

ROYAL NATIONAL PARK

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audley

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prepared for:
NATIONAL PARKS AND WILDLIFE SERVICE
Royal National Park Visitor Centre
Farnell Avenue
Royal National Park via Loftus
LOFTUS NSW 2232

audley

AUDLEY MASTERPLAN

INCORPORATING THE CONSERVATION
MANAGEMENT PLAN AND VISITOR MANAGEMENT
STRATEGY FOR AUDLEY, ROYAL NATIONAL PARK.

Dated: May, 2006



NSW National Parks
and Wildlife Service

Department of Environment and Conservation NSW



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National Parks and Wildlife Service
P O Box 1967
Hurstville NSW 2220
Phone: 1300 361 967 or 02 9253 4600

CONSULTANT DETAILS

prepared by:
CONTEXT Landscape Design
ABN: 14074411288
52-58 William Street
EAST SYDNEY NSW 2011
Ref No. 03.532

in association with:
CAB CONSULTING PTY LTD
ABN: 48076670990
P O Box 277
CHURCH POINT NSW 2105

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EXECUTIVE SUMMARY

This Plan is a vision for Audley based on its heritage significance as assessed from existing documentary and physical evidence. It provides a framework for the protection and enhancement of Audley's natural heritage and a strategy for proposals for future works.

Audley is a complex of a central freshwater body upstream and a saltwater body downstream around which recreational picnic ground and facilities have evolved within the floodzone of the two drainage catchments. Upslope areas have evolved as places of permanent settlement for accommodation and administration purposes beyond the flooding levels but they also borrow view over the water bodies and the spatial confluence of the two valleys.

The visual and spatial structure of Audley is an essential ingredient of the place and has been used by both indigenous and non indigenous occupiers to interpret its given and made landscapes.

The area referred to variously as Audley, Audley Village, and Audley Precinct or Audley Pleasure Grounds consists of ten non-contiguous grassed flats dispersed along the Hacking River and Kangaroo Creek north and south of the Audley Weir. It also includes the Audley Weir Pool, the adjacent slopes, and the upper reaches of Port Hacking. The visual catchment of surrounding slopes, ridges and plateau, and the key approach routes form the landscape setting for Audley. The landscape master plan component of this report focuses on this core area, but for the purposes of understanding the heritage value of Audley, the study area extends beyond the visual catchment to consider existing and former road alignments, existing and former walking tracks, existing and former railway alignments and the Port Hacking estuary

The Audley precinct is one of the significant cultural landscapes within Royal National Park. Commonly known as a pleasure ground or picnic ground, Audley is the oldest of the cultural landscapes within the park developed for recreational purposes. The cultural significance of Audley at a state level was given legislative status in 1999, when it was listed as the Audley historic recreational complex on the NSW State Heritage Register. The basis of significance rests in Audley's role as a focal point for visitors since the establishment of the park in 1879, and as a physical record of all phases of the park's development. Audley Village contains physical evidence of the major phases of recreational and conservation management practices which have influenced the development of the Royal National Park. The structures and plantings reflect and symbolise the historic development of the Park, such that associations with historical events and people are commonly focused on this area. It also contains remains and archaeological sites of associational significance to the Park. It is part of the territory of the Dharawal people

and contributes to their cultural continuity and renewal. Audley also plays an important role in the adaptation of immigrants to the Australian culture and to concepts of the natural environment.

No comprehensive plan for Audley has been prepared since 1987. This report builds upon the 1987 report and is driven by incremental changes to the buildings and landscape at Audley that have occurred over the last 15 years, the current condition of buildings and landscapes, and changes in heritage management guidelines.

The resultant report is a synthesis of a conservation plan review and master plan with four main components: a review of Audley's heritage and associated values (Part II: Understanding Audley); an updated assessment of Audley's significance, including a statement of significance (Part III); a conservation policy (Part IV) a landscape master plan (Part V).

This report reviews and updates the 1987 Conservation Plan to reflect current standards of practice in the management of heritage resources, with a particular focus on obligations toward cultural and ecological sustainability. It takes a holistic approach by integrating cultural and natural values in its analysis and recommendations for Audley. Finally the master plan focuses on enhancing the visitor experience at Audley through improved access circulation, facilities and interpretation without compromising the existing heritage values at Audley

The masterplan actions are the recommendations which identify the need to prioritise the conservation of the landscape heritage values over recreation demands. The recommendations are subject to further conceptual and detailed design work and particularly the need for a comprehensive detailed survey plan of the entire study area. The masterplan identifies the scope of work and the qualities to be addressed in all future work to the place. The masterplan actions are identified on the drawings and within the text of this report and are summarized as follows:

- Interpretation of the existing significant fabric and its appropriate conservation
- Interpretation of sites of former activities
- New works to enhance the vitality of the place

Of cultural importance is the issue of access and the need to prioritise alternative public transportation by ferry, train, tram, and bus to reduce the physical impact of motor vehicles on Audley. Similarly the need to slow down the rough vehicular traffic is a critical issue to the appreciation and safe use of Audley.

PART I INTRODUCTION

1.1 Background



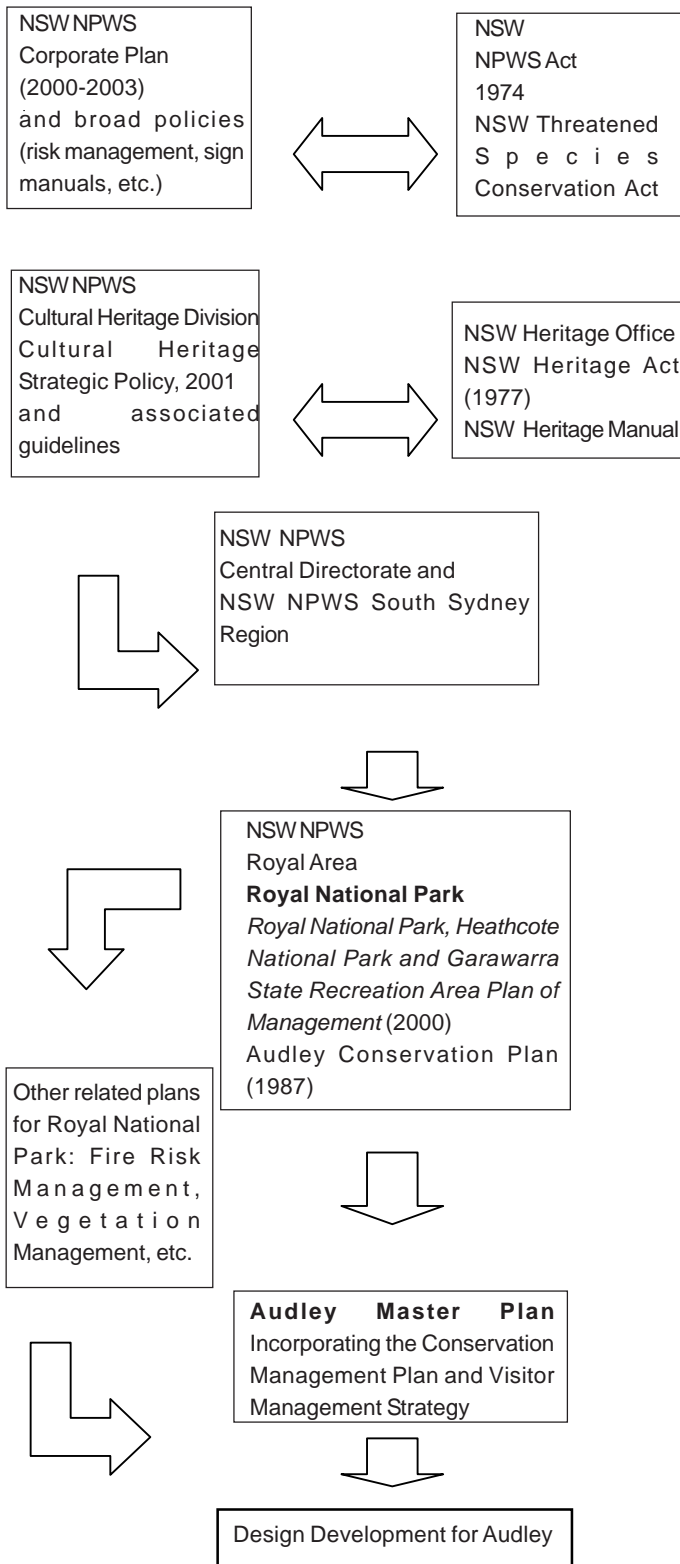
Together with Lady Carrington Drive and the coastal cabin communities, the Audley precinct is one of the significant cultural landscapes within Royal National Park. Commonly known as a pleasure ground or picnic ground, Audley is the oldest of the cultural landscapes within the park developed for recreational purposes. The cultural significance of Audley at a state level was given legislative status in 1999, when it was listed as the Audley historic recreational complex on the NSW State Heritage Register. The basis of significance rests in Audley's role as a focal point for visitors since the establishment of the park in 1879, and as a physical record of all phases of the park's development.

The NSW National Parks and Wildlife Service (NPWS) has managed Royal National Park since 1967. The NPWS has a legal obligation to conserve places of natural and cultural heritage value, and a charter to foster the appreciation of these values. In reference to this service-wide obligation, the current Plan of Management for Royal National Park (2000) identified a need to address a gap in its inventory and assessment of the non-Aboriginal heritage of the park. (NSW NPWS, 2000, p. 32) Although a thorough thematic history, inventory and assessment was prepared for Audley in 1987 as part of the Audley Conservation Plan, only a few of the recommendations of this plan were implemented, namely the stabilization of the Dance Hall and the Picnic Pavilion and the selective removal of exotic vegetation. In 2000, conservation plans for the Former Audley Post Office Cottage and the Audley Boatshed were undertaken, but no comprehensive plan for Audley has been prepared since 1987. This report redresses this situation by reviewing and updating the 1987 Conservation Plan to reflect current standards of practice in the management of heritage resources, with a particular focus on obligations toward cultural and ecological sustainability. Finally, this report takes a holistic approach by integrating cultural and natural values in its analysis and recommendations for Audley.

from top:

*Plate 1:
Historic Photos: Allambie House viewed from
Pavilion Flat c. 1938*

*Plate 2
Historic Photo: Audley Weir and former
Boatshed c. 1890*



Level 1:
The 1974 Act established the statewide organization, and its operations and obligations.

Level 2:
The Cultural Heritage Division guides the NPWS in identifying, understanding and conserving cultural landscapes.

Level 3:
Regional level NPWS management oversees assets and monitors compliance with statewide policies.

Level 4:
A plan of management is a statutory document which establishes management strategies and objectives for community land. The 2000 RNP plan identified the need for conservation management plans for a number of sites within the park.

Level 5:
The Audley Master Plan establishes a design framework for future design development at Audley. It ensures that balanced consideration is applied to heritage values and recreational needs.

Figure 1
Diagram showing the role of the Conservation Management Plan and Landscape Masterplan for Audley, Royal National Park

1.2 The Role of this Plan

The NSW NPWS is a large organization with several layers of management and corresponding policies that govern the planning and management of its assets. The NPWS has service-wide policies to address fire risk, flora and fauna management, signage policies, education and interpretative objectives. These are filtered through the Central Directorate, Regional and Area Offices, and applied to individual parks in Plans of Management.



The Audley Master Plan is one of several 'sub-plans of management' undertaken to meet the requirements of the current Royal National Park, Heathcote National Park and Garawarra State Recreation Area Plan of Management (2000). The Plan of Management is a statutory document and the primary planning tool for the park, and this current plan mandated the preparation of conservation plans for places of cultural significance, and the preparation of master plans for places which require active management.



The Audley Master Plan is a non-statutory document intended to guide the conservation, upgrade and future management of the Audley Precinct. It applies the policies and guidelines contained in the Plan of Management and other relevant sub-management plans, such as the Fire Management Plan (draft, 2002) and the Deer Management Plan (2002). It also incorporates responses to relevant legislation and visitor surveys. It is structured to address Audley's recognized cultural significance and its high usage. In order to be implemented, following a public exhibition, this plan must be endorsed by NPWS and by the NSW Heritage Council or its delegate. Subsequent to its endorsement, additional research and detail design development will be undertaken to support implementation.

from top:

*Plate 3:
Allambie Flat, a popular picnicking spot, 2003*

*Plate 4:
Sandstone outcrops and indigenous vegetation
edges the Audley Weir Pool, 2003*

1.3 The Study Area

Audley is located in a steep-sided valley in the northern section of Royal National Park at the confluence of Kangaroo Creek and the Hacking River. Historically the land where Audley is located was occupied by the Dharawal people who lived in the area for many thousands of years. Later the area now known as Allambie Flat and Allambie Ridge was the site of Lord Audley's campsite, and was referred to as the Main Camp by the National Park Trustees in the 19th century. The gradual expansion of recreational facilities within the vicinity of Audley Weir Pool has resulted in a larger area, consciously developed as a cultural landscape and generally referred to as Audley.



