
Sydney Harbour Federation Trust

Management Plan - Mosman No.8
Georges Heights

5 December 2008



Australian Government
Sydney Harbour Federation Trust

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Introduction

On 21st 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 plan, which was prepared in accordance with the requirements of the *Sydney Harbour Federation Trust Act 2001*, 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 to this, the *Environment Protection and Biodiversity Conservation (EPBC) Act 1999* also requires the Trust to make plans to protect and manage the Commonwealth Heritage values of Commonwealth Heritage Places that it owns. The Georges Heights precinct is identified on the Commonwealth Heritage List as one of these places.

Accordingly, the purpose of this Management Plan is to guide the outcomes proposed in the Trust's Comprehensive Plan and to satisfy the requirements of Schedule 7A of the EPBC Regulations, 2000 and to be consistent with the Commonwealth Heritage management principles.

The Comprehensive Plan proposes the creation of a Headland Park that integrates Middle Head, Georges Heights and Chowder Bay. The Headland Park will unify all of the elements along the Middle Head ridgeline, from Rawson Park to Middle Head.

The vision for the park is a place where the area's rich natural and cultural heritage, including its early aboriginal and military occupation, will be protected and interpreted and where access will be provided to areas that have long been inaccessible to most people.

The Trust has identified the creation of the Headland Park as one of its highest priorities. Its goals are to ensure that:

- The natural and cultural assets of Middle Head, Georges Heights and Chowder Bay are conserved;
- The bushland area is increased in size;
- A network of walking tracks is created that links the various former military precincts and other places of interest; and
- Existing facilities are adaptively reused for appropriate educational, community, recreational and commercial uses.

The Georges Heights precinct forms a key part of the unification of elements along the ridgeline. The key proposals include the provision of series of linked walks, landscaping to frame and improve views, improvements to drainage conditions and downslope bushland, reduction in the visual prominence of amenities block at the Oval, and facilitation of the adaptive re-use of the precinct buildings and structures for appropriate uses. In doing so, pedestrian connections with Bradley Bushland Reserve, Rawson Park and the Headland Park as a whole will be improved to maximise public access.

The Sydney Harbour Federation Trust is committed to the conservation of the Commonwealth Heritage values of its places, and this commitment is reflected in its Act,



its corporate planning documents and processes. This Management Plan, which satisfies sections 341V of the *EPBC Act 1999*, provides the framework and basis for the conservation and management of Georges Heights in recognition of its heritage values.

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 1999* 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 Commonwealth Heritage values of the place.

Commencement Date

This plan was adopted by the Trust on 5 December 2008.

Land to which the Management Plan Applies

The land covered by the Management Plan is shown by broken black edging on the plan at *Figure 1*. All of the land is included within Lot 202 DP 1022020 and is in the ownership of the Sydney Harbour Federation Trust.

The outcomes section of the plan (see *Figure 12*) also includes the adjoining lands, Rawson Park and Bradley Bushland Reserve, which are outside of the Trust's ownership. These lands are under the care, control and management of Mosman Municipal Council.

Although Mosman Council has an existing management framework for these lands, *Rawson Park and Surrounds, Plan of Management, October 2001*, the Trust has developed a concept masterplan for this area which will assist Council with guidance on the integration of these areas to form a unified parkland experience and transition between the spaces.

Aims of this Plan

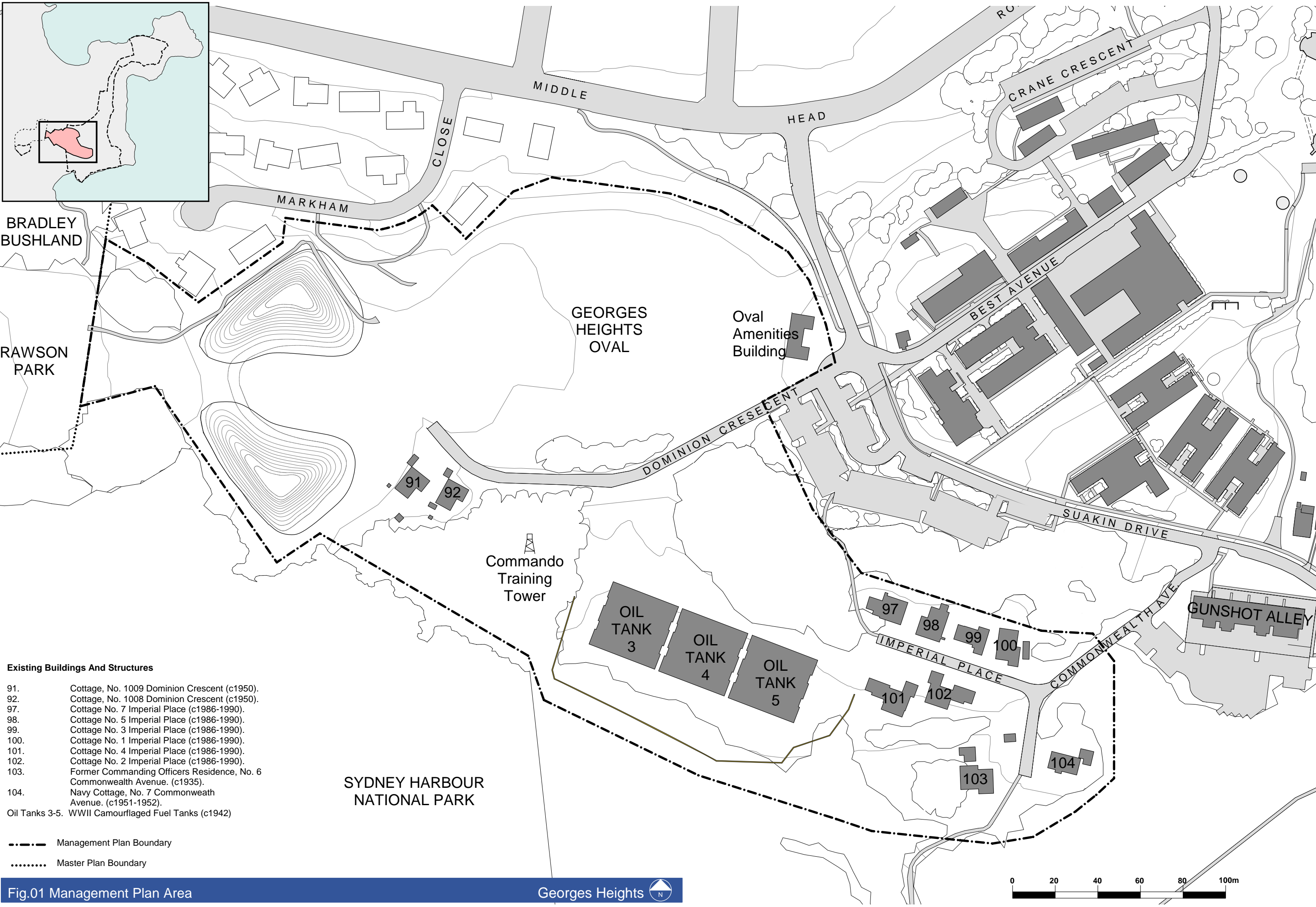
The aim of this Management Plan is to:

- Conserve, protect and interpret the Commonwealth Heritage values of Georges Heights as an historic place on Sydney Harbour;
- Be consistent with Commonwealth Heritage management principles;
- Maximise public access;
- Facilitate the adaptive re-use of the precincts' buildings and structures for appropriate uses; and
- Integrate the precinct with adjoining lands as part of a unified Headland Park.

In doing this it also aims to:

- Conserve and interpret the whole site as an historic precinct;
- Regenerate and expand the bushland so that the sense of a 'green' gateway to Sydney Harbour is reinforced;
- Enhance views to and from the precinct;
- Realise the potential for easy access including access for the disabled;
- Provide visitor facilities and amenities including parking and walking tracks;





BRADLEY
BUSHLAND

RAWSON
PARK

GEORGES
HEIGHTS
OVAL

Oval
Amenities
Building

Commando
Training
Tower

OIL
TANK
3

OIL
TANK
4

OIL
TANK
5

CRANE CRESCENT

BEST AVENUE

DOMINION CRESCENT

SUAKIN DRIVE

IMPERIAL PLACE

COMMONWEALTH AVE

GUNSHOT ALLEY

Existing Buildings And Structures

- 91. Cottage, No. 1009 Dominion Crescent (c1950).
- 92. Cottage, No. 1008 Dominion Crescent (c1950).
- 97. Cottage No. 7 Imperial Place (c1986-1990).
- 98. Cottage No. 5 Imperial Place (c1986-1990).
- 99. Cottage No. 3 Imperial Place (c1986-1990).
- 100. Cottage No. 1 Imperial Place (c1986-1990).
- 101. Cottage No. 4 Imperial Place (c1986-1990).
- 102. Cottage No. 2 Imperial Place (c1986-1990).
- 103. Former Commanding Officers Residence, No. 6 Commonwealth Avenue. (c1935).
- 104. Navy Cottage, No. 7 Commonwealth Avenue. (c1951-1952).
- Oil Tanks 3-5. WWII Camouflaged Fuel Tanks (c1942)

--- Management Plan Boundary
..... Master Plan Boundary

Fig.01 Management Plan Area

Georges Heights

0 20 40 60 80 100m

-
- 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 residential 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 Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and are similar to the concept of *development* in NSW planning legislation.

This Management Plan must be interpreted in conjunction with the Trust's Comprehensive Plan, in particular the *Outcomes* identified in *Part 7* of the Trust's Comprehensive Plan and the *Objectives and Policies* in *Part 3*.

The *Outcomes* diagram in *Part 7* of the Trust's Comprehensive Plan for Georges Heights 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 Commonwealth Heritage values.

The *Objectives and Policies* most relevant to this Management Plan are those relating to access, open space and recreation, bush care, the conservation of cultural and Aboriginal heritage and of the natural environment, sporting facilities, the adaptive reuse of buildings, water quality and catchment protection, bushfire management, 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.

Relationship with other Trust Management Plans

This Management Plan is the eighth to be prepared by the Trust for land within the Mosman Local Government Area. All of the Management Plans must be consistent with each other as well as any other plans for neighbouring lands.

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 Headland Park.



Current relevant policies are:

- The Trust's *Leasing of Land and Buildings policy*;
- The Trust's Policy for the *Leasing of Land and Buildings to Community Users*;
- The Trust's Event Policy;
- The Trust's Heritage Strategy;
- The Trust's draft Phytophthora Root-Rot Management Strategy and Best Practice Procedures for Bush Regeneration Activities; and
- The Trust's Headland Park Interpretation Strategy.

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

Relationship with the Headland Park Design Framework

There are six former Defence bases at Middle Head, Georges Heights and Chowder Bay. The transformation of these bases into a unified area of parkland requires consideration of all of the elements that make up the public domain. It also needs to satisfy expectations about public access to and enjoyment of the site, the conservation of its natural and cultural heritage and its integration with the harbour, the foreshore and the local neighbourhood.

The development of the design framework and the design treatment of each of its elements will be drawn from the heritage values and characteristics of the lands, rather than imposing an arbitrary new "design statement".

The design framework for the Headland Park is shown at *Figure 3*. It identifies all of the elements that make up the public domain, how they need to work together as a network of spaces and the principles that will guide their detailed design development within each of the Management Plan areas.

The elements of the public domain comprise:

- Precincts – areas with distinct characteristics by virtue of land uses or physical factors such as topography, building scale and form;
- Streets and Paths – the network of routes that provide access to and through the site for all modes – walking, cycling, public transport and private motor vehicles;
- Entries - to a precinct or significant public places;
- Significant Public Places – the destinations, the spaces used for gatherings, relaxation, ceremony or cultural or sporting activity;
- Landmarks – places, structures or natural features of public interest; and
- Edges – the boundaries between precincts, the borders to parks and gardens, dramatic level changes, the interfaces between buildings and the public domain.

Precincts

The terrain and its relationship to the harbour is the first and most fundamental consideration for all of these elements. It is the terrain that has given rise to the historic uses and it is its relationship to the harbour that makes these lands special.

The early fortifications located at the escarpment and the associated defence facilities on the knolls form identifiable precincts. These precincts include –



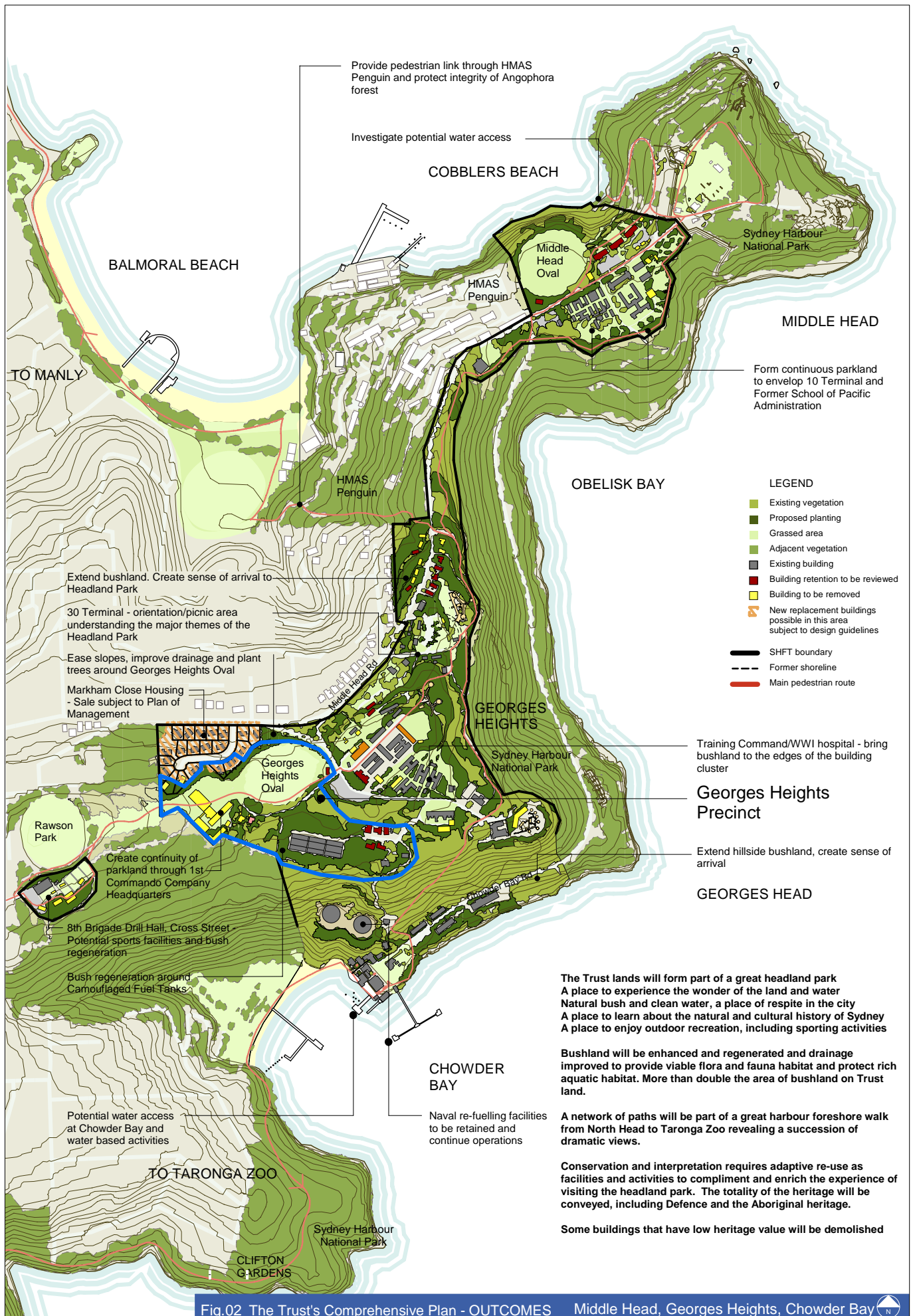


Fig.02 The Trust's Comprehensive Plan - OUTCOMES

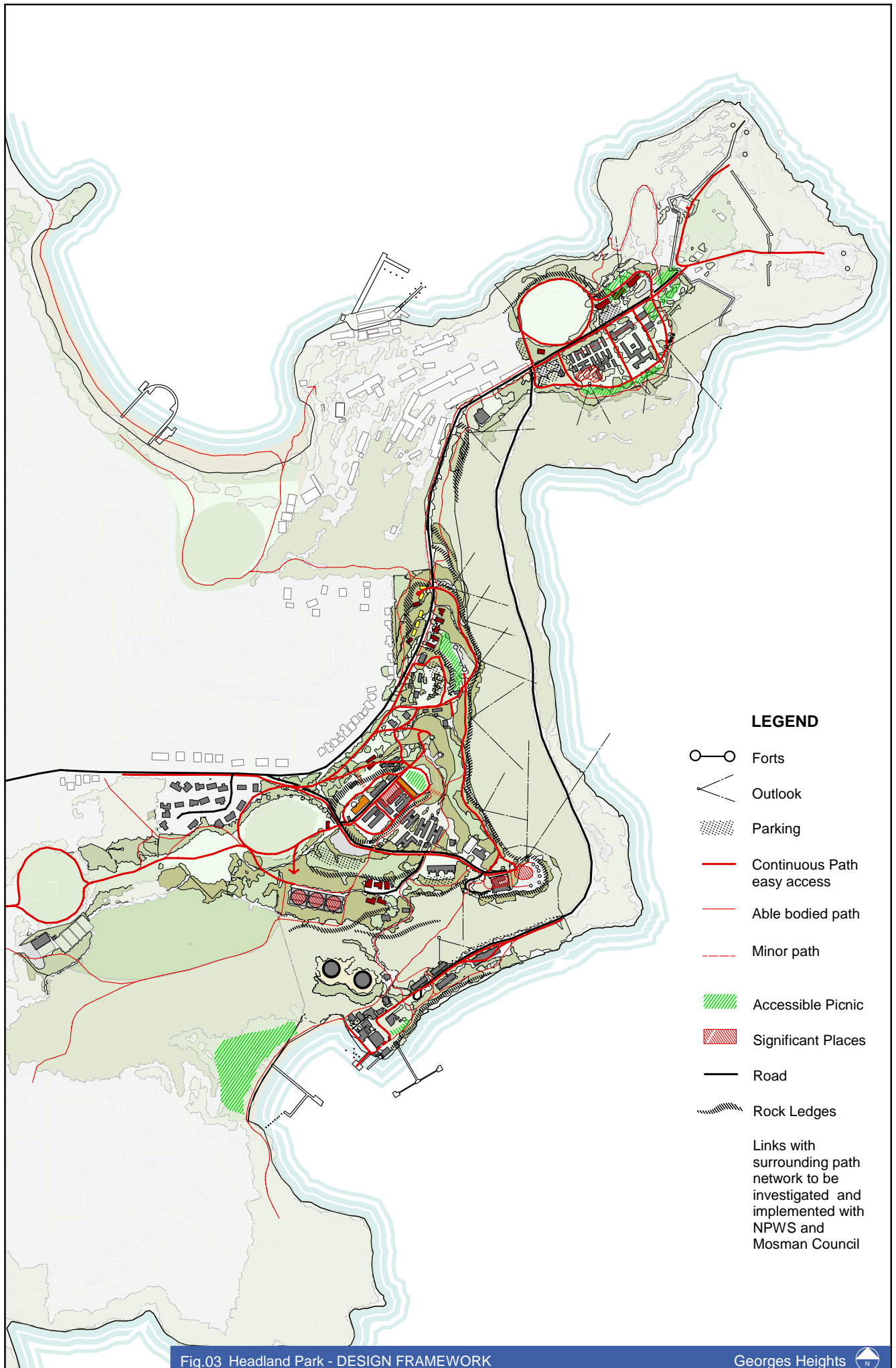


Fig.03 Headland Park - DESIGN FRAMEWORK

-
- The Mosman Drill Hall and its parkland setting adjoining Rawson Park;
 - The former World War I Hospital precinct on the highest knoll at Georges Heights;
 - The former Gunners' Barracks (Officers' Mess) and fortifications at Georges Head;
 - The fortifications, sheds and barrack buildings at the spur terminating the Georges Heights plateau, before the ridge drops to Middle Head;
 - The Middle Head barracks; and
 - The cluster of buildings at Chowder Bay.

Generally, these precincts have an institutional - parkland character, with the buildings forming small-scale, civic spaces.

The open spaces on the saddles of the undulating plateau and the steep slopes also create distinct precincts. These include:

- The steep, wooded slopes below the escarpment;
- The plateau which is generally characterised by coastal heath and exposed rock ledges; and
- The institutional parkland areas of the former bases.

The Headland Park will form a succession of spaces from hill tops with a sense of openness and height above all the surrounding land – such as at the cairn at Rawson Park, through to more enclosed areas in the saddles and valleys and to places along escarpment edges. As the plateau narrows and winds towards the headland, these spatial experiences will vary – as the views into Middle Harbour unfold and gain equal prominence to the views to the outer harbour and the ocean.

The Georges Heights precinct sits at the highest point of the Headland Park. Its height and location provide commanding views of the surrounding parklands and harbour. The precinct is comprised of a series of distinct nodes: the Park entrance at its peak, the open character of the Oval, the bushland setting of the tanks exaggerating their presence, and the suburban feel of the residences. Maintaining this character will be a central consideration in the planning for the site. These elements will be knitted together through the linking of the pedestrian networks and landscape treatments.

This plan addresses these distinct nodes within the precinct and their re-integration with one another and as a continuous experience within the Headland Park as a whole. This is discussed further in the *Outcomes* section.

Streets and Paths

The access network needs to provide clear and convenient access to and through the Headland Park. Each of the elements of the network will be designed to reflect its role and function, and the desire to create an unfolding sequence of experiences in response to the environment it passes through. The network consists of the following elements, as shown in *Figure 3*:

- The approach roads adjoining and leading into the park – Middle Head Road, Chowder Bay Road and Suakin Drive;
- Internal streets and laneways within each precinct (within the former bases);



-
- A major pathway circuit that provides access for people with all levels of mobility and that links the significant public places, features and landmarks, the entry roads, car parks and local neighbourhood;
 - A minor pathway network providing more variety, intimacy and seclusion, and access for able-bodied walkers to limited areas within the bushland; and
 - The car parks and bus set down areas.

Part of the Georges Heights precinct is located on the path of the former Military Reserve Road which connected Cross Street Drill Hall site to Training Command. The original route has been interpreted in the Trust's design approach by using it as a pathway which connects the site to the Rawson Park cairn and the Headland Park entry on to Suakin Drive.

As a general principle cycling should not take place on walking paths, however cycling will be encouraged where it is safe and appropriate. To facilitate this, the Trust will consider designating some paths as shared pathways and providing a link with Mosman Council's bicycle path through Rawson Park which connects Balmoral Beach with Athol Wharf.

Entries

It is proposed that there will be numerous "*Entry Points*" in the Headland Park so that access opportunities are maximised and dispersed. This will accommodate people arriving from many different directions and by different modes of travel and will avoid concentrations of visitors.

Entries in the public domain will not usually be built structures. Rather, they will be spaces that serve as an entry and do not need to be given strong emphasis.

Significant Public Places

The Headland Park will have a range of public spaces offering a diversity of activities. These will include:

- Passive recreational areas for picnics and social relaxation;
- Areas for community sporting activities;
- Places of contemplation within a bushland setting or on the escarpment with spectacular views; and
- Small civic spaces defined by former defence buildings for community gatherings or simply watching the passers by.

They will form a series of experiences connected by the main pathway network. All of these spaces are located and chosen to enhance an understanding and appreciation of the natural environment and the succession of historical uses.

The significant public places at Georges Heights include the sports oval, the site of the former 1 Commando Headquarters and the Camouflaged Fuel Tanks.

Landmarks

Within each of the precincts, there are significant features that relate to the history or the natural beauty of the place. They are often beautiful or unusual structures, buildings or natural features that provide the focus in public places or points of interest along the



way. The setting of these features will be designed to assist in a greater understanding and appreciation of their significance and the Headland Park as a whole.

The site of the former 1 Commando Headquarters provides an excellent opportunity as a local focal point to highlight the exceptional views from the ridgeline.

The Camouflaged Fuel Tanks are also a focal point and significant landmark of the precinct. Opportunities exist for their conservation and adaptive reuse, and for their bushland setting to be preserved and enhanced.

