

Sydney Harbour Federation Trust
Management Plan – North Head Sanctuary

2011

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Introduction

On 21 August 2003, the Minister for the Environment and Heritage approved a Comprehensive Plan for the seven harbour sites managed by the Sydney Harbour Federation Trust (the Trust). The plan, which was prepared in accordance with the requirements of the *Sydney Harbour Federation Trust Act 2001* (the Trust Act), sets out the Trust's vision for the harbour sites under its control.

A requirement of the Trust's Comprehensive Plan is that more detailed management plans are prepared for specific precincts, places or buildings. In addition, the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) requires the Trust to make plans to protect and manage the National Heritage values and Commonwealth Heritage values of National and Commonwealth Heritage Places. Parts of the North Head Sanctuary are identified as having National and Commonwealth Heritage values.

Accordingly, this plan satisfies section 341S of the EPBC Act requiring the preparation of a plan for the North Head Artillery Barracks, a place that is included on the Commonwealth Heritage List. It also responds to section 341ZB of the EPBC Act with respect to additional land within the North Head Sanctuary (such as North Fort) that have potential Commonwealth Heritage values.

The Sydney Harbour Federation Trust has made this Management Plan to satisfy sections 324S and 341S of the EPBC Act, Schedules 5A and 7A of the *EPBC Regulations 2001* (EPBC Regulations) and to be consistent with current and potential National and Commonwealth Heritage management principles applying to the North Head Sanctuary. It will also guide and implement the outcomes proposed in the Trust's Comprehensive Plan.

North Head, as a tied island with complementary intact ecosystems that are owned and managed by few large institutions, lends itself to being planned and managed as one entity where the natural and cultural environment is protected and retains its prominence. The Trust's plan for the North Head Sanctuary is intended as a positive contribution towards this objective.

The Comprehensive Plan proposes the creation of 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.

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, and 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 generation, and offer scope for research and education.

The implementation of the sanctuary concept ideally includes all land managers at North Head. The Trust is only responsible for the management of the North Head Sanctuary and is working with the other agencies including the NSW Government who committed their support to the concept on 3 January 2007. This Management Plan aims to facilitate the implementation of the Sanctuary.

The Trust's proposal for North Head is for the adaptive re-use of buildings and facilities with uses that will complement the Sanctuary and respect their defence heritage, and balancing this with public access for experiencing and learning about the headland's remarkable natural and cultural heritage.

The Sydney Harbour Federation Trust is committed to the conservation of the National and Commonwealth Heritage values of its places, and this commitment is reflected in its Act, its corporate planning documents and processes.

The Trust's Heritage Strategy, which details the Trust's objectives and strategic approach for the conservation of heritage values, was prepared under section 341ZA of the EPBC Act and accepted by the Minister. The policies in this plan support the directions of the Heritage Strategy, and indicate the objectives for identification, protection, conservation, presentation and transmission to all generations of the National and Commonwealth Heritage values of the place.

Commencement Date

A management plan for the North Head Sanctuary (then known as the Former School of Artillery) was prepared by the Trust and commenced on 28 July 2006. This present plan has been prepared to ensure consistency with the EPBC Act and to recognise the importance of North Fort to the North Head Sanctuary. It supersedes the 2006 Plan and was adopted by the Trust Board on 3 September 2010.

Land to which the Management Plan Applies

The land, described as "North Head Sanctuary" covered by the Management Plan is shown by broken black edging on the plan at **Figure 1**. All of the land is within Lot 2764 in Deposited Plan 752038 (formerly Portion 2764 in Crown Plan Catalogued C10630-2030) and was formally transferred to the Sydney Harbour Federation Trust from the Department of Defence in December 2006.

The Department of Defence Army History Unit managed and maintained the items and exhibits of the Australian Army Artillery Museum, also known as the National Artillery Museum until the end of 2010, when much of the collection was relocated to the Puckapunyal Military Area. This Museum was one of a number of Corps museums in Australia operated by the Army History Unit. The purpose of the museum was to collect, preserve and exhibit of the history of artillery in Australia including coastal artillery.

Following the departure of the Army History Unit from North Fort, the Trust is continuing to work with volunteers to establish a museum at the North Head Sanctuary that interprets the defence heritage of the site, in accordance with the Trust Act and this Management Plan.

Building Numbers and Names

1. Other Ranks Mess and Living in Accommodation c.1936
2. EDR and FACE Rooms c.1937
3. Company Brigade & Training Coordination Office c.1939
4. Dental & Printing Rooms c.1942
5. The Cutler Club, 1956
6. The Gatehouse c.1937
- 7 & 8. Tennis Courts & Stands c.1937
9. Electrical Substation c.1937
10. Football Field Shelter c.1937
11. Other Ranks Mess Dock
12. Counter Bombardment Observation Post Shelter c.1936
15. Gunner Road Carpark, 1980s.
16. Sergeants' Mess c.1937
17. Gymnasium c.1937
18. Transport Office c.1941
19. RAEME Headquarters/ Carpenters' Store c.1938
20. GE Store c.1941
21. Former Tennis Court c.1936, Carpark and Transport Compound c.1968
23. Obstacle Course c.1994
25. Officers' Mess Tennis Court c.1937
26. Officers' Mess Barbecue Pit c.1969
27. Open Shed
28. Gardeners' Shed c.1994
29. Water Tank
30. Former Hockey Field (Carpark) c.1937
31. Pumphouse c.1937
32. Water Tank Shed c.1990
33. Disused Shed c.1943
34. ARMC Missile Launching System Shed & Garage c.1956
- 34A. Air Defence Lecture Room c.1956-1962
- 34B. RAEME Repair & Parts Section/ Wood & Metal Store c.1956-1962
- 35 & 36. Miniature Range c.1938
37. Obstacle Course c.1964
38. Toilet
39. Anti-Armour Range c.1960
40. Regional Training Wing Lecture Room c.1947
41. Model Room
42. Regional Training Wing Lecture Room
43. Officers' Mess Garage c.1937
44. Officers' Mess c.1937
46. Officers' Mess Annexe c.1955-1961
48. POL Store c.1943 - 1947
49. QM Storage & RAEME Vehicle Repair c.1939
50. Ammunition Store (Former Radio Station) c.1937
- 51, (52), 53, & (54.) Brick Houses and Outbuildings c.1938
- 55-60. Brick Houses Nos. 5, 7, 9, 11, 13 & 15 St. Barbaras Ave, 1960s.
61. Regional Training Wing Gun Shed c.1970-1981
- 64, 64, 67. Radar Sheds c.1986
68. Amenities Block c.1981
74. Underground Plotting Room c.1936
- 101-105. Non-Commissioned Officers' Cottages (and Outbuildings) c.1939
- 120-129. Brick Houses & Outbuildings (North Head Scenic Drive) 1960s.
- 130-133. Brick Houses (Artillery Drive) 1960s.
201. Married Quarters West of South Gate c.1936
202. North Fort Main Entry Gates c.1936 (South Gate)
203. Married Quarters East of South Gate c.1936
205. Locating Wing Headquarters/ Former District Staff Headquarters & Workshop c.1935
206. Library/ Former Skidding School c.1935
207. Methanol & Flammable Liquids School c.1935
208. Museum Toilet Block c.1935
209. Entrance to Engine Room c.1935
211. Close Defence Battery Observation Post 1936
- 224 & 225. Storage Sheds c.1950-1960

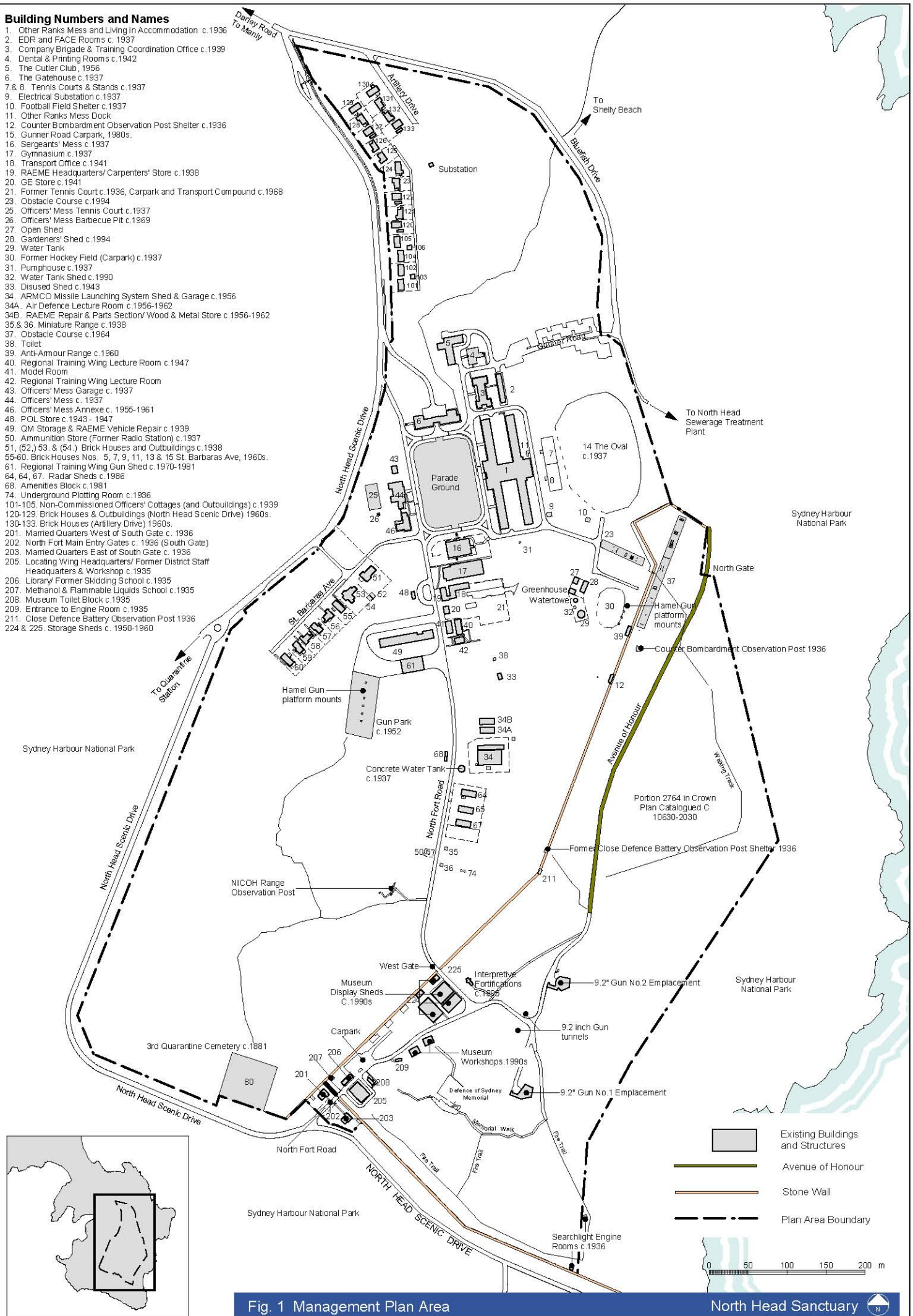


Fig. 1 Management Plan Area

North Head Sanctuary

Aims of this Plan

The aim of this Management Plan is to:

- Conserve, manage and interpret the Commonwealth Heritage values of the North Head Artillery Barracks;
- Identify, manage and interpret the potential Commonwealth Heritage values of other places owned and managed by the Trust, including the remainder of the North Head Sanctuary as an historic place on Sydney Harbour;
- Conserve, manage and interpret the National Heritage values of North Head including the Third Quarantine Cemetery and sandstone boundary wall;
- Identify potential Commonwealth Heritage values of the whole site including North Fort;
- Optimise public access;
- Facilitate the adaptive re-use of former Defence buildings on the site for appropriate uses;
- Protect, maintain and enhance where appropriate, the prominence of the relatively intact and rare ecosystems of the North Head Sanctuary including its flora, fauna, biodiversity and geodiversity; and
- Integrate the North Head Sanctuary with adjoining lands as part of a unified headland; and
- Establish a framework for the implementation of the sanctuary concept for all lands at North Head.

In doing this it also aims to:

- Conserve and interpret the whole site as an historic precinct;
- Protect, conserve and interpret the natural values of the precinct;
- Enhance views to and from the precinct;
- Realise the potential for easy access including access for the disabled;
- Provide visitor facilities and amenities including carparking and walking tracks;
- Provide opportunities and site interpretation for visitors to understand and appreciate the totality of the site's heritage;
- Remediate site contamination and hazardous materials;
- Encourage uses and activities that promote the use of sustainable modes of transport and ensure that traffic generated by the site's re-use has a minimal impact on the surrounding areas;
- Protect adjacent bushland from the spread of *Phytophthora cinnamomi*;
- Improve the quality of stormwater runoff; and
- Apply the principles of Ecologically Sustainable Development (ESD).

Planning Framework

Relationship with the Trust's Comprehensive Plan

This Management Plan is the middle level of a three tiered comprehensive planning system developed to guide the future of the Trust's lands.

The other levels are:

- The Trust's Comprehensive Plan - this is an overarching plan that provides a process for the preparation of Management Plans; and
- Specific projects or actions - actions are defined in the EPBC Act and are similar to the concept of development in NSW planning legislation.

This Management Plan is to be interpreted in conjunction with the Trust's Comprehensive Plan, in particular the *Outcomes* identified in *Part 8* of the Trust's Comprehensive Plan and the *Objectives and Policies* in *Part 3*.

The *Outcomes* diagram in *Part 8* of the Trust's Comprehensive Plan for North Head is reproduced at **Figure 2**. Conservation policies in this plan provide guidance on how these outcomes can be managed in a way that protects, conserves, presents and transmits to all generations the National and Commonwealth Heritage values.

The *Objectives and Policies* most relevant to this Management Plan are those relating to the conservation of the natural environment and cultural heritage, access, the adaptive reuse of buildings, transport management, water quality and catchment protection, geodiversity protection, biodiversity conservation, management of native and introduced animals, Aboriginal heritage, bushcare, bushfire management, education and contamination. These *Objectives and Policies* were addressed during the assessment of the site and are discussed in more detail in the relevant sections of this plan.

Related Trust Policies and Guidelines

There are a number of overarching Policies and Guidelines foreshadowed in the Trust's Comprehensive Plan that will be developed over the lifetime of the Trust and that will also guide the conservation, adaptive reuse and development of the sanctuary.

Current relevant policies are:

- Threat Abatement Plan for *Phytophthora cinnamomi* prepared by the Department of Environment and Heritage, 2002.
- Trust's Phytophthora Root-Rot Management Strategy and Best Practice Procedures for Bush Regeneration Activities;
- Trust's *Leasing of Land and Buildings policy*;
- Trust's Policy for the *Leasing of Land and Buildings to Community Users*;
- Trust's Event Policy;
- Trust's Heritage Strategy;
- Trust's draft Access policy;
- Eastern Suburbs Banksia Scrub Recovery Plan;
- Long-Noised Bandicoot Recovery Plan;
- North Head Operational Plan.

This Management Plan has had regard for these policies and guidelines. If or when other Policies and Guidelines are developed, this plan will be reviewed to ensure that they do not impact adversely on the National and Commonwealth heritage values for the North Head Sanctuary.

Statutory Planning Context

Commonwealth Legislation

All '*actions*' on Trust land, undertaken by either the Trust or on behalf of the Trust, are controlled by the EPBC Act.

Section 26 of the EPBC Act protects all aspects of the environment on Trust land from actions taken either on the Trust's land or on adjoining land that may have a significant impact on it; Section 28 protects the environment from any actions of the Trust or any other Commonwealth agency that may have a significant impact.

The *environment* is defined to include:

- (a) ecosystems and their constituent parts, including people and communities; and
- (b) natural and physical resources; and
- (c) the qualities and characteristics of locations, places and areas; and
- (d) heritage values of places; and
- (e) the social, economic and cultural aspects of the matters mentioned in (a), (b) or (c) above

Section 341ZC of the EPBC Act requires the Trust not to take an action that has an adverse effect on National or Commonwealth Heritage Values of National or Commonwealth Heritage places, unless there is no feasible or prudent alternative. If no such alternatives are available, all measures should be taken to minimise any adverse impact on those values. This plan includes the *National and Commonwealth Heritage Values* described in the statutory listings of the site, and outcomes to reflect, and policies to protect those values.

State Legislation

The Trust Act specifically excludes any land owned by the Trust from the operations of state planning law. This includes State Environmental Planning Policies (SEPPs) and Regional Environmental Plans (REPs – now deemed SEPPs) prepared by the State Government and Local Environmental Plans (LEPs) prepared by councils.

Notwithstanding this, the Trust has prepared this plan so that it is consistent with relevant State and local plans. The relevant statutory plans are:

Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005

This SREP (now a deemed SEPP) applies to the whole of Sydney Harbour's waterways, the foreshores and entire harbour catchment. It provides a framework for future planning, development and management of the waterway, heritage items, islands, wetland protection areas and foreshores of Sydney Harbour. Under the SREP, North Head is included in the catchment area of Sydney Harbour. The planning principles of the SREP relevant to the site include:

- the appreciation of the role of Sydney Harbour in the history of the Aboriginal and European settlement,
- the recognition and conservation of the heritage significance of particular heritage items in and around Sydney Harbour,
- the conservation of the significant fabric, settings, relics and views associated with the heritage significance of heritage items, and
- the conservation of archaeological sites and places of Aboriginal heritage significance.

Draft North East Subregional Strategy

The draft Subregional Strategy for the North East Subregion was prepared by the NSW Department of Planning and exhibited between 17 July and 18 September 2007. When finalised, the draft North East Subregional Strategy will guide land-use planning until 2031 in the Manly local government area.

The Draft Strategy recognises the environmental, cultural and natural significance of the North Head Sanctuary and adjacent Quarantine Station and encourages careful management of these spaces so they are maintained into the future.

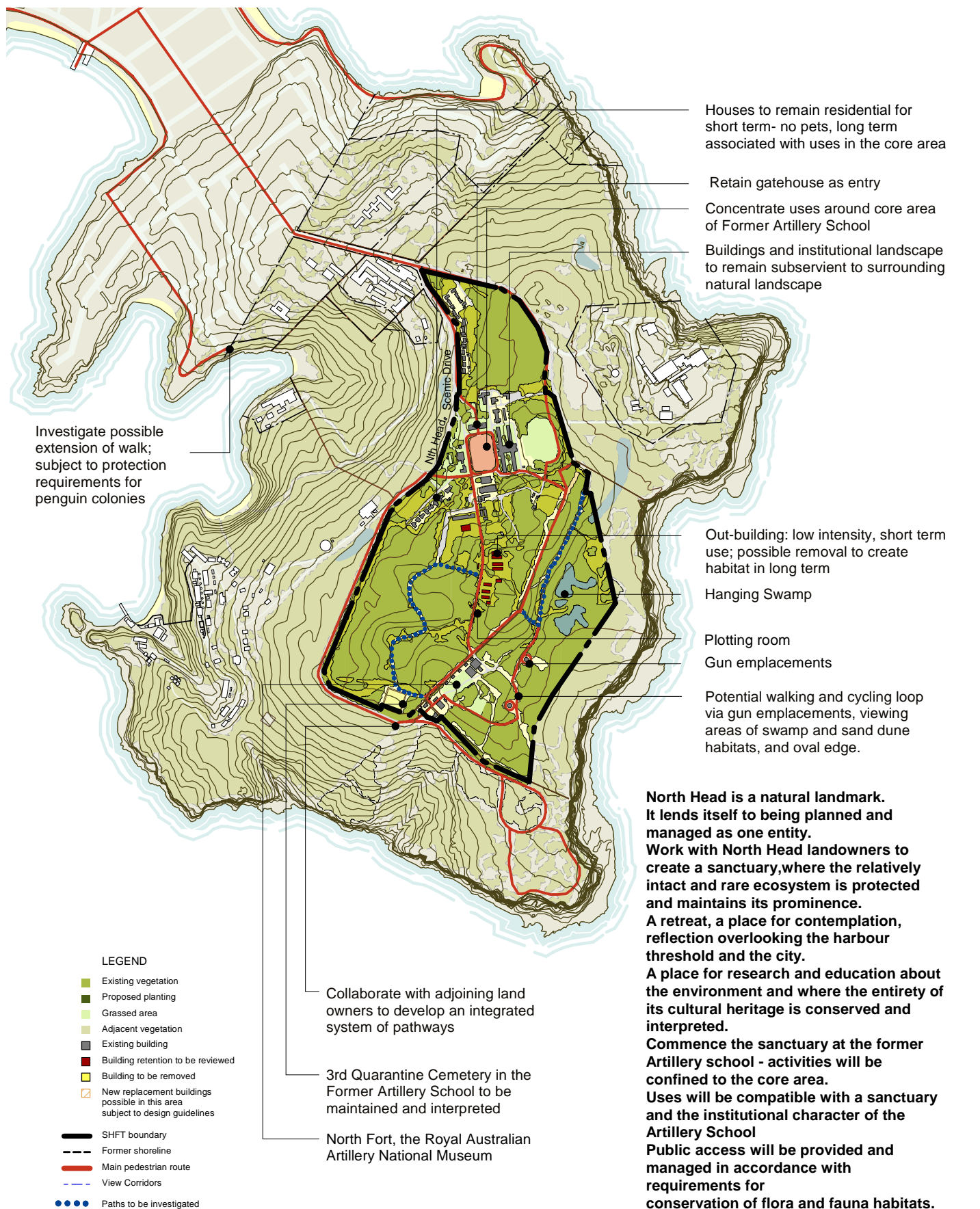


Fig. 2 The Trust's Comprehensive Plan - OUTCOMES



Manly Local Environmental Plan (LEP) 1988

North Head School of Artillery is located within Manly Local Government Area and is zoned special uses 5(a) School of Artillery under Manly LEP 1988. The surrounding Sydney Harbour National Park is zoned 8(a) National Park with other special use zonings on the headland including Hospital and the Sewage Treatment Works.

Non Statutory Planning Strategies

Sharing Sydney Harbour Access Plan

The *Sharing Sydney Harbour Access Plan* (SSHAP) identifies a network of new and improved public access ways for pedestrians and cyclists, and waterway facilities for recreational watercraft.

The SSHAP identifies North Head as a place of cultural interest, in particular in relation to the Aboriginal sites located on the headland. Retaining and improving access to the headland is an important component of the SSHAP.

Plans Prepared for Neighbouring Lands

Plans and policies prepared by neighbouring land managers provide a context for this Management Plan. The following are particularly relevant.

Sydney Harbour National Park Plan of Management

The North Head Sanctuary is surrounded by Sydney Harbour National Park on three sides. The NSW National Parks and Wildlife Service (NPWS) have prepared a Plan of Management that applies to the whole of Sydney Harbour National Park including North Head.

The Plan of Management, which is to be updated in 2011, outlines general and specific objectives for the National Park with the overall strategy for the park being the protection, and where necessary, restoration of the Park's natural vegetation and the maintenance and adaptive reuse of important historic places. Draft strategies for NPWS's North Head Precinct include:

- Enter into an agreement, initially with the SHFT as the other major land manager on the headland, to secure optimal management of the headland's natural heritage
- Work with the SHFT to share the new proposed 'entry point' to the sanctuary on North Fort Road
- Work with SHFT, other North Head stakeholders and transport operators to develop regular, safe and economical transport options for the precinct
- Conserve, manage and interpret the precinct's military history and sites in a whole-of headland-context implementing the recommendations in the NPWS Fortifications of Sydney Harbour and Botany Bay Strategic Plan 2007
- Prepare and implement a policy for the management of vegetation that detract from or impede cultural and public view scapes such as from the North Fort café, major lookouts and fortifications
- Implement management protocols for the root rot fungus *Phytophthora cinamomi*

In all sections of Sydney Harbour National Park, the protection of the existing natural and cultural values will be given a priority. High priority projects that are relevant to the Trust's site include the preparation of a fire management plan, investigation of traffic requirements, construction of walking tracks throughout the Sydney Harbour National Park (including along North Head Scenic Drive and to the escarpment) and the ongoing leasing of the Quarantine Station for tourism purposes.

Plans made under the Rural Fires Act 1997

There are two sub-plans of the NSW State Bush Fire Plan made under the *Rural Fires Act 1997* that apply to the Manly Local Government Area, including the Trust's land. The draft Manly, Mosman, North Sydney Bush Fire Management Plan 2010 deals with strategies to minimise bush fire risk such as hazard reduction while the Manly-Mosman Draft Bush Fire Operations Plan 2003 deals with the operational and management issues. Evacuation routes are determined under the Local Emergency Disaster Plans.

A Bush Fire Prone land map prepared under Section 146(2) of the *Environmental Planning and Assessment Act 1979* and approved by the NSW Rural Fire Service in 2003 identifies areas of bush fire prone vegetation and vegetation buffer areas around North Head. Particular developments proposed on bush fire prone lands can trigger the need to conform with the requirements of the *Planning for Bushfire Protection 2006* guidelines prepared in accordance with the *Environmental Planning and Assessment Act 1979*.

The Trust has completed an interim Bushfire Management Plan for the former School of Artillery and this Plan informed the preparation of this Management Plan. The Trust will continue to implement the recommendations of this plan and cooperate with other agencies in the implementation of plans prepared under the *Rural Fires Act 1997*.

Plans made under NSW Threatened Species Conservation Act 1995 (as amended)

Threatened Species Priority Action Statements (PAS) have been developed which outline strategies to promote the recovery of threatened species, populations and ecological communities and manage key threatening processes.

Each PAS offers guidance on species recovery and provides a priority list of actions for government and non-government organisations with the resources to contribute to the recovery effort.

The role of recovery plans and threat abatement plans will be ongoing, with the PAS identifying which plans will be prepared and where possible a timetable for their completion.

Initially, PAS's will identify strategies to recover each species, population and community, and abate key threatening processes. Where possible it will provide detailed actions for over 600 species, populations and communities.

The Trust will cooperate with surrounding land managers in the implementation of the PAS and other plans prepared under the *Threatened Species Act 1995*.

Plans completed to date for species and communities found at the North Head Sanctuary include Eastern Suburbs Banksia Scrub Endangered Ecological Community Recovery Plan – February 2004 (Department of Environment and Conservation, NSW). NPWS has also prepared a Draft Recovery Plan for the endangered North Head Long-nosed Bandicoot (*Perameles nasuta*) population. This plan is expected to be publicly exhibited by the end of 2011.

Site Description

Located in the municipality of Manly, North Head is a tied island, an elevated land mass dominating the entrance to Port Jackson. North Head Sanctuary is an area of approximately 74 hectares located on the highest part of North Head. The site is surrounded on three sides by Sydney Harbour National Park. The headland is recognised as having outstanding heritage value to Australia as the northern expression of the seaward entrance to Sydney Harbour (Port Jackson) and played a major role in the cultural and military life of Australia. The “Heads” have signified arrival and departure at Port Jackson since 1788 and are recognised as important, iconic landmarks of national heritage significance.

Darley Road provides the only vehicular access to North Head via the CBD of Manly. At the top of Darley Road, the road forks into North Head Scenic Drive to the south and Blue Fish Drive to the east. North Head Scenic Drive forms the south west boundary of the plan area and provides direct access to the North Head Sanctuary, Sydney Harbour National Park including Quarantine Station and the Australian Institute of Police Management (AIPM) site. North Fort Road, off North Head Scenic Drive also provides access to the southern portion of the North Head Sanctuary, while Blue Fish Drive provides access to the northern portion of the Sanctuary via Artillery Drive and Gunner Road. Blue Fish Drive terminates at the entrance to the North Head Sewage Treatment Plant after travelling through a section of the National Park.

The most direct pedestrian route from Manly Wharf to the plan area is a 2.3 kilometre walk up Darley Road; the steep gradient of access to the site places some limits on its pedestrian usage. Many tourists also access the North Head Sanctuary from Shelly Beach and Collins Beach via paths through Trust land and Sydney Harbour National Park.

The North Head Sanctuary has been occupied and used by the Commonwealth Government for defence purposes for many years with some personnel assisting in the operation of an artillery museum at North Fort.

Approximately 58 hectares of the total site is bushland. In addition, there are approximately 80 buildings on site. The largest group of buildings is the **Parade Ground Precinct**, a collection of Art Deco buildings arranged around an impressive parade ground built in 1936. Many of these buildings were built as part of the original **North Head Artillery Barracks**, and were used by School of Artillery from the mid 1940s. The North Head Artillery Barracks are recognised as having significant Commonwealth Heritage values: the Barracks illustrate the implementation of Defence policy in the inter-war years before the onset of WWII in 1939.

The **Sheds Precinct** comprises the utilitarian buildings to the south of the Parade Ground Precinct along North Fort Road, including the underground plotting room and miniature range. The **North Fort Precinct** is located at the southern most end of the site is located in the south eastern corner of the site and includes the remains of the 9.2” Gun Emplacements and some associated infrastructure and is physically separated from the remainder of the Sanctuary by a stone wall. The main group of buildings are located at the entrance to the site on North Fort Road, and were built as part of the original fortifications. Various buildings in the Sheds and North Fort Precincts accommodate equipment once used by artillery men.

The **Third Quarantine Station Cemetery** (1881-1925), located to the west of the North Fort Precinct, has significant National heritage values, due to its association with the former North Head Quarantine Station. The Quarantine Station was located to the west of the North Head Sanctuary and is now managed by NPWS and its lessee Mawland. Important monuments and memorials managed by NPWS that are associated with the Quarantine Station include the “Constitution” Monument (1855-1905), the sandstone obelisk (possibly 1807-1809) and a sandstone boundary wall (1930s).

In addition, there are a number of other secondary buildings and structures scattered across the site. These buildings are more detached from the central groupings and are dominated by later development of larger scale utilitarian buildings of plain design. The cohesiveness of building groups is further eroded beyond the main building campuses with clusters of demountable and other ‘temporary’ structures, evidence of the sudden expansion of the facility during the Vietnam War years of the 1960s and temporary structures in the 1980s and 1990s when planning for relocation of the School of Artillery to Puckapunyal was already underway.

There are two groups of brick houses on the site, 18 located at the northern end of the site on North Head Scenic Drive and Artillery Drive and 8 houses located toward the central part of the site on St Barbaras Avenue. A further two houses are at the entrance to the North Fort Precinct on North Fort Road, however they are not currently used for residential purposes. The site also includes a number of other built features including outdoor sporting facilities, services infrastructure and carparks (See **Figure 1**). The site is surrounded by bushland and experience spectacular views of the entrance of Sydney Harbour and the Sydney CBD.

The buildings and structures remaining on the site date from between 1935 and 1990s. The majority of the buildings remaining on the site have some level of heritage significance and association with the North Head Artillery Barracks and North Head Quarantine Station.

Geological and Hydrological Character

North Head is an outlying remnant of the Hornsby Plateau from which it became separated by erosional forces during periods of lower sea levels towards the end of the last ice age. This resulted in North Head being a tied island, joined to the mainland by a sand spit where the commercial area of Manly is located.

Elevated sand dunes cover much of the middle area of North Head in the area of the North Head Sanctuary and generally above the 80 metre contour, with the highest point being 115 metres above sea level. These wind-deposited sands may be up to 140,000 years old from the Pleistocene Epoch. A significant portion of the dune area remains undisturbed and unaltered by development, making North Head one of the few remaining example of undisturbed, vegetated high-altitude sand dunes in the Sydney Region.

The sedimentary Hawkesbury Sandstone underlying North Head forms an impervious rock layer, with water flowing through cracks and joins between the sandstone and shale units. The sandy soils on North Head have little water-holding capacity causing rapid rainwater infiltration to feed springs at lower levels. Seepage and surface run-off flow into small ephemeral streams while one of the few remaining perennial streams in Sydney Harbour flows out at Collins Beach. Localised depressions in the sandstone also support ephemeral perched wetlands.

Natural Landscape

North Head provides a unique range of remnant habitats for native flora and fauna only 11 km north east of the Sydney CBD. The habitats relate to the headland's Hawkesbury sandstone geology, sandy nutrient-poor soils, its predominant westerly aspect and relatively undisturbed elevated topography, drought, strong winds, salty air and fire. Although relatively intact, the bushland has significantly changed from pre-European times due to impacts of altered fire regimes, sporadic clearing of vegetation, weed and feral animal incursion, and altered drainage.

The vegetation resulting from the geology and climatic influences on North Head is dominated by the Sydney Sandstone Complex on the slopes, within which there are several variations, and capped with Coastal Dune Heath (covering most of the Trust lands) supporting a structure of Heath and Scrub (**Figure 3**).

In July 2002, the Sydney Harbour Federation Trust commissioned GIS Environmental Consultants to conduct flora and fauna studies of the North Head Sanctuary, Sydney Harbour National Park, and the Australian Institute of Police Management land.

Flora

The Flora survey confirmed that the vegetation of North Head contains a high species richness which reflects the wide variety of topography, soils, aspect, microclimate and fire history of the site. A total of 586 vascular plant species were recorded at North Head, of which 428 are local native species, 159 are introduced, of which 29 are classified as Noxious Weeds in the Manly Local Government Area (**Figure 4**).

North Head contains Sydney Harbour's most extensive area of heath and scrub vegetation, including the largest intact remnant of Eastern Suburbs Banksia Scrub (ESBS), declared an Endangered Ecological Community under the EPBC Act and the NSW *Threatened Species Conservation Act 1995* (the TSC Act). Less than 3% of the original distribution of ESBS remains.

ESBS is found on the white leached sand deposits of the exposed ridge top, covering an area of 77.7 ha within the North Head Sanctuary and parts of Sydney Harbour National Park.

Other plant communities include low and tall heath, scrub, woodland, grassland, fernland, perched wetland and littoral rainforest. The deep sand dunes and skeletal soils of the sandstone outcrops provide habitat for a colourful array of wildflower species, small native birds, invertebrates, reptiles and a population of endangered Long-nosed Bandicoots.

Typical species of ESBS include *Banksia serrata* (Old Man Banksia), *Banksia aemula* (Wallum Banksia), *Monotoca elliptica* (Tree Broom Heath) and *Xanthorrhoea resinosa* (Spear Grass Tree). A Recovery Plan for ESBS has been prepared by NPWS which will guide this management plan.

The shallow sandy soils on Hawkesbury Sandstone support heathland dominated by *Banksia ericifolia* (Heath Banksia), *Allocasuarina distyla*, (Dwarf She Oak) and *Persoonia lanceolata* (Lance-leaf Geebung).

Over 50 nationally or locally significant species and 10 rare or uncommon species were recorded including *Rulingia hermaniifolia*, (a wet heath ground cover); *Gonocarpus salsoloides* (Nodding Raspwort), and *Erythrorchis cassythoides* (a climbing orchid).

There are four plant species listed as vulnerable or endangered under the TSC Act and / or the EPBC Act recorded on the site:

- *Acacia terminalis* ssp *terminalis* (Sunshine Wattle);
- *Eucalyptus camfieldii* (Camfield's Stringybark);
- *Persoonia hirsuta* (Hairy Geebung); and
- *Pimelea curviflora* var. *curviflora* (Curved Rice-flower).

Fauna

The Fauna survey confirmed the richness, abundance and distribution of fauna species that have been recorded previously on North Head, which continue to occur as a result of the ecological isolation of the headland, soil type, vegetation structure, the scarcity of freshwater, and the area's unique history of limited disturbance. These influences have combined to create the broad range of fauna habitats that are now found across the headland.

A total of 146 fauna species have been recorded at North Head including 96 bird species, 22 mammals (9 were introduced species), 24 reptiles and 4 amphibians including endangered populations of *Perameles nasuta* (Long-nosed Bandicoot) and *Eudyptula minor* (Little Penguin).

Two mammal species listed as vulnerable and one mammal population listed as endangered under the TSC Act and / or the EPBC Act were found on the study site during the field survey:

- *Miniopterus schreibersii oceanensis* (Eastern Bentwing-bat) – recorded near Collins Beach
- *Pteropus poliocephalus* (Grey-Headed Flying-Fox)
- *Perameles nasuta* (Long-nosed Bandicoot) population.

Surveys conducted by Birds Australia in 2008 recorded an additional 50 species on North Head, bringing the total to 148. Of these, about 25 are seabirds with no connection to North Head itself, with the remaining 123 species reliant on the North Head landmass. Over 110 of these species have been observed regularly on North Head since 2000.

One endangered bird population and two endangered bird species have been recently recorded on the study site. In addition, three seabird species have been recently sighted from North Head and suitable habitat for three other threatened bird species occurs on North Head.

The three bird species listed as vulnerable or as an endangered population under the TSC Act and / or the EPBC Act were recently recorded on the study site:

- *Eudyptula minor* (Little Penguin) population – recorded on eastern foreshore of North Head;
- *Ninox strenua* (Powerful Owl); and
- *Ninox connivens* (Barking Owl).

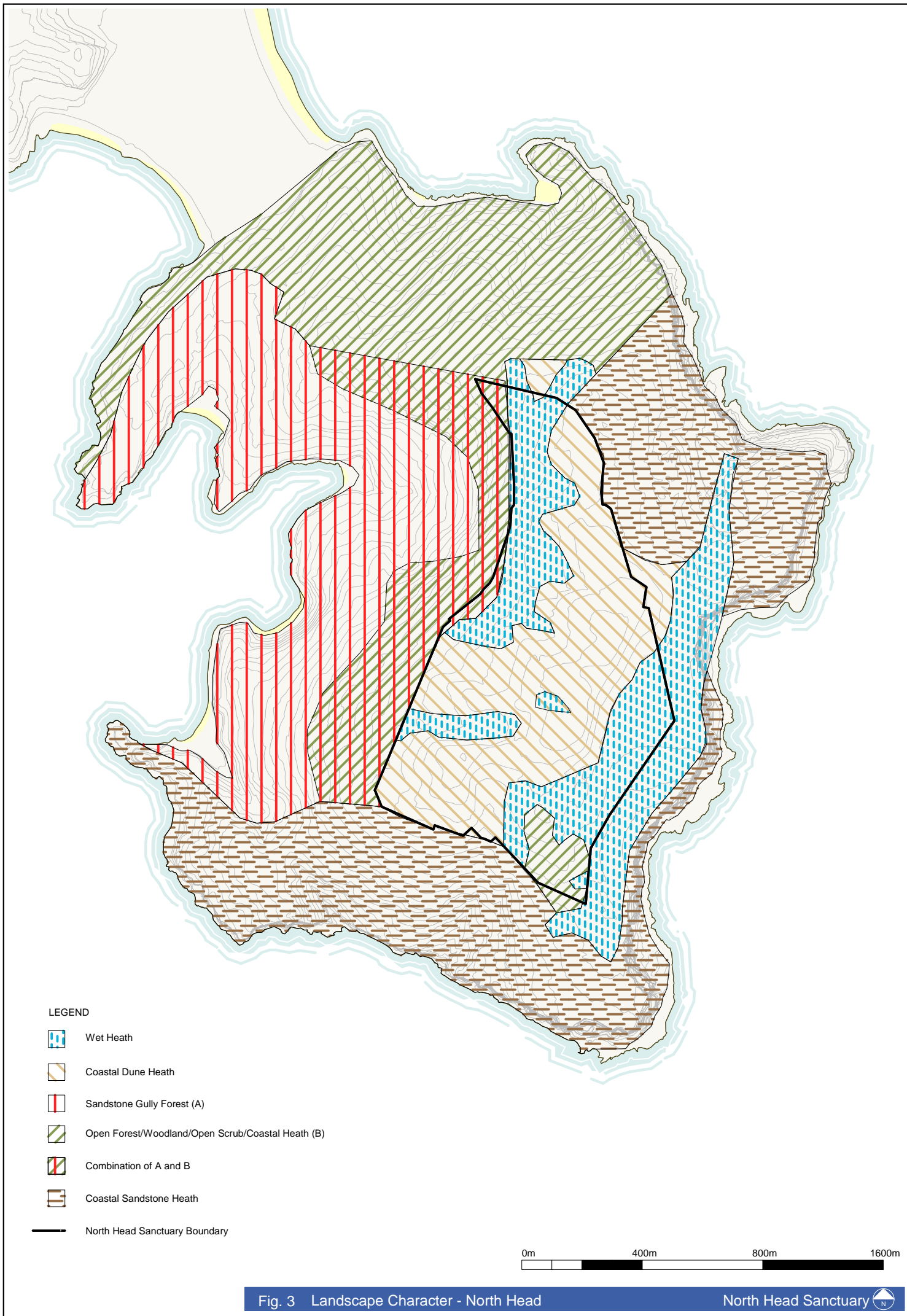


Fig. 3 Landscape Character - North Head

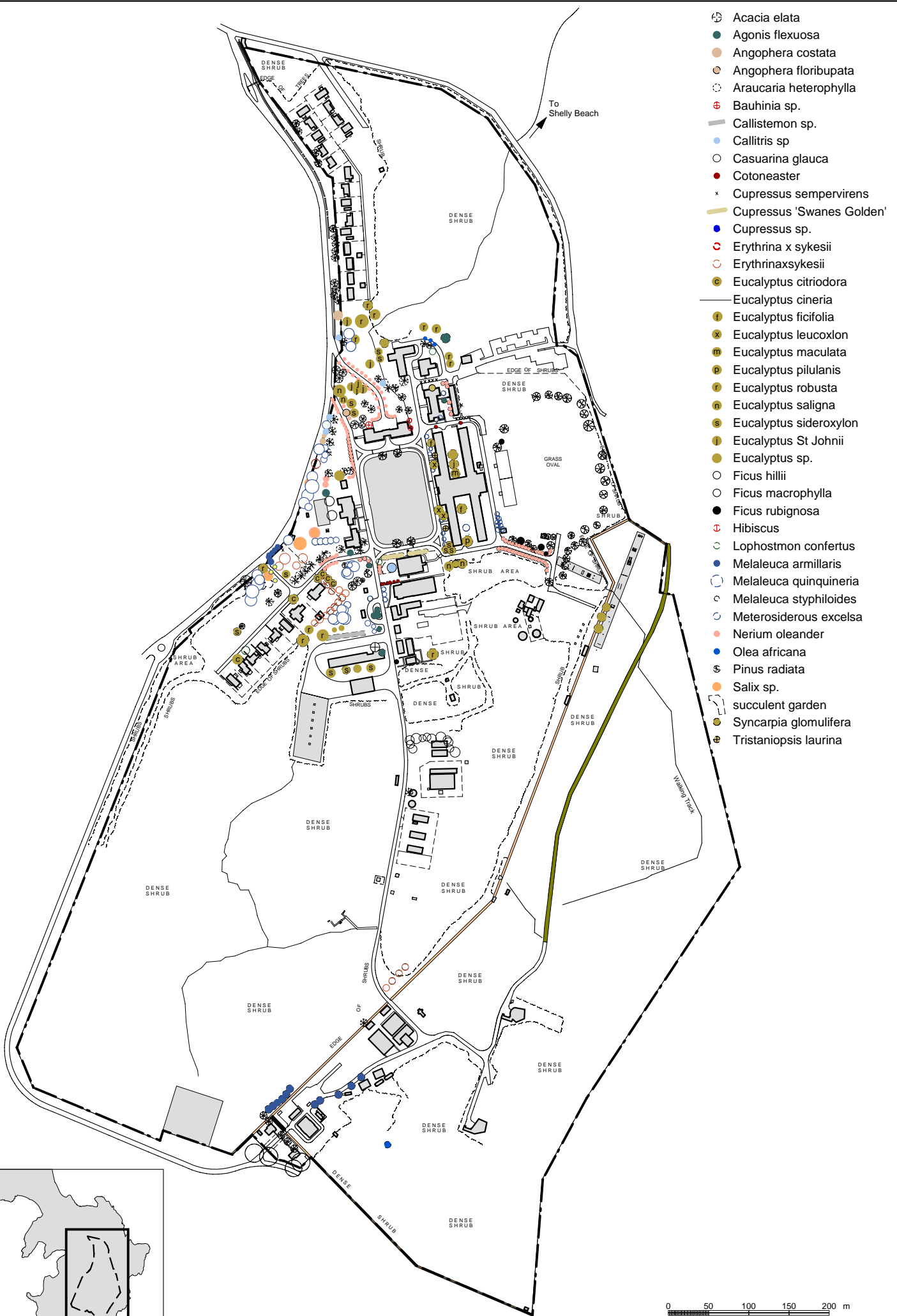


Fig.4 Landscape Character

The report recommends a series of actions to be undertaken in order to manage the fauna at North Head that have been incorporated into the Outcomes section of the Plan.