Today, the area referred to variously as Audley Village, Audley Precinct or Audley Pleasure Grounds consists of ten non-contiguous grassed flats dispersed along the Hacking River and Kangaroo Creek north and south of the Audley Weir. It also includes the Audley Weir Pool, the adjacent slopes, and the upper reaches of Port Hacking. The visual catchment of surrounding slopes, ridges and plateau, and the key approach routes form the landscape setting for Audley (see Figure 4). The landscape master plan component of this report focuses on this core area, but for the purposes of understanding the heritage value of Audley, the study area extends beyond the visual catchment to consider existing and former road alignments, existing and former walking tracks, existing and former railway alignments and the Port Hacking estuary (see figure 4).

from top:

*Plate 6:
View over the Royal National Park and Audley
with the Hacking Estuary taken from Flor-
ence Parade, 2003*

*Plate 7:
Audley Village view from Audley Road, 2003*

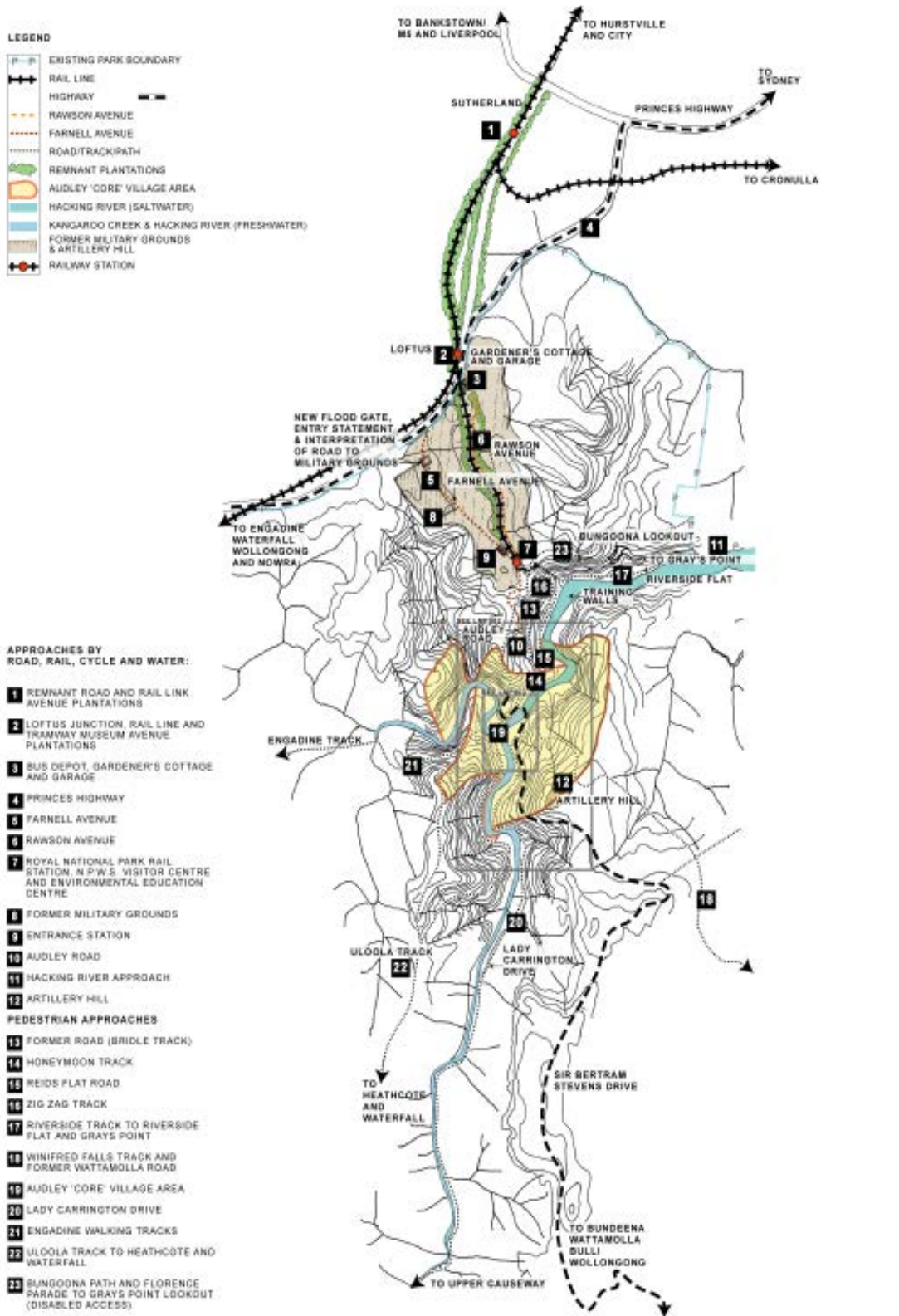


Figure 4: Audley Approaches showing location and context

1.4 Aims, Objectives and Scope

The aim of this report is to guide the future conservation and management of the Audley Precinct.

Objectives required by the brief are as follows:

Provide the foundation for integrated management that enhances and preserves overall integrity;

Raise perceptions of Audley as a special place for visitors and the general community;

- Provide for clear expression of values of the Audley Precinct in the greater context of Royal National Park;
- Provide sound planning, design and management guidelines addressing appropriate conservation, use and management.
- Plan to better meet recreational/user expectations through improved facilities and access in a national park context;
- Reflect community values in the preparation of the plan.

The scope of work for this document, as outlined in the brief, has two distinct parts: the review and update of the 1987 Conservation Plan for Audley and a preliminary design response to visitor management issues. The resultant report has four main components: a review of Audley's heritage and associated values (Part II: Understanding Audley);

- an updated assessment of Audley's significance, including a statement of significance (Part III);
- a conservation policy (Part IV);
- a landscape master plan (Part V).

Parts II, III, and IV comprise the Conservation Management Plan of the Audley Precinct. They consider in particular two changes in heritage practice since 1987: the introduction of more rigorous heritage assessment criteria and the adoption of a more holistic approach to heritage practice. As a result, where the 1987 Plan focused on non-indigenous cultural heritage of the 'built environment' this Plan will integrate with the Master Plan to consider natural, indigenous and built heritage, alongside modern, visitor facilities and management action. The fourth and fifth parts, the Conservation Policy and Landscape Master Plan set out principles and actions aimed at sustaining, and where possible, increasing, the high visitation rates Audley currently receives without compromising its heritage values.



from top:

*Plate 8:
Boating on Audley Weir Pool; 2003*

There are three areas of work involved in this scope of work:

- The review and re-assessment of the heritage of Audley, culminating in an updated Statement of Significance for the Audley precinct;
- Recommendations for conservation, new works and associated design guidelines;
- An assessment of the visitation patterns and associated recreational and user facilities, and design recommendations to meet the needs of current and future visitors;
- Consideration of the social values and perceptions of the precinct by the general community to provide options for appropriate and practical management of the site.

1.5 Methodology

The methodology that was adopted to produce this report was as follows:

- Analysis and research of existing documentation to date, based on existing documents held by the National Parks and Wildlife Service (NPWS) and supplemented by the consultant's own supply of historic photographs, maps, drawings and published works as well as material gained from the Open Day Workshop;
- Review and update of the existing Audley Conservation Plan (1987) to assess Audley's natural and cultural heritage significance;
- Preparation of plans of the precinct which include individual buildings and heritage items;
- Preparation of a chronology of events that influenced the development of Audley as a place;
- Analysis of the physical qualities of the place: description of all historic heritage items; including description of their original and later fabric and site modifications; and an analysis of the condition and integrity of the fabric;
- Identification and description of known and potential historic and Aboriginal archaeological sites and features;
- Comparative assessment of Audley with similar places in NSW;
- Development of a Statement of Significance to provide a framework to guide the conservation of all elements within the Audley area as well as any new works;
- Open Day Workshop and Reference Committee feedback;
- Development of Landscape Design Principles;
- Preparation of Draft Landscape Master Plan;
- Identification of potential sites for conservation, interpretation and new works together with a strategy for possible implementation and priority.



*Plate 9:
Community workshop, June 2003*

1.6 Limitations

This report is based on the Audley Conservation Plan prepared in 1987, on-site observations, studies conducted since 1987, and the attached consultants reports. This approach allowed consideration of general studies, most importantly of Aboriginal evidence in the area and multicultural heritage. Additional surveys designed specifically for Audley such as a visitor survey, a flora and fauna survey, additional archaeological investigations, and further consultation with the Dharawal People were not undertaken for this study.

1.7 Acknowledgements

The preparation of this report has involved assistance and consultation with a large number of people. Thanks to the following for insight and guidance:

Client Group (NPWS)

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Oriana Senese – A/Park and Recreation Planner, Central Directorate
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Robin Aitken - Heritage Asset Management Programme / Project Officer, Central Directorate
Geoff Kalwy - Senior Field Officer, Royal Area
Philip Bryant - Senior Field Supervisor, Royal Area
Michael Vader – Regional Works Coordinator, Sydney South Region
Catherine Snelgrove – Historic Heritage Project Officer, Cultural Heritage Division
Brad Welsh - Aboriginal Sites Officer, Cultural Heritage Division
Miriam Stacy – Conservation Architect, Cultural Heritage Division

Community Reference Group

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Pam Melrose - EEC
Carolin Hadlow - EEC
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Dawn Emerson - SSHS
Allen McGrath - SSHS
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Peter Vaughan - NPA
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David Ingray - La Perouse Local Aboriginal Land Council
Rodney Mason - Dharawal Elder
Paul McNeill - Roads and Traffic Authority (RTA)
Tom Praseuth - RTA
Stuart Read - NSW Heritage Office
Miriam Verbeek - NPWS Sydney South Regional Advisory Committee

Ron Hughes - Audley Boatshed Lessee
Geoff Hughes - Audley Boatshed Lessee
Steven Davey - Audley Kiosk Operator
Community Consultation respondents

Consultant Team

Oi Choong – Context Landscape Design
Mike Milligan - Context Landscape Design
Alison Chaplin - Context Landscape Design
Elke Haege - Context Landscape Design
Craig Burton – CAB Consulting
Richard Simon – Stratcorp
Judith Rintoul – Conybeare Morrison & Partners
Bruce Davies – Bruce Davies and Associates
Jason Rudd – Masson Twinney Wilson
Peter Tonkin – 3D Design
Professor Max Irvine
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Carolyn Stone - PPM Consultants

PART II UNDERSTANDING AUDLEY



2.1 Historical Overview

The following information is derived from 1987 Audley Conservation Plan, the minutes/notes of the National Park Trust (1879-1967) and secondary sources.

2.1.1 Aboriginal Occupation

For approximately 8000 years the Dharawal People have been the traditional owners of land from Botany Bay to Jervis Bay, a nation that encompassed the Hacking River and Kangaroo Creek catchments that embody the Audley precinct. At the time of first European contact the then tidal waters were occupied by the Dharawal People from Botany Bay and Illawarra clans. Middens and rock shelter sites have been identified as an expression of their occupation. The Dharawal retain a close association with the land in the area.

2.1.2 Exploration and Surveys 1788-1878

Limited access to the area and the reported unfavourable condition of the environment (to European minds) deterred development of lands until the late nineteenth century. Until surveys of Port Hacking were undertaken by Robert Dixson in 1827 and Lord Audley in 1864, the early uses of this area were hunting, fishing and exploration. Individuals took up land on the fringes of what is now the Royal National Park and particularly along the foreshores of Port Hacking. In 1843 village allotments were subdivided at Bottle Forest (now Heathcote) and a village reserve declared at Wattamolla in 1845. Following the establishment of the main road south of Sydney in 1864, further surveys were undertaken in the 1870s to determine possible railway routes to the Illawarra Region. Land subsequently set aside for a railway reserve and adjoining Crown Land between the Main Road and the coast had the potential use of public recreation (not unlike the 1872 dedication of Hampsted Heath for recreational use for Londoners).



from top:

Plate 10:
*Early clearing of the bush for new roads
c.1890*

Plate 11:
*Rowboats were used to cross between
Audley's Flats on Port Hacking Estuary
c.1890*

Plate 12:
*View to Pavilion Flat from the Boatshed
c.1910*

Plate 13:
*Audley Weir Pool
c.1900*

2.1.3 Park Trust Management of The National Park 1879 - 1890

On the 26th March 1879, the Sydney Morning Herald reported that the government would set aside a large tract of land on the south side of Port Hacking for the purposes of acclimatisation of various species to assist the NSW Zoological Society, formed two days earlier. Formal dedication of the National Park took place on 26 April 1879 with eleven park trustees including the NSW Premier, Sir John Robertson. The early vision for the park included the conservation of resources to be exploited at some future date as well as the concept of improving on the natural condition by creating an imported exotic landscape familiar to that found in northern hemisphere. The introduction of exotic flora and fauna also met the ideas of the Acclimatisation Society.