Edges

The precinct has distinct edges in part formed by its interface with the Sydney Harbour National Park and residences in Markham Close. Other edges are less defined and form the basis of creating a continuous experience through the parkland.

With respect to the Sydney Harbour National Park, the primary consideration is the protection and improvement of the downslope bushland conditions by effective stormwater management and bush regeneration around the edges. The Trust will work together with National Parks & Wildlife Service to achieve this.

The concept masterplan for the area (see *Figure 12*) makes recommendations that will reinforce the relationship with adjoining lands.

The treatment of the edge adjoining residences in Markham Close must take into consideration any potential amenity impacts.

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 *Environment Protection and Biodiversity Conservation (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, while 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 to have regard for the Commonwealth Heritage values of a place before it or any other Commonwealth agency takes an action. A Commonwealth agency must not take an action if there is a potential



adverse impact on the Commonwealth Heritage values, unless there is no feasible or prudent alternative. If there is no feasible or prudent alternative, the Commonwealth agency must take all measures to mitigate the impact. The *Commonwealth Heritage Values* section of this Plan describes the values of the site.

State Legislation

The *Sydney Harbour Federation Trust Act, 2001* specifically excludes any land owned by the Trust from the operations of state planning law. This includes State Policies (SEPPs) and Regional Environmental Plans (REPs) 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 both State and local plans. The relevant statutory plans are:

Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005

This SREP 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, the Georges Heights precinct is included in the catchment area of Sydney Harbour. The planning principles of the SREP relevant to the site include:

- The protection, maintenance and enhancement the natural assets and unique environmental and visual qualities of Sydney Harbour and its foreshores;
- Sydney Harbour and its foreshores should be recognised and protected as places of exceptional heritage significance;
- The role of Sydney Harbour in the history of Aboriginal and European settlement should be appreciated;
- The natural, scenic, environmental and cultural qualities of the Foreshores and Waterways Area should be protected; and
- Archaeological sites and places of Aboriginal heritage significance should be conserved.

Mosman Local Environmental Plan 1998

The Georges Heights precinct is located within the Mosman Local Government Area. As the Georges Heights precinct is a 'deferred matter' under Mosman LEP 1998, Mosman LEP No.1, 1982, continues to apply. Under LEP No.1, 1982, the site is zoned for 'Special Uses – Military Reserve'.

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 Georges Heights as being a 'Place of Cultural Interest' and as part of the existing network of walking tracks. Mosman Council has received funding under the plan to provide a cycleway linking Taronga Zoo Wharf with Balmoral Beach. The



proposed route of this cycleway passes through Rawson Park and in close proximity to the Georges Heights precinct. It is proposed that existing and proposed pathways provide interconnecting links into these established networks.

Mosman Bicycle Strategy 2005-2010

In 2005 Mosman Council adopted a bicycle strategy which outlines bicycle related initiatives for the next 5 years. It covers major infrastructure projects, bicycle parking, education and signage.

The strategy identifies future on-road and off-road cycling paths linking Georges Heights with the rest of Council's cycling network.

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 Georges Heights precinct adjoins the Sydney Harbour National Park. The National Parks and Wildlife Service (NPWS) have prepared a Plan of Management that applies to the whole of the Sydney Harbour National Park including Middle Head and Georges Head.

The Plan of Management 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.

The Park is divided into precincts with emphasis to be given to the following strategies in the Georges Heights Precinct:

- Interpretation of defence history; and
- Rehabilitation of the natural vegetation.

High priority projects that have been achieved to date and that are relevant to the Trust's Headland Park include the preparation of a weed control program, feral animal management at Middle Head, the preparation of a fire management plan and the construction of tracks.

Plan of Management for Rawson Park and Surrounds, 2001

In 2001 Mosman Council commissioned Gutteridge Haskins and Davey Pty Ltd to prepare a Plan of Management for Rawson Park and Surrounds. This plan covers Rawson Park, land up to and including Bradley Bushland and the existing grassed netball courts.

The Rawson Park Plan of Management recognises the need to successfully combine the varied recreational and community uses with the opportunity to appreciate the environmental, cultural and historic values of the park. Community consultation established that major changes in the management and use of the park were undesirable and that future uses should be determined in accordance with the heritage significance of Rawson Park.



The plan contains the following management objectives that are relevant to the Georges Heights plan:

- Provide a high quality recreation resource which offers opportunities for a wide range of uses and activities without detrimentally impacting on other values;
- Maintain, protect and enhance the natural environment with regard to appropriate ecological principles including improving the quality and integrity of the Bradley Bushland Reserve;
- Consider Rawson Park and Surrounds in the context of its connection to adjoining bushland areas and reserves;
- Ensure adequate protection, enhancement and appropriate use of significant heritage items and recognise and increase community awareness of the history of Rawson Park and the Bradley Bushland Reserve;
- Protect and enhance the Park's scenic quality and maintain its open and scenic character; and
- Provide a framework for appropriate management which enhances and maintains the character and values of the Park.

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 Mosman local government area, including the Harbour Trust's land and the adjoining Sydney Harbour National Park. The *Manly - Mosman District Bush Fire Management Plan 2000* deals with strategies to minimise bush fire risk such as hazard reduction. The *Manly - Mosman Bush Fire Operations Plan 2003* deals with the operational and management issues. Evacuation routes are determined under Local Emergency Disaster Plans.

The NSW National Parks and Wildlife Service has prepared a Fire Management Plan (FMP) for Sydney Harbour and Botany Bay National Parks. The aims of the FMP include the protection of life and property, coordination of fire management with other agencies, and management of fire regimes.

There is also a Bush Fire Prone Land Map prepared under Section 146(2) of the *Environmental Planning and Assessment Act 1979* (EP&A Act) that was approved by the NSW Rural Fire Service in 2003. This map identifies the majority of the site as a vegetation buffer zone. Particular developments proposed on bush fire prone lands can trigger the need to conform to the requirements of *Planning for Bushfire Protection 2001* guidelines under the EP&A Act.

The Trust has completed an assessment of bushfire risk for its sites at Middle Head, Georges Heights and Chowder Bay and this assessment informed the preparation of this management plan. The Trust will also cooperate with other agencies in the implementation of plans prepared under the *Rural Fires Act 1997*.



Site Description

The Georges Heights precinct is approximately 9.1 hectares in area and is located on the ridge of Middle Head, one of the three headlands that define the entrance to Sydney Harbour. The site sits directly upslope from Chowder Bay on an undulating plateau providing a number of natural vantage points with excellent views of Sydney and Middle Harbours.

The site contains the Georges Heights Oval, the former 1 Commando Headquarters site, the WWII Camouflage Fuel Tanks, and ten defence houses – see *Figure 1*.

Suakin Drive provides the main vehicular access to the site via Middle Head Road. A walking track linking Rawson Park to the Georges Heights Oval currently provides pedestrian access from the direction of Mosman town centre.

Bushland exists along the southwest and southeast edges of the site where the topography falls down to the National Park, to Chowder Bay and to the harbour beyond. This surrounding vegetation acts to significantly screen the site from the harbour and forms an impressive bushland backdrop to the land.

Where the topography falls to the north lie the residences of Markham Close. Bradley Bushland Reserve forms the western boundary to this residential area.

The former 1 Commando site provides a direct link between Rawson Park located to the west and Georges Heights Oval to the east.

Georges Heights Oval sits at the northern end of the site on the ridgetop. The site consists of a full sized oval accommodating two cricket pitches and an amenities block with some minimal shaded seating in front. The area is currently used formally for cricket, winter sports such as soccer, rugby and athletics and local community and school uses. The oval is also used for overflow parking for large community events.

The former 1 Commando Headquarters was demolished in March 2006 and a cleared one hectare site was created in preparation for landscaping on the ridge of Middle Head directly to the west of the oval. The site sits directly upslope from Chowder Bay and is positioned at the western end of Dominion Crescent, which provides the only vehicular access to this part of the site. The entry gates to the former Commandos site remain as the only evidence of its former use. A mound has been created to the northern edge of this site to create a landscape buffer and screen to the residential properties at Markham Close. A southern mound has also been created which will provide an elevated position to capture wider views along the ridgeline and across the harbour. The site is currently enclosed by chain link fencing creating a division between the Oval and Rawson Park accesses. Two residences exist just outside the fenced area and now that the 1 Commando buildings have been removed the residences on Dominion Crescent remain relatively isolated.

Southeast of the former 1 Commando Headquarters site lies the largest structure within the precinct, the WWII Camouflaged Fuel Tanks, comprising three tanks which were used as reserves to the steel tanks at Chowder Bay. Each tank has an independent



pitched roof which was part of the camouflage strategy during WWII. The boundary of the Camouflaged Fuel Tanks is presently marked out with chain wire fencing, surrounded by remnant bushland, separating the site from the defence houses on Commonwealth Avenue and from the access road of Dominion Crescent.

Comprising of eight defence houses set in bushland surroundings, Imperial Place and Commonwealth Avenue represent a unique element in the Headland Park with their suburban characteristics. These houses are currently rented for residential purposes.

Surrounding Lands

The site is in a central position within the Headland Park, and as such will form one of the key links with the other precincts and will provide entry points for pedestrians and cyclists from the neighbouring areas outside of the Trust's lands.

Areas of bushland adjoin the former 1 Commando site to the south (Sydney Harbour National Park), and extending south and east to Chowder Bay, and to the west (Council managed Bradley Bushland). This ridge top bushland is a closed scrub vegetation community dominated by *Allocasuarina distyla* and *Banksia integrifolia* species. There is a moderate level of weed infestation in the ground layer dominated by asparagus fern and lantana. Overall the bushland is in reasonable condition, with previously cleared areas (fire break) beginning to regenerate.

Rawson Park, to the west of Georges Heights, contains popular local sporting facilities. The key features of the Park are its sports oval and spectator pavilion; six lawn netball training courts, which will be moved to the Drill Hall site; the Scotland-Australia cairn; and a 37-space car park with vehicular access via Cross Street. This area also provides a popular off-leash dog walking area.

Site History

Aboriginal Heritage

In 2004, the Trust engaged the Australian Museum to undertake a survey to identify Aboriginal archaeological sites and any associated issues related to Aboriginal heritage for six sites at Middle Head, including the Georges Heights Precinct. The Museum concluded that the site has no known archaeological significance for the area's original inhabitants, the *Borogegal* clan although it is of moderate archaeological sensitivity.

Notwithstanding this, the site is important for the role it played in an attempt by Governor Macquarie to encourage Aborigines to engage in farming and to adapt to the European way of living. In 1815 Macquarie reported to London that he had succeeded in getting 16 adult Aborigines to settle on a small farm on the north side of the harbour. The families were given implements and clothing and convicts were appointed to teach them how to farm.

These aboriginal settlers were not members of the local *Borogegal* clan, they were from the Broken Bay area and Macquarie appointed one of them, Bungaree, "*to be their chief*" (Figure 4). Bungaree has been described as witty, intelligent and something of a diplomat and is recognized as an example of significant collaboration between Aborigines and Europeans. Macquarie and Bungaree were to become firm friends and



at the ceremony to mark the establishment of the farm Macquarie presented Bungaree with a metal gorget (breast plate) inscribed “*Chief of Broken Bay Tribe.*”



Figure 4: King Bungaree, Chief of the Broken Bay Tribe, died 1832. Hand coloured lithograph drawn by C. Rodius, from life in 1831 and on stone in 1834.

The exact boundaries of the farm are uncertain. However, in 1815 the Sydney Gazette described it as being situated on “*the peninsula of Georges Head, being nearly surrounded on all sides by the sea.*” In Thomas Florance’s Survey of Port Jackson (1828) this showed the farm’s location as being in the Middle Head area.

In 2004 the Trust engaged historian, Rosemary Kerr, to undertake further documentary research to try and determine a more precise location of Bungaree’s Farm. Documentary searches to date have not revealed the location of the farm.

European Heritage

Following the failure of Bungaree’s Farm, the area was left largely unoccupied until the 1850s and the Georges Heights Precinct passed into private ownership. However, in 1854 it was resumed by the Crown for military purposes and from then until 2006 was used for a variety of army purposes.

The buildings and structures from the various phases of military occupation are shown in Figure 5.

1871 to 1913 Harbour and Coastal Defences

The decision in 1870 by the British Government to withdraw its troops from the Australian colonies and to pass defence responsibilities to the individual colonies resulted in the NSW government adopting an “*outer line*” of defence strategy for Sydney



Harbour. This consisted of a series of batteries on the outer reaches of the harbour including Georges Head, Middle Head, Bradley's Head and inner South Head.

Once the construction of batteries was in progress the planners' attention was turned to the construction of permanent barracks. Within the Georges Heights precinct, during this initial building period, the Officers' Quarters were constructed. This building was built on an excavated site now occupied by Building 103 and remained in this location until at least 1935. A description of these quarters in 1903 indicates that they were constructed in weatherboard, as sandstone had become less accessible and more expensive by this stage, and were provided with verandah, outhouses and stables. The excavated rock cutting made to accommodate the building is all of the physical evidence remaining of the building.

During the initial period of the fort building at George's Head in 1871-1876 a small spur road was constructed off the existing track to the site of the Gunner's Barracks and batteries. The east-west section of Suakin Drive preserves the line of this spur road. At the same time a track was constructed off this new road to the site of the Officer's Quarters. Commonwealth Avenue preserves the line of this track today. A roadway was also built to connect Bradleys Head Road to Middle Head, this later provided the link between the Training Command and the Mosman Drill Hall precinct.

In 1902, Rawson Park which forms the western boundary of the Georges Heights Precinct was officially opened by the Governor, Sir Henry Rawson as one of the first parks established in Mosman. It was not until the 1920s that Mosman Council built the oval and pavilion. Two croquet lawns were also built with the cost largely met by the members of the Mosman Croquet Club.

1914 to 1938 WWI and Inter-war Construction

During this time, the surrounding defence areas on the ridge were used largely for hospital purposes to serve the many casualties of WWI and by 1918, it was the home of the third largest military hospital in Australia (*Figure 6*). By 1922 the neighbouring hospital had been disbanded and the site put to other military uses such as a training centre for army personnel. At this time the Georges Heights precinct mainly comprised bushland with some clearings formed to provide connections with other parts of the Military Reserve.

The established residential function of the eastern portion of the precinct's, originally relating to its proximity to the batteries, continued. A large duplex residence was constructed as Married Quarters during the 1930's on the north side of Imperial Place. However, demolition was scheduled in 1960, making way for the three smaller and more modern residences which remain today.

By 1935 the former Officers' Quarters had been demolished and replaced with the current, Building 103. Built for the Commanding Officer of the Georges Heights Barracks, the residence has elements of Inter-war Art Deco style. The house reflects standards of officer accommodation during the inter-war period, and maintains the use of this part of the site for officer accommodation which began in the 1870s.



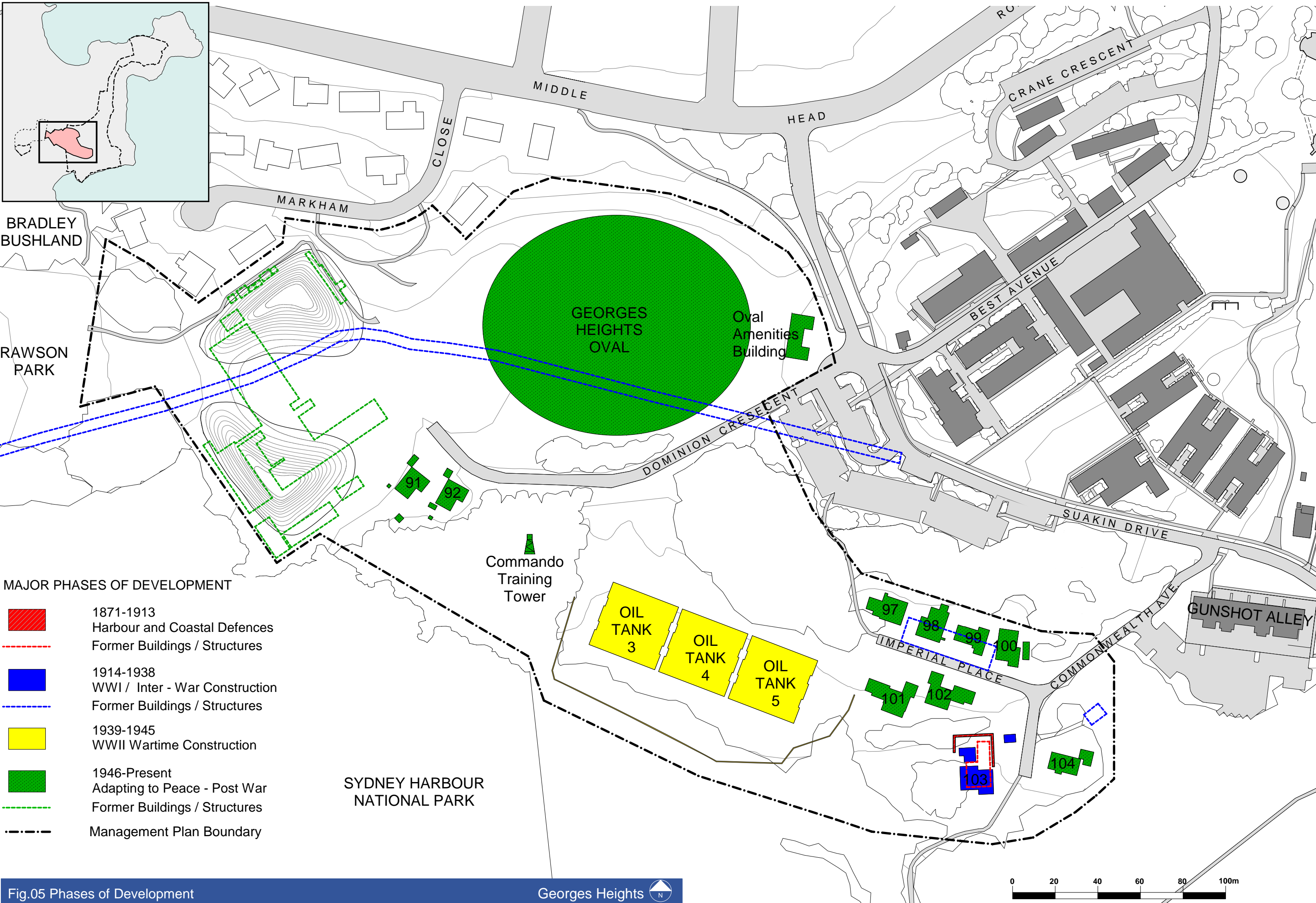


Fig.05 Phases of Development

Georges Heights

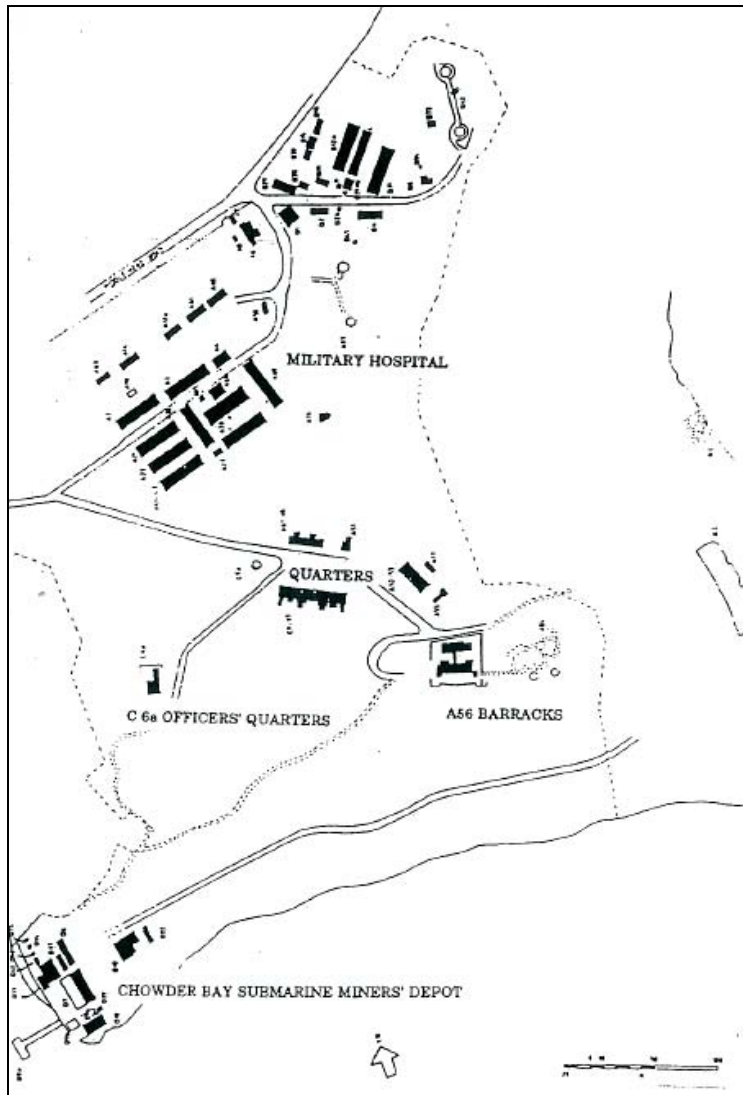


Figure 6: Plan of the Georges Heights Battery, 1918. This Plan shows the building footprint, rock excavation and location of the 1903 Officer's Quarters in relation to the Battery and Barracks at Georges Head. Note the recently completed Military Hospital.

1939 to 1945 WWII Supporting the RAN fleets

During WWII, the Navy ordered a number of fuel oil storage tanks to cater for visiting fleets, the growing RAN and the ships commandeered from the Australian merchant navy. Pearl Harbour and the fall of Singapore made this project an immediate necessity as the threat to Australia became a real possibility and as Sydney became the Allied port for operations in the South Pacific. The site chosen at Georges Heights was the only clear area in the defence reserve that could easily connect with the existing facilities. The selected location had easy access from the roadway for their construction and the height above sea level may have also been important for speed of fuel delivery to vessels. The Georges Heights tanks were to be used for surplus fuel oil storage, supplementing the two steel tanks further downslope in Chowder Bay, built in 1936.

The Navy engaged the Water, Sewerage and Drainage Board to build the tanks with construction commencing in March 1942. The selected location was first modified to



form a cut terrace into the sandstone bedrock. This cut formed part of a bund which was completed by a concrete wall. The tanks were a standard Board design with additional reinforcement and were designed to act as reserves for the steel tanks that were already in use at Chowder Bay. Concrete was used because steel had become a scarce commodity (because of demand for military hardware). Security for the tanks was provided through a sentry box with a telephone to the lower installation and a man-proof fence.

As the threat of aerial attack loomed, three independent asbestos roofs for camouflage were included in the design. They were indicative of the philosophy of Dakin, an academic from Sydney University (Head of Zoology School), and author of "The Art of Camouflage".

...‘that camouflage was essential, not optional to war, and that camouflage was not a decoration to be stuck on something afterwards’.

Many artists were located at Georges Heights to work on camouflage patterns as part of the NSW Defence State Camouflage Committee. The Committee wanted the roofs to be pitched as low as possible to resemble those on the neighbouring barracks. They were completed in August 1942 (*Figure 7*).

As the only remaining fuel oil storage tanks in Port Jackson with that style of camouflage, they represent Sydney's port preparations immediately after the fall of Singapore and the urgent need for furnace oil to supply to the RAN and allied fleets refuelling there, as well as merchant navy vessels.



Figure 7: View of the concrete oil storage tanks at Georges Heights after completion of the camouflage roof 1942. It is not known if hanging camouflage was used on these tanks, however the roofs were painted with a dull paint to help them blend in to the surroundings, and the roof structures themselves were designed to make the tanks look like buildings rather than fuel tanks. The camouflage technique relies on the nearby barracks buildings for the deceit to work.



1946 to present Utilising the Military Reserve

After WWII, defence lands were used opportunistically to accommodate various uses. For example a number of houses were constructed to accommodate defence personnel.

In 1951, the 'Swedish Cottage' located at the end of Commonwealth Avenue was constructed by the Navy to ensure adequate caretaking and ease of operation for the expanded Refuelling Depot. The cottage is an excellent example of the almost identical group of prefabricated cottages at Lower Georges Heights on Middle Head Road, which were manufactured by Åmåls Sågverks Aktiebolag (the Åmal Sawmilling Company). The construction of these cottages were part of a large post-WWII importation project, where prefabricated houses and workmen to erect them were brought to Australia from Britain, Sweden, Finland, Norway, the Netherlands, Germany and Austria to cope with the severe shortage of housing, materials and labour that Australia was experiencing during this time (*Figure 8*).



