head Advisory Committee – Section 22 Committee).* The Strategy proposed a number of strategies for the headland, which related to five management areas under the following headings:

- Planning and administration
- Land use and built environment
- Cultural heritage
- Natural systems
- Circulation and access
- Recreation Tourism and Leisure
- Image and Quality

The Strategy remains in draft form as it has never been finalised, however it is a good base document which drew together all available information in 1996. The recommendation of the study while valid proved controversial with landholders with conflicting interests unable to commit to strategies which required a holistic view of planning and management of the headland.

*Buffer Zones around Sewerage Treatment Works.* A Section 117 Direction under the EP&A Act provides for a 400 metre buffer zone from the source of the odour to be taken into account when preparing new plans (see Figure 8.3).

*Community Approach to Recording Aboriginal Heritage: North Head (NPWS and Metropolitan Aboriginal Land Council).* The National Park and Wildlife Service in conjunction with the Metropolitan Aboriginal Land Council had a study prepared by Darwala-Lia Archaeological Services of Aboriginal places at North Head (Feb. 2001). The Study involved a detailed survey of the western side of North Head particularly focusing around the Quarantine Station. The study provides a fascinating view of North Head from an Aboriginal perspective and provides a statement of significance written in the form of an Aboriginal oral history. The study identifies significant sites however these are not mapped given the sensitive nature of the sites and the desire to ensure that their location does not become public. The study recommends further

detailed survey work be undertaken for the remainder of North Head and in particular the School of Artillery.

*Manly Mosman Bush Fire Risk Management Plan (NSW Bush Fire Coordinating Committee, 2002)*

#### *Local Government*

*Zoning and Landuse – Manly.* The site falls within the Manly local government area and is zoned special uses 5(a) School of Artillery under Manly Local Environmental Plan 1988. The surrounding Sydney Harbour National Park is zoned 8(a) National Park with other special use zonings in the headland including the Hospital, the Sewerage Treatment Works (note the actual works are not including within the local government boundary although part of the site is zoned special uses).

The residential area of Eastern Hill is fully developed (with only minor increases in density foreseeable) with the exception of land identified for residential development within the St Patrick's Estate site. Part of the St Patrick's land is currently the subject of a draft LEP to allow residential development. The gazettal of the LEP should finalise the long dispute over the appropriate amount of residential development on this land. In total 115 dwellings were previously allowed and the current LEP will allow a further 37 dwellings. Further residential development on the headland can therefore be expected to an approximate maximum additional 150 dwellings. The draft LEP requires the provision of "reasonable public access and including pedestrian connection from Spring Cove to Shelly Beach via the Estate lands". It is unclear at this stage whether a formal pedestrian pathway will be provided or whether the current informal arrangements will continue. Planning NSW has indicated that an existing stone wall separates the Estate lands from the Harbour foreshore at Spring Cove therefore this connection appears doubtful.

Implication: Existing road system will be put under additional pressure as a result of future residential development and development of the Quarantine Station site. Possible pedestrian connection to be provided from Spring Cove to Shelly Beach via Estate lands although existence of stone wall separating Estate from Harbour foreshore may preclude this.

*Stormwater Management Plans.* Manly Council in conjunction with Warringah Council, Pittwater Council and a range of other government bodies has prepared the Northern Beaches Stormwater Management Plan (July 1999) for the northern beaches area. The plan covers the North Harbour catchment and the Manly Lagoon catchment on the ocean side of North Head. The Plan identifies general and specific proposals to improve stormwater within the catchments. Specific recommendations which are relevant include the provision of gross pollutant traps at various locations and the provision of sediment basins/mini wetlands to control runoff. In particular it proposes a sediment basin/mini wetland to treat stormwater runoff discharge from school/hospital areas into the National Park at North Head. However the Plan also includes an Action Plan for Manly Council which does not include the provision of a sediment basin/mini wetland in this location. Other measures included in the Plan are general and do not have any specific implications for Trust lands.

*Public Open Space.* Council does not currently have a Plan of Management for Little Manly Point (former Gas Works).

A Management Plan has been prepared for Cabbage Tree Bay (October 2000), which comprises the area between Manly Point and Fairy Bower Headland including Shelly Beach. The Plan proposes the Bay as a 'no take' marine sanctuary area. The area has since been declared as a No Take Aquatic Reserve. The plan proposes terrestrial measures including management consistent with whole of North Head, bush regeneration consistent with requirements of Long Nosed Bandicoots and other various measures. The Plan has no specific implications for Trust Lands other than ensuring consistency.

*Bush Regeneration.* Council is currently undertaking a small amount of bush regeneration on Cabbage Tree Headland and at Spring Cove. No other works are currently planned by Council for North Head.

#### *Adjoining Landholders*

*St Patrick's Estate.* As noted above, part of the St Patrick's Estate site has been rezoned to allow residential development and an LEP to allow an additional amount of residential development is currently before the Minister for approval.

Having regard to the long history of dispute over the St Patrick's site, the Church is reluctant to allow access to its property for either walking tracks, Long nosed Bandicoot trapping etc.

Development of this land will place additional pressure on the existing road system on North Head and decrease the existing bandicoot feeding areas.

*Quarantine Station.* The future development potential of the Quarantine Station within the Sydney Harbour National Park has been reviewed by a Commission of Inquiry. The current proposal provides for the adaptive reuse of the building on site to provide: a visitors centre, guided tours, a restaurant, an accommodation, functions and events centre and an environmental and cultural study centre. The proposal will increase visitors to the site from the current level of 30,000 per year to 100,000 per year. The proposal incorporates water access and purports to encourage 50% of visitors to the site to access the site via ferry plus the use of a shuttle bus. Notwithstanding, the development will result in a significant increase in vehicular traffic accessing North Head.