The Deed of Grant empowered the trustees to set apart and use the lands for the following uses listed in order of priority:

1. Ornamental plantations, lawns and gardens.
2. Zoological gardens.
3. Race-course.
4. Cricket or any other lawful game.
5. Rifle butt or artillery range.
6. Exercise or encampment of Military or Naval Forces.
7. Bathing Places.
8. Any public amusement or purpose which the Governor for the time being may from time to time by notification in the Government Gazette declare to be an amusement or purpose for which the said National Park or any portion or portions thereof may be used, (Trust Notes, 1879).



from top:

Plate 14:
1938 View from Pool Flat Road looking west

Plate 15:
Former tennis court and site of vegetable gardens and orchard c. 1940

Plate 16:
Former bowling green Allambie Flat c. 1940

Plate 17:
View from above Currawong Flat c. 1911

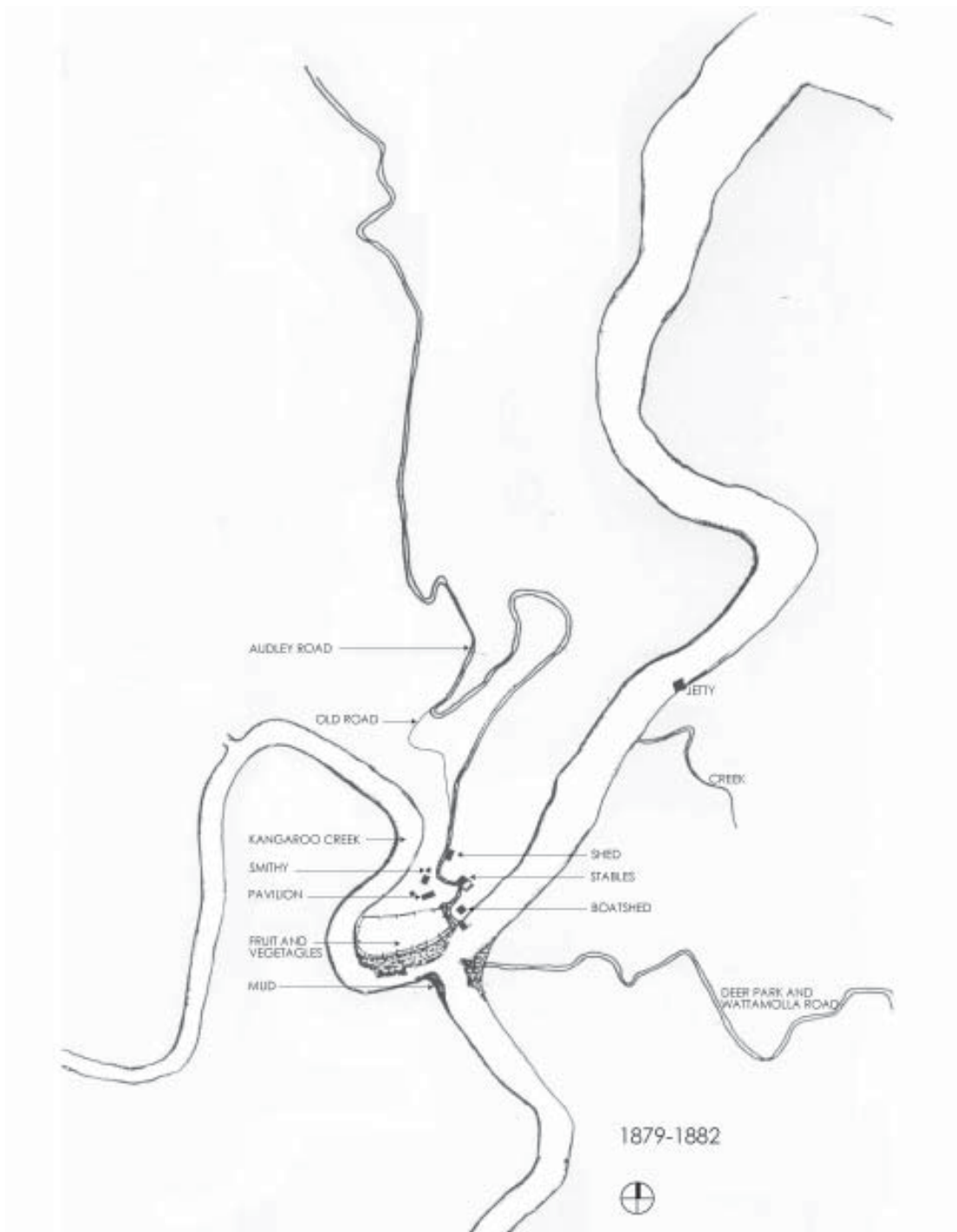


Figure 5:
Historic Diagram: 1879 - 1888

This first period of development at Audley is marked by Premier Robertson's dedication of the entire park as a recreation ground and promoting a policy of converting it into the, 'most attractive place of holiday resort and healthful recreation in the Southern Hemisphere.' In association with the main camp established at Audley, approaches, recreation flats, buildings were constructed.



from top:

*Plate 18:
Audley Road cutting through the park. c. 1890*

*Plate 19:
Former cottage, Allambie Slopes. c. 1890*

*Plate 20:
View of Audley Village from Pavilion Flat.
c. 1911*

2.1.4 Management and Development of Audley 1879-1890

Economically and aesthetically, the forests of the Hacking River Valley were held in higher regard than the coastal heathland and the trustees focused much of their attention in the valley. A main camp was established on high ground overlooking the confluence of the Hacking River and Kangaroo Creek and named Audley in 1884 to commemorate Lord Audley's 1864 survey campsite at the same location. By May 1881 the main camp consisted of a two roomed weatherboard Pavilion with adjacent cottage and earth closet, smithy, stables, cart shed, boathouse, jetty, fenced orchard, an earlier road alignment and a new road connecting to the Bottle Forest by way of the upland plateau. On the right bank of the Hacking, opposite the confluence with Kangaroo Creek, a rough road was constructed leading towards Wattamolla.



The Audley Causeway was completed in 1883 with a twofold purpose: it provided access to the eastern bank of the former estuary and functioned as a dam to create a body of freshwater extending 4 miles up the Hacking River and 1.25 miles up Kangaroo Creek. This allowed for the acclimatisation of freshwater fish including English perch and trout in 1884-85 as well as bathing and boating. A new boatshed was built adjacent to the dam on the freshwater side and another boatshed built with slip rails for boat repairs below the Dock on the saltwater side. Stone retaining walls were constructed on the tidal estuary to allow steam launch access and a dock for berthing. Three alluvial flats at the confluence were also cleared at this time for cultivation and grazing uses.

The most extensive clearing occurred on the plateau referred to in the Trust minutes as the "tableland" now known as Loftus Heights. Here, adjacent to the proposed railway platform a large area (80 acres) was cleared for recreation and military encampment and review grounds. This clearing was later increased to 230 acres and a further 1770 acres underscrubbed. The "tableland" of Farnell Downs, was named Loftus Heights in honour of His Excellency the Governor. Further land was intended to be cleared and only ornamental plants were saved such as Christmas Bush, Waratahs, Gynea lilies and selected Eucalyptus trees. The clearing of vegetation was to create a more park-like character as opposed to bushland and was encouraged along the main roads and at Audley.

from top:

Plate 21:
Bridge over overflow at weir. c.1890

Plate 22:
Cable crossing Allambie Flat. c.1940

Plate 23:
Lady Carrington Road. c.1890

Plate 24:
Bridge over Lady Carrington Road. c.1890



from top:

*Plate 25:
Former boatshed adjacent to weir. c.1890*

*Plate 26:
Former boatshed and weir. c.1890*

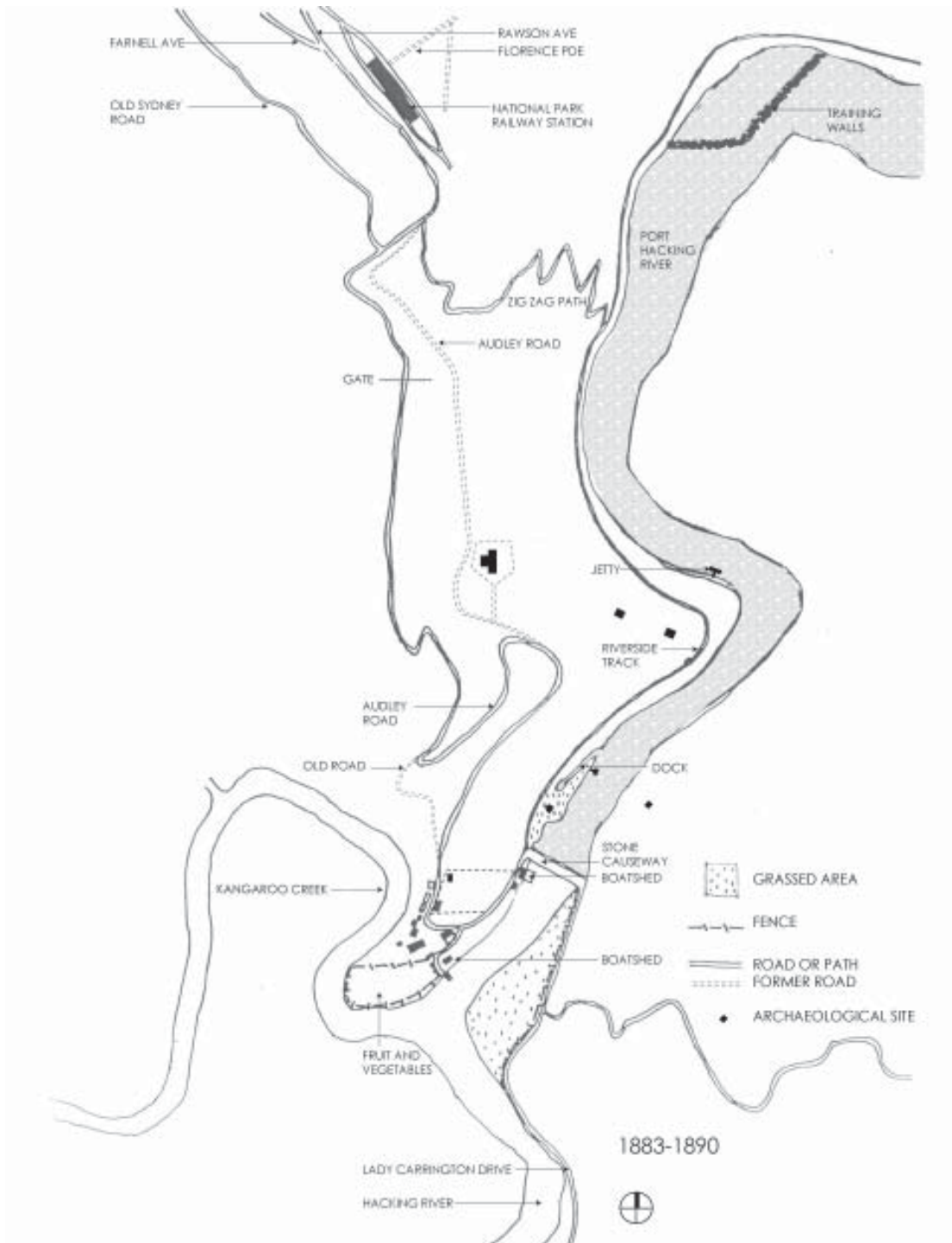


Figure 6:
Historic Diagram: 1883 - 1890

A road from the main camp at Audley to the main Illawarra/Sydney road was constructed between 1880 and 1883 as well as a road running over the Audley causeway and along the right bank of the Hacking River to the southern boundary of the park. This road was opened in 1886 by Lady Carrington and was identified as Lady Carrington Road (later Drive).

The Illawarra railway line was begun in 1882 and by 1885 excursion trains brought visitors to the park via Sutherland. By 1886 visitors were able to arrive at the National Park Station at Loftus Heights. During 1884-5 in anticipation of the extension of the railway line to Loftus Heights a serpentine walk was constructed from the intended station to the salt water estuary ('the Zig-Zag' track) as well as a new road from the intended railway station crossing to the main Illawarra road.

During 1889-90 a walking track was made along the left bank of the Hacking River from near the dam to the northern boundary, at this time just up from the training walls. This later became known as Riverside Drive. During 1890, river flats on both right and left banks above and below the dam were grassed, and the recreation ground opposite the boatshed reclaimed and improved for picnic parties.



from top:

Plate 27: (this page)
View from 'The Rest' to Audley Weir Pool.
c.1890

Plate 28:
New Audley Road. c.1900

Plate 29:
Causeway Lady Carrington Drive. 1890

Plate 30:
National Park Station. 1900

Plate 31:
Trustees Cottage and Boatshed and "The Rest". c.1910

2.1.5 Park Trust Management of The National Park 1891 - 1914

This period marks the beginning of Audley as a popular destination place within the larger park, following the death of Sir Robertson in 1891.



The Public Pavilion was extended to provide additional accommodation for visitors as well as stone retaining walls supporting grassed areas.

In 1891 a rustic bridge was erected across Kangaroo Creek and a road extended around to an aviary above the left bank of the Hacking at the foot of Robertson's Knoll, then known as Robertson's Grove. Kookaburra Flat, Fig Tree Flat and Kangaroo Flat were also cleared, cultivated, grassed and fenced. The salt water estuary was dredged to allow access for large pleasure boats and steam launches. A pile jetty was erected at Want's beach (formerly Little Manly and now Reid's Flat) and one on the fresh water for boating parties.



During 1892, on Loftus Heights a further 200 acres were scrubbed and cleared and a new road was made to Audley to avoid steep and dangerous grades.

Plants received from the Sydney Botanic Gardens and the Forestry Department were planted throughout the Park and these included Red Cedars, Moreton Bay Figs, Lilypillys, Mulberrys and Willows. Introduced tree species at Audley up to 1893 also included Poplars, Jacarandas, Bunya Pines Bunyas and Monterey Pines.