Surrounding Lands

The North Head Sanctuary is located in the centre of the North Head peninsula and is adjacent to a number of other historic and significant land uses.

The site is totally surrounded by Sydney Harbour National Park, including the nationally significant former North Head Quarantine Station to the west. NSW NPWS have leased the “Q Station” for the adaptive re-use of the buildings for education and hotel accommodation and related facilities. The site is accessible via water and shuttle bus access (internal to site only), and includes restaurant and function facilities, accommodation for up to 130 guests and a visitors centre with a range of public tours and experiences.

On the boundary of the Sydney Harbour National Park, to the north-east of the site is the North Head Sewage Treatment Plant, owned and managed by Sydney Water. Sydney Water is currently undertaking the North Head Process and Reliability / Renewal (PARR) Improvement Program, which will include some upgrades of odour management facilities.

To the west is the Australian Institute of Police Management (AIPM) which provides accommodation and training for the Australian Federal Police. The Institute is expanding the facilities they provide in the near future.

At the entrance to the headland on Darley Road, land uses are Manly Hospital, St Patrick’s Estate including St Paul’s College, housing and the International College of Management, Sydney.

North Head provides a spectacular vantage point for a number of headland and harbour related events each year including New Years Eve celebrations and the Sydney to Hobart Yacht Race. These events draw large numbers of people to the headland for short visits. Throughout the year tourists are drawn to North Head for its spectacular vistas of the entrance to Sydney Harbour.

The concentrated commercial area of Manly on its narrow isthmus constrains road access to the site and North Head’s sensitive marine environment (including Cabbage Tree Bay Aquatic Reserve, North Harbour Aquatic Reserve and the Little Penguin [*Eudyptula minor*] critical habitat) constrain water access. Darley Road is the only road in and out of the site and its western section is heavily congested, especially in peak periods.

Site History

Aboriginal Heritage

Although the Trust has not commissioned any studies related directly to Aboriginal Heritage at the North Head Sanctuary, two studies have previously been carried out for the Department of Defence and the NSW National Parks and Wildlife Service (NSW NPWS).

In 2001, Darwala-Lia was commissioned by NPWS to undertake a survey of the National Park lands at North Head. The report argues for the whole headland to be recorded as one site, or a place of Aboriginal Heritage on the basis that it is a 'cultural island' where both European and Aboriginal people have been excluded from the more regular or urbane uses occurring in the surrounding landscapes.

The study found that for Aboriginal people the National Park lands are a cultural place because:

- Aboriginal people and Europeans use North Head in a similar way: it is a place of isolation, has a special purpose, has limited public access but is directly connected to the mainland and there are landmark values inherent in the landscape.
- Aboriginal oral histories document its uses as a place of burial, healing and medicine. As an 'island', it is an extraordinary place for special events.
- The diaries of the First Fleet describe the Aboriginal people at North Head. These describe the people, the plants and animals at North Head.

North Head, because of its island and landmark qualities and the 360 degree views it offers, was distinguished from day-to-day sites; it was an extraordinary site to the Aboriginal people. Such sites were managed by those with birthright and were restricted from open access. Darwala-Lia state that the *koradgee* (medicine men and women healers) would have occupied North Head intermittently and performed highly spiritual and cultural ceremonies and rituals, including burials, there.

Whilst most of the 26 sites and artefacts identified in this study are located on the resource-rich western side of North Head, Darwala-Lia point out that this does not mean that the eastern side is less significant. The artefacts scatters on the western side are evidence of the labours of support crews (wives, children trainees) to the *koradgee*.

Darwala-Lia note that the lack of found artefacts on the eastern side must not detract from the notion that people used it for the resources it offered, whether it was sandstone platform or a tool preparation area. The few found tools within the former School of Artillery site are evidence that North Head was also a place of trade and exchange. The eastern side was also subject to Aboriginal cultural landscape management associated with fire. Bradley's description of his 'easy walk' from Spring Cove to North Head indicates how the vegetation has changed with the cessation of Aboriginal fire regimes.

Darwala-Lia concluded that North Head was a unique place of great Aboriginal significance and association. They also added that it was difficult to define this significance in Aboriginal terms. A much wider range of surveys, studies, and consultation would be needed to do this. They recommended the following work be undertaken:

- A full fieldwork survey including the North Head Sanctuary;
- A full review of background material including early references dating to the 1800s;
- Radio carbon dating of the middens;
- A study of comparative studies across Sydney Harbour for the difference in hunting and gathering strategies of different clans;
- An oral history survey of the Aboriginal community regarding a range of associations and remembrances;
- A full survey of the range of plants and animals that were available to Aboriginal people; and
- A full conservation management plan for the Aboriginal Heritage of North Head.

The Department of Defence study, carried out by Manidis Roberts in 1996 covered much of the former School of Artillery. This study included a field investigation of the grounds which found an open site at which three stone artefacts were identified. In addition, two other isolated artefacts were found. Whilst this report concluded that the study area was assessed as having either 'lower' or 'minimal' archaeological significance value, it also noted that some intact soil profiles had been identified leaving the potential for pockets of undisturbed deposits in the bushland area. In addition, the report noted that there is a very strong possibility that this eastern portion of North Head was an important place for open campsites and more importantly, burials. Atypically for headlands, the North Head Sanctuary contains sand deposits that are up to 2 metres deep leaving the strong possibility of containing burials. If such sites were found at any time, their archaeological significance value would be very high.

The study concluded that the bushland/undeveloped areas of the site were of 'lower' significance. Management strategies for these areas were recommended which included archaeological supervision and excavation permits where soil disturbance, either superficial or subsurface respectively is to be undertaken. If deposits are ever found, full assessments of significance would be required before proceeding with intended works. No management actions were recommended for other areas assessed as having 'minimal' significance, unless artefacts or sites were found, in which case the previously mentioned strategies would apply.

In order to identify any physical remains and to assist in the future management and interpretation of the site, in 2007, National Parks and Wildlife Service, in conjunction with the Trust, engaged the Aboriginal Heritage Office (AHO) to prepare the North Head Aboriginal Site Management Report. The Report makes the following recommendations for Aboriginal heritage management at North Head including:

- Education and training programs to land managers about the Aboriginal significance of the North Shore and site identification;
- Train workers involved in bush regeneration and weed removal about the Aboriginal cultural awareness and site identification;
- Regular monitoring of known Aboriginal sites;
- Undertake Aboriginal archaeological surveys in areas of thick bush after hazard reduction burns. Target areas that have not been recently surveyed. Incorporate findings of surveys in the Aboriginal Heritage Information Management System (AHIMS) database; and
- Do not disclose or promote the location of any archaeological sites, or provide public tours to sites, without endorsement of the Aboriginal community.

The Trust will consult with the Metropolitan Local Aboriginal Land Council in the identification and management of Indigenous Heritage Values of the place in accordance with the principles of *Ask First: A guide to respecting Indigenous heritage places and values* and implement the recommendations of the AHO as it pertains to the North Head Sanctuary.

European Heritage

The Sydney Heads became the portals to one of the greatest harbours in the world. Both North and South Heads have played a crucial role in the cultural and military life of the 19th Century colony of NSW and the 20th Century defences of the Harbour during World War II.

The isolation and prominence of North Head continued to influence its use. From the beginnings of European settlement with the arrival of the First Fleet, North Head has played a special role - as an isolated location for Quarantine and hospital purposes, a strategic location for defence purposes and a scenic location and setting as a place of public recreation (**Figure 5**).

The Quarantine Reserve and Institutional uses

The early European colonists' overland exploratory expeditions to Pittwater and Broken Bay commenced at Manly Cove. It is thought that a marine navigational aid, now known as the Obelisk, was erected c. 1807-1809.

In 1810, an area of 100 acres was granted to Richard Cheer. This grant was situated south of Ashburner Street.

Spring Cove, probably named due to the natural spring here, was used as a place of quarantine from 1828. Following the Australian Quarantine Act of 1832, a Quarantine Reserve was established by the dedication in 1833 of all land within a quarter of a mile of the high water mark at Spring Cove. This reserve was extended in 1837 to include the whole of North Head to the southern boundary of Richard Cheers' 100 acre grant.

The area remained isolated until 1859 when a sixty acre grant, excised from the land previously set aside for the Quarantine area, was made for the construction of a **residence for the Catholic Archbishop**. In 1879, a **seminary** was also established. **High stone walls** were constructed to separate the facility from the Quarantine Station. These stone walls were to become distinctive features of the landscape at North Head as their use was extended to separate other newly developing areas from the Quarantine Station.

The **Third Cemetery**, located to the west of the North Fort Precinct and associated with the Quarantine Station, was dedicated in 1881 and its establishment coincided with the smallpox epidemic of that time. This cemetery, which closed in 1925, was also used for the victims of the bubonic plague of 1900 and the influenza epidemic of 1919. It was later used to hold the remains of some returned World War I servicemen, but due to the difficulty of maintaining graves on the site they were later relocated by the War Graves Commission.

The growth of recreation and nearby residential development at Manly in the second half of the nineteenth century led to increasing demands from the public and local government for more recreation areas at North Head. In 1886, the NSW Colonial

Government, bowing to local pressure, rescinded part of the 1859 church grant and allocated the disputed area (at and around **Shelly Beach**) for public use.

At Federation in 1901, political moves commenced for the transfer of the former Colony of New South Wales Quarantine Station to the Commonwealth. The Station then became the responsibility of the newly formed Commonwealth Department of Health. However, the transfer of responsibilities took several years to take effect, and the property status and extent of the Quarantine Reserve was to become the subject of dispute between the NSW and Federal governments. In 1909, the responsibility for the Quarantine Station was transferred to the Commonwealth Government. The Quarantine Station continued to function until the advent and widespread use of air travel in the 1950s and 1960s. The last ship to be quarantined was in 1972.

The NSW Government subsequently pressed for the Commonwealth to release part of the quarantine land for construction of a local **hospital** and 12 acres were granted to the NSW State Government for this purpose in 1917.

In 1926 a portion of the Commonwealth quarantine area was excised for the establishment of the **Northern Suburbs Ocean Outfall Sewer** at Bluefish Point. Work had begun in 1916 on a sewerage system which was finally completed in 1930.

The construction of an '**Avenue of Honour**', on the eastern side of the area, commenced in 1928 for the purpose of providing public access to North Head around the Quarantine Station. Opened in 1933, public access to the road was limited to a brief period as, by 1936, the road was closed off altogether by the establishment of North Fort. Its commemorative function was intended as a memorial to soldiers from Manly Warringah killed in World War I, and for this purpose, an avenue of Norfolk Island Pines was planted with a pine and a plaque for each soldier. Since then, numerous trees and plaques along the road have been removed. The only visible portion of the original road (Telford type of road construction consisting of a stone base which was then topped with gravel formed into a camber water shed) is the section running south from Bluefish Drive just north of the North Fort gun battery.

In 1930, the Federal cabinet agreed to the allocation of 200 acres of the Quarantine Reserve to Manly Council for public use on the condition that Council construct a stone boundary wall to isolate it from the Quarantine Station. This wall was erected under the auspices of an Unemployment Relief Scheme and a road and pathway to vantage points were also constructed. Opened in June 1933, the **Parkhill Reserve** was named after the Postmaster-General, the Hon. Archdale Parkhill who had long campaigned for public access to North Head. The archway that marked the entrance to the Reserve was originally located further down Darley Road, marking the entrance to the Quarantine Station. The arch was later relocated to its current position when Manly Hospital was constructed (between 1926 and 1931) and the name 'Parkhill' replaced the original 'Quarantine' label.

In 1934 events in Europe and Asia led the Federal Government to withdraw permissive occupancy from most of the Reserve, in order to construct the North Head Fort and the associated Barracks. Permissive occupancy of the Parkhill and Loop precincts, which were not immediately required for defence purposes, was subsequently returned by the Commonwealth and re-opened for public recreational uses in 1936. A new scenic road was constructed through the Quarantine Reserve to connect with the existing loop. This new road was originally known as Anstey Drive, named for the then Federal Minister for Health, but it is now known as North Head Scenic Drive. Three new sections of wall were also constructed; the northern and southern stone boundary walls were built to the Fortress area, including two

gateways (currently known as the North Gate and Main Gate to North Fort respectively) and a new section separating the loop at North Head and the Military reserve.

In 1979, the reserve was returned from the Commonwealth to the NSW State Government, and reserved as part of the **Sydney Harbour National Park** under the administration of the National Parks and Wildlife Service. The transfer of the remains of the Quarantine Station followed in 1984.

Military History

The former School of Artillery, North Fort and the many remnant military installations at North Head provide evidence of the military defence of Australia's largest population and the industrial centre during the threat of invasion in World War II. It was the first constructed and one of the most important elements in the upgrade of the national chain of major coastal artillery facilities installed in the late 1930s in anticipation of a naval invasion (**Figure 6**).

Pre-War Defence

In 1830, the unannounced arrival of two American warships in the harbour prompted the reservation of reserve land at Middle Head, Georges Head, Bradleys Head, Pinchgut Island, South Head and North Head for military purposes. However, North Head was not developed at that time for military purposes.

In the early to mid 1930s the Commonwealth Department of Defence embarked on a program of increasing or upgrading armaments at existing coastal defence sites and of increasing the number of coastal defence sites. In the Sydney region new emplacements were planned for North Head and Cape Banks and in March 1934 the guns (two 9.2 inch Mark 10 guns on Mark 7 mountings) were purchased for installation at North Head (**Figures 7 and 8**). These two guns were to be supported by six-inch batteries at South Head. North Head was to play a central role in the defence of Sydney Harbour, a role determined after an assessment of the Japanese threat and naval capacity.

The 9.2 inch guns were made at the Royal Arsenal in Woolwich in 1902 and later reworked. They arrived in pieces and were transported by lighters and unloaded at Store Beach on the western side of North Head. They were hauled up the hill through the Parkhill Gates and then along the Memorial Drive/Avenue of Honour to the North Fort gate.

Construction of the concrete emplacements, magazines, engine room, pump chambers, tunnels and plotting room was undertaken by the civilian building contractor McConnell Building Company and completed early in 1936. Installation of the guns, which had been shipped from England, was undertaken by gunners of the 1st Heavy Brigade between February and June 1936. Due to be completed in January of that year, the siting of the gun emplacements had caused a number of problems which delayed construction. In particular, the creeks shown on earlier plans were fed by natural springs and drainage channels, drains and dry areas had to be built in an attempt to keep the tunnels and magazines dry.

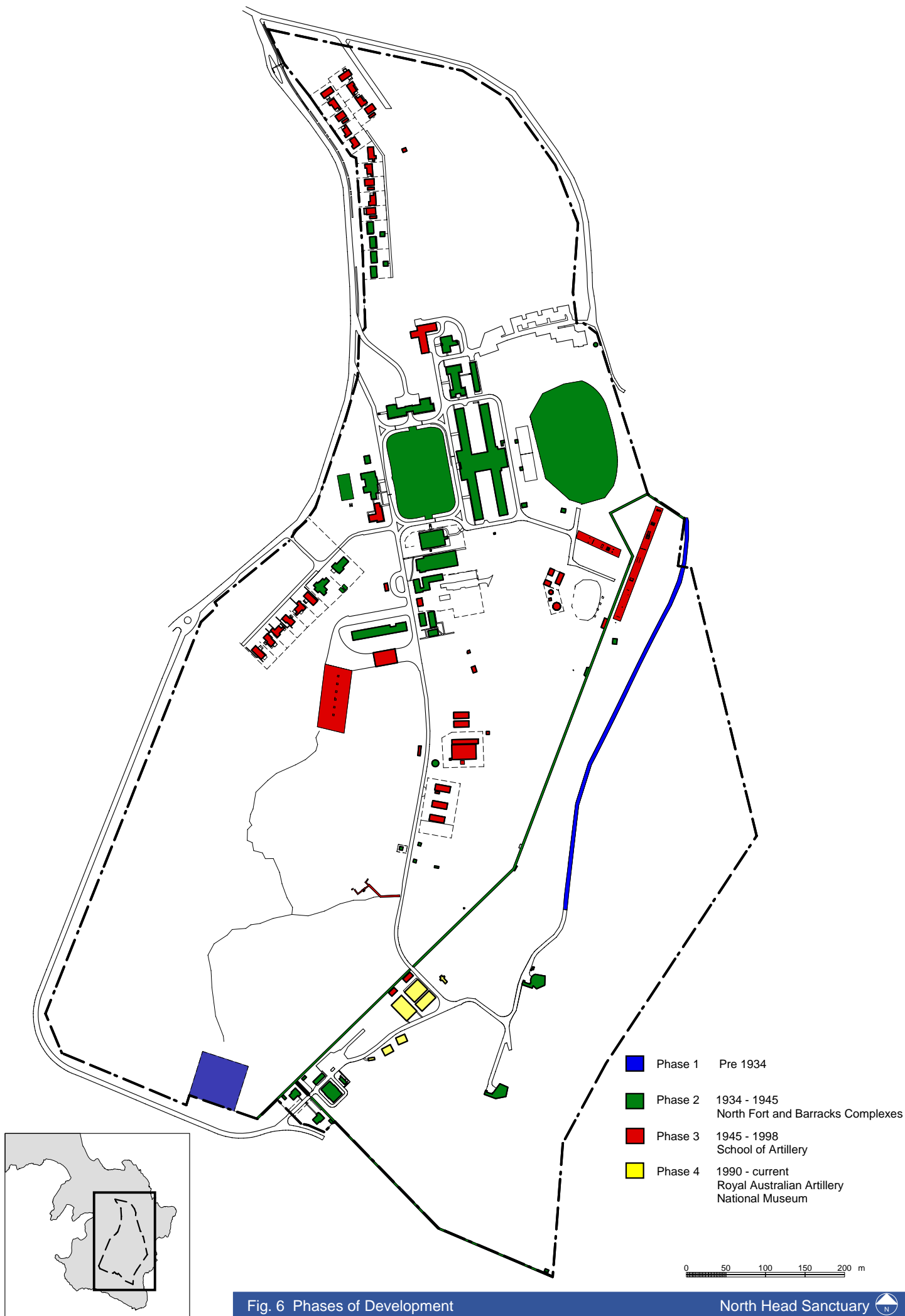


Fig. 6 Phases of Development

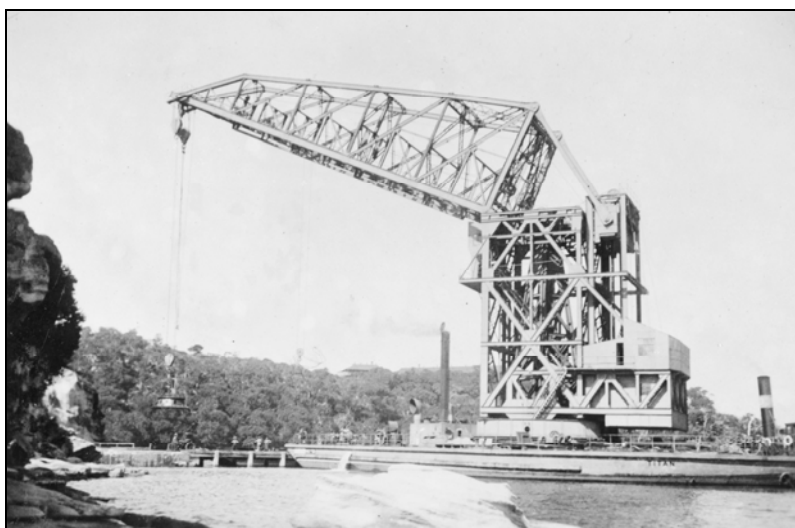


Figure 7: 9.2 inch gun being unloaded onto the wharf at Store Beach by 'Titan', a floating crane in 1936.

This gun is one of two BL Mark 10 guns that were purchased by the Commonwealth Department of Defence and then later shipped from England. The installation of these guns on Mark 7 mountings was completed by 1936. The guns were not test fired until August 1938.

These guns were capable of targeting shipping between Botany Bay and Broken Bay, guided by a series of observation posts distributed along the coast some two and a half miles to six miles (4 km to 10 km) apart. Information was sent to the batteries by telephone. There was a close defence battery observation post 400m north of the south gate and also a counter battery observation post 150 metres south of the northern gate with an accommodation blockhouse behind it. The battery was also linked to a line of Fortress Observation Posts along the NSW coast including Cape Banks and Signal Hill.

In support of the battery, a Workshop building, Skidding and Cordage Store, Paint and Oil Store and Latrine were constructed. As well as the Observation Posts, the No. 25 and No. 26 Searchlights were also located at the North Fort site.

Prior to the construction of more permanent accommodation, the gun detachments and other personnel were accommodated in tents near the West Gate between the Fort and the Barracks, on the north side of the Fort wall. This was replaced by a series of standard huts in late 1940. Although now demolished, the layout of this camp can still be seen in aerial photos. Two Married Quarters cottages were constructed near the South Gate on North Head Scenic Drive (*Buildings 201 and 203 – Figure 1*).

The main barracks, the North Head Barracks Group, was erected in the years 1936 and 1937, below the North Head central ridge and the trajectory line of the guns. The barracks were constructed by the McConnell Building Company, the same firm that built the gun emplacements. The new quarters were arranged around a grand red gravel parade ground and were the largest barracks erected in Australia in the pre-war years. Two large cottages for the Battery Commanders were also constructed in the pre-war period (Buildings 51 & 53). Four cottages for non-commissioned officers (NCOs) (Buildings 101, 102, 104 & 105) were also constructed prior to the war.



Figure 8: The 9.2 inch gun was a major part of the North Head Battery and played an instrumental role in the anti-ship defences of Sydney Harbour during 1939-1945.

This photo was taken during firing practice in May 1939. The man in breeches and leggings is a safety officer checking on ammunition skills. Note the lower gun floor visible through the open doors.



Figure 9: The Plotting Room was located underground in building 74. This building contained the Battery Plotting Room and the Fortress Plotting Room.

As part of Fortress Sydney, the Fortress Plotting Room could provide and receive target locations to and from the other coastal batteries. Target course and speed of enemy craft was sent via telephone from observation posts to the Fortress Plotting Room and then onto the smaller Battery Plotting Room that relayed coordinates to the guns. This photo shows the North Fort Fortress Plotting Room. Two operators are on bearing arms, with telephone connections to respective Fortress Observation Posts. Two operators are lying on the chart, one calling target coordinates; the other is calling target course and speed to Battery Plotting Room. The photo on the right shows the above ground entry to Plotting Room in 2005.

The grounds of the North Head Barracks were landscaped with lawns, rockeries and flower beds to complement the building and a new road led from the Barracks through the North Head Fort gate to the gun emplacements and their associated equipment.

The 1st Heavy Brigade moved its headquarters to North Head in 1938 and the 2nd Heavy Battery took responsibility for the 9.2 inch guns. Coastal defence depended on the co-ordination and combination of these heavy guns with six-inch guns for close defence. The harbour was defended by searchlights, booms, mines, anti submarine nets, smaller calibre guns and armed vessels.

The Barracks Complex was officially opened by the Governor-General Lord Gowrie on 26 January 1939 and initially housed the 1st Australian Coast Artillery Brigade Head Quarters.

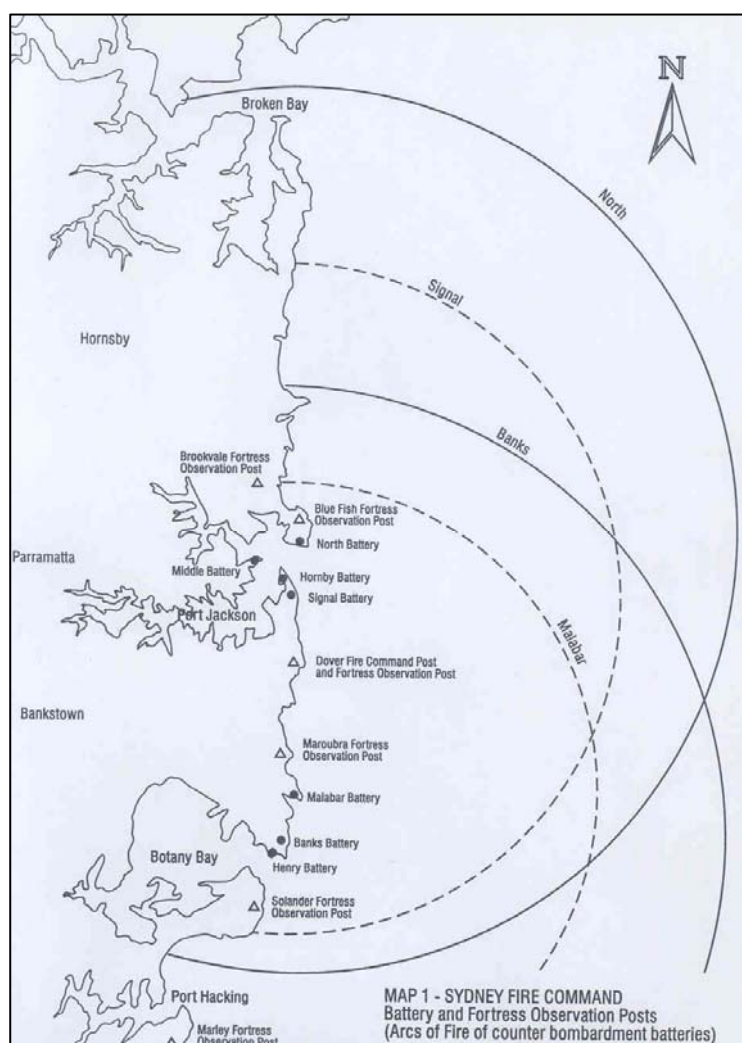


Figure 10: Layout of the Sydney Fire Command coastal defence system during 1939-1945.

British coast defence gunnery and tactics heavily influenced the size and nature of the armaments to be installed. In Sydney the range to be achieved by the coastal guns was governed by the fact that the important targets to be protected were 10,000 m or more inland from the coast. The counter bombardment batteries only needed to reach 14,000 m to 19,000 m seaward in order to engage the expected types of bombarding ships and keep them at arm's length or destroy them. The fire control systems, guns and ammunition had to be of sufficient accuracy and destructive power to inflict crippling

damage and/or to keep the enemy so busy avoiding our fire that its own gunnery would be ineffectual. Accordingly, there was a 9.2 inch gun battery in the counter-bombardment role at Newcastle and two similar batteries at Sydney, complemented by 6 inch Mark 11 guns at Sydney and Port Kembla in the dual counter-bombardment and close defence roles.

The main artillery defences deployed by mid 1942 included 9.2 inch counter bombardment batteries at North Head and Cape Banks, 6 inch counter bombardment batteries at Signal Hill (Mark 11) and Malabar (Mark 12) (these batteries could also revert to a close defence role if required) and 6 inch (Mark 7) close defence batteries at South and Middle Heads. Each battery had its own battery observation post and, in the case of the 9.2 inch batteries, fortress and battery plotting rooms. At least two fighting searchlights were sited adjacent to each battery.

World War II

Before the war, the entire Sydney Defence had been commanded from the North Head Barracks, but after the outbreak of the war this was transferred to the Commanding Officer of the 5th Brigade at Dover Heights. This unit had the responsibility for operations at North Head, South Head, Middle Head and Georges Heights. However, the North Head Fort functioned as a complete defence system that was manned twenty-four hours per day during the critical years of the war, when the Japanese threat became active.

With its large number and type of weapons, North Head was one of the most heavily fortified sites in Australian history. During World War II, additional facilities were installed and North Head Fort comprised two major components. Firstly, the 9.2 inch gun emplacements with fire control support and barracks and secondly, beyond the Barracks Group, the entire North Head area operated as a major defence installation. By the end of the war there were two dummy gun emplacements near the Loop Road; three Bofors Anti-Aircraft (AA) guns; a 3.7 inch AA battery at the Barracks; the Bluefish AA site with 3.7 inch guns; coastal search lights, observation posts and shelters; engine rooms and the Bluefish Radar installation. The Bluefish Radar Gun Station, which was installed in 1942, was the second land based radar set in Australia and is now the oldest surviving radar site in the nation. The Bluefish Anti-Aircraft Battery consisted of a command post, located on the eastern or cliff side and four 3.7 inch gun emplacements, arranged in an arc on the city side of the Point.

By 1943, a report had been prepared concerning the defence of Sydney against an invading sea-borne assault force. A report dealing with possible enemy landing sites concluded that Long Reef Beach would have provided the most favourable conditions for an amphibious landing. Defensive positions for rifle fire against invading troops were set up throughout the whole North Head area.

By mid 1943, the threat of attack on Sydney had diminished to the extent that the Bofors personnel were transferred from the fortress and by 1945 a complete wind down had commenced, with the radar detachments departing the site in April of that year.

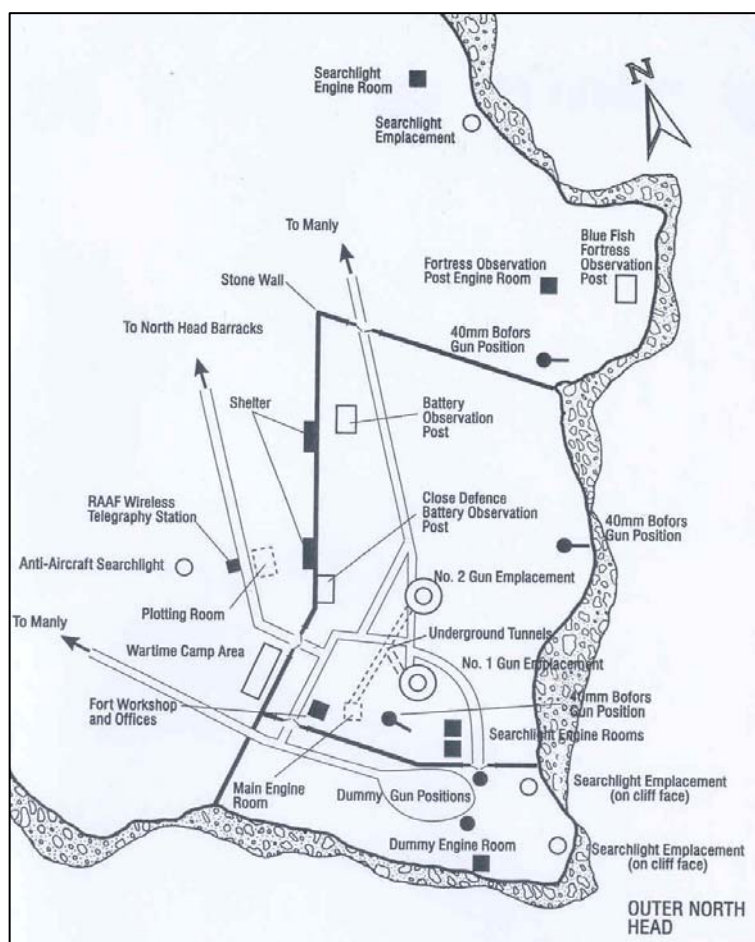


Figure 11: The location of the infrastructure at North Battery associated with the Battery and the Sydney Fire Command.

The infrastructure associated with the battery can be grouped under three categories; Observation, Communication and Guns.

Observation

There were two observation posts at North Battery, a Battery Observation Post (Counter-Bombardment) and a Close-Defence Observation Post. The former was used when it was possible to observe the approach of vessels beyond gun range (daylight) and the latter in darkness or poor visibility conditions with the assistance of searchlights at night. These buildings were concrete blockhouses with a large window opening allowing an unobstructed 200 degree arc for the rangefinding and observing instruments. These posts provided data, via telephone lines, to the Plotting Rooms on the range, course and speed of vessels as well as the fall-of-shot observations if corrections to co-ordinates were necessary.

Communication

The Plotting Rooms received data from the Observation Posts at North Battery and others located in the Sydney Fire Command. Data could also be received from the RAAF wireless Telegraphy Station. This data was then translated into target coordinates and relayed in turn to the appropriate guns.

Guns

North Battery contained two 9.2 inch guns which had a range of 26,400 metres. These were mounted in circular pits, were connected by underground tunnels, and powered by electricity generated on site. Once information was received from the Plotting Room, the guns were positioned for bearing and range. Towards the end of the Second World War, three 40mm Bofors light anti-aircraft guns were also deployed at North Battery. Dummy gun emplacements were built south of the 9.2 inch guns. Source: Dawbin Architects (2008), North Head Former School of Artillery Conservation Management Plan.

Post World War II

The School of Artillery

Prior to World War II, the School of Artillery was located at Watsons Bay. It offered courses in technical, survey, field, coast and anti-aircraft artillery primarily for officers and NCOs.

In 1940, part of the School had moved to Holsworthy and conducted courses in field artillery only. Coast artillery was believed to be able to staff and train its own units without help from the School. As a result of this, by 1942, each of the coastal batteries were inventing their own fire control methods and using a wide range of non-conforming guns and ammunition. A Coast Wing of the School was created in 1943 but by this time there was no longer a credible threat to Australian ports from surface vessels.

During WWII, the army expanded rapidly, and with it new branches of artillery evolved. Radiophysics (as radar was then known), anti tank and searchlights became part of the artillery world. Various Schools of Artillery were established: Coast at South Head; Field, Medium and Survey at Holsworthy; Anti-Aircraft at Middle Head and later Randwick; Searchlights at Middle Head; Radiophysics at South Head; and Anti-Tank at Puckapunyal, Victoria.

In 1945, the decision was made to concentrate all the Schools at North Head to utilise the facilities of the existing Barracks which had been vacated by Sydney Fixed Defences. Firing guns out to sea could be done from North Fort and many shoots were conducted to familiarise the field gunners with firing guns, drogue shoots for anti-artillery, 40 mm Bofors and 3.7 inch guns and the firing of mortars to support radar courses. Reorganisations occurred over the years but generally there existed technical, air defence, recruit training and locating wings at North Head.

Following the War, the defence forces experienced a significant shortage of staff as soldiers of all ranks hurried to demobilise and take discharge. In order to boost manpower, prisoners of war (mainly Italians awaiting demobilisation) were sent to North Head. The prisoners were housed in 'G' block (building not known, possibly Building 41 or one nearby). Their daily routine was the same as the gunners with reveille at 6.30 am and lights out at 9.30 pm, and Sunday dedicated to rest, but they had to report to an NCO three times a day.



Figure 12: A group of AWAS students watching a demonstration of the Kine Theodolite on the Parade Ground in 1944.

The Kine Theodolite, imported from Britain, was a precision optical device to record the accuracy of shooting in anti-aircraft warfare. Women of the Australian Women's Army Service (AWAS) had for some time been engaged to fulfil clerical and administrative duties, as well as operating the complex equipment in the observation posts and the plotting room. The last AWAS left the School in September 1946 and the clerical duties were taken over by public service staff.

During the 1950s, the strength of the School fluctuated and it was reorganised into various instructional wings. By the 1960s it was comprised of a Gunnery & Equipment Wing; a Guided Weapons & Nuclear Warfare Wing; a Recruit Training Wing; and a Physical & Recreational Training Wing.

The 1st Field Regiment was formed there in 1949 and acted as a depot unit for the school. By 1950 a number of new buildings were constructed to accommodate the school.

In 1952, all the guns, mountings, electrical equipment and diesel generators related to the 9.2 inch battery were removed and placed in long term storage. Only the hydraulic hoists from the magazines and the concrete emplacements and series of tunnels and observation posts remained. Various surface buildings were kept at North Fort, including the brick cottages, fibro kitchen shelters and the building now occupied by the Museum, the former North Fort Workshop.

The conflict in Vietnam escalated through 1965 and Australia increased the number of civilians drafted for National Service. Consequently, there was an increased requirement to train soldiers. The School of Artillery saw significant increase in activity including the establishment of a new training wing, Locating Wing, which was responsible for all courses related to meteorology, sound ranging, mortar locating radar, artillery intelligence and artillery surveying.

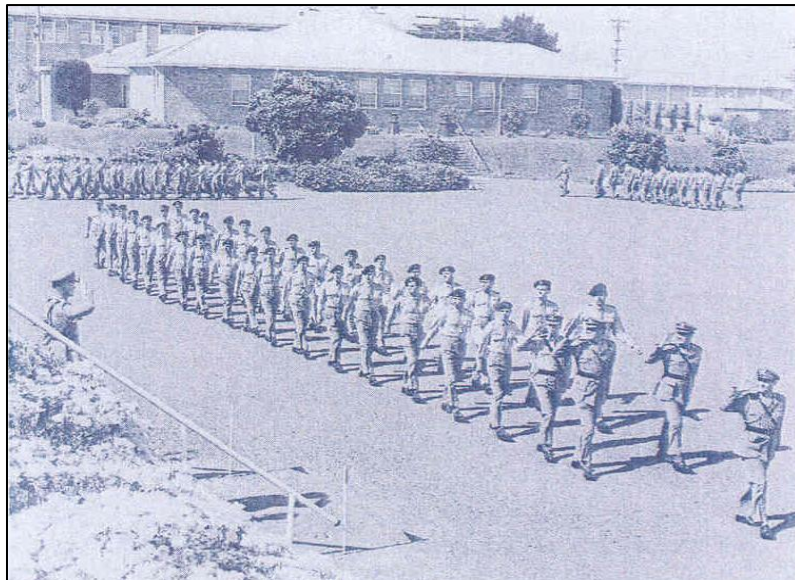


Figure 13: The Parade Ground forms the grand red centrepiece of the axially aligned Barracks Complex.

The Parade Ground is regarded by the Army as being hallowed ground and is respected as such by all. This photo (1960s) shows The Artillery School on Parade. The Chief Instructor, Lieutenant Colonel D.D Weir receives the salute from the Senior Instructor and Instructors in Gunnery from Locating Wing.

Numerous building programs have occurred at the School. In the 1950s, the gun park (building 49, accommodation for guns and area for training) and ARMCO building (building 61) were constructed, both of these continued to be used in the 1980s. The 1980s saw the construction of the Technical Q Store (building 41) and M198 shed (building 61, which was later used to house the Hamel gun). In the 1990s, demountable and permanent buildings were constructed for the recruit training and air defence wings respectively. Workshop buildings were also constructed in the 1990s for Museum display, around the same time the North Fort Precinct was taken over by the Museum and large sheds were constructed for displays.

Following the end of the Vietnam War and during the 1970s, the School continued to undergo numerous restructures.

In 1975, the two former Parkhill public reserves (see **Figure 5**) were transferred to the newly created Sydney Harbour National Park and in 1979 the Commonwealth and NSW Governments entered into a Foreshores Agreement which provided for the exchange of certain lands. All the land at North Head was to be transferred to the State when it became surplus to Defence requirements. North Fort was opened to the public for the first time in 1979 for special occasions (such as open days) and more frequently in the 1990s.

Live firing to sea ceased in the early 1980s following the handover of the cliff curtilage to the NPWS. The last gun to be fired was the occasion of the firing of the new M198 gun in 1984.

By 1981, the facilities at North Head were considered to be insufficient for training requirements and the environmental impacts on the area too great. The then Minister for the Defence and the NSW Premier agreed to investigate alternative areas to meet those needs. By 1986 this relocation program was cancelled. The proposal to erect a National Australian Artillery Museum at North Fort was put forward in 1987 and negotiations took place to acquire part of North Head for this purpose. The museum took over the workshop area and the two gun emplacements in the North Fort Precinct at this time.

In 1988, the School took delivery of the first 6 production Hamel Guns and underwent a re-building program that saw the erection of numerous demountable facilities on the site.



Figure 14: In 1981, the Australian Army chose the Hamel Gun to replace its ageing M2A2 howitzers.

The gun could be towed by a medium-weight vehicle or carried around the battlefield underslung by a Puma or Chinook helicopter. The Hamel Gun can be seen in this photo, with the RTW gun shed at the rear. This photo was taken when the Chief of the General Staff, Lieutenant General H.J Coates visited the Artillery School on 26th February 1992.

A 'fall of shot' simulator was housed in one of the lecture rooms in Building 1 and some field experience was provided on site by the use of small gun that fired projectile a short distance producing a puff of smoke on impact. This was used firstly in the "Hanging Swamp" near North Fort and later, in the 1990s on the other side of the stone wall, on what became known as the Nico sub-calibre training area. A series of timber boardwalks were provided leading to small grandstands to allow the students to observe the fall of shot. Although overgrown, a number of these structures remain today.

In December 1989, the Artillery directorate was relocated from Canberra to the School of Artillery at North Head. The 1991-1992 works program saw the re-roofing of all major buildings and the redesign and upgrading of all barracks accommodation. New office facilities for Locating Wing were also completed in November 1992.