*NSW National Parks & Wildlife Service .* The NPWS currently has no major proposal for the North Head (with the exception of the Quarantine Station) although some bush regeneration and track maintenance work is being undertaken around the car parks and at Collins Flat. Other relevant work includes the Long Nosed Bandicoot survey which is ongoing. No new walking tracks are currently proposed. The NPWS is in the process of preparing a precinct plan for North Head. The Trust will be consulted in this process.

*North Head Sewage Treatment Plant.* Consultation has commenced with Sydney Water regarding Project North Head, the objective of which is to improve the operation and performance of the treatment plant. Odour from this plant is clearly noticeable from the Defence lands under certain wind conditions.

*Australian Institute of Police Management.* The Institute occupies a relatively small and crowded site, the lower Spring Cove levels of which are a Little Penguin breeding area. Heritage is a consideration given the World War 1 origins of the site.

*Manly Hospital.* State Environmental Planning Policy No. 5 (SEPP 5) Aged and Disabled Housing, applies to the Manly Hospital site. Currently a new teaching hospital is proposed at Frenchs Forest. Council is unsure about the future use of the hospital site although if the hospital is closed Council has indicated that it considers the site may be appropriate for a nursing/retirement home.

## Traffic and Access

Access to North Head is highly constrained being via one road in and out (Darley Road). Access is further limited as Darley Road runs through a residential neighbourhood thereby placing environmental constraints on access to the headland. The Manly Town Centre area also presents constraints due to limited through routes to get to Darley Road.

A number of transport studies have been undertaken. The environmental capacity of Darley Road has been identified as 500 vehicles per hour per lane (Rust PPK).

Manly is the focus of the ferry service from Circular Quay plus various Sydney Bus routes. The only bus service that serves North Head is the 135 picking up from West Esplanade. This bus terminates at Many Hospital and operates seven days per week ranging from 25 services on weekdays between 7am and 7pm, to 11 services on Sundays. A limited 135 service also operates to North Head and North Fort, with three services operating on Wednesdays, Saturdays and Sundays.

Water access to North Head is constrained by Little Penguin habitat area and the North Harbour and Cabbage Tree Bay Aquatic Reserves.

Traffic and access are a major constraint on future options for Trust lands which will be assessed by the Trust's traffic consultant. More detailed analysis of the Traffic/ access issues is contained in the Background report '*Transport Planning Review*', Christopher Hallam & Associates, September 2002.

In terms of formal walking tracks, the Fairlight Walk currently terminates at Spring Cove. In addition the Shelly Beach Walk terminates at Shelly Beach. Public access to Shelly Beach is currently provided through the stonewall via a lease arrangement with Council. There is also currently an informal path between Little Manly Point and Collins Flat, however, Council has indicated that the NPWS is opposed to formalisation of this route.

There is potential to provide links to existing formal walking tracks and formalisation of informal tracks where appropriate.

## Site Usage

Most recent site usage: Artillery training, accommodation, vehicle servicing and administration. Vacated 1997.

## Artillery School – Services Conditions

### *Sewer*

The sewerage system at the North Head site consists of a network of gravity pipes falling to a sewer main on the western side of Scenic Drive in land controlled by National Parks and Wildlife. The sewer pipe network is in poor condition with a high percentage of the pipes blocked and showing signs of structural failure.

### *Water*

The water system consists of three pump stations, two reservoirs and a gravity reticulation system. The site is connected to the Sydney Water supply main at the corner of Bluefish and Artillery Drives. The main water supply and hydrant network on the site is in poor condi-

tion with ongoing problems involving breakages and leaking mains. A major upgrading is necessary.

#### *Electricity*

An overhead 11kV high voltage main runs through the site supplying North Fort, Quarantine and National Parks. This HV network belongs to the site. Energy Australia has advised that the site substation is in poor condition possibly in need of a major overhaul.

#### *Stormwater*

The stormwater reticulation network suffers from the same problems as the sewers – structural failure of pits and pipes, tree root invasion, and siltation. The system has uncontrolled discharge to the surrounding bushland.

#### *Fire*

The fire hydrant system is part of the water network described above. A major upgrade is necessary.

### **Artillery School – Building Conditions**

#### *Description*

There are 36 buildings on the North Head site. The major buildings are of full masonry construction, while there are also a number of steel clad sheds, garages and storage buildings.

#### *Condition*

The main problem facing the full masonry buildings is the corrosion and failure of the steel cavity ties and poor quality mortar mix. Repairs will involve significant repairs and repointing of brickwork. There are also problems with water ingress through roofing and flashings. The site is predominantly sandy foundation material that has contributed to footing failure and structural damage.

#### *Services*

Electrical distribution boards will require upgrading to increase capacity and additional wiring will be needed. Some rewiring may also be necessary.

Water and sewerage fixtures and services within buildings are acceptable.

#### *Compliance with Building Code of Australia and Relevant Standards.*

The primary compliance issues are the absence of access for people with disabilities and the provision of appropriate amenities.

The larger buildings such as the barracks require extensive fire compliance works such as sprinklers, fire stairs and fire doors.

There are issues arising from the use of lead based paint systems, and non-compliant glazing.