The water pump and reservoir system replaced the windmill pump which was relocated to the aviary. In 1894 a boiler and engine pumped water to elevated tanks to the Audley village to meet the needs of the public pavilion which was constantly under renovation. A verandah was added in 1896 and enlarged in 1898 and 1900, together with additional bathrooms. The old Stables were removed and new ones erected together with a carpenter's and blacksmith's shop upslope during 1894. A verandah was added to the new stable building in 1898.

from top: (this page)

*Plate 32:
Kangaroo Creek Bridge to Allambie Flat 1911*

*Plate 33:
Varney Bridge to Currawong Flat 1911*

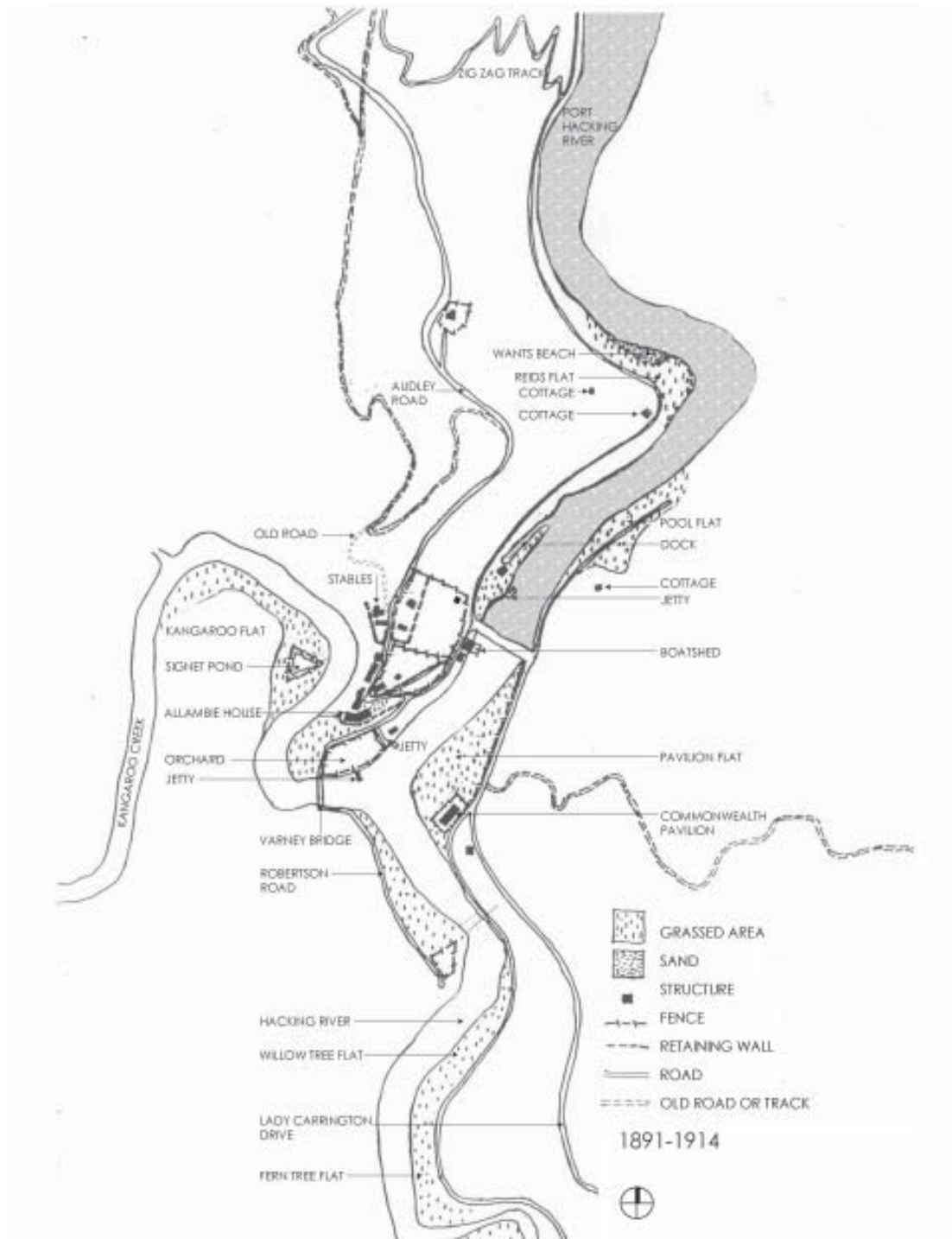


Figure 7:
Historic Diagram: 1891 - 1914



*Plate 34:
View of Audley "Village" Public Pavilion from
Pavilion Flat c. 1890*

*Plate 35:
Audley 'Village' and Allambie House 1912*

In 1897 an area of 7 acres was cleared, fenced and planted with 400 fruit trees of different varieties. The Trust minutes did not specify the location of this orchard but it is assumed to be within the Allambie Precinct.

During 1898 a concrete pond was made for aquatic birds and the relocated windmill was erected on Currawong Flat to supply water. The flats were planted with buffalo grass at this time.

The Commonwealth Pavilion was erected at Bradley's Flat (now Ironbark Flat) capable of seating 1000 persons with a turfed bank forming a terrace on three sides and shade trees planted.

1902-3 saw the introduction of a regular steam ferry on the saltwater estuary and the provision of a wharf built near to the dam. The launches coordinated with the arrival of trains to the National Park station and a new pathway was formed from the station to Audley, which later became known as the Honeymoon Track.



from top:

*Plate 36:
Former Stables, Audley Village. 1890*

*Plate 37:
Relocated windmill on Currawong Flat. 1890*

*Plate 38:
Junction of River and Creek, Audley Weir Pool. 1900*

*Plate 39:
Former Boatshed and Weir. c. 1890*

*Plate 40:
View of Hacking Saltwater Estuary from Allambie Ridge. c. 1890*



By 1904, all the established picnic areas contained shelter sheds, water tanks and seating. Shelter sheds were also placed near to the National Park Station. During 1904-6 a boatshed for twenty boats was erected at Reid's Flat for privately owned boats. A new jetty near the accommodation house (Public Pavilion) was built on Audley Pool. On Loftus Heights an avenue plantation from Sutherland to Loftus was implemented and called Rawson Avenue to create an imposing approach to Audley. Sir Harry Rawson planted several Norfolk Island pines at Loftus.



In 1908, to overcome vandalism of the indigenous flora the trust proposed to construct display areas along the Audley Road to place transplanted species. Also in 1908, a road from Audley Dam to Reid's Flat replaced the walking track, a shark proof swimming area was created below the dam, and the ground around the Trustee's Cottage was grassed and made accessible to the public.



A cricket and football ground was created close to Loftus Railway Station and defined by picket fencing and tree planting. Further avenue plantations were made along the rail line (900 trees) and the road between Loftus and National Park stations (1200 trees).



from top:

Plate 41:
Bus Training Area and Waiting Shed Adjacent
to National Park Station 1900

Plate 42:
Trustee's Cottage 1890

Plate 43:
Former Trustee's Cottage Allambie slopes
1890

Plate 44:
Trustee's Cottage and Audley Village
(Allambie Flat and Allambie Ridge). 1890

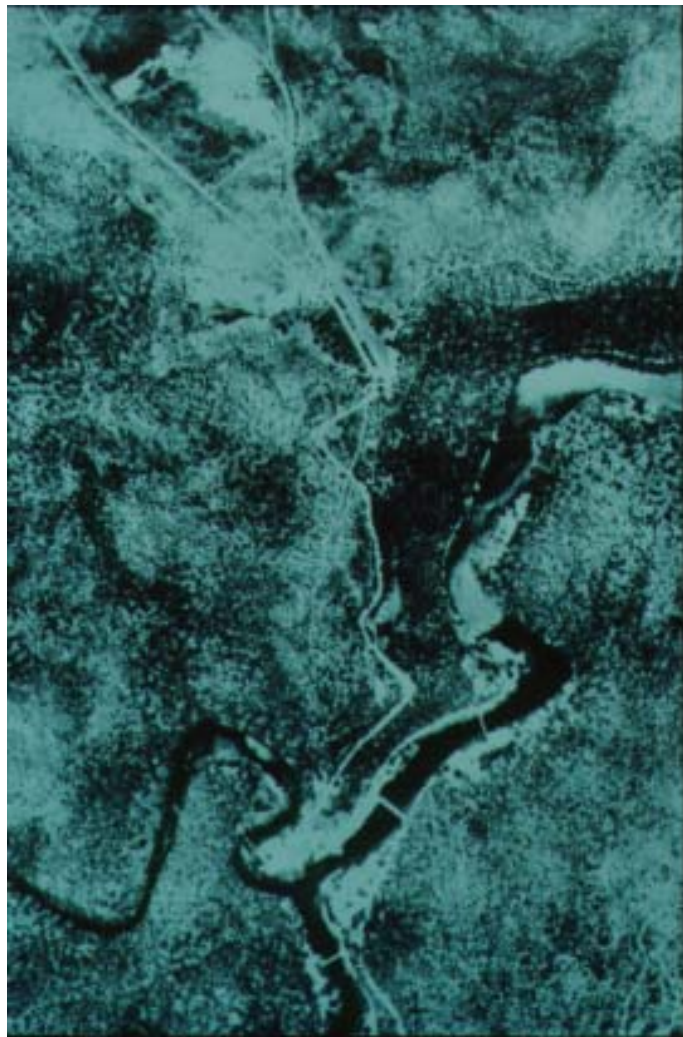
Plate 45: (left)
Boatshed, Trustee's Cottage and Audley
Village. 1890

2.1.6 Park Trust Management of The National Park 1915 - 1948

The World War I years were relatively quiet for the Trust. They initiated a bus service between Audley and the National Park Station as a form of compensation for lack of government support for the extension of the railway to Audley.



Visitation levels had not decreased and the Trust pushed for funds to rebuild the Public Pavilion accommodation facility. During 1915-1916, a motor garage, laundry, new stables, Trustee's boatshed and cow shed were constructed and the road from the stables to the dam was widened.



from top:

*Plate 46:
View of Allambie House from Pavilion Flat
1938*

*Plate 47:
Allambie House Viewed from Pavilion Flat 1938*

*Plate 48:
1947 Aerial Photo*

A new accommodation facility was constructed during 1918-19 on the campsite and was known as "The Rest" and later as "Allambie House." A change of approach towards a Conservation ethic is evident in the Trust Chairman's comments in the 1920 Annual Report, '...the visiting public are now more considerate, and realise that the National Park is not only a playground, but a sanctuary where the birds, animals, and native flora are worth protecting... '.

In 1931 the Rawson Avenue tree plantation was replanted with Illawarra Flame trees as many of the original trees were dead or decaying and it was recommended to remove all of the Monterey pines as they were out of place in an Australian National Park.

During 1934-35 part of the road surface at Audley was tar paved to reduce dust and the Honeymoon track was constructed.

In 1936 a new bridge was built over the Hacking River and a new road opened on the left side of the river leading to Kookaburra Flat (now commonly known as Wattle Forest) where a rustic pavilion to seat 80 people had been completed. The exotic plantations along Farnell Avenue were replaced by a double row of red flowering gums and extensive rock gardens.

A new boatshed containing 200 boats was built in 1938 following the removal of the old boatshed. In the same year swampy areas were reclaimed for picnic flats and a new flat (now known as Pool Flat) opened below the dam and a kiosk opened on the picnic flats.



from top:

Plate 49:
View of "The Rest" from Currawong Flat.
c.1910

Plate 50:
View along Kangaroo Creek to Pavilion Flat.
c.1910

Plate 51:
1940 Aviary Located on Edge of Pavilion Flat

Plate 52:(left)
Boatshed c. 1938

By 1940 the roads had been tarred and this helped reduce dust. Extensive rockeries were constructed on the approaches to the boatshed and below Allambie House. Allambie Flat was dedicated to sporting facilities in the form of three tennis courts, a bowling green and a putting green. A large aviary was erected at Pavilion Flat and it contained a wide collection of Australian birds.

The Military again occupied the park during World War II and set up a camp at Loftus. Allambie House had its kitchens updated in the event of using the building as a hospital during the war.

During 1940-1 a new stone toilet block was built and a new shop at Allambie House. In 1942 two bridges were constructed: one across Kangaroo Creek and another one across the estuary below the dam. The second bridge allowed for a shark proof net to be installed and temporary Dressing Sheds and Showers were established at Pool Flat. During 1943 all of the bridges on the Hacking River were swept away by floodwaters. The bridges were rebuilt in 1944 and toilet blocks built from concrete blocks made on site were erected at Reid's and Pool Flats. In 1945-46, new Dressing sheds, Dining Room and Shop were constructed at Pavilion Flat and the freshwater body was dredged. In the following years a Kiosk and a new ferry wharf at Pool Flat, and a two-storey pavilion was built at the Picnic Flats (Pavilion Flat) with the intention of a shop facility on the ground floor and a Restaurant and social hall on the upper floor. This was the origin of the current Dance Hall. More picnic ground was made available by the relocation of the camps at Reid's Flat to a more suitable site at Riverside Flat further down the estuary.



from top:

*Plate 53:
View to Allambie Flat and Audley Village over
Kangaroo Creek. c.1900s*

*Plate 54:
Allambie House Forecourt and Garage.
c.1940s*

*Plate 55:
Pavilion Flat. c.1940s*

*Plate 56:
View from Winfred Falls Track over Pavilion
Flat. c.1940s*

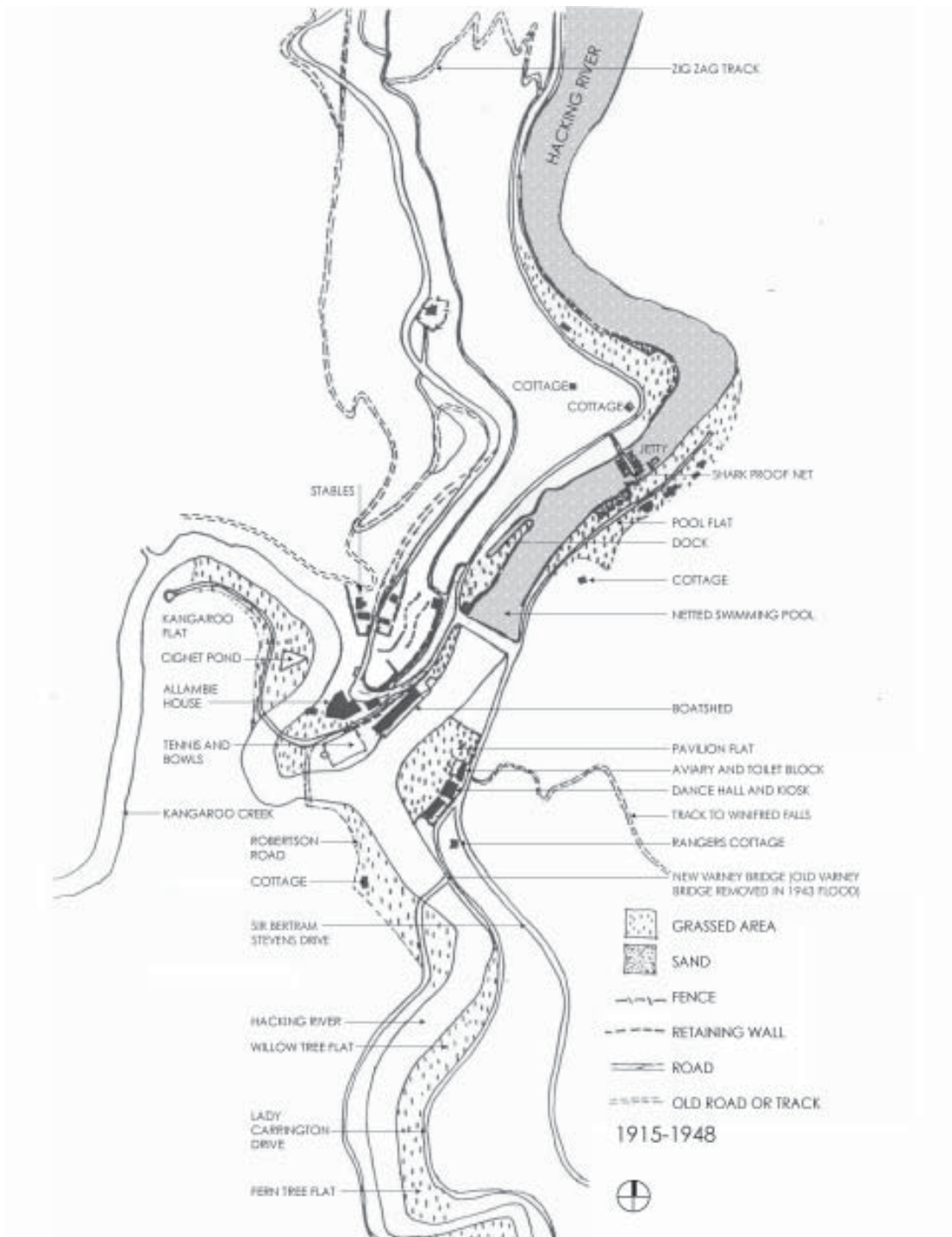


Figure 8:
Historic Diagram: 1915 - 1948

2.1.7 Park Trust Management of The National Park 1949 - 1954

This period of development reflects the post war condition up to a change in name for the National Park. With J.J. Cahill MLA as Chairman of the Trust as well as Premier of NSW, the annual government grants improved on those of previous years.