The limitations of the North Head area for the practical purposes of the School of Artillery, which included its remoteness from artillery firing ranges, became insupportable with the post-war development of the School, and the long-term strategy was to move the School of Artillery from North Head to Puckapunyal in Victoria. New buildings were completed at Puckapunyal between the years of 1995 and 1997, and at the end of 1997 / early 1998, the School was relocated.

Previously the School of Artillery had always been in NSW and had a long association with the coastal defences of Port Jackson. Many of their sites remain, including their initial location at Middle Head, the School at South Head and at Holsworthy where part of the School operated during World War II.



Figure 15: After 50 years at North Head, the Artillery Troops march out for the last time in 1996.

Royal Australian Artillery (RAA) National Museum

The departure of coastal artillery in the early 1960s meant the North Fort Precinct could be used for other purposes. It provided a useful training area for numerous artillery training schools including individuals on gun drills, particularly during the Vietnam War.

In 1989, the collection of the Royal Australian Artillery Historical Society was relocated to North Fort, when it was identified as a site that could use the former 9.2 inch coastal installations to interpret the history of Australian artillery. New accommodation was built and the RAA National Museum was opened by Sir Roden Cutler VC in 1992. The Museum was operated by the RAA Historical Society who, supported by the RAA, undertook to conserve and interpret the 9.2 installation for the public.

The tunnels were lit, engines installed and engine room and interpretation signage was erected in the early 1990s. Two small sheds were erected by the Department of Defence for the Museum and additional larger buildings were obtained from the Department of Defence and erected by the RAAHS with RAA support.

The Museum's collection included a number of items of the type used at North Head including searchlights and moveable anti-aircraft locating vehicles. A permanent display of a wide range of Australian and international artillery, some of which dates back to the colonial period, was located in the workshop building. To accommodate the growing number of exhibits and items being restored, a number of prefabricated metal buildings were erected to the north east of the original workshop group. These buildings are of army origin.

A brick paved memorial walk was constructed adjacent to the southern gun emplacement. Access to the tunnels is available during guided tours. A memorial to the Defence of Sydney was erected in 1995 as part of the "Australia Remembers" program and a service is held annually to commemorate the Japanese midget submarine attack on Sydney Harbour.

When the School of Artillery moved to Puckapunyal in 1998, the Museum was retained at North Fort. In late 1998, the Army History Unit took over management of the Museum with support from the volunteers of the RAAHS.

The whole of North Head Sanctuary was formally transferred to the Sydney Harbour Federation Trust in December 2006.

In early 2011, much of the Army History Unit's collection was relocated to the Puckapunyal Military Area. Exhibits remaining at North Head Sanctuary are being collated to form a museum that is focussed on the defence of Sydney.

North Fort is now open to the public seven days per week, and tours of the tunnels are available several times each week.

Analysis and Assessment

Heritage Listings

North Head is listed as Historic Place No. 105759 on the National Heritage List (Place File No. 1/13/024/0019).

North Head Sanctuary is listed as 'The North Head Artillery Barracks, North Head Scenic Drive, Manly', Historic Place No. 105431 on the Commonwealth Heritage List (Place File No. 1/13/024/0005).

The full text of the above listings can be found at Appendix 4 and 5.

North Head is also listed on the Register of the National Estate as:

- North Head (Place ID: 101621, Place File No: 1/13/024/0019)
- North Head Quarantine Station & Reserve (former) (Place ID: 2866, Place File No: 1/13/024/0008)
- North Head Artillery Barracks (Place ID: 19091, Place File No: 1/12/024/005)
- North Head Military Reserve (Place ID: 102495, Place File No: 1/12/024/0005)
- North Head Fortifications (Place ID: 2863, Place File No: 1/13/024/0005)
- New Quarantine Cemetery (Place ID: 2867, Place File Number: 1/12/024/0009)

North Head Quarantine Station and Reserve is listed on the State Heritage Register under the NSW *Heritage Act 1977*.

Manly LEP 1988 lists the following 'Architectural and Archaeological Items' at North Head:

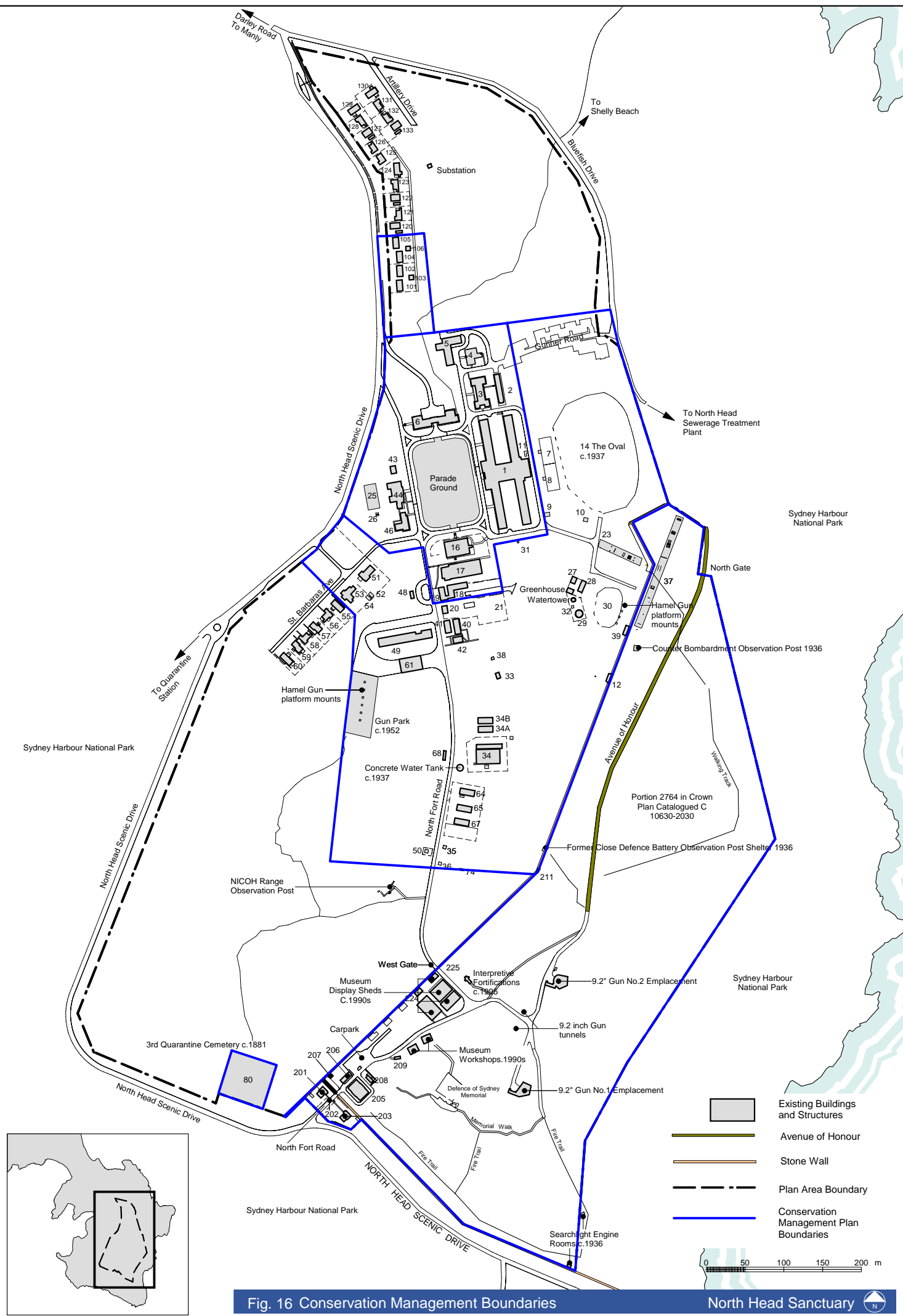
- North Head Fortifications (Artillery School)
- Stone Walls
- North Head Scenic Drive
- The School of Artillery
- The Australian Police Staff College
- Quarantine Station (Sydney Harbour National Park)
- Cemetery (Sydney Harbour National Park)
- Group of Institutional Buildings (Commonwealth Military Reserve)

The following 'Landscape Items' located either within or immediately adjacent to the Defence site are listed under Manly LEP 1988:

- North Head Fortifications
- Roadway: North Head
- Walls: North Head
- School of Artillery
- Cemetery: North Head

Conservation Management Plans

The Trust has recently commissioned several Conservation Management Plans (CMPs) for the North Head Sanctuary. **Figure 16** illustrates the areas covered by each of the CMPs.



In November 2004, the Trust commissioned the preparation of updated detailed Conservation Management Plan for the buildings and cultural landscape items within the former School of Artillery Precinct, North Head. The boundary for this CMP covered all the inner and outer core buildings as well as the 1930s houses. All structures to the east of the stone wall were excluded from this study.

The CMP prepared by Dawbin Architects (2008) included detailed inventories for each building to guide future works. The CMP divides the former School of Artillery into two areas – the “Core Buildings” (essentially “the Parade Ground Precinct”) and “Outer Areas”, which includes “The Sheds” precinct. Dawbin then provides detailed recommendations for conservation policies and the adaptive re-use of the site. These recommendations are addressed in the Outcomes section of this Plan.

In 2008, the Trust commissioned Robertson & Hindmarsh Pty Ltd to prepare a Conservation Management Plan for North Fort (the area east of the stone wall). This CMP included the stone walls and Avenue of Honour. This CMP also includes detailed conservation policies for the site which are addressed in the Outcomes section of this Plan.

The methodology used in the preparation of the CMPs to assess significance generally follows the format set out in James Semple Kerr’s *The Conservation Plan*. The CMPs assessed the cultural significance of the place by examining the way in which its extant fabric and setting demonstrates its function, associations and aesthetic qualities.

The National and Commonwealth Heritage values in this plan were taken from the statutory listings. However, summary statements of significance from the CMPs have also been included and these assist in describing the heritage values of the site.


Archaeological Assessments

A non-indigenous archaeological report was included as part of the detailed CMP for North Head. In summary it found that the lands within this study boundary were assessed as having low archaeological potential for non-indigenous archaeological remains. Two areas within this boundary were identified as requiring further research. These are identified as areas E and G - **Figure 17**.

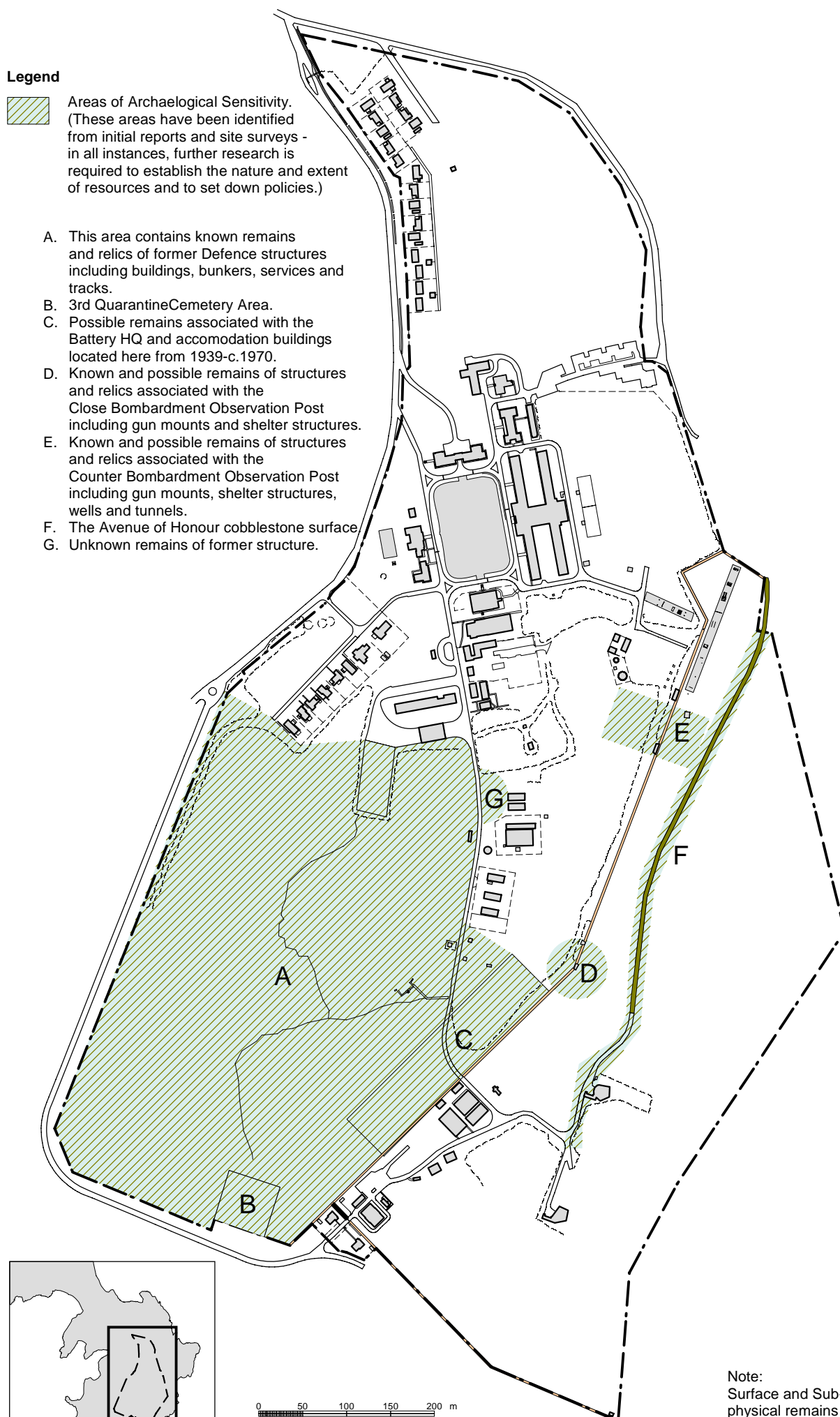
Other areas of the site have not been fully surveyed for their archaeological potential. More cursory site surveys with staff of the North Fort Museum have identified areas that evidently contain surface and sub-surface remains of infrastructure associated with the Battery and former North Fort Barracks. These areas are detailed as areas A, C D and F in **Figure 17**. Prior to undertaking any works in these areas, the Trust will commission detailed archaeological surveys.

The Third Quarantine Station Cemetery (Area B - **Figure 17**), is a known site with exceptional archaeological potential. In 2006, the Trust commissioned Banksia Heritage + Archaeology to prepare an Archaeological Management Plan (AMP) for the cemetery. Banksia Heritage + Archaeology found the Cemetery is of national significance as it is an integral part of the process of quarantine and as a reminder that it was Australia’s protection against deadly epidemic disease. The cemetery is most likely Australia’s largest, most intact and best preserved quarantine cemetery. Consequently, Banksia Heritage + Archaeology make detailed recommendations for ongoing management of the cemetery which are addressed in the Outcomes section of this Plan.

Legend

 Areas of Archaeological Sensitivity.
(These areas have been identified from initial reports and site surveys - in all instances, further research is required to establish the nature and extent of resources and to set down policies.)

- A. This area contains known remains and relics of former Defence structures including buildings, bunkers, services and tracks.
- B. 3rd Quarantine Cemetery Area.
- C. Possible remains associated with the Battery HQ and accomodation buildings located here from 1939-c.1970.
- D. Known and possible remains of structures and relics associated with the Close Bombardment Observation Post including gun mounts and shelter structures.
- E. Known and possible remains of structures and relics associated with the Counter Bombardment Observation Post including gun mounts, shelter structures, wells and tunnels.
- F. The Avenue of Honour cobbles surface
- G. Unknown remains of former structure.



Note:
Surface and Sub-surface Aboriginal
physical remains are possible in all areas.

Fig. 17 Areas of Archaeological Sensitivity

Threats to Biodiversity

The main threats to biodiversity on North Head are:

- Loss and fragmentation of habitat through clearing, development and maintenance activities;
- Altered soil nutrient status and hydrology;
- Infection and dieback of native plants caused by *Phytophthora cinnamomi* (and other pathogens);
- Inappropriate fire regimes and arson;
- Mowing / slashing and inappropriate use of herbicides;
- Invasion of weed species;
- Inappropriate plantings in and around remnants;
- Seed and wildflower collection;
- Erosion and/or physical damage from surface water run-off, wind, vehicles, rabbits, and pedestrian use;
- Predation of native flora and fauna by domestic and feral animals including rabbits, foxes, dogs, cats and rats;
- Dumping of rubbish, garden refuse and soil; and
- Fatalities due to road traffic.

A series of actions have been recommended in order to manage species diversity at North Head. These recommendations have been incorporated into the Outcomes section.

Bush Fire Management

Due to the area's former use by defence, most of North Head has not burnt for up to 40 years. The heath and scrub vegetation has evolved with fire over many thousands of years to the extent that they require fire to trigger reproduction. For many of the native plants, fire stimulates flowering and seed dispersal, germination of the soil-stored seedbank, or regrowth from epicormic buds and lignotubers (depending on the species and its tolerance to fire). Absence of fire has favoured dominance of up to 8m senescent *Leptospermum laevigatum* (Tea Tree Scrub) whose tall thick canopy suppresses regeneration of the diverse range of groundcover and shrub species.

The Recovery Plan for ESBS provides interim recommendations on appropriate fire regime for the community pending further research on the fire ecology of ESBS, as follows:

- Successive fires at intervals of less than 8 years, or more than 15 years should be avoided; and fire should not be excluded for periods of greater than 30 years; and
- A variable fire regime for ESBS should be trialled on a small scale as a research priority.

In 2006, NPWS prepared (in conjunction with the Trust and other land managers) an integrated Fire Management Strategy (FMS) for Sydney Harbour National Park, North Head precinct. This plan outlines the Bushfire Risk Management Strategies for the whole of North Head area.

The Trust is represented on the Manly-Mosman-North Sydney Bush Fire Management Committee set up as a statutory requirement under the NSW *Rural Fires Act 1997*. The Manly-Mosman-North Sydney Bush Fire Risk Management Plan and Operations Plan guide the preparation of sub-plans for specific areas. Hazard reduction proposals, including mechanical clearance and prescribed burns for asset protection, are submitted for approval to the Committee each year ahead of the designated bush fire season.

With regard to the North Head Sanctuary, the FMS has identified primary and secondary roads through the site, with access off North Head Scenic Drive and Blue Fish Drive. Asset protection zones have been identified around much of the North Head Sanctuary with strategic fire advantage zones around the boundary of the asset protection zones, along the length of the historic stone walls and around the Third Quarantine Station Cemetery.

In 2002, Conacher Travers prepared an Interim Bushfire Management Plan for the former School of Artillery. This plan provides guidelines for the protection of life and property, and the natural and cultural heritage assets of the site including the heritage stone walls and the 3rd Quarantine Station Cemetery.

The plan identifies a series of future planning strategies in relation to bushfire management as identified below:

- Implement an Asset Protection Strategy that details the fire risk to each asset, with consideration of proposed uses within a bushfire prone landscape. (Recommended bushfire protection areas are shown at *Appendix 1 – Environmental Considerations*)
- Prepare a detailed Bushfire Management Plan that details the specific requirements of the threatened species, endangered populations and vegetation communities within the site.
- Prepare a strategic research program for the long-term protection of biodiversity within the site.
- Implement a burn program to promote a diversity of vegetation age classes across North Head (together with all North Head land managers)
- Develop an evacuation plan for users of the site.
- Develop an access capability assessment for determination of fire suppression needs and prescription burning requirements.

In 2007, ERM prepared a Bush Fire Management Plan (BFMP) for North Fort which documents the factors that influence fire on that part of the North Fort Sanctuary, the assets and other aspects that require protection from fire, and the strategies to prevent fire.

A Modified Landscape

The planning and formal nature of the built part of the North Head Sanctuary is in sharp contrast to the sense of wildness and isolation from the dominant surrounding bushland. In the central core of the site, the strong geometry of the built landscape is set against this wild backdrop, the lurching dune made habitable by benching and forming. Although substantial buildings face each side of the parade ground and the main entries are aligned with major axis, the bush works its way in at the corners. The design and planning of these buildings clearly references a tradition of colonial barracks evident and established at Victoria Barracks, Sydney.

The core buildings around the Parade Ground are built in the prevailing 1930s Art-Deco style and reflect a clear intention to provide permanent and modern facilities for the defence of the country.

The built form outside the Parade Ground Precinct is characterised in two ways. Firstly there is the suburban nature and pattern of the housing with the style, lot sizes, placement on the high side of the road and landscape features, however, it retains a clear institutional character. This creates a contrast between the regimental, ceremonial and hierarchical nature of the central core buildings and the repetitive domestic buildings. The main approach to the core is a deliberate design intended to conceal the gateway until aligned with the axis.

The remaining buildings can be characterised as being largely functional, ancillary and subservient to the site. These structures are not arranged along the central axis but are specifically located near the core, in the bush, or beside the road, each for operational reasons. They comprise structures associated with the battery such as Observation Posts and the Plotting Room that were deliberately concealed, or sheds and workshops providing support to the battery or the School. These structures are both concentrated in proximity to the core, and are scattered further around the site either as isolated units or small groupings.

Development around the Parade Ground has seen the introduction of exotic species in the form of grasses and ornamental horticulture. There are many ornamental species planted around the central core and other buildings including the houses. The most obvious introduced species are the *radiata* pines around the oval and the flamboyant pink Oleanders. Species appear to have been chosen due to their hardiness to the coastal climate and poor soils and have survived remarkably well.

The character of the plantings reflect the stylish influence of the inter-war period and relates to the formal axial planting of the complex being symmetrical groupings of the Hill's Fig, Moreton Bay Fig, West Australian Peppermint, Pencil Pines and Oleanders. The Norfolk Island pines planted on the parade ground help to define the axis. Evidence suggests that the range of species was purposefully selected to represent species from across Australia.

There is a sense that the surrounding bushland is 'knocking at the door' and preparing to overtake this formal landscape if given the chance. Given the lack of human activity on the site over recent years the natural vegetation is regenerating where and when circumstances permit. The Dawbin Conservation Management Plans address this issue and nominate a series of cultural landscape precincts across the North Head Sanctuary.

Site Contamination and Hazardous Building Materials

The North Head Sanctuary has a long history of military use dating back to the 1920s. As such, the site may reasonably be expected to have a degree of contamination arising from military activities or facilities, or related uses. Following the departure of the School of Artillery from North Head to Puckapunyal, the Department of Defence carried out a program of contamination assessment, remediation and validation of the site to address potential contamination. Reports prepared by contamination experts have been made available to the Trust documenting this work.

Contaminant sources identified include those associated with building hazardous materials such as lead paint and asbestos, storage of petroleum fuels and chemicals, fuel spillage, filling and dumping, stormwater sediments, radioactive materials and the storage and use of military materials.

The Trust notes that no contaminated land audit of this work has been carried out, and that Defence continues to occupy a portion of the site (part of North Fort).

The assessments' findings are summarised below:

Hazardous Building Materials

Asbestos building materials are evident in a number of buildings across the site, including asbestos sheeting and friable asbestos insulation. Building rubble has also been identified in a number of bushland areas where previous structures have been removed. Significant quantities of hazardous materials remain as part of the site building fabric. However, no detailed information is available regarding the nature of these materials, location, quantity, condition or requirement for remediation. To the Trust's knowledge, no remediation of these materials, other than some removal of asbestos in buildings in the North Fort Precinct by the Department of Defence in 2008 and 2010, has been carried out.

In addition, lead based painted surfaces were identified throughout the site structures. Similarly, no information was presented regarding location, condition or requirement for remediation. To the Trust's knowledge, no lead paint abatement work has been carried out (apart from that carried out by the Trust for refurbishment of buildings to date).

No information was reported regarding the potential presence of other types of hazardous materials, such as polychlorinated biphenyls in light capacitors or other electrical equipment and synthetic mineral fibre materials.

Radioactive Materials

Two buildings were identified where radioactive substances were known or thought to have been stored. These buildings included the ARMCO facility (Building 34). However, a radioactivity survey was undertaken which did not identify any radioactive residues or sources in these buildings.

Underground Storage Tanks (USTs)

At least four underground storage tanks (USTs) were located on the site. A petroleum UST was located to the east of Building 1 (barracks), one large diesel UST was located east of the oil store (Building 48), and two small diesel USTs were located in front of the workshops (Building 20). Although it is unknown when this occurred, the two small USTs at the workshops are thought to have been removed when the large UST at Building 48 was installed. The petroleum and diesel USTs

were decommissioned, removed and remediated by the Department of Defence in 2001.

The assessment identified that the petroleum UST at Building 1 had leaked due to the presence of petroleum hydrocarbons in the groundwater immediately down-gradient of the tanks. When this tank was removed, gross petroleum contamination was encountered in sandy soils beneath the tank and in the vicinity of the main mess building. It was reported that most of this contamination had been removed, but due to structural constraints some contamination was left beneath the building. Petroleum hydrocarbon exceeding relevant criteria has been identified in groundwater down-gradient of the tank at various stages following remediation.

It has been recommended that groundwater monitoring be carried out at wells down-gradient of the building 1 UST at six monthly intervals to confirm that contaminant levels decline to below the relevant criteria.

It was reported that no residual contamination remained in soils following removal of the diesel UST, and that no hydrocarbon contamination was found in down-gradient groundwater.

Military Materials

Various artillery weapons, both full calibre and sub-calibre, have been fired at North Head since the 1930s, with all full calibre firings being conducted seawards. Therefore, the Department of Defence lists the site on its unexploded ordnance (UXO) register, however it assessed it as having no significant residual UXO contamination.

An investigation and survey of residual military materials was carried out. The investigation indicated that there was a minimal risk to human health or the environment associated with military materials that may have arisen from the UXOs. However, it is considered that a 'reasonable quantity' of ordnance waste is likely to remain on the site.

It was recommended that no further investigation or clearance were warranted at the site while it remained inaccessible to the public. However, mainly due to the perceived public risk, it was recommended that should public access or tracks be created in certain areas of the site, then an additional search and clearance of materials should be conducted. These areas are the former ranges to the east of the stone wall not previously adequately investigated due to vegetation density.

In 2006, an investigation of the area to the east of the Avenue of Honour (including in the immediate vicinity of walking tracks in this locality) discovered numerous projectiles and blank cartridges, but no items containing high explosive fill material. All material located during the search, including cultural debris and ammunition waste was removed from the site for disposal and the area has been deemed safe for public use.

Stormwater Sediments

Stormwater sediments in 24 pits located in the former School of Artillery area were identified as containing heavy metal or asbestos contamination. Contaminated sediment has been removed offsite to licensed landfill as part of the remediation program carried out by the Department of Defence.

Dumped Waste Materials

A number of potentially contaminated waste material stockpiles were identified in the assessment. These were reportedly removed to licensed landfill as part of the remediation program carried out by the Department of Defence. Contaminated material is progressively being removed from the site as it is uncovered during excavations for new buildings and refurbishments.

Oil Staining

Oil stains were identified in and around the workshops located in the former School of Artillery area. These were reportedly removed as part of the remediation program carried out by the Department of Defence.

Services

In December 2001, PPK Consulting undertook a detailed survey in order to establish the extent and condition of site services. The study looked at water and fire services, sewerage, electricity, telecommunications, gas and fuel services.

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 North Head Scenic Drive in land controlled by NPWS. The sewer pipe network on the former North Head Sanctuary site is in poor condition with a high percentage of the pipes blocked and showing signs of structural failure. The Trust is in the process of renewing sewerage lines and manholes along St. Barbaras Ave and upgraded connections to buildings on the western side of the Parade Ground. Works to connect the North Head Sanctuary Café, North Fort Precinct and toilet blocks to the gravity fed sewerage system in the Sheds precinct are underway. The works will also involve the removal of redundant septic tanks and replacement of aged infrastructure. Sewerage fixtures and services within buildings are acceptable.

Water

The water system consists of a pump station at the end of Artillery Drive, 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 condition with ongoing problems involving breakages and leaking mains. A major upgrade of water infrastructure has commenced with replacement pipes to be installed along North Fort Road to replacement potable water pipe to replace the current degraded pipe servicing the North Fort . Water fixtures and services within buildings are acceptable; however they will be replaced with more efficient fixtures as buildings are refurbished.

Fire

The fire hydrant system is interconnected into the water network described above. The existing hydraulic connections do not comply with current standards for the provision of fire fighting services and suffers from low pressure. A major upgrade of the hydraulic network is underway to resolve cross connection of services and to improve reliability and supply of water for fire fighting across the North Head Sanctuary.

Electricity

An overhead 11kv high voltage main runs through the site supplying North Fort, Quarantine Station and the National Park. Energy Australia has advised that the site substation is in poor condition and is in need of a major overhaul. Electrical

distribution boards are being upgraded to increase capacity and additional wiring will be needed. Some rewiring may also be necessary. Photovoltaic arrays are to be installed on north facing roofs elevations of buildings across the North Head Sanctuary. Power generated will feed into the mains reticulation for the North Head Sanctuary and any surplus will be exported to the grid and credited against the Trust's on-site usage.

Stormwater

The stormwater reticulation network suffers from the same problem as the sewers-structural failure of pits and pipes, tree root invasion and siltation. The system has uncontrolled discharge to the surrounding bushland which will need to be rectified.

Works have commenced to capture and recycle to stormwater from building roofs across the North Head Sanctuary. Collected water will be treated before being reticulated for use in toilet flushing, laundries and other non-potable uses.

Defence Houses

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.

Building Condition

There are over 80 buildings at the North Head Sanctuary. The major buildings are of full masonry construction, while there are also a number of steel clad sheds, garages and storage buildings.

The main problem affecting the full masonry buildings, particularly those that have been unoccupied for many years, is the corrosion and failure of the steel cavity ties and poor quality mortar mix. Conservation and maintenance of these buildings involves significant repairs and repointing of brickwork. There is also degradation associated with water ingress through roofing and flashings. The site is predominantly sandy foundation material that has contributed to footing failure and structural damage.

By comparison, buildings that have been continually occupied have benefited from regular maintenance. This maintenance includes removal of hazardous materials and repointing of some buildings by the Department of Defence. Their condition is consistent with their age. The building fabric is in serviceable condition but in some houses, the kitchen and bathrooms will require upgrading.

The Trust is undertaking a program of maintenance and repair of all buildings at North Head Sanctuary. Repairs include removal of degraded and contaminated building materials and replacement of building services with efficient fixtures and fittings.

Compliance with the Building Code of Australia

Many of the buildings at the North Head Sanctuary have a range of features that do not comply with the current Building Code of Australia (BCA). The primary compliance issues are stairs, handrails and balustrades in addition to issues of access and mobility for people with disabilities and the provision of appropriate amenities.

The existing buildings and structures on the site are being upgraded and refurbished as they are progressively occupied. In addition, BCA compliance reports are undertaken to facilitate public access for specific events such as the short term use of the Gymnasium and the three day Sanctuary Conference in 2002 (Building 1) and filming of the Biggest Loser in the Parade Ground Precinct (2009-2011) (Buildings 1 and 17). BCA reports have also been undertaken for the Sergeants' Mess, Officers' Mess and Roden Cutler Buildings. HACCP reports have been completed for food handling facilities within the Officers' Mess, Other Ranks' Mess and the Sergeants' Mess.

The BCA and HACCAP compliance reports recommend minor works to be carried out to those buildings listed above such as modifications to the doors, stairs and repair works to the floors, walls and ceilings.

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.

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 paint poses a risk that requires management.

Identification of more specific building compliance issues are carried out as individual building uses are determined. The heritage values of the site will need consideration in the development of appropriate solutions.

Transport Management

The Trust commissioned PBA International and Woolacott Hale Corlett & Jumikis Consulting Engineers Pty Ltd, to prepare a Transport Management Plan (TMP) and Traffic Management Report (TMR), respectively for the School of Artillery at North Head Sanctuary.

The TMP and previous traffic studies have consistently recognised that the cumulative impact of future developments at North Head are a major issue in maintaining the environmental capacity of Darley Road and commercial area of Manly.

The TMP, which was developed in consultation with AIPM, NPWS, the lessees of the Q Station and Manly Council, identifies measures to minimise reliance on access by private motor vehicles and to maximise access by public transport, walking and cycling. The TMP also considers the cumulative impacts of the development of Trust lands and neighbouring sites such as the Q Station, AIPM and the Sewerage Treatment Plant. The TMP then goes on to recommend specific solutions (including works within and outside the site) to manage traffic associated with use of the Sanctuary.

Measures recommended in the TMP to minimise traffic generated by the North Head Sanctuary:

- Ensuring that the proposed uses of the multiple buildings on the site are relatively low car trip generators, especially at peak times;
- Managing traffic generation and mode choice to ensure that any car trips to the site match the limited capacity of the site to accommodate parked cars;

- Promotion of the area as a Sanctuary, with transport related facilities like parking and roads consolidated and used in a way that supports, not compromises, such a function;
- The provision of safe and convenient access routes onto and through the site for those people / vehicles with a legitimate reason to be there; and
- Work with others to manage the cumulative impacts of the adjoining uses of the site.

Together, the package of measures aims to reduce car-dependency and encourage access to and within the site by more sustainable modes of transport.

Traffic, Parking and Access

The TMP recognises that traffic management and accessibility by motor vehicle are issues that are particularly important in the North Head area.

In order to reduce the environmental and amenity impacts of increased traffic generation, one of the Trust's overall transport management objectives is to minimise travel demand by private car. This includes limiting car use through the setting of maximum number of parking spaces on Trust sites that are consistent with their traditional operational levels.

Under Defence occupation, the car parking was spread across the site in small groups, serving specific buildings and areas. There was no concentrated car park that served the whole precinct. In total there was space for over 500 vehicles to be parked on the site utilising existing parking spaces, hardstand areas around buildings and disturbed bushland areas.

The TMP identifies the future parking needs of the site, for everyday use as approximately 205 spaces, with additional areas being identified to accommodate extra cars and/or buses for special events. This figure is based on a relatively high percentage of public transport, walking and cycling modal split targets for the education and tourism related uses and more modest targets for these modes for employees generating uses. This figure takes into account the possibility of sharing spaces between different uses as the periods of peak demand of proposed uses would not generally coincide (ie. use of buildings for functions and restaurants at a different time to peak usage of 'Sanctuary' related facilities). This figure also assumes that there is a possibility of working with neighbouring organisations to reduce private car travel to the site such as coordinated shuttle bus arrangements and improved walking and cycling facilities.

Vehicular access to the North Head Sanctuary is currently available via Artillery Drive, North Head Scenic Drive, Bluefish Drive, and North Fort Road. Pedestrian access across the North Head Sanctuary is currently impeded by barriers associated with historical landownership. An expanded network of publicly accessible pathways will enable visitors to explore of the Sanctuary and the adjoining Sydney Harbour National Park.

The Trust is committed to a program of regular monitoring of traffic movements and demand for vehicular parking to ascertain whether additional parking is required to meet the needs of lessees and visitors. The monitoring will also address whether the recommendations of the TMP have been successful in managing traffic movements across the site. Depending on the outcome of this monitoring, this could involve the introduction of timed or pay parking within the North Head Sanctuary and upgrades to some of the intersections with North Head Scenic Drive and Bluefish Drive.

As stated previously, traffic movements on Darley Road are close to 500 vehicles per hour in the AM peak – its environmental capacity. The TMP considers the likely future traffic generation numbers of all new uses proposed on the headland, and estimates what proportion of this additional traffic could be potentially generated by the use of the North Head Sanctuary, and how much of this will be added to Darley Road to further threaten environmental capacity of the road. The TMP estimates that with regard to traffic generation to and from the North Head Sanctuary, the proposed uses would be expected to generate 105 car vehicle trips to the site on an average weekday. It is anticipated that given the nature of proposed use on the site that a relatively low 20-30% of visitation would occur within the peak period.

The anticipated impact of this traffic is relatively low, compared to historic levels of Defence occupation of the site. To ensure that the impact on environmental capacity remains low, the following measures are recommended and require a coordinated approach between all land managers at North Head and Council:

- Improved pedestrian and cycle access;
- Improved public bus and bus stop access;
- Shuttle bus service for groups;
- Traffic calming along Darley Road; and
- Regular monitoring of traffic movements in North Head.

Heritage Values

The following statements of significance are derived from:

- Conservation Management Plans for the North Head Former School of Artillery, prepared by Dawbin Architects Pty Ltd in 2008;
- Conservation Management Plan for North Fort North Head prepared by Robertson & Hindmarsh Pty Ltd in 2010; and
- Archaeological Management Plan for the Third Quarantine Station Cemetery prepared by Banksia Heritage + Archaeology in 2006.

The areas covered by these plans are shown in **Figure 16**. The “Parade Ground Precinct” is located within Dawbin’s “Core Area” while “The Sheds Precinct” is located within Dawbin’s “Outer Area”.

Summary Statement of Significance for the former School of Artillery

The North Head Barracks, also known as the North Fort Barracks, were constructed in 1935. Through a series of reorganisations after the war, a single School of Artillery was concentrated at North Head becoming the Army School of Artillery between 1946 and 1998. The School was headquartered in the North Head Barracks.

The North Head Artillery Barracks were listed on the Australian Heritage List on 2004.

The School of Artillery is unique in Australia as a large cohesively ordered military complex in Art Deco style. It forms an intact example of an Artillery School establishment from the Interwar period that is architecturally and stylistically unusual. The site planning, distinctive architectural style of the buildings and the spectacular topographical setting contributes to the aesthetic and landmark quality of the site. It was an important component of the historical development of North Head. As a whole it has a high level of historical, aesthetic, social and technological/scientific significance.

The site is strongly associated with the development of the first unified School of Artillery, a major post-war training facility for the Australian Army (1945 to 1998); with the history of Artillery and Gunnery schools from the Colonial period to World War II; and for its association with the Coastal Defence of NSW from 1939 to 1945 because of its role as the First Heavy Brigade Headquarters. The First Heavy Brigade established and ran the Sydney Fire Command, a chain of defensive coastal fortifications established to protect the port of Sydney. Structures associated with North Fort located within the School of Artillery campus include the Plotting Room, the Battery Observation Post and shelters (Buildings 211 and 212), and the complex of training and support facilities. (CHL Criteria A & D).

The outer areas include support facilities for both the School of Artillery and North Fort. Some of the structures have a mundane utilitarian purpose; nevertheless in many cases they were essential to the site for operational defence during wartime and subsequently as training and support facilities. While there are few buildings of noteworthy architectural design quality or Art Deco features that characterise the core buildings of the School, structures in the outer areas contribute to, and in some cases are essential to the outstanding level of significance of the site as a total entity.

The outer areas include some of the most intact and historic structures integral to the defence of Sydney during World War II and also artillery training during the Korean and Vietnam conflicts. This area included the major operational components of the School of Artillery and provided essential training facilities, fundamental to the programs of the School until its relocation from North Head to Puckapunyal in 1998.

The North Head Barracks were constructed simultaneously with the North Head fortifications and are evidence of the occupation of the fort by military personnel, with clearly defined rank and roles within the functioning of the fort. Separate residences were provided for the Commanding officer and Second in Command and separate married quarters were provided for NCO's. The ranking of the occupants is evident in the relative standard of the residences. (CHL Criterion G).

North Fort and the School of Artillery were important to the many Defence personnel who were trained or stationed at North Head, and to military historians, in particular the Royal Australian Artillery Historical Company. (CHL Criterion G).

It is a rare example of a permanent military Barracks establishment of the immediate pre-World War II period, as evidenced by the unified planning, and in the fabric of the whole place including buildings, terraces, parade grounds, landscaping and symmetrical layout. The School of Artillery is a rare example of a functional Barracks still associated with a fortifications site. (CHL Criteria B & E).

The training facilities are evidence of training in new military technologies including Radar, range-finding, and miniature ranges for target training of different armaments. The shift in emphasis from coastal artillery and heavy guns during the war to a wide range of artillery activities after the war, including gunnery, air defence, locating artillery, and general systems such as lasers, thermal imagers and ground surveillance, anti-aircraft defence up to the advent of the Hamel guns in the 1980s, is evident in the remnant structures in the outer areas of the site. (CHL Criterion A).

The plotting room, radio room, battery observation posts and shelters are rare examples of intact support buildings for the Sydney Fire Command. The plotting room is a unique and intact example in NSW of a Fortress Plotting Room and Battery Plotting Room.

The battery observation posts and supporting shelters are a rare combination of the range-finding facilities associated with a coastal defence fortress of the World War II era. (NHL Criterion B).

The design and planning of the site clearly continue the Colonial Barracks concept established at Victoria Barracks in 1842, and which in turn reflected British design precedent. The functional, hierarchical layout illustrates the continuity of Defence's cultural and social organisation evident in all Commonwealth defence establishments. It has direct connections with the Middle Head and Watsons Bay military sites, linked by their shared Artillery and Gunnery school histories. (CHL Criteria D).

The planning and formal nature of the School of Artillery and the use of Art-Deco and Georgian Revival forms are important in illustrating the principal characteristics of Defence culture and social structure during the Inter-War years in addition to the prevailing use of contemporary architectural style and idiom by Commonwealth

architects. It has close connections with other sites of similar provenance such as Kingston Barracks WA, HMAS Penguin Balmoral NSW, HMAS Creswell at Jervis Bay, and Fairbairn Base at Canberra. (CHL Criteria D) The Art-Deco style is now widely recognised in the Australian Community as making a significant contribution to architectural expression in the 1920s and 1930s. (CHL Criterion E).

The aesthetic quality of the outer areas arises from their natural attributes, topography and unique location rather than the architectural quality of buildings and structures which are in the main, utilitarian in function and of prosaic aesthetic character. The elevated site of the outer areas is set against a backdrop of spectacular coastline to the east, distant views of the city and harbour to the south and west, and the northern beaches coastline. (NHL Criterion E).

The North Head School of Artillery is a site of outstanding cultural heritage significance, unique in Australia as the largest and most intact barracks and training complex. The core group of buildings arranged around the parade ground comprise the most complete and representative example of a group of interwar Art Deco military structures in Australia.

Summary Statement of Significance for North Fort

North Fort is the most intact of the 9.2 inch coastal batteries in NSW. It is significant as an important element in the former military reserve and defence lands at North Head. It retains the perimeter walling, gun battery, most of the functional support buildings and remnants of the communications network and drainage system directly associated with the pre-World War II North Head Fort which was the last stage of development of the artillery-based coastal-defence of Sydney Harbour. (CHL Criterion B).