### **Defence Housing – Site Usage**

Site usage: Defence housing

Status: occupied

**Defence Housing –  
Services Conditions**

All the houses rely on the services infrastructure associated directly with the School of Artillery.

While individual allotments have been maintained the poor condition of the overall service infrastructure is the limiting factor in serviceability. (Refer to former School Of Artillery Site Services)

**Defence Housing –  
Building Conditions***Description*

There are 26 detached single storey full brick and tile cottages on the North Head site. They are located in two distinct precincts, 18 along Scenic Drive to the North of the School of Artillery and 8 on St Barbaras Avenue.

Four of the houses are contemporaneous with the School of Artillery while the remaining houses were constructed in the mid 1960s.

*Condition*

The houses have been continually occupied and as such benefited from regular maintenance. Their condition is consistent with their age. The building fabric is in serviceable condition but in some houses the kitchens and bathrooms require upgrading.

*Services*

Services within the allotments have been regularly maintained and upgraded as required.

While the individual services have been maintained the connection to the overall site infrastructure and its poor serviceability limits the reliability of the services.

*Compliance with Building Code of Australia and Relevant Standards*

The houses predate the BCA, but the essential safety actions would be the installation of smoke alarms, electrical safety switches and an assessment of non-compliant glazing.

The use of lead based paints poses a risk that requires management.

**FORMER MARINE BIOLOGICAL STATION –  
BACKGROUND MATERIAL****Existing Heritage Listings**

The Former Marine Biological Station is registered as a site on the Register of the National Estate.

Woollahra Council LEP 1995 lists the following items:

- The building and grounds of the Former Marine Biological Station
- The site and local area is within the Watsons Bay Conservation Area
- Council is currently in the process of preparing a DCP for the area

The DCP will be precinct based and will focus on the private domain. The Trust is represented on the Community Reference Group.

Figure 9.3 shows the heritage values of parts of the station based on the Conservation Plan carried out by Brian McDonald, Craig Burton et al for the Department of Housing and Construction, December 1986 and the Conservation and Management Plan by Eric Martin and Associates for the Defence Housing Authority, dated December 2000.

The description of heritage values and statements of significance can be examined in the 'Heritage Issues' Background Report. (in preparation)

## Planning Context

Most items are based on 'Planning Context Report – Harbour Trust Lands', MG Planning, July 2002.

### *State Government*

*SREP 23 – Sydney and Middle Harbours.* Camp Cove identified as a major positive feature.

*Sharing Sydney Harbour – Regional Action Plan.* Camp Cove is identified as a significant place under 'Harbour Culture'. The Biological Station would be a contributing element to the cultural experience of the harbour.

*Draft Eastern Suburbs Bush Fire Risk Management Plan (NSW Bush Fire Coordinating Committee, 2002)*

### *Local Government*

The Trust land at Camp Cove is within the local government area of Woollahra.

*Zoning and Land Use – Woollahra.* The subject land is zoned 6 Open Space – General Recreation under Woollahra LEP 1995.

The site is adjoined to the East by Green Point Reserve, which forms part of the Sydney Harbour National Park (zoned 8 National Parks and Nature Reserves).

To the North East the site is adjoined by land zoned residential, although Camp Cove Beach (which is in private ownership but accessible to the public, albeit with difficulty) is zoned 6 Open Space – Local Open Space Reservation.

Within the surrounding residential area the minimum allotment size is 400 sq m with a maximum height of 6.5m.

The site has frontage to both Pacific Street and Victoria Street. The area is within the Harbour Foreshore Scenic Protection Area

It is not envisaged that any changes to the existing form or density of development are likely.

### *Infrastructure*

Sewerage from the local area is currently conveyed to the ocean outfall off Sydney. While there is a proposal to pipe sewerage from the area through to Bondi for treatment, the timing of this is unknown. Accordingly, any redevelopment within the local area is currently constrained by inappropriate sewerage infrastructure and would be discouraged by Council.

Although not affecting the subject site, Camp Cove has a history of being subject to flooding. This flooding is caused by the combination of stormwater pipe blockages and high tides.

### *Adjoining Landholders*

As noted above, the site adjoins Green Point Reserve which forms part of the Sydney Harbour National Park. Accordingly, the Sydney Harbour National Park Plan of Management applies to this reserve. The Reserve, mainly used for picnicking and sunbathing, is maintained by Woollahra Council. Due to the limited parking and small size of the Point, the Plan proposes no additional facilities except for the possible installation of picnic tables on the point at Camp Cove.

The Northeastern boundary of the site is shared with a residential property on Victoria Street.

### Traffic and Access

The local area is constrained in terms of both traffic access and parking due to the narrow streets and small allotments without on-site parking. This would be an issue for events or activities held at the site. Water transport would provide an appropriate means of arrival.

The foreshore of the site currently acts as a link for pedestrians between Green Point Reserve and Camp Cove Beach. Council has indicated that there is some desire by local residents to provide access through the site from Victoria Street to Camp Cove Beach. Such a link would act as a short cut for residents in the area who currently walk down Pacific Street through Green Point Reserve and on to Camp Cove Beach.

### Site Usage

Usage: Defence Personnel Housing. Vacated 2001.

### Services Conditions

#### *Sewer*

The condition of the sewerage system to this site has not been fully surveyed. The site is connected to the Board's sewer and the site sewerage system is of vitrified clay pipe. Records show that former tenants reported problems of repeated blockage of the system. The service will require upgrading to UPVC pipe. Since the strip out of the wet areas by Defence Housing Authority (DHA), the sewer has not been tested.