Figure 8: The former Navy Cottage is important in demonstrating the design of the Swedish Åmåls Sågverks Aktiebolag (ÅSA) prefabricated dwellings of the 1950s, which were imported by the Commonwealth to overcome shortages in labour and materials in the post war years.

Georges Heights Oval, formerly known as 'Army' oval, was formed in 1955 and continues to be used by various sporting and community groups. The location of the oval had been previously cleared by the military and used to form part of the route of the old military road that connected Cross Street with Training Command. During the early 1980s, the amenities building was built by Council to serve the oval (See Figure 9).

When the navy decommissioned the concrete tanks in the 1960s, the neighbouring areas were freed up for additional defence housing in Imperial Place. This group of houses are typically constructed of face brickwork with terracotta tiled roofs. Each appears to be an individually designed project home adapted for Defence use. They are all modest in their scale and character and are similar to the former Defence housing at Markham Close and along Middle Head Road in Lower Georges Heights. The houses on the upper, northern side of the road appear to be from 1960, with the houses on the lower side dating from the 1970s to the 1980s. These houses remain tenanted and are leased out by the Trust.





Figure 9: This photograph shows the construction of Rawson Oval in 1927 looking east towards the Georges Heights precinct. The former Hospital Buildings at Training Command are visible in the background and the cleared area in between would later become the location of Georges Heights Oval formed in 1955 and the 1 Commandos site.

In 1954 the Military Board decided to re-raise commando companies in both Victoria and NSW, as part of the Citizen Military Forces (CMF, now the Army Reserve). The headquarters of the Sydney Commando Company was originally located at Lower Georges Heights. Each unit was commanded by a major, and numbered up to 250 soldiers.

Later the 1 Commando Company moved headquarters to a site located at the western end of Dominion Crescent located between Rawson Park and Georges Heights Oval. This site contained a group of utilitarian two-storey brick offices, workshops, training hall, storage buildings and a vehicular garage arranged around the sides of a large flat asphalt yard area. Work began on these buildings in 1954, with the majority of buildings being completed by 1965. The two residences on Dominion Crescent were also built early in the 1950s and remain on the site today.

The complex was used by the 1 Commando Company until 2006 for administration and accommodation purposes (see Figure 10). The area surrounding the base became some of the most challenging training areas found in Sydney and the recruits and their staff used the cliffs, bush, beaches and bays to train and hopefully earn their Green Berets. The gaining of this qualification was the result of a gruelling selection and training process over 12 months, and many applicants did not meet the challenge. The wooden structure which can be seen in the bushland downslope of Dominion Crescent today, was built by the Commandos to be used to teach abseiling from a helicopter.



A portion of the adjoining Council managed Rawson Park was dedicated as the Bradley Bushland Reserve in 1982 to honour local residents Joan and Eileen Bradley for their pioneering work promoting the regeneration of native bushland.



Figure 10: The former One Commando Company Headquarters buildings in 2005 prior to demolition.

Defence Vacate

During the early 1990s the Department of Defence determined that much of its land on Sydney Harbour was surplus to requirements. This led to great community concern, and the creation of the Headland Preservation Group, which in turn led to the formation of the Defenders of Sydney Harbour Foreshores Coalition in 1997 who lobbied for these sites to remain in public ownership and for their cultural heritage to be conserved. As a result, in 2001 the Sydney Harbour Federation Trust was established and the site transferred to the Trust to ensure its long term conservation and rehabilitation.

At Georges Heights, 1 Commando Company remained in their headquarters site until 2006, when they vacated and moved to HMAS Penguin. The Trust used this opportunity to remove the complex of buildings, a major barrier to the flow of the Headland Park, to facilitate improved connections with Rawson Park and provide a landscape buffer between the site and the residences at Markham Close. The brick gate posts remain and serve as a reminder of the several thousand young Australian men and women who passed through to serve Australia.



Sydney Harbour Federation Trust

Management Plan - Mosman No.8
Georges Heights

5 December 2008

Part 2



Australian Government

Sydney Harbour Federation Trust

Analysis and Assessment

Heritage Listings

The Georges Heights precinct is a part of the Middle Head and Georges Heights defence site listed on the *Commonwealth Heritage List* as Historic Place No. 105541. This listing specifically excludes 1 Commando Company Headquarters.

The following individual items within the precinct are also identified on the Commonwealth Heritage List:

- 'Commonwealth Avenue Defence Housing', Historic Place No. 105586; and
- Part of 'Navy Refuelling Depot and Caretakers House', Historic Place No. 105583.

Full text of the above listings can be found at Appendix 3.

Schedule 2 of Mosman LEP 1998 (Amendment No. 1) – Heritage Conservation contains numerous listings for the Georges Heights precinct including the 'Georges Heights Military Barracks Complex'.

Conservation Management Plans

In 1987 the Department of Defence engaged McNamara Soder Associates to prepare a Conservation Management Plan (CMP) for Georges Heights and Chowder Bay. This focused mainly on the surrounding defence precincts and excluded much of the Georges Heights precinct. The relevant items covered include the residences in Commonwealth Avenue and Imperial Place.

Godden Mackay Logan prepared a CMP on behalf of the Department of Defence in 1998 which covered a wider site area than the earlier CMP. As well as the residences in Commonwealth Avenue and Imperial Place, the CMP also covered the defence housing on Dominion Crescent, the WWII Camouflage Fuel Tanks, and 1 Commando Headquarters.

In 2003 the Trust commissioned Robertson and Hindmarsh to prepare a Heritage Assessment of former Navy Cottages, in particular the pre-fabricated cottages manufactured in Sweden, which included Building 104.

In May 2006 the Trust commissioned Tropman and Tropman Architects to prepare a CMP for the Camouflaged Fuel Tanks site. The CMP details the cultural significance of the site and the individual components within it.

The methodology used in 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 island by examining the way in which its extant fabric demonstrates its function, associations and aesthetic qualities.

The Commonwealth Heritage values included 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 Commonwealth Heritage values of Georges Heights.

Archaeological Assessments

In February 2006 Australian Museum Business Services (AMBS) prepared an addendum to their 2004 Archaeological Survey of Trust lands, covering Aboriginal archaeology, at Middle Head, Georges Heights and Chowder Bay.

The area covered by the 2006 survey included the 1 Commando site, Georges Heights Oval, the WWII Camouflaged Fuel Tanks and the area of residences on Commonwealth Avenue and Imperial Place.

The archaeological survey found no Aboriginal sites or objects: given the disturbed nature of the area it is very unlikely that Aboriginal cultural material would have survived the past development of the site.

The report concluded that no additional archaeological survey of the property was necessary or warranted. However, due to the possible existence of sub-surface remains, where future earthworks occur, appropriate monitoring and detailed recording should be conducted by a qualified archaeologist. This policy will also ensure the protection of any non-Aboriginal archaeological material that may be present.

Cultural Landscape

Georges Heights sits amongst a sequence of gentle knolls along the ridge top leading to Georges Head and Middle Head. It is characterised by pockets of former military and residential buildings surrounded by areas of bushland. It has important scenic and landmark qualities as the backdrop to many vistas of the Harbour and it contains areas of remnant Sydney bushland which, in association with the adjacent National Park areas, has important ecological and social values.

This succession of knolls and saddles along the ridgeline is fragmented by the separately fenced and developed areas reflecting past uses.

Georges Head, located to the east of the Georges Heights precinct, was an obvious place for fortifications because of its 'command' of the waterway approach to Sydney Cove. The defence areas surrounding the fortifications were used opportunistically to accommodate various supporting uses. Existing structures, roads, paths, plantings and cleared areas provide clear evidence of the function and development of the site from 1870 up until the end of the 20th Century. These relics include residential and service buildings which provided support and facilities to the defensive fortifications and the personnel involved. The remaining structures demonstrate the form and nature of accommodation and facilities used by the Australian military at various periods.

The former Officers Quarters and Navy Cottage were located close to the respective fortifications and fuel tanks to ensure the adequate caretaking and ease of operation of these facilities. The location for the WWII fuel tanks was selected as it was the only clear area in the defence reserve that could easily connect with the existing facilities.



They were benched into the escarpment to reduce the visibility from the harbour. The tank's roofs were deliberately clad to make them look like defence personnel quarters as seen from the air, rather than being hidden as a natural element. Today, the tanks continue to contrast with the surrounding bushland making them a prominent feature of the landscape.

Once these tanks were decommissioned, the neighbouring areas were freed up for additional defence housing in Imperial Place. The resulting Commonwealth Avenue and Imperial Place development now form a hidden pocket of residences nestling within their bushland setting. The various forms of barracks and residences remaining on the site reflect both changes in taste and design, as well as the differences between the ranks.

Today the site of the decommissioned tanks remains heavily disturbed with the tanks, bund wall and pipeline still remaining. The area has gentle to steep slopes and sandstone rock outcrops, ledges and cliffs. It has naturally regenerated following excavation of rock and altered soil profile – though frequent bushland clearance has continued until recently for bushfire hazard reduction for the tanks and nearby houses in Imperial Place and Dominion Crescent.

The Oval straddles the ridgeline and is a dominant feature of the site, set in an open expanse. It is highly visible from the main vehicular and pedestrian access points and the trees define the silhouette of the ridgeline when viewed from the harbour and beyond.

In addition to the surrounding bushland, there are a number of significant cultural plantings remaining on the site:

- A 15m high specimen of *Eucalyptus cinerea* (Argyle Apple);
- An avenue of 8 even-aged 10m high *Lophostemon confertus* (Brush Box) south-west of Commando's entrance; and
- Several large fig trees located on the grassy slope between Georges Heights Oval and Middle Head Road.

Natural Values

The Georges Heights precinct has a long history of modification and disturbance and so retains few natural values within those disturbed areas. However, the degree of disturbance varies from area to area, and therefore the following section provides further examination of flora and fauna present.

In May 2001 the Sydney Harbour Federation Trust commissioned Conacher Travers Environmental Consultants to conduct a Fauna Study of similar areas covered in the subsequent Middle Head / Georges Heights Flora Study.

The study covered specialist sites to the north and south of the WWII Camouflaged Fuel Tanks. Fauna species observed and recorded in these sites included the Rainbow Lorikeet, Sulphur-crested Cockatoo, Common Eastern Froglet, Sun Skink and Common Ringtail Possum. More specifically in the area to the north of the fuel tanks a wider variety of frog species were recorded including Peron's Tree Frog, Striped Marsh Frog and Smooth Toadlet.



The vegetation and topography of the site also provides habitat for a number of fauna species including the brush-tail and ring-tail possum, blue tongue lizard, red-belly black and brown snakes, the eastern water dragon, eastern water skink, striped marsh frog and native birds such as the New-Holland honey-eater, eastern rosella and rainbow lorikeet.

The management options that were proposed to enhance fauna habitat in the area included:

- Investigation of an appropriate fire regime for the area with an inter-fire interval of 6-7 years;
- Management of the hydrology to reduce the amount of disturbance and pollution of drainage lines on and leading into the bushland areas;
- The management of water entering site including the potential construction of a small wetland/retention pond sympathetic to amphibians to increase habitat value and help minimise disturbances to watercourses;
- Construction of nest boxes to compensate for the lack of available hollows for species such as Powerful Owls and Glossy Black Cockatoos;
- Regeneration of native bush on the site; and
- Instigate exclusion and trapping programs for feral animals such as foxes, rabbits and feral cats.

Conacher Travers Environmental Consultants were engaged to prepare flora and fauna studies of Trust and NPWS lands at Middle Head and Georges Heights. More recent surveys of the bushland areas around the WWII Tanks and former Commandos sites have been undertaken by the Trust.

The Georges Heights precinct retains limited natural values due to a long history of modification and disturbance, in particular the clearing of lands to construct Georges Heights oval, the WWII Tanks, the Commandos buildings and various roads and paths linking military establishments along the ridgeline.

There are three main sections of bushland remaining within the Georges Heights precinct, as follows:

- The area to the southeast of the former 1 Commando site, predominantly supports the *Kunzea/ Monotoca/ Allocasuarina distyla/ Banksia integrifolia* (Closed Scrub): *Allocasuarina distyla* form vegetation community.
- The area to the north and immediate south of the WWII Camouflaged Fuel Tanks supports a similar Closed Scrub vegetation community *Kunzea/ Monotoca/ Allocasuarina distyla/ Banksia integrifolia* (Closed Scrub) *Kunzea* form.
- The area generally on the lower slopes below the Imperial Place houses and below the bushland to the south of the fuel tanks supports the *Angophora costata / Eucalyptus botryoides* Open Forest (wet understorey form). This is typical of the slopes and terraces that have a southerly aspect on the Sydney Harbour side of Middle Head and Chowder Bay.



The area also includes an artificially created wetland habitat directly adjacent to the tanks and in the newly constructed drainage swale downslope of the new Suakin Drive car park.

These vegetation communities contain a moderate to high diversity of native species and are connected to the Sydney Harbour National Park to the south and south west.

The conclusions of the studies are that:

- The area supports a number of vegetation communities and sub-communities, all of which are relatively common in similar environmental conditions;
- *Acacia terminalis* ssp. *terminalis* was found in bushland within the Georges Heights site. This species is listed as “Endangered” in Schedule 1 of the Threatened Species Conservation Act (1995) and as “Endangered” in the Environmental Protection and Biodiversity Conservation Act (1999) and contributes to the ecological significance of the bushland;
- Two areas (0.5 and 0.3 hectares) of naturally regenerated *Banksia* / *Kunzea* / *Allocasuarina distyla* Open Scrub and *Eucalyptus botryoides* Open Woodland have been identified within the Georges Heights Precinct. These small remnants occur in shallow sandy soils and are ecologically significant as part of the last remnant of Hawkesbury Sandstone ridge-top vegetation in the Mosman LGA (the only other area in Mosman is in the adjacent Bradley Bushland Reserve). This community contains high levels of native species and numerous specimens of the endangered *Acacia terminalis* ssp. *terminalis*; and
- The areas surrounding the WWII Camouflaged Fuel Tanks are quite similar in nature and occupy relatively small areas in close proximity to each other. Both closed scrub communities contain high levels of weed infestation in some areas.

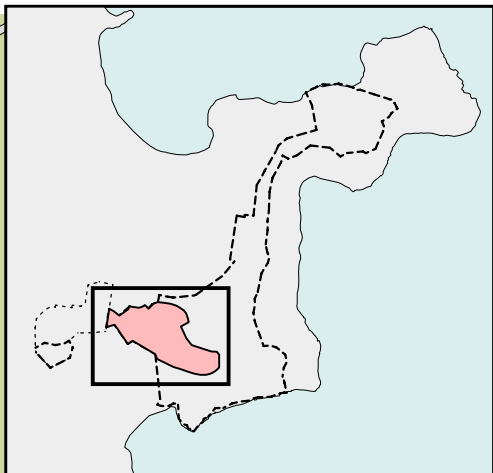
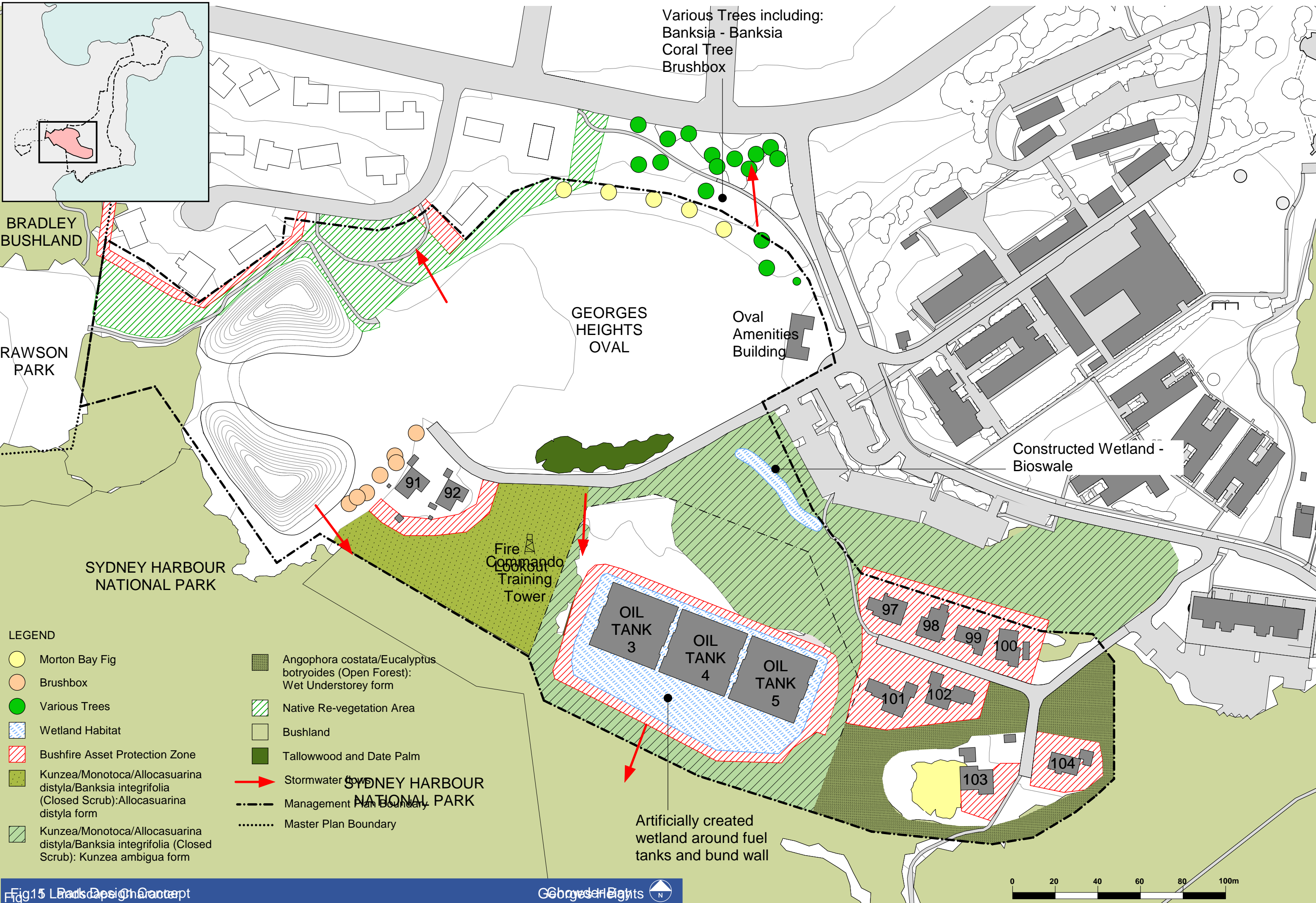
Figure 11 identifies the landscape character of the site based on these studies.

Phytophthora cinnamomi

Dieback related to the root-rot fungus *Phytophthora cinnamomi* has been listed as a key threatening process under the *Environment Protection and Biodiversity Conservation Act 1999* and Department of Environment and Heritage has prepared a *Threat Abatement Plan* to guide actions by Commonwealth agencies to prevent the spread of this disease and to limit its effects on vulnerable or endangered native species.

Sampling and analysis carried out on Trust and National Parks lands at Georges Heights and Middle Head have confirmed the presence of *Phytophthora cinnamomi* in this landscape. In accordance with its *Phytophthora Management Strategy*, site specific testing will be carried out prior to disturbance of the site for site development. Results of this testing will be used to develop a site-specific risk based management strategy to minimise the introduction or spread of *Phytophthora* at the precinct. This involves the adoption of hygiene protocols for personnel working on the site, including disinfection of footwear, machinery and tools to ensure that the spread of *Phytophthora* during construction, earthworks and landscape activities does not occur.





BRADLEY BUSHLAND

RAWSON PARK

SYDNEY HARBOUR NATIONAL PARK

GEORGES HEIGHTS OVAL

Oval Amenities Building

Constructed Wetland - Bioswale

Fire Commando Training Tower

OIL TANK 3

OIL TANK 4

OIL TANK 5

97

98

99

100

101

102

103

104

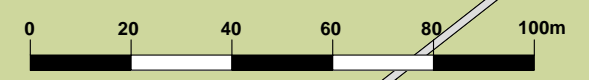
LEGEND

- Morton Bay Fig
- Brushbox
- Various Trees
- Wetland Habitat
- Bushfire Asset Protection Zone
- Kunzea/Monotoca/Allocasuarina distyla/Banksia integrifolia (Closed Scrub): Allocasuarina distyla form
- Kunzea/Monotoca/Allocasuarina distyla/Banksia integrifolia (Closed Scrub): Kunzea ambigua form

- Angophora costata/Eucalyptus botryoides (Open Forest): Wet Understorey form
- Native Re-vegetation Area
- Bushland
- Tallowwood and Date Palm
- Stormwater flow
- Management Plan Boundary
- Master Plan Boundary

Artificially created wetland around fuel tanks and bund wall

Fig.15 Landscape Concept



Bushfire Risk

A Bushfire Management Plan (BMP) was produced by Conacher Travers Environmental Consultants in July 2007 to describe the strategies by which the Trust can meet its fire management obligations in Middle Head / Georges Heights.

In relation to the Georges Heights Precinct, the plan identifies the Camouflaged Fuel tanks, other structures and buildings (and their occupants) within Commonwealth Avenue and Imperial Place area and power lines servicing the Camouflaged Fuel tanks and houses as being at high risk from bushfire.

The plan recommends establishing/re-establishing and maintaining prescribed Asset Protection Zones (APZ) to protect occupants, visitors, capital assets, cultural and natural heritage assets and adjoining property from bush fires and fire suppression activities. At the Camouflaged Fuel Tanks, the plan also recommends the re-cladding of the roofing and repairing to reduce risk of ember attack.

Acceptable fuel management methods for this zone include prescribed burning, slashing/mowing, under scrubbing and trail construction.

The BMP takes account of the existing state/use of a particular location and does not take into consideration the potential future use of any site within the precinct. Any changes will need to be assessed on a site-by-site basis for implementation of fire protection measures during the formal assessment of each proposal.

The Trust will review and update recommendations that are more specifically tailored to the proposed future use of the precinct.

Stormwater

Stormwater management at the site is particularly important due to its proximity to Sydney Harbour National Park, Bradley Bushland Reserve and the harbour itself.

In 2004, Storm Consulting Pty Ltd prepared a stormwater management plan for the Georges Heights, Chowder Bay and Middle Head areas. The purpose of this was to identify the stormwater issues on the sites, and to establish objectives and a plan of implementation for stormwater management practices to deal with these issues. The main objectives set out in the stormwater plan are to protect and enhance the existing environment by means of water sensitive design principles such as source controls, conveyance controls and discharge controls.

Stormwater runoff on the site has changed significantly since defence infrastructure was established on the site in the 1800s. Changes in land use, including removal of vegetation, increased impervious areas and increased pedestrian and vehicular movement, have changed the site hydrology and pollutant loads.

The main issues for the site in relation to stormwater are:

- Dieback relating to stormwater runoff and nutrient loads;
- Loss of native habitat due to weed proliferation associated with stormwater runoff and nutrients;
- Changes to the natural hydraulic regimes;



-
- Sedimentation and nutrients impacting on freshwater and marine aquatic habitat; and
 - No current integrated management of the water cycle (no rainwater or stormwater used to augment potable demand).

At Georges Heights, the study found that runoff from southern portion of the precinct, i.e. the WWII Camouflaged Fuel Tanks site and former 1 Commando site, is primarily directed to the bushland to the south whilst runoff from the Oval is directed to Mosman Council's stormwater collection on Middle Head Road (*see Figure 11*).

The Stormwater Management Plan includes the following measures to be incorporated into any future design for the site:

- Increase infiltration, evaporation and evapotranspiration by increasing the amount of pervious areas and reducing the amount of impervious areas;
- Harvest and reuse of roofwater/stormwater; and
- Divert stormwater flows away from bushland where feasible, or otherwise restore natural flows to bushland.

Recently implemented projects that will act to increase infiltration include the carpark formalisation at Training Command and removal of impervious surfaces at the former 1 Commando headquarters site. The WWII Camouflaged Fuel Tanks also present and ideal opportunity for storing stormwater runoff for much of Georges Heights.

The recommendations from the Stormwater Management Plan have been incorporated into the landscaping and design concept for the site as discussed in the Outcomes section of this management plan.