It is significant in the post-World War II period as a training ground for field locating and anti-aircraft artillery and also demonstrates the long association of the site with the training of defence personnel and the long-time use of the site for military purposes which has had the effect of preventing major urban development of the headland and its preservation as part of the landscaped nature of the major headlands of Sydney Harbour. (CHL Criteria A & D).

North Fort also contains significant remnants of the scenic drive which was constructed as a recreational drive through the Parkhill Reserve from Manly to North Head and which was also dedicated as a memorial drive to commemorate the fallen of World War I in 1933 (now known as the Avenue of Honour). The work to construct the road and the stone wall separating the Parkhill Reserve from the Quarantine Station was one of the largest unemployment relief schemes by a single council during the Great Depression. (NHL Criterion D).

North Fort is significant for being a major part of the greater North Head landform which is a tied island of tilted sandstone, topped by deep windblown sand dunes and which has a hydrology system resulting in "hanging swamps" and unique sand dune, coastal heath and "hanging swamp" vegetation including the large area of endangered Eastern Suburbs Banksia Scrub. (NHL Criterion E).

North Fort is associated with the activities of Sir Robert Archdale Parkhill in securing a large section of the Quarantine Reserve for recreational purposes and his later role as the Commonwealth Minister for Defence (1934-1937). (CHL Criteria E & G).

Statement of Significance for the Third Quarantine Station Cemetery and Stone Walls

North Head, comprising approximately 277 hectares of land at Manly including the North Head Sanctuary, was listed on the National Heritage List in May 2006. The listing recognises the importance of the North Head Quarantine Station in the establishment of the colony of NSW, and the evolution and development of quarantine practices in Australia. The listing includes roads, tracks, boundary markers, cemeteries, sandstone walls, carvings and engravings, which are a record of the station's history and the diverse cultural and social backgrounds of quarantined passengers and the role of North Head as an iconic landmark.

The Third Quarantine Cemetery and part of the stone wall are located within the North Head Sanctuary, to the west of the North Fort Precinct. The remainder of the Quarantine Station is managed by NPWS.

The Third Quarantine Station cemetery is nationally significant (NHL Criterion A). Standing inside it gives you an insight into how quarantine worked at Sydney – you can see the sea and the harbour, and the deaths of those who had made the long voyage to only fall within sight of their destination. Although it is covered in scrub enough of the 241 monuments remain visible to give a sense of the people who were subjected to quarantine – residents of Sydney, immigrants and travellers and ships' crews. All are represented here.

The Cemetery was an integral part of the process of quarantine and a reminder that it was Australia's protection against deadly epidemic disease (NHL Criteria C & D). The inscriptions and burial records are a list of the epidemics that Sydney faced in the late 19th and early 20th centuries. Each of the burials tells part of the story of Australia's history of quarantine and domestic infectious disease control. Better quarantine was one of the positive reasons that encouraged support for the federation movement, and this is reflected in this cemetery which spans the period before and after 1901.

While most quarantine stations around Australia would have had a cemetery, the one at North Head is probably the most intact and largest of any of them, and the best preserved of the three at Sydney. It is rare in being so intact, despite some loss of grave markers (NHL Criterion B). As a cemetery it is important in reflecting contemporary tastes in funerary monuments, but apart from the timber grave markers and Chinese headstones these are common and typical of their time. More important are the gaps between the headstones, where further bodies lay buried – about two-thirds can be identified.

The setting directly reflects the cemetery's maritime quarantine origins and the isolated bush location reinforces the feeling of segregation that would have been felt by the Quarantine Station internees. (NHL Criterion E).

Boundary walls were constructed at North Head as part of the security associated with the Quarantine Station. The stone walling separating North Head from Manly was commenced in the nineteenth-century when a wall was constructed to separate the Episcopal Palace from the extensive Quarantine Reserve. The land had been formally granted to the church in the 1860s however construction of the palace and seminary did not start until the late 1870s. (NHL Criteria A & D).

The work to construct the road and the stone wall separating the Parkhill Reserve from the Quarantine Station was one of the largest unemployment relief schemes by a single NSW council in the Great Depression. The walls are also associated with the activities of Sir Robert Archdale Parkhill in securing a large section of the Quarantine Reserve for recreational purposes and his later role as the Commonwealth Minister for Defence (1934-1937). (CHL A, B, G & H).

National and Commonwealth Heritage Values

When listing a place on the Commonwealth and National Heritage List, the Australian Heritage Council makes an assessment of the place and advises of the values that the place holds. Places on the National list have demonstrated outstanding heritage values against one or more of the criteria; places on the Commonwealth Heritage List are places managed by the Commonwealth and have been found to have significant heritage values against one or more criteria.

The following table shows how the attributes of the place – either tangibly in the physical fabric or intangibly in the associations and uses – make up the National and Commonwealth Heritage listed values of the North Head Sanctuary. The text is taken from the citations published by the Department of Environment, Water, Heritage and the Arts at the time of their respective listing.

The National Heritage Listing relates to 277 hectares of land at North Head (including the North Head Sanctuary), but is primarily related to the Quarantine Station and the “Heads” as the entrance to Sydney Harbour. The Commonwealth Heritage Listing includes the North Head Artillery Barracks (also known as the former School of Artillery).

National Heritage Listed Values	Commonwealth Heritage Listed Values
<p>Criterion A: Events, Processes</p> <p>North Head is important as the northern expression of the seaward entrance to Sydney Harbour (Port Jackson) and played a major role in the cultural and military life of the colony of New South Wales, following the arrival of the First Fleet in 1788. The ‘Heads’, have signified arrival and departure at Port Jackson since 1788 and are recognised as important, iconic, national landmarks.</p> <p>North Head has a rich and diverse character which stems from the layering and aggregation of uses that overlay the relict and evolving cultural landscape of the Quarantine Station. The assemblage includes a navigation obelisk</p>	<p>Criterion A: Events, Processes</p> <p>The North Head Artillery Barracks erected from 1935, also known as the School of Artillery, are individually significant within the area of North Head. The site is associated with three phases in the occupation of North Head: the Quarantine Station 1833-1930; for public recreation 1930-1934; and for defence purposes from 1934 to 1998. The stone walls defining sections of the boundary are associated with recreational use of North Head from 1929. North Fort is closely associated with the development of the Barracks from 1935.</p> <p>The Artillery Barracks are important in illustrating the implementation of Defence</p>

<p>and roads, tracks, boundary markers, cemeteries, carvings and engravings, which are a record of the station's history and the diverse cultural and social backgrounds of quarantined passengers, including class and ethnicity. Standing structures and sites (located at the North Head Sanctuary) include the 3rd Quarantine Station Cemetery and the Ashlar sandstone boundary walls.</p>	<p>policy in the inter-war years before the onset of the World War II in 1939. The functional zoning and planning illustrate the continuity of Defence's cultural and social organisation reflected in Commonwealth defence complexes such as the Royal Australian Naval College, 1913-1915, at Jervis Bay. The use of a fashionable architectural style and permanent construction illustrate the influence of the prevailing Art-Deco style on Commonwealth architects and the Commonwealth's intention to provide modern, permanent buildings in the defence of Australia. This pattern is seen in other major defence projects of the late 1930s and early 1940s. The permanent nature of the complex and the quality of its planning and architectural design confirm its importance as the Headquarters of Coastal Defence until 1940, and as barracks of the modern era in the context of urban Sydney. The design and planning clearly continue the Colonial barracks concept established at Victoria Barracks in 1842, and which in turn reflected British design precedent.</p> <p>The Artillery Barracks is important for its association with Coastal Defence of NSW from 1939 to 1945 as part of the Sydney Fire Command and for its use as the School of Artillery between 1946 and 1998.</p> <p>Attributes: The inter-war period functional zoning and planning, permanent construction and Art-Deco style.</p>
<p>Criterion: B Rarity</p> <p>n/a</p>	<p>Criterion: B Rarity</p> <p>The Artillery Barracks are important as a rare example of a permanent military Barracks establishment of the immediate pre-World War II period.</p> <p>Attributes: Unified planning, evident in the fabric of the whole place including buildings, terraces, parade grounds, landscaping and symmetrical layout.</p>
<p>Criterion: C Research</p> <p>An estimated 47 potential archaeological sites within the North Head Quarantine Station, and in other areas of North Head, have the potential to add to our understanding of the development and operation of nineteenth century quarantine practices and procedures from the 1830s-1870s, a formative period for quarantine practices in the Australian colonies,</p>	<p>Criterion: C Research</p> <p>n/a</p>

to be better understood and interpreted in the context of the archival record and the surviving, functionally-related, buildings, planning and layout of the Station.	
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Criterion: D Principal characteristics of a class of place	Criterion: D Principal characteristics of a class of places
The cultural landscape includes cemeteries, monuments, fences, walls, boundary markers and cairns as well as tracks, paths and roads which document the development and meaning of the Station and reinforce the sense of segregation and isolation. Fences and stone walls characteristically formed an integral part of the security and boundaries of the Station.	<p>The planning and formal nature of the Artillery Barracks, and the use of Art Deco and Georgian Revival forms, are important in illustrating the principal characteristic of Defence culture and social structure during the Inter-War years in addition to the prevailing use of contemporary architectural style and idiom by Commonwealth architects.</p> <p>Attributes: The planning and formal nature of the Artillery Barracks, and the use of Art Deco and Georgian Revival forms.</p>
Criterion: E Aesthetic characteristics	Criterion: E Aesthetic characteristics
North Head has been important for its symbolic image since 1788 as the entrance to Port Jackson, and was portrayed by artists such as Augustus Earle as early as 1825. In 1812 the 'Heads' were referred to as the 'Port Jackson Heads', later as the 'Sydney Heads'. The Sydney Heads have iconic status for aesthetic values as landmarks in their own right, but equally as part of the setting for Sydney and its harbour.	<p>The Artillery Barracks are important in illustrating the restrained, relatively rare use of the Inter-War Art-Deco style in the years leading up to the World War II in 1939. The Art Deco style is now widely recognised in the Australian community as making a significant contribution to architectural expression in the 1920s and 1930s.</p> <p>Attributes: All fabric and design that demonstrates Art Deco styling.</p>
Criterion: G Social Value	Criterion: G Social Value
n/a	<p>The Artillery Barracks is important to the many Defence personnel who were trained or stationed at the complex in its sixty years of operation for Defence purposes, and to military historians in particular the Royal Australian Artillery Historical Company.</p> <p>Attribute: The relatively unaltered nature of the Barracks</p>

Condition of Values

The cultural significance and statutory heritage values of North Head Sanctuary are embodied in the fabric of the place, its setting, records, related places and objects. Intangible aspects of the precinct's heritage – previous uses, associations and meanings – also find expression in the site's physical attributes. For example, the remaining Art-Deco buildings in the former School of Artillery and infrastructure from the North Fort

Battery help to tell the story of the military defence of Australia's largest population and industrial centre during the threat of invasion in World War II.

The historical associations of the site's original role as the North Head Barracks and overlapping associations with North Fort throughout its history add a layering of important but intangible quality to the cultural significance of the site. Remaining structures provide clear physical evidence of the nature of the development of the site. The discussion of the condition of values therefore focuses on the physical attributes to which the values are inextricably linked.

Natural Values

North Head retains significant natural values with bushland containing a rich diversity of flora and fauna surrounding clusters of buildings. Although relatively intact, the bushland has significantly changed from pre-European times due to impacts of altered fire regimes, sporadic clearing of vegetation, weed and feral animal incursion and altered drainage patterns.



The unique setting, topography and location of the North Head Sanctuary are enhanced by views and vistas that are fundamental to its significance. The natural scenic values of North Head as viewed from Sydney Harbour have been preserved over the years with the various institutional and recreational uses of the headland helping to minimise development. These natural and scenic values will continue to be protected through minimal site disturbance for new infrastructure and buildings, on-going programs of bush regeneration and other environmental improvements.

The Parade Ground Precinct

The entire original North Fort Barracks represents the largest, most intact and stylistically cohesive military site of its kind in Australia. Its cross axial layout with principal buildings addressing the intact central parade ground represents one of the best examples of this 18th century British barracks form to survive in Australia.

The central campus is largely intact, reflecting the 1936 site plan showing the Government's original intentions. An important feature of the central campus is the series of descending terraces from the playing field in the east to the Officers' Mess tennis court in the west. The campus is characterised by its clear site plan that emphasises the parade ground at its centre surrounded by the principal buildings of the School. Vegetation also continues to play a part in emphasising the importance of the main spaces by partly defining and enclosing them. Elsewhere, and particularly around the front entry precinct, generous tree plantations assist in softening the otherwise harsh

built environment of the campus. Some components of the landscape have changed over time however missing elements such as the line of trees along the western edge of the playing field could be replaced.



Generally, the core buildings have retained their original configuration. Despite internal upgrades and alterations since original construction, the exterior configuration of the buildings and the interrelationships of the group of buildings remain essentially similar to the situation during the immediate post-war period. Although some buildings' interiors have been extensively modified (for example the Sergeants Mess and Other Ranks Mess and Accommodation building), other buildings (including the Guard House and Officers Mess) have retained much of their original finishes and internal detailing and retain a high level of intactness in most areas.

The physical condition of significant structures and building fabric within the core group of buildings is generally sound, however much of the exposed fabric is deteriorating through exposure to the weather and lack of recent maintenance. Some structural defects have been identified, for example, spalling concrete due to rusting reinforcement, rusted arch bars, localised brickwork cracking and damage to internal finishes caused by ingress of damp. The opportunity remains for conservation without major reconstruction. Sufficient evidence in the form of surviving fabric and early drawings is available to determine correct detailing and selection of finishes during the conservation process.

The Outer Area

The grounds of the North Head Sanctuary retain much of the earlier layout including strong axial geometries for the playing field and Commanding Officers' residential precincts. A continuation of the system of earthwork benches is a conspicuous feature of the core area. Many of the outer buildings appear to address roadways forming linear spines and in some cases early plantings associated with the buildings have survived. Layered over these components are later planting phases. The whole of the outer-core areas are surrounded or almost entirely overtaken by the recolonising locally indigenous coastal vegetation communities.

The poor condition of many of the structures is a consequence of their temporary and utilitarian nature as well as deterioration of fabric through exposure to the weather and lack of maintenance.

The level of intactness across the Sanctuary is variable. Some of the more transient sites such as the miniature range and anti-armour range retain only remnants of their original fabric and are now derelict. Substantial regrowth of the indigenous scrub vegetation has dramatically changed the visual character of the site over the past decades, particularly evident in much of the outer areas. Former open spaces that were until recently readily recognisable such as the NICOH artillery firing range; the obstacle course area and the playing fields perimeter are now characterised by dense coastal scrub. The 1943 aerial photography graphically demonstrates the extent of encroachment of coastal scrub in the vicinity of North Fort Road and outlying areas of the School.



In the Sheds Precinct, the plotting room, which has been unused since 1945, has been totally neglected and the interior is progressively deteriorating. Much of the original fabric remains however it is in poor condition. An important site such as the plotting room has potential for conservation and the retention of much of its original fabric is feasible, whereas many other structures including derelict fibro clad sheds and steel clad buildings will lose a high degree of integrity of original fabric when decaying and hazardous materials are removed. The more robust elements such as Battery Observation Posts and Shelters retain their essential concrete and steelwork, however their intactness is being undermined by exposure to the salt atmosphere and steel corrosion.

The central and connecting link for the non-core areas is North Fort Road which accesses the major structures and compounds serving the military history of the site, including the stores and workshops of the Regimental Training Wing, the Armco building, Radar sheds and Artillery Ranges. Many of the structures formerly accessed from North Fort Road have been demolished. Derelict structures and building relics remain visible among the steadily encroaching scrub. Former driveways and pathways



provide periodic vistas, and stone kerbs and drains and fragments of paving are evidence of many buildings that existed in the past. An exception is the site of the timber framed barracks complex for personnel of North Fort, constructed during World War II to the north west of the Gate to North Fort. The scrub has totally consumed this area and no structures remain visible above ground, however archaeological evidence may remain.

Stone Walls

Most of the Stone Walls at North Head Sanctuary were constructed in the early 1930s in different stages, however materials and techniques used were similar. Sandstone quarried at the northern end of the Parkhill Reserve was roughly worked into blocks to construct the walls; tool marks are evident but not consistent along its length. Some attempt has been made at coursing however the land slopes so its effectiveness varies. In addition, shards of glass have been embedded a layer of

cement that forms a coping.

Numerous gates into the wall were created, with three continuing to function (the North, West and Main (or South) into North Fort); the North Head Gate has been blocked. The Main Gate (South Gate) has rockface ashlar blockwork. The West Gate has rendered piers while the North Gate has ashlar sandstone piers. The North Head Gate has rendered piers, possibly indicating it was cut through after the completion of the wall (possibly in 1939 to give access to the searchlights). The opening has been blocked up since 1991 with sandstone blocks.

The condition of the wall varies along its length. The coping has deteriorated in section, resulting in a loss of the glass shards. Cement mortar has been added which is deteriorating and is hastening the deterioration of the surrounding stone. Poor drainage is also contributing to the deterioration of the wall.



Third Quarantine Cemetery

The Third Quarantine Station Cemetery was established in the early 1880s in response to the 1881-82 smallpox epidemic in an area that was originally Eastern Suburbs Banksia Scrub. It is one of the only remaining intact cemeteries that reflects the practices of maritime quarantine and the need to isolate members of Sydney's population during times of epidemic disease. The cemetery was also directly related to the social and political impact of the 1881-82 smallpox, 1890 bubonic plague and 1918-19 influenza epidemics that swept through Sydney.

The Cemetery appears to have been irregularly but deliberately thinned of vegetation, possibly to reduce fire risk, and possibly in respect for the deceased. Exotic weeds and deliberate plantings within the boundaries of the cemetery and have encroached into the Scrub. Many of the grave markers and headstones have degraded over time and are difficult to interpret. Vegetation is also undermining and obscuring some of the graves. The Cemetery's chainwire boundary fence is in poor condition and has no heritage value. It detracts from the maritime setting of the Cemetery.

North Fort

North Fort is the most intact of the coastal batteries in NSW. The site retains the perimeter walling, gun battery, most of the functional support buildings and remnants of the communications network and drainage system directly associated with the pre-World War II North Head Fort. The North Fort site also contains significant remnants of the scenic drive. The publicly accessible areas of the 9.2 inch Battery are in good condition.



The original Fort buildings are generally in good physical condition because of continuing maintenance however many have suffered from incremental alteration (such as new internal walls, new aluminium windows, plasterboard ceilings, painted face bricks, refurbished kitchens and bathrooms etc) without an overall strategy. In many cases, this has detracted from the original design of the buildings. Demolition of internal walls also makes the reading of the original layout more difficult. Some bricks are eroding through effects of a salt laden atmosphere. Newer buildings and sheds are in

good physical condition due to maintenance, however they are considered to be visually intrusive in the setting of North Fort.

Defence Housing

The Defence Housing within the North Head Sanctuary provides examples of accommodation provided to military personnel associated with the North Fort Battery and later the School of Artillery. The residences along North Head Scenic Drive, Artillery Drive and in St Barbaras Avenue have continued to be used for residential purposes since they were built. The continual occupation of the residences has ensured the buildings are kept in good condition and the area retains a quiet suburban feel.



The Trust's Heritage inventory will provide a description of the physical condition of the site, including the buildings and site features.

Management Requirements and Goals

The Trust's goal is to achieve the aims of this Plan, working within the current planning framework and without diluting the essential elements that make the site different and appealing. This will require ensuring the objects of the Trust Act and Trust's operational needs are met, whilst balancing the competing interests of the site and the requirements of the EPBC Act.

Risks to achieving the Trust's goals could come from a range of potential actions. For example:

- The interconnectedness of so many of the elements that make North Head such a complex and special place. This reinforces the need for a wholistic approach to planning the headland.
- A balance must be achieved in the conservation and upgrading of the site and building fabric to retain as much evidence as possible of its former functions. Wear

and tear of the fabric should remain visible, provided that safety and operational standards are not compromised.

- The need for conservation, interpretation and risk management of buildings and their settings in the bushland areas may require the removal of vegetation which is part of the significant natural values of the site.
- Upgrading buildings and improving public access to meet safety and operational standards may alter the character of buildings.

Competing priorities of the natural and cultural values of North Head:

- Providing public access to the site for interpretive purposes versus the need for public safety, security and economic pressures.
- Retaining and expanding the ESBS communities versus maintaining clear sight lines and vistas associated with the military use of North Head.
- Managing bushfire risk versus protecting of historical buildings and structures, particularly those that have been designed to be camouflaged and are therefore surrounded by bushland.
- Upgrading the current infrastructure and service levels on the site versus protecting historic buildings and archaeological resources
- Interpreting elements of the Defence history (such as lines of sight over the horizon) versus protecting the significant vegetation and habitats on the site.

The inherent risk in achieving these varied goals is the heritage values of the site may be diminished. The cycle of opportunistic re-use and redevelopment means that these pressures to the heritage values will be an ongoing management concern. Consideration has been given to these risks when developing the conservation policies for the site.

Conservation Policies

The following policies have been prepared as required by EPBC Regulations, 10.01C, Schedule 5A(h)(i-xii) and 10.03B, Schedule 7A(h)(i-xii). These policies seek to protect and conserve the statutory National and Commonwealth heritage values. The policies also aim to provide management guidance and these are reflected in the proposed outcomes in the Plan. The policies have been primarily derived from the CMPs. The table presents policies applicable to the entire site and more specific policies to protect the values of North Head's natural and cultural history. Extracts from the National and Commonwealth values have been included throughout the table to emphasise the link between the values and the policies.

General Policies		
	Policies	Supporting Policies
Policy 1	The National and Commonwealth Heritage values of the North Head Sanctuary are the basis for conserving and managing the fabric of the place.	<ul style="list-style-type: none"> a. Consider the impact of any action on the National and Commonwealth Heritage values of the place. b. Use the Significant Impact Guidelines 1.1 and 1.2, Department of Environment and Heritage, May 2006 to assist in reaching a decision about the level of impact. c. Consult the Department for informal advice to assist reaching a decision on whether to make a referral in accordance with the EPBC Act.
Policy 2	Carry out the future conservation and adaptation of the fabric of the place in accordance with the principles of the Australia ICOMOS Charter for Places of Cultural Significance (the Burra Charter), and any revisions of the Charter that might occur in the future.	<ul style="list-style-type: none"> a. Ensure the Burra Charter is observed in all future works carried out on the site.
Policy 3	Ensure an integrated approach, and an ongoing commitment to long term conservation of the site.	<ul style="list-style-type: none"> a. Trust works, leasing, events and communications to tenants, visitors and other landowners ensure that National and Commonwealth heritage values are protected and conserved.
Policy 4	The National and Commonwealth Listing of North Head be expanded to recognise the integrated military, cultural, Aboriginal and quarantine values of the entire headland.	<ul style="list-style-type: none"> a. Propose that the National Heritage Listing of North Head be modified to recognise the Aboriginal significance of North Head, the significance of North Head in early navigation and mapping, its significance as an early recreational and military site and ESBS community. b. Propose that the North Fort site and the Sanctuary's natural values be nominated for the Commonwealth Heritage List as an integral part of the Coastal Artillery complex.
Works to buildings and selection of uses		
Policy 5	When considering proposals for change, analyse potential impacts on the tangible and intangible heritage values of the site. Wherever proposals are likely to impact on heritage values, a Heritage Impact Statement will be prepared, and	<ul style="list-style-type: none"> a. CMPs are listed in the Related Studies section of the Plan. These documents can be accessed at the Trust Resource Centre. Extracts are also available online at www.harbourtrust.gov.au. Future CMPs will also be

	where required referred under the EPBC Act.	<p>made accessible in this way.</p> <ul style="list-style-type: none"> b. As it is not possible to anticipate all possible actions or their impacts, the CMPs will not always provide sufficient guidance, certainty or the confidence needed to implement an action. In these cases and where CMPs recommend it, further professional heritage advice is to be obtained. c. Any new information regarding the history of the site that becomes available during and after works shall be recorded in a report, a copy of which shall be held at the Archive of the site. d. Significant fabric (assessed as having exceptional, high or moderate significance) should be affected by intervention only in accordance with the relevant CMP. e. Fabric with a lower relative value should be disturbed in preference to fabric with a higher relative value. f. New fabric introduced in significant elements or spaces should be of a form, material and finish that respects the existing, but should be discernable on close inspection as new work, or via inscription in the fabric.
Policy 6	Uses of buildings or groupings of buildings are to provide a mutually supportive mix of activities that contribute to interpreting the site and its history and heritage values. Uses must also balance the need to provide public access with the need to protect and conserve the site's remarkable natural and cultural heritage and reflect the National and Commonwealth heritage values of the site.	<ul style="list-style-type: none"> a. The general principles that underlie the selection of uses within North Head are: <ul style="list-style-type: none"> i. Uses that complement the Sanctuary; ii. Uses that are sympathetic to the heritage values of the place; iii. Uses that facilitate public access; iv. Uses that best respond to the place and provide a positive contribution to the enjoyment and understanding of the place and its heritage; v. Uses that are compatible with the ESD policies of the Trust; vi. Uses that are compatible with the environmental, public access, transport, parking and amenity requirements such as noise and light spillage; and vii. Measures necessary to meet service infrastructure and Building Code of Australia requirements can be

		readily implemented in a cost effective manner befitting the heritage values of the building(s). Relevant environmental standards and requirements for commercial operations will need to be addressed as part of any lease arrangements.
Policy 7	Remove or modify works that are intrusive or adversely impact on significant areas, elements and fabric.	<ul style="list-style-type: none"> a. Ensure that removal: <ul style="list-style-type: none"> i. Aids in the interpretation and visibility of significant fabric; ii. Ensures the security or viability of the place; iii. Follows adequate recording and interpretation; iv. Follows a full assessment of alternative options which have determined that removal is the most prudent alternative; and v. Results in the removal of unsympathetic elements from the significant buildings.
Policy 8	Measures to upgrade buildings and structures to achieve BCA compliance and meet OHS standards should minimise the removal or adaptation of the existing significant fabric. New materials should not be intrusive.	<ul style="list-style-type: none"> a. All capital works and adaptive re-use proposals will be guided by the heritage significance and sensitivities associated with each building. b. Identify all potential risks for occupational health and safety, structural and fire safety and assess the relevant buildings in relation to the Building Code of Australia. c. New interventions, including repairs, should be sympathetic and clearly interpreted, by means of introduced interpretative devices or by method of style of construction, as new work. d. Regular maintenance should be undertaken on the subject buildings and elements.
Policy 9	Ensure that any new buildings, structures, facilities or changes are sympathetic to or enhance the heritage values of the place.	<ul style="list-style-type: none"> a. Where new buildings, structures and facilities are appropriate, their design must: <ul style="list-style-type: none"> i. Be sympathetic to the subject buildings and elements and should not intrude on their significance and interpretation. ii. Reinforce the significant quality of the context of the place. iii. Respect and retain the natural heritage of the place.

Policy 10	Adaptively re-use buildings to facilitate their conservation and public access and use of site	<ul style="list-style-type: none"> a. The principles for the selection of uses will be: <ul style="list-style-type: none"> i. Uses that support, or are complementary to, the use of North Head as a sanctuary; ii. Uses that are compatible with the heritage values of the place; iii. Uses that respond to the place and provide a positive contribution to the community's enjoyment and understanding of the place and its heritage; iv. Uses that address environmental, public access and amenity consideration (such as noise, odour from the STP and light impacts); v. Uses that enable management of transport demand; and vi. Uses that are consistent with the design outcomes and principles for North Head.
Policy 11	Inform prospective lessees about the site's heritage significance and of heritage and environmental sensitivities associated with buildings and surrounding spaces for lease.	<ul style="list-style-type: none"> a. Include conditions in leases to ensure the protection of significant buildings, fabric and the environment. b. Where appropriate, ensure tenants provide public access and tenant fit-out facilitates interpretation of the site.
Policy 12	Where there is conflict or uncertainty as to the appropriateness of particular actions for specific buildings or areas, conduct further detailed heritage investigation and produce a detailed Heritage Impact Statement.	<ul style="list-style-type: none"> a. Follow the process set out in the Trust's Heritage Strategy for the resolution of conflict arising from the assessment and management of heritage values. b. Where conflict arises between the retention and conservation of differing fabric layers and archaeological resources and operational or other statutory imperatives, they will be assessed on a case by case basis and steps taken to minimise damage to later relics and built heritage. The decision will require the balancing of the loss, in heritage terms, occasioned by the disturbance or destruction of later relics / buildings against the gains that retention of the earlier relics will achieve. This is to be carried out as part of a transparent and inclusive process. c. Record any decision reached following the conclusion of

		<p>the conflict resolution process and details of maintenance and works to buildings, structures and infrastructure in the Trust's Heritage Inventory.</p> <p>d. Refer to Department of Environment, Heritage, Water and the Arts for advice. Where actions have a significant impact on heritage values, they will be referred.</p>
Archaeological Policies		
Policy 13	Protect and conserve all potential archaeological remains on the site.	<p>a. Use archaeological sensitivity maps from CMPs as a guide when planning works on the site.</p> <p>b. Use existing service routes and previously disturbed areas where possible to minimise intervention or disturbance of archaeological remains.</p> <p>c. Brief all contractors working in archaeological sensitive areas on the Trust's adopted procedures.</p> <p>d. Instruct all contractors and lessees to cease work if any archaeological remains are encountered and seek professional archaeological advice before proceeding.</p> <p>e. If any archaeological relics associated with the former North Head Quarantine Station are unexpectedly discovered in the area around the Third Quarantine Cemetery, works will cease immediately. The Trust will arrange for an archaeologist to visit the site and determine the appropriate course of action.</p> <p>f. If Aboriginal materials are discovered, the Metropolitan Local Aboriginal Land Council is to be contacted. The remains are not to be removed or disturbed in any way. The Trust will arrange for an archaeologist to visit the site and determine the appropriate course of action.</p> <p>g. Conservation and other works should be supervised by a qualified conservation practitioner and any excavations within areas with a high archaeological potential, including the Third Quarantine Station Cemetery, are to be supervised by a qualified archaeologist.</p>
Policy 14	Establish a system for recording, collecting and curating archaeological remains.	<p>a. Establish an Archaeological Artefact Database and Record Plan. The Plan is to be developed in accordance</p>

		<p>with relevant NSW and Commonwealth archaeology management guidelines.</p> <p>b. Assemble, catalogue and safely house any archaeological finds that have been or are in the future uncovered on the site. These finds should be displayed and/or stored on the site where appropriate.</p> <p>c. Assemble, catalogue and make readily available for public inspection, copies of all known historical drawings, pictorial documents and written records relating to the site in a permanent archive of the site located with the Trust.</p>
	Protect and conserve any archaeological remains within the North Head Sanctuary.	<p>a. Undertake further research, including archaeological investigations to determine the nature and extent of the building and infrastructure remains that exist in the South-western bushland area of the site between North Fort Road and North Head Scenic Drive.</p> <p>b. Implement the recommendations of the Archaeological Management Plan prepared for the 3rd Quarantine Cemetery.</p>
Natural Environment		
Policy 15	Communities of Eastern Suburb Banksia Scrub are maintained or improved.	<p>a. Ensure all tenants and lessees are made aware of the presence of the endangered ESBS and the separate legislative requirements of endangered ecological communities.</p> <p>b. Recommendations of the <i>Eastern Suburbs Banksia Scrub Endangered Ecological Community Recovery Plan</i> (DECC, 2004) be followed in relation to ongoing management of the ESBS.</p> <p>c. ESBS should only be removed in order to keep accessways, drains and culverts clear, to maintain reasonable space around buildings, military structures and places to recover important vistas and maintain important spaces that were part of the original layout and to create protective asset protection zones.</p> <p>d. Investigate the possibility of controlled burns to enable</p>

		<p>the completion of the investigation into the Aboriginal occupation of North Head and recovery of the ESBS community.</p> <p>e. Investigate regeneration of ESBS in areas previously disturbed.</p>
Policy 16	Populations of the North Head Long-nosed Bandicoot (<i>Perameles nasuta</i>) are maintained or improved.	<p>a. Ensure all tenants and lessees are made aware of the presence of the endangered North Head Long-nosed Bandicoot and the separate legislative requirements of endangered ecological communities.</p> <p>b. Recommendations of the Draft Recovery Plan for the endangered North Head Long-nosed Bandicoot (<i>Perameles nasuta</i>) population are followed in relation to ongoing management of Bandicoot populations.</p> <p>c. In accordance with observations of the Australian Wildlife Conservancy, re-plant and mulch selected areas of open space in the North Head Sanctuary with vegetation of local provenance to improve Bandicoot recovery.</p>
Policy 17	Manage, conserve and enhance the natural environment.	<p>a. Remove dominant <i>Leptospermum laevigatum</i> (Coastal Tea-Tree) and invasive species where this will improve the integrity of the ESBS.</p> <p>b. Ensure any removal of vegetation does not lead to soil erosion, wind exposure, a loss of amenity or introduction of weed species.</p> <p>c. Reduce or improve the quality of runoff from North Head Sanctuary to the Sydney Harbour National Park by installing pollutant traps and upgrading services infrastructure.</p> <p>d. Remove vegetation from around the Battery, Battery Observation Post and the Command Post / Close Defence Battery Observation Post to reinstate WWII conditions of clear views along the coast. Vegetation should remain clear of 1930s brick buildings.</p> <p>e. Investigate the potential to harness stormwater and rainwater for irrigation and toilet-flushing purposes.</p>

Policy 18	Control the spread of <i>Phytophthora cinnamomi</i> at the precinct.	a. Ensure all tenants, lessees and visitors are aware of and adopt the Trust's PC management strategy.
Ecologically Sustainable Development		
Policy 19	Install infrastructure to minimise the use of potable water and energy from non renewable sources.	<ul style="list-style-type: none"> a. Install photovoltaic panels to contribute towards generating energy to meet the needs of the North Head Sanctuary. Excess energy generated will be transferred to the local grid. b. Capture and harvest rainwater and stormwater for reuse in irrigation and buildings. c. Install water and energy efficient fixtures and fittings in new and retrofitted buildings. d. Avoid any adverse effect on culturally significant fabric.
Indigenous Heritage		
Policy 20	Recognise that Indigenous people are the primary source of information on the value of their heritage, and that the active participation of Indigenous people in the identification, assessment and management is integral to the effective protection of Indigenous heritage values.	<ul style="list-style-type: none"> a. Incorporate Indigenous values of the site in interpretation. b. Consult with local Indigenous communities when considering impacts on Indigenous places and in accordance with the Aboriginal Heritage <i>Objectives and Policies</i> in Part 3 of the Trust's Comprehensive Plan. c. Train staff in Aboriginal cultural awareness and site identification. d. Undertake regular monitoring of known Aboriginal archaeological sites. e. Undertake archaeological surveys of the North Head Sanctuary following the next major bushfire event or controlled burn. Areas not recently surveyed are to be targeted. Incorporate survey findings in the AHIMS database. f. Continue to liaise with Indigenous groups regarding use of North Head. g. Consult the local Indigenous community by applying the principles of <i>Ask First, A guide to respecting Indigenous heritage places and values</i>.

Interpretation		
Policy 21	Communicate the totality of the site's history and the natural, cultural and social and significant values of the site to the public through continued development and implementation of an Interpretation Strategy for the North Head Sanctuary.	<ul style="list-style-type: none"> a. Link all the military sites at North Head Sanctuary and Sydney Harbour National Park by paths with complementary interpretive signage that demonstrates historical connections. b. Interpretation of the site should acknowledge all layers of its use, including Aboriginal use, a landmark denoting arrival at Port Jackson, Quarantine Station, Parkhill Reserve, military fort and national park. c. Research and interpret officers and organisations originally commemorated by the Avenue of Honour.
Research and Training		
Policy 22	Key staff and other stakeholders with responsibilities should have the appropriate knowledge and skills to manage the heritage values of the precinct	<ul style="list-style-type: none"> a. Develop training programs for staff and persons involved in undertaking works at North Head Sanctuary to ensure they are familiar with the heritage, natural and cultural values of the site.
Records of Intervention & Maintenance		
Policy 23	Record all works, undertakings and actions including repairs, interventions and maintenance to buildings and structures in the Trust's Heritage Register.	<ul style="list-style-type: none"> a. Enter details of maintenance and works to buildings, structures and infrastructure into the Trust's Heritage Inventory. b. An Archival Photographic Record should be made of affected sites prior to, during and after any major works are undertaken. c. Retain all records in the Trust's archives.
Remediation		
Policy 24	Minimise the impact of remediation on significant fabric.	<ul style="list-style-type: none"> a. Obtain specialist heritage advice to identify suitable measures to minimise heritage impacts, record works carried out and / or provide advice on repair / reinstatement works on completion. b. Retain, conserve, stabilise and contain contaminant materials (such as original significant asbestos) where they do not pose an environmental hazard.

		<ul style="list-style-type: none"> c. Replace frayed, damaged and deteriorating asbestos-based roof material and fabric with sympathetic materials. d. Intervention in significant fabric and / or introduction of new fabric may be permitted to ensure the continuing protection or safety of the item or where such intervention is demonstrated to be essential for operational requirements.
Access and Security		
Policy 25	Encourage public access to North Head Sanctuary.	<ul style="list-style-type: none"> a. Encourage and improve public transport, walking and cycling networks to North Head Sanctuary. b. Recognise and promote the North Head Sanctuary's relationship with other parts of the Headland through integrated management of cultural and natural heritage, transport and pathways. c. Maintain and interpret existing circulation patterns, roads and paths through the North Head Sanctuary. d. Create new pedestrian links between the Parade Ground Precinct and North Fort. Pedestrian links to connect with paths through the Sydney Harbour National Park where appropriate. e. New paths should be constructed to minimise disturbance and follow previously disturbed paths. New paths should be separated from roadways to maximise public safety. f. Use the access network to protect and interpret the heritage values of North Head Sanctuary. g. Create a new entry point open and welcoming to the North Head Sanctuary via the Main Gate to North Fort.
Policy 26	Improve public access through North Head Sanctuary	<ul style="list-style-type: none"> a. Reinstate pedestrian paths created during the military phase of the site to vantage points and the Avenue of Honour. b. Clear overgrown vegetation from the Avenue of Honour to improve pedestrian access.
Policy 27	Implement measures to help secure the site against vandalism	<ul style="list-style-type: none"> a. Maintain existing security presence around the North

	and other disturbances.	Head Sanctuary. b. Maintain patrols by Trust rangers during daylight hours. c. Notify NPWS of any interference with lockable gates. d. Ensure all military installations are secure when not open to the general public by SHFT guides.
Consultation		
Policy 28	Carry out ongoing community and stakeholder consultation.	a. Consultation will be in accordance with the Objectives and Policies in Part 3 of the Trust's Comprehensive Plan. b. Consult with communities and stakeholders when considering amendments to Management Plans, the Trust's Heritage Strategy and actions likely to have a significant impact on North Head. c. Ensure the contribution of volunteers from SHFT, North Fort Museum, NPWS, NHSF and AWC are recognised. d. Recognise ongoing commitment of partner organisations at the Sanctuary.
Monitoring and Review		
Policy 29	Continually monitor the Plan to assess its effectiveness in protecting and conserving the site's National and Commonwealth heritage values.	a. Ensure the Trust's Heritage Strategy is updated regularly in accordance with Section 341Z of the EPBC Act. b. Ensure the Trust's Heritage Inventory updated regularly in accordance with Section 341ZB of the EPBC Act. This includes monitoring of the condition of any conservation work undertaken, and any significant damage or threat heritage values.
Policy 30	Undertake a full review of the Plan in accordance with Section 324W and 341X of the EPBC Act.	a. A review of the Plan is to commence no later than 5 years after its adoption. b. Subsequent plans are to be reviewed, at a minimum, on a 5 yearly basis.

Landscape and Setting Policies

North Head is important as the northern expression of the seaward entrance to Sydney Harbour (Port Jackson) and has played a major role in the cultural and military life of the colony or New South Wales, following the arrival of the First Fleet in 1788. The "Heads" have signified arrival and departure at Port Jackson since 1788 and are recognised as important iconic, natural landmarks (NHL Criterion A).

The Sydney Heads have iconic status for aesthetic values as landmarks in their own right, but equally as part of the setting for Sydney and its harbour (NHL

Criterion E).		
Policy 31	Retain the scenic qualities of the site as part of a green headland.	<ul style="list-style-type: none"> a. Consider the impact of the proposed works on the appearance of the site when viewed from Port Jackson / Sydney Harbour. b. Ensure interpretation of the significance of locally indigenous vegetation as part of the walking track network. c. New paths should be constructed to minimise disturbance, follow previously disturbed paths. d. Consider the removal of cultural plantings that are invasive in bushland or that detract from the silhouette of North Head against the sky as viewed from numerous locations around the Harbour and out at sea.
Policy 32	Encourage views to Sydney Harbour from within North Head.	<ul style="list-style-type: none"> a. Remove intrusive structures that impede views to Sydney Harbour. b. New plantings and landscape elements should minimise impacts on significant view corridors.
Policy 33	Reinstate and reinforce the Avenue of Honour as to its original purpose of honouring the fallen troops from World War I and later military conflicts.	<ul style="list-style-type: none"> a. Liaise with NPWS to restore and interpret the Avenue of Honour. Any replanting is not to compromise the ESBS community at the North Head Sanctuary. b. Remove non-significant vegetation from the overgrown section of the Avenue of Honour (south of the Battery). c. Integrate the Avenue of Honour into the pedestrian access network. d. Provide pedestrian access to the surviving section of the Avenue of Honour from the North Gate.
Policy 34	Protect, conserve, maintain and interpret the existing stone walls on the site.	<ul style="list-style-type: none"> a. Undertake measures that promote the protection of stone walls by limiting access through the wall. Ensure existing penetrations are used where possible.