#### *Water*

The condition of the water service to this site has not been fully surveyed. The site is presently connected to town water at Pacific Street but the size, condition and extent of the pipe reticulation has not been determined. It appears to be in useable condition but has not been fully loaded since the site was vacated.

#### *Electricity*

The site is connected to the electricity supply from Pacific Street via an aerial cable. The main switchboard is located on the southern external face of the residence. The condition and extent of this service has yet to be fully surveyed. Prior to vacating the site, DHA began rewiring throughout the residence. This work needs to now be completed. There are telephone cables entering the site from Pacific Street, however the service is not connected.

#### *Stormwater*

The discharge from the roof of the buildings is connected to a vitrified clay pipe system. The nature of these pipes has not been determined but it is suspected that the point of discharge is either at the lower point of the grounds or out to the beach.

#### *Fire*

The dwelling is currently protected via a smoke detection system that is connected to a fire indicator panel, the local fire station as well as to the site security company base. There are no other fire protection services in the building.

### Building Conditions

#### *Description*

The main building is a two-level house constructed in 1881. The upper level of the house is of weatherboard construction and the lower basement level is constructed of rough-faced sandstone. The upper level contains a total of eleven rooms and there are three distinct

basement rooms. The service rooms, bathroom and kitchen, have been stripped out of the building. A verandah wraps around three sides of the upper portion and it is now partially enclosed. This building has a simple hipped roof form that is clad in corrugated iron.

The second building on the site is a c.1930 single room garage, detached from, and to the East of the residence. It is built onto the street frontage with its floor built at this level, requiring substantial stone retaining walls to accommodate the change in levels. It is a timber-framed structure lined in asbestos sheeting with a simple gable roof also lined in asbestos sheeting.

#### *Condition*

The buildings are only in reasonable condition. There is some minor, non-critical deterioration of materials due to a lack of maintenance over the past few years by DHA. Prior to vacating the site, DHA had begun some minor repairs such as the replacement of the internal floorboards and the electrical re-wiring. This work was not completed.

While the house is not under any immediate threat it does require some substantial maintenance work particularly in roof, joinery, stone and service repairs, as well as painting. Given the marine location and the choice of building materials (timber, stone and metal) a strict regular maintenance regime will have to be adopted by the Trust.

#### *Services*

New kitchen, bathroom and laundry services will be required. A new sewerage system will be required as well as the full re-wiring of the building.

#### *Infrastructure*

The site contains numerous types of boundary fences as well as paths. These are all in poor condition and they will require replacing and restoring in the near future.

#### *Compliance with Building Code of Australia and Relevant Standards*

The following items will be compliance issues at this site:

- the height of the verandah balustrades
- the stairs connecting the two floors will need to be redesigned
- safe public access to the grounds, repairs to paths and steps, additional signage and lighting
- low sill heights of some windows – the existing glazing will have to be replaced with safety glass
- removal of some asbestos sheet cladding
- fire extinguishers will need to be installed
- the possible physical separation of the two floors with a fire-rated material (dependent on use)

## MACQUARIE LIGHTHOUSE – BACKGROUND MATERIAL

---

### Existing Heritage Listings

- Registered on the National Estate Database 21/10/1980
- Permanent Conservation Order no. 677 11/8/89 under NSW Heritage Act State Heritage Inventory
- Listed under Woollahra Municipal Council's LEP 1995

Macquarie Lighthouse buildings and grounds being:

- Macquarie Lighthouse, Assistant Keeper's quarters, the stables, Head Keeper's quarters, stone retaining wall east of Lighthouse, gate

posts, gas tank, four water tanks, remnant semi-circular entry drive, central open grassed lawns, remnant sandstone walls on the southern boundary, vegetation and grounds to the west of Keeper's quarters, the grounds to the east of the stone retaining wall, including the quarry

- The Lightstation is also within a Conservation Area listed on the Register of the National Trust

Both the Assistant Keepers' and the Head Keeper's Quarters are the subject of 125 year private leases commenced in 1991 and 1994 respectively.

The Heritage Values Figure 10.3 shows the heritage items resulting from the Revised Conservation Management Plan carried out by Clive Lucas Stapleton and Partners for the Department of Finance and Administration dated June 2001.

The description of heritage values and statements of significance can be examined in the 'Heritage Issues' Background Report. (in preparation)

## Planning Context

Most items are based on 'Planning Context Report – Harbour Trust Lands', MG Planning, July 2002.

### *State Government*

The following State government agencies have responsibilities and policies which are relevant to the future of Macquarie Lighthouse.

*SREP 23 Sydney and Middle Harbour.* Macquarie Lighthouse identified as an important landmark with its open setting to be retained.

*Draft Eastern Suburbs Bush Fire Risk Management Plan (NSW Bush Fire Coordinating Committee, 2002)*

### *Local Government*

The Trust land at Macquarie Lighthouse falls within the local government area of Woollahra.

*Zoning and Land Use – Woollahra.* The site is zoned 6 Open Space – General Recreation (Lighthouse Reserve) under Woollahra LEP 1995. It adjoins Christison Park to the South and Signal Hill (and Gap Park) to the North. All these lands are similarly zoned 6 Open Space General Recreation. The area is also within the Foreshore Scenic Protection Area.

To the west across Old South Head Road land is zoned 2 Residential 'A' under Woollahra LEP 1995. This zoning allows predominantly single detached dwellings with a subdivision area of 675 sq m and a maximum height of 9.5m.