Site Contamination

A Stage 1 and 2 contamination assessment of all of the former Defence precincts at Mosman was carried out in 1999 by PPK Environment and Infrastructure (PPK) for the Department of Defence. With regard to the Georges Heights Management Plan area, the PPK assessment identified:

1 Commandos Precinct

Minor elevated concentrations of heavy metals and organic contamination in surface soils. However, sampling and analysis was only carried out for soils external to buildings, targeting fuel and chemical storage and servicing areas. Based on statistical analysis, no remediation of these impacts were reported to be required at that time.

Georges Heights Oval

Five boreholes were carried out across the oval area to assess potential contamination in fill that had been placed in the past to form the oval. Sampling and analysis carried out from these boreholes did not identify any elevated concentrations of likely contaminants. Therefore it was considered, based on this limited sampling, the oval is suitable for continued public open space/ recreational use.

Camouflaged Fuel Tanks area

Potential contamination sources in this area include oil leaks from the tanks and lines, discharge of asbestos from the roof structure and discharge of lead from lead based



paints used on the metal, pipelines or timber elements. Sampling and analysis of surface soils in this area was carried out in both the Stage 1 and 2 assessments. Apart from some minor arsenic, zinc and copper contamination, petroleum hydrocarbon contamination was confirmed in one isolated area. However, no asbestos in soils analysis was carried out in these assessments. Fragments of fugitive asbestos containing materials have been visually identified on the surface surrounding the tanks, which have been removed in a number of clean up events.

Residential Properties

Potential contamination in the former Defence residential lots includes contamination resulting from deteriorating lead paint, asbestos and pesticide use. Some limited sampling of the soils in the residential lots in Imperial Place was carried out in the PPK assessments which did not identify any contamination above relevant (residential) criteria. However, considering the limited sampling, and the confirmation of contamination on residential lots in other precincts, some further assessment in these areas will be required.

Bushland Areas

Some limited inspection, sampling and analysis was carried out in bushland areas, particularly the areas in the east of the management plan area adjacent to Chowder Bay precinct. However, the PPK assessment did not identify any contamination in these areas. The Trust has subsequently identified some limited contamination in bushland areas due to previous fill placement or rubbish disposal practices, including some minor asbestos material fragments. The Trust removes these materials as they are identified.

In 2002, the Trust engaged Egis Consulting (Egis) to review the issues associated with the re-use of the three camouflaged fuel tanks at Georges Heights. The resulting discussion paper included a literature review, structural assessment, environmental task and heritage recording.

The 'environmental task' included testing of the residual fuel oil sludge present in the tanks and a discussion of available options for disposal of the sludge and cleaning out of the tanks. Some important results of this report were:

- The tanks contained approximately 244,000 m³ of hydrocarbon liquid waste, which was provisionally classified as hazardous;
- An estimated 4000m² of asbestos cement sheeting present in the tank roofing and drainage structure, and much of these materials were in a damaged and deteriorating condition;
- General conclusions of the structural assessment were that further testing of the load bearing members would be required; and
- The report included a full survey and drawings of the tanks for recording purposes.

In 2004, the Trust engaged Collex Pty Ltd to carry out the sludge removal and tank cleaning. This work was carried out to facilitate access and use of the tanks, and remove the risk from the remaining hydrocarbon contamination. The Trust has also carried out the removal of asbestos cement pieces from around the tanks, which have come from the broken and deteriorating asbestos roof structure. The Trust has also



identified that the tank roof down pipes discharge adjacent to the tank, providing a potential source of asbestos fibres to soils. As part of this work, a doorway access was cut at the base of each of the tanks.

The Trust engaged Hibbs and Associates Pty Ltd in February 2008 to carry out an inspection and air quality monitoring of one of the tanks in order to determine risks for public access required for the open day on 16th February 2008. Air monitoring was carried out on the 14th February 2008 for airborne asbestos fibres, volatile organic compounds (petroleum compounds), methane, hydrogen sulphide and carbon monoxide. Testing was also undertaken for oxygen depletion. Based on the testing and inspection, advice was provided that the tank would be safe for entry on the open day upon following some general duty of care considerations. The testing, while specific for the open day, indicated that there were no major remaining hazards that would impede access to the tanks.

The Trust carried out hazardous materials removal and demolition of the Commandos precinct buildings in early 2006. The Trust subsequently engaged consultants Environment and Earth Sciences (EES) to conduct a contamination assessment of the precinct. This assessment was undertaken to supplement information provided by PPK, and confirm suitability of the site for recreational parkland use prior to landscaping.

In addition, this work also investigated:

- Hydrocarbon contamination identified in sands underneath the stores building following demolition, and validate the small stockpile of hydrocarbon contaminated sands that was excavated from the contaminated area and subsequently landfarmed;
- Stockpiles of surplus waste soils placed on the site at that time by the Trust from other precinct areas;
- Investigate a stockpile of gravel road base that had been formed from material from underneath the parade ground and internal roads, and determine its character with regard to beneficial re-use; and
- Investigate building footprints and other areas, not targeted by the PPK investigation.

The EES assessment concluded that the site was suitable for parkland use, however some minor asbestos fragments were identified in surface soils which were removed as part of the Headquarters Training Command remediation project. Stockpiles were characterised for management as contaminated material, or as clean fill.

In 2007, the Trust carried out the remediation project for the Headquarters Training Command precinct. As part of this project, contaminated soils were relocated to a 'west cell' located at the southern end of the Commandos precinct. This waste cell forms a mound which was subsequently capped with clean sandstone. During this time, the Trust also formed a mound to the north of the waste cell (comprised of clean material from onsite, including gravel road base materials) supplemented by imported clean sandstone. Both of the mounds and the remaining Commandos area await final landscaping.



Hazardous Materials

In June 2002, Hibbs & Associates carried out a hazardous materials survey of buildings and structures remaining on the Trust's lands. The report excluded the Camouflaged Fuel Tanks and 1 Commando site, which were addressed separately. In terms of the Georges Heights Precinct, the following findings relate to the eight residential properties in Imperial/Commonwealth Avenues. Hazardous materials identified included asbestos products, synthetic mineral fibre (SMF) materials, lead based paint systems, electrical components containing the class of compounds known as polychlorinated biphenyls (PCBs) and stored dangerous goods and chemicals.

Generally, the materials identified were in a stable condition but with some damage in localised areas. Recommendations were made for repairs and/or localised removal and general removal prior to any renovations or demolition. Hazardous materials abatement works are on-going.

Services

In March 2002, PPK Consulting undertook a detailed survey in order to establish the extent and condition of site services. The study looked at water, fire services, electricity, telecommunications, sewerage, stormwater, gas and fuel services.

Site services were generally adequate and only several minor upgrades were recommended. However, further examination may be required depending on the nature of uses that are to be accommodated on site.

Compliance with the Building Code of Australia

Identification of more specific building compliance issues will be carried out once individual building uses have been determined. The heritage values of the site will need to be recognised throughout the assessment process and will be an important consideration in the development of appropriate solutions.

Given the uncertainty regarding the specific future use of a number of the buildings, in particular the WWII Camouflaged Fuel Tanks, an assessment to determine the need and consequently the nature and extent of works necessary to achieve compliance with the Building Code of Australia (BCA) has not been undertaken.

Compliance with BCA will be addressed when a use for the tanks is determined, taking into account the requirements of the end user.

Transport Management

In 2003 the Trust commissioned Maunsell Australia Pty Ltd to prepare a Transport Management Plan (TMP) for the Trust's lands at Middle Head, Georges Heights and Chowder Bay.

The TMP 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 HMAS Penguin, Sydney Harbour National Park and local sporting facilities.



Consultation with key agencies such as HMAS Penguin, National Parks and Wildlife Service, Mosman Council and State Transit was integral to the development of the plan.

The recommendations of the TMP relevant to the Georges Heights area include the:

- Continued use of Georges Heights Oval as a public parking facility for large special events;
- Potential to develop a shared bicycle/pedestrian path connecting Rawson Park and Training Command;
- Installation of bicycle facilities including bicycle storage; and
- Provision of consistent pedestrian/public transport directional signage and information similar to signs currently provided by the Trust.

Further investigation into traffic impacts will need to be carried out when the proposed use of the site is determined.

Traffic, Parking and Access

The Transport Management Plan (TMP) for Middle Head, Georges Heights and Chowder Bay and previous traffic studies have consistently recognised that the environmental capacity (the relationship between traffic speeds, traffic volumes, pedestrian safety, traffic noise and the type of land use) of Middle Head Road to handle increases in traffic generated by Middle Head area is limited, given the road's largely residential character. The TMP recognises that traffic management and accessibility by motor vehicle are issues that are particularly important in the Middle Head and Georges Heights 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 limit travel demand by private car. This includes limiting the number of trips generated by development through the setting of maximum parking numbers on Trust sites that are consistent with their traditional operational levels.

In 2007, improvements were made to pedestrian access, parking and coach facilities as part of the Training Command Management Plan. In the short term, further improvements to pedestrian access, to, from and within the site, particularly from bus stops, should be improved. In the medium to long term, the traffic impacts on the site will need to be monitored to assess if further improvements are required.

The potential parking demand arising from any intensification of use or introduction of new uses should be addressed and resultant car parking requirements incorporated into the Outcomes for the site.



Heritage Values

Summary Statement of Significance

The following statement of significance is derived from the various Conservation Management Plans between 1998 and 2006 covering the precinct and its buildings.

Georges Heights is significant for the role it has played as part of Australia's strategic defences until 2006 when the 1 Commandos vacated the site.

The site has remained in government and military ownership from the earliest British settlement and thus the structures and surface deposits provide research potential to reveal past military ways of life.

The site has aesthetic values as the ridgeline culminating in a prominent headland in Sydney Harbour. While the buildings have a certain charm they do not individually have any outstanding aesthetic significance nor do they demonstrate outstanding creative achievement.

The area is valued by the local community and Defence personnel as a vantage point, as a gateway to the harbour, as a rare remnant of fragile natural environment, for its aesthetic qualities and for its recreational potential.

The existing structures, roads, paths, plantings and cleared areas provide evidence of the past function and development of the site since 1870. Its role in the development of Sydney's defences is demonstrated by the following surviving site elements:

Defence Housing

The various forms of residences on the site reflect both changes in taste and design, as well as the differences between the ranks in the nineteenth century and a way of life that has passed. The buildings illustrate an evolution of defence accommodation.

The former Naval Cottage is important in illustrating the use of standardised designs and prefabrication in the immediate post-War years of the 1940s and early 1950s to meet the post-War shortages of materials and labour in Australia. It represents the post-War aesthetic of Modernism in low cost housing.

WWII Camouflage Fuel Tanks

The tanks are a major piece of defence infrastructure at Mosman that help to tell the story of Sydney's Defence history. The refuelling depot played a major role during WWII by providing fuel for the Royal Australian Navy and allied fleets.

The infrastructure for the WWII Refuelling Depot comprises concrete fuel tanks and their associated pipework, bund walls and pump house. The concrete fuel tanks are demonstrative of the change of Navy's fleet from steam to diesel engines and the increased need for fuel to be stored on the base.

The fuel tanks demonstrate the use of the site as a refuelling depot. They are demonstrative of building and camouflaging techniques and ideas from the late 1930s



and early 1940s. They are indicative of Dakin's philosophy that camouflage should be an integrated and planned part of a structure, rather than something to be stuck on after the structure was built.

The fuel tanks site has social significance as it has been associated with the defence force since the early 1870s. The site has significance for its association with the Camouflage Unit located at Georges Heights which included some eminent Australian artists and may have social significance for any surviving members of this group.

Commonwealth Heritage Values

Places on the Commonwealth Heritage List are places managed by the Commonwealth that have been found to have significant heritage values against one or more criteria. The decision to list a Commonwealth Heritage place is made, based on an assessment of its heritage values, by the Australian Heritage Council.

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 Commonwealth Heritage listed values of Georges Heights. The text is taken from the citations published by the Department of Environment, Water, Heritage and the Arts at the time of listings.

Commonwealth Heritage Listed Values	
Criterion a: Events, Processes	
<ul style="list-style-type: none"> • Middle Head documents an important story of post-contact history. In 1815, Governor Macquarie attempted to settle King Bungaree and his people on the upper areas on Middle Head. • As a natural vantage point, Georges Heights has played a significant role in the development of colonial and national defence policy and military training in Australia, from Napoleonic Wars until the 1960s and in the implementation of military technology important for its historic values, research and archaeological potential and social values. The evolving cultural landscapes of the headland areas, produced by over 150 years of military and naval use, and linked by a network of military roads, are important for their association with, and ability to illustrate, a broad range of processes which exemplify the strategic role of Middle Head and Georges Heights in the growth of Sydney, the Colony of NSW and Australia under Imperial, Colonial and Commonwealth government policies. In this respect the suite of defence related sites are particularly important in illustrating the adoption and development of military technology and the provision of housing for military personnel. • The growth of leisure and recreation in the late nineteenth and early twentieth centuries, and the establishment of Mosman Municipal Council in 1893, following the sub-divisions of the 1880s, is illustrated by a number of sites which are now important elements in the cultural landscapes associated with military use of the headlands. • The Commonwealth Avenue Defence Housing precinct is one of a number of places that are part of the larger Middle Head-Georges Heights defence site. The site is historically significant as the location of major defence works for Sydney Harbour and Port Jackson during the nineteenth and twentieth centuries. The precinct comprises a mix of residences, of which two are significant; a former Navy Cottage and the Commanding Officer's residence. • The Commanding Officer's residence, dating from the 1930s, has historical significance for its associations with the Middle Head – Georges Heights military area since the inter-war period, and it helps to maintain the use of this part of the general area for officer accommodation which began in the 1870s. The former Navy Cottage erected in the mid 1950s to accommodate married staff associated with the Navy Refuelling Depot at Chowder Bay illustrates ongoing development of Defence Housing and the provision of permanent residential 	



Commonwealth Heritage Listed Values

facilities in the immediate post war years based on the Riley-Newsum prefabricated system developed in Britain. *(Note: subsequent studies have shown this house to be a prefabricated Swedish Åmåls Sågverks Aktiebolag (ÅSA) house, imported in the early 1950s and used by Defence for married quarters accommodation.)*

- The other houses in the precinct, while having some historical associations and reflecting military housing forms of a later period, are of lower significance and are not considered to reach the threshold for listing on the Commonwealth Heritage List.
- Dating from the 1930s, the Navy Refuelling Depot (at Chowder Bay) is of considerable significance in Australian military history. The three 1930s fuel tanks were given false roofs during the Second World War (to make them resemble domestic buildings) in what was part of the first large-scale use of military camouflage in Australia. The site as a whole also has lengthy and direct associations with naval operations in Sydney, including during wartime. *(Note: subsequent studies have shown these tanks were built in 1942, six years after the fuel tanks were built downslope in Chowder Bay in 1936.)*

Criterion b: Rarity

- The remnant natural vegetation is contiguous with Sydney Harbour National Park which is considered one of the finest harbour foreshore parks in the world.
- A number of individual sites are important in demonstrating functions or designs of exceptional interest including, at Georges Heights, the three c.1930 roofed fuel storage tanks which were the first example of large scale camouflage in Australia.
- The three 1930s fuel tanks were given false roofs during the Second World War (to make them resemble domestic buildings) in what was part of the first large-scale use of military camouflage in Australia. *(Note: subsequent studies have shown these tanks were built in 1942, six years after the fuel tanks were built downslope in Chowder Bay in 1936.)*
- The former Navy Cottage is important in demonstrating the design of Riley-Newsum prefabricated dwellings of the 1950s, which were imported by the Commonwealth to overcome shortages in labour and materials in the post war years. *(Note: subsequent studies have shown this house to be a prefabricated Swedish Åmåls Sågverks Aktiebolag (ÅSA) house, imported in the early 1950s and used by Defence for married quarters accommodation.)*

Criterion c: Research

- The evolving cultural landscapes contain a wide variety of military sites, structures and complexes which are important for their ability to yield information which will lead to a wider understanding of the historical context, design, construction and operation of military barracks, defence housing, fortifications, gun batteries and defensive works in Australia from 1870 to the post war years of the twentieth century.

Criterion d: Characteristic Values

- The remnant natural vegetation is contiguous with Sydney Harbour National Park.
- Individual sites and complexes within the relict cultural landscape areas are important for their ability to demonstrate technical innovation in the early use of concrete and the principal characteristics and operation of military barracks, drill halls, defence housing, fortifications, gun batteries and defensive technology and policy in Australia and the architectural styles employed by (NSW) Colonial architects from 1870 and Commonwealth architects from 1901.
- The Commanding Officers residence reflects the type of housing provided to army officers during the Inter War years of the 1930s. The former Navy Cottage illustrates the characteristics of Riley-Newsum type prefabricated dwellings developed in Britain. *(Note: subsequent studies have shown this house to be a prefabricated Swedish Åmåls Sågverks Aktiebolag (ÅSA) house, imported in the early 1950s and used by Defence for married quarters accommodation.)* These characteristics include simple rectangular forms, gabled roofs, vertical timber cladding with narrow sections, simple fenestration, gabled roofs with gable ventilators and simple external brick chimneys.



Commonwealth Heritage Listed Values

Criterion e: Aesthetic Characteristics

- The Defence Site occupies part of Middle Head and Georges Heights which are held in high esteem by Sydney residents for their natural and scenic values as a significant part of Sydney Harbour's foreshore, and as a relatively natural vantage point and landmark in an otherwise highly urbanised environment. Georges Heights has been a significant part of the cultural and social life of Sydney and the colony of NSW.

Criterion f: Technical achievement

- N/A

Criterion g: Social Value

- Defence land at Georges Heights is important for its contribution to the Sydney Harbour foreshores and contains places which are highly valued by the community. The headland areas are also important for their associations with recreational use, which began in the nineteenth century and for their symbolic associations as part of the setting of Sydney Harbour and the Sydney Heads.

Criterion h: Significant people

- The defensive works at Georges Heights are particularly important for their association with; Lt Colonel J Gordon, who introduced the 'two tier' Gordon scheme for the defence of Sydney Harbour in 1845; Colonial Architect James Barnet for the design of the Artillery Barracks in 1873; and General Sir William Jervois RE and Lt Colonel Peter Scratchley, whose report of 1877 formed the basis for defence planning in Australia until after federation in 1901.

Criterion i: Indigenous Tradition

- It is possible that Indigenous cultural values of Commonwealth significance may exist in this place. As yet, the AHC has not identified, documented or assessed these values.

Condition of Values

The cultural significance and statutory heritage values of Georges Heights 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 camouflage roofs on the three WWII fuel tanks help to tell the story of the increasing threat of aerial attack on Sydney during WWII. The discussion of the condition of the values therefore focuses on the physical attributes to which the values are inextricably linked.

The Georges Heights precinct retains limited natural values within the bushland surrounding the clusters of buildings. This is due to the long history of modification and disturbance, in particular the clearing of lands to construct Georges Heights oval, the WWII Tanks, Commandos buildings and connecting roads and paths linking the various establishments along the ridgeline. Despite this, the natural scenic values as viewed from Sydney Harbour have been preserved. 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 Defence housing within the Georges Heights Precinct provides an unusual example of the range of different accommodation provided to Defence personnel throughout the past 150 years. The residences in Commonwealth Avenue, Dominion Crescent and Imperial Place 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.



Two of the remaining Defence houses, the former Navy Cottage and the Commanding Officer's residence, retain significant heritage values. The former Navy Cottage is in reasonably good condition and retains many of its significant original features including the exterior vertical weatherboards, timber window frames, windows and doors. Some intervention has occurred with exterior additions such as timber decking and French doors, and changes to the internal material and configuration which would need to be removed in order to restore the building to its original state. This cottage is an isolated example of a group of Swedish cottages located nearby on Middle Head Road.

The Commanding Officer Residence is located on the former building site of the 1870s built Officers' Quarters which were constructed to serve the batteries. The excavated rock cutting that was made to accommodate the original building is all of the physical evidence remaining. This cutting can be clearly viewed from the rear of the Commanding Officers' Residence which now occupies the site. The existing residence is in good condition, recently renovated for residential purposes. Many of the original features of the 1930s building remain intact.

The condition of the fuel tanks (including the camouflage roof and industrial infrastructure) and their siting provide a rare example of a purpose-designed and built, substantially intact, WWII deceptive camouflage for the concealment of RAN naval shipping fuel oil. The complex is sited and integrated with the topography and surrounding military / defence barracks and roadways and this context is important as part of the deception and an integral part in appreciating reading and valuing the fuel tank complex.

Having been decommissioned in the 1960's, the WWII Camouflaged Fuel Tanks were cleaned of fuel residue in 2004 and doors installed to allow access. The exterior of the tanks is in good structural condition with some oil staining. The camouflage roof has not been altered and contains asbestos. The roof structure is generally in good condition and would require only minor remedial work and replacement of the roof sheeting to retain its integrity. The side panels have suffered extensive damage and would need to be replaced. The columns external to the tanks have deteriorated due to termite infestation and weathering and would require extensive remedial work. Much of the original pipework and valve infrastructure remains.

The interior of the tanks were found to be in good condition after the first phase of decontamination. Some oil residue still exists on the floor of the tanks and is still seeping out of the concrete walls and timber poles. Interior features of the tanks such as the camouflage roof structure, access ladders, valves and piping is generally in good condition and was retained as part of the decontamination process.

The oval, which was built in 1950, has been used by the Mosman community and the Army. The oval and amenities buildings are in good condition and are currently managed and maintained by Mosman Council for sports and general recreational use by the community.

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 the plan, working within the current planning framework of the Headland Park and with neighboring property managers. This will require ensuring the objects of the Trust Act and Trust's operational needs are met, whilst balancing the competing interests within the precinct.

For example, the need to remediate the WWII fuel tanks and surrounds may affect material of heritage significance such as the camouflage roof, industrial archaeology and wetland habitats that have established in the area. Adaptive re-use of the fuel tanks would require significant upgrade to building and access arrangements to meet operational standards. Upgrading and improving the amenity and access to Georges Heights Oval may increase demand for its use, thus adding additional pressure on the supporting facilities and potential amenity impacts to the adjacent residential areas.

The inherent risk in achieving these varied aims is that the heritage values of the precinct 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 precinct.

Conservation Policies

These policies seek to protect and manage the Commonwealth Heritage values of Georges Heights and provide management guidance for proposed outcomes in the context of the heritage significance of the place.

The following policies are recommended in recognition of the heritage significance of Georges heights as identified in the Commonwealth Heritage values. They are divided into sections, beginning with conservation policies of a generic overarching nature which provide broad policy objectives.