The extension of the mains water supply through Audley in 1950 led to a new causeway being constructed, with mutual design benefits of easy access to the pipeline (if maintenance was required) and safer pedestrian access by a raised section of path that sat atop of the pipeline.



from top:

*Plate 57:
View west of Pavilion Flat from Above.
c.1940s*

2.1.8 Park Trust Management of the Royal National Park 1955 -1966

In 1955 the National Park became the Royal National Park as a result of Her Majesty, Queen Elizabeth II, passing by on a journey to Wollongong in 1954.

A children's playground was purchased in 1955 for Reid's Flat following the rebuilding of a shelter at the flat. In 1956 a new office building was erected at Audley. A Nursery was also established for the propagation of native flora. In 1958 the land between Rawson Avenue and the railway line was cleared and levelled in preparation for planting of trees and shrubs, and in 1959 the old Stables were demolished.

1959 was also the year that the Hon J.J.Cahill MLA. died suddenly. In 1962, a new shelter shed and toilet block were erected at Willow Tree Flat and its surface was raised by 600mm and regrassed. This was a response to the impact of vehicular traffic wearing out both the road and Flat surfaces and the cumulative effect of flooding. Concrete retaining walls below the bus waiting shed at Dock Flat were constructed in an attempt to avoid flood damage.

In this period boat building was a prominent activity at Audley particularly the construction of clinker boats, canoes and launches.

In 1962 extensive repairs were also carried out on the Commonwealth Pavilion due to extensive dry rot. Repairs were carried out on the new Varney Bridge leading to Kookaburra Flat. In the same year, two new cottages were built, one for the Superintendent near the Royal National Park Railway Station and one for the Assistant Superintendent on the site of the former Superintendent's Cottage on the slopes half way between the Station and Audley. Allambie House was also repaired and repainted. During 1962 septic tanks were installed in all cottages occupied by trust employees.

In 1965 following bushfires a strip of burnt out undergrowth parallel to Farnell Avenue was grassed and lined with Brush Box and Silky Oaks to create an "attractive" entrance to the park. Also, in the same year it was proposed to construct a chair lift from Allambie Heights presumably to the National Park Station. Reid's Flat was extended by fill created from sand dredged and reclaimed from an old oyster lease. A new parking area was created off Artillery Hill Road (now Sir Bertram Stevens Drive). In 1964, additions were made to the office block at Audley.

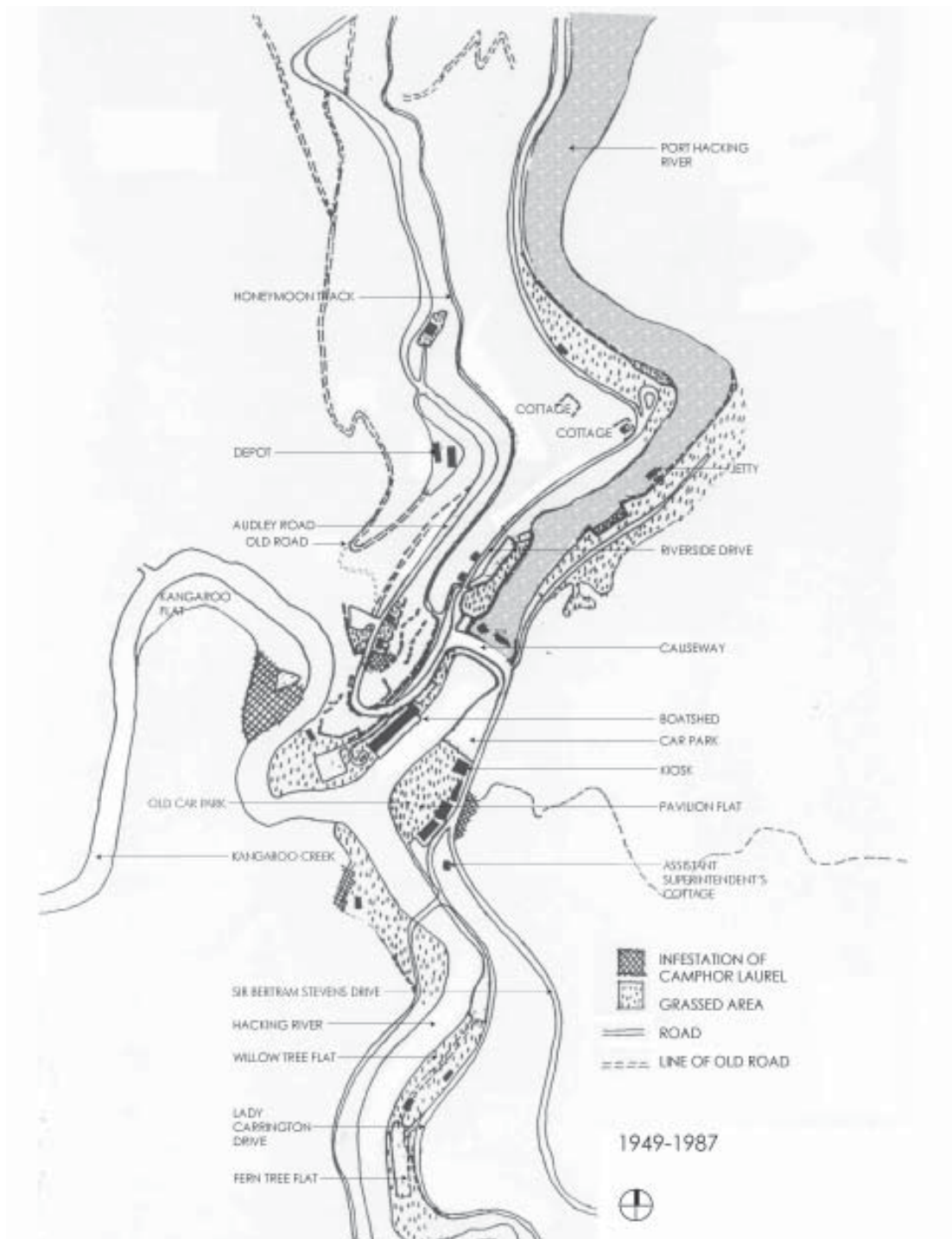


Figure 9:
Historic Diagram: 1949 - 1987

2.1.9 National Parks & Wildlife Service Management of Royal National Park 1967 - present



On 23 November 1967 a Ministerial proposal was tabled before Parliament for 'the vesting of the care, control and management of the Royal National Park in the Director of the National Parks and Wildlife'.

The National Parks and Wildlife Service was established with Chuck Wilder from the US National Parks Service as its first Director. The Trust thereby was divested of executive responsibility and became an advisory committee. The Service emphasised nature conservation issues over recreation in terms of management of the park.



In the early years of the new administration many buildings were removed: Allambie House which was suffering white ant damages was removed by fire in 1975. A new kiosk was built in 1978 with native Australian plantings, not necessarily indigenous, reflecting the popular interest in national identity at that time.

In preparation for the centenary of Royal National Park, a new building to house Staff headquarters and a Visitor Centre was designed by Leonard Morgan and Bruce Eales in 1978 and completed in 1981. It is located in Audley Heights, on the edge of the plateau between the Railway Station and the start of the Honeymoon Track. This dispersed some of the activity concentrated at Audley, but visitor numbers remained high.



From top:

*Plate 58:
Edge at Kookaburra Flat, 1987*

*Plate 59:
Dock Flat retaining wall, 1987*

*Plate 60:
Commonwealth Pavilion, 1987*

In 1986-7 a Conservation Plan was commissioned for the Audley area. The recommendations of this report were partly executed, including the removal of exotic vegetation that were considered weeds such as self-sown Camphor Laurel trees throughout the Audley area.

Further work was carried out at Audley in 1988 when the NSW Department of Public Works (now Department of Commerce) Landscape Group designed and implemented new works. These included the extension of car parking areas, the provision of timber wharves fronting the freshwater pond and some edge treatment of rip-rap sandstone blocks to prevent erosion of the Flats' edges during floods.

Since the 1980s, large parts of Royal National Park have been effected by major fires. The Draft Fire Management Plan for Royal National Heathcote National Parks and Garrawarra State Recreation Area states that, 'From 1965/66 to 1997/1998, there has been a fire within Royal National Park every fire season. Major fires, in which 50 percent or more of the park was burnt, occurred in the 1968/69, 1988/89 and 1993/94 fire seasons. The 1994 fire affected 95.7 percent of the park, (NSW NPWS, 2002, Draft Fire Management Plan, p. 37) including the slopes adjacent to the Audley precinct. Severe fires also occurred in 2001, effecting a large portion of the park. The south end of Lady Carrington Drive is one of the few areas in the park unaffected by fire.

During 1998 efforts towards environmental restoration of the indigenous vegetation community, the Sydney Sandstone River Flat Forest, were implemented at Ironbark Flat. The work included the importation of fill and sandstone boulders as well as mass plantings of indigenous native plants.

In 2003, the National Parks and Wildlife Service instigated this integrated study of Conservation Management Plan and a Masterplan for Audley and its associated approaches. This appears to the first time that such an integrated approach has been taken to consider a balance of conservation of natural and cultural values.



from top:

Plate 61:
Fig Tree Flat, 1987

Plate 62:
View of Allambie Flat from site of Kangaroo
Creek Bridge abutment on Currawong Slopes

Plate 63:
Audley Weir Pool, 1987

Plate 64:
View of Boatshed from Pavilion Flat, 1987

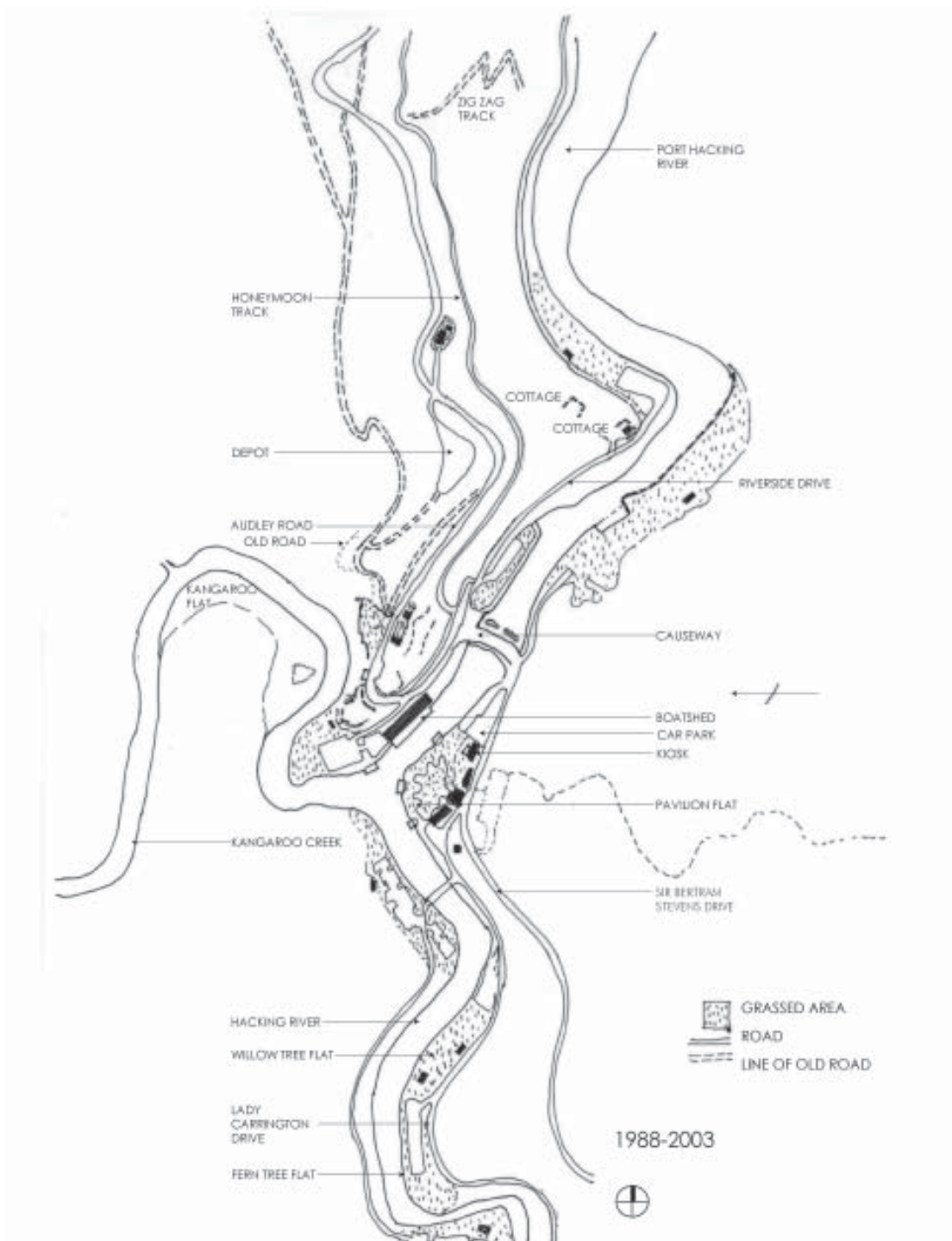


Figure 10:
Historic Diagram: 1988 - 2003

2.2 Physical Assessment

Audley consists of both natural and cultural elements influenced by geological formation, fire and flood regimes, human occupation and patterns of land use. Audley is primarily located on the river flats and adjacent lower slopes, and the associated approaches by road, rail, walking tracks and water have been integral to its development.