### *Adjoining Landholders*

Woollahra Council is responsible for the two reserves to the North and South on the Lightstation and the coast walk reserve to the East.

*Bush Regeneration.* Council is currently undertaking significant bush regeneration works on The Gap Park to the North of the site. Almost the entire park is affected by the current works.

Council has noted that the area from the Gap to Christison Park (including the subject site) forms a start of the Eastern Suburbs coastal bushland corridor that extends to Maroubra Beach in the South. Revegetation sites have been identified as part of this project

and these include the areas of Signal Hill Reserve, Lighthouse Reserve and the area directly behind the Lightstation and Christison Park. Council has raised concerns about the impact of dogs and people in the bush regeneration zones.

Discuss with Council to ensure consistency and retain character of lighthouse setting and interpretation of quarry where regeneration has taken place.

*Plans of Management.* Council does not currently have any specific Plans of Management for parks within the vicinity of the site. A generic plan of management applies but this does not provide any specific relevant information. Council is however currently preparing Plans of Management for a number of parks within the vicinity of the site.

The Trust will discuss with Council and provide input as necessary into plans under preparation.

#### **Traffic and Access**

The site is well served by bus services along the main road. On-street parking is available on Old South Head Road, however there is no public parking available on the site itself. All public access is by foot from the Old South Head Road entry. Improved access will be provided from the cliff walk. Only service or emergency vehicles plus those of lessees will be permitted on site.

#### **Site Usage**

Site usage: Navigational aid for Sydney Harbour Heads and housing – still operational and occupied.

#### **Services Conditions**

##### *Sewer*

The extent and condition of the sewerage system at the Macquarie Lightstation site has not yet been surveyed. There is a board sewer connection to the site. The 7 dwellings are connected, however there is no connection to the Lighthouse.

##### *Water*

The site is supplied with water from Sydney Water. The 7 dwellings are connected, however there is no connection to the Lighthouse. The extent and condition of this service has not been surveyed.

##### *Electricity*

The site is connected to the electricity supply grid. This applies both to the dwellings and to the Lighthouse. An on-site, stand-by diesel generator services the Lighthouse in the event of power failure. The extent and condition of this service has not been surveyed.

##### *Stormwater*

There is stormwater reticulation on the site. This service has yet to be surveyed. Two pairs of 150pvc outlets on the Eastern edge of the site are evident. These appear to be the discharge for the site. The extent, adequacy and condition of this service are not yet known.

##### *Fire*

The fire services on the site have not been serviced. The Lighthouse has recently been fitted with dry chemical fire extinguishers. No other fire services to the site are evident.

#### **Building Conditions**

##### *Description*

There are 7 dwellings on the site, 2 garage/stables buildings and the Lighthouse together with numerous remains of earlier buildings.

The date of the dwellings ranges from 1837, the 1880s and the 1970s. The Lighthouse was constructed in the 1880s.

The earlier dwellings are single storey and built of stone and rendered brick work with timber-framed roofs sheeted in corrugated steel.

The recent two storey townhouses are of cavity brick construction with cement tile roofs.

The lighthouse is built of stone and its roofs are lined in lead.

The main stair to the Lighthouse is of cast iron.

#### *Condition*

The built structures are all in good condition having remained continuously occupied. AMSA and the lessees of the dwellings have carried out regular maintenance on the site. The Trust has recently undertaken repairs to the boundary fence and has begun upgrading balustrades and fire services for compliance.

#### *Infrastructure*

The site also contains archaeological remains, stores, paths, fences, stone retaining walls and an extensive grassed area.

These are largely considered to be in good condition. The earlier stone remains will require some conservation and stabilisation work in the near future.

## **Services Conditions**

The essential electricity services to the Lighthouse have been regularly tested and maintained by AMSA. There are no sanitary services to the Lighthouse. All services associated with the dwellings are believed to be adequate and in working order.

#### *Compliance with Building Code of Australia and Relevant Standards*

The compliance issues on the site pertain essentially to the Lighthouse and include:

- ensuring safe access for all visitors
- providing amenities for public visitation
- reviewing fire services
- providing adequate safety signage

# 13

## GENERAL REFERENCES

---

Attenbrow, Val 2002, *Sydney's Aboriginal Past, Investigating the Archaeological and Historical Records*, UNSW Press, Sydney

Christopher Hallam & Associates Pty Ltd September 2002, *Transport Planning Review of Sydney Harbour Federation Trust Lands*

MG Planning July 2002, *Planning Context Report – Harbour Trust Lands*

## WOOLWICH DOCK AND PARKLANDS

---

ADI Services September 1995, *Site Assessment Report for Morts Dock Woolwich*

Australian Property Group September 1990, *History, Assessment of Cultural Significance and Recommendations for Conservation*

DC Research Economic & Social Geographers September 1990, *History, Assessment of Cultural Significance & Recommendations for Conservation*

EGIS, Woodward-Clyde *Cockatoo Island Characterisation Report*

Edward Higginbotham & Associates March 2000, *Conservation Plan for Woolwich Dry Dock and the Horse Paddock*

GIS Environmental Consultants December 2002, *Draft Flora and Fauna Survey – Woolwich Dock and Parklands*

Lehany, Michael December 1997, *Cultural Landscape Assessment: A Report for the Department of Defence Commonwealth of Australia*

PPK Environment & Infrastructure November 2001, *Site Services Survey-Woolwich Dock*

Woodward Clyde December 1996, *Woolwich Dock Geotechnical Study, Contamination Assessment and Remediation Strategy*