General Policies		
	Policies	Policy Details
Policy 1	The Commonwealth Heritage values should be the basis for conserving and managing the fabric of the place.	<ul style="list-style-type: none"> Consider the impact of any action on the Commonwealth Heritage values of the place; Use the <i>EPBC Act Policy Statement 1.2 Significant Impact Guidelines, May 2006</i> to assist in reaching a decision about the level of impact; and Consult the Department for informal advice before deciding 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"> Ensure the Burra Charter is observed in all future works carried out on the site.
Works to buildings and selection of uses		
Policy 3	Use current and future draft Conservation Management Plans to provide detailed explanation and specific conservation policies.	<ul style="list-style-type: none"> As it is not possible to anticipate all possible actions or their impacts, the Conservation Management Plans will not always provide sufficient guidance, certainty or the confidence needed to implement an action. In these cases and where the draft CMPs recommend it, further professional heritage advice is to be obtained.
Policy 4	When considering proposals for change, analyse potential impacts on the site's heritage values.	<ul style="list-style-type: none"> If proposals are found to have impacts on heritage values consider alternative options or modify the proposal with ameliorative measures. Obtain relevant specialist advice when considering proposals for changes to or work on significant elements and fabric. Any works to significant fabric require the preparation of a Heritage Impact Statement by a relevant heritage professional. Ensure that conservation works are documented and



		<p>supervised by relevant heritage professionals;</p> <ul style="list-style-type: none"> • Use consultants and trades people with the appropriate experience and training in their fields and with knowledge of good conservation practice when specifying and / or carrying out maintenance and repair work.
Policy 5	Remove works that are intrusive or adversely impact on significant areas, elements and fabric.	<p>Ensure that removal:</p> <ul style="list-style-type: none"> • Aids in the interpretation and visibility of significant fabric; • Ensures the security or viability of the place; • Follows adequate recording and interpretation; and • Follows a full assessment of alternative options which have determined that it is the most prudent alternative.
Policy 6	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"> • All capital works and adaptive re-use proposals will be guided by the heritage significance and sensitivities associated with each building. • 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; • 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. • Regular maintenance should be undertaken on the subject buildings and elements.
Policy 7	Ensure that any new buildings, structures, facilities or change are sympathetic to or enhance the heritage values of the place.	<p>Where new buildings, structures and facilities are appropriate their design must:</p> <ul style="list-style-type: none"> • be sympathetic to the subject buildings and elements and should not intrude on their significance and interpretation. • reinforce the significant quality of the context of the place. • respect and retain the natural heritage of the place.
Policy 8	Uses of buildings or groupings of buildings are to provide a mutually supportive mix of activities that contribute to interpreting the	<p>The general principles that underlie the selection of uses within the precinct are:</p> <ul style="list-style-type: none"> • uses that best respond to the place and provide a positive



	site and its history and heritage values.	<p>contribution to the enjoyment and understanding of the place and its heritage;</p> <ul style="list-style-type: none"> • uses that are compatible with the ESD policies of the Trust; • uses that are compatible with the heritage/environmental/public access and amenity requirements such as noise and light spillage; and • 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 9	Inform prospective lessees about the site's heritage significance and of heritage sensitivities associated with buildings for lease.	<ul style="list-style-type: none"> • Include conditions in leases to ensure the protection of significant buildings and fabric; • Where appropriate, ensure tenants provide occasional public access and tenant fit-out facilitates interpretation.
Policy 10	Where there is conflict or uncertainty as to the appropriateness of particular actions for specific buildings or areas, conduct further detailed heritage investigation and assessment.	<ul style="list-style-type: none"> • 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. • Record any decision reached following the conclusion of the conflict resolution process. • Refer to Department of Environment, Heritage, Water and the Arts for advice.
Defence Housing <i>The Commonwealth Avenue Defence Housing precinct is one of a number of places that are part of the larger Middle Head-Georges Heights defence site. The site is historically significant as the location of major defence works for Sydney Harbour and Port Jackson during the nineteenth and twentieth centuries. The precinct comprises a mix of residences, of which two are significant; a former Navy Cottage and the Commanding Officer's residence (Criterion a).</i>		
	Policies	Policy details
Policy 11	Ensure a range of defence housing types are preserved.	<ul style="list-style-type: none"> • Conserve the Commanding Officers residence and nearby



		<p>excavated rock cutting (which illustrates the location of the former Officers' Quarters).</p> <ul style="list-style-type: none"> • Ensure a range of defence housing types are preserved.
Policy 12	Conserve the Åmåls Sågverks Aktiebolag (ÅSA) cottage at 7 Commonwealth Avenue.	<ul style="list-style-type: none"> • Preserve original extant fabric including the vertical weatherboard cladding. • Conserve the original layout of the rooms (i.e. mostly open plan spaces).
WWII Camouflaged Fuel Tanks <ul style="list-style-type: none"> • <i>A number of individual sites are important in demonstrating functions or designs of exceptional interest including, at Georges Heights, the three c.1930 roofed fuel storage tanks which were the first example of large scale camouflage in Australia. The tanks were given false roofs during the Second World War (to make them resemble domestic buildings) in what was part of the first large-scale use of military camouflage in Australia (Criterion b). (Note: subsequent studies have shown these tanks were built in 1942, six years after the fuel tanks were built downslope in Chowder Bay in 1936.)</i> 		
Policy 13	Conserve the Camouflaged Fuel tanks, including the roof form.	<ul style="list-style-type: none"> • Any roof cladding in poor condition should be replaced as soon as practicable. • New roof cladding to the tanks should reflect the texture of current cladding. New cladding should be able to be easily interpreted as new fabric. • Penetrations to the roof should not compromise the camouflage.
Policy 14	Conserve the setting of the tanks within a complex of buildings and roadways.	<ul style="list-style-type: none"> • Maintain a reasonable curtilage around the fuel tank complex. • Conserve the relationship between the fuel tanks, the associated roadways and nearby defence quarters/barracks buildings to aid in the interpretation of the tanks.
Policy 15	Ensure that any changes required for adaptive re-use are sympathetic to or enhance the heritage values of the place.	<p>Where new building additions, structures and facilities are considered appropriate, their design must:</p> <ul style="list-style-type: none"> • Continue to support the deceptive camouflage aspects and the context of the place. • Respect and retain the natural heritage of the tanks surroundings.



Policy 16	Preserve, maintain and interpret the character of the cultural landscape.	<ul style="list-style-type: none"> • The character of the subject site should be conserved. • Conserve significant external and internal fabric of the buildings and surrounds, views and vistas. • Maintain the natural landscape character of the site. • Maintain the setting of the fuel tanks complex cut into the sandstone bedrock with surrounding regrowth.
<p>Cultural Landscape Policies</p> <p><i>The Defence Site occupies part of Middle Head and Georges Heights which are held in high esteem by Sydney residents for their natural and scenic values as a significant part of Sydney Harbour's foreshore, and as a relatively natural vantage point and landmark in an otherwise highly urbanized environment. Georges Heights has been a significant part of the cultural and social life of Sydney and the colony of NSW. The headland areas are also important for their associations with recreational use, which began in the nineteenth century and for their symbolic associations as part of the setting of Sydney Harbour and the Sydney Heads (Criteria e & g).</i></p> <p><i>The evolving cultural landscapes of the headland areas, produced by over 150 years of military and naval use, and linked by a network of military roads, are important for their association with, and ability to illustrate, a broad range of processes which exemplify the strategic role of Middle Head and Georges Heights in the growth of Sydney, the Colony of NSW and Australia under Imperial, Colonial and Commonwealth government policies. In this respect, the suite of defence related sites are particularly important in illustrating the adoption and development of military technology and the provision of housing for military personnel (Criterion a).</i></p> <p><i>The evolving cultural landscapes contain a wide variety of military sites, structures and complexes which are important for their ability to yield information which will lead to a wider understanding of the historical context, design, construction and operation of military barracks, defence housing, fortifications, gun batteries and defensive works in Australia from 1870 to the post war years of the twentieth century (Criterion c).</i></p>		
Policy 17	Retain the scenic qualities of the site as part of a green headland.	<ul style="list-style-type: none"> • Consider the impact of proposed works on the appearance of the site when viewed from the water. • Retain the oval in recreational use as part of the green headland.



		<ul style="list-style-type: none"> • Ensure landscaping works enhance the seamless green connections between the precinct and adjoining National Park and Bradley Bushland reserves.
Archaeological Policies		
Policy 18	Protect and conserve potential archaeological remains.	<ul style="list-style-type: none"> • Brief all contractors working in archaeological sensitive areas on the Trust's adopted procedures; and • Ensure that all contractors and lessees are instructed to cease work if any archaeological remains are encountered and seek professional archaeological advice before proceeding.
Policy 19	Establish a system for recording, collecting and curating archaeological remains.	<ul style="list-style-type: none"> • Establish an archaeological artefact database and record plan; • Provide storage and display facilities on the island to house collections resulting from archaeological investigations; • 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. • 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.
Natural Environment		
<i>The remnant natural vegetation is contiguous with Sydney Harbour National Park (Criterion d).</i>		
Policy 20	Manage conserve and enhance the natural environment.	<ul style="list-style-type: none"> • Engage suitable landscape consultants and other skilled professionals such as stormwater (hydraulic) consultants who understand the management of ecological systems as required. • Protect areas of naturally regenerated and ecologically significant <i>Banksia/ Kunzea</i> and <i>Eucalyptus botryoides</i> within the Georges Heights precinct. This community contains high levels of native species and numerous specimens of the endangered <i>Acacia terminalis ssp terminalis</i>.
Policy 21	Control the spread of <i>Phytophthora cinnamomi</i> at the precinct.	<ul style="list-style-type: none"> • Observe hygiene protocols to prevent the spread of <i>Phytophthora cinnamomi</i>.



		<ul style="list-style-type: none"> Carry out regular testing for <i>Phytophthora cinnamomi</i> and develop a site-specific risk based management strategy to minimise its introduction or spread.
Indigenous Values		
Policy 22	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"> Consult with Indigenous local communities when considering impacts on Indigenous places and in accordance with the Aboriginal Heritage <i>Objectives and Policies</i> set out in Part 3 of the Trust's Comprehensive Plan; Pursue information relating to Aboriginal use of the site with representatives of the Land Councils and local community.
Interpretation		
Policy 23	Communicate the totality of the site's history and the natural, cultural and social and significant values of the site.	<ul style="list-style-type: none"> Interpret former defence uses of the site including former buildings, the WWII fuel tanks, the former 1 Commando site and its personnel.
Research and Training		
Policy 24	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"> Develop training programs for staff and persons involved in undertaking works in the precinct to make them familiar with the heritage values of the place.
Records of Intervention & Maintenance		
Policy 25	Record ongoing intervention and maintenance to buildings and structures.	<ul style="list-style-type: none"> Enter details of maintenance and works to buildings, structures and infrastructure into the Trust's Heritage database. An Archival Record should be made of the site prior to, during and after any works are undertaken. Any new information that comes to light during and after works at the site shall be recorded in a report, a copy of which shall be held at the archive of the site.



Remediation		
Policy 26	Minimise the impact of remediation on significant fabric.	<ul style="list-style-type: none"> • 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; • Retain, conserve, stabilise and contain contaminant materials such as original significant asbestos where they do not pose an environmental hazard; • Replace frayed, damaged and deteriorating asbestos based roof material and fabric with sympathetic materials.
Access and Security		
Policy 27	Provide public access and integrate the site into the Headland Park	<ul style="list-style-type: none"> • Ensure uses allow for public access to significant buildings, places and viewing areas.
Policy 28	Implement measures to help secure the site against vandalism and other disturbances.	<ul style="list-style-type: none"> • Maintain the existing security presence; • Maintain the patrol of Trust rangers during daylight hours.
Consultation		
Policy 29	Carry out ongoing community and stakeholder consultation.	<ul style="list-style-type: none"> • Consult in accordance with the Consultation and Communication <i>Objectives and Policies</i> set out in Part 3 of the Trust's Comprehensive Plan. • Consult with communities and interested stakeholders when considering amendments to Management Plans, the Trust's Heritage Strategy and actions likely to have a significant impact on the heritage values of Georges Heights.



Sydney Harbour Federation Trust

Management Plan - Mosman No.8
Georges Heights

5 December 2008

Part 3



Australian Government

Sydney Harbour Federation Trust

Outcomes

The proposed outcomes for the Georges Heights precinct are shown in Figure 12 and include the adjoining areas of parkland under the care and management of Mosman Council.

Georges Heights will form part of the sequence of passive open spaces enveloped by bushland and connected by pathways integrating the Headland Park with adjoining open space areas. The primary objectives are to:

- Connect the previously closed military base to the surrounding ridge-top parklands and adjacent urban areas;
- Provide a sequence of open spaces along the plateau, surrounded by bushland edges;
- Improve public access to and through the precinct by providing pedestrian and cycle pathways and additional parking areas;
- Repair the edges adjoining bushland by improving drainage, regenerating and expanding bushland areas;
- Retain some of the elements or patterns of development as reminders of the former defence facilities;
- Adaptively re-use the buildings in a manner that protects and conveys their heritage values and contributes positively to the experience of visitors to the Headland Park;
- Improve the safety and amenity of the residential areas of the precinct and integrate them into the network of public pathways and places; and
- Improve local amenity and community use of the site through landscape works.

These key outcomes will be achieved through a combination of measures including the landscape design of the precinct and its edges, access improvements, conservation of heritage values, and the adaptive re-use of buildings.

Integration with Surrounding Lands

The former Commando site was a barrier between Rawson Park, National Park, the Bradley Bushland Reserve, on one side, and the newly emerging Headland Park on the other side. The opening up of this site provides an opportunity to connect all of these parks in a manner befitting their magnificent location along the undulating plateau of the Georges Heights ridge line.

The Trust and Mosman Council are working together to help support the work of the bush regeneration volunteers of the Bradley Bushland Reserve. As part of the commitment by the Trust to assist with the on-going management of the Reserve, and at the request of Mosman Council, the Outcomes of this Management Plan include lands managed by Council as well as the Trust lands on the plateau. This is intended to guide future works on the adjoining open space areas to achieve a seamless transition between the parklands along the ridgeline. Consultation and co-ordination with National Parks and Wildlife Service will continue and ensure that adjacent areas of Sydney Harbour National Park are also considered in the design and on-going management of the lands.



Design of the Public Domain

Sequence of spaces

The concept masterplan calls for a series of open, parkland spaces along the ridgeline providing an unfolding sequence of views along a network of pathways connecting Rawson Park, Bradley Bushland Reserve, the former Commando site, Georges Heights Oval and the rest of the Headland Park.

The sequence of interconnected open spaces will be defined by additional planting and bush regeneration along the edges, providing a sequence of spacious and open areas interspersed with more intimate and enclosed spaces. The landscape treatment will reinforce the visual continuity and connection of parkland along the ridge line. The bush regeneration will enhance the natural ridgeline as viewed from the harbour whilst retaining and enhancing a variety of lookout points from the spaces and pathways created along the ridge.

Rawson Park

Rawson Park marks the commencement of the sequence of parklands winding their way along the plateau towards Middle Head. The circle of trees around the oval, the open grassed areas interspersed with shade trees and the views over the tree and roof tops into Middle Harbour, and the ocean beyond South Head provide the basis for a magnificent park. The improvements required are primarily along the edges and the linkages. See *Figure 13*.

The landscape and pathway connection between the Drill Hall site and Rawson Park will be improved. Stockpiled materials along the edge of the National Park will be removed and the quality of the bushland will be improved in this area. There is an opportunity to expand the bushland on the slopes north of Rawson Oval, expanding the area of the Bradley Bushland Reserve.

The grassed netball courts at Rawson Park will be removed and the area will be re-landscaped as an open parkland area formed by revegetated edges and new pedestrian / cycle pathways. The location of the planting and the species will be selected to ensure that the magnificent outlook and prominent setting of the Cairn and the Anderson Memorial are retained and that improvements are in keeping with their original design intent. Edge plantings and drainage will be introduced to intercept and control run-off to improve conditions for the bush in the Bradley Bushland Reserve.

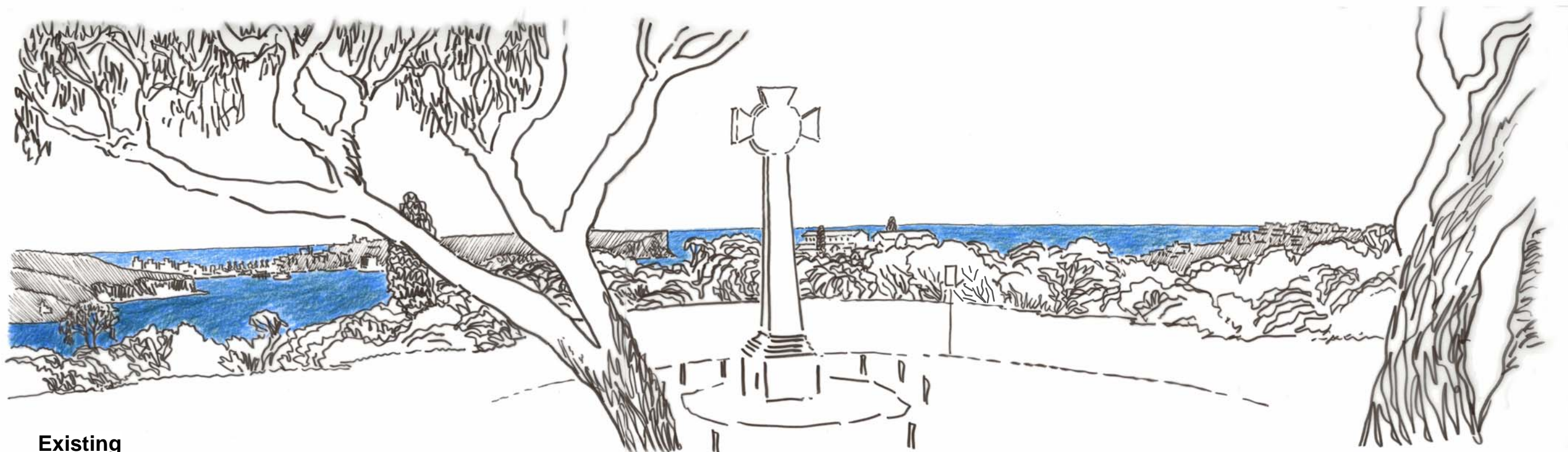
Any new paths will be designed to provide safe and scenic circuits for walkers, cyclists and children. To minimise potential pedestrian / cyclist conflict, separate cycle and pedestrian paths are preferred in locations where topography allows and the clearing of bushland is not required. The RTA NSW bicycle guidelines will be used to assist in the choice of location and design of paths.

Bradley Bushland Reserve

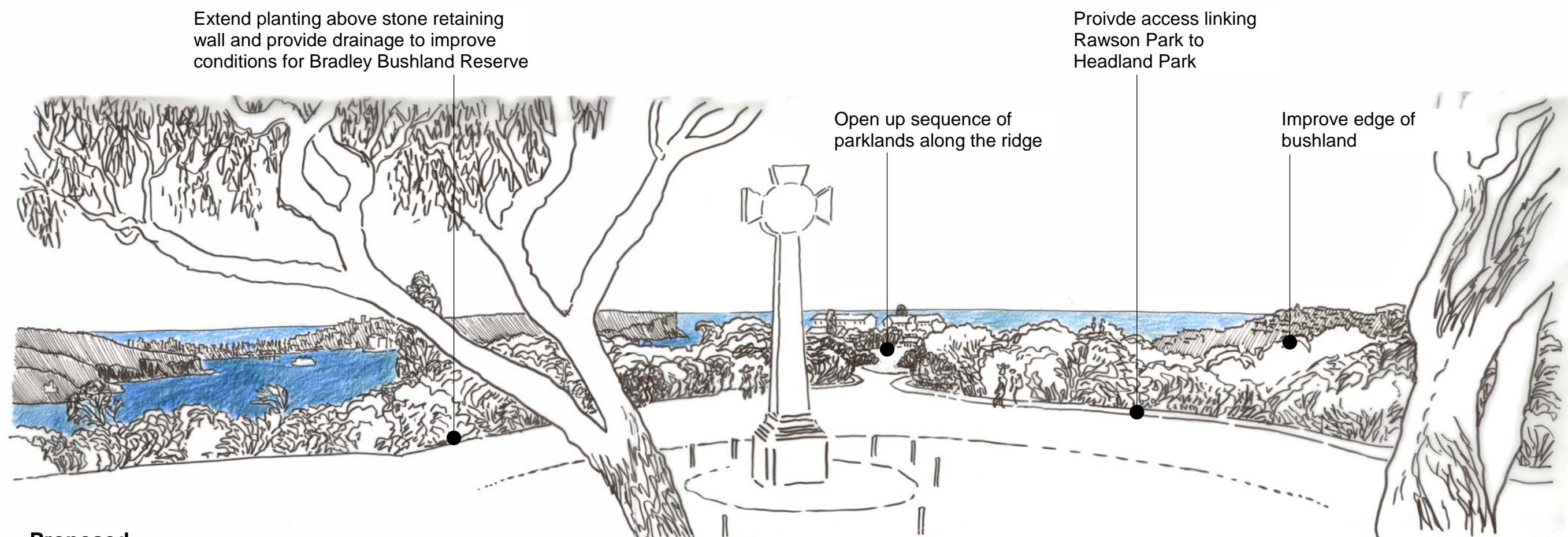
The Bradley Bushland Reserve will be conserved and its presentation along Middle Head Road and Rawson Park will be enhanced. Improvements will include weed clearing and bush regeneration, particularly along the Middle Head Road frontage and







Existing



Proposed

minor works to improve access and safety along some segments of the existing pathways. Signage and seating will also be improved. The story of the Bradley sisters, founders of modern bush regeneration practices, will be included in the site interpretation. Bush regeneration activities will be co-ordinated with works on the adjacent Trust lands. There are opportunities to expand the bushland beyond the rear of Markham Close properties and the base of the mounds in the former Commando site.

Former Commandos Site

The former Commando site sits on the saddle between the knoll of Rawson Park and the broad plateau of Georges Heights Oval. It provides a pinch point created by the bushland on the valley rising above Chowder Bay to the south east, and the planted backdrop of the Markham Close properties to the north west. The Commando site will be opened up through the middle to provide visual connection as well as access between Rawson Park, Georges Heights Oval and beyond. The opening will provide a clear line of sight between the monuments at Rawson Park and the entry of the Training Command/ World War I precinct.

A central open space will be formed by the mounds. The inner sides of the mounds will be open, grassed areas with occasional shade trees to provide comfortable passive open space. This area could be a possible location for sculpture and an informal gathering place. The mounds are intended to:

- Create an enclosed sheltered outdoor space on the ridge;
- Enhance the scenic natural values as viewed from Sydney Harbour by continuing the natural landscape up the slope of the outside edges of the mounds;
- Provide visual screening between the adjoining residences and the people in the park;
- Serve the additional benefit of on-site containment of fill material from the Commando site and from elsewhere at Georges Heights; and
- Provide new places for viewing the harbour connected with the network of pathways.

The Trust will work with National Parks to coordinate public access and conditions for bushland down-slope. Fences between the Trust lands and the Sydney Harbour National Park will be removed to form a seamless transition between the adjacent areas.

The gate posts to the former Commando site have been retained. They will provide a marker and a point of transition along the pathway through the parklands and serve as a reminder of the former military use of the site.

Georges Heights Oval

The use of the oval for sporting and community uses will be continued. There will be supplementary planting of the oval edges beyond the slopes. This will be primarily lower plantings that will retain the views. The plantings will also help to prevent stray balls rolling onto the roadway and enhance the sense of arrival to the Headland Park along Middle Head Road and Suakin Drive. As the figs along the northern side continue to grow, the lower branches will be selectively pruned to re-establish sight lines and provide shady areas beneath. See *Figure 14*.



The Trust does not support the lighting of the oval due to a number of potential visual and amenity impacts including:

- Visual impact of lighting structures protruding above the ridgeline in such a highly visible location;
- Light spillage impacts on neighbouring residential properties;
- Light pollution impacts on the night skyline of a previously 'dark' bushland area. Lighting at Middle Head Oval and Rawson Oval is already quite a dominant feature of the night skyline; and
- Increased traffic, parking and night time noise impacts.

Access and Circulation

Pathways

The Trust will work together with Mosman Council and National Parks and Wildlife Service to create an integrated network of paths. Pedestrian and cycle links will connect Cross Street through to the Headland Park, including connections with the Bradley Bushland Reserve and the regional access connecting Taronga Zoo to Balmoral.

The network of paths is intended to provide:

- Diversity and choice of routes for exploring the precinct and surrounding areas;
- Clear linkages between the surrounding areas, access points such as bus stops and car parks and between main attractions or features within the precinct and in adjoining areas; and
- Linkages with the regional pedestrian and cycle paths.

The primary pathways are along the edges of the ridge top parks forming a sequence of loops. The existing pathway linking Rawson Park with Georges Heights Oval will be widened to accommodate cyclists and possibly extended to continue along the northern side of Georges Heights Oval and into Training Command or to Balmoral via Middle Head Road. This pathway would improve the existing regional cycleway built by Council which connects Taronga Zoo with Balmoral. A new path along the south eastern side of the parks will include the lookout point on the southern mound in the former Commando site.

The pathway circuit on the ridge will be connected to the adjacent down-slope areas such as the Bradley Bushland Reserve, Markham Close, the camouflaged fuel tanks and to the existing street and laneway network beyond these areas.