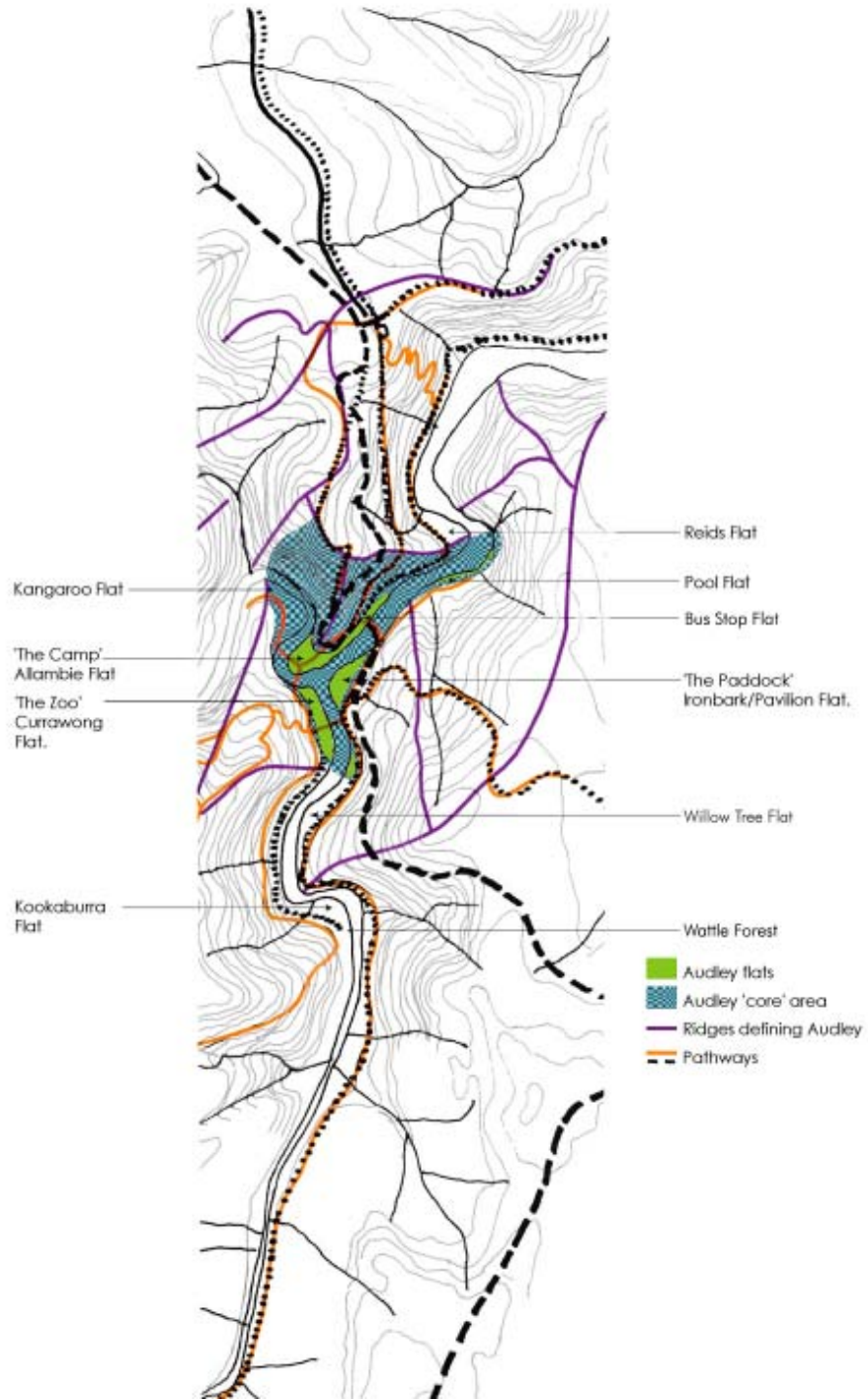


Figure 11:
Physical Qualities of Audley

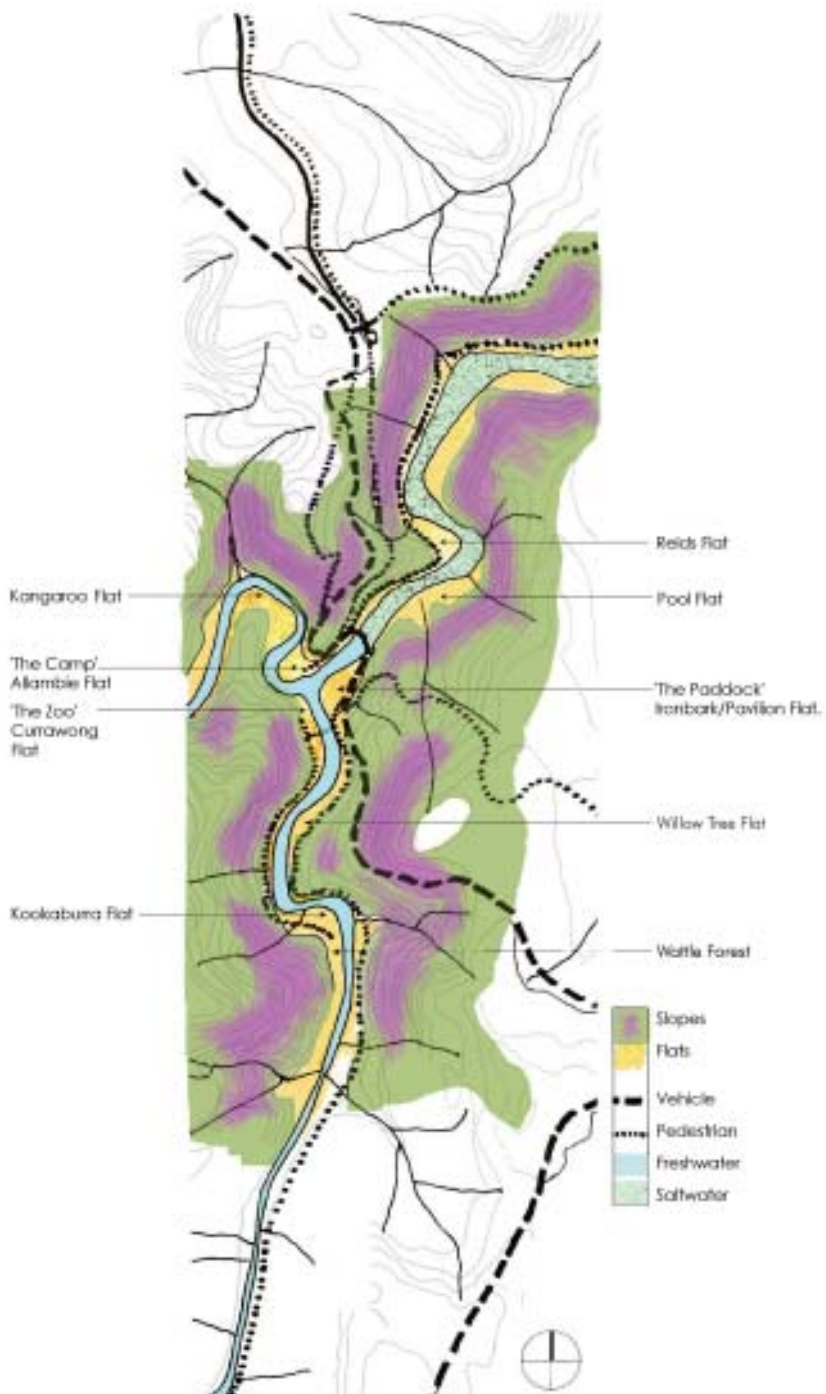


Figure 12:
Physical: Landform

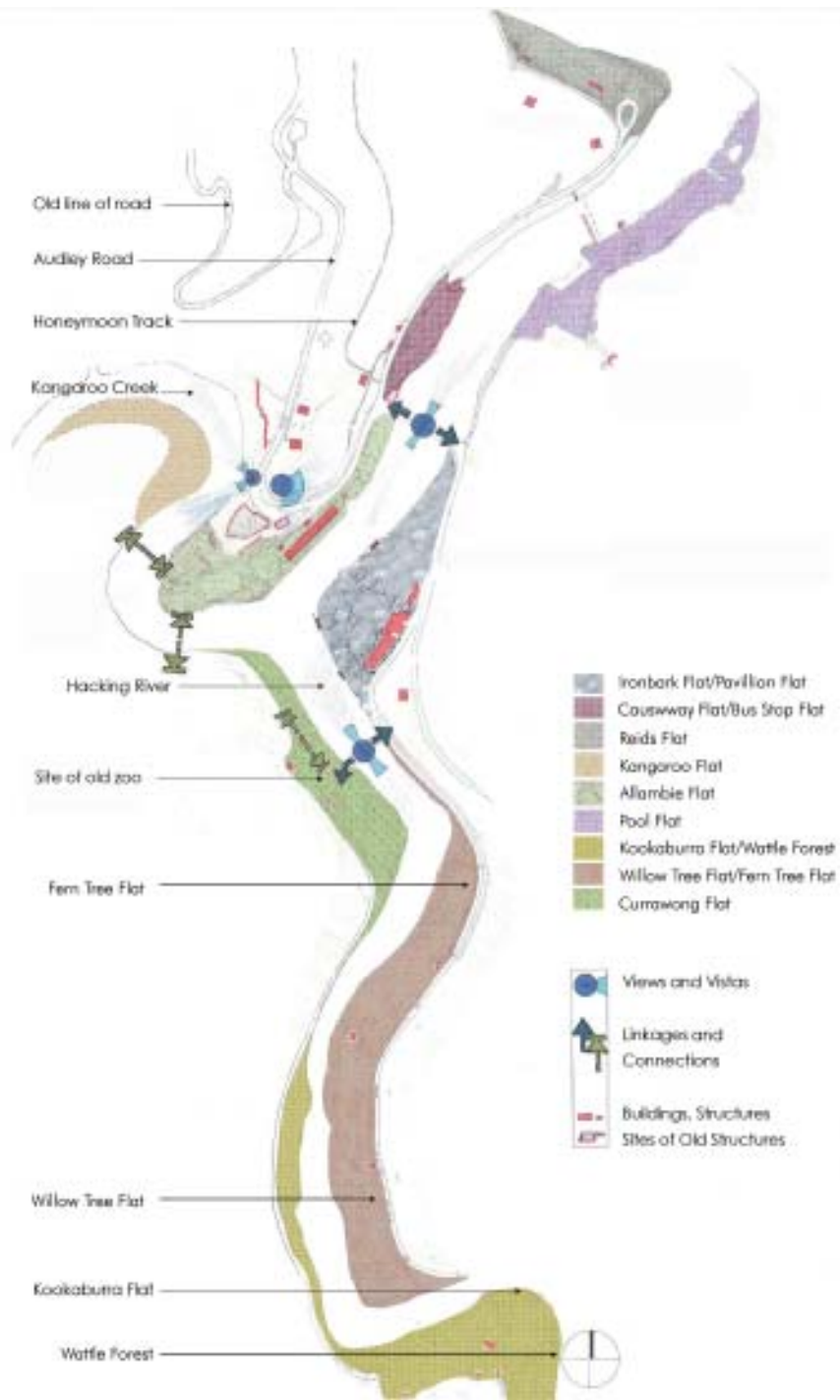


Figure 13:
Physical: Structures, Views and Links

2.2.1 Natural Environment

Geology, Soils and Vegetation

As with Royal Nation Park in general the Hawkesbury Sandstone geological formation dominates Audley. Exceptions to this are the influences of the Wianamatta Group of shales (that overlie Hawkesbury Sandstone) at Loftus Heights and Bottle Forest, and the Narrabeen Group of Shales that are exposed beneath the Hawkesbury Sandstone in the south of the park and where the Hacking River has dissected through the sandstone layers. At Audley the tidal and fluvial processes have deposited both sandstone and shale derived alluvium on the valley floor.



Soils derived from Hawkesbury Sandstone are of an essentially inorganic nature and of a skeletal structure, producing very shallow and infertile soils that support variations of heath, scrub, low woodland and forest vegetation communities. Where interbedded lenses of siltstone and claystone occur there are some local variations in structure, soil depth, and organic composition.

Soils derived from Narrabeen shales are relatively fertile, friable and deep, and consequently support taller forest communities.

Prior to the establishment of the park, the vegetation at Audley was most likely a riparian fringe of Swamp Oaks (*Casuarina glauca*) and a terrestrial complex of Woollybutt (*Eucalyptus longifolia*), Bangalay (*Eucalyptus botryoides*) and Blackbutt (*Eucalyptus pilularis*).

Today, remnant assemblages of these species continue to grow on the riverflats amidst ornamental trees and pasture grasses and managed as recreational open space.