Woodward Clyde January 1999, *Defence Land Woolwich, Phase II Assessment and Remediation Options*

Woodward Clyde July 1997, *Woolwich Dock Phase 1 Assessment and Sampling Strategy Report*

Woodward Clyde May 1997, *Woolwich Dock Draft Geotechnical Assessment*

#### COCKATOO ISLAND

---

CH2MHill August 1993, *Chemical Profile – Hazards of Mercury in the Environment, Cockatoo Island Contamination Study, For Australian Government Solicitor* (Report: CH2MCI/CP-01)

CH2MHill August 1993, *Preliminary Hazard Assessment, Cockatoo Island Contamination Study, for Australian Government Solicitor*, (Report: CH2MCI/HA-01)

CH2MHill December 1993, *Remediation Cost Estimate Report, for Australian Government Solicitor*, (Volumes 1 and 2)

CH2MHill January 1995, *Remedial Concept Report, for Australian Government Solicitor*

CH2Mhill November 1993, *Risk Assessment Report, for Australian Government Solicitor*

GIS Environmental Consultants December 2002, *Draft Flora and Fauna Survey – Cockatoo Island*

Godden Mackay Logan May 1997, *Cockatoo Island Conservation Management Plan*

PPK Environment & Infrastructure November 2001, *Site Services Survey-Cockatoo Island*

Woodward-Clyde/ CMPS&F/ Coffey Partners October 1998, *Cockatoo Island Environmental Characterisation*. Volumes 1,2,3,4 & 5, for Department of Defence

#### SNAPPER ISLAND

---

Clive Lucas Stapleton and Partners 2001, *Snapper Island, Sydney Harbour Preliminary Heritage Study*

Dascem Holdings Pty Ltd March 2000, *Environmental Audit and Management Plan*

PPK Environment & Infrastructure November 2001, *Site Services Survey-Snapper Island*

#### MIDDLE HEAD GEORGES HEIGHTS AND CHOWDER BAY

---

Conacher Travers Environmental Consultants December 2002, *Draft Flora Study of Sydney Harbour Federation Trust Land and National Parks and Wildlife Service Land at Middle Head / Georges Heights*

Conacher Travers Environmental Consultants May 2001, *Comprehensive Fauna Survey of Interim Sydney Harbour Federation Trust and Department of Defence Land at Georges Heights and Middle Head*

Dallas, Mary November 1995, *Middle Head Management Strategy Study – Aboriginal sites*

Godden Mackay Logan December 1998, *Heritage Assessment – Georges Heights and Middle Head Defence Site*

Hibbs & Associates June 2002, *Final Report, Hazardous Materials Survey, 30 Terminal Regiment, Georges Heights NSW* (Hibbs Ref. S2768-1)

The National Trust October 1992, *Georges Heights Bushland Survey and Regeneration Plan for Department of Defence*

McNamara Soder Associates May 1987, *Georges Heights & Chowder Bay Conservation Plan*

PPK Environment & Infrastructure November 2001, *Site Services Survey-Middle Head*

PPK Environment and Infrastructure April 1999, *Final Draft Stage 1 Preliminary Contamination and Geotechnical Assessment, Middle Head, Georges Heights, Chowder Bay and Mosman Defence Sites* (PPK ref. 58K191A\PR\_1649)

PPK Environment and Infrastructure April 2001, *Final Draft Stage 2 Detailed Contamination Assessment, Middle Head, Georges Heights, Chowder Bay and Mosman Defence Sites* (PPK ref. 58K191D\PR\_3268)

PPK Environment and Infrastructure May 2001, *Summary Report, Stage 2 Detailed Contamination Assessment, Middle Head, Georges Heights, Chowder Bay and Mosman Defence Sites* (PPK ref. 58K191E\PR\_3617)

#### FORMER SCHOOL OF ARTILLERY, NORTH HEAD

---

Brayshaw, Helen. June 1996, *School of Artillery North Head Aboriginal Heritage*

Clouston, September 1996, *North Head Planning Strategy – Draft*

Darwala-lia February 2001, *The Community Approach to Recording Aboriginal Heritage – A Case Study at North Head, Sydney Harbour National Park*

Peter Freeman Pty Ltd and McLaren, Peter. August 2000, *North Head Defence Property, Sydney – Heritage Assessment*

PPK Environment & Infrastructure November 2001, *Site Services Survey-North Head*

#### FORMER MARINE BIOLOGICAL STATION

---

Brian McDonald Architect Pty Ltd December 1986, *Conservation Plan for Former Biological Station 31 Pacific Street, Watsons Bay*

Eric Martin & Associates January 2002, *31 Pacific Street Watsons Bay (Former Marine Biological Station) Conservation and Management Plan*

MACQUARIE LIGHTSTATION

---

Australian Construction Services June 1993, *Macquarie Lightstation Vaucluse, NSW Plan of Management*

Clive Lucas Stapleton and Partners June 2001, *Macquarie Lightstation Old South Head Road, Vaucluse, NSW, 2030 Revised Conservation Management Plan*

DASCEM Holdings February 2002, *Stage 1 Environmental Assessment, Macquarie Lightstation, Old South Head Rd, Vaucluse, for The Department of Finance and Administration – Property Management Branch*

**10 Terminal**

Army transport depot. Formerly located on Middle Head, Mosman, now Trust land site (see 'Trust Land Site')

**30 Terminal**

Army transport depot. Formerly located on Georges Heights, Mosman, now Trust land site (see 'Trust Land Site')