Roadways

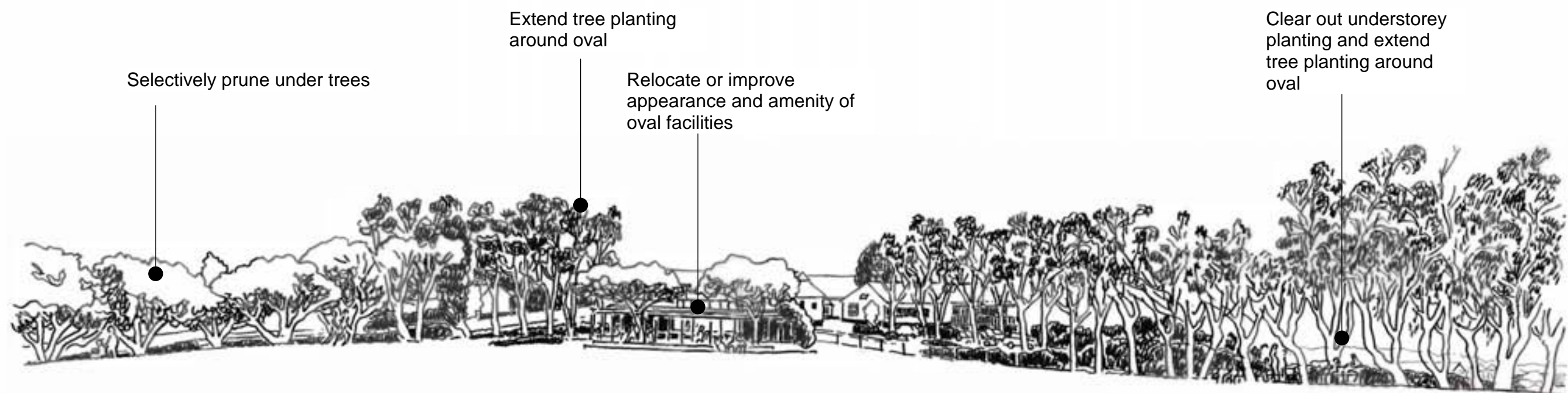
The roadways will be retained to facilitate access to the parkland and other existing uses within the precinct. Changes in carriageway width and edge treatments may be needed to meet the requirements of vehicle, cyclist and pedestrian safety, control of roadside parking and stormwater run-off.

Streetscape improvements will be provided to Commonwealth and Imperial Avenues to help meld the area into the landscape and provide a pedestrian friendly environment.

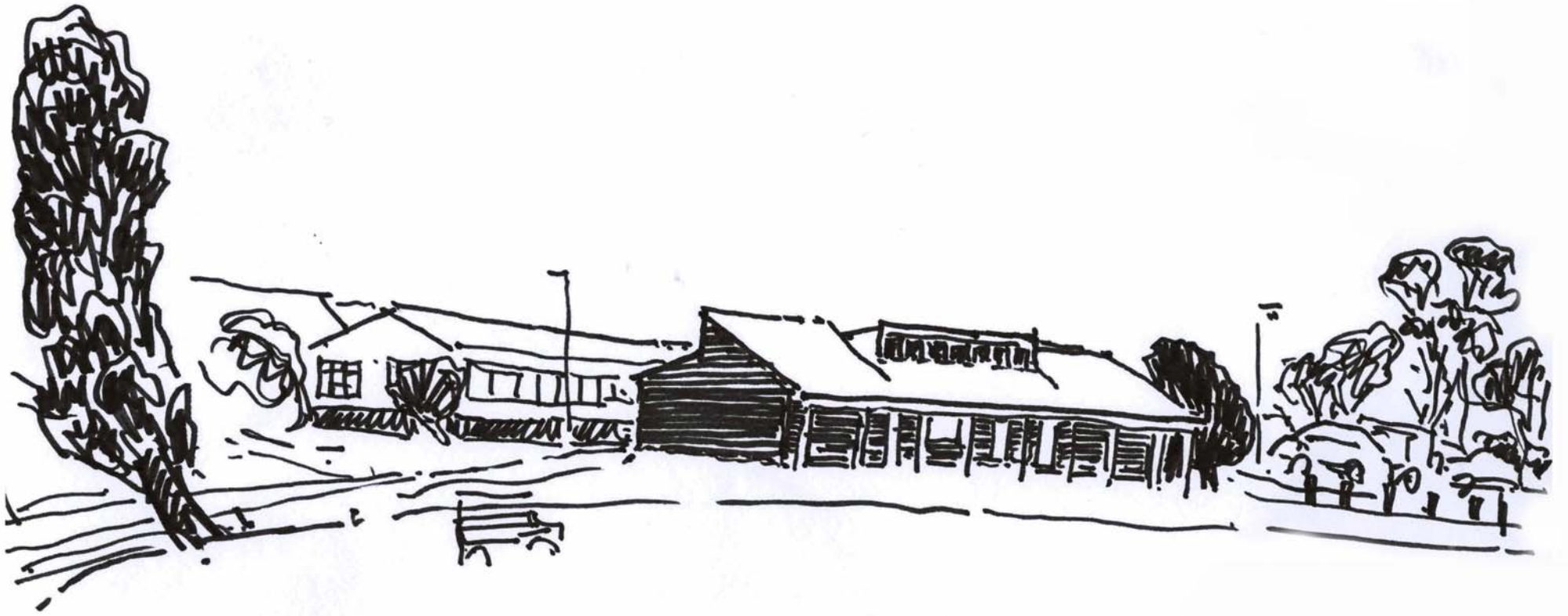




Existing



Proposed

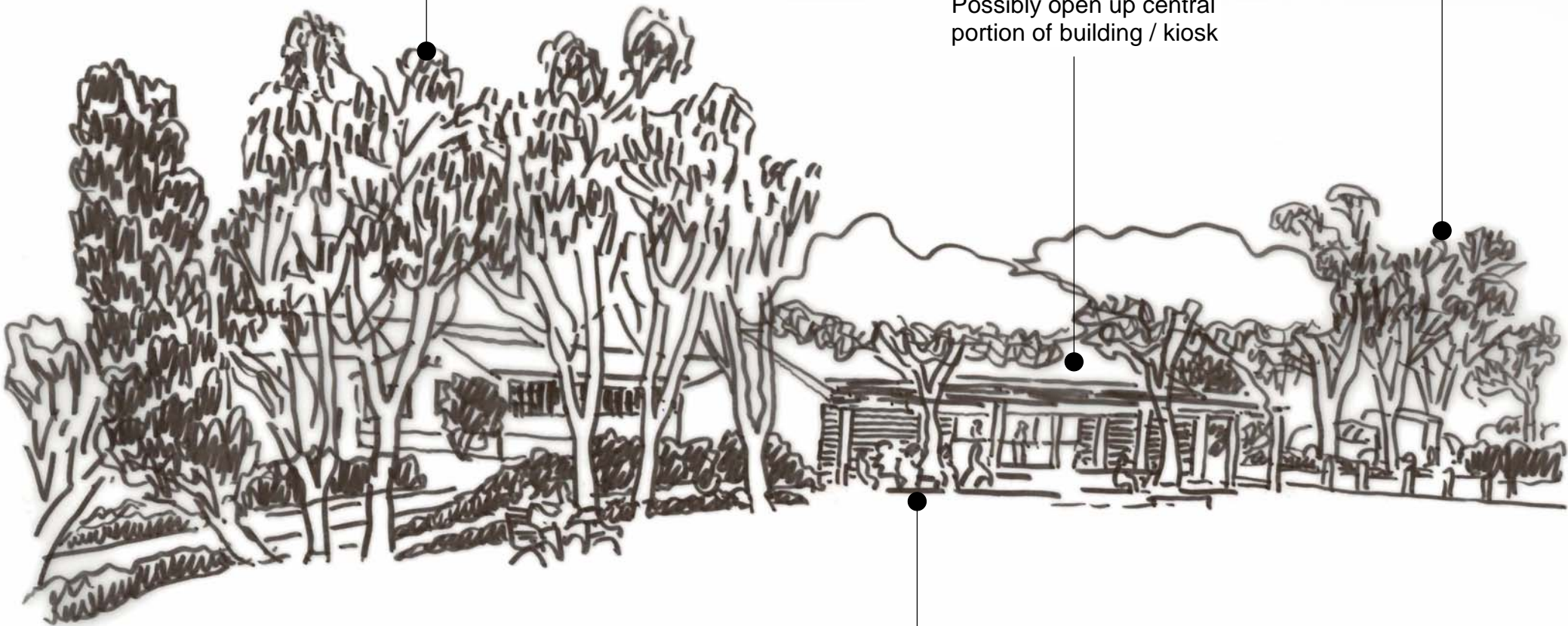


Existing

Extend tree planting around oval

Tree planting on other side of the road

Possibly open up central portion of building / kiosk



Proposed

Possible stepped seating, shade trees, pergola roof

Parking

Overflow parking for the park, oval and other uses at Georges Heights will be provided in the area previously occupied by the Commandos car parking adjacent to the line of the brush box trees at the site boundary. The carpark will be screened by landscaping from the newly formed park areas.

Dominion Crescent may be widened in selected areas, where levels permit, to allow roadside parking.

Design and Adaptive Re-use of Buildings

Adaptive Reuse Principles

The general principles for the selection of uses are their compatibility with:

- Maintaining the heritage values of the place;
- Providing a positive contribution to the people's enjoyment and understanding of the place and its heritage;
- Environmental, public access and amenity considerations (such as noise and light impacts);
- Managing transport demand; and
- Service and infrastructure constraints, BCA requirements.

WWII Camouflaged Fuel Tanks

The role that the Camouflaged Fuel Tanks played in the nation's defence during WW II will be conveyed through their possible adaptive reuse.

Benched into the hillside below Georges Heights Oval, Training Command and the Commando site, they present an ideal opportunity for storing stormwater runoff from a wide catchment. The water would then be made available for a variety of purposes e.g. irrigation of formal landscaped areas and oval, emergency supply for bush fire fighting, sustaining special habitats (e.g. Wetlands) and toilet flushing.

The spatial quality and scale of the interior space of the tanks could suit a range of cultural uses. Tank walls could be selectively opened up to improve access, make the most of its spectacular location and provide natural lighting, if required. The roof could be modified to create a viewing area with access from Dominion Crescent. The roofs could also be modified for solar energy. Alternatively, one of the tanks could provide a discrete location for a works depot to manage the Headland Park.

The bushland setting of the tanks will be improved. The rock ledges, the benching of the land and the containment of the area with a low bund wall provides wetland pockets that provide frog habitat. Indeed, the tanks could be adapted to become a landscape feature providing walled gardens, as illustrated in the Comprehensive Plan, or along the lines of the Eden Project in Cornwall.

Georges Heights Oval Amenities Block

The amenities block serves an important function supporting the uses of the oval. It is visually intrusive but the difficulty of finding a suitable alternative location and the cost make relocating this building unlikely.



The Trust will work with Council to improve the appearance of the building by measures such as providing openings in the central portion to make it more transparent and by landscaping adjacent to the sides of the building. Shade trees or a pergola over the side facing the oval would improve the amenity of the spectator area as well as helping to meld the building into the landscape framing the oval. See *Figure 15*.

Defence Houses

The houses will be retained for residential use or other uses compatible with the park, such as visitor accommodation, childcare, or studios.

Consideration will be given to the removal of the isolated dwellings in Dominion Avenue in the long term. In the short term, any new use for these houses will be in conjunction with landscape improvements to help its bushland setting and provide pedestrian access to the rock ledges at the rear of the properties.

Commonwealth Avenue and Imperial Place form a hidden pocket of residences. The visual appearance of the buildings will be improved through minor repairs and the removal of unsympathetic additions and some of the fences.

Water Sensitive Urban Design

The principles of Water Sensitive Urban Design (WSUD) are to be incorporated into the redevelopment of the Georges Heights precinct to achieve water quality, water conservation and ecological objectives. Effective integration will require the application of the following on a catchment wide basis:

- *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 Georges Heights precinct.

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 (including large, central storage using a WWII camouflaged tank)	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 bioretention 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.
Natural systems planning	Weed removal and revegetation with native species	This will improve water retention and site amenity.
	<i>Phytophthora cinnamomi</i>	Reduce nutrient impact to bushland areas. Reduce ponding and concentrated stormwater flows.
	Dieback areas	Regenerate to reduce erosion, water retention and amenity. To be carried out in parallel with a strategy for controlling <i>Phytophthora cinnamomi</i> .

Phytophthora cinnamomi

The Trust's *Phytophthora* Management Strategy will be implemented; key components of which are shown in the following table. In addition, testing for *Phytophthora* will be undertaken prior to any civil works commencing in areas adjacent to or potentially impacting on bushland.

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.
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 <i>Phytophthora</i> 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;



	<p>– Mulched edges</p> <p>Confine walkers to tracks in bushland areas.</p>
Construction/ earthworks/ landscaping activities	<p>Implement hygiene protocols for personnel, machinery and tools;</p> <p>Soil and plant materials to be sourced from <i>Phytophthora</i>-free certified suppliers, or low risk sources;</p> <p>Use only well composted, soil-free mulch.</p>

Remediation

Based on existing information, site contamination on the Georges Heights precinct is considered to be minor. However, some contamination management will be required for various precinct areas to achieve the uses being implemented by the Trust. Consistent with adjacent precincts, these will include:

- Supplementary contamination assessment of remaining areas where there has been limited sampling to date. This assessment will be required to either validate these areas, or define remediation or management requirements;
- Further assessment is likely to confirm contamination impact to soils surrounding the camouflaged fuel tanks. Remediation and / or management requirements may be required to address asbestos, lead or hydrocarbon contamination in this area, and requirements will be documented in a Remediation Action Plan; and
- An Environmental Management Plan (EMP) is being prepared to document ongoing contamination management requirements. For this precinct, this will include requirements for management of 'waste cell 3' (the southern mound), located on the former 1 Commando Company site. The Trust will be responsible for the implementation of the EMP, which will eventually apply to the entire Headland Park.

With regard to hazardous materials in buildings and structures, Hibbs and Associates recommend the following actions prior to the commencement of any renovation or demolition work:

- Removal or abatement of friable, broken or damaged asbestos materials. In particular, the Trust will carry out the removal or abatement of the asbestos roof and associated components to the camouflaged fuel tanks. The asbestos roof represents an ongoing source of asbestos to the environment, and is an impediment to the safe use of these tanks;
- Removal or encapsulation of SMF materials;
- PCB containing capacitors should be removed and disposed of at an approved treatment facility, in accordance with NSW DECC and Commonwealth requirements;
- Implementation of control measures to stabilise the deteriorating lead based paint systems in accordance with the requirements of the appropriate Australian



-
- Standard. This includes lead paint remaining on the camouflaged fuel tank structure; and
 - Removal of any remaining dangerous goods from the site.

Where hazardous materials are retained in good condition, a register of these materials shall be maintained and made available to users of the site, including workers who may undertake works that may disturb these materials.

Interpretation

One of the primary objectives of the Trust is to convey their rich natural and cultural heritage in a meaningful, relevant and engaging way to the general public.

The Trust's Headland Park Interpretation Strategy provides recommendations as to how the Trust can best communicate the significant values of the site and its setting to the public. The strategy identifies the following qualities and interpretation opportunities relevant to Georges Heights:

- An undulating plateau that provides excellent harbour views from many vantage points and enables visitors to gain an appreciation of Sydney Harbour's spectacular geological heritage.
- Heritage listed military buildings, historic fortifications and other military characteristics provide an opportunity to understand more about the history and evolution of Sydney Harbour's defence system.

Public open days, events, exhibitions, guided tours, school holiday programs and publications will all be considered as part of the interpretive program, which will need to appeal to the general public, casual passers-by, overseas tourists, school students and special interest groups.

The elements that will be included in the interpretation program will include Bungaree's Farm, which extended over a substantial portion of this precinct and the Bradley sisters, founders of modern bush regeneration techniques. The camouflaged fuel tanks, including the role of camouflage artists based at Georges Heights will also be interpreted. The retention of the brick gate posts of the former Commando base provide an opportunity to form part of the interpretation of the former military association with the site. This will be developed in consultation with relevant stakeholders.

Implementation

The implementation of this Management Plan will take place over a number of years. 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 identifies the individual projects that make up the Outcomes of this Management Plan and prioritises their implementation. The Implementation Plan identifies the relevant policies to guide the way each project is carried out to ensure the works are consistent with the Commonwealth Heritage management principles.



Implementation Plan	Outcomes	Projects	Priority / Progress	Related Conservation Policies
Public Domain	Public access improvements	<ul style="list-style-type: none"> Provide series of connections and circuit walks connecting Trust managed lands with adjoining lands Provide new path along south eastern side of the park Widen existing pathway linking Rawson Park and Georges Heights Oval Investigate extension of pathway around Georges Heights oval Connect pathways to viewing areas located on landscaped mounds Provide pedestrian link between the WWII tanks, residential areas and surrounding carparks. Provision of new carparking area at end of Dominion Crescent Widen Dominion Crescent to accommodate road side parking, improved pedestrian and/or cycle access Improve public transport information and directional signage 	<p>High / Ongoing</p> <p>Medium</p> <p>High</p> <p>Medium</p> <p>High</p> <p>Medium / Ongoing</p> <p>High</p> <p>Low</p> <p>High / Ongoing</p>	<p>1-7,10,17,18,21,22,24,25,27-29</p> <p>1-7,10,17,18,21, 22,24,25,27-29</p> <p>1-7,10,17,18,21, 22,24,25,27-29</p> <p>1-7,10,17,18,21, 22,24,25,27-29</p> <p>1-7,10,17,18,21, 22,24,25,27-29</p> <p>1-7,10,14,16-18,20-22,24-29</p> <p>1-7,10,17,18,20,22-29</p> <p>1-7,10,14,16,17,21,22,24,25,27-29</p> <p>1-7,22,27-29</p>
Public Domain	Improved public amenity and provision of parkland	<ul style="list-style-type: none"> Landscaping and screen planting of the mounds Provide and / or upgrade on-site services for public domain areas, including facilities such as toilets, parking, disabled parking, lighting and seating Remove fences within and around the site Provide supplementary planting around oval edges and selectively prune fig trees Streetscape improvements to residential areas 	<p>High / Ongoing</p> <p>High / Ongoing</p> <p>High</p> <p>Low</p> <p>Low</p>	<p>1-7,10,17,21,22,24,27-29</p> <p>1-7,10,14,16,17,20,22,24,25,27-29</p> <p>1-7,10,11,13,14,17,22,24,25,27-29</p> <p>1-7,10,17,22,24,27-29</p> <p>1-7,10,17,22,24,25,27-29</p>



Implementation Plan	Outcomes	Projects	Priority / Progress	Related Conservation Policies
Built Environment	Building uses, adaptive reuse, building removal and new building	<ul style="list-style-type: none"> Restore / conserve residential buildings for continued use Removal or modification of Dominion Crescent houses Removal or modification of WWII fuel tanks Work with Mosman Council and local sporting groups to relocate or refurbish the amenities block and surrounds to improve views along ridgeline Provision and / or upgrade of on-site services 	<p>High / Ongoing</p> <p>Medium</p> <p>Medium</p> <p>Low / Ongoing</p> <p>High / Ongoing</p>	<p>1-20,22-29</p> <p>1-11,17-20,22-29</p> <p>1-10,13-20,22-29</p> <p>1-8,17,22-25,27</p> <p>1-8,17-29</p>
Natural Environment	Improve Environmental Conditions	<ul style="list-style-type: none"> Remediate contaminated and hazardous materials Implement <i>Phytophthora</i> Strategy Improve stormwater management and manage local area runoff Conservation of existing bushland and extension of bushland where appropriate Comply with asset protection from bushfire threats 	<p>High / Ongoing</p> <p>High / Ongoing</p> <p>High / Ongoing</p> <p>High / Ongoing</p> <p>High / Ongoing</p>	<p>1-7,20-29</p> <p>11-17,20,21,25,27</p> <p>14,16,17,20,21,25</p> <p>1-6,14-17,20,21,23,25,27</p> <p>1-7,10-14,16,17,20,21,22,24,27-29</p>
Heritage Values	Heritage Conservation and Interpretation	<ul style="list-style-type: none"> Significant site features interpreted including: WWII fuel tanks, former Commandos site, Bungaree's farm and the story of the Bradley sisters. Landscape improvements that respond to and convey the site's natural and cultural heritage. Preparation and presentation of interpretative material and signage in public domain areas. 	<p>High / Ongoing</p> <p>High / Ongoing</p> <p>Medium / Ongoing</p>	<p>1-20,23-25,27-29</p> <p>1-7,11-17,20-24,26-29</p> <p>1,2,6,9,14,16,17,21,22-24,27-29</p>



Monitoring and Review of the Plan

The plan will be continually monitored to assess the effectiveness of the Plan in protecting and conserving the 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 of the *EPBC Act, 1999*, as amended, 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 such time as a new plan is adopted.



Acknowledgements: Images

Front Cover

1. 1942, 'Fuel Tanks, Georges Heights, Mosman'

Source: National Archives of Australia

2. 2006, Aerial of Georges Heights and surrounds, Mosman

Source: Sydney Harbour Federation Trust

3. June 1989, Commandos 33rd Birthday Weekend – Mock Attack at Georges Heights

Source: Commando Regiment Association Inc., Courtesy - Barry Grant, President.

Figure 4

'Bungaree, Chief of the Broken Bay Tribe', Hand coloured lithograph drawn by C. Rodius from life in 1831 and on stone in 1834.

Source: National Library of Australia, Rex Nan Kivell Collection, NLA. Pic. – an895396

Figure 6

Plan of the Georges Heights Battery, 1918

Source: McNamara Soder Associates, May 1987, George's Heights and Chowder Bay, Sydney – Conservation Plan, Stage 1, pg. 60.

Figure 7

'Fuel Tanks, Georges Heights, Mosman' 1942.

Source: National Archives of Australia

Figure 8

Former Navy Cottage, Georges Heights, Mosman, 2008

Source: Sydney Harbour Federation Trust

Figure 9

Rawson Oval Under Construction, 1927

Source: Mosman Library, the late Dalton (Jack) Carroll Collection

Figure 10

Former 1 Commando Company Headquarters, 2005

Source: Sydney Harbour Federation Trust



Related Studies

Australian Museum Business Services, 2004, Archaeological Survey of Sydney Harbour Federation Trust Land at Middle Head, Georges Heights, and Chowder Bay

Collins, Peter, 2005, Strike Swiftly – The Australian Commando Story

Conacher Travers Environmental Consultants, 2001, Comprehensive Fauna Survey of Interim Sydney Harbour Federation Trust Land and National Parks and Department of Defence Land at Georges Heights and Middle Head

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PPK Environment and Infrastructure, 2001, Final Draft Stage 2 Contamination Assessment and Geotechnical Study, Defence Sites at Middle Head, Georges Heights, Chowder Bay and Mosman



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PPK Environment and Infrastructure, 2002, Site Services Survey - Middle Head, Georges Heights and Chowder Bay, Stages 2 & 3 – Location of Services

Robertson & Hindmarsh Pty Ltd Architects, 2003, Heritage Assessment of the Former Navy Cottages, (Swedish-manufactured prefabricated houses by Amals Sagverks Akiebolag/Amal Sawmilling Company) Georges Heights, Mosman

Tropman & Tropman Architects, 2006, Conservation Management Plan for World War II Camouflage Fuel Tanks



Appendices

Appendix 1 - Schedule 7A

Schedule 7A

Environment Protection and Biodiversity Act Regulations and 10.03B

A Management Plan for a Commonwealth Heritage Place must:	Relevant section of the Georges Heights Management Plan
(a) establish objectives for the identification, protection, conservation, presentation and transmission of the 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 Commonwealth Heritage values of the place; and	Introduction; Aims of the plan p.6; Planning Framework pp 7-14 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.15 Site History p.16 Analysis and Assessment pp. 22-23
d) provide a description of the Commonwealth Heritage values and any other heritage values of the place; and	Heritage values pp.35
e) describe the condition of the Commonwealth Heritage values of the place; and	Condition of Commonwealth Heritage Values pp. 38-39
f) describe the method used to assess the Commonwealth Heritage values of the place; and	Conservation Management Plans p.24
g) describe the current management requirements and goals including proposals for change and any potential pressures on the Commonwealth Heritage values of the place; and	Aims of the plan p.6 Planning Framework pp. 7-12 Heritage Listings pp.24 Outcomes pp. 49-57
h) have policies to manage the Commonwealth Heritage values of a place, and include in those policies, guidance in relation to the following:	Policies pp. 39-48
i) the management and conservation processes to be used;	Policies 1-23, 29
ii) the access and security arrangements, including access to the area for Indigenous people to maintain cultural traditions;	Polices 27,28
iii) the stakeholder and community consultation and liaison arrangements;	Policies 22, 29
iv) the policies and protocols to ensure that indigenous people participate in the management process;	Policies 22,29



v) the protocols for the management of sensitive information;	n/a
vi) the planning and management of works, development, adaptive reuse and property divestment proposals;	Policies 3-17,20,21, 23-29
vii) how unforeseen discoveries or disturbances of heritage are to be managed;	Policy 16
viii) how, and under what circumstances, heritage advice is to be obtained;	Policies 3,4,10
ix) how the condition of the Commonwealth Heritage values is to be monitored and reported;	Monitoring and Review of the plan p.60
x) how records of intervention and maintenance of a heritage places register are kept;	Policies 19,25, 27
xi) the research, training and resources needed to improve management;	Policy 24
xii) how heritage values are to be interpreted and promoted; and	Interpretation pp. 57 Policies 8, 9, 16-23, 27 ,29.
i) include an implementation plan; and	Implementation table pp. 57-59
j) show how the implementation of policies will be monitored; and	Monitoring and Review of the Plan p.60
k) show how the management plan will be reviewed.	Monitoring and Review of the Plan p. 60



Appendix 2 – Schedule 7B

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

Commonwealth Heritage Management Principles	Issues to consider in the evaluation of management plans
1. The objective in managing 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 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 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. 6-13
4. The management of 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 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 Commonwealth Heritage places should provide for regular monitoring, review and reporting on the conservation of Commonwealth Heritage Values.	Monitoring and Review of the plan p. 60



Commonwealth Heritage Listings

Note: subsequent studies have shown there to be a number of errors included in the official heritage listings.