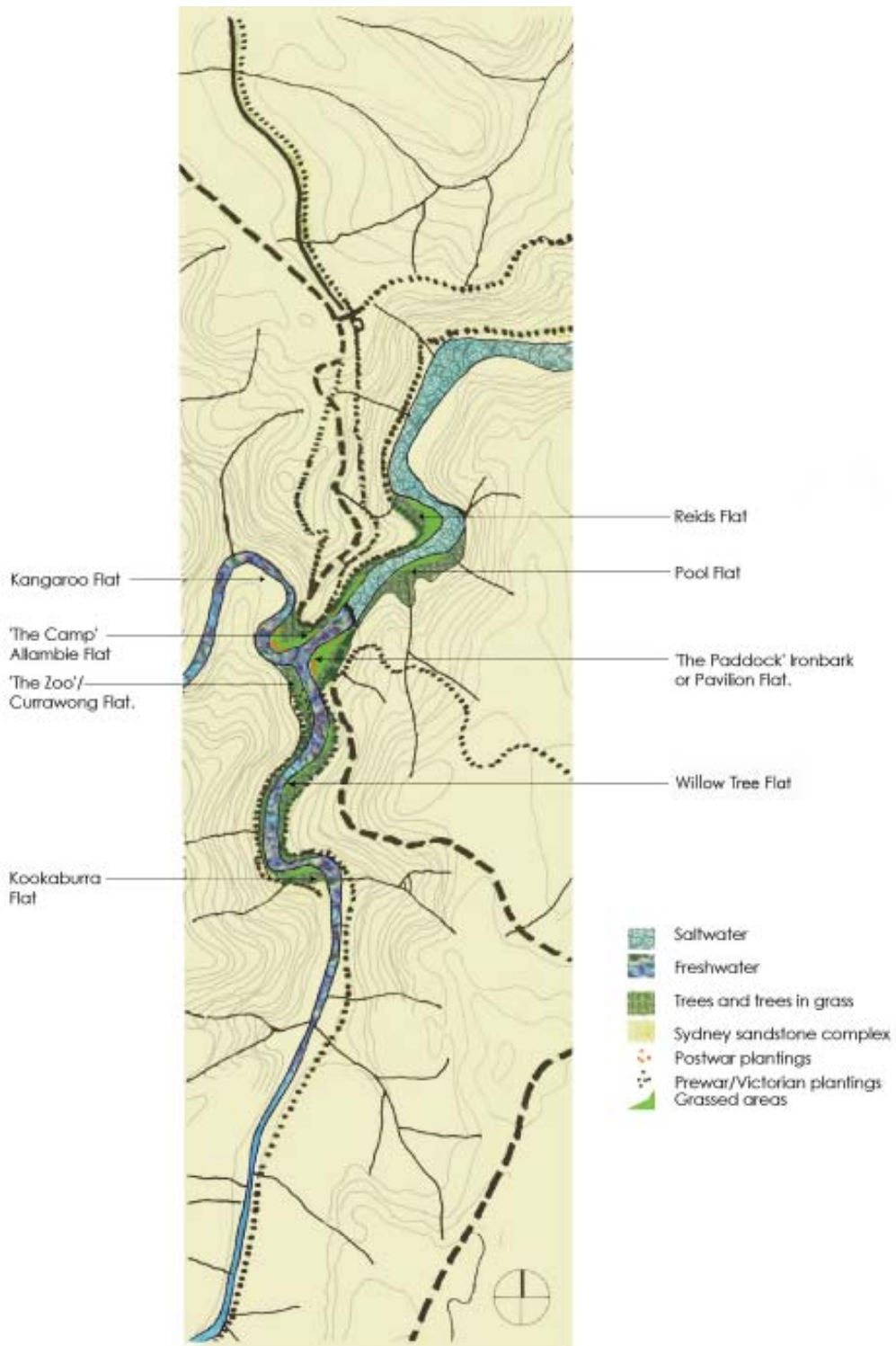
Sandstone woodland is found on the ridgetops and slopes with stands of Scribbly Gum (*Eucalyptus haemastoma x racemosa*) and Red Bloodwood (*Corymbia gummifera*) with a variable understorey of Wattles (*Acacia spp.*), Gynea Lily (*Doryanthes excelsa*), Hopbush (*Dodonaea triquetra*) and Needle Bush (*Hakea spp.*)

Grey Ironbarks (*Eucalyptus paniculata*) and Red Bloodwood (*Corymbia gummifera*) are also found on the slopes. Grey Ironbark (*Eucalyptus paniculata*), Turpentine (*Syncarpia glommulifera*) and Coachwood (*Ceratopetalum apetalum*) are present on the alluvial soils derived from weathered Narrabeen shale of the upper Hacking River.

from top:

Plate 65:
View West from Allambie Flat over Kangaroo
Creek Section of Audley Weir Pool

Figure 14: (next page)
Natural: Elements



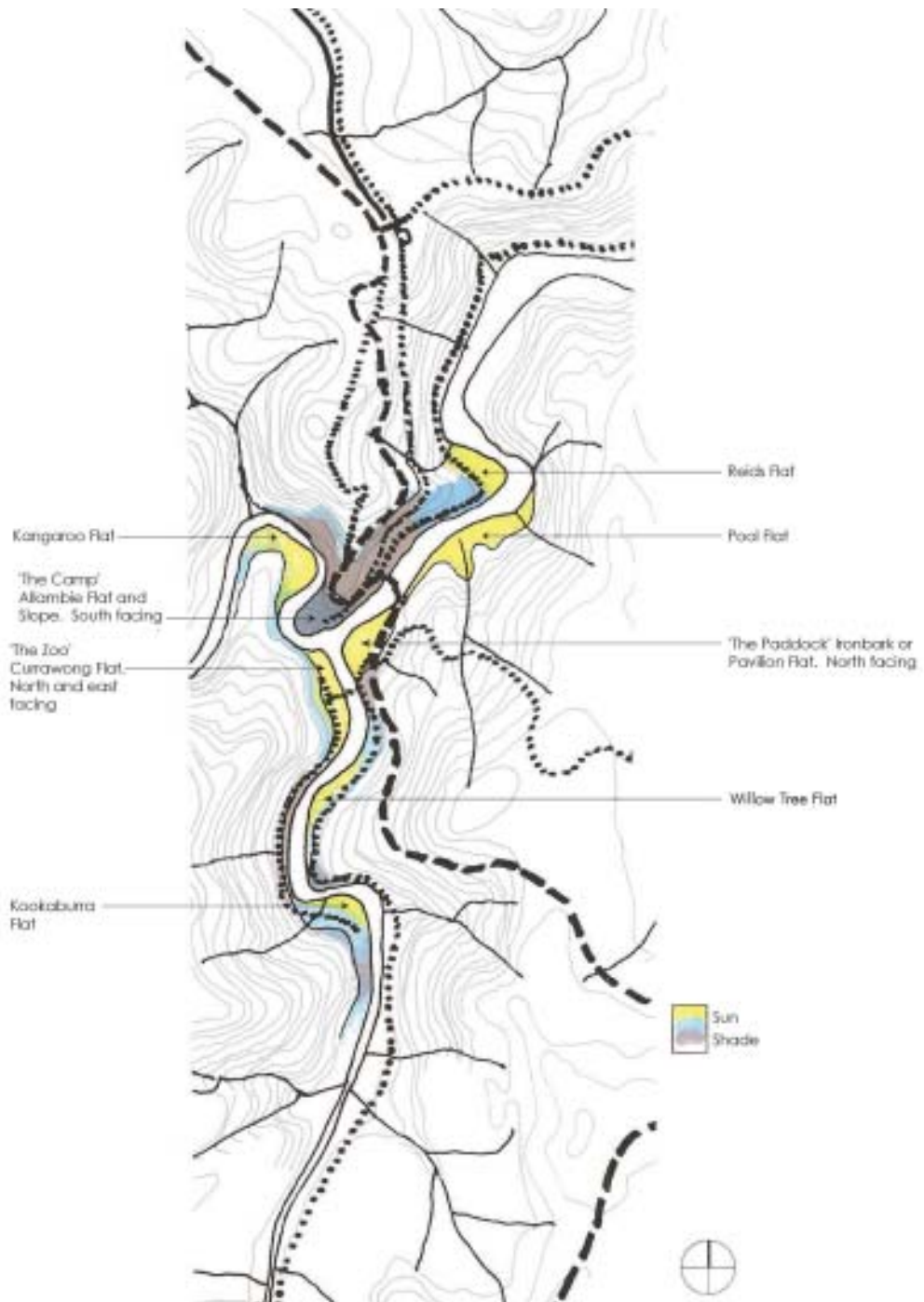


Figure 15:
Natural: Aspect

The construction of a weir in 1883 to create a freshwater body upstream greatly modified the Hacking River estuary, mainly by depriving the alluvial flats of the formative tidal influence, and resulted in both flooding and increased siltation in the resultant pond. Siltation has increased relative to increased urbanization of the Upper Hacking catchment. The soils of the Audley flats have an underlying structure of alluvium and sand, but have been enriched with fill over the years from river dredging activities. The associated clearing and development for recreation and settlement also altered both the structure and floristic species composition of many of the vegetation communities, resulting in a cultural landscape, discussed below in 2.2.4.

Bird Life

Audley is promoted as a valuable birdwatching location by Steven Anyon-Smith as one of several sources.

“Audley is a popular and valued birdwatching location due to the variety and complex mix of riparian, estuarine, tall forest and open forest habitats. Slight ecological variations between the picnic flats and bushland leading off from each provide many and varied opportunities for Audley visitors to view the diversity of fauna (Anyon-Smith, 2001, pp. 32-37)”.

Waterbirds

Freshwater habitat within Audley supports a wide range of waterbirds, including:

- Black Bittern
- Little Bittern
- Pacific Black Duck
- Dusky Moorhen
- Buff-banded rails
- Spotted Crakes
- Lewins Rails
- Azure Kingfisher
- Australasian Grebe
- Chestnut Teal
- Grey Teal
- Maned (Wood) Duck
- Swamp Hen
- Eurasian Coot

Kangaroo Flat is noted by several sources as a very important breeding and feeding ground for a large number of waterbirds, as listed above, noting especially the Little Bittern as potentially threatened by any proposal to open this area up as recreational picnic space. (National Parks Association 2004 submission, Environmental Education Centre 2004 submission).

Riverbanks in this area specifically, but throughout Audley generally, where a fringe of reeds and other waterplants afford protection for young waterbirds will be treated as special habitat in future upgrades of visitor facilities in the precinct.

Estuarine and Sea Birds

Estuarine and ocean-going seabirds that eat, rest and patrol in and around Audley Weir, Pool Flat, Reids Flat and Riverside Drive have been noted to include:

- Silver Gull
- Black Cormorant
- Little Black Cormorant
- Pied Cormorant
- Sooty Oystercatcher
- Australian Pelican
- White-breasted Sea Eagle
- Mangrove (Striated) Heron
- Little Shearwater
- Osprey
- Broad-billed Sandpiper
- Painted Snipe
- Australian Darter
- Masked Lapwing (Masked Plover)

Terrestrial Birds

Birds of the wet forests of the upper Hacking valley and from the adjoining drier slopes converge in Audley to feed, breed and socialise. Species richness is reflected by the following sightings in the Audley slopes and forested areas:

- Kookaburra
- Sulphur-crested Cockatoo
- Satin Bower Bird
- Superb Lyrebird
- Eastern Rosella
- Crimson Rosella
- Green Catbird
- Brown Pigeon
- Wonga Pigeon
- Fairy Wren
- Red Wattle Bird
- Powerful Owl (Vulnerable)
- Grey Goshawk
- King Parrot
- Emerald Dove
- Topknot Pigeon
- Olive-backed Oriole
- Yellow Throated Scrubwren
- Dollarbird

Mammal Life

"The Atlas of NSW Wildlife contains information for individual reserves but not for distinct areas within the reserves. Data from NPWS staff and from Atlas records indicate that Audley contains the following species and/or habitat for:

- Swamp Wallaby
- Brush-tail Possum
- Ring-tail Possum
- Eastern Pygmy Possum
- Koala (Rare)
- Sugar Glider
- Short-beaked Echidna
- Bandicoot
- Brown Antechinus
- Bush Rat
- Grey-headed Flying Fox
- Common Bentwing Bat
- Large Footed Myotis (bat)

Reptiles

Within Audley reptiles venture to clean up after busy picnic days and to patrol their traditional territories. Quieter creeklines and damp seepage points where frogs and invertebrates roam are also prime habitat for lizards and snakes. Rocky ridgetops within the study area have habitat for the more secluded species. Herpetologist Ken Griffiths informed the following listing of likely species within the precinct:

- Lace Monitor
- Diamond Python
- Red-bellied Black Snake
- Marsh Snake (uncommon)
- Broad-headed Snake (ridgetops)
- Eastern Water Dragon
- Eastern Water Skink
- Small-eyed Snake
- Common Tree Snake
- Heath Monitor
- Tiger Snake (Lady Carrington Dr)
- Brown Snake (woodland)
- Long-necked Tortoise
- Short-necked Tortoise (non-indigenous)
- Delicate Garden Skink
- Weasel Skink (rainforests of Lady Carrington Dr)
- Barred-sided Skink (arboreal water-skink)

Frogs

The reedy fringes of the freshwater zone and the numerous seepage and creek lines entering within the Audley precinct create habitat for frogs and tadpoles. The following listing has been subsetted from the Wildlife Atlas records by field verification by herpetologist Ken Griffiths (pers comm 2004) for the Audley locality:

- Perons Tree Frog
- Leaf Green Tree Frog (Lomandra Tree Frog)
- Leseurs Tree Frog (reedy edges)
- Eastern Froglet (rainsoaks along Lady Carrington Dr)
- Red crowned Toadlet (uncommon)