**8th Brigade HQ**

Located at Cross Street, Mosman. Formerly used by Defence for military exercises. Now a Trust land site (see 'Trust Land Site')

**Action**

Action has the same meaning as that in Section 523 of the Environment Protection & Biodiversity Conservation Act 1999

**Affected Council**

Councils established under the Local Government Act 1993 in whose area Trust Lands (mentioned in schedules 1 and 2 of the Trust Act) and Harbour Land Sites are situated, ie. Hunters Hill, Manly, Mosman and Woollahra Councils. Canada Bay and Leichhardt Councils are recognised as having an interest in the planning of Cockatoo and Snapper Islands

**AHC Act**

Australian Heritage Commission Act is the Commonwealth legislation dealing with cultural heritage matters

**AHU**

Australian 'Army History Unit'

**AMSA**

Australian Maritime Safety Authority

**ANZECC**

Australian and New Zealand Environment and Conservation Council

**Aquatic**

Living in or on water, or concerning water

**Archaeological Relics**

An object kept for its age or historic interest and association with the past

**ARMCANZ**

Agriculture and Resource Management Council of Australia and New Zealand

**ASOPA**

Australian School of Pacific Administration. Formerly located on Middle Head, Mosman, now Trust land site (see 'Trust Land Site')

**Atmospheric**

Existing in the atmosphere

**Australian Natural Heritage Charter**

Sets out standards and principles to guide the conservation of places of natural significance

**Background**

The condition already present in an area before the commencement of a specific activity

**Benching**

The natural cutting and formation of the geology into a 'bench-like' formation

**Bioconservation**

Protection of biodiversity and biological elements

**Biodiversity**

The variability among living organisms from all sources (including terrestrial (land based), marine and other aquatic ecosystems and the ecological ecosystems and the ecological complexes of which they are part) and includes: (a) diversity within species and between species and (b) diversity of ecosystems (EP&BC Act)

**Burra Charter**

The authoritative guidelines for the conservation and management of places of cultural significance

**CAC**

Community Advisory Committee

**Caisson**

A boatlike structure used to seal a dry dock so that water can be pumped out and maintenance and repair work carried out on ships

**Catchment**

The entire land area from which water (e.g. rainfall) drains to a specific watercourse or water-body

**Chowder Bay**

Formerly the Submarine Mining Depot, which sits on a knoll not visible from the heads, now Harbour Trust Lands

**CMP**

Conservation Management Plan

**CO<sub>2</sub>**

Carbon dioxide

**Cockatoo Island**

Lies at the junction of the Parramatta and Lane Cove Rivers. Two dry docks lie nose to nose on the island's flat lower level.

Now a Trust land site (see 'Trust Land Site')

**Concentration**

The amount of substance per unit mass or volume of the medium in which it occurs

**Conservation**

All the processes for looking after a place or site so as to retain its cultural significance

**Contamination**

The condition of land or water where any chemical substance or waste has been added at above background level, and represents, or potentially represents, an adverse health or environmental impact

**Cultural Significance**

Aesthetic, historic, scientific, social or spiritual value for past, present or future generations

**DCP**

Development Control Plan, prepared by local or State Government

**EA**

Environment Australia, primary agency in the Commonwealth Department of Environment and Heritage

**Ecologically Sustainable Development**

Development that aims to meet the needs of the present community without compromising the ecological processes on which life depends for the benefit of future generations

**Ecology**

The science of the relationships between organisms and their environment

**Ecosystem**

An interdependent system of interacting plants, animals and other organisms together with non-living (physical and chemical) components of their surrounds

**Endangered Species**

Those plants and animal species likely to become extinct unless action is taken to remove or control the factors that threaten their survival

**Environment**

Includes (a) ecosystems and their constituent parts, including people and communities; (b) natural and physical resources; (c) the qualities and characteristics of locations, places and areas; and (d) the social, economic and cultural aspects of a thing (EP&BC Act)

**EMP**

Environmental Management Plan

**EPA**

Environment Protection Authority

**EP&BC Act**

The Environment Protection and Biodiversity Conservation Act is the Commonwealth legislation dealing with environmental matters

**ESD**

Ecologically Sustainable Development

**Former Marine Biological Station**

Built at the southern end of Camp Cove in 1881. Now a Trust land site (see 'Trust Land Site')

**Former School of Artillery**

Located on the plateau area of North Head at the entrance to Sydney Harbour. It has a significant history in the Defence of Sydney. This site is now a Harbour land (see Harbour Land above)

**Geoconservation**

Protection of geological forms

**Geodiversity**

The range of geological forms in a place

**Geoheritage**

The history of the geology of an area

**Geological**

Origin, history, and structure of the earth

**Geomorphological**

Configuration of landforms, pertaining to geological structure

**Georges Heights**

Located on the ridge separating Middle Harbour from Sydney Harbour of Middle Head Road, Mosman. Now a Trust land site (see 'Trust Land Site')

**Goat Paddock**

Part of the Woolwich Dock site. Now a Trust land site (see 'Trust Land Site')

**Habitat**

The area or environment where an organism or ecological community normally lives or occurs

**Harbour Land Sites**

Any land in the Sydney Harbour region irrespective of its ownership. In the case of Harbour Land Sites the plan is not legally binding but it has clear strategic value

**Headquarters Training Command**

Located at Georges Heights off Middle Head Road. Formerly the World War I hospital, now a Trust land site (see 'Trust Land Site')

**Heritage – Cultural**

A term which encompasses Aboriginal and post-contact archaeological sites and material remains such as buildings, infrastructure, landscaping, etc