The Parade Ground Precinct		
<p>Centred around the 1936 parade ground, this precinct is individually significant within North Head. The site is associated with three phases in the occupation of North Head: the Quarantine Station 1833-1930; public recreation 1930-1934; and defence purposes 1934-1998. The stone walls defining sections of the boundary are associated with recreational use of North Head from 1929 and the adjacent quarantine station. (NHL Criterion A).</p> <p>The former North Head Fort Barracks are important as a rare example of a permanent military Barracks establishment from the immediate pre-WWII period (NHL Criterion B). The Barracks are important in illustrating the restrained, relatively rare use of the Inter-War Art Deco style in the years leading up to WWII in 1939. The Art Deco style is now widely recognised in the Australian community as making a significant contribution to architectural expression in the 1920s and 1930s. (CHL Criterion E).</p> <p>The planned and formal nature of the Barracks and the use of Art Deco and Georgian Revival forms are important in illustrating the principle characteristic of Defence culture and social structure during the Inter-War years in addition to the prevailing use of contemporary architectural style and idiom by the Commonwealth architect. (CHL Criterion D)</p>		
Policy 35	Retain the formal, axial and cohesive Art-Deco military character of the landscape elements of the core area.	<ul style="list-style-type: none"> a. The Parade Ground Precinct should be managed as a cultural landscape setting surrounded by native bushland. Control of weeds and invasive species is a priority. b. New plantings be restricted to low level landscaping that maintains the open nature of the site. c. Conserve the Parade Ground and surrounding landscape elements and pattern of roads with minimal intervention in the fabric. Ensure that the axial and hierarchical design intent is retained.
Policy 36	Protect, conserve, maintain and enhance the significant built elements, their settings and fabric. Alterations to significant fabric must provide a positive benefit for the long term conservation, access or interpretation of the place.	<ul style="list-style-type: none"> a. All existing elements should be retained and conserved except where the individual conservation policy determines otherwise. b. Significant fabric should be retained in situ and maintained, preserved and restored. c. Fabric considered to be of low significance may be removed if required for operational reasons, or alternatively may be restored if this will contribute to enhancing the significance of North Head.

		<ul style="list-style-type: none"> d. Intrusive fabric should be removed except where retention is required for operational reasons. e. Improve pedestrian access from the Gunner Road carpark to the Parade Ground Precinct and improve connections from bus stops to the Gatehouse.
Policy 37	Ensure the operation of the North Head Sanctuary is consistent with the National and Commonwealth Heritage values of the headland.	<ul style="list-style-type: none"> a. Accommodate services and amenities required for operation of the North Head Sanctuary within the existing buildings and disturbed areas ie car parking, workshops, storage, offices etc
Built Elements and Fabric		
Policy 38	Retain the Parade Ground and buildings that face it precinct in its formal, axial configuration.	<ul style="list-style-type: none"> a. Intervention to original fabric should be avoided except for essential services or provision of safety infrastructure for protection of occupants, visitors or accessibility. b. Encourage celebratory, ceremonial, civic or interpretation activities on the Parade Ground. c. Allow the Parade Ground to be used for activities such where moveable furniture or fixing are used (eg temporary tables and chairs or planter boxes). d. Conserve the Parade Ground orange gravel surface, avoiding the introduction of bitumen or grass. e. Any night time use will be subject to the requirements of the Bandicoot Recovery Plan.
Policy 39	All original landscaping should be retained to ensure the preservation viewlines along the axes of the original North Head Fort Barracks.	<ul style="list-style-type: none"> a. Retain the cohesive qualities and appearance of the formal landscape elements; b. Retain evidence of the recreational items (BBQ and tennis court) strongly associated with Building 44 (Officers' Mess) and facilitate adaptive re-use. c. Retain evidence of benching into the sand dune particularly the embankment behind Building 1 and the levels around the Parade Ground. d. Where invasive species are removed, replace with non-invasive alternatives that continue to reflect the

		institutional nature of the design.
Policy 40	<p>New buildings / structures will only be considered when adaptive reuse and modification of existing buildings is not feasible. Any new development proposed should be in a form that is sympathetic with the character and heritage values of the North Head Sanctuary.</p> <p>Note: Any proposal to demolish or remove buildings or structures, and any proposal to introduce new buildings or structures has the potential to trigger the need for a referral under the EPBC Act.</p>	<ul style="list-style-type: none"> a. A new structure north of the Officer's Mess (Building 44) would need to: <ul style="list-style-type: none"> i. occupy a footprint that was bound by the alignment of the Northern edge of the Parade Ground, the East and Western faces of Building 46, and that separated the Garage (Building 43) from a new building with significant landscape; ii. Reflect the style, forms, materials and details of the Art-Deco buildings; iii. Be significantly lower than the Officers' Mess in order to reinforce the hierarchical pattern set by the original four primary buildings on the Parade Ground. b. A new structure east of Dental Rooms (Building 4) on Gunner Road would need to: <ul style="list-style-type: none"> i. Be single storey; ii. Reflect the materials and details of the Art-Deco buildings; iii. Occupy a footprint that is set back from the roads and car park in order to provide landscaping, and bound by the alignment of the Northern edge of Building 4. c. A new structure east of Building 46 would need to: <ul style="list-style-type: none"> i. Be maximum of two storeys; ii. Reflect the style, form, materials and details of the Art-Deco buildings; d. Be recessive in character so as to not compete with or detract from the main established building ensemble. e. A new pedestrian / visual link between the Oval and Other Ranks' Mess (Building 1) could be considered in order to physically and visually connect the Ball Room in Building 1 to the Oval area. Any new structure

		<p>would need to:</p> <ul style="list-style-type: none"> i. Be constructed along and reinforce the central axis; ii. Ensure that the significance of Building 1 is not affected iii. Encroach minimally onto the oval and tennis court areas; iv. Be lightweight but sympathetic with the qualities of Building 1. <p>f. Any new Pavilion / shade structure near the grass oval would be for the purpose of a lookout / observation area both across the oval and to sea and northern coastline. A new structure here would need to:</p> <ul style="list-style-type: none"> i. Be simple and unobtrusive and not visible above the adjacent native vegetation line. ii. Occupy a small footprint and not encroach on the geometry of the oval. <p>g. Any replacement building for the POL store (Building 48) would need to:</p> <ul style="list-style-type: none"> i. Be single storey; ii. Reflect the style forms, scale, materials and details of the adjacent 'lesser' Art-Deco buildings (19, 20 & 49) iii. Occupy a footprint that is set back from the loop road and not encroach North and South beyond the edges of this loop road, and set well back from the rear fences of the St Barbara's Avenue houses to allow for significant landscape areas around the buildings.
Policy 41	Retain the cohesive Art-Deco military character of the built elements of the built elements of the Parade Ground Precinct.	<ul style="list-style-type: none"> a. Maintain the design appearance of the buildings including the scale, pale colour face brickwork, parapets, roofs, and external joinery. Retain the scale, materials, roofs, external joinery. b. Retain the primary internal spaces (such as formal

		<p>entries, ballrooms, dining rooms etc) of the buildings including the volumes, finishes and details. Any partitioning of these spaces should be undertaken in such a way that the original volume of spaces can continue to be appreciated.</p> <ul style="list-style-type: none"> c. Maintain controlled public access to Building 1 so visitors may appreciate views, vistas, context and axial site planning. d. Ensure that new services for amenity, fire and access do not detract from the Art-Deco characteristics of the buildings and the Precinct. e. Reinstate the connection between the Parade Ground and the altered Former Sergeants' Mess (Building 16) along the central axis. f. New pathways and ramps should be minimised and proposed in areas where paths or paved areas existed previously. g. Retain the form of the oval, edge of the bushland and tennis courts and shelter sheds for recreational purposes. The hockey field should be retained as open space for recreation or overflow parking.
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The Sheds Precinct		
<p>The Sheds Precinct and outer areas of the North Head Sanctuary includes many of the smaller military support facilities for North Head. Although the architectural and heritage values of these structures are not as high as some of the Art Deco buildings, they are highly significant for their role in the military training programs of the School of Artillery. The area included many of the operational components of the School of Artillery and provided essential training facilities, fundamental to the programs of the School until its relocation from North Head to Puckapunyal in 1998. Several structures were strongly involved in the Coastal Defence of NSW during World War II as the Heavy Brigade Headquarters, which established and ran the Sydney Fire Command, a chain of defensive coastal fortifications established to protect the port of Sydney (NHL Criterion A, C). Other structures provided important support facilities and services to the School of Artillery. Buildings include classrooms for formal instruction, a gun park and gun shed for practical instruction and demonstration and numerous workshops for maintenance of vehicles and equipment (NHL Criterion F). Residential and married quarters provided accommodation for officers based at North Fort while outdoor obstacle courses, tennis courts provided opportunities for physical fitness (NHL Criterion G).</p> <p>The underground plotting room was used to track the course and speed of enemy ships who relayed instructions to the 9.2" battery. (NHL Criterion B, D).</p>		

Policy 42	Protect, conserve, maintain and retain peripheral structures that were fundamental to the operation of the battery and the Sydney Fire Command.	<ul style="list-style-type: none"> a. Conserve and interpret key structures in the Sheds Precinct including: <ul style="list-style-type: none"> i. Observation Posts and shelters (Building 12) ii. Miniature Range (Buildings 35 and 36) iii. Ammunition Store (Building 50) iv. Plotting Room (Building 74) b. Provide controlled public access to these structures where this is compatible with new uses.
Policy 43	Conservation and adaptive re-use of existing structures should occur before developing new buildings. Flexibility for adaptation and change of existing structures is generally possible given the lower 'sensitivity to change' rankings of many structures.	<ul style="list-style-type: none"> a. Any adaptive re-use of buildings 18, 19, 20 and 49 should ensure that their scale and their external and less-grand Art Deco qualities are retained. The rhythm of individual bays on the northern façade of Building 49 should be retained. b. Any adaptive re-use of buildings 41 and 34 (ARMCO Shed) should be undertaken in such a way that their scale, form and industrial qualities are maintained, and their construction system is expressed. c. Buildings 34A & B, 61, 64-67, 40, 42, 27, 28, 32, 33, 38, 48 & 68 could be removed if not required to be adaptively re-used. d. Owing to its fragile condition, the cleared area for the temporary c1994 obstacle course may be allowed naturally regenerate to indigenous vegetation. Due to its importance in training military personnel, the c1964 obstacle course should be conserved and kept as a cleared area. e. Remaining structures in the NICOH range and observation post should remain as an uncleared setting.
Policy 44	New buildings / structures will only be considered when adaptive reuse and modification of existing buildings is not feasible. Any new development proposed should be in a form that is sympathetic with the character and heritage values of	<ul style="list-style-type: none"> a. New structures would be replacement and / or alteration of existing buildings and should: <ul style="list-style-type: none"> i. Not exceed the height of adjoining vegetation; ii. Reflect the style, form, scale, materials and details

	the precinct.	<p>of the existing buildings;</p> <p>iii. Do not increase the overall built footprint or extent of related hard surface area.</p> <p>b. Due to the proximity of many buildings in this area to bushland, issues such as noise, light spillage, bushfire management and traffic generation will be important considerations in the selection of uses.</p>
Policy 45	Retain the institutional and detached domestic character of the houses and gardens.	<p>a. Maintaining the residential uses of the houses is preferred, however the buildings could be readily adapted to uses such as professional consulting rooms, medical uses, counselling or other low impact uses.</p> <p>b. Refurbishments should demonstrate renewable energy technologies and water recycling.</p> <p>c. Retain gardens and open spaces in the immediate vicinity of residences and explore opportunity for small organic gardens.</p> <p>d. Consider the introduction of a visual screen (eg climbing plants) between 1960s houses and older residences.</p> <p>e. Revegetate along North Head Scenic Drive to provide a more befitting entry to the headland, conserving its natural values.</p>
Policy 46	Protect, conserve and interpret the significant landscape features within the North Head Sanctuary.	<p>a. Retain benching in the landscape around military buildings, recreational and training spaces, retaining walls and sandstone edging to roadways.</p> <p>b. Maintain significant views such as from the oval, elevated residences and outer defence emplacements and important internal vistas along the Avenue of Honour.</p> <p>c. New landscape structures such as paths, fences and signs should be limited to those essential for operational purposes, are visually recessive and are</p>

		consistent with the landscape character of the School of Artillery.
Policy 47	Manage public access to minimise impacts on views and the heritage significance of buildings.	<ul style="list-style-type: none"> a. Consider removal of fences along North Head Scenic Drive and replacement with vegetation and / or off-road paths that integrate with the pedestrian network at North Head Sanctuary. b. Improve pedestrian connections to the oval from Bluefish Drive. c. Parking should be limited to disturbed areas and not on landscaped areas. d. Remove existing wire fence between Bluefish Drive and the oval. e. Provided disabled access into buildings where this can be achieved with minimal intervention into significant fabric.

Third Quarantine Cemetery		
The Third (Quarantine Station) Cemetery was dedicated in 1881 and its establishment coincided with the smallpox epidemic of that time. This cemetery, which closed in 1925, was also used for the victims of the bubonic plague of 1900 and the influenza epidemic of 1919 (NHL Criterion A, C, D). The cemetery was later used to hold the remains of some returned WWI servicemen, but due to the difficulty of maintaining graves on the site they were later relocated by the War Graves Commission.		
Policy 48	Protect and conserve the Cemetery to reflect its National Heritage values.	<ul style="list-style-type: none"> a. Undertake the following management actions as recommended in the Archaeological Management Plan: <ul style="list-style-type: none"> i. Conserve, repair or re-erect existing grave markers. ii. Stabilise existing gravestones. iii. Repair individual graves as recommended. iv. Instigate a regular program of maintenance of graves.
Policy 49	Ensure the Cemetery is secure and public safety is maximised.	<ul style="list-style-type: none"> a. Ensure perimeter fencing does not allow unauthorised access by visitors.

		<ul style="list-style-type: none"> b. Ensure perimeter fencing does not allow access by feral animals. c. Remove or replace existing fencing with one that is more befitting the Cemetery's significance.
Policy 50	Manage vegetation to protect the cultural heritage of the Cemetery.	<ul style="list-style-type: none"> a. Remove noxious weeds, such as lantana and invasive grasses from within the Cemetery. b. Remove or trim large shrubs and plants that are close to or are undermining graves. c. Remove vegetation around the perimeter of the cemetery to create an Asset Protection Zone.
Policy 51	Facilitate public access to the Cemetery.	<ul style="list-style-type: none"> a. Examine opportunities for controlled access to, and interpretation of, the Cemetery for groups or individuals. b. Identify and create a walking route within the Cemetery for visitors.

North Fort		
<p>North Fort is significant as an important element in the former military reserve and defence lands at North Head. North Fort retains the perimeter walling, gun battery, most of the functional support buildings and remnants of the communications network and drainage system directly associated with the pre-World War II North Head Fort which was the last stage of development of the artillery-based coastal-defence of Sydney Harbour (CHL Criteria A, B, C).</p> <p>North Fort is important to the many Defence personnel who were trained or stationed at the complex in its sixty years of operation for Defence purposes, and to military historians, in particular the Royal Australian Historical Company (CHL Criterion G).</p>		
Policy 52	Create a new open and welcoming entry point to North Head Sanctuary via North Fort.	<ul style="list-style-type: none"> a. Encourage access to the North Head Sanctuary via North Fort by removing the boom gate. b. Provide visitor facilities including such as a visitor centre, interpretative signage, toilets, picnic areas, café and public carparking within North Fort. c. Parking areas be limited to existing cleared areas. d. New landscaping at the entrance to North Fort is to frame important views and vistas and create a more open and welcoming entry to the North Head Sanctuary. e. Landscaping to control the quality and quantity of stormwater run-off.

Policy 53	Interpret the military history of North Fort through interpretation of remaining installations and exhibits.	<ul style="list-style-type: none"> a. Concentrate on interpreting North Fort and the Defence of Sydney and the development of fixed Coastal Artillery. b. Conserve and interpret surviving physical evidence of North Fort including: <ul style="list-style-type: none"> i. No. 1 and No. 2 Batteries ii. Command Post / Close Defence Battery Observation Post (Building 211) iii. Battery Observation Post (Building 12) iv. Searchlight Engine Rooms (No 25 and 26) c. Recently constructed sheds in the North Fort Precinct can be modified or removed from the site to exploit views to fit more sympathetically in the environment. d. Ensure any new visitor facilities are developed on historically disturbed areas or clearings.
Built Elements		
Policy 54	Conserve and interpret structures within the North Fort Workshop Group.	<ul style="list-style-type: none"> a. Undertake a program of conservation works that includes both the repair of damaged buildings and structures and conservation treatments to arrest future deterioration of significant fabric. b. Do not remove remnant original fixings and joinery, or paint over outlines of removed equipment, services etc of the storage areas and tunnels of the Battery or observation posts. c. Maintain cohesiveness of the original workshop group in terms of architectural design and detailing, colour schemes etc. d. Using the surviving original details and documentary evidence, re-install the missing original details to the gunners residences and other workshop buildings.
Policy 55	Continue to use key elements of the workshop group for interpretation and public facilities.	<ul style="list-style-type: none"> a. Continue to use buildings around the entrance (Buildings (201, 202, 203, 205, 206, 207, and 208) to the North Fort Precinct for uses related to the public appreciation of the Sanctuary and other uses that encourage or support public access such as café,

		<p>toilets and visitor information.</p> <p>b. Interpret the original uses of buildings in the Workshop Group.</p> <p>c. Reinstate original missing details in existing buildings (eg timber windows, timber panelled interior doors).</p> <p>d. Interpret the former residential use of the District Gunners Cottages (Buildings 201 and 203).</p>
Policy 56	Facilitate access throughout North Fort to key vantage points and other parts of North Head.	<p>a. Pedestrian paths to vantage points and the Avenue of Honour be reinstated to assist in the interpretation of the site and enhance the recreational experience.</p> <p>b. In cooperation with NPWS, investigate pedestrian access to lookouts and vantage points through North Head Sanctuary.</p>
Policy 57	Interpret important sight lines to improve views of the fortifications.	<p>a. Selectively remove vegetation from around the Battery, Battery Observation Post and Command Post / Close Defence Battery Observation Post to interpret WWII conditions of clear views up and down the coast.</p> <p>b. Clear vegetation from around 1930s brick buildings to enhance views and create asset protection zones.</p>
Policy 58	Continue the conservation and interpretation of the 9.2 inch gun emplacements.	<p>a. Continue managed access of the tunnel system and gun emplacements.</p> <p>b. Concentrate interpretation on the No. 2 gun which is accessible from both above ground and the tunnels.</p> <p>c. Retain and stabilise deterioration of the No. 1 Gun emplacement as a benchmark indicator of the original layout and finishes including camouflage.</p> <p>d. Investigate obtaining replacement fittings and equipment associated with the 9.2 inch guns.</p>
Policy 59	Conserve surviving sections of the Stone Wall and Gates between Quarantine Reserve and Parkhill Reserve and the 1935 walls separating the Fortress area.	<p>a. Conserve the surviving gates between the Quarantine and Parkhill Reserves.</p> <p>b. Re-open the Eastern Gate to improve pedestrian access across North Head.</p> <p>c. Minimise any new openings in the Stone Wall.</p>

Outcomes

Vision

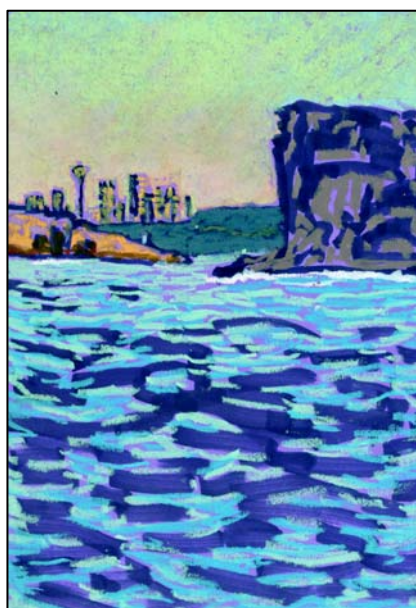
North Head, a tied island with a relatively intact ecosystem, provides an opportunity for the creation of a sanctuary in a metropolis of 4 million people.

The location and attributes of North Head generate opportunities that go beyond those of a traditional nature reserve or wildlife sanctuary. These opportunities include:

- undertaking of research into issues such as the way the North Head ecosystem works and the impact of humans on urban ecosystems, wildlife habitat, wildlife monitoring and protection and sustainable energy technologies;
- provision of a sanctuary for people as well as for wildlife;
- protection and interpretation of both Aboriginal and European heritage;
- promotion of creativity in environmental science, well being, education and the arts using the natural heritage of North Head as inspiration;
- provisions of a place of relaxation and enjoyment for city people;
- exploration of new ways of sustainable living in urban environments; and
- promotion of integrated management of natural heritage across traditional geographical management boundaries.

The implementation of the sanctuary concept would ideally include all land managers at North Head. The Trust is responsible for the management of the North Head Sanctuary and is working with the other agencies, including the State Government, who are committed to the concept. This Management Plan aims to facilitate the implementation of the sanctuary concept commencing with the former School of Artillery and North Fort.

Buildings and facilities will be adaptively re-used in ways that will complement the proposed sanctuary. The creation of a sanctuary should be balanced with the need for public access for experiencing and learning about the headland's remarkable natural and cultural heritage. The North Head Sanctuary will include the following components:



Sanctuary

The natural environment forms the heart and soul of the sanctuary concept and will be one of the main reasons for visitors to come to North Head. The sanctuary will focus on the varied fauna, flora and geology of the head land. Visitors may come unaccompanied or on a guided tour. Learning, interpretation and research will be facilitated through the development of walking tracks, boardwalks, viewing decks and outdoor amphitheatres. The site will accommodate multiple 'learning stations' with possibilities such as a wildlife tracking centre, outdoor classrooms, animal viewing shelters and an animal hospital.

Managing the flora and fauna will require pest control and monitoring measures (including the possibility of a fence or fenced area) to be identified, researched and implemented. The North Head Scientific Committee will make recommendations on issues such as possible fencing of the Sanctuary, modifications to existing habitats and species re-introductions.

The sense of calmness and relaxation offered by the isolation of North Head allows opportunities to be explored for providing 'human sanctuary' facilities. The sanctuary will provide a place for retreat, for relaxation and reflection, for rejuvenation and healing the body and mind and for inspiration and creativity.

Natural Heritage Management

In order to ensure proper management of the sites natural heritage, all natural heritage management decisions will be based on science and guided by the North Head Scientific Committee as advisors to the Trust. Natural heritage on the site will be actively managed with a view to eradicating pests, conserving existing native flora and fauna, and where appropriate reintroducing flora and fauna that may have previously existed on the site. Sustainable visitation to the site will be encouraged. Better ways of managing natural areas close to large populations will also be explored through research.

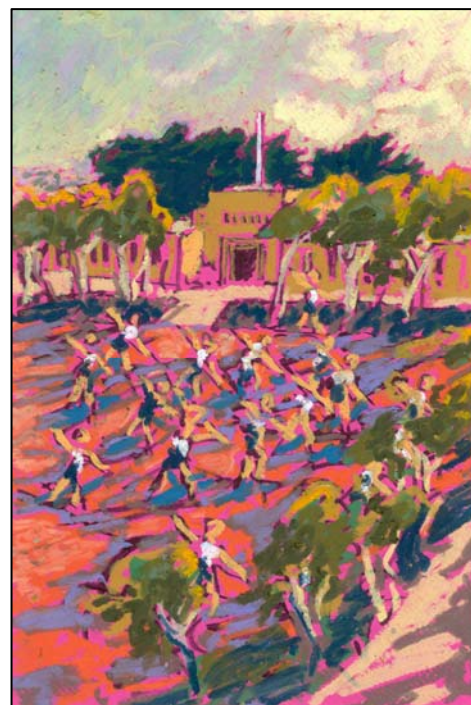
A Natural Resource Operational Plan prepared by the Australian Wildlife Conservancy (AWC) calls for baseline studies, identification of threatening processes, specific conservation and reintroduction projects, biodiversity monitoring and research. This operational plan and the ensuing baseline studies will help to guide the implementation of the Sanctuary. In addition, specific visitor education opportunities, visitor management policies and infrastructure requirements will be identified.

Cultural History

An important component of the sanctuary will be the facilities to present the 'human history' of the site, and the past uses of North Head. This will include the Aboriginal heritage, the defence and military heritage and the quarantine history.

The significant heritage values of the site will be protected, conserved and interpreted. This includes the conservation of the buildings and structures relating to the Quarantine Reserve, the World War II Defence period and the School of Artillery, particularly the 3rd Quarantine Cemetery, the Art Deco Barracks Complex, North Fort and the remaining structures from Fortress Sydney. It is proposed that the institutional and campus-like character of the site is retained and enhanced, and the connection of the site to other surrounding sites on North Head is interpreted.

The fortifications and remaining structures from the World War II period will be the focus of defence history. The linkages between North Fort and the Barracks, particularly the former School of Artillery, will be an important component of the interpretation program as will the link between the former Defence lands and surrounding lands now managed by other agencies which once formed part of the Fortress Sydney.





Education and Research

In addition to the educational role the abovementioned components, fulfilled by the Sanctuary will also accommodate a number of research and office facilities. These facilities will form the basis of an environmental business park, which could include a sustainable living display and theatre or screening room and meeting facilities.

Leisure and Recreation

The Sanctuary will be a place for both 'formal' and 'informal' learning and will need to provide leisure and recreational elements. Visitor facilities will be established which may include both educational and interpretive materials as well as a gift shop. A children's discovery / play area, services related to health and well being, short-term accommodation, café, restaurant and bars, function and conference facilities, picnic and playground areas and an arts centre may all be considered in the provision of the Sanctuary facilities.

Activism by the public for public access to the headland for recreational purposes in the late 1920s and early 1930s was an important aspect of the public use of North Head and should be recognised as part of the heritage interpretation. Public access took on a commemorative role. In 1933, the Memorial Drive / Avenue of Honour was established going past the Manly Peace Hospital (itself a memorial), along the ridge of North Head on the current initial alignment of Bluefish Drive and along the ridge of North Head to The Loop at North Point.

Operating the Sanctuary

In order to facilitate the functioning of the Sanctuary, it will need to accommodate the services and amenities required for its operation. These 'back-of-house' facilities may include workshops for maintenance and storage of equipment and vehicles, a native plant nursery, administrative offices, a volunteer training centre, security office and services and amenities including toilets and parking. The layout, design and access arrangements of the operational areas should take into account the potential public and educational interest in the workings of the Sanctuary.

Design Outcomes

(Figures 18, 19, 20)

On the crown of the tilting land mass of North Head are clusters of buildings set within formalised landscapes which are surrounded by the Eastern Suburbs Banksia Scrub. The cohesive character of these precincts will be retained and enhanced. However, when viewed from the outside, these precincts are uninviting, indeed discouraging to the visitor. The edges and approaches are dominated by degraded bush and intrusive recent buildings. They also discourage or even block access to and between the main features of the headland.

The main design objectives are therefore to:

- Open up the former military base to public access and make it more inviting
- Create a sense of arrival at each precinct befitting its character and its role within the proposed sanctuary
- Link up the precincts to the surrounding lands through a network of pathways that connect with the main access points to the headland and its main features
- Provide landscape improvements to the degraded peripheral areas of each precinct to improve conditions for flora and fauna as well as the appearance and sense of arrival to each precinct.

There are three main precincts defined by the clusters of buildings that made up the fortifications complex. They are:

- The North Fort Precinct, made up of the buildings and fortifications at the southern end, associated with the operations of the fortifications
- The Parade Ground Precinct, made up of the core area of the former School of Artillery at the northern end, grouped around the former Parade Ground
- The Sheds Precinct, made up of the service sheds built primarily along the road connecting the other two precincts, above.

These precincts are connected along a spine following North Fort Road and are enveloped by bushland.



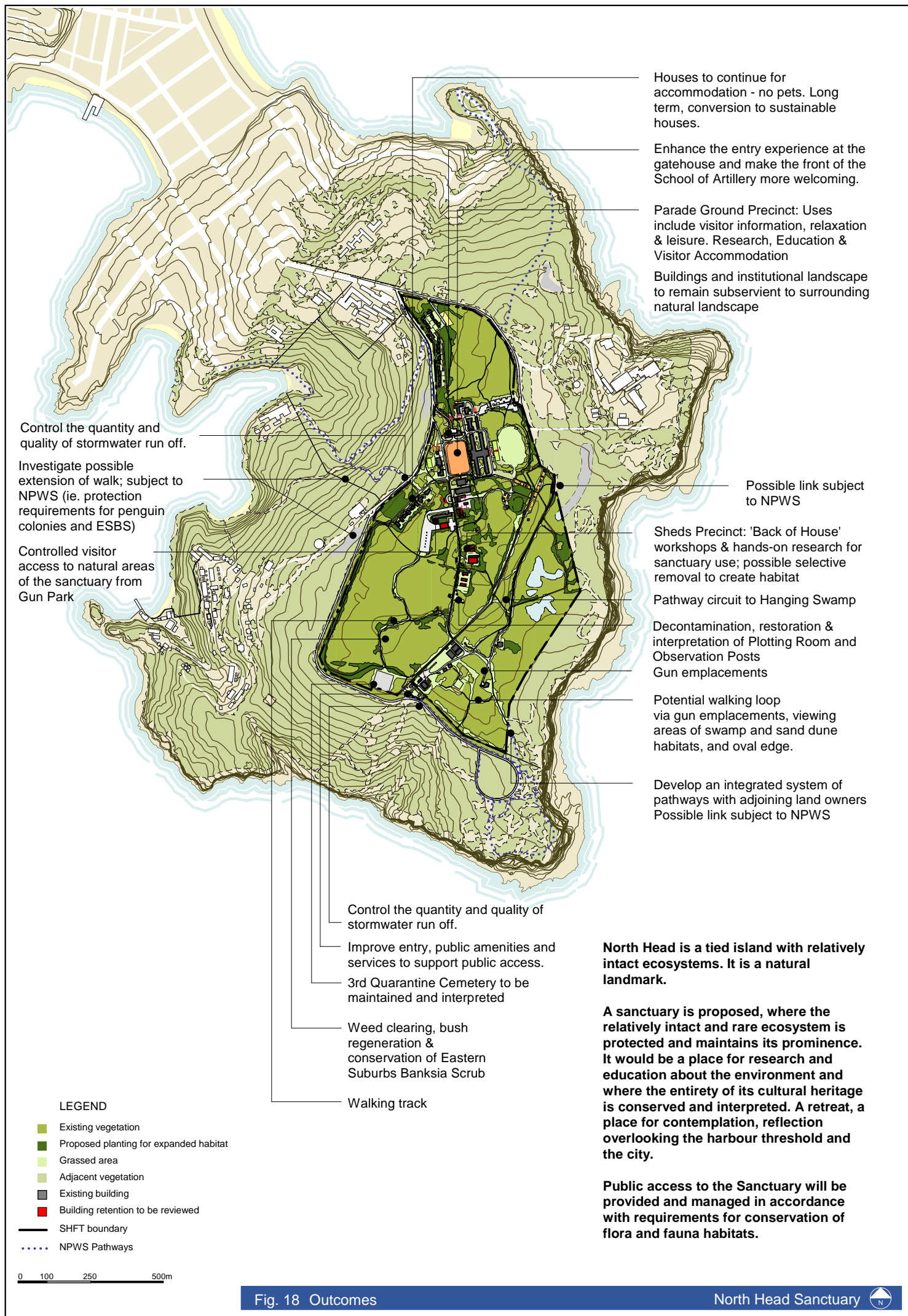


Fig. 18 Outcomes



The Parade Ground Precinct

The former Artillery School has a cohesive character given by the formal grouping of restrained, art deco buildings around the parade ground and the garden-like setting. It is also very institutional, inward looking and un-welcoming for visitors. This is consistent with it being an Army base, but at odds with the objectives of opening it up to maximise public access. Access to it via the curved drive from North Head Scenic Drive to the Gate House reinforces its sense of isolation. The institutional, military character is part of its heritage, so it needs to be respected and preserved, though made more convivial. This conundrum will be addressed by working with the special character of the place by making the sense of arrival even more of a discovery so that the arrival to the graceful core at the Parade Ground increases the sense of wonder and remoteness. This is a valuable part of the visitor experience for a Sanctuary.

Adaptive Re-use

With its sense of isolation and the architecturally cohesive, yet diverse size of buildings grouped around the formal Parade Ground, the precinct is well suited to cater for the human aspects of the Sanctuary such as a place for relaxation and respite, as well as research and education related to the natural environment. This will include uses such as accommodation for visitors, researchers or students, cafe/restaurant/bar facilities, function or conference facilities, offices, administration, training, classroom space, and environmental research facilities. The buildings will be repaired and conserved, with special attention given to the retention of their distinctive architectural features. Their fit-out for new uses will be sympathetic to their character and heritage values.

The houses provide the opportunity to explore the issues associated with dwelling inside a fragile ecosystem. They are an opportunity to provide special places of retreat and respite.

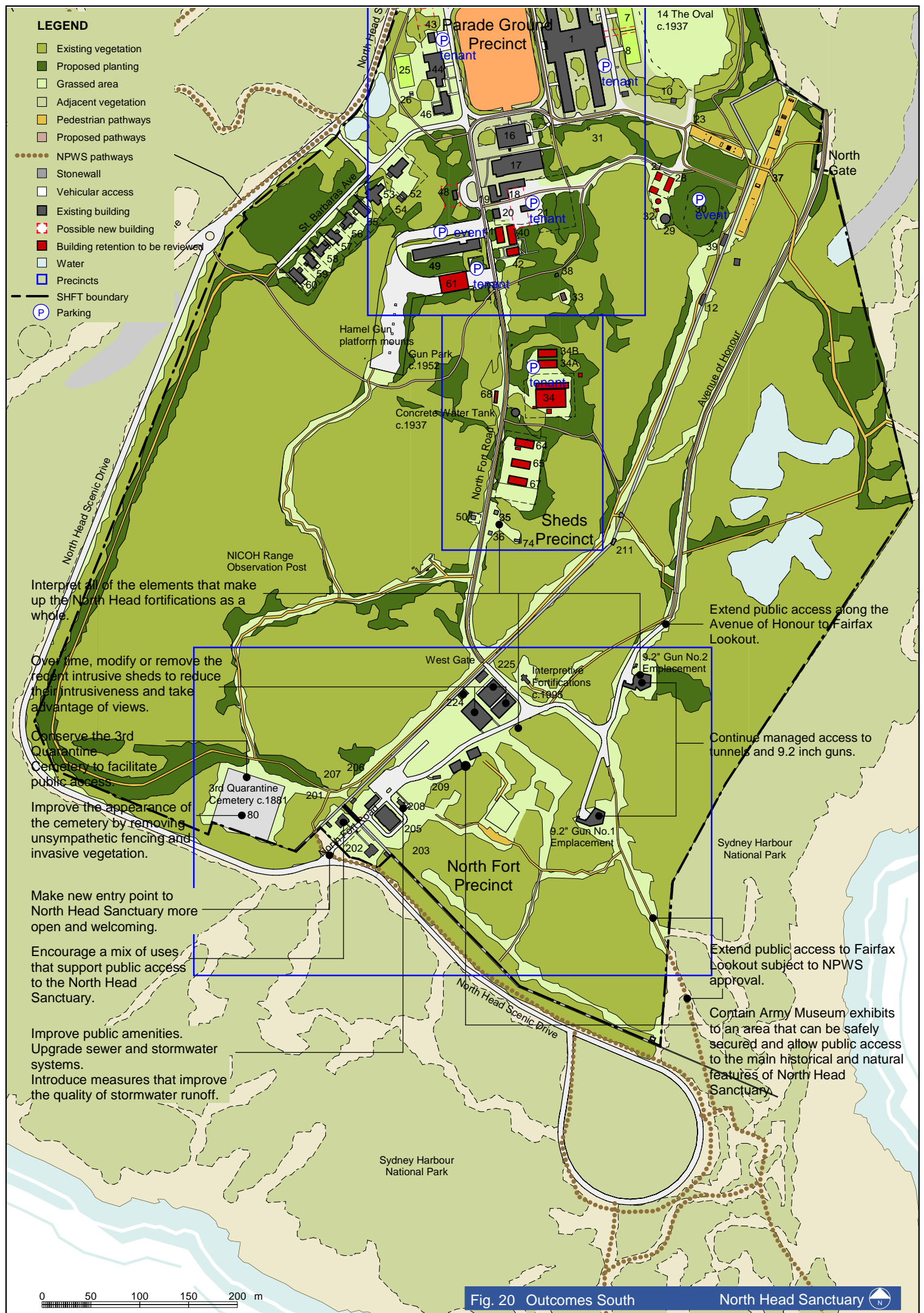
Over time, the houses will be renovated for a range of compatible uses and demonstrate renewable energy technologies such as water recycling. Subject to environmental considerations, the gardens of these houses may even supply organic produce to the Sanctuary food outlets.

Uses will need to satisfy criteria relating to environmental impact, public benefit, compatibility with public access, heritage conservation, traffic generation, parking requirements and transport needs, service and infrastructure constraints, BCA requirements and the *Objectives and Policies* set out in Section 3 of the Trust's Comprehensive Plan.

Public Domain

The cohesive character of the Parade Ground Precinct is provided by the formal grouping of similarly detailed buildings as well as the landscape elements such as the saw-cut concrete paving, the handrails, light standards, rows of ornamental trees and shrubs. The internal street and path pattern will be retained, as it is an important characteristic of the former Army occupation. Changes within the precinct will be for the purpose of improving access into and around the site, and repair of the infrastructure, pathways and garden beds. These changes will be carried out in a manner that retains the institutional, garden like character and cohesiveness of the core area. For details of the design principles for the Parade Ground Precinct refer to Policies 35-41.







This is in stark contrast with the external edges of this precinct, which creates the first impression of the Headland and of the Sanctuary. Once through the stone Park Hill arch, there is a suburban streetscape. Although the houses are a part of the military heritage of the site, they are far more dominant than their relative significance would warrant. This streetscape is also at odds with the vision of North Head as the tied island with a relatively intact

ecosystem and with the long-held desire for a magnificent park on the headland at the gateway to Sydney Harbour. The Trust will work with NPWS to revegetate in front of the houses, whilst maintaining footpath access and providing opportunities for foraging bandicoots and other wildlife. Additional planting will continue along the edge of the former Artillery School along North Head Scenic Drive. Portions of the white picket fence of the former Artillery School will be retained near the entry points, but it will mostly be removed to facilitate pedestrian access and to provide a more befitting character to the whole of the headland along its major entry spine. The landscaping will also be designed to control water run-off from the Artillery School site, improving conditions for the bushland to the west of North Head Scenic Drive. A part of this landscape treatment may take the form of small wetlands below the Officers Mess, Officers Annex and St Barbaras Avenue – areas currently subject to almost permanent inundation.

Entry via the Gatehouse is important to provide a sense of arrival and as a way of introducing the former army base to the public. Design modifications will be necessary to provide pedestrian access from the Gunner Road carpark, or to accommodate a bus drop off near the Gatehouse. These changes will retain the curving entry way that provides a sense of arrival from North Head Scenic Drive. This will include signage, pedestrian paths leading to the main entry, particularly from bus stops and set downs. Improvements will be designed to provide clear definition of access routes to the entry point.

The Sheds Precinct

The utilitarian buildings to the south of the Parade Ground Precinct along North Fort Road together form the Sheds Precinct.

Adaptive Re-Use

These buildings are suitable for a wide range of supporting uses such as workshops/offices, scientific research facilities, nursery, storage and 'back of house' activities related to the operation of the sanctuary.

These back of house functions are also of potential interest to the public and these facilities are also at the meeting point of the pedestrian paths that link some of the main attractions of North Head. Therefore a range of uses that engage the public more directly will also be sought, such as small scale art and craft studios with

content relevant to the Sanctuary and / or North Head, meeting rooms, community uses, educational or training facilities, refreshment facilities and native plant nursery.

The water tower presents an opportunity to provide a viewing platform in an unobtrusive way.



A number of buildings in this area (12, 35, 36, 50 and 74) are considered to be important historical structures related to their wartime function, such as the plotting room or miniature range. Due to their small scale and purpose built nature, they will be repaired, conserved and mostly suited for interpretation purposes in association with the other military installations within North Fort and Sydney Harbour National Park (see Policies 42-47).

Public Domain

The back of house and workshop uses of this area require the retention of some of the extensive paved areas. There will be additional landscaping, however, to improve the amenity of the access routes, particularly along North Fort Road and around the Gun Shed and the Gun Park, to make the access between North Fort Road and the walking track more attractive and inviting.

Due to the proximity of these buildings to the bushland some of the buildings may be removed or re-modelled. Issues such as noise, light spillage, bushfire management and traffic generation will be important considerations in the retention and selection of appropriate uses.

Third Quarantine Cemetery

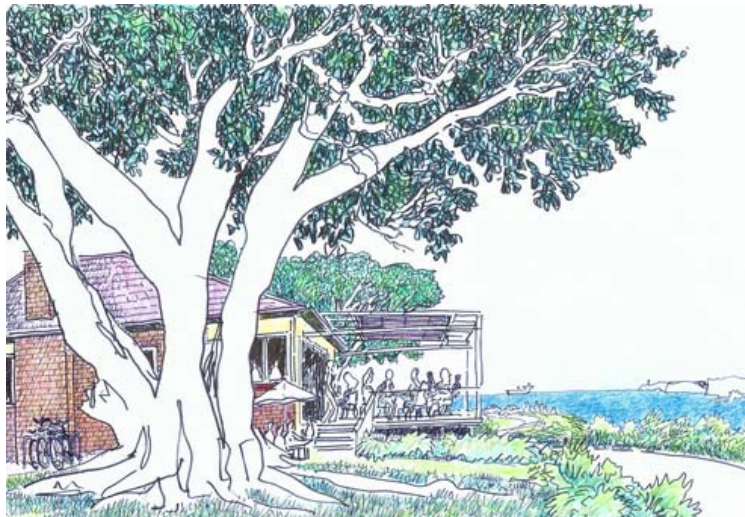
The third quarantine station cemetery is one of the most intact of its type in Australia and is recognised on the National Heritage List. The cemetery is located to the west of the North Fort Precinct, in an elevated position to the north of North Head Scenic Drive, but obscured from the road by ESBS.

Careful management of the cemetery will be required to restore existing graves and grave markers, restore the natural landscape and facilitate managed access to the cemetery for groups and individuals. Noxious weeds, invasive grasses and trees and shrubs that are undermining graves will be removed. The Trust will investigate removal or possible replacement of the current poor quality chainwire boundary fence by one more befitting the Cemetery's significance.

The North Fort Precinct

Visitors to North Head are naturally drawn to its southern end, the culmination of the headland with sweeping views over the entrance to the harbour, along the coastline and towards the city. This group of built facilities is therefore in an ideal position to cater for and enhance the visitor experience of North Head. North Fort is at the point of convergence for many of the themes of North Head – the topography, geology and

the views, observation point for major harbour events and the migration of whales, the flora and fauna and the quarantine heritage (with the Third Quarantine Cemetery and some of the stone walls). It embodies features from the earliest attempts to open up the headland as a public park, and it is the culmination of the fortification of Sydney Harbour.