In relation to Georges Heights, the WWII Camouflaged Fuel Tanks are listed as being built in the 1930s when in fact they were built six years later in 1942. The Chowder Bay tanks were built in 1936.

Subsequent studies have also shown the listing of the Navy cottage as a Riley-Newsum prefabricated when in fact this house is a prefabricated Swedish Åmåls Sågverks Aktiebolag (ÅSA) house, imported in the early 1950s and used by Defence for married quarters accommodation.

Defence site - Georges Heights and Middle Head, Middle Head Rd, Georges Heights, NSW, Australia

List: Commonwealth Heritage List

Class: Historic

Legal Status: [Listed place](#) (22/06/2004)

Place ID: 105541

Place File No: 1/13/026/0026

Summary Statement of Significance:

The Defence Site within the headland complex of Middle Head and Georges Heights is important as an area of significant cultural and natural heritage interaction recording a long history of Aboriginal occupation and the defence of Sydney Harbour since European settlement. The two areas of the Defence Site are contiguous with two sub-areas of Sydney Harbour National Park (Register No. 2584) and linked by important evolving cultural landscape frameworks within the scenic foreshores of Sydney Harbour, perhaps Australia's best-known waterway, and a nationally significant icon. The cultural landscape framework comprises a range of historic sites and structures which contribute individually and in groups to the national estate values of the Defence Site. Not all structures or sites within the boundaries are of significance. Sites and places of individual significance include the Military Road Framework (Reg. No. 103266), Headquarters 8th Brigade Precinct (Reg. No. 103292), Batteries A83 & C9a (Reg. No. 103295), Battery B42 (Reg. No. 103294), WRAAC Officers Mess (Reg. No. 2871), Battery for Five Guns (Reg. No. 2870), Headquarters Training Command Precinct (Reg. No. 103338), 30 Terminal Squadron Precinct (Reg. No. 103339), Chowder Bay Submarine Miners Barracks (Reg. No. 2876), Navy Refuelling Depot and Caretakers House (Reg. No. 103337), Commonwealth Avenue Defence Housing (Reg. No. 103341), Ten Terminal Regiment Headquarters and AUSAID Training Centre Precinct (Reg. No. 103342) and the former Golf Clubhouse (Reg. No. 103293), most of which are or will be managed by the Sydney Harbour Federation Trust. HMAS Penguin (Reg. No. 103327) remains in use as an operational Naval Base and represents the continuing presence of Defence at Middle Head and Georges Heights.



The Defence Site occupies part of Middle Head and Georges Heights which are held in high esteem by Sydney residents for their natural and scenic values as a significant part of Sydney Harbour's foreshore, and as a relatively natural vantage point and landmark in an otherwise highly urbanised environment. Middle Head has featured in paintings of the Sydney Heads by artists such as Augustus Earle c.1825 and in photographic works by Holtermann c.1875 and, in conjunction with Georges Heights, has been a significant part of the cultural and social life of Sydney and the colony of NSW. (Criterion E.1 and G.1)

The remnant natural vegetation is contiguous with Sydney Harbour National Park which is considered one of the finest harbour foreshore parks in the world. (Criteria B.1 and D.1)

Middle Head and Georges Heights have significant associations with the science of botany and the study of eucalypts in Australia. A number of early eucalypt specimens were collected by botanists including Robert Brown in 1802, Ferdinand Von Mueller in 1855, Joseph Henry Maiden in 1897, and William S. Blakely in 1937. (Criterion C.1)

Middle Head also documents an important story in post-contact history. In 1815, Governor Macquarie attempted to settle King Bungaree and his people on the upper areas of Middle Head. (Criterion A.4)

As a natural vantage point, Middle Head and Georges Heights have played a significant role in the development of colonial and national defence policy and military training in Australia from the Napoleonic Wars until the 1960s and in the implementation of military technology important for its historic values, research and archaeological potential and social values. The evolving cultural landscapes of the headland areas, produced by over 150 years of military and naval use, and linked by a network of military roads, are important for their association with, and ability to illustrate, a broad range of processes which exemplify the strategic role of Middle Head and Georges Heights in the growth of Sydney, the Colony of New South Wales and Australia under Imperial, Colonial and Commonwealth government policies. In this respect the suite of defence related sites are particularly important in illustrating the adoption and development of military technology and the provision of housing for military personnel. The drill hall located in Headquarters 8th Brigade illustrates the universal training scheme which followed the 1909 Defence Act. The former Middle Head barracks complex is also important for its association with the Australian School of Pacific Administration and subsequently as the Commonwealth's AUSAid Centre from the 1970s. (Criterion A.4)

The defensive works at Middle Head and Georges Heights are particularly important for their association with; Lt Colonel J Gordon, who introduced the 'two tier' Gordon scheme for the defence of Sydney Harbour in 1845; Colonial Architect James Barnet for the design of the Artillery Barracks in 1873; and General Sir William Jervois RE and Lt Colonel Peter Scratchley, whose report of 1877 formed the basis of defence planning in Australia until after federation in 1901.

The growth of leisure and recreation in the late nineteenth and early twentieth centuries, and the establishment of Mosman Municipal Council in 1893, following the sub-divisions of the 1880s, is illustrated by a number of sites which are now important elements in the cultural landscapes associated with military use of the headlands. Important structures



include the former Mosman Golf Club House of 1927 and the former 'Mosman Septic Tank' used as a swimming pool during the 1920s and which remains in use as part of HMAS Penguin, the focus of Naval training and hospitalisation in Sydney Harbour. (Criterion A.4 and Criterion H.1) (Australian Historic Themes: 4.2 Supplying urban services, 7.7 Defending Australia, 7.7.1 Providing for the common defence, 7.7.2 Preparing to face invasion, 7.7.3 Going to war, 8.1 Organising recreation)

The evolving cultural landscapes contain a wide range of military sites, structures and complexes which are important for their ability to yield information which will lead to a wider understanding of the historical context, design, construction and operation of military barracks, defence housing, fortifications, gun batteries and defensive works in Australia from 1870 to the post war years of the twentieth century. (Criterion C.2)

Individual sites and complexes within the relict cultural landscape areas are important for their ability to demonstrate technical innovation in the early use of concrete and the principal characteristics and operation of military barracks, drill halls, defence housing, fortifications, gun batteries and defensive technology and policy in Australia and the architectural styles employed by (NSW) Colonial architects from 1870 and Commonwealth architects from 1901. (Criteria D.2 and F.1))

A number of individual sites are important in demonstrating functions or designs of exceptional interest. Amongst others these include: the Submarine Miners Barracks and Workshops of 1890-93 at Chowder Bay; the former Military Hospital erected towards the end of the First World War; the three c.1930 roofed fuel storage tanks which were the first example of large scale camouflage in Australia; and HMAS Penguin as a purpose built naval training and hospitalisation complex. (Criterion B.2)

Defence land at Georges Heights and Middle Head is important for its contribution to the Sydney Harbour foreshores and contains places which are highly valued by the community. The headland areas are also important for their associations with recreational use, which began in the nineteenth century, and for their symbolic associations as part of the setting of Sydney Harbour and the Sydney Heads. (Criterion G.1)

It is possible that Indigenous cultural values of national estate significance may exist in this place. As yet, the AHC has not identified, documented or assessed these values.

Official Values:

Criterion:

A Processes

Values:

Middle Head documents an important story in post-contact history. In 1815, Governor Macquarie attempted to settle King Bungaree and his people on the upper areas of Middle Head.

As a natural vantage point, Middle Head and Georges Heights have played a significant role in the development of colonial and national defence policy and military training in Australia from the Napoleonic Wars until the 1960s and in the implementation of military technology important for its historic values, research and archaeological potential



and social values. The evolving cultural landscapes of the headland areas, produced by over 150 years of military and naval use, and linked by a network of military roads, are important for their association with, and ability to illustrate, a broad range of processes which exemplify the strategic role of Middle Head and Georges Heights in the growth of Sydney, the Colony of New South Wales and Australia under Imperial, Colonial and Commonwealth government policies. In this respect, the suite of defence related sites are particularly important in illustrating the adoption and development of military technology and the provision of housing for military personnel. The drill hall located in Headquarters 8th Brigade illustrates the universal training scheme which followed the 1909 Defence Act. The former Middle Head barracks complex is also important for its association with the Australian School of Pacific Administration and subsequently as the Commonwealth's AUSAid Centre from the 1970s.

The growth of leisure and recreation in the late nineteenth and early twentieth centuries, and the establishment of Mosman Municipal Council in 1893, following the subdivisions of the 1880s, is illustrated by a number of sites which are now important elements in the cultural landscapes associated with military use of the headlands. Important structures include the former Mosman Golf Club House of 1927 and the former 'Mosman Septic Tank' used as a swimming pool during the 1920s and which remains in use as part of HMAS Penguin, the focus of Naval training and hospitalisation in Sydney Harbour.

Attributes

The natural and evolving cultural landscape and the evidence of a long history of use by defence, including the drill hall, the Middle Head Barracks, the Mosman Golf Club House and the HMAS Penguin swimming pool.

Criterion: B Rarity

The remnant natural vegetation is contiguous with Sydney Harbour National Park, which is considered one of the finest harbour foreshore parks in the world. A number of individual sites are important in demonstrating functions or designs of exceptional interest. Amongst others these include: the Submarine Miners Barracks and Workshops of 1890-93 at Chowder Bay; the former Military Hospital erected towards the end of the First World War; the three c.1930 roofed fuel storage tanks which were the first example of large scale camouflage in Australia; and HMAS Penguin as a purpose built naval training and hospitalisation complex.



Attributes

The remnant natural vegetation plus the individual sites listed above.

Criterion: C Research

The evolving cultural landscapes contain a wide range of military sites, structures and complexes which are important for their ability to yield information which will lead to a wider understanding of the historical context, design, construction and operation of military barracks, defence housing, fortifications, gun batteries and defensive works in Australia from 1870 to the post war years of the twentieth century.

Attributes

All of the built fabric and associated cultural landscapes from the earliest European defence related use of the site up to the post-war years of the twentieth century.

Criterion:D Characteristic values

The remnant natural vegetation is contiguous with Sydney Harbour National Park.

Individual sites and complexes within the relict cultural landscape areas are important for their ability to demonstrate technical innovation in the early use of concrete and the principal characteristics and operation of military barracks, drill halls, defence housing, fortifications, gun batteries and defensive technology and policy in Australia and the architectural styles employed by (NSW) Colonial architects from 1870 and Commonwealth architects from 1901.

Attributes

Remaining natural vegetation, and the individual sites and complexes referred to above.

Criterion: E Aesthetic characteristics

The Defence Site occupies part of Middle Head and Georges Heights which are held in high esteem by Sydney residents for their natural and scenic values as a significant part of Sydney Harbour's foreshore, and as a relatively natural vantage point and landmark in an otherwise highly urbanised environment. Middle Head has featured in paintings of the Sydney Heads by artists such as Augustus Earle c.1825 and in photographic works by Holtermann c.1875 and, in conjunction with Georges Heights, has been a significant part of the cultural and social life of Sydney and the colony of NSW.



Attributes

The ability of the public to continue to enjoy the views on, to and from the site.

Criterion: F Technical achievement

Individual sites and complexes within the relict cultural landscape areas are important for their ability to demonstrate technical innovation in the early use of concrete.

Attributes

Relic cultural landscape areas.

Criterion: G Social value

Defence land at Georges Heights and Middle Head is important for its contribution to the Sydney Harbour foreshores and contains places which are highly valued by the community. The headland areas are also important for their associations with recreational use, which began in the nineteenth century and for their symbolic associations as part of the setting of Sydney Harbour and the Sydney Heads.

Attributes

Continued recreational access to and use of community areas, natural areas and foreshores.

Criterion: H Significant people

The defensive works at Middle Head and Georges Heights are particularly important for their association with; Lt Colonel J Gordon, who introduced the 'two tier' Gordon scheme for the defence of Sydney Harbour in 1845; Colonial Architect James Barnet for the design of the Artillery Barracks in 1873; and General Sir William Jervois RE and Lt Colonel Peter Scratchley, whose report of 1877 formed the basis of defence planning in Australia until after federation in 1901.

Attributes

Not clarified.

Criterion: I Indigenous tradition

It is possible that Indigenous cultural values of national estate significance may exist in this place. As yet, the AHC has not identified, documented or assessed these values.

Attributes

Not clarified.



Description:

Background

Military fortifications and defence reserves have played a major role in the development of Sydney Harbour's landscapes. Middle Head has featured in paintings of the Sydney Heads by many artists including Augustus Earle c.1825 and in photographic works by Holtermann c.1875, recording gun batteries and fortifications. Consequently Middle Head and Georges Heights have been a significant part of the cultural and social life of the colony of NSW, as part of the backdrop to the harbour and as the site of major defence works. The defences of Port Jackson and Sydney Harbour have developed in phases subject to changes in defence policy.

History

1788-1839

During the early 1800s any threat to Sydney was seen as coming from the sea. Following a warning from Sir Joseph Banks, during the Napoleonic Wars, Governor King constructed a battery between Georges Heights and Middle Head in 1802 which remained the most forward battery in Sydney's defences until the 1850s. This site was chosen for its strategic position at the entrance to Port Jackson. The disadvantage of the site was its isolation and distance from Sydney. Middle Head was occupied for uses other than defence as early as 1815 with Governor Macquarie attempting unsuccessfully to form an Aboriginal settlement on Middle Head. By 1828 the area was described as King Bungaree's Farm, with King Bungaree having been appointed Chief of the Broken Bay tribes by the Governor. The venture appears to have failed. In 1839 the British government admitted that the harbour was defenceless, following the arrival of two American warships at night, and a number of reports into Harbour defences were commissioned.

1839-1877

A report by Captain G Barney led to the construction of defences on Pinchgut Island (now Fort Denison) and Bradley's Head, but this work ceased in 1842. The first comprehensive plan for the defence of Sydney Harbour, made by Lt Colonel J Gordon in 1845, recognised the defence potential of the headlands near the entrance to Port Jackson. The 'Gordon' scheme was implemented from 1847 establishing a two line defensive system with the inner line at Sydney Cove with Georges Heights and Middle Head as part of an outer line of defence. The Gordon scheme recognised the limitations of armaments of the day with their limited range.

The Crimean War of 1853-56 accelerated the selection of sites for defensive purposes. Sites selected at Middle Head and Inner South Head were designed to command the entrance to the harbour, the shipping channels and the area to seawards of the Heads. These outer works ceased in 1855 with the arrival of Sir William Denison, the new Governor of NSW. The experience of the American Civil War had restated the need for heavier weapons and more secure gun emplacements; the armoured casemate principle was to be used on open sites with circular gun pits in more protected areas. In 1855 Denison submitted a report which stressed that the inner defences were more important and works were concentrated in the inner harbour when Fort Denison was completed. To assist in navigation of the important shipping channel between Middle Head and the Sow and Pigs Reef two obelisks were constructed above Obelisk Bay in 1858.



In 1862 the British government resolved that colonies with responsible government should bear the cost of their own defence. During the 1860s a Royal Commission investigated the state of the colony's defences. By 1870 the last British (Imperial) line regiment had left Australia. The Defence Committee of September 1870 recommended the construction of batteries on Middle Head and Georges Heights as well as Bradley's Head, Steel Point and South Head. The 1870-1877 program concentrated on an outer line of defences with batteries erected on Middle Head and Georges Heights as well as South Head. A major development in 1872 was the formation of the Engineers Corps of NSW, which was to assist in the works.

Plans were drawn up in the Office of the Colonial Architect James Barnet, with construction starting in 1871. Executed by 1876, this work included the construction of military roads. At Georges Heights three separate batteries (B42, A83 and A84) were commenced between 1871 and 1888. A new Rock Casemate Battery constructed 1872-76 near the shoreline at Georges Heights was designed to operate in conjunction with the batteries at Georges Heights and a series of booms and submarine mine fields. The Outer Middle Head Battery was commenced in January 1871 with at least 8 gun pits completed by 1874 with the Inner Middle Head Battery functional by 1881. Between 1871 and 1890 the barracks area of Middle Head was developed and a defensive moat constructed across the headland separating the gun batteries from the barracks. To support the development of defences, Artillery Barracks, designed by the office of the Colonial Architect, were erected in 1873 at Georges Heights. The lower barracks for Submarine Miners at Chowder Bay was equipped with outhouses and by 1877 Officers Quarters were in place. Fortifications were of necessity connected by roads; the road to Middle Head, Military Road, was commenced in 1870 and finished by 1871. These military roads allowed guns to be rolled to the batteries and provided strategic access between batteries and barracks. These roads also became, in part, thoroughfares for the area from the 1870s, when developer Richard Harnett organised the formation of many of the roads of Mosman.

1877-1900

British fortifications expert General Sir William Jervois RE (Royal Engineers) was appointed governor of South Australia in 1877. Sir William Jervois and Lt Colonel Peter Scratchley inspected each colony's defences leading to the Jervois-Scratchley reports, which were to form the basis of defence planning in Australia for the next 30 years. The reorganisation of the batteries on Middle Head and Georges Head and South Head between 1885 and 1890 resulted from their reports in which the need for better designed defences and for torpedoes or submarine mines was stressed. In 1878 submarine mine observing stations were constructed on Green Point, Inner South Head and Georges Heights. Recommendations made between 1877-1885 included the construction of an Armoured Casemate Battery in 1882 at Georges Head, which was completed in 1886 under the direction of Colonel Scratchley. By 1889 areas of Middle and Georges Heads were clearly identified as resumed by the Crown for military purposes.

Technical developments in the 1880s resulted in changes to the fortifications of Sydney Harbour, including the use of telephone lines in the late 1880s, and the construction of a Submarine Miners Observing Station in 1890 at Chowder Bay. The Submarine Mining facility was completed in 1893. The Hidden Guns of the 1880s were generally replaced in the 1890s, as a matter of policy, by Quick Firing Guns mounted in deep open concrete



emplacements. Such emplacements were constructed on Georges Heights and Middle (and South) Head, remaining the standard form until after World War Two. The office of Colonial Architect James Barnet was responsible for much of the new works. The struggle between Lieut. Colonel de Wolski of the NSW Engineers and James Barnet in 1886, over defects in execution and design, was to lead to Barnet's retirement.

The development of defence facilities was mirrored by the subdivision of land north of Military Road in the 1880s. By July 1884 the North Shore Ferry Co was providing a regular ferry service to the city. This active subdivision continued in the 1890s with the Municipality of Mosman established in 1893. Balmoral Beach had been dedicated as a Public Reserve in 1878. During the 1880s and 1890s the headland areas provided recreational and viewing areas.

1900-1945

By 1903 the most important defence works in Sydney Harbour were concentrated on Georges Heights, Middle Head and at South Head.

Supporting structures at Georges Heights by 1903 included Sergeant Majors quarters, cool store, artificers workshop, Quarter Masters store, machine gun shed, women's wash house, huts, an asphalt (drill) yard, four married quarters, a married sergeants quarters, a laboratory for filling cartridges and an artillery store. Battery A84 stayed as a firing station for the minefield, while battery A83 kept its 6 inch pneumatic disappearing guns. Two other batteries were decommissioned. Towards the end of WW1 a weatherboard military hospital was established at Georges Heights.

In 1906 the 'pleasure ground', on the Clifton Estate at Chowder Bay, was purchased by Sydney Ferries Ltd, and a circular, offshore swimming pool added with space for over 3,000 spectators. This facility was mirrored by the 1904 Balmoral Beach 'Mosman Septic Tank', which in 1927 was converted into a swimming pool. The pool was utilised by the Cavill family until 1940 when resumed by the Navy and incorporated into HMAS Penguin. The Cavill family are reputed to have developed the 'Australian Crawl' swimming stroke.

In 1923 two portions of military land were leased to Mosman Council and Mosman Golf Club for public recreation. The golf club, on 59 acres, was a Clifton Gardens initiative having been founded in the Clifton Gardens Hotel at Chowder Bay. A nine-hole golf course was cleared and a clubhouse built for the 300 members overlooking Middle Harbour. The club operated until 1940, when Defence resumed the site for the development of HMAS Penguin.

The Submarine Miners Corps was disbanded in 1922, although Battery A84 remained a fortress command post until 1934 at Georges Heights. Other developments included the installation of anti torpedo boat guns during the 1920s following the re-armament of Singapore by Britain. This type of gun was also mounted on Georges Head and Obelisk Point to guard the anti-submarine net between Green Point and Georges Head.

The only fixed armaments at Georges Heights in 1939 were two 6 inch guns at battery B42, but these were moved to South Head. Defences were in general however, improved during the Second World War when Middle Head and Georges Heights were



important barracks and administration centres for the military, as well as an active part of coastal fortifications. Barracks complexes were constructed at Middle Head and Georges Heights at this time. Additional rapid-fire guns were erected at Obelisk Point and Georges Head to provide covering fire for the Anti-Submarine Boom from Green Point to Georges Head. Similar guns were also erected at Inner Middle Head to cover the northern channel defined by the Sow and Pigs Reef. In 1942 the Navy's refuelling storage tanks at Chowder bay, erected in the 1930s, were, with a similar facility on Garden Island, camouflaged by the erection of pitched roofs above the tanks.

The only significant defence action in the harbour was the Japanese midget submarine raid in 1943. Radio monitoring equipment at the Middle Head Barracks intercepted the transmissions of the submarines alerting defence forces to the attack. Defence installations on Middle and Georges Heads failed to identify the attackers, although one of the submarines was caught in the anti-submarine net. HMAS Penguin, commissioned in 1942, has continued to operate on the northern edge of the headland since 1945. In 1945 Italian prisoners of war were housed in the barracks above Obelisk Bay.

1945- Present

From 1946, with the end of the war, the almost obsolete military fortifications and barracks were rationalised. One group of barracks was handed over to the Department of Foreign Affairs to house the newly formed School of Pacific Administration, intended to train officers to work as administrators in the Pacific and Asian Islands. This school (AUSAID) played an important role in International Affairs over the next 40 years. In 1948 the Military Board decided to maintain a regular coastal artillery unit when Obelisk Section were returned to full serviceability. In 1948 the Police requested use of the area for its wireless receiving station.

The School of Military Intelligence took over part of Middle Head Barracks, constructing a barracks and teaching complex and using the fortifications for their training activities during the Vietnam War of the 1960s. However, from 1962 the role of the coastal artillery defences was considered to be outmoded.

In 1965 the army constructed houses for personnel along Middle Head Road at Georges Heights, adding to the prefabricated Swedish Åmåls Sågverks Aktiebolag type houses erected in the 1950s, for the Navy, near HMAS Penguin. Between the 1960s and 1980s, new single storey houses were also erected for Defence personnel on Commonwealth Avenue. The HMAS Penguin Naval Base at Balmoral developed rapidly with training schools established from 1951 to 1964 when it was the main submarine base in Sydney harbour. In support of these developments, new refuelling facilities were erected at the Navy Refuelling Depot, including steel oil tanks and a new caretakers cottage. The Diving and Hydrographic Survey teams have had a long and close relationship with the base and continue to utilise the 'septic tank' pools. The increasing role of recreation in the defence forces was expressed in the construction of the Georges Heights and Naval ovals.