**Heritage – Natural**

A term which encompasses ecosystems, biodiversity and geodiversity associated with natural features

**Horse Paddock**

Located between Woolwich Marina and Clarkes Point Reserve. Now a Trust land site (see 'Trust Land Site')

**Hydrocarbon**

Any of numerous organic compounds, such as benzene and methane, that contain only carbon and hydrogen

**Hydrology**

Surface water and groundwater and the interaction with earth materials

**Interim Trust**

Prior to the proclamation of the SHFT Act on September 20, 2001, the SHFT operated as an Interim Trust

**Isthmus**

A narrow strip of land connecting two larger masses of land

**KPI**

Key Performance Indicator

**LEP**

Local Environment Plan – prepared by a Local Council

**LPG**

Liquefied Petroleum Gas

**Macquarie Lightstation**

Near the clifftop on Old South Head Road at Vaucluse it illuminates the entrance to Sydney Harbour. Now a Trust land site (see 'Trust Land Site')

**Management Plan**

A Management Plan prepared in accordance with Part II of this plan

**Middle Head**

Middle Head is at the end of the ridge separating Middle Harbour from Sydney Harbour. Now a Trust land site (see 'Trust Land Site')

**Moocooboola**

Aboriginal word for the junction of the Lane Cove and Parramatta Rivers

**Natural Significance**

The importance of ecosystems, biodiversity and geodiversity for their existence, value or for present or future generations in

terms of their aesthetic, scientific, social and life-support value

**No 1 Commandos**

Located at Georges Heights between Rawson Park and Georges Heights Oval. Now a Trust land site (see 'Trust Land Site')

**North Fort**

The Royal Australian Artillery National Museum located at North Head

**NPWS**

New South Wales National Parks and Wildlife Service

**PAHs**

Polyaromatic hydrocarbons. PAH is the generic term for the group of hydrocarbon compounds containing two or more benzene rings. The most significant source of PAHs is via the simple combustion or pyrolysis of organic matter

**Palaeontological**

The forms of life existing in prehistoric or geologic times, as represented by the fossils of plants, animals, and other organisms

**PCBs**

Polychlorinated biphenyls. PCB is the generic term given to mixtures of organic compounds formed by the chlorination of biphenyls. Polychlorinated biphenyls vary in appearance from colourless, light mobile fluids to sticky resins and white powders

**Phytophthora**

A fungus that attacks the roots of plants and trees, often causing them to die as they are unable to absorb sufficient water and nutrients through their affected roots

**Pleistocene-aged**

From 11 thousand to 2 million years ago

**Primary Contact Recreation**

Sports such as swimming or surfing in which the user comes into frequent direct contact with water, either as part of the activity or accidentally

**RAANM**

Royal Australian Artillery National Museum

**Rehabilitation**

The restoration of a landscape and especially the vegetation following its disturbance

**Remediation**

Removing the cause of contamination on the land, or dispersing, destroying, reducing, mitigating or containing the contamination on the land

**REP**

Regional Environment Plan, prepared by planningNSW

**Runoff**

Rain that flows across the ground as surface water

**Sanctuary**

A place of refuge where the flora, fauna and geodiversity are protected to enable visitors to appreciate the beauty of the area

**Section 22 Committee**

A committee set up under Section 22 of the NSW Environmental Planning and Assessment Act (1979), to provide advice to Planning Minister

**Sedimentation**

The act or process of depositing sediment

**SEPP**

State Environmental Planning Policy, prepared by planningNSW

**SHFT**

Sydney Harbour Federation Trust

**Snapper Island**

Located next to Cockatoo Island. Formerly used for sea cadets and currently houses a collection of

naval artefacts and memorabilia. Now Trust land site (see 'Trust Land Site')

**SOA**

School of Artillery. The former North Head Artillery Barracks in which the troops manning the fort were accommodated was occupied from 1945 as the School of Artillery

**TBT**

Tributyl tin, an anti fouling agent used to protect boat hulls

**The Act**

The Sydney Harbour Federation Trust Act (2001)

**The Minister**

The Commonwealth Minister for Environment and Heritage

**The Plan**

Refers to this Plan prepared under Part 5 of the Trust Act

**The Trust**

The Sydney Harbour Federation Trust

**The Trust Act**

The Sydney Harbour Federation Trust Act (2001)

**Threatened Species**

A species considered likely to be at risk of becoming extinct or becoming endangered, or is in immediate danger of extinction and identified in specified schedules in the Threatened Species Conservation Act 1995 or the EP&BC Act

**Trust Land Site**

Land that is either in the ownership of the Trust or land that has been formally identified for transfer to the Trust (in schedules 1 and 2 of the Trust Act). In the case of Trust Land Sites, any Commonwealth body, including the Trust, must comply with the Trust's plan when carrying out any activities on the land

**TSCA**

Threatened Species Conservation Act 1995 is State legislation

**Urbanisation**

To make urban in nature or character

**Woolwich Dock**

Located at Hunters Hill and extends for nearly three hundred metres in length, cut directly into the sandstone cliff face. The dock is now a Harbour Trust site

**Woolwich Dock and Parklands**

Includes Woolwich Dock and the associated Goat Paddock and Horse Paddock. Now a Trust land site (see 'Trust Land Site')

**WQOs**

Water Quality Objectives as defined in the 'Australian and New Zealand Guidelines for Fresh and Marine Water Quality' (ANZECC & ARMCANZ 2000)

**WW I**

World War One

**WW II**

World War Two