North Fort is therefore a major public entry point to the Sanctuary and it should allow for the paths on the headland to converge at the magnificent lookout points, such as the Fairfax Lookout.

The continuation of a Museum at North Fort fits in with this role, subject to opening up the site to general public access and

the focus of the museum being the Defence of Sydney Harbour, particularly the fortifications system and artillery of North Head. The opportunity exists to link the military installations in the North Fort complex and the former Artillery School complex with the pathway network (including the Avenue of Honour and Memorial Walkway) and interpretation programs that draw upon the expertise and enthusiasm of the Volunteers.

Adaptive Re-Use

A number of buildings and structures located around the entrance to this complex (201, 202, 203, 205, 206, 207, and 208) are considered to be important historical structures related to their wartime function. They are well suited for uses related to the public appreciation of the Sanctuary, the defence of Sydney, the site's views and natural features, events or functions and other uses that encourage or support public access such as refreshment facilities, public amenities and visitor information / orientation for North Head.

The built fabric will be conserved and their former, Defence use interpreted. The unity of design of these buildings will be retained and subject to the requirements of the new uses, altered details (such as the former timber windows) will be restored. Any additions or alterations of the buildings are to be designed in a manner that does not adversely affect their unity and historical significance.

Although robust and functional, the metal sheds that were erected since 1990 are considered to be highly visible and intrusive, they may be altered or removed to fit more sympathetically with the heritage values of North Fort, take advantage of views, make the site more welcoming and provide uses that encourage greater public access and appreciation of the site.

Public Domain

Improvements will take the form of landscaping near the entrance to make it more open and welcoming, particularly around the café and the precinct entry. The landscaping will be designed to help control the quality and quantity of water run-off to improve conditions for the bushland down slope within Sydney Harbour National Park and facilitate weed control.

Internally, as the site is successively opened to greater public access, OH&S works around the fortifications and other features may be required. The design of these measures will need to be as unobtrusive as possible whilst not compromising safety and equity of access.

New Buildings and Structures

The Trust will attempt to accommodate proposed uses by either conserving or adapting significant existing buildings, or by more substantially modifying less significant structures. New buildings/structures will be considered when neither of the two above options is feasible to achieve a desirable use. For further details see policies 52-59.

BCA

Depending upon the uses to which the buildings are put, compliance with the BCA is possible with varying degrees of impact on the cultural significance. The low rise form of the buildings and their separation from one another means that few fire services are required.

The provision of access for people with disabilities around the site and into the buildings is the most problematic; the complex of buildings was designed for ambulant, fit men and women in the armed forces. The retention of the military character needs to be carefully considered in designing access paths around the site and into the buildings.

The major impediments to providing equitable access are likely to be:

- Access paths, ramps and landings into the buildings,
- Widths of door openings into and within the buildings,
- Clearances on the hinge and lock sides of the doors,
- Changes of levels within the buildings.

Access and Circulation

Vehicular Access

One of the most serious threats to both the amenity of the site (and to the retention of its significance) is the management of vehicular access and car parking for existing and future uses of both the Sanctuary and Sydney Harbour National Park.

Vehicular access will continue to be along North Head Scenic Drive and Bluefish Drive. Co-ordination between NPWS and the Trust is required to improve pedestrian safety and amenity along these roads by

- Improving the visibility and safety of crossing points;
- Providing clearly located, signposted and inviting alternative pedestrian routes;
- Working with all the other agencies to improve the alternatives to private vehicle access; and
- Utilising state-of-the-art shared design and management techniques for shared pedestrian and vehicular access.

The Sanctuary will continue to be accessed via Artillery Drive, North Head Scenic Drive, Bluefish Drive, and North Fort Road.

Upgrading is not required for the access road intersections with North Head Scenic Drive and Blue Fish Drive to accommodate the proposed new uses of the North

Head Sanctuary. However, in the medium to long-term the use of these intersections will need to be monitored to assess if further improvements are required.



The streets will be shared zones. Vehicular access via the Gatehouse will be restricted and limited access provided for disabled parking spaces, deliveries of goods and services and access to the limited tenant parking spaces. Parking will be confined to some of the previously disturbed hardstand areas. A total of 205 car parking

spaces are provided for regular use. Specific areas (existing hardstand and disturbed areas) have also been identified as suitable for accommodating additional vehicles during special events (**Figure 21**). Parking for all visitor vehicles will be at the Gunner Road carpark accessed initially via Bluefish Drive, however access options via the Gatehouse will be investigated. This carpark provides for approximately 70 spaces and will also provide parking for 4 buses or coaches.

Internal roads within the Sanctuary will be primarily for pedestrian use and vehicle use will be kept to a minimum. North Fort Road will be closed to traffic between the Parade Ground Precinct and the gate in the wall at North Fort except for occasional service requirements and special events, such as Boxing Day.

Public car and coach parking will be close to the precinct entry points from these roads and on existing disturbed areas. This is to reduce pedestrian and vehicle conflict within the precincts and to minimise incursions into the bushland areas.

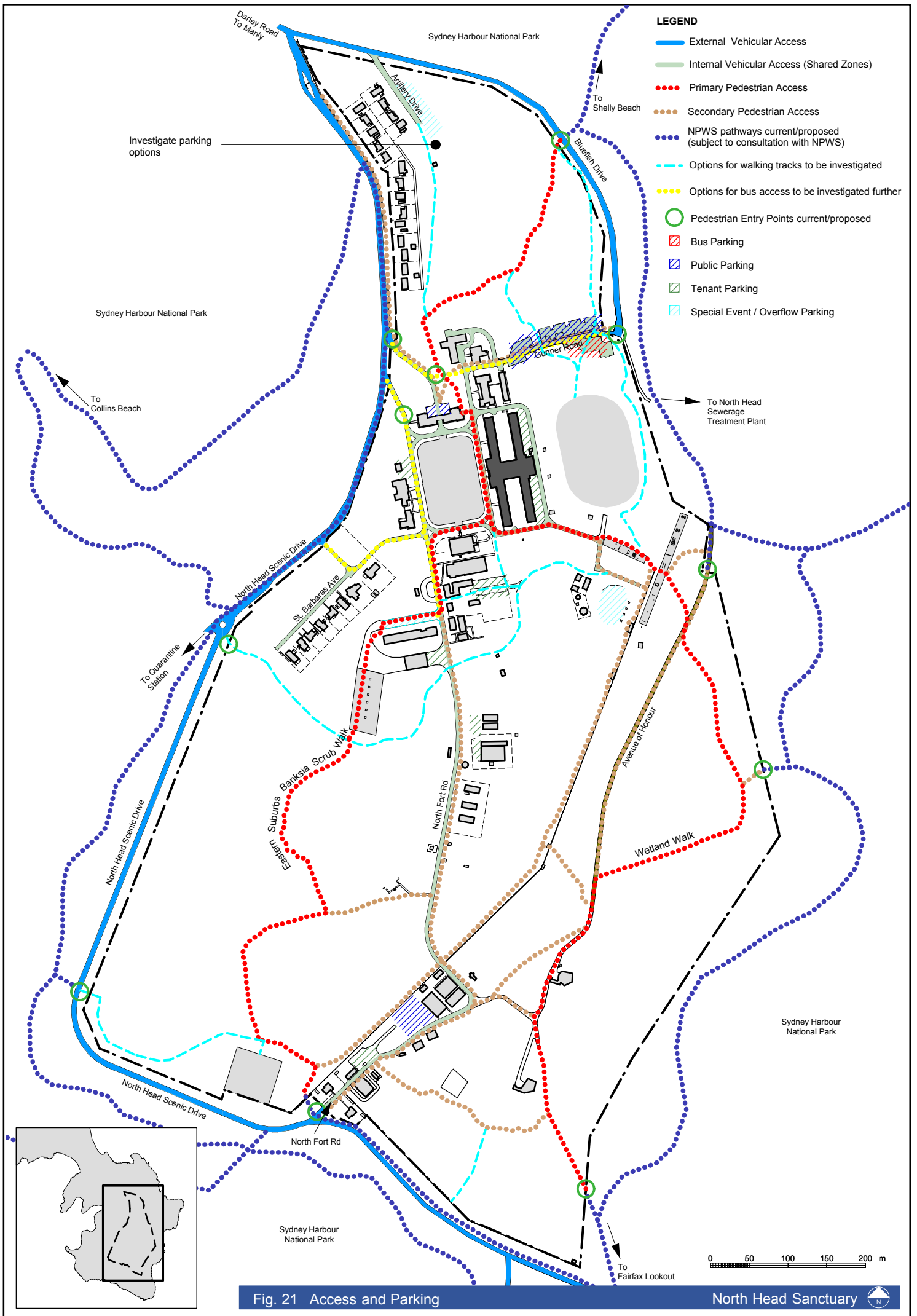
Parking areas well within the precincts will continue to be used, primarily by people associated with particular tenancies, service/back of house activities and occasional, special event use.

Existing and proposed car parking areas are shown in **Figure 21**.

Car parking within North Fort will continue to be provided in its present location. It will be improved to formalise parking spaces and allow the parking of coaches while controlling stormwater run off and landscaped to maintain views whilst reducing its visual intrusiveness.

Public Transport

Sydney Buses provide a service from Manly ferry wharf to North Head. Most services terminate at the roundabout at the entrance to the Q Station at North Head Scenic Drive, with only three services per day going to Fairfax Lookout.



In addition, the Manly sightseeing “Hop Skip and Jump” bus visits North Head Sanctuary three times each Saturday and Sunday as part of a circular route commencing at Manly Wharf. Patrons pay to use this service, which is supported by Manly Council.

The Trust will work with the other agencies to encourage Sydney Buses to provide a more frequent service all the way to the Lookout and to develop a shuttle service between Manly and each of the main attractions at North Head.

Coach access will be provided into the Sanctuary via the main entry at North Fort and at the car park off Bluefish Drive. Occasional coach/bus access will be available along North Fort Road up to the turning area near the Gun Shed.

Pedestrian Access

Clear and legibly signposted pedestrian access to North Head is to be via

- the path from Shelly Beach through Sydney Harbour National Park;
- Darley Road; and
- Via Little Manly and Collins Cove.

These paths need to be linked to Fairfax Lookout via a number of scenic, circuit walks that provide a variety of environments, features and lookout points. Two of these circuit walks are within the Sanctuary – one to the west of North Fort Road, overlooking the harbour over the Eastern Suburbs Banksia Scrub. The other is to the east, passing by “hanging swamps”, army lookout posts and obstacle courses. There are also more direct routes that will be opened up along North Fort Road and the Avenue of Honour. These loop walks and others need to connect more directly with the lookout at the southern end of North Head, via North Fort.

This internal network needs to connect with the outside – from the bus stop and Q Station entry to Collins Beach. Cross connections between the two loops are also required. These can be provided through improvements to existing tracks and trails.

A second loop may be considered by NPWS. This could provide a more scenic and safe alternative to North Head Scenic Drive. In addition, there is an opportunity to provide a track and a lookout over the eastern cliff line which could link with the wetland loop within the Sanctuary. NPWS and the Trust will need to work together to provide a network of tracks linking the main features whilst ensuring that the natural environment is protected and not fragmented by redundant tracks or unnecessary duplication.

The network of walkways through the bushland areas are intended to provide controlled access for the public to view and learn about the ecosystem of North Head. The walkways include widened stopping points and viewing areas. They will mostly follow some of the previous pathways and be constructed to provide minimal disturbance of the natural environment.

Easy grade access to all main places and features will be provided. However it will not necessarily be through one continuous path, due to the topography, environmental and heritage considerations. Disabled access will be provided to main vantage points and views where possible. Signage across North Head will be complementary and promote connectivity between the different sites and public transport links.

Integrated Management

The prime consideration for the future management of North Head is its reintegration as one place, where it is relatively intact and delicate natural systems are protected and retain their prominence. The Trust can contribute towards this through the development and implementation of an integrated management framework and ensuring regular communication and consultation with all land managers (headland wide). This will ensure management systems of individual land managers have regard to their impact on the whole of North Head.

‘Integrated’ management means having regard for the whole, considering the consequences of individual actions on the overall headland, considering relationships, (social, economic and environmental) and identifying opportunities for actions to be mutually supporting rather than conflicting.

The proposed integrated management framework will provide a range of benefits, in particular for the natural environment, however will also ensure the cultural, business, educational and recreational activities occurring on the site are compatible with North Head’s conservation status. The benefits of an Integrated Management framework include:

- Promotion of more strategic and co-ordinated management
- Facilitation of comprehensive environmental monitoring systems
- Improved information sharing
- Improved understanding of the environment as a basis for management and conservation
- Ensure natural heritage information is used to support integrated management and conservation activities (eg. grid mapping project)
- Improved identification of priorities
- Avoidance of unnecessary duplication of resources and research
- Improved understanding of potential cumulative impacts.

The purpose of this framework is to formalise management procedures at an operational level between the various organisations managing lands at North Head. This will ensure the holistic protection of the headland’s rich cultural and natural heritage in the long term.

Integrated management will allow each existing agency to still function as independent corporate entities maintaining their normal business operations, whilst co-operating in areas in which they can contribute to the protection and enhancement of North Head.

A number of specific management principles have been identified where the integrated management framework should be applied at North Head. These management principles have been developed in order to assist each of the agencies in their site management and decision making process. Although the principles are not comprehensive at this stage, they provide a starting point from which a more comprehensive integrated management plan can be developed over time with all relevant land managers at North Head.

Natural Heritage (Flora and Fauna)

The Trust will work with NPWS and other land managers on North Head to protect the natural heritage of North Head.

In relation to the endangered species, populations and / or communities (in particular the Eastern Suburbs Banksia Scrub, *Acacia terminalis* s. *terminalis*, *Eucalyptus camfieldii* and the Long Nosed Bandicoot population) the Trust will work with NPWS and other land managers to:

- Avoid the deliberate or accidental destruction of rare or threatened species, populations, communities or habitats
- Manage threatened species, populations or communities in accordance with the NPWS and DECCW Recovery Plans
- Endorse and implement the North Head joint stakeholder Bushfire Management Strategy that has been prepared by NPWS
- Map individual rare and threatened species, reference them according to the grid survey markers, and share and update information on a regular basis
- Continue to work with community based organisations such as AWC, North Head Sanctuary Foundation and Earthwatch
- Continue to work with NPWS in the monitoring of species
- Permit access for NPWS staff to the North Head Sanctuary site for the purpose of monitoring species
- Make results of research and surveys available to all land managers as details become available
- Implement the NPWS Threatened Species Priorities Action Statement and relevant Recovery Plans and Threat Abatement Plans.



Natural Heritage (Threats to Biodiversity)

In relation to the threats to biodiversity (in particular pest species of plants and animals, plant diseases and human impacts) the Trust will work with NPWS and other land managers to:

- Continually suppress pest numbers (in particular rabbits, foxes, noxious weeds) through the development and implementation of pest management programs
- Review pest management program's effectiveness and provide results to all land managers annually
- Monitor numbers and impacts of current and potential pest species
- Continue ongoing management of weeds through a regular bush regeneration program
- Implement an ongoing program to remove weed species from the headland
- Co-operate with NPWS in their regular stakeholder and community events to ensure that weeds are removed from the headland and neighbours educated
- Carry out testing for the presence of *Phytophthora cinnamomi*.
- Work with other land managers to ensure Pc hygiene protocols are implemented across the headland.
- Implement the NPWS Threatened Species Priorities Action Statement and relevant Recovery Plans and Threat Abatement Plans
- Collaborate with NPWS in reporting road fatalities and injuries to wildlife.

Fire Management

NPWS has prepared a fire management strategy in consultation with all stakeholders for all North Head. The Harbour Trust will:

- Consult with NPWS during the implementation of the fire management strategy and adopt it for the North Head Sanctuary site
- Undertake prescribed burning to promote ecological processes and to protect life, property, natural and cultural heritage assets and neighbours from the threat of wildfire
- Work with NPWS and other stakeholders such as North Head Sanctuary Foundation to research the effects of fire on the North Head Sanctuary

Cultural Heritage

In order to protect and restore the cultural and spiritual significance of North Head, the Trust will join with NPWS and other land managers to:

- Ensure that proposed uses protect the Aboriginal and European cultural heritage
- Consult Aboriginal people who are knowledge holders for the Sanctuary
- Undertake non-intrusive works where necessary to protect cultural heritage items from further deterioration and ensure the safety of visitors and wildlife
- Develop an Interpretation Program which includes opportunities for combined tours, education programs and events.

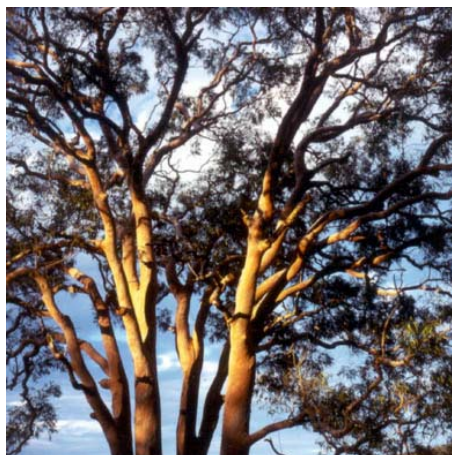
Transport Management

To ensure that transport and traffic demand will be managed in a sustainable manner, the Trust will work with Manly Council, NPWS, and other land managers and stakeholders on North Head to:

- Develop an integrated transport management plan which takes into account the cumulative transport impacts for the whole North Head peninsula.
- Support and facilitate improvements to public transport, walking and cycling access routes and way-finding signage to reduce the impact of car dependency in particular along the Darley Road corridor.
- Investigate the potential to provide shuttle bus service to enable an effective connection between areas of North Head. This should be linked with existing transport services operating from Manly Wharf.
- Encourage an increase in public bus services and provision of associated passenger facilities to the area at peak visitation times particularly on weekends and public holidays.
- Develop an Event Management Policy to effectively manage access during special events.
- Develop an easy to use visitor access guide with comprehensive information covering all visitor needs.
- Support and facilitate the development of Workplace Travel Plans for all employees on North Head, as a means of minimising private vehicle use.
- Monitor the impact of evening use of the North Head Sanctuary on bandicoot populations.

Research and Planning

The North Head Scientific Committee was established by the Trust in June 2004 to advise the Trust on science-based projects that would assist in gathering information for the proposed



sanctuary. The committee has recommended undertaking a number of short and long term monitoring projects in order to obtain relevant baseline environmental data. To date, the Trust, NPWS and the Australian Institute of Police Management have agreed to this program and have co-operated in undertaking the following projects:

- Grid Mapping - involves placing survey pegs at the centre of 100m x 100m quadrats across North Head for the purpose of environmental monitoring. Each peg is numbered, coded and GPS co-ordinates recorded. To ensure a systematic approach, future environmental surveys will be undertaken using the grid and the results stored in a shared Geographic Information System (GIS).
- Bird Surveys - 'Birds Australia' has been commissioned to undertake a comprehensive bird survey of North Head. The study involves bird surveys of the different vegetation associations at North Head. Surveys are regularly carried out, most recently in September 2008.
- Invertebrate Surveys - Biotrack were commissioned by the Trust to undertake an invertebrate monitoring program across North Head. Small pitfall traps were placed at every second grid marker and collected one week later. Processing of the data has been completed and results are now available. Invertebrate organisms are essential to the ecological health and biodiversity value of North Head; they provide an important food source for many of the isolated populations of small marsupials on site.

Remediation

To appropriately manage any remaining contamination as the site is opened up to the public, the Trust will undertake the following actions:

Hazardous Materials

Carry out an audit of hazardous materials and prepare a hazardous materials management plan for all buildings that remain on site. This register and plan would be used to inform future refurbishment works and prioritise abatement and removal works.

Some asbestos cement fragments remain in surface soils in some locations, which may have come from either deteriorating building fabric or have been dumped. The Trust will carry out a program to remove these materials, and validate affected areas.

Groundwater

Carry out at least one more round of groundwater testing from wells located down-gradient of the former Underground Storage Tanks (UST) at Building 1, to confirm the dissipation of previously reported contamination levels.

Remaining dumped wastes

Despite the removal program carried out by the Department of Defence, some dumped wastes and waste materials remain on the site. Some of these wastes may have been placed more recently. The Trust will carry out a program to locate and remove these wastes from site to licensed landfill.

Military Materials

Carry out a survey and clearance program for military materials for all areas as they are opened up to the public with new walking tracks or access works (see *Appendix 1 – Environmental Considerations*).

Contaminated Land Audit

Appoint a contaminated land auditor for the site to review available information, and provide due diligence for the Trust as the site is opened up to the public.

Phytophthora cinnamomi

The Trust's Phytophthora Management Strategy will be implemented, key components of which are shown in the following table. In addition, Pc hygiene protocols will be implemented during any civil works in and around bushland areas.

Risk of spread or introduction by –	Management Strategy
Bush regeneration activities	Implementation of best practice hygiene procedures for bush regeneration or related activities; Soil and plant materials to be sourced from appropriately certified suppliers and the NHSF native plant nursery.
Water flows and increased surface water nutrients	Introduce stormwater measures so that flows are remediated to approach the natural condition in bushland areas, or direct flows away from bushland; Reduce nutrient impact to bushland areas, by remediating nutrient and contaminant sources or nutrient removal.
Walkers	Introduction of a Phytophthora community education program; Walking track design that limits the potential for spread by walkers, including: <ul style="list-style-type: none">– Integrated drainage controls;– Clean crushed sandstone capping;– Mulched edges;– Shoe cleaning equipment Confine walkers to tracks in bushland areas.
Construction/ earthworks/ landscaping activities	Implement hygiene protocols for personnel, machinery and tools; Soil and plant materials to be sourced from Phytophthora-free certified suppliers, or low risk sources; Use only well composted, soil-free mulch.

Water Sensitive Urban Design

The principles of Water Sensitive Urban Design (WSUD) are to be incorporated into the redevelopment of the North Head Sanctuary to achieve water quality, water conservation and ecological objectives. Effective integration will require the application of concepts on a catchment wide basis. The key concepts to be applied are:

- *Source controls* – removal or mitigation of the pollutant source, and on-site rainwater use;
- *Conveyance controls* – applied during the conveyance of stormwater to bushland, streets or channels;
- *Discharge controls* – applied at the point where water leaves the site or the catchment;
- *Natural systems planning* – applied to the entire area. Natural systems planning recognises essential hydrological and ecological functions of watercourses, wetlands and native vegetation.

A number of measures are available to achieve stormwater management objectives by applying these concepts in the redevelopment of the North Head Sanctuary.

Concept	Issue	Application within the precinct
Source Controls	Street sweeping and landscape maintenance	Roads and organic matter are a source of many pollutants. Sweeping and maintenance will be part of the on-going management of the site.
	Rainwater tanks	The use of rainwater for toilet flushing, irrigation etc will reduce water use and stormwater flow peaks.
	Rainwater detention gardens	Applied to intercept sheet and concentrated flows. This will reduce flows and reduce scouring and erosion in bushland areas. It will also improve stormwater quality by controlling the dispersal of nutrients down slope.
	Pit pollution control traps	Investigate their installation at various locations to remove Gross Pollutants and hydrocarbons
	Stormwater Collection	Investigation of options for collection of stormwater from paved areas for reuse
Conveyance controls	Water sensitive road design	Investigate the installation of buffer strips and bio-retention swales, particularly along up-gradient edges of hard-surfaced areas. These measures will reduce run-off velocities and reduce contaminant transport to receiving waters.
Discharge controls	Stormwater Collection	Divert flows to collection areas for possible reuse. This will assist in reducing velocities of run-off on areas down slope and reduce contaminant transport to receiving waters. Examine opportunities to use semi permeable surfaces instead of paving to reduce runoff.
Natural systems planning	Weed removal and revegetation with native species	Regenerate to reduce concentrated stormwater flows, erosion and improve amenity.

Ecologically Sustainable Development

The Trust has a legislated responsibility to manage the North Head Sanctuary in accordance with Ecologically Sustainable Development (ESD) principles using an approach to sustainability that considers economic, environmental and social factors in decision-making, performance and reporting.

The Trust proposes an approach that is consistent with sustainability principles and that will enable the Trust to realise its vision of the sanctuary. The fundamental characteristic of this approach is that it considers sustainability to be a normal consideration in the Trust's day-to-day decision-making concerning North Head rather than as an 'add-on'. This requires sustainability to be integrated into the Trust's governance, culture, processes and procedures.

The North Head Sanctuary and the Trust's unique role in its management, present broad scope to implement innovative practices to ensure the sanctuary is operated in the most sustainable way possible.



While the island-like nature of North Head presents some advantages (for example reduced impact from neighbouring urban development such as storm water runoff and through traffic), it also has some disadvantages (for example, difficulty in access, fragile environmental systems).

In addition, the existing infrastructure is in some cases in a state of disrepair and in other cases presents an opportunity for adaptive reuse.

Components of the Trust's vision for achieving a sustainable sanctuary include:

- Bringing the place back to life as an iconic example of sustainability in practice;
- Maximising its resilience in the context of future changes;
- Using the site appropriately given its past and future; and
- Providing learning experiences and building knowledge about sustainability.

To realise this vision, the following objectives, including the particular challenges associated with them, have been identified to guide the sanctuary's sustainable development:

Built Environment

Aim: To provide flexible and resource-efficient accommodation to meet growing and evolving demand. This will be achieved by:

- Providing for and designing suitable buildings, either through adaptive reuse, modification or additions, or by new construction;
- Selecting appropriate building materials; and
- Using appropriate construction methods.

Water

Aim: To reduce the use of water and to minimise pollution. This will be achieved by providing:

- Water storage capacity to cope with peak loads and wastewater storage for post-event treatment;
- Flexible infrastructure to meet the changing needs of the sanctuary;
- For the treatment of sewerage and stormwater, with treated water being possibly used for underground irrigation or for firefighting;
- Different levels of water quality to match requirements for example potable water for drinking, and treated water for other uses; and
- Efficient facilities that reduce water consumption.

Energy

Aim: To reduce energy use and utilise renewable energy where possible. This will be achieved by:

- Retrofitting existing buildings (subject to practical constraints and heritage considerations) to minimise energy consumption; and
- Installing devices such as photovoltaic cells and solar panels for hot water.

Transport

Aim: To promote sustainable forms of transport to the Sanctuary. This will be achieved by:

- Encouraging the majority of people to access the sanctuary by public transport; and
- Establishing a generally car-free sanctuary where people mostly get about by walking.

Materials and Waste

Aim: To reduce materials used and waste generated by the Sanctuary. This will be achieved by:

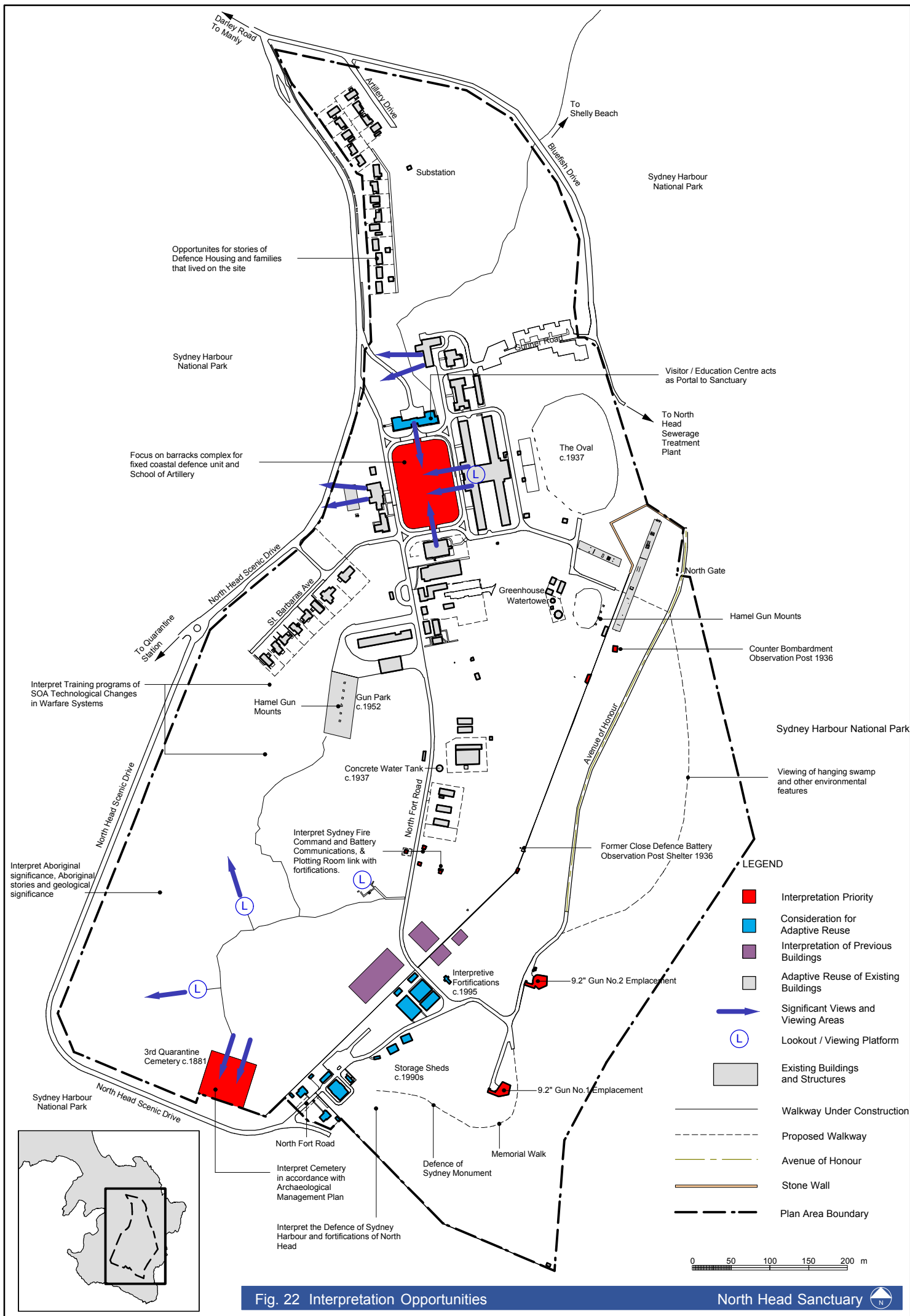
- Minimise generation of waste where possible;
- Recycling building materials; and
- Providing the Sanctuary with effective waste management infrastructure.

Interpretation

One of the primary objectives of the Harbour Trust, in conserving the heritage values of its lands and opening them up to public access, is to increase public understanding and appreciation of the lands' rich natural and cultural heritage. A key means of achieving this is through developing interpretive activities that are meaningful, relevant and engaging to a broad audience.



The Harbour Trust will ensure that future uses of the North Head Sanctuary, its buildings and spaces, the creation and design of public spaces and the development of activities and materials for the public will combine to convey the totality of the site's significant values and its context and setting as part of North Head and the entrance to Sydney Harbour. See **Figure 22 - Interpretive Opportunities**.



A major component of interpretation will be the unique natural environment that exists on North Head, and integration with adjoining landholders will be encouraged. Interpretive activities and programs will address all past uses of the headland, from its geological formation, landscape and Aboriginal heritage through to the various subsequent phases of its development and use. The commemorative and memorial nature of the place should not be overlooked.

Interpretation of the North Head Sanctuary will respond to the needs of its visitors, including the general public, the formal education sector and special interest groups.

The Harbour Trust will prepare an interpretation strategy for the North Head Sanctuary which will provide recommendations as to how the Trust can best communicate the natural, cultural, social and other values and significance of the lands.

The strategy will have five main functions:

1. Define and articulate the interpretive vision, goals and objectives that will guide interpretation of the North Head Sanctuary.
2. Identify an overarching interpretive theme and a set of sub-themes and key stories around which interpretive information can be organised and structured.
3. Explore the interpretive needs and expectations of likely audiences and outline interpretive tools that will reach them.
4. Provide guidelines for suggested interpretive methods and techniques that will engage and enrich visitor experience.
5. Recommend a strategic approach towards the spread of interpretation across the site, which is in keeping with the sensitivity and significance of each location.

The development of the North Head Sanctuary will provide a variety of interpretation opportunities.

The methods of interpretation will include, but not be restricted to:

- Development of a visitors / education centre to provide a year round venue for community and school education programs and act as a portal for visitors to the outdoor experience;
- Adaptive re-use of buildings to include related training, education, research and development facilities; for example a wildlife tracking centre, animal hospital facilities, environmental business park or sustainable living display;
- Thematic guided tours and self-guided walks for the general public, including walking tracks, boardwalks, viewing decks and outdoor amphitheatres;
- Provision of access to the 3rd Quarantine Cemetery in accordance with the recommendations of the Archaeological Management Plan;
- Structured education programs for the formal education sector including schools, universities and centres for continuing education; including resource material for students and teachers;
- School holiday programs;
- Displays and exhibitions;
- Publications;

- Extended study tours in partnership with other agencies; for example working with the Department of Defence to interpret the Sydney Fortress defence systems, or NPWS to interpret the 3rd Quarantine Cemetery;
- Public signage and artefact displays;
- Visitor information brochures and maps;
- Events, open days, and exhibitions;
- Websites (pre-visit information and further resources);
- Oral History research programs;
- Merchandise; and
- Promotional materials and tools.

Implementation

As identified in the Trust's Comprehensive Plan, implementation of this Management Plan will take place over a number of years and the Trust has the discretion as to the extent and nature of the work to be carried out. Priorities for the implementation of the Management Plan have been determined in a manner consistent with Part 2 of the Trust's Comprehensive Plan and in response to priorities identified in the relevant CMPs.

The following table summarises the outcomes to be achieved through the implementation of the Management Plan. The Implementation Plan identifies the relevant policies to guide the implementation of each project and to ensure works are carried out in a manner which is consistent with the National and Commonwealth Heritage management principles.

Implementation Plan

Outcomes	Elements	Priority	Relevant Management Plan or Supporting Study (in addition to Design Concept)
Increased public access - pedestrian links, facilities for cyclists, disabled access, parking across the public domain	<ul style="list-style-type: none"> Provide pedestrian and vehicular access to and within the site. 	High	<ul style="list-style-type: none"> Transport Management Plan
	<ul style="list-style-type: none"> Provide any additional car and bus parking in existing disturbed areas of North Head Sanctuary. 	High	<ul style="list-style-type: none"> Transport Management Plan
	<ul style="list-style-type: none"> Provide parking spaces for people with a disability. 	High	<ul style="list-style-type: none"> Transport Management Plan
	<ul style="list-style-type: none"> Remove intrusive elements such as fencing and inappropriate plantings. 	High	<ul style="list-style-type: none"> Conservation Management Plan
	<ul style="list-style-type: none"> Provide clear and accurate information on available public transport services to staff and visitors. 	High	<ul style="list-style-type: none"> Transport Management Plan
	<ul style="list-style-type: none"> Remove physical barriers between North Head Sanctuary and surrounding bushland. 	High	
	<ul style="list-style-type: none"> Develop pedestrian and cyclist links (where appropriate) to the Sanctuary and adjacent areas. 	High	<ul style="list-style-type: none"> Transport Management Plan
	<ul style="list-style-type: none"> Integrate the site with adjoining lands i.e. with NPWS through development of linked walking tracks and complementary interpretive signage. 	High	
	<ul style="list-style-type: none"> Retain and enhance landscape character of the former School of Artillery. 	High	<ul style="list-style-type: none"> Conservation Management Plan
	<ul style="list-style-type: none"> Provide and / or upgrade of on site services for public domain areas. 	High	<ul style="list-style-type: none"> Conservation Management Plan Site Services Survey

Outcomes	Elements	Priority	Relevant Management Plan or Supporting Study (in addition to Design Concept)
	<ul style="list-style-type: none"> Provision or upgrade of public facilities such as toilets, lighting, BBQs, play equipment and picnic areas. Investigate options for improved transport systems with surrounding land managers Develop visitor/education centres in Building 6 and at North Fort as key entry points to the North Head Sanctuary. 	<p>High</p> <p>Medium</p> <p>High</p>	<ul style="list-style-type: none"> Conservation Management Plan Transport Management Plan Conservation Management Plan
Improved Environmental Conditions	<ul style="list-style-type: none"> Remediate contaminated land and hazardous materials in public areas. Undertake groundwater testing. Implement recommendations of relevant Recovery Plans and Threat Abatement Plans. Conservation and enhancement of existing bushland and regeneration of disturbed areas. Comply with legislation and guidelines for bushfire protection of life, property and natural, cultural heritage values while enhancing ecological outcomes. Implement management controls to minimise the risk of the spread of <i>Phytophthora cinnamomi</i>, including testing prior to undertaking civil works. 	<p>High</p> <p>Ongoing</p> <p>Ongoing</p> <p>High</p> <p>Ongoing</p> <p>High</p>	<ul style="list-style-type: none"> Contamination Report Hazardous Materials Survey Contamination assessment and validation report ESBS Recovery Plan Long-nosed Bandicoot Recovery Plan PC Threat Abatement Plan Flora & Fauna surveys Flora Study ESBS Recovery Plan Draft Integrated Bushfire Management Plan North Head Threat Abatement Plans. Recovery Plans. Draft PC Best Practice Guidelines
Works to enable use/ leasing of buildings and services	<ul style="list-style-type: none"> Provide and / or upgrade on-site services. 	High	<ul style="list-style-type: none"> Site Services Survey
Improved interpretation of the natural and cultural heritage and improved public access	<ul style="list-style-type: none"> Restore and conserve significant buildings across the North Head Sanctuary for adaptive reuse. 	High	<ul style="list-style-type: none"> Conservation Management Plan

Outcomes	Elements	Priority	Relevant Management Plan or Supporting Study (in addition to Design Concept)
	<ul style="list-style-type: none"> Continue residential use of houses. Restore and conserve houses for adaptive reuse. Modify or remove intrusive buildings. Landscape improvements that respond to and convey the site's natural and cultural heritage. Further research into Aboriginal archaeological remains and interpretation of peripheral and bushland areas. Further archaeological research and interpretation of peripheral and bushland areas. Conserve and interpret the 3rd Quarantine Station Cemetery. Provide managed access to 3rd Quarantine Station Cemetery. Continue managed access to the North Head fortifications. 	<p>Ongoing</p> <p>Low</p> <p>Medium</p> <p>Medium</p> <p>Medium</p> <p>Medium</p> <p>High</p> <p>Medium</p> <p>Medium</p>	<ul style="list-style-type: none"> Conservation Management Plan Conservation Management Plan Conservation Management Plan Conservation Management Plan Conservation Management Plan Archaeological Management Plan Archaeological Management Plan Conservation Management Plan

Monitoring and Review of the Plan

The plan will be continually monitored to assess the effectiveness of the Plan in protecting and conserving the National and Commonwealth heritage values. This monitoring will utilise the following methods:

- The **condition of the** tangible and intangible **heritage values** will be monitored annually. The assessment will utilise the baseline condition determined by the recently completed CMPs during the first year of inception of the plan. The assessment will identify any conservation works undertaken, repairs and maintenance, deterioration over time or any significant damage or threat to heritage values.
- Intangible attributes of the values will also be monitored through **assessment and evaluation of the Trust's Interpretation Program** and individual elements of that program.
- **Records of all Action proposals**, associated decisions and reasons for decisions will be kept for reporting purposes. This will enable the Trust to determine how the Management Plan is being used by staff, tenants and contractors in decision making and will monitor the effectiveness of the assessment process.
- The updating of the **Trust's Heritage Register** will be an important part of the monitoring of the implementation of the Plan.

Review Process

A full review of the plan, in accordance with Section 341X and 324W of the EPBC Act will commence five years after it has been adopted. The review may be undertaken internally or using external consultants depending on the resources available at the time. All subsidiary plans will also be reviewed on a five-yearly basis or as outlined in the policies.

This review will mainly be focused on possible amendments associated with:

- Any new research findings or information gained through community consultation;
- Emergence of previously unforeseen management issues that impact on the heritage values of the place;
- The result of the abovementioned monitoring programs, where they indicate that the policies contained in the plan do not achieve the stated management objectives; and
- Any new policies recommended for improved protection of heritage values.

The plan will remain in force until a new plan is adopted.

Acknowledgements: Images

Figure 7

'Titan', a floating crane unloading a 9.2 inch gun off the barge and onto the beach at North Head' c 1936

Source: Australian War Memorial AWM P02729.057.

Figure 8

'9.2 inch Mark 10 gun. Firing practice at North Battery', 1939

Source: Royal Australian Artillery National Museum, Royal Australian Artillery Historical Company.

Figure 9 (left)

'Fortress Plotting Room' 20 January 1944

Source: Australian War Memorial AWM 063468.

Figure 9 (right)

'Entry to Plotting Room' 25 November 2005

Source: Roxana Vlack, Sydney Harbour Federation Trust.

Figure 10

'Sydney Fire Command'

Source: Royal Australian Artillery National Museum, Royal Australian Artillery Historical Company.

Figure 11

'North Battery'

Source: Royal Australian Artillery National Museum, Royal Australian Artillery Historical Company.

Figure 12

'Kine Theodolite demonstration C1944'

Source: Australian War Memorial AWM P00613.001.

Figure 13

'School on Parade'

Source: J.A.R. Jansen – from 'History of the School of Artillery 1885 to 1996', Ian Burch, p.96.

Figure 14

'The Hamel Gun' 26 February 1992

Source: School PR Album 90-92 'History of the School of Artillery 1885 to 1996', Ian Burch, p.22.

Figure 15

'Artillery Troops leaving North Head' 1996

Source: Royal Australian Artillery National Museum, Royal Australian Artillery Historical Company.

Oil Pastels and drawings by Nick Hollo 2003 - 2010

- Including view of North Head and Sydney Harbour, Bandicoot spotlight, Parade Ground activities, Boardwalk tour.

Related Studies and Documents

Note: The following studies are available for viewing at the Harbour Trust Resource Centre. Contact the Trust on (02) 8969 2100 for further information. Extracts of the Conservation Management Plans (Historical Analysis and Conservation Policies) identified with an asterisk (*) can also be viewed through the Trust website www.harbourtrust.gov.au

Aboriginal Heritage Office, 2007. *North Head Aboriginal Site Management Report*.

Australian Wildlife Conservancy, November 2007. *North Head Operational Plan*.