In 1979 parts of the headland were included in the newly formed Sydney Harbour National Park. The transfer excluded the Naval Base, HMAS Penguin, the 10th Terminal Squadron buildings, the School of Pacific Administration (AusAid Training Centre), the Army Maritime School at Chowder Bay and the majority of the Army headquarters training command and accommodation facilities at Georges Heights. By



the 1980s military units had been dismantled or converted to other uses, with the relocation of all Defence operations imminent.

PHYSICAL DESCRIPTION

The headland areas comprise a relict cultural landscape articulated by one of the most diverse collections of coastal defence heritage in Australia, set amidst remnant native vegetation, which extends in places from the high water level into developed areas. Natural and Indigenous and historic cultural values are described separately.

Natural:

Middle and Georges Heads are contiguous sandstone headlands on the western side of the main channel of Sydney Harbour. The headlands are comprised primarily of Hawkesbury Sandstone and the soils overlying this parent material are shallow, easily eroded, infertile quartz sands.

The remaining vegetation is dominated by a mature bangalay (*Eucalyptus botryoides*) and red bloodwood (*E. gummifera*) woodland with a dense shrub understorey. Because of the absence of fire in recent decades, sweet pittosporum (*Pittosporum undulatum*) now dominates the vegetation at Middle Head. The area has a reasonably comprehensive fauna list, with 129 species of birds, 1 species of frog, 11 species of reptiles and 8 species of mammals. Birds recorded at Middle Head include the whistling kite (*Haliastur sphenurus*), rufous fantail (*Rhipidura rufifrons*) and the brown gerygone (*Gerygone mouki*). Short-beaked echidnas (*Tachyglossus aculeatus*) have also been recorded at Middle Head.

Indigenous:

No evidence of King Bungaree's farm appears to remain above surface, although it is possible that there are archaeological remains. Indigenous rock carvings and engravings recorded in the nineteenth century have not been identified.

Historic:

Historic sites and precincts within the Defence Site are connected by Middle Head Road, which terminates at Middle Head in Governor's and Old Fort roads and at Chowder Bay via Chowder Bay Road. The Defence Site comprises an evolving cultural landscape, which retains pockets of native vegetation with introduced species identifying developed areas centred on the military road system. Military roads formed a strategic framework for gun emplacements, batteries and the nineteenth century military buildings as part of the evolving cultural landscape. The Military Roads Framework (Register No.103266) is an historically important link between the National Park areas (formerly Defence land) managed by the NSW NPWS.

Individually significant sites and structures within the Defence Site are discussed at items 1-10. Terminology reflects Defence usage and the 1998 Heritage Assessment by Godden Mackay Logan for Defence.

1. Headquarters 8th Brigade Precinct (Register No 103292) is adjacent to Rawson Park at the western end of the defence area on Cross Street, an expression of the original line of the Military Road. The site includes the regionally significant 1913 former Mosman Drill Hall and several locally significant weatherboard structures. The Drill Hall, in its location, illustrates the political and social role of drill halls in the community in the years



preceding the First World War.

2. Gun Batteries and former Officers Mess

The ridge at Georges Heights, commanding the harbour approaches, was chosen in 1870 as the location for major defensive works comprising gun batteries A83, A84, B42 and C9a and the associated Artillery Barracks completed in 1873.

- Battery A83 (Register No. 103295) is largely an underground structure with above ground features limited to circular in-ground concrete roofs to the gun pits, two entrances to the complex, and a brick walled observation post. The complex retains its underground passages, gunpowder magazine and gun pits relatively intact complete with many internal fittings which illustrate the working of the battery; in this respect it is the only battery in the area with timber fittings in place.
- Battery A84 (Battery for Five Guns Register No. 2870) was built as a five-gun battery with a sixth emplacement added on completion in 1873. The complex is connected with the 1873 Artillery Barracks complex via a sloping passageway cut in the bedrock.
- Battery C9a (Register No. 103295) appears to have been excavated 1871-1888. Only the pecked sandstone glacia of one gun pit is visible at ground level.
- Battery B42 (Register No. 103294) displays two periods of construction. The earliest construction 1877-1903, located below ground level, includes the Main gallery with its dead end branches and storage alcoves, the original Cartridge Stores, the Magazine access passage and the Powder Magazine.
- The WRAAC Officers Mess (Register No. 2871), completed in 1873 as an Artillery Barracks, is an ashlar sandstone Victorian Georgian style building roofed with corrugated galvanised iron set in an excavated terrace with steep rock faces to the rear and sides. The single storey, hipped roof section, at the front, was extended c.1891 by Lt Colonel de Wolski by the addition of a two storey gabled section at the rear.

3. Headquarters Training Command (Register No. 103338)

Occupies buildings associated with the development of Georges Heights as the command centre of artillery defences during the nineteenth century and the military hospital of the First World War period.

Nineteenth century buildings associated with the four batteries include the WRAAC Officers Mess (with battery A84), Gunshot Alley, at the junction of Suakin Drive and Commonwealth Avenue, weatherboard cottages and the remains of an Artillery Command Post, Building A76, of the 1890s. Gunshot Alley built 1898-1900 as accommodation for married soldiers. The terraced form is typical of army housing of the 1890s ;exterior and cross walls of brick with internal walls in timber; gabled pitched roofs with the end houses returned as hipped bays to enclose the verandah on the north side. Victorian Regency weatherboard cottage (Buildings A6, A7 &A8) built as an Officers residence c.1890s and a single storey weatherboard cottage of c.1900 erected opposite Gunshot Alley.

Twentieth century structures include single storey buildings and structures dating from WW1, WW2 and the post war era. The irregularly shaped asphalt parade ground utilises part of battery A83 as the site for the ceremonial Flagpole. Notable buildings include:



- Hospital buildings 1914-1918, which together represent a single storey purpose-built weatherboard and corrugated galvanised iron military hospital, include Buildings 24, 21, 23, 15, 13, 29, 26, 27, 28, 3, 4 and 5.
- Barracks style accommodation c.1918 includes a single storey brick barracks and the associated brick kitchen in the Federation style. (Buildings 54, 55).
- Weatherboard buildings associated with the Inter War, Second World War and Post War periods include the Duty Room (A1). Buildings 38, 34, 32, 30, 9, 12 and 11.

4. 30 Terminal Squadron (Register No. 103339)

Includes the following significant structures. a c.1890 corrugated iron, paired gable roofed shed (Building B1) used to house artillery; a corrugated asbestos cement HQ building of c.1918 (Building B4); a range of weatherboard structures including the All Ranks Club (Building B3 c.1940), Orderly Room (Building B13) and a small weatherboard Gardeners shed/cottage associated with the operation of battery B42. Stores Buildings B16 and B17 erected c.1918 appear to have been associated with the military hospital of 1914-18. Supporting buildings include a range of buildings in brick, corrugated galvanised iron and weatherboard.

5. Chowder Bay Submarine Miners Barracks (Register No. 2876)

Was constructed from 1890-93 to provide accommodation, storage and operational facilities for the NSW Submarine Corps. The complex developed as a series of terraces connecting Chowder Bay Road with the wharf on the western, sheltered side of the headland.

6. Navy Refuelling Depot and Caretakers Cottage (Register No. 103337)

Comprises 2 (in use) fuel tanks and 3 1930s roofed storage tanks (Tanks 3, 4 & 5) with associated pumps, fire fighting equipment and a 1930s brick Naval Caretakers Cottage in the prevailing Functionalist style, linked to an off-shore refuelling facility. The roofed storage tanks are the first large-scale example of camouflage in Australia.

7. Commonwealth Avenue Defence Housing (Register No. 103341)

A group of Defence housing erected from the 1930s-1980s, which illustrates the characteristics of housing types provided for Defence personnel.

- Number 5 Commonwealth Avenue erected as Officers Quarters c.1935 in brick and tile in the prevailing Art Deco style.
- Former Navy Cottages of the Swedish Åmåls Sågverks Aktiebolag prefabricated type imported in the 1950s to meet the Commonwealth's demand for housing.

8. Middle Head Road Defence Housing

On Middle Head Road are five remaining representative examples of an original eight prefabricated Swedish Åmåls Sågverks Aktiebolag (ASA) houses imported in the early 1950s and used by Defence for married quarters accommodation. The ASA cottages are now rare examples of this form of housing imported to Australia after World War II at a time when building materials were in short supply. The associated group of masonry housing, MQ1101-1107, on the opposite side of Middle Head Road, was developed in the 1960s



9. 10 Terminal Regiment Headquarters and AUSAID Training Centre Precinct (Register No. 103342)

The AUSAID Training Centre, formerly Middle Head Barracks, comprises some 15 vernacular timber and corrugated galvanised iron huts (Buildings in the range 1-21) characteristic of Defence barracks style accommodation in the 1939-45 period, known generally as type P-1 huts. As a group the huts comprise the largest surviving complex of standard weatherboard gabled P-1 type huts on the headland areas and are important for their use as an Italian POW camp.

The 10 Terminal Regiment complex

Comprises a range of buildings including three weatherboard huts (Buildings 1, 14 and 18), formerly part of the adjacent former Middle Head Barracks. The School of Military Intelligence, commenced in 1959, was housed primarily in red-brick buildings with green Marseilles tiled hipped roofs reflecting in general the influence of the Inter War Stripped Classical style employed at HMAS Penguin. Buildings of particular importance include Headquarters Building (1), Workshop and Rear Annexe (6 & 7), Officers Mess (2 and 3), and the later Other Ranks Accommodation (Barracks 1, 2, 3) comprising three 3-storey weatherboard dormitory buildings.

10. HMAS Penguin Naval Base (Register No. 103327)

Comprises significant groups of weatherboard and brick buildings in the bush setting of the Middle Harbour foreshores. The main complex comprises 12 buildings, including hospital and barracks style accommodation of 1-3 storeys with a nautical character constructed in brick with green Marseilles tiled hipped roofs. This group provides the dominant character of the site and includes: the Gatehouse (1); Conference Hall (2); Admin Support Centre (3); Naval Stores (4); Naval Hospital (8); Naval Police School (26); Accommodation (28); Senior Sailors Accommodation and Mess (17); Ward Room/Officers Mess (20); Administration (19); Information Technology (18); and Junior Sailors Quarters (16). Other structures include the Naval Flagstaff and the Sewer Vent Stack and Swimming Pool, formerly part of the Mosman Sewage Treatment Works.

The waterfront areas include a group of weatherboard single storey gabled buildings with green Marseilles tiled roofs, amongst the earliest erected on the site, associated with the jetty complex. Of particular significance are the Diving School (46) and Workshops, Stores and Administration (47, 48).

11. Golf Clubhouse

The former Mosman golf clubhouse (Register No. 103293), constructed in sandstone in the California Bungalow style in 1925, has been adapted for Defence use but retains its essential form intact as the focus of the former 9-hole golf course. The grassed area in front of the clubhouse provides an appropriate setting.

History: Not Available

Condition and Integrity:

Historic:



The range of historic places and their integrity and condition was documented by Godden Mackay Logan (1998) for Defence as part of the Georges Heights and Middle Head Defence Site Heritage Assessment.

Specific details of the condition and integrity of each structure is beyond the scope of this assessment.

Location:

About 60ha, at Georges Heights and Clifton Gardens, comprising generally the Department of Defence lands at Georges Heights/Middle Head, and in particular:

(1) the whole of the property Headquarters 8th Brigade, Cross Street, Clifton Gardens, and

(2) the whole of the Department of Defence land, Middle Head Road, Georges Heights, other than 1st Commando Company HQ and adjacent defence housing areas on Markham Close and at the end of Dominion Crescent, being the area to the north and west of a line consisting of the rear (south) boundaries of defence housing blocks to the north of Georges Heights Oval and extending westerly from Middle Head Road to the southern most point of Lot 19 DP831153, then south easterly via the alignment of the south west boundary of Lot 19 to its intersection with AMG easting 338280mE (approximate AMG point 38305452), then directly south westerly to the intersection of the western boundary of Lot 202 with AMG easting 338200mE (approximate AMG point 38255445).

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Commonwealth Avenue Defence Housing, Commonwealth Av, Georges Heights, NSW, Australia

List: Commonwealth Heritage List
Class: Historic
Legal Status: [Listed place](#) (22/06/2004)
Place ID: 105586
Place File No: 1/13/026/0036

Summary Statement of Significance:

The Commonwealth Avenue Defence Housing precinct is one of a number of places that are part of the larger Middle Head-Georges Heights defence site (see Register No.102619). The site is historically significant as the location of major defence works for Sydney Harbour and Port Jackson during the nineteenth and twentieth centuries. The precinct comprises a mix of residences, of which two are significant; a former Navy Cottage and the Commanding Officer's residence.

Building MQ6, a Commanding Officer's residence dating from the 1930s, has historical significance for its associations with the Middle Head-Georges Heights military area since the inter-war period, and it helps to maintain the use of this part of the general area for officer accommodation which began in the 1870s. The former Navy Cottage erected in the mid 1950s to accommodate married staff associated with the Navy Refuelling Depot illustrates the ongoing development of Defence housing and the provision of permanent residential facilities in the immediate post war years based on the Riley-Newsum prefabricated system developed in Britain. (Criterion A.4) (Australian Historic Themes: 7.7 Defending Australia, 8.12 Living in and around Australian homes)

The Commanding Officers residence reflects the type of housing provided to army officers during the Inter War years of the 1930s. The former Navy Cottage illustrates the characteristics of Riley-Newsum type prefabricated dwellings developed in Britain. These characteristics include simple rectangular forms, gabled roofs, vertical timber cladding with narrow sections, simple fenestration, gabled roofs with gable ventilators and simple external brick chimneys. (Criterion D.2)

The former Navy Cottage is important in demonstrating the design of Riley-Newsum prefabricated dwellings of the 1950s, which were imported by the Commonwealth to overcome shortages in labour and materials in the post war years. (Criterion B.2)

The other houses in the precinct, while having some historical associations and reflecting military housing forms of a later period, are of lower significance and are not considered to reach the threshold for listing on the RNE.

Official Values:

Criteria	Values
A Processes	The Commonwealth Avenue Defence Housing precinct is one of a number of places that are part of the larger Middle Head-Georges Heights defence site. The site is historically significant as the location of major defence works for Sydney Harbour and Port



Jackson during the nineteenth and twentieth centuries. The precinct comprises a mix of residences, of which two are significant; a former Navy Cottage and the Commanding Officer's residence.

Building MQ6, a Commanding Officer's residence dating from the 1930s, has historical significance for its associations with the Middle Head-Georges Heights military area since the inter-war period, and it helps to maintain the use of this part of the general area for officer accommodation which began in the 1870s. The former Navy Cottage erected in the mid 1950s to accommodate married staff associated with the Navy Refuelling Depot illustrates the ongoing development of Defence housing and the provision of permanent residential facilities in the immediate post war years based on the Riley-Newsum prefabricated system developed in Britain.

The other houses in the precinct, while having some historical associations and reflecting military housing forms of a later period, are of lower significance and are not considered to reach the threshold for listing on the CHL.

Attributes

The 1930s Commanding Officer's Building (MQ6) plus the 1950s Navy Cottage associated with the Refuelling Depot.

B Rarity

The former Navy Cottage is important in demonstrating the design of Riley-Newsum prefabricated dwellings of the 1950s, which were imported by the Commonwealth to overcome shortages in labour and materials in the post war years.

Attributes

1950s Navy Cottage.

D Characteristic values

The Commanding Officers residence reflects the type of housing provided to army officers during the Inter War years of the 1930s. The former Navy Cottage illustrates the characteristics of Riley-Newsum type prefabricated dwellings developed in Britain. These characteristics include simple rectangular forms, gabled roofs, vertical timber cladding with narrow sections, simple fenestration, gabled roofs with gable ventilators and simple external brick chimneys.

Attributes

The form, fabric and detail of both buildings.



Description:

Background:

The Commonwealth Avenue Defence Housing precinct is one of a number of places that are part of the larger Middle Head-Georges Heights defence site (see Register No.102619). The site is historically significant as the location of major defence works for Sydney Harbour and Port Jackson during the nineteenth and twentieth centuries.

History:

Substantial military works began on Middle Head and Georges Head in the 1870s when batteries of guns with associated buildings were erected. These were part of the outer line of defence for Sydney Harbour. Improved technology and weapons saw further developments. The batteries were mobilised during the First World War, and there was much activity during the Second World War particularly following Japan's entry into the war. The post-war years saw older style port defence systems become obsolete, and the batteries were dismantled in the 1950s. Middle Head-Georges Heights now became a training area with barracks facilities.

In the 1970s large areas of bushland were dedicated as part of the Sydney Harbour National Park. With further rationalisation of defence facilities, by the late 1990s very little of the general site remained occupied and in 2001 the area was scheduled for management by the Sydney Harbour Federation Trust.

Specifically, the history of the housing precinct is divided across two main periods. The oldest of the houses in the precinct, Building MQ6, was erected during the inter-war period (c.1935) and replaced a weatherboard officers quarters (with outbuildings) which had been constructed during the early phase of the batteries' history in the 1870s. Building MQ6 was built as accommodation for the Commanding Officer of the Georges Heights Barracks. During the immediate post war years of the 1950s the Navy Refuelling Depot was expanded with the erection of new storage tanks. To ensure adequate caretaking and ease of operations a new Navy Cottage was erected in the 1950s at the eastern end of the precinct.

The rest of the precinct, seven houses along Commonwealth Avenue and Imperial Place, were built during the 1960s-80s period. Those on the north side of the road are from the 1960s and were erected following the decommissioning of the nearby 1930s RAN fuel tanks, and those on the south are from the 1970s and 1980s.

Physical Description:

The Commanding Officer's residence (MQ6) is single storey, built of brick with a hipped roof clad with tiles, and there are double-hung sash windows. It has elements of Inter-war Art Deco style. The house reflects standards of officer accommodation during the inter-war period, and maintains the use of this part of the general site for officer accommodation which began in the 1870s. The former Navy Cottage is a relatively intact example of a Riley-Newsum prefabricated cottage similar to types imported from Britain in the early 1950s. Riley-Newsum cottages were erected in Canberra and at Commonwealth military bases during the mid 1950s to overcome the post war shortages in housing caused by limited labour and materials. A group of eight similar Navy Cottages erected adjacent to HMAS Penguin on Middle Head Road at this time have



been reclad and are of lesser significance.

The other seven houses are single storey brick bungalows on gently sloping land, with hipped roofs clad with tiles. They are individually designed and have differing orientations and setbacks but are very modest in design terms and are low in scale. While they have some historical associations and illustrate a form of house built by Defence in the 1960s-80s period, their significance is considered low.

History: Not Available

Condition and Integrity:

The houses in the precinct are generally in good condition. (1998)

Location:

About 1ha, at Georges Heights, comprising the seven Defence Housing properties either side of Imperial Place (three on the northern side and four on the southern side of Imperial Place), and the Defence Housing property on the eastern side of Commonwealth Avenue to the south of its intersection with Imperial Place.

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Navy Refuelling Depot and Caretakers House, Chowder Bay Rd, Georges Heights, NSW, Australia

List: Commonwealth Heritage List

Class: Historic

Legal Status: [Listed place](#) (22/06/2004)

Place ID: 105583

Place File No: 1/13/026/0033

Summary Statement of Significance:

The Navy Refuelling Depot is one of a number of places that are part of the larger Middle Head-Georges Heights defence site (see Register No.102619). The site is historically significant as the location of major defence works for Sydney Harbour and Port Jackson during the nineteenth and twentieth centuries.

Dating from the 1930s, the Navy Refuelling Depot is of considerable significance in Australian military history. The three 1930s fuel tanks were given false roofs during the Second World War (to make them resemble domestic buildings) in what was part of the first large-scale use of military camouflage in Australia. The site as a whole also has a lengthy and direct association with naval operations in Sydney, including during wartime. The adjacent caretaker's house, dating also from the 1930s, shares this historical association. (Criteria B.2 and A.4) (Australian Historic Themes: 7.7 Defending Australia, and 3.8.8 Getting fuel to engines)

The caretaker's house has some additional significance in being a modest example of Interwar Functionalist style, as is seen in the building's use of glass bricks, the curved porch and the protruding stepped bay. (Criterion D.2)

The depot has aesthetic value as a strong visual element on this part of the Sydney Harbour foreshore. (Criterion E.1)

Official Values:

Criteria

A Processes

Values

The Navy Refuelling Depot is one of a number of places that are part of the larger Middle Head-Georges Heights defence site. The site is historically significant as the location of major defence works for Sydney Harbour and Port Jackson during the nineteenth and twentieth centuries.

Dating from the 1930s, the Navy Refuelling Depot is of considerable significance in Australian military history. The three 1930s fuel tanks were given false roofs during the Second World War (to make them resemble domestic buildings) in what was part of the first large-scale use of military camouflage in Australia. The site as a whole also has a lengthy and direct association with naval operations in Sydney, including during wartime. The adjacent caretaker's house, dating also from the 1930s, shares this



Australian Government

Sydney Harbour Federation Trust

historical association.

Attributes

The site as a whole including three 1930s concrete circular fuel tanks and the caretaker's cottage.

B Rarity

The three 1930s fuel tanks were given false roofs during the Second World War (to make them resemble domestic buildings) in what was part of the first large-scale use of military camouflage in Australia.

Attributes

The false roofs over the fuel tanks.

D Characteristic values

The caretaker's house has some additional significance in being a modest example of Interwar Functionalism style, as is seen in the building's use of glass bricks, the curved porch and the protruding stepped bay.

Attributes

The caretaker's house, and in particular the glass bricks, curved porch and protruding stepped bay.

E Aesthetic characteristics

The depot has aesthetic value as a strong visual element on this part of the Sydney Harbour foreshore.

Attributes

The depot within its harbour foreshore setting.

Description:

Background

The Navy Refuelling Depot is one of a number of places that are part of the larger Middle Head-Georges Heights defence site (see Register No.102619). The site is historically significant as the location of major defence works for Sydney Harbour and Port Jackson during the nineteenth and twentieth centuries.

History

The Navy Refuelling Depot near Chowder Bay, below Georges Heights, is part of an area with a long military history. Substantial military works began nearby on Middle Head and Georges Heights in the 1870s when batteries of guns with associated buildings were erected. These were part of the outer line of defence for Sydney. Improved technology and weapons saw further developments, and in the 1880s the Submarine Mining Corps moved from Berry's Bay to Chowder Bay. During the First World War the gun batteries on the heights were mobilised but saw no action.

In the 1930s the Royal Australian Navy established itself in what was a predominantly army area by building three concrete fuel tanks, a caretaker's house and a refuelling facility on the terraces above Chowder Bay. During the Second World War, when the war came close to Sydney in the form of the Japanese midget submarine attack, the



three fuel tanks had false roofs built on them. The roofs were gabled and were meant to emulate the domestic scale of the nearby caretaker's house. This camouflage project, and the concurrent similar work on the large tank at Garden Island, was the first, large-scale, military camouflage operation undertaken in Australia. In the 1950s two new steel fuel tanks were built, and the three concrete ones were decommissioned. By this time the navy's presence in the area had been expanded, with the naval station HMAS Penguin being commissioned nearby in the 1940s.

Since the end of the war the Middle Head-Georges Heights military area has seen ongoing change, as it became more of a training area than an active harbour defence installation. By the end of the 1990s the military had departed from much of the area, however the Navy's refuelling depot and caretaker's cottage continue to fulfil their original function.

Physical Description:

The principal elements of the site are the three fuel tanks dating from the 1930s. They are circular and built of concrete, and the freestanding roofs are supported on bush timber poles, with the roofs being clad with corrugated asbestos cement which is also used to clad the eaves and gable ends. The tanks have a strong visual presence, a combination of their location and the camouflaged provided by the freestanding roofs.

Also of significance is the caretaker's cottage. Located low on the hillside, it is single storey, built of brick (some of which is rendered) and has a double gabled roof. Windows are double-hung sashes. The house reflects, in a modest way, elements of Interwar Functionalist style, as seen in the glass bricks, curved porch and protruding stepped bay. Other elements (of low significance) are the 1950s steel fuel tanks, a shed housing the firefighting foam system, a pump-house and the refuelling wharf.

History: Not Available

Condition and Integrity:

Integrity: High (2002)

Condition: Some of the disused elements of the precinct are in fair to poor condition. (1998)

Location:

About 5ha, at the end of Chowder Bay Road, Georges Heights, comprising the whole of the Naval Refuelling Depot containing three concrete former fuel tanks and two steel fuel tanks, and adjacent Caretakers House.

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