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Appendices

Appendix 1

Environmental Considerations

Appendix 2

Combined Schedule 5A and 7A – Environment Protection and Biodiversity
Conservation Act Regulations 10.01C and 10.03B

Appendix 3

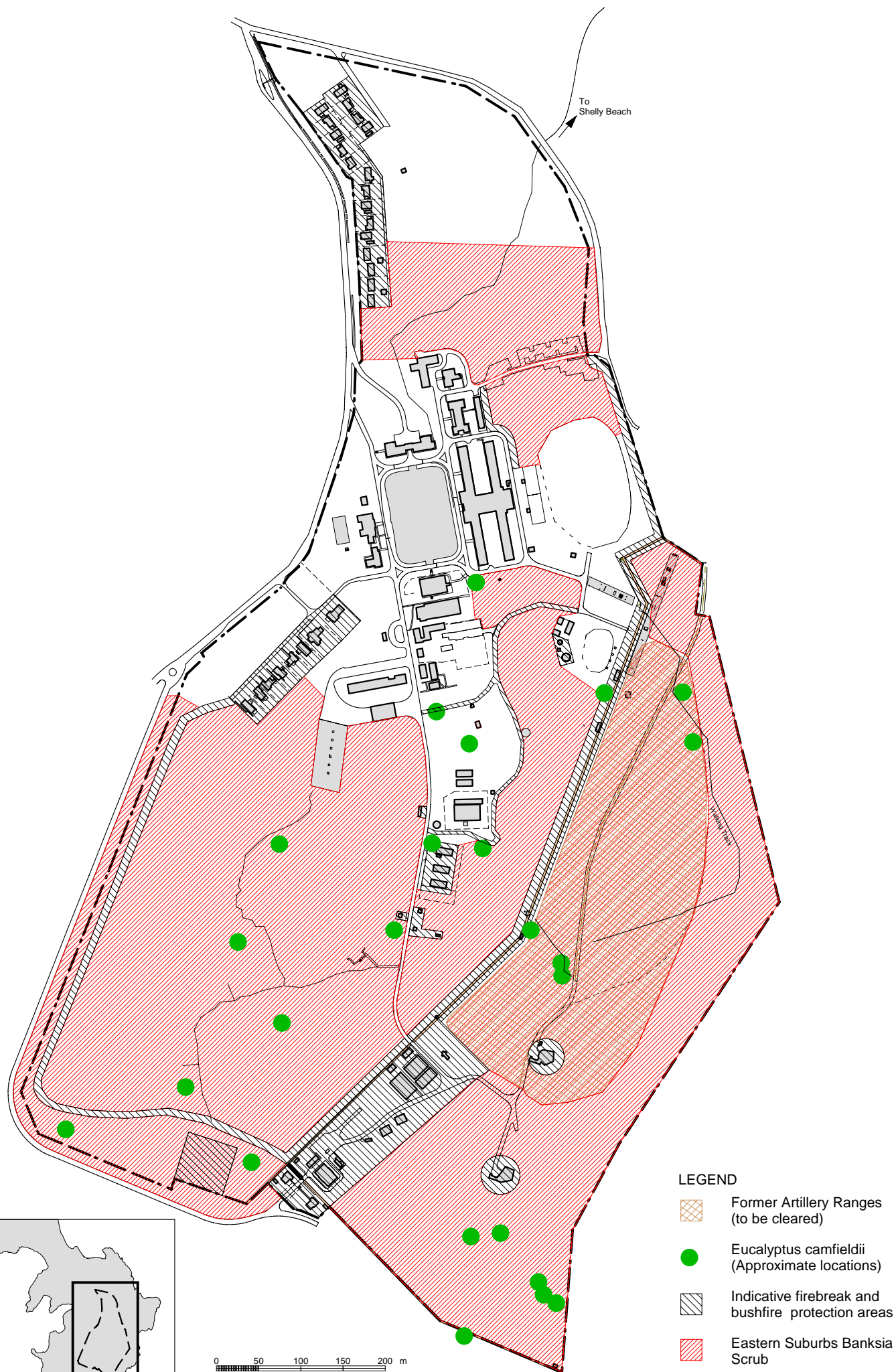
Combined Schedule 5B and 7B – Environment Protection and Biodiversity Act
Regulations 10.01E and 10.03D

Appendix 4

National Heritage Listing (including Summary Statement of Significance)

Appendix 5

Commonwealth Heritage Listings (including Summary Statement of Significance)



Appendix 2 - Schedule 5A & 7A

Schedule 5A & 7A

Environment Protection and Biodiversity Act Regulations 10.01C and 10.03B

A Management Plan for a National and Commonwealth Heritage Place must:	Relevant section of the Management Plan
(a) establish objectives for the identification, protection, conservation, presentation and transmission of the National and Commonwealth Heritage values of the place; and	Aims of the plan p.6 Policy 1
b) provide a management framework that includes reference to any statutory requirements and agency mechanisms for the protection of the National and Commonwealth Heritage values of the place; and	Introduction; Aims of the plan p.6; Planning Framework pp 6-11 Policies 1, 2
c) provide a comprehensive description of the place, including information about its location, physical features, condition, historical context and current uses; and	Site Description p.12 Site History p.19 Analysis and Assessment pp. 36-49
d) provide a description of the National and Commonwealth Heritage values and any other heritage values of the place; and	Heritage values pp. 50
e) describe the condition of the National and Commonwealth Heritage values of the place; and	Condition of Commonwealth Heritage Values pp. 54
f) describe the method used to assess the National and Commonwealth Heritage values of the place; and	Conservation Management Plans p.35
g) describe the current management requirements and goals including proposals for change and any potential pressures on the National and Commonwealth Heritage values of the place; and	Aims of the plan p.6 Planning Framework pp 6-11 Heritage Listings p.36 Outcomes pp. 87-112
h) have policies to manage the National and Commonwealth Heritage values of a place, and include in those policies, guidance in relation to the following:	Policies pp. 64-86
i) the management and conservation processes to be used;	Policies 1-30
ii) the access and security arrangements, including access to the area for Indigenous people to maintain cultural traditions;	Polices 25-28, 49
iii) the stakeholder and community consultation and liaison arrangements;	Policies 22, 28
iv) the policies and protocols to ensure that indigenous people participate in the management process;	Policies 20, 28
v) the protocols for the management of sensitive information;	n/a
vi) the planning and management of works, development, adaptive reuse and property divestment	Policies 5-12, 23, 24, 35-41, 44-47, 48-51, 52-59

proposals;	
vii) how unforeseen discoveries or disturbances of heritage are to be managed;	Policy 3, 13
viii) how, and under what circumstances, heritage advice is to be obtained;	Policies 1, 12, 24
ix) how the condition of the National and Commonwealth Heritage values is to be monitored and reported;	Monitoring and Review of the plan p.117
x) how records of intervention and maintenance of a heritage places register are kept;	Policies 14, 23, 29
xi) the research, training and resources needed to improve management;	Policy 22
xii) how heritage values are to be interpreted and promoted; and	Interpretation pp. 113 Policies 21, 31, 46, 53-55, 58
i) include an implementation plan; and	Implementation table pp. 114-116
j) show how the implementation of policies will be monitored; and	Monitoring and Review of the Plan p.117
k) show how the management plan will be reviewed.	Monitoring and Review of the Plan p. 117 Policy 30

Appendix 3 – Schedule 5B and 7B

Schedule 5B and 7B – Environment Protection and Biodiversity Act Regulations 10.01E and 10.03D

National and Commonwealth Heritage Management Principles	Issues to consider in the evaluation of management plans
1. The objective in managing National and Commonwealth Heritage places is to identify, protect, conserve, present and transmit, to all generations, their Commonwealth Heritage values.	Aims of the plan p. 6
2. The management of National and Commonwealth Heritage places should use the best available knowledge, skills and standards for those places, and include ongoing technical and community input to decisions and actions that may have a significant impact on their National or Commonwealth Heritage values.	Policies 3, 4, 22, 24, 29
3. The management of National and Commonwealth Heritage places should respect all heritage values of the place and seek to integrate, where appropriate, any Commonwealth, State, Territory and local government responsibilities for those places.	Aims of the plan p. 6 Planning Framework pp 6-11
4. The management of National and Commonwealth Heritage places should ensure that their use and presentation is consistent with the conservation of their National and Commonwealth Heritage values.	Aims of the plan p. 6 Policies 1, 2
5. The management of National and Commonwealth Heritage places should make timely and appropriate provision for community involvement, especially by people who: (a) have a particular interest in, or associations with, the place; and (b) may be affected by the management of the place.	Policy 22, 29
6. Indigenous people are the primary source of information on the value of their heritage. The active participation of Indigenous people in identification, assessment and management is integral to the effective protection of Indigenous heritage values.	Policy 22
7. The management of National and Commonwealth Heritage places should provide for regular monitoring, review and reporting on the conservation of National and Commonwealth Heritage Values.	Monitoring and Review of the plan p. 117

Appendix 4 - National Heritage Listing

North Head - Sydney, North Head Scenic Dr, Manly, NSW, Australia

Photographs None

List: National Heritage List

Class: Historic

Legal Status: [Listed place](#) (12/05/2006)

Place ID: 105759

Place File No: 1/13/024/0019

Summary Statement of Significance:

North Head is important as the northern expression of the seaward entrance to Sydney Harbour (Port Jackson) and played a major role in the cultural and military life of the colony of New South Wales, following the arrival of the First Fleet in 1788. The 'Heads', have signified arrival and departure at Port Jackson since 1788 and are recognised as important, iconic, national landmarks. North Head was portrayed by artists such as Augustus Earle as early as 1825. In 1812 the 'Heads' were referred to as the 'Port Jackson Heads', later as the 'Sydney Heads'. The Sydney Heads have iconic status for aesthetic values as landmarks in their own right, but equally as part of the setting for Sydney and its harbour.

North Head is important for its association with the establishment of quarantine in the colony of NSW and with Australia's development as an island-nation, susceptible to ship-borne disease. The isolation and strategic role of North Head was recognised in 1828 when the first vessel, the *Bussorab Merchant*, was quarantined at Spring Cove. The importance and future role of North Head was reinforced by Governor Darling's Quarantine Act of 1832, in response to the cholera epidemic in Europe in 1830. In 1832 the whole of North Head was set aside for quarantine purposes. North Head has a rich and diverse character which stems from the layering and aggregation of uses that overlay the relict and evolving cultural landscape of the Quarantine Station. The assemblage includes cemeteries, carvings and engravings which are a record of the station's history and the diverse cultural and social backgrounds of quarantined passengers, including class and ethnicity. Archaeological sites within the Quarantine Station, and in other areas of North Head, have the potential to add to our understanding of the development and operation of nineteenth century quarantine practices and procedures from the 1830s-1870s, and in particular from the 1830s-1850s, a formative period for quarantine practices in the Australian colonies. The potential for archaeological investigation extends to the former mooring areas and littoral zones at Quarantine Cove, where vessels were cleansed before being returned to their owners, and to Stores Beach

The North Head Quarantine Station is important, in conjunction with the Quarantine Station at Point Nepean, in illustrating the evolution and development of quarantine practices employed at Stations in other states.

The North Head Quarantine Station, excluding the Seamen's Hospital, comprises the oldest and most intact example of quarantine facilities in Australia. The North Head Quarantine Station has the longest history (1828-1977) of quarantine use in Australia and provides the best evidence in Australia of the impact of changing social attitudes and scientific demands on quarantine from the 1830s-1980s, as well as the human story of quarantine. Over 13,000 persons, including convicts and free migrants, were to pass through the Station before its closure in 1977. The Quarantine Station was used for returning soldiers during WW1 and WW2, prisoners of war, evacuees from Cyclone Tracy in 1974 and refugees from Vietnam in 1975. The Station is particularly associated with the development of health policy by the NSW and Commonwealth governments during the nineteenth and early twentieth centuries, including the treatment of plague and Spanish influenza victims. The station was closely associated with the smallpox epidemic of 1881, which resulted in better facilities, including a new hospital, and stricter zoning by fences, including a separate Asiatics' area in response to requests from the Shipping Owners Association. In this respect the Station is an expression of the gradual implementation during the 1880s of Immigration Restriction Acts in the colonies as an expression of the white-Australia policy.

The major groups of buildings, erected 1873-1909 and 1910-1920, although contemporary with surviving complexes in other states, are rare in terms of the range of buildings and their relative intactness. The Superintendents Residence at North Head, erected in 1854, appears to be the earliest surviving purpose built quarantine related structure in Australia. The Quarantine Station is important in demonstrating the principal characteristics and development of quarantine stations in Australia during the nineteenth and early twentieth centuries. The principal characteristics, in addition to its location at the entrance to port and its physical isolation, include the conscious and enforced classification of the land, based on health issues, class and race and the institutional nature of the place. This included the isolation of the hospital, seen, but not approached from many parts of the Station; the Wharf and

Disinfection areas, which stood as a barrier between the inmates and the main line of escape, and the Administration Area, which guarded the land route out; the separation of the First, Second and Third class passengers into barracks style accommodation in different areas, with the administration area interposed between Third Class and the rest, imposing class distinctions within the landscape; and the clear separation of the Asian Accommodation, imposing a racial layer on top of class differentiation. The cultural landscape includes cemeteries, monuments, fences, walls, boundary markers and cairns as well as tracks, paths and roads which document the development and meaning of the Station and reinforce the sense of segregation and isolation. Fences and stone walls characteristically formed an integral part of the security and boundaries of the Station. Specific responses to functional needs and the development of health practices and procedures designed to protect the colony, State and Nation from infectious diseases created a significant cultural landscape. The landscape was one of controlled movement with well defined groups of buildings set in precincts, reinforced by the institutional nature of the buildings and the unity of their design.

Official Values: Criterion: A Events, Processes

North Head is important as the northern expression of the seaward entrance to Sydney Harbour (Port Jackson) and played a major role in the cultural and military life of the colony of New South Wales, following the arrival of the First Fleet in 1788. The 'Heads', have signified arrival and departure at Port Jackson since 1788 and are recognised as important, iconic, national landmarks.

The North Head Quarantine Station is important for its association with the establishment of the colony of NSW and with Australia's development as an island-nation, susceptible to ship-borne disease. The isolation and strategic role of North Head was recognised in 1828 when the first vessel, the *Bussorab Merchant*, was quarantined at Spring Cove. The importance and future role of North Head was reinforced by Governor Darling's Quarantine Act of 1832, which set aside the whole of North Head for quarantine purposes in response to the cholera epidemic in Europe in 1830.

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The North Head Quarantine Station, excluding the Seamen's Hospital, comprises the oldest and most intact example of quarantine facilities in Australia. North Head provides the best evidence in Australia of the impact of changing social attitudes and scientific demands on quarantine from the 1830s-1980s, as well as the human story of quarantine. Over 13,000 persons, including convicts and free migrants, were to pass through the Station before its closure in 1977. The Quarantine Station was used for returning soldiers during WW1 and WW2, prisoners of war, evacuees from Cyclone Tracy in 1974 and refugees from Vietnam in 1975. The Station is particularly associated with the development of health policy by the NSW and Commonwealth governments during the nineteenth and early twentieth centuries, including the treatment of plague and Spanish influenza victims. The station was closely associated with the smallpox epidemic of 1881, which resulted in better facilities, including a new hospital, and stricter zoning by fences, including a separate area for Asiatics in response to requests from the Shipping Owners Association. In this respect the Station is an expression of the gradual implementation during the 1880s of Immigration Restriction Acts in the colonies as an expression of the white-Australia policy. North Head has a rich and diverse character which stems from the layering and aggregation of uses that overlay the relict and evolving cultural landscape of the Quarantine Station. The assemblage includes a navigation obelisk (L4) and roads, tracks, boundary markers, cemeteries, carvings and engravings, which are a record of the station's history and the diverse cultural and social backgrounds of quarantined passengers, including class and ethnicity. Standing structures and sites include:

Cemeteries and memorials

(site 111A1, c. 1837-1853); (L1, 1853-1881); (VA1, 1881-1925); and the Constitution Monument (L9, 1855).

Boundaries

Ashlar sandstone walls (site L10 1930s, north-western boundary c. 1890); and sandstone cairn (111A3, 1830s).

Wharf Area

(A14-A17, 1914-1915); (A6-A7, 1912-1920); (A8, 1919); (A11-A12, 1912-1920); (A9, 1912-1920); the wharf area and jetty; the Cannae Point wooden Signal mast; and flag poles at Quarantine Beach and within the Administrative Area.

Hospital and Isolation Ward Area

(H1, c. 1882); (H2, c. 1912); (H3, c. 1912); (H4, c. 1912); (H5, c. 1912); and (H7, 11 c. 1912).

Third Class/Asiatics Area

(P22, c. 1883); (P27, 1912-1914); (P28-P29); (S9, c. 1883); and (P14-P16, 1899-1900).

First Class Area

1890s (P3, P7, P4, P36, P6, P13 and P11). From 1875 (P1, P2, P5, P9 and P10)

Second Class Area

1901 (P11, P12 and P13).

Administration Area

(S6, 1853); (A1, 1911-1912); (A20, c. 1921); (A24, 1911-1912); (A25, c. 1900); (S5, 1870), (S1 and S2, c. 1883), (S12, 1913); (S14, 1938); (S15 and S16, post 1950); and (S4, S7 and S10).

Criterion: B Rarity

The North Head Quarantine Station has the longest history (1828-1977) of quarantine use in Australia. The major groups of buildings, erected 1873-1909 and 1910-1920, although contemporary with surviving complexes in other states, are rare in terms of the range of buildings and their relative intactness. The Superintendents Residence at North Head, erected in 1854, appears to be the earliest surviving, purpose-built, quarantine-related structure in Australia.

Criterion: C Research

An estimated 47 potential archaeological sites within the North Head Quarantine Station, and in other areas of North Head, have the potential to add to our understanding of the development and operation of nineteenth century quarantine practices and procedures from the 1830s-1870s. In particular, archaeological research would enable the period from the 1830s-1850s, a formative period for quarantine practices in the Australian colonies, to be better understood and interpreted in the context of the archival record and the surviving, functionally-related, buildings, planning and layout of the Station. The potential for archaeological investigation extends to the former mooring areas and littoral zones at Quarantine Cove, where vessels were cleansed before being returned to their owners, and to Stores Beach.

Criterion: D Principal characteristics of a class of places

North Head Quarantine Station is important in demonstrating the principal characteristics and development of quarantine stations in Australia during the nineteenth and early twentieth centuries. These characteristics include the physical isolation of the site, individual quarantine functions and medical protocols and planning and layout, including access by sea. Landscape and spatial elements reinforce the social and medical philosophies upon which the layout of the quarantine station was based, including the separation of social classes and isolation of more contagious conditions.

The North Head quarantine station is also important in representing quarantine practices in the 1880s and early 1890s. The integrity of the fabric dating from this time enables the principal characteristics of conscious and enforced classification, based on health issues, class and race and the institutional nature of quarantine stations to be illustrated. This included the isolation of the hospital, seen, but not approached from many parts of the Station; the Wharf and Disinfection areas, which stood as a barrier between the inmates and the main line of escape, and the Administration Area, which guarded the land route out; the separation of the First, Second and Third class passengers, with the Administration Area interposed between Third Class and the rest, imposing class distinctions within the landscape; and the clear separation of the Asian Accommodation, imposing a racial layer on top of class differentiation. The cultural landscape includes cemeteries, monuments, fences, walls, boundary markers and cairns as well as tracks, paths and roads which document the development and meaning of the Station and reinforce the sense of segregation and isolation. Fences and stone walls characteristically formed an integral part of the security and boundaries of the Station.

Common periods of development with the Point Nepean Quarantine Station include improvements in quarantine techniques and technical standards under the Commonwealth from 1911. Particular aspects of these improvements include the railway system (1914-1915) and the Tuberculosis Wards (1916-1918), the latter erected to cope with medical issues associated with the immediate aftermath of the First World War.

Criterion: E Aesthetic characteristics

Historic values:

North Head has been important for its symbolic image since 1788 as the entrance to Port Jackson, and was portrayed by artists such as Augustus Earle as early as 1825. In 1812 the 'Heads' were referred to

as the 'Port Jackson Heads', later as the 'Sydney Heads'. The Sydney Heads have iconic status for aesthetic values as landmarks in their own right, but equally as part of the setting for Sydney and its harbour.

The site references refer to features identified in: *Sydney Harbour National Park - North Head Quarantine Station Conservation Management Plan Volume I: The Plan*. This was prepared for NSW National Parks & Wildlife Service, Hurstville NSW, by Peter Freeman Pty Ltd, Heritage Management Consultants, Donald Ellsmore Pty Ltd, Robert Boden & Associates, Haglund & Associates and Guppy & Associates, in April 2000.

Description:

NATURAL SETTING

North Head was formed 90 million years ago during the Late Cretaceous Period. Following rifting of the Tasman Sea and uplift of the Hornsby Plateau, stream erosion began to cut into the plateau surface. This erosion excavated the valley system now flooded by Sydney Harbour and left behind the ridges and plateau remnants forming the high ground and headlands around the harbour. There have been at least eight sea level changes over the past 700,000 years, and as a result of these changes in sea level, North Head has on various occasions formed a mesa, an island and a tied island. The main valleys of North Head are the landward extensions of these ancient valleys in the bed of Sydney Harbour. The largest valley extends from Manly Hospital to Collins Beach and is the landward extension of the palaeo valley in Spring Cove. North Head is a tied island, composed primarily of Triassic age sandstone, shale and laminite from the Hawkesbury Sandstone and Newport Formations, which are exposed in the cliffs and rock platforms from Outer North Head to Shelly Beach Headland. Two basaltic dykes, presumed to be of Jurassic age, intrude the Triassic rocks. Above the 60 m contour North Head is a plateau with a central north-south trending ridge of Pleistocene-aged dune sands up to 30 m thick. These sands are a significant aquifer; wetlands are developed where the sand deposits are shallow and where sand chokes valleys on the western side and springs rise at the boundary between the sands and the Hawkesbury Sandstone. These feed the perennial stream entering the harbour at Collins Beach, the stream at Quarantine Station and the stream flowing beside the Sewage Treatment Works. The major soil landscapes at North Head are derived from the Pleistocene dune sands and Hawkesbury Sandstone, forming sandy podsols, yellow earths, siliceous sands and yellow podsollic. Bare rock outcrops and sandstone pavements are common. Below the 60m contour, valleys and embayments have dissected the western side of the plateau while on its eastern and southern sides sea cliffs up to 90m high bound the plateau. Large deposits of blocky talus blanket rock platforms that occur at the base of most of the cliffs. North Head is joined to the Hornsby Plateau by the Holocene sand spit on which the town of Manly is situated.

North Head is a mosaic of vegetation communities that have been subject to varying degrees of human impact including clearance. The natural ecosystems have been partly protected by North Head's isolation and both fragmented and protected by its unusual history of development and management. As a consequence North Head supports a number of vegetation communities and populations that are vulnerable to further changes and disturbance.

The exclusion of fire for the past thirty years has resulted in changes to vegetation communities, with scrub communities being invaded by species favoured by the absence of fire. Approximately 460 species of vascular and non-vascular plants have been found at North Head in four vegetation communities. The coastal sandstone heath and coastal dune heath form dense vegetation thickets up to 2 m high on shallow stony soils on Hawkesbury Sandstone. The heath is dominated by sclerophyllous vegetation such as heath banksia (*Banksia ericifolia*), red bloodwood (*Eucalyptus gummifera*), smooth-barked apple (*Angophora costata*), various heath (*Epacris*) species, tea tree (*Leptospermum laevogatum*), and coast banksia (*B. serratifolia*). On the slopes and gullies, Sydney sandstone ridge-top woodland and Sydney sandstone gully forest form low woodland up to 10 metres in height, dominated by bangalay (*E. botryoides*) and smooth-barked apple. Understorey species include the tall shrub silver leaf (*Callicoma serratifolia*), and lilly-pilly (*Acmena smithii*). In these more protected areas, sweet pittosporum (*Pittosporum undulatum*) is becoming a significant environmental weed.

Ninety species of birds have been recorded at North Head including the satin flycatcher (*Myiagra cyanoleuca*), black-faced monarch (*Monarcha melanopsis*), brown gerygone (*Gerygone mouki*), wonga pigeon (*Leucosarcia melanoleuca*) and the whistling kite (*Haliastur sphenurus*). At least five terrestrial mammals are present, including the brushtail possum (*Trichosurus vulpecula*), ringtail possum (*Pseudocheirus peregrinus*), and water rat (*Hydromys chrysogaster*) and there are records of seven reptiles including the common tree snake (*Dendrelphis punctulatus*) and at least four frogs including the whistling tree frog (*Litoria ewingi*).

ABORIGINAL CULTURAL LANDSCAPE

Evidence of Aboriginal use of North Head has been recorded in at least thirty-five separate locations across this landscape. Sites include rock engravings, rock shelters with deposit and/or art, open camp sites, middens and burials. Most sites are concentrated on the western, harbour-side of North Head, generally in association with the small coves and beaches, close to fresh water sources and more accessible areas.

The shell middens commonly occur in rock shelters, usually with shallow deposits. A range of rocky shore shell species have been recorded. Very little fish and marine bone and few stone artefacts have been recorded in these shelters. Implements include a shell possibly hafted onto the ends of spear throwers (one of three locations in Sydney) (Attenbrow, 2002:99), and there is possible evidence for skin working identified on stone and bone artefacts from earlier undated excavations in rockshelters at Collins Cove, North Head. At least two edge ground axes have been located at North Head, as well as a small number of stone flakes and a possible knapping floor (Attenbrow, 2002:100).

At least one burial has been located in a rock shelter on North Head, associated with shell material, and the skeleton of a child and an adult were removed from a rockshelter in the 1960's.

Both rock engravings and painted motifs occur at North Head. Engravings occur in rock shelters and on open rock platforms, and include mudoes/footprints, a fish or whale, a wallaby, circles and a shark. A source of white and reddish/brown ochre has been located on North Head. A range of other resources are available in the area which may have been used by Aboriginal people, including water (underground springs on the western side), plants, animals and marine resources. Aboriginal place names have been recorded for locations on the southern side of North Head, and include Boree, and Garungal or Car-gang-gel (Attenbrow, 2002:9).

THE HISTORIC LANDSCAPE

North Head's deep-water anchorages, rugged cliffs and landward isthmus provided an easily guarded, naturally isolated site for quarantine purposes. This sense of isolation has been reinforced by:

- the Catholic Church's St Patrick's Estate and the Commonwealth government's control of the area which has resulted in the persistence of most of the area's native vegetation;
- views into and from North Head, in particular from the Quarantine Station, in which little development is visible within the boundaries of the area;
- the landmark location of North Head at the mouth of Middle Harbour and the seaward entrance to Port Jackson from the Pacific Ocean; and
- the relative scale and size of North Head in the context of Sydney Harbour/Port Jackson.

The landmark values of North Head, including its scale and isolation, are reinforced by the survival of the vegetated mass and profile of the headland. The North Head Sewerage Treatment Plant is located below and to the north of the ridge and does not appear to interfere with these landmark values. As the dominant headland of the harbour, North Head was of importance in navigation from the time of the First Fleet. By 1809, navigational plans showed an obelisk in what would become the quarantine station. A ten metre obelisk (L4) still exists on this site making it potentially one of the oldest European structures on Sydney Harbour. The initial use of Spring Cove for the ship based quarantine station facilities was transferred to Quarantine Beach, Manly Cove, in 1837, where the first shore based facilities were created. Stores Beach to the north provided a separate point of entry for supplies and personnel. Although the whole of the headland was set aside for quarantine purposes, the area close to Quarantine Beach would develop as the focus of quarantine activity with functional areas strategically located on the valleys, hillsides and ridges surrounding Stores and Quarantine beaches. In the 1890s, the western boundary of the quarantine area was defined by a stone wall, modified in the 1930s, which now acts as a physical boundary to the relatively undeveloped areas of North Head, and which are also vegetated.

HISTORIC PRECINCTS

North Head comprises a number of precincts, which have been described in some detail by Freeman (2000) in the Conservation Management Plan prepared for the Quarantine Station and in a contemporary study of Defence Property at North Head.

The nominated area of North Head comprises the related Quarantine Station Precinct and Spring Cove precincts, the Parkhill Precinct, the Blue Fish Precinct (including the North Head Sewerage Treatment Plant), the related North Fort and Artillery School precincts and the Loop and Quarantine South precincts on the southern side of the headland. Integral to the use of the headland is the road which is defined at its northern end by the remains of the Parkhill Arch, which terminates at the scenic lookout and which, with the exception of Bluefish Drive, allows access to the precincts, each of which is defined

by historical usage and existing cadastral boundaries. The North Head Sewerage Treatment Plant (STP) is enclosed by the Blue Fish Precinct, while the Australian Institute of Police Management is located within the Spring Cove Precinct. The location of other features of North Head is directly indicated by the given name. The complex layering of the cultural landscape of North Head has resulted in quarantine related elements being included in Defence, Commonwealth Police and National Parks administered land.

Those aspects of North Head which are considered to be above threshold for the National Heritage List are discussed in outline in the following detailed descriptions based on Conservation Management Plans prepared by Freeman (2000) and Davies (2001) supplemented by Commonwealth, State and local government listings.

Freeman (2000) refers to the following aspects of North Head relative to the Quarantine Station Precinct: Wharf Area; Hospital and Isolation Ward Area; Third Class/Asiatics Area; First Class Area; Second Class Area; and Administrative Area. In addition, Freeman identified the Spring Cove, Parkhill, Quarantine South and Marine precincts. The detailed conservation management plan by Davies (2001) employed similar terminology but referred to the various areas in the Quarantine Station Precinct as precincts in their own right. The terminology adopted by Freeman (2000) in the North Head Quarantine Station Conservation management Plan and in the North Head Defence property report has been employed in order to address the broader landscape and heritage issues of North Head.

Quarantine Station and Quarantine South Precincts

Cultural Landscape

The landscape of the Quarantine Station Precinct and Quarantine South Precinct comprise a cultural landscape heavily impacted by human activity. The Quarantine Station Precinct has three main groups of buildings: the wharf area; the foreshore buildings; the hospital group; and the buildings on the upper slopes. As a whole the station is set in bushland with cleared areas and some re-growth. The landscape is visually important to viewers from the harbour and from other headlands and from within North Head itself. A strong element in the landscape is the conscious and enforced classification of the land, based on health issues, class and race. This includes: the isolation of the hospital, seen, but not approached from many parts of the Station; the wharf and disinfection areas, which stood as a barrier between the inmates and the main line of escape, and the administration area, which guarded the land route out; the separation of the first, second and third class passengers, with the administration area interposed between third class and the rest, imposing class distinctions within the landscape; and the clear separation of the Asian accommodation, imposing a racial layer on top of class differentiation. In addition, the cultural landscape includes cemeteries, monuments, fences, walls, boundary markers, obelisks and cairns as well as tracks, paths and roads which document the development and meaning of the Station. The approximate location of the first cemetery is at the junction of the wharf and hospital roads above Quarantine Beach (site **111A1**, c. 1837-1853). The Second Cemetery (site **L1**, 1853-1881), east of the Third Class area in the Quarantine South Precinct, retains 3 headstones in situ, while the Third Cemetery (site **VA1**, 1881-1925) is located within the School of Artillery.

The Constitution Monument (site **L9**) commemorates the quarantining of the ship *Constitution* in 1855 and the 50 year reunion of survivors of this small pox outbreak. Located above the Third Class Precinct, the memorial was completed in 1855 to commemorate the ill-fated voyage. Like the inscriptions in the Wharf Area and at the 'Old Man's Hat', located in the Quarantine South Precinct, it is one of the more obvious memorials. The iconography used by inmates, in the 1,000 plus inscriptions, memorials and gravestones, including military personnel buried in the Quarantine Station cemeteries, is important in conveying the experiences of inmates and changing attitudes to race and class. Fences and walls formed an integral part of the security and boundaries of the Station. Built in the 1930s Depression, ashlar sandstone walls show the subdivision of the Station at that time for hospital, recreation and military purposes (site **L10** south east of the Quarantine Station). Of particular importance is the single remaining cairn (site **111A3**, 1830s) denoting the line of cairns which identified the terrestrial line of quarantine at that time.

Wharf Area

Quarantine Beach, around which the Wharf area developed, was the first area to be improved to regulate the risk of disease entering the colony. The area includes the following structures and features: the sandstone and rubble wharf and timber jetty completed in its current form c. 1909. The seabed area around the end of the jetty may contain significant archaeological resources lost from quarantined ships.

A group of inscriptions is clustered on the rock outcrops and south east slope of the Area. These began in the 1830s and continued throughout the life of the Station, with inscriptions in English, European languages and Arabic and Asian languages.

- the flat of the gully leading up from the wharf area contains: the brick Luggage Store and Examination Rooms (**A14-A17**, 1914-1915); the brick Disinfection Block and Powerhouse (**A6-A7**, 1912-1920), including autoclaves installed in 1917; timber buildings containing the Formalin Inhalation Chambers (**A8**, 1919) used to treat the 1918 Influenza victims; the brick Shower Blocks (**A11-A12**, 1912-1920) and Laundry (**A9**, 1912-1920). The chimney dominates the group, the uniform red brick of the group having a strong visual impact. The site of the first Doctor's Residence (site **111A2**, c. 1838) has been identified on Cannae Point near the Mortuary.

- the site railway system and funicular to move luggage and supplies (1914-1915), based on a 2' 4" gauge, ran from the jetty to the escarpment via stone ramp, but is now broken at two points.
- the Cannae Point wooden Signal mast, first erected in the 1830s and restored in the 1980s, advertised incoming shipping of the quarantine conditions. Other shorter flag poles are located at Quarantine Beach and at the General Office within the Administrative Area.

Hospital and Isolation Ward Area

The exposure of the area as part of Cannae Point, selected for its windy location as a means of creating healthy conditions, has resulted in limited tree cover, with the buildings clearly visible. The buildings are clearly separated from the First and Second Class areas, with the Asiatics and Third Class accommodation located closest to the Hospital areas. The area contains rock inscriptions, some dating from as late as the 1960s.

The largest building within the area, the Hospital Ward Building (**H1**) is the c. 1883 timber framed, weatherboard building with encircling verandahs adapted c. 1912, when the adjacent brick Ward Building (**H2**) and timber Changing Block (**H3**), Doctor's and Nurses Block (**H4**), Kitchen (**H5**) and Assistant's Quarters (**H5**) were completed. A covered walkway with handrails and cross bracing links the individual buildings. The alterations to the Hospital Ward Building included Federation features such as coloured glass and stucco and strapwork to the chimneys. The Isolation Wards (**H7-11**), also built c. 1912, comprise a group of domestic scale, weatherboard pavilions with corrugated, asbestos cement roof sheeting to the gabled roofs.

The sites of several early buildings are situated in the Hospital Area. These include the early male and female wards, the early doctor's residence, the early cookhouse and officers' quarters.

Third Class/Asiatics Area

The Third Class and Asiatics Area is located above Quarantine Beach in the saddle area formerly known as the Healthy Ground. The saddle was one of two sites set aside for the separation of sick and healthy immigrants in 1838. The first buildings on the site formed a crescent above the present road. The site now contains a large Dormitory Block (c. 1833 **P22**), Kitchen and Dining Room (1912-1914 **P27**) and small freestanding toilet blocks for third class passengers (**P28-P29**) as well as a Staff Cottage (c. 1883 **S9**) and the three connected dormitories for Asiatic crew members with its freestanding kitchen block (1899-1900 **P14-P16**).

The group of buildings is usually viewed from the wharf and hospital precincts to the west; the Kitchen/Dining Rooms (**P27**) dominates the views as a, gabled, two-storey, weatherboard building with external, sandstone chimneys. The Dining Room retains much of the original equipment, including the kitchen dumb waiters. The three connected dormitories for Asiatic crew members with its freestanding kitchen block (**P14-P16**) is also of timber construction, however, the three spaces are separated by brick firewalls. The Third Class Dormitory (**P22**), also of timber construction, is a large bungalow style building with encircling verandahs on all sides. The large rooms have French doors leading onto the verandahs. The overriding character of the buildings stems from the Federation style architectural details employed in the stud-framed, weatherboard, rectangular forms with encircling verandahs and gabled roofs with open eaves and similar door and window openings. In all cases the buildings are supported on sandstone piers and footings.

Archaeological sites, including the positions of former structures, in the area are related to: sub-surface remains of the barracks style buildings erected in 1837; a store from the 1840s; two barracks from the 1850s; two doctor's residences from 1837; cookhouses from the 1840s-1850s; a store from the 1880s; Asiatics latrines from c. 1899; and a lock-up cell, temporary staff quarters, an early road formation and early pathways.

First Class Area

The First Class Area sits above Spring Cove at the centre of the quarantine complex. The buildings are arranged along a north-south axis formed by a central roadway which connects to the Second Class Area. Originally enclosed by a 6 foot fence, the area reached its present form by the 1890s when a Men's Smoking Room (**P3**), Ladies Sitting Room (**P7**), Meat Store (**P4**), Ironing Room (**P36**), Kitchen

and Staff Quarters (**P6** and **P13**) and telephone office, croquet lawn (P11) and other ancillary facilities such as an ablution block were completed.

A high standard of accommodation was offered to First Class passengers at sea, a factor expressed in the superior buildings (**P1**, **P2**, **P5**, **P9** and **P10**) with spacious accommodation, erected in the area from 1875 in the space of a few years. These buildings, although modest in their treatment, are appropriately sited to enable views from the verandahs and cooling breezes. The planning form of the barracks provided each room with internal corridor access to a communal, end sitting room with its own fireplace. External French doors provided each room with access to the bathrooms and communal dining and recreational facilities. The Dining Room was located at the centre of building P5. The Smoking Room and Ladies Room are a matched pair of rooms with similar features and proportions to the Dining Room. The buildings and their weatherboard-lined interiors remain substantially intact. Landscape elements, such as pathways and plantings of pine trees on the south side enhance the longitudinal nature of the group.

Archaeological sites, including the positions of former structures, in the area are PV1A, PV1A3, PV1A4, PV1A5 and tennis court VA2.

Second Class Area

The Second Class Area is situated on the ridge between Store Beach and Spring Cove and includes Lyne's Buildings (Second Class Accommodation **P11**, **P12** and **P13** 1901). The simple, bungalow style barracks (P11, P12), with 22 and 14 rooms respectively, and kitchen/dining room (P13) were erected in 1901 following the outbreak of plague. Timber framed and weatherboard clad, the barracks are similar in most respects to the earlier first class buildings (1875) and to third class building P22 (1882). Less refined in their detailing, the buildings illustrate aspects of the Federation styles, although this is not strongly expressed. The rooms are similar in many respects to the first class accommodation. Building P13 differs from the barracks in the use of a hipped roof.

The only remaining stone cairn of the 1830s (site **111A3**) is located in this area in addition to some inscriptions on exposed sandstone surfaces.

Administration Area

The present Administration Area was based around the Superintendents Residence (**S6**), a weatherboard cottage erected in 1853. Other elements include the Superintendent's Office (**A1** 1911-1912), the Staff Mess (**A20** c. 1921), Stables and garage (**A24** 1911-1912) and the Recreation/Post and Telegraph Office (**A25** c. 1900) initially erected as a billiard hall. Additional Staff Cottages were added in 1870 (**S5**), c. 1883 (**S1** and **S2**), 1913 (**S12**), 1938 (**S14**) and after 1950 (**S15** and **S16**). Other staff cottages include **S4**, **S7** and **S10**.

The Superintendents Office building (A1) is a fine two-storey building with a strong architectural character. Building S5 was originally a duplex. Other buildings are essentially single-storey timber structures. Overall the area is not as homogeneous as the barracks style accommodation areas due to its topography however, the staff cottages are important in showing changes in living standards for staff. The area was out of bounds for many of the detainees and hence there is little evidence of inscriptions.

The area includes archaeological sites, including the sites of the temporary staff quarters (PV1A2), a lock-up (PV1S1) and the funicular railway station.

Spring Cove Precinct

The precinct encompasses the area where stores were brought ashore in the early days of the Quarantine Station. However, the only remaining stone cairn of the 1830s (site **111A3**) is located at the boundary with the Second Class Area. The other elements which relate to quarantine use include elements of the Seamen's Isolation Hospital (1918), now at the centre of the Australian Institute of Police Management development. In this context, although the original buildings remain in place, there has been substantial adaptation, including almost complete enclosure.

There are no inscriptions although the site of the former Boatmen's Cottage (111A8) of the 1840s is one of several sites believed to contain archaeological evidence.

School of Artillery Precinct

Includes the Third Cemetery used from 1881-1925, the Constitution Monument (1855-1905) and the sandstone obelisk (possibly 1807-1809) thought to be the oldest structure of North Head. A sandstone boundary wall (1930s) at the eastern side is an indicator of the internal separation required in the 1930s, when some areas of North Head were given over to non-quarantine uses.

North Fort and Loop Precincts

The North Fort and Loop precincts do not contain quarantine related elements.

Blue Fish and Parkhill Precincts

The Blue Fish and Parkhill Precincts do not contain quarantine related elements other than the remains of stone boundary walls erected in 1897 and in the 1930s.

Historic Archaeological Sites

Wendy Thorp's work (1988 updated 1992) has been identified by Davies (2001) as the most comprehensive and up to date assessment and survey to date. This covered the areas managed by National Parks and Wildlife Services and included some 48 known sites and some 47 potential sites. Freeman (2000) states that since 1992 a number of the potential sites have been confirmed by above ground evidence. However, the location, names and nature of these additional sites has not been provided. Within the Quarantine Station archaeological sites include: demolished buildings and structures; movable heritage; archaeological deposits and scatters, including sub-floor deposits; cemeteries and inscriptions. Some of these have been identified above.

For a complete description of aspects relating to quarantine refer to the conservation management plans by Freeman (2000) and Davies (2001 as amended to 2005).

History:

The Aboriginal landscape

The *Gayamaygal* people occupied the northern areas around Port Jackson when the first Europeans entered Port Jackson (Attenbrow, 2002:24-25).

Some of the early interactions between Aboriginal people and colonists of the First Fleet occurred in the North Head area. In June 1788 Bradley recorded sighting 'on the pitch of the N. Head' a man under the overhanging cliff, who assisted in giving directions, and men carrying 'a quantity of shellfish in a net' on North Head which they offered to Bradley (Attenbrow, 2002:82). In December 1788, Arabanoo, a young Aboriginal man, was captured from Manly Cove and, under restraint, lived in a separate hut in the yard of Government House (McBryde, 1989:9). He told the colonists much about the life and customs of his people during the four months of captivity before he died of smallpox (Tench, 1793:14, in Attenbrow, 2002:14). In November 1789, two more Aboriginal men, Bennelong and Colbee, were captured in the northern cove (McBryde, 1989:11). Although later escaping, this was the start of a long association between both men and the colonists. Bennelong later became a well known figure in the early settlement, frequently staying at the Governor's house when he visited (Attenbrow, 2002:15). Other interactions, such as a whale feast and the spearing of Governor Phillip, were recorded to the north of North Head at Manly Cove (Lee, 2003:19 from Bradley, 1786-92:121; Tench, 1793:54).

There are also early historical accounts of the rock engravings in the general North Head area and their possible meaning. George F. Angas visited Sydney in 1844, and sought information on engravings from Old Queen Gooseberry (who was camping near Camp Cove). She accompanied Angas to several places near North Head and told him all she knew. Although little was recorded, she said that no-one lived on engraving sites and that 'mystic dances or festivals' were held on these areas as well as fights and dances (Attenbrow, 2002:135).

The First Fleet and Port Jackson

The arrival on 28 April 1770 at Botany Bay of Lieutenant James Cook would lead to the provision of information, which became the basis for the mapping and colonization of Australia by the British. Before leaving the bay Cook ordered an inscription to be cut on a tree close to where they had watered, setting forth the ships' name and date, 6 May 1770. Almost at once after they had departed they sighted safe anchorage, naming it Port Jackson (Hough, 1994). Cook claimed eastern Australia, at Possession Island, Torres Strait/Cape York, for Britain in 1770, after mapping the eastern coastline. As the first European discoverer, and carrying a regular commission to do so, Cook was able to claim this terra nullius for his sovereign (Frost 1994). As Cook wrote, 'We are to Consider that we see this Country in the pure State of Nature, the industry of man has had nothing to do with any part of it' (Frost, 1992).

Hughes (2003) and other authors have discussed the importance of Britain maintaining its geo-political presence in the Pacific in the face of French exploration. Sir James Harris reported to William Pitt in 1786 that no time should be lost in augmenting British Naval and Land Force in the southwest quarter of the Pacific. According to historians such as Frost and Blainey, such strategic outlier arguments led to Botany Bay. Pine trees and flax, to be found in the Pacific region, were a mainstay of shipping, providing sails, masts and spars. In 1786 a proposal was put to Pitt to colonise Botany Bay for the purpose of 'effectively disposing of convicts'. The First Fleet, which arrived in Australia in 1788, was designed to serve both official purposes.

The First Fleet, under Captain Arthur Phillip, arrived at Botany Bay on 18 January 1788 (Berzins, 1988). In a letter of 3 July 1788 Captain Phillip informed the Marquis of Lansdowne in England of the reasons

for the move to Sydney Cove. In addition to the poor quality of the land for agriculture it was particularly noted that Botany Bay offered 'no security for large ships' while Port Jackson offered room for 'a thousand Sail of the Line... in perfect security' (PICMAN database State Library of NSW MLMSS 7241: filed at safe 1/234). Phillip began to transfer his fleet to Port Jackson on 25 January 1788, raising the British flag at Sydney Cove on 26 January 1788, before formally taking possession.

Although the original and final sailing instructions to Arthur Phillip have not been found in any archive, an earlier edited version has survived (Public Records Office London 20 April 1787 Co 201/1 ff 29-45v). The instructions, composed by Lord Sydney, were from George 111, with the advice of the Privy Council. The instructions designated Phillip as Captain General and Governor in Chief of NSW and advised Phillip about managing the convicts, granting and cultivating the land and exploring the country. The Aborigines' lives and livelihoods were to be protected and friendly relations with them encouraged, but the instructions made no mention of protecting or even recognizing their lands. It was assumed from the time of Cook that Australia was terra nullius; that is land belonging to no one (refer to Historical Records of NSW, Vol 2 Part 2, for more detail).

The area of Manly Cove [Bay], in particular Collins Beach, is associated with First Fleet contact with Aboriginal people. On 22 January 1788 Captain Phillips named the area Manly after the 'confidence and manly behaviour' of the natives, during his exploration of Port Jackson from 21-24 January 1788. In May 1788 a final attempt was made to engage with the Indigenous people. On 31 December 1788 attempts were made to kidnap people at Manly Cove by Lieutenants Ball and Johnston. The first captive, Arabanoo, died from smallpox on 18 May 1789. Colby and Benelong were also probably taken at Manly Cove, according to various sources, including the accounts of Watkin Tench. Captain Phillip was speared at Manly Cove on 7 September 1790, the same day that a 'whale feast' was witnessed (Flannery 1996: 95, 137; Blackmore, 1986 Vol 2: 83-86; and Freeman 2000 Vol 1:8, 35-36). A stone monument, now lacking its inscriptions, stands above the steps to Collins Beach. Collins Beach may have been where the spearing took place.

The development and use of North Head has been influenced by its relative isolation from Sydney and its physical environment. This isolation slowed development of the area, although by 1810, the first land grants had been made to Richard Cheers and Gilbert Baker adjacent to Manly Cove. A navigational obelisk was erected on the western side of North Head c.1809 to assist in navigating the entrance channels to the port (Blackmore, 1986 Vol 2: 86-87). With European occupation of Australia, the Sydney Heads became the entrance to one of the world's greatest harbours, Sydney Harbour. The central role of Port Jackson in the life of the colony of New South Wales led to the harbour and its landmarks being portrayed by artists, photographers and cartographers, including Augustus Earle (c. 1825), from the early years of settlement and into the twentieth century. Both the North and South Heads have played an important role in the cultural and military life of the colony of NSW. The isolation of North Head and Manly at the entrance to Port Jackson would result in its use for quarantine and religious purposes, coastal defence and other military uses as well as uses associated with the growth of Manly in the late nineteenth and early twentieth centuries.

Quarantine Station

A proclamation of quarantine was enacted at Port Jackson in response to the New York yellow fever epidemic of 1804. However, matters of public health lacked any real administration. North Head was first used as a stopgap, quarantine measure against typhoid in 1828, following an earlier whooping cough outbreak. The isolation and strategic role of North Head was recognised in 1828 when the first vessel, the *Bussorab Merchant*, was quarantined at Spring Cove. The Quarantine Act of 1832, based on a British Act of 1825 and the result of the cholera epidemic of 1830 in Europe and the unwillingness of free vessels to comply with ad hoc quarantine processes, led to the establishment in 1832 of a Quarantine Station at Spring Cove by Governor Darling. This was the first officially designated site in Australia (Blackmore, 1986 Vol 2: 89-90).

In 1833 Governor Bourke proclaimed the land within a quarter of a mile of Spring Cove a quarantine station. However, in 1837 the quarantine area was extended from Spring Cove to cover the whole of North Head up to the boundary with Richard Cheers grant at Manly Cove and a cemetery created at the head of Spring Cove Gully. From 1837 ships anchored at Spring Cove for cleansing after disembarking their passengers into quarantine. In 1837 the Quarantine complex was moved to Quarantine Beach from Spring Cove, with the construction of permanent buildings to replace the practice of quarantining sick people aboard their vessels. A signal mast at Cannae Point was used from the 1830s to signal shipping of quarantine conditions at the Quarantine Station. A series of stone cairns marked the boundary of the Quarantine Station from the 1830s. By 1838 there was a great increase in shipping resulting in the appointment of a Health Officer for Port Jackson. The renewal of immigration in 1847-1848 led to review of quarantine facilities and the recommendation that new facilities should be erected, including kitchens, privies separate wards and shelter shed at the wharf. The *Beejapore* arrived in 1853, carrying over 1,000 passengers. Some 62 passengers subsequently died at Spring Cove's over-stretched quarantine facilities, which were only designed to cater for 150 people. An extensive building program commenced

in 1853, a result of increased immigration in response to the discovery of gold in 1851. New quarantine stations were also opened at Newcastle (1850) and Moreton Bay (1852) to supplement that at Melbourne, opened at Hobson's Bay in 1840.

At North Head, the original cemetery close to the beach was levelled and the markers moved to higher ground, thus removing the burials from the view of the Healthy Ground. Quarters were also built for the Superintendent (Freeman, 2000 Vol 1: 46-47, 55-56, 90-91). In 1855, the ship *Constitution* sailed through the Sydney Heads on 24 May 1855 after a voyage of 98 days from Southampton. Of the 375 passengers, fourteen died with an outbreak of smallpox. Quarantined for 2 months, six of the passengers carved a stone obelisk in memory of their shipmates. In 1905, 27 survivors met at the Station to mark the 50th anniversary of the ill-fated voyage. Two marble tablets were added to the obelisk in 1905. The arrival in 1872 of the *Hero*, which required quarantine for smallpox, and the 1881 smallpox epidemic, resulted in an increasingly segregated layout based on class, race and disease, following the appointment of a Royal Commission in September 1881. A light tram, reservoir, better cleansing facilities, hospital accommodation and stricter zoning, including a separate Asiatic area, in response to requests from the Shipping Owners Association, were implemented after 1882 by the newly appointed Board of Health. The new Board was also responsible for the city of Sydney. The treatment of infected people was now managed in conjunction with the new Coast Hospital (Prince Henry) at Little Bay. From 1885 the role of Health Officer in the management of the Quarantine Station was replaced with that of the Principal Medical Inspector of the Board of Health. By 1889 there was accommodation for 300 people in timber buildings with stone foundations, in several enclosures, and platforms had been built for the erection of tents as overflow accommodation. The hospital could house 60 patients, and a steam laundry was in operation as were a baggage disinfector and baggage store. Communication with Sydney was by telephone and telegraph. By 1895 a new two-ward hospital had been erected and by 1897 a rubble boundary wall, 8 feet high, was erected at the boundary with the land granted to the Roman Catholic Church. Dedicated Asiatic accommodation was erected in 1902 (Freeman, 2000 Vol 1).

Land clearance associated with the Station made the area visually distinctive from the harbour, heightening the sense of isolation. The Quarantine Station came into use for a domestic, public health, emergency during the Sydney plague epidemic of 1900. In 1900, 264 plague cases and 1,832 contacts were quarantined from January to August of that year. One hundred and forty victims of plague were buried in the third burial ground, including forty-eight, who died in Sydney. As the first of 10 outbreaks of plague between 1900 and 1922, the outbreak led to the erection of new accommodation at North Head. The Second Class Area, situated on the ridge between Store Beach and Spring Cove includes Lynes Buildings (Second Class Accommodation P11, P12 and P13) erected in 1901 following the outbreak of plague. However, from 1902 plague carriers and contacts were housed at the Coast Hospital. Earlier, in 1899, the NSW Government Board of Health had given permission for the inoculation of animals for experimental purposes, with plague horses stabled above Quarantine Beach (Freeman, 2000 Vol 1).

From the 1880s it had been clear that effective quarantine, on a cooperative basis, was required by the states, as were common postal services and a common defence. Quarantine and Defence were both vested in the Commonwealth Government in 1901. In 1904 it was agreed by the states and Commonwealth that a Commonwealth Director-General for Quarantine would be appointed, but that quarantine in each state would be administered by the State's chief health officer, with delegated authority.

In 1909 the Commonwealth assumed technical responsibility for the Quarantine Station following the Quarantine Act 1908. However, the states were empowered to use Commonwealth quarantine facilities in special circumstances, although the Commonwealth remained responsible for dealing with cases of communicable diseases. In 1912 the Commonwealth's Director of Quarantine, Dr W. P. Norris, inspected and reported on the world's best quarantine practices. Transferred to the Commonwealth in 1911, recommendations in 1912 resulted in the construction of new facilities including new arrival and cleansing facilities, including a boiler house, isolation and dormitory blocks, an additional tramway system, and kitchen and bathing blocks. By 1913 relations between the State and the Commonwealth were at breaking point. Between July 1913 and January 1914, 1,402 people were quarantined for smallpox, with a maximum of 309 housed at the Quarantine Station at the peak of the epidemic. During the epidemic the Commonwealth acted unilaterally, declaring Sydney a quarantined area. The effectiveness of this approach was tested during the influenza outbreak after the First World War. Tuberculosis wards were set up 1916-1918 to deal with infected servicemen returning from the First World War. In 1918 the worldwide influenza epidemic reached Australia; between 1918-1919, over 110 ships were moored at Spring Cove with 70 people dying from influenza. The Seamen's Venereal Diseases Hospital was erected 1916-1920 adjacent to Spring Cove. The inability of the existing quarantine service to control the influenza outbreak led in 1921 to the formation of the Commonwealth's Department of Health. By the 1920s the Quarantine Station could accommodate 1,208 persons and had reached its current form (Freeman, 2000 Vol 1).

During the Second World War the Quarantine Station became a military establishment occupied by troops in transit and prisoners of war awaiting detention. The Quarantine Station remained in use for quarantine purposes until the 1970s. In 1974 the buildings were used to house 217 Darwin refugees after Cyclone Tracey and in 1975 the station housed 100 Vietnamese children. The advent of air transport resulted in changes to the Quarantine Station from 1957 with the loss of structures and re-roofing of buildings. The effective eradication of smallpox worldwide and the dominance of air transport led to the closure of the Quarantine Station in 1977 (Freeman, 2000 Vol 1). More than 13,000 people were quarantined at North Head of whom 572 died and were buried there. Between 1828 and 1984 at least 580 vessels were quarantined at the Quarantine Station (Freeman, 2000 Vol 1).

In 1984 the North Head Quarantine Station was returned to the NSW Government, to be managed by the National Parks and Wildlife Service (NPWS). Other land acquired by the NSW NPWS included the North Head Sydney Harbour National Park Reserve in 1979.

In 1960, the former Seamen's Isolation Hospital at Collins Flat, used as a Migrant Hostel in the post-war years from 1949-1953 by the Department of Immigration, and under resumed Army occupation from 1953, was adapted for use as the Commonwealth Police Training College, now the Australian Institute of Police Management. The predecessor of the Australian Federal Police and the Commonwealth Police was the Commonwealth Investigation Service. In 1954, Mr Ray Whitrod, Director of the Commonwealth Investigation Service, suggested that an Australian Police College be established for senior officer training for all Australian jurisdictions. The land included nine acres around the buildings and a further 12 acres adjoining on the ridge extending to Store Beach and the jetty. The Army handed over the Collins Flat site in July 1957. The initial title of the institution was 'Commonwealth Police Training Depot'. In October 1961 the Depot was officially renamed the Australian Police College (Australian Archives AA SP 857/11 Item PS/412).

Secular and Religious Development

The eastern boundary of Cheers grant of 1810 formed the boundary of the Quarantine Station. Although isolation had slowed settlement, the area was only two hours from Sydney by land and sea. Land speculation in the Manly area began when Henry Gilbert Smith produced plans for a Marine Retreat in 1853. Smith made arrangements for a regular ferry service in 1855 to ensure the success of his ventures. By 1860 Manly had begun to compete with other favoured places, such as Watson's Bay, with hotels and boarding houses (Blackmore, 1986 Vol 2).

In 1859 the Catholic Church acquired 60 acres adjoining and including part of the Quarantine Station reserve. Although the transaction was not finalised until 1879, the conditions of sale included the construction of an ecclesiastical seminary and a stone-wall, erected c.1880, separating it from the Quarantine Station. The isolation of the site, yet proximity to Sydney, was seen as ideal for educational purposes as well as for a religious retreat by the Catholic Church. Plans for St Patrick's College, which was to be the largest Catholic Seminary in the southern hemisphere, were drawn up by Sydney architects Sheerin and Hennessy under Cardinal Patrick Moran's influence in 1885. St Patrick's College opened in 1889, although a Cardinal's Palace had been completed earlier in 1886. In 1886 in exchange for a small public reserve at Cabbage Tree Bay, the Catholic Church was granted 22 acres of land in the Quarantine Reserve, and a sandstone wall was erected along the new boundary. In 1993 Cardinal Edward Clancy decided to move clerical studies away from the Manly seminary, ending its traditional use (Blackmore, 1986; Clive Lucas et al, 1997: pp. 41-42).

By the 1880s Manly was the pre-eminent watering place (recreational) for the Colony. In 1914, Darley Road was constructed through Catholic Church land, with flanking stone-walls, to connect with the Quarantine Station. A second residential boom period peaked in Manly following the opening of the Spit Bridge in 1927. In 1929 the Commonwealth Government granted permissive occupancy over 300 acres of North Head for public use. This was conditional on Manly Council building a stone-wall to isolate the Quarantine Station. Parkhill Reserve, comprising the whole of the headland outside the Quarantine Station, was opened in 1933 as a public reserve. The cobbled Memorial Drive, stone-walls and Parkhill Arch were built between 1931 and 1933; the reserve was named after local dignitary Sir Archdale Parkhill (Freeman, 2000). The two storey brick Manly Peace Hospital was established in the 1930s on land granted in 1917 by the Commonwealth for the construction of a cottage hospital. Comprehensive street tree plantings were made in the 1930s. Palms (*Washingtonia robusta*) were planted as an expression of public taste outside St Patrick's College with similar plantings at the Quarantine Station (Blackmore, 1986).

A scheme for the construction of the northern suburbs ocean outfall sewer at Blue Fish Point, North Head was prepared in 1914, with construction commencing in 1916. The sewerage scheme serviced the areas of Manly, Mosman, North Sydney, Lane Cove, Hunters Hill, Ryde, Ermington, Rydalmere, Dundas, Parramatta, Baulkham Hills and Blacktown. The scheme was completed in 1928, but in 1972, the North Head Sewerage Treatment Works was upgraded to provide a treatment works (Water Pollution Control Plant) at the North Head outlet; this was later upgraded for the deepwater ocean outfall

scheme of the 1990s (AHDB RNE place 1/13/024/0019, North Head) and is currently known as the North Head Sewerage Treatment Plant.

Military Uses

Traditionally the first threats of invasion were seen as coming from the sea, with inner and outer lines of defence established at Sydney Cove and at Middle Head by 1801. Various schemes for the defence of Sydney and Port Jackson were proposed throughout the nineteenth century, with an outer line of fortifications completed at Bradley's Head, South Head and Middle Head; at Middle Head fortifications were begun as early as 1873 under Colonial Architect James Barnet. However, it was not until the Second World War that North Head became part of Sydney's coastal defences.

In 1934 the Commonwealth withdrew permissive occupancy by Manly Council in anticipation of the fortification of the headland for coastal defence. Two 9.2 inch guns had been purchased for installation at North Head in March 1934. Construction of North Head Fort (concrete gun emplacements, magazines, engine room, pump chambers, tunnels and plotting room) was completed in 1936, by the civilian firm of McConnell, as were the Command Post and battery Observation Posts. The guns were capable of targeting shipping in Botany Bay and Port Hacking. These guns were to be supported by the six-inch batteries at South Head. North Head was to play a role in the defence of Sydney Harbour under Australian troops. An artillery barracks complex, completed between 1933 and 1938, was used as the Headquarters of the Australian Coast Brigade with barracks for personnel manning the coastal fortifications at North Fort and Bluefish Point erected between 1935 and 1936. The main barracks complex, the North Head Fort barracks Group (the Artillery Barracks) was completed between 1936 and 1937, below the highest point of North Head. The new quarters were the largest barracks erected in Australia in the Inter-war years. Cottages were also completed for the Battery Commanders as well as four cottages for the NCOs. A second barracks complex was also completed within the Quarantine Station Reserve. The 1st Heavy Brigade moved its headquarters to North Head in 1938. The first Australian land-based radar station was established at Blue Fish Point in 1941, during the Second World War, protected by an anti-aircraft battery and searchlights (Freeman, 2000 and Schwager Brooks, 1996). Before 1940 the entire Sydney Defence had been commanded from the North Head Barracks, but after the declaration of war, in 1939, command was transferred to Dover Heights (Freeman, 2000 and Schwager Brooks, 1996).

After the Second World War the permanent barracks complex became the School of Artillery in 1953. The School remained a crucial component of the basic individual training of officers, NCOs and gunners in the 1970s and 1980s. However, in 1960 the North Fort guns and other equipment were removed.

Although remaining in use, the physical limitations of the site would eventually bring about the relocation of the artillery function. In 1979 the Commonwealth/State Foreshores Agreement provided for the exchange of certain State and Commonwealth lands and in December 1989 the artillery directorate was transferred to Canberra. The School of Artillery was relocated to Puckapunyal in Victoria in 1997-1998 (Freeman, 2000 and Schwager Brooks 1996).

The North Fort is now in use as the Royal Australian Artillery (RAA) Museum (from 1990) and remains in Defence hands, while the Artillery Barracks complex is managed by the Sydney Harbour Federation Trust, as part of former defence lands in Sydney Harbour, before it is returned to the State of NSW.

Condition and Integrity:

Quarantine Station

For condition and integrity refer to the *North Head Quarantine Station Conservation Management Plan* (Freeman 2000) and the *Detailed Area Conservation Management Plan* (Davies 2001 updated to 2005).

Natural Values

The vegetation of North Head is in variable condition, with some areas, particularly those at the edges of small communities, being in poor condition. Dieback has significantly affected bangalay in the woodland areas facing Spring Cove.

Weed invasion has affected many areas with lantana, morning glory, asparagus fern and coral tree being the most conspicuous weeds. Pampas grass has invaded along drainage lines from the School of Artillery. Tramping by visitors and military vehicles has had a significant effect on some sensitive communities, particularly heaths on the eastern side of the headland.

The sand dunes at North Head have been disturbed by roads and development associated with the Quarantine Station and School of Artillery. However a significant portion of the dune area remains undisturbed and covered by natural vegetation.

Geological formations at North Head are in good condition and are generally robust and under little threat from existing or likely future landuse. Some features, however, are less robust and could be easily degraded, notably the dunes forming the centre of North Head. Similar formations elsewhere in the Sydney area have been destroyed or heavily modified.

North Head is an isolated island environment susceptible to further disturbance. Plant communities on the dunes and on shallow soils on the Hawkesbury Sandstone are particularly vulnerable to disturbance by development, vehicles and earth moving, including the development of roads and service easements. The isolation and small size of many of the plant communities and the fauna population make them particularly vulnerable to localised extinction through wildfire, urban development, disease, predation by domestic pets and road kills. Despite a dramatic decline in the 1950s, the penguin colony now appears to be recolonising the shoreline below the Police College.

The condition and integrity of North Head was last assessed in the period 1999-2000.

Location:

About 277ha, at Manly, comprising the whole of the headland, to Low Water, south of a line commencing at Low Water north of Collins Beach on the alignment of the north-west boundary of Lot 2763 DP752038, then easterly via that alignment and boundary and then following the north-westerly boundaries of Lot 2774 DP752038 Lot 2728 DP752038, Lot 2764 DP752038 and Lot 2763 DP752038 to the most northerly point of Lot 2763 DP752038, then generally easterly via the north-east and northern boundaries of Lot 2763 DP752038 and the alignment of the latter segment to Low Water. Excluded is the North Head Sewage Treatment Plant being the whole of Lot 1 DP604428.

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Appendix 5 – Commonwealth Heritage Listing

North Head - Sydney, North Head Scenic Dr, Manly, NSW, Australia

Summary Statement of Significance:

The North Head Artillery Barracks erected from 1935, also known as the School of Artillery, are individually significant within the area of North Head, which is listed in the RNE at file no. 1/13/24/19. The site is associated with three phases in the occupation of North Head: the Quarantine Station 1833-1930; for public recreation 1930-1934; and for defence purposes from 1934 to 1998. The New Quarantine [Station] Cemetery is listed separately in the RNE at File no. 1/13/24/9. The stone walls defining sections of the boundary are associated with recreational use of North Head from 1929. North Fort, listed in the RNE at file no. 1/13/24/5, is closely associated with the development of the Barracks from 1935.

The Artillery Barracks are important in illustrating the implementation of Defence policy in the inter-war years before the onset of the Second World War in 1939. The functional zoning and planning illustrate the continuity of Defence's cultural and social organisation reflected in Commonwealth defence complexes such as the Royal Australian Naval College, 1913-1915, at Jervis Bay. The use of a fashionable architectural style and permanent construction illustrate the influence of the prevailing Art-Deco style on Commonwealth architects and the Commonwealth's intention to provide modern, permanent buildings in the defence of Australia. This pattern is seen in other major defence projects of the late 1930s and early 1940s. The permanent nature of the complex and the quality of its planning and architectural design confirm its importance as the Headquarters of Coastal Defence until 1940, and as a barracks of the modern era in the context of urban Sydney. The design and planning clearly continue the Colonial barracks concept established at Victoria Barracks in 1842, and which in turn reflected British design precedent.

The Artillery Barracks is important for its association with the Coastal Defence of NSW from 1939 to 1945 as part of the Sydney Fire Command and for its use as the School of Artillery between 1946 and 1998. (Criterion A.4)

(Australian Themes: 7.7 Defending Australia, 8.10 Pursuing excellence in the arts and sciences)
The Artillery Barracks are important as a rare example of a permanent military Barracks establishment of the immediate pre-Second World War period. (Criterion B.2)

The planning and formal nature of the Artillery Barracks, and the use of Art Deco and Georgian Revival forms, are important in illustrating the principal characteristics of Defence culture and social structure during the Inter-War years in addition to the prevailing use of contemporary architectural style and idiom by Commonwealth architects. (Criterion D.2)

The Artillery Barracks are important in illustrating the restrained, relatively rare use of the Inter-War Art-Deco style in the years leading up to the Second World War in 1939. The Art Deco style is now widely recognised in the Australian community as making a significant contribution to architectural expression in the 1920s and 1930s. (Criterion E.1)

The layout, planning and design of the pre-war buildings of the Artillery Barracks are important for their creative and design achievement. This is illustrated by the formality of the Parade Ground, in conjunction with the restrained use of Georgian Revival and Art-Deco forms, which echo nineteenth century precedent established at Victoria Barracks in 1842. The scale and formality of the Parade Ground is emphasised by the surrounding, predominantly one and two storey buildings in a bush setting. (Criterion F.1)

The Artillery Barracks is important to the many Defence personnel who were trained or stationed at the complex in its sixty years of operation for Defence purposes, and to military historians in particular the Royal Australian Artillery Historical Society. (Criterion G.1)

Official Values:

Criterion: A Processes

The North Head Artillery Barracks erected from 1935, also known as the School of Artillery, are individually significant within the area of North Head. The site is associated with three phases in the occupation of North Head: the Quarantine Station 1833-1930; for public recreation 1930-1934; and for defence purposes from 1934 to 1998. The stone walls defining sections of the boundary are associated

with recreational use of North Head from 1929. North Fort is closely associated with the development of the Barracks from 1935.

The Artillery Barracks are important in illustrating the implementation of Defence policy in the inter-war years before the onset of the Second World War in 1939. The functional zoning and planning illustrate the continuity of Defence's cultural and social organisation reflected in Commonwealth defence complexes such as the Royal Australian Naval College, 1913-1915, at Jervis Bay. The use of a fashionable architectural style and permanent construction illustrate the influence of the prevailing Art-Deco style on Commonwealth architects and the Commonwealth's intention to provide modern, permanent buildings in the defence of Australia. This pattern is seen in other major defence projects of the late 1930s and early 1940s. The permanent nature of the complex and the quality of its planning and architectural design confirm its importance as the Headquarters of Coastal Defence until 1940, and as a barracks of the modern era in the context of urban Sydney. The design and planning clearly continue the Colonial barracks concept established at Victoria Barracks in 1842, and which in turn reflected British design precedent.

The Artillery Barracks is important for its association with the Coastal Defence of NSW from 1939 to 1945 as part of the Sydney Fire Command and for its use as the School of Artillery between 1946 and 1998.

Attributes

The inter-war period functional zoning and planning, permanent construction and Art-Deco style.

Criterion: B Rarity

The Artillery Barracks are important as a rare example of a permanent military Barracks establishment of the immediate pre-Second World War period.

Attributes

Unified planning, evident in the fabric of the whole place including buildings, terraces, parade grounds, landscaping and symmetrical layout.

Criterion: D Characteristic values

The planning and formal nature of the Artillery Barracks, and the use of Art Deco and Georgian Revival forms, are important in illustrating the principal characteristics of Defence culture and social structure during the Inter-War years in addition to the prevailing use of contemporary architectural style and idiom by Commonwealth architects.

Attributes

The planning and formal nature of the Artillery Barracks, and the use of Art Deco and Georgian Revival forms.

Criterion: E Aesthetic characteristics

The Artillery Barracks are important in illustrating the restrained, relatively rare use of the Inter-War Art-Deco style in the years leading up to the Second World War in 1939. The Art Deco style is now widely recognised in the Australian community as making a significant contribution to architectural expression in the 1920s and 1930s.

Attributes

All fabric and design that demonstrates Art Deco styling.

Criterion: G Social value

The Artillery Barracks is important to the many Defence personnel who were trained or stationed at the complex in its sixty years of operation for Defence purposes, and to military historians in particular the Royal Australian Artillery Historical Society.

Attributes

The relatively unaltered nature of the Barracks.

Description:

HISTORY

The area of North Head was first set aside for quarantine purposes in the 1820s, but in 1837 the whole of the headland was designated for quarantine purposes following a series of cholera outbreaks. North

Head remained dedicated to this use until 1859 when part of the area was set aside for use by the Catholic Church. The transfer was not completed until 1879 with a Seminary and Bishop's Palace established during the 1880s. (Refer to North Head 1/13/24/19 for additional historical details)

Although other prominent headlands defending the approaches to Sydney had been fortified against the likelihood of attack, North Head remained dedicated to its quarantine role. North Head was acquired by the Commonwealth following Federation in 1901, although the Commonwealth did not assume full responsibility for the Quarantine Station until 1910 under the Quarantine Act. Discussions between the State and Commonwealth governments were not resolved for several years.

Until 1901 Defence had been the responsibility of each State. At Port Jackson, and in other capital cities and their associated harbours, attacks had been seen as coming from the sea. During the Napoleonic Wars, in Europe, a battery was constructed 1801-1803 to defend the channel between Middle Head and the southern side of Port Jackson. In 1830 Governor Burke reserved six sites in Sydney Harbour for defence works including North Head. However, the first comprehensive plan for the defence of Sydney Harbour was made by Lt Colonel J Gordon in 1845. This report recognised the defence potential of the Sydney Heads, including North Head. The Gordon Scheme was implemented in 1847 setting in motion a two line defence system with the inner line at Sydney Cove. The Crimean War of 1853-56 accelerated the selection of sites but work was slow. These works ceased in 1855 with the arrival of Sir William Denison who stressed the importance of an inner line of defences.

The loss of Imperial Troops by 1870 reinforced the need to establish new defences following the 1862 decision by the British Government to put the responsibility for defence onto the Australian colonies. A new line of Defences were established in Sydney Harbour from 1871 on Middle Head, Georges Heights, South Head and Bradleys Head in addition to other strategic sites within the harbour. The dedicated quarantine role of North Head and its isolation from Sydney appear to have reduced the headland's potentially strategic defence role.

In 1929 the Commonwealth Government granted permissive occupancy over 300 acres of North Head for public use to Manly Council following increasing demand for recreational uses. This was conditional on Manly Council building a stone wall to isolate the Quarantine Station. Parkhill Reserve, comprising the whole of the headland outside the Quarantine Station, was opened in 1933 as a public reserve. A cobblestone Avenue of Honour was opened on the eastern side of the Barracks Precinct. This road was intended to provide a circuit of the eastern portion of the headland. Norfolk Island Pines on the headland may be a remnant of a planting program undertaken by Manly Council at this time, as a memorial to soldiers from Manly Warringah killed during World War 1.

During the Inter War Years, in response to the perceived onset of the Second World War, there was a sharp increase in construction from 1935 to 1939. In 1934 the Commonwealth had withdrawn permissive occupancy in anticipation of the fortification of the headland for coastal defence, completing Lt Colonel J Gordon's 1845 plan for a line of outer defences to Port Jackson. Locating coastal defences on North Head optimised the range and strategic importance of the site with respect to the vulnerable suburbs of Sydney.

In 1934 the Minister for Defence announced a 3 year program of coastal defence works. At the same time the first two 9.2 inch guns were purchased for installation at North Head in the North Fort complex. These two guns were to be supported by six inch batteries at South Head. An Artillery Barracks complex was completed by 1938 and was used as the Headquarters of the Australian Coast Brigade with barracks for personnel manning the coastal fortifications at North Fort and Bluefish Point erected 1935-1936. Completion of the North Fort gun emplacements before the Barracks is indicative of the importance of the guns to the Sydney Fire Command as the single most important component of Sydney's defence. Following completion of defence works some areas of the headland in the Parkhill Reserve were returned for recreational use in 1936. North Head was to play a central role in the defence of Sydney harbour, a role determined after an assessment of the Japanese threat and Japan's naval capacity. The first Australian land-based radar station was established at Blue Fish Point in 1941, during the Second World War.

The main barracks complex, the North Fort Barracks Group, was erected between 1936 and 1937, below the North Head central ridge of high ground and the trajectory of seaward guns. Arranged around a red gravel parade ground the complex was the largest barracks complex erected in Australia in the pre-war years. Tenders for construction included the following buildings and structures: Administration, Battery Offices, Trades, Mens Barracks, Sergeant's Mess, Gymnasium, Garage and Workshop, Hospital, Officers Mess, Battery Commanders Residence, Football and Hockey Fields, Parade Ground, Tennis Courts, Shelter Sheds and Store Rooms at the ovals and Tennis Court Shelter Sheds. The two large cottages for the Battery Commanders were erected in what is now St Barbara's Avenue. Four cottages for NCOs were also constructed at this time; these are the southernmost cottages within the Artillery Barracks Precinct facing North Head Scenic Drive. The grounds of the barracks were

landscaped with lawns, rockeries and flower beds. A new road led from the Barracks through the North Fort gate to the gun emplacements of North Head Fort. A second barracks complex was constructed within the Quarantine Reserve. This barracks complex included the cottages that now serve as gatehouses at the entry to the Quarantine Station. The Quarantine Station defence works also included a new pump house and supply line to a tank in the Barracks compound.

The 1st Heavy Brigade moved into its headquarters in 1938, the 2nd Heavy Battery taking over responsibility for the 9.3 inch guns. Before 1940 the entire Sydney Defence was commanded from the North Head Barracks. Subsequently this was transferred to the Commanding Officer of the 5th Brigade at Dover Heights. By 1943 some 190 personnel were stationed at the Fort including many women from the Australian Women's Army Service. A third barracks complex of temporary huts was also erected on the Bluefish Road east of the Parkhill Gate. By mid 1943 the threat of attack had diminished and by 1945 a reduction in defensive personnel had begun with the coastal defences placed in a state of care and maintenance.

In the post war period coastal fortifications were in general decommissioned. In 1945 the Barracks were occupied by the Land Headquarters School of Artillery [Coast] and in 1946 the School was concentrated at North Head. The Coast Wing of the School was disbanded in 1950 but the 1st Field Regiment had been formed in 1949 and acted as a depot unit for the school. New buildings were erected to accommodate the school and by 1950 a number of buildings including the Q store had been built. In 1953 the Coastal Artillery Brigade Headquarters within the barracks Group complex became the School of Artillery. The School was a crucial aspect of the basic individual training of officers, NCOs and gunners into the 1970s and 1980s. Since the 1950s the Barracks have been used for many high level military conferences in addition to their training roles.

In 1968 new planning initiatives were implemented for North Fort and the Artillery Barracks. These included the Officers Mess Annexe, Radar Store complex and technical store. Most of the proposed changes however, were not implemented due to the limitations of the site area, with few permanent buildings erected after 1968. The wide use of demountable buildings does however, illustrate the continued growth of the School of Artillery. In 1979 the Commonwealth and State entered into the Foreshores Agreement. Under the agreement Defence would relinquish its land at North Head when it eventually became surplus to Defence requirements. In December 1989 the artillery directorate was relocated from Canberra to the School of Artillery at North Head. In early 1998 the School of Artillery was relocated to Puckapunyal.

In 1984 the North Head Quarantine Station was acquired by the NSW NPWS. Other land acquired by NSW National Parks and Wildlife Service included the North Head Sydney Harbour National Park Reserve in 1979.

The associated North Fort was established in 1990 as a military museum with other elements of the defence works included in Sydney Harbour National Park, established in 1984, on the eastern side of the Artillery Barracks Precinct and North Head.

PHYSICAL DESCRIPTION

North Head Artillery Barracks is individually significant within the area of North Head (Refer to file no. 1/13/24/19). The adjacent and associated RNE place, North Fort, file no. 1/13/24/5, adjoins the Artillery Barracks complex on its eastern boundary.

The area of the Artillery Barracks complex, also known as the School of Artillery, is also defined by the stone wall erected by Manly Council in the 1930s at its eastern side and Blue Fish Road and North Head Scenic Drive on the western and northeastern boundaries.

North Fort Road is the main access road and internal generator, providing access and linking all elements of the Artillery Barracks and North Fort fortifications. Elements of North Fort are located in the area including the site of the former barracks associated with the construction of North Fort.

The main elements of the Artillery School are located between North Fort Road and the eastern boundary of the site defined in part by the stone boundary wall and Blue Fish Road. The topography and existing uses of the headland dictated site areas to be used for North Fort and the associated barracks complexes, ovals and training areas. During the early phases of construction areas were levelled, contoured and turfed to provide for sports such as cricket, football and hockey. In keeping with the formal planning of earlier established Commonwealth places, such as the Royal Australian Naval College at Jervis Bay 1913-1915, the core areas of the Artillery Barracks incorporated open spaces and training ovals into the axial planning, building on the planning and design of Colonial Barracks such as Victoria Barracks in Sydney erected from 1842. Functional zoning and planning were an expression of the prevailing cultural and social organisation of Defence forces. Other contemporary examples include

RAAF Base Fairbairn in the ACT and at a smaller scale the Signal Depot at Albert Park in Melbourne which also illustrate the influence of the Inter-War Art-Deco style on the Commonwealth Architects Department.

The complex is approached from North Fort Road, the main point of access, with the major axis of the Artillery Barracks at right angles to the approach. The red gravelled Parade Ground is the primary focus of the complex and is flanked by the two storey Officer's Mess, single storey Sergeants Mess, Gatehouse, and Other ranks Mess and Living in Accommodation. Other buildings associated with this first phase of development, 1936-1939, include the Battery Offices, the Trades Building, the Gymnasium, the Garage and Workshop, the Hospital and the Battery Commanders Residence. This group of one and two storey buildings expresses the prevailing Defence culture and is an excellent example of a defence complex of the Inter-War pre-World War Two period when permanent bases were established in the lead up to the Second World War.

The architectural character stems from the use of:

- pale cream to buff, brick load-bearing construction with reinforced concrete floors.
- simple rectangular forms, reflecting the Inter-War Georgian Revival style, with tiled, timber framed hipped roofs (often parapeted), subordinate to the overall Inter-War Art Deco design. The principal characteristics of Art Deco are illustrated by the horizontality of the buildings and their components, contrasting vertical elements, straight lines and low relief decoration in the fairface brickwork.

Precedent for the design of the Guardhouse and Other Ranks Mess and Living in Accommodation flanking the Parade Ground can be seen in Victoria Barracks, Sydney, erected after 1842, in which a central entrance is flanked by lower two storey wings. The permanent nature of the Artillery Barracks complex reflects its location in the State capital.

A good example of the architectural forms is the Gatehouse (building A6), the formal entrance to the Parade Ground, which features simple, contrasting string courses defining parapets, openings and floor levels. The central two storey tower contrasts with the single storey wings which feature classical details in the projecting end bays and characteristically three rows of string courses accentuating the roof line below the hipped roofs which are subordinate to the overall composition. Windows are in general sash with the upper and lower sashes in three horizontal panes reflecting the lines of the red brick string coursing defining the upper and lower edges of external brick walls. Later, wartime, core buildings, such as the 'New Hospital' of 1942, were erected using the early design idiom.

The dramatic scale, formality and importance of the Parade Ground are emphasised by the surrounding one and two storey buildings which enclose and isolate the space in a bushland setting.

The symmetry of the planning is reflected to some extent in the location of trees and shrubs within the base. A short row (x3) of Norfolk Island Pines defines the entrance to the Guardhouse.

Subsequent development of the base in the 1950s and more recently has been ad hoc, recognising the nature of the site and its limitations. However buildings related to mess and accommodation have in general been in brick reflecting the dominant design characteristics of the Barracks.

1. The pre war and wartime operation of the complex is illustrated by the following:

- Other Ranks Mess and Living-in Accommodation 1936
- Trades Building (now EDR/FACE rooms) 1936
- Officers Mess and Garage 1936/37
- Parade Ground 1937
- Sergeants Mess 1937
- Administration Building (now the Gatehouse) 1937
- Transport Office (now RAEME HQ and Store) 1937
- Gymnasium 1937/38
- Battery Offices (now Company Brigade Office) 1939
- Transport Office 1941
- Workshop and Store (now GE Store) 1941
- Hospital now Dental and Printing rooms 1942
- Artillery Store (now QM Storage and RAEME repair) 1939
- Ancillary structures and sites 1936-1945:
- Tennis Courts and shelter 1937
- Oval 1937
- Football field shelter 1937
- Memorial [cobblestone] Drive c.1933

2. Post War operation as the School of Artillery is illustrated by the following:

- Model Room 1947 (part of the Regional Training Wing)
- Open Gun Park 1952
- ARMCO Missile Launching System Storage (relocated Nissen Hut) 1956
- Officers Mess Annexe 1955-61
- RAEME Repair & Parts 1956-62

3. Other sites include:

- the foundation remains of the Barracks Camp erected by 1943 close to North Fort to provide accommodation for the people who installed, tested and managed the operation of the guns.
- a range of supporting and ancillary structures.

History: Not Available

Condition and Integrity:

INTEGRITY

The North Fort Barracks Group was adapted as the School of Artillery after the Second World War. In this role it has been adapted to the changing needs of Defence's training strategy. The original layout and primary structures of the Artillery Barracks remains intact with post war developments, including demountables and prefabricated structures, in general peripheral to the core areas of the facility. (December 2000)

CONDITION

Structures identified in the description of physical fabric as significant have in general maintained in good condition by Defence. (December 2000)

Location:

About 50ha, off North Head Scenic Drive, Manly, being an area enclosed by a line commencing at the intersection of the Commonwealth property boundary and fortification wall at approximate AMG point 342120mE 6256520mN, then northerly via the fortification wall to its intersection with AMG northing 6256720mN, then directly to Cowell Trig, then directly to the intersection of the fortification wall with AMG northing 6256940mN, then northerly via the fortification wall to its intersection with the Commonwealth property boundary at approximate AMG point 342600mE 6257400mN, then north westerly, southerly and easterly via the Commonwealth property boundary to the point of commencement.

Bibliography:

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