Invertebrates

The largest taxonomic group of fauna, and the most forgotten, are the invertebrates. They not only epitomise and reflect biodiversity in their own right but also form the ecological foundation to support higher order creatures, whether they be other invertebrate (e.g spider), amphibian, fish, reptile, bird or mammal. NPWS Biodiversity surveys conducted in 1999 and 2001, together with school class activities undertaken under EEC or Discovery supervision the following invertebrates or their habitat have been detected (Gallan and Robertson pers comm 2004):

- Spiders (Mites)
- Leeches (Bloodworm)
- Soil Fauna (Worms and Larval stages)
- Wingless Insects (Silverfish, Campodea)
- Aquatic Insects (Water Boatmen, Water Beetle, Water Penny, Water Measurer, Water Mites, Water Scorpion and Water Strider)
- Caddis Fly, May Fly, Dragon Fly, Damsel Fly
- True Flies (March Fly, Bush Fly, Blow Fly, Mosquito and Midge)
- Thrips and Lace Wings
- Ants and Termites
- Sawfly, Wasps and Bees
- Moths and Butterflies (and their caterpillars)
- Fleas
- Bugs and Cicada species (Needle Bug)
- Aphids, Lerps and Leaf-Hoppers
- Stick Insects and Mantids
- Grasshoppers, Locusts and Crickets
- Cockroach (native and introduced)
- Beetles (Aquatic Tiger Beetle)
- Crustacea (Freshwater Shrimp)
- Gastropods (Freshwater Snail)

Fish and the Audley Fishway Proposal

Audley weir forms a significant barrier to fish passage by forming the tidal limit of Port Hacking. The site supports a diverse assemblage of both estuarine and freshwater fish species, many of which undertake migration between estuarine and freshwater environments as part of their life cycle. A summary of the likely migratory species found within the Hacking River system is noted in the Fishway Design Options Review by NSW Fisheries as:

Australian Bass	<i>Macquaria novamoculeata</i>
Estuary Perch	<i>Macquaria colonorum</i>
Freshwater Mullet	<i>Myxus pertardi</i>
Sea Mullet	<i>Mugil cephalus</i>
Freshwater Herring	<i>Potamolosa richmondia</i>
Long-finned Eel	<i>Anguilla reinhardtii</i>
Short-finned Eel	<i>Anguilla australis</i>
Common Galaxia	<i>Galaxias maculatus</i>
Striped Gudgeon	<i>Gobiomorphus australis</i>
Australian Smelt	<i>Retropinna semoni</i>
Bullrout	<i>Notesthes robusta</i>
Australian Greyling	<i>Prototroctes maraena</i> (potentially extinct from Hacking catchment)

The NSW Department of Infrastructure Planning and Natural Resources (DIPNR) have reworked the 1995 proposal to install a 'fishway' in Audley Weir. The success of a 'rock-ramp fishway' installed in Theresa Park Weir near Camden NSW has led to a modified proposal of similar design for Audley Weir, to be funded and built by 2005.

The fishway will utilise one of two existing concrete culverts through the causeway closest to the right bank. It will extend into the weir pool and hug the right bank (adjacent to the existing Triangle or Kiosk car park). The fishway will be constructed of sandstone boulders and cobbles grouted into a U-shape 4m wide ramp and consist of a series of riffle pools each higher than the last. The design will include a resting bay and will be approximately 43m in length at a slope of 1:30.

The inlet to the other existing culvert will be modified to include an automated weir to regulate the water level and provide optimal flows for fish passage. The fishway and automated weir will also increase the hydraulic capacity to both culverts and should reduce the time the causeway is closed to traffic.

When viewed at water level or from across the weir pool, the structure will have low visual impact, with the crest being only 300mm above the normal pond water level.

The project aims to facilitate continual migration of adult and juvenile fish into the upper reaches of the Hacking and its tributaries, and therefore restore the natural life cycle stage for those species.

The project also aims to improve local aquatic habitat by increasing fish numbers and diversity, as well as providing a resource for scientific research.

Increased public awareness of aquatic habitat management will also be facilitated by interpretative signage and displays located at the site as an educational tool.

In designing the fishway DIPNR has considered the conservation of the historic Audley Weir and associated weir pool that have contributed to boating activities and the cultural significance to the precinct, and has ensured that the frequency of flood events impacting on the causeway are not increased.

During Public Exhibition of the draft of this Masterplan many and varied supportive submissions were received on issues addressed by this Fishway proposal, design and implementation. e.g reinstatement of fish habitat access, flood frequency due to manual stopboard arrangement, associated traffic issues across causeway, suggestions on a new weir design, and interpretative potential of the causeway flats (both left bank and right bank siting opportunities).

Further fine-tuning in design for both the Audley Fishway and access structures for pedestrians, cyclists and motorised vehicles will be made during 2004-5. Public exhibition of detailed designs and Review of Environmental Factors will provide further opportunities for community consultation and input.

Hacking Catchment Values, Water Quality and the Audley Sewer Project

Audley has been one of the on-going and long-term water quality monitoring sites in the Royal National Park to assess the possibility of natural water sources in the vicinity of key day use and camping sites. Specifically, in the Audley precinct the monitoring sites have been Kangaroo Creek (at Allambie Flat), Hacking River (near Varney Bridge) and Jersey Springs (along Lady Carrington Drive).

Parameters that are regularly measured include dissolved oxygen, *foecal coliforms* counts, temperature, pH, and turbidity.

The findings of this monitoring are that all natural waters need to be variably treated prior to drinking and NPWS pursues the precautionary principle in informing visitors not to drink from any natural watercourse. Drinking water must be carried in to remote sites (including Jersey Springs along Lady Carrington Drive).

Hacking River water is particularly poor in quality due to upstream pollution sources in the urbanised upper reaches of Stanwell Tops, Otford and Helensburgh.

Within Audley however Mains Water is on-tap in picnic areas and toilets and is safe for human consumption.

For many years an integrated catchment management committee for the Hacking River (on which NPWS, Council, Sydney Water, DIPNR and interested community representatives sit) has been considering the need and implementation details of connecting Audley onto the main sewer line. At present, effluent and sewerage is managed via septic and pump out systems.

Following a wastewater options study in 2002 a detailed design and review of environmental factors (REF) has been drafted as part of the Audley Sewer Project. This Project has reached tendering stage and will be implemented over the next 3 years, due for completion in May 2006. The proposed development of sewer connections for the precinct will have a positive effect on the catchment value by decreasing the amount of pollutants potentially entering the natural system of the Hacking River.

The beneficial outcomes will be achieved by installing cleaner and more efficient functioning toilets that can accommodate increased visitor numbers and more effectively dispose of effluent. A passage for pipes will be directionally drilled underground in a network shown in Appendix N.

Effluent will be pumped via a series of rising mains to the Visitor Centre precinct via all public and private toilet facilities. It will then gravitate along Florence Parade to Grays Point where it will enter the Sydney Water mains, where it gets treated by Sydney Water, to Australian Standards.

Fire

The ecology of the Royal National Park is a product of, and susceptible to periodic burning. The impact of the most recent fires has been particularly strong: the 1994 fires affecting 95.7% of the Park and the December 2001 fire resulting in the evacuation of 1500 people from the Park on Christmas Day. Fires pose a variety of threats specific to the Audley precinct, namely its built and natural heritage as well as its function as a transport node for the park. The January 1994 fire destroyed the maintenance depot midway along Audley Road, and burnt much of the natural bushland adjoining the picnic flats. Increased sedimentation in the weir pool from flooding events after any fire results from the destabilisation of bushland in the Hacking and Kangaroo catchments.

The passage of fire across the park and across the Audley precinct impacts on the access to the township of Bundeena and Maianbar, to the coastal cabin areas, and to other day users within the Royal National Park.

Exotic Species

Audley has its origins in a scientific effort to 'acclimatise' exotic species of flora and fauna to the Australian environment. As a result and relative to its context within Royal National Park, Audley contains a proportionately large amount of exotic flora and fauna. Many of the species introduced are now recognised as ecologically threatening to endemic populations, communities or habitat, and are managed for their noxious, feral or invasive aspects, or will be interpreted for their exotic origin. Non-invasive, non-threatening species are tolerated but not encouraged further.



Some of the more problematic species to enter the Park and affect the Audley precinct include: Carp (*Cyprinus carpio*), Javan Rusa Deer (*Cervus timorensis*), Rabbit, Fox, Brush Box (*Lophostemon confertus*), Coral Trees (*Erythrina x sykesii*) and Camphor Laurel (*Cinnamomum camphora*).



Other exotic tree species in Audley include Norfolk Island Pine (*Araucaria heterophylla*), Hoop Pine (*Araucaria cunninghamia*), Bunya Pine (*Araucaria bidwillii*), Poplar (*Populus deltoids*), Moreton Bay Fig (*Ficus macrophylla*), Hill's Fig (*Ficus microcarpa var hillii*), Washington Palm (*Washingtonia robusta*), London Plane Tree (*Platanus x hybrida*), Weeping willow (*Salix babylonica*) and various pines (*Pinus spp.*).

Exotic plants were an important part of Audley in the 19th and 20th Century, and the contrast and balance between the cultivated landscape and natural context is an important and essential challenge to park management in the 21st Century. Plans of management and pest strategies (including bush regeneration) are implemented to reduce deer, fox and other invasive plants and animals throughout the Park, and it is hoped their impact will be evident in Audley to reduce the deleterious effects of these species on natural regeneration processes and native communities.

Edge Effects

Audley is an isolated cultural landscape situated within a park highly valued for its floristic integrity and diversity. The boundaries between the cultural and natural landscapes are blurred rather than distinct at Audley; they are extensive and visual rather than literal or built. This creates a perimeter highly susceptible to the migration of exotic species (by wind, water, animal vectors and vehicles) into the natural areas. Areas particularly vulnerable to this process include the edges between the flats and slopes, the entrance 'nodes' to tracks, especially the heavily used Lady Carrington Drive, the tracks and avenues themselves and the edges between the flats and the water.

from top:

Plate 66:
Exotic species: *Populus* and *Cupressus* sp.
on Allambie Flat, 2003

Plate 67:
Exotic species: Ducks in Audley Weir Pool,
2003



from top:

Plate 68:
Rock engravings from the Sydney precinct
(Mitchell Library, State Library of NSW).

Plate 69:
Diagram of rock engravings from the Sydney precinct
(John F Mann, *Notes on the Aboriginies of Australia*,
Geographical Society of Australasia Proceedings, 1883-4,
Mitchell Library, State Library of NSW).

Plate 70:
Lithograph showing Aboriginal methods of punishment.
(Montague Scott: *Customs of Aborigines in NSW - Punishment* Mitchell Library, State Library of NSW)

2.2.2 Aboriginal Heritage

The Study Area forms part of the traditional territory of the Dharawal People, an area that extends from the La Perouse / Matraville sands to Moss Vale, including the Shoalhaven and Burragorang valleys (Mason pers comm 2004). Royal National Park falls part way between the northern Illawarra and Botany Bay Dharawal groups.

Both groups were mostly coastal dwellers who made regular excursions up and down the coast as far north as Port Jackson, and inland to Appin and the Blue Mountains, through the Bulli Pass and Georges River uplands (Organ, M., 1990).

Aboriginal heritage has been documented as a component of studies in the Royal National Park since the 1970s, but most of these are of the studies are focused on more coastal locations than Audley (see Goldstein, W. 1976, Brookes et al 2001). A superficial indifference to the precinct can be attributed to the rugged landscape of the south coast limited the Dharawal's physical movement along the coast and to the hinterland (rather than moving from the coast to inland locations, as groups on the north coast did). As a result, the Dharawal relied strongly on the diverse and abundant marine resources in the area (Graham Brookes et al/2001, p.111).

Audley is traditionally regarded as a 'neutral' meeting place for Illawarra and La Perouse Dharawal groups, with 'shared' ownership values. This apparent indifference to the precinct can be attributed to this common-ground value for the site, as mutually expressed by contemporary Elders, Local Aboriginal Land Councils (La Perouse and Illawarra LALCs), Kurrnulla community and Dharawal Education Centre.

It may be important to note that there are registered Traditional Owners separate from the Land Councils and that the LALCs administers and represents the traditional owners views, values and site protection guidelines (Mason pers comm 2004).

Contemporary Dharawal Elders identify their traditional lands through their family connections:

- Rodney Mason and Shayne Williams identify as Dharawal spokesmen.
- Iris Williams and Gloria Ardler identify as Dharawal from the Illawarra, Georges River and Gandangarra People respectively.
- Beryl Beller Timbery also identifies as Dharawal, but is geographically and directly akin to Illawarra and Georges River Elders.
- Both Beryl and Rodney value Audley for its fishing tradition in their families.
- Marjorie Timbery has recounted her memories dating back to 1930s of the frequent movements of her fishing family from Jervis Bay to La Perouse (Brooke et al 2001).
- Lastly, one of the Sydney South Regional Advisory Group members for NPWS, Glenda Chalker, is from the Cooridjah Dharawal group, with family connections that link the coastal Dharawal to the Southern Highland groups.

From Audley the traditional travel routes to Illawarra were either via the western ridgeline behind Robertson's Knoll, 'Gurrumboola Heights' (Uloola Ridge) to Waterfall, Helensburgh and beyond, or the eastern ridgeline of Black Gin Ridge reached from Artillery Hill, Wises Track, Garie Trig, through to Stanwell Tops and Bulli Pass (Mason, pers comm 2004)

The rugged landscape of the south coast escarpments may have posed a challenge to the mobility of the Dharawal into inland parts (as Brookes *et al* suggest), but it is more likely that they had no need to go inland due to the richness of the coastal flats and immediate hinterlands. It is evident that they relied strongly on the diverse and abundant marine resources in the area.

The earliest dated occupation sites within Royal National Park, at Curracurrang, indicate that Dharawal People have occupied the area for 7500 years (Mulvaney, 1986). This long occupation and use was interrupted by European settlement, which has occupied the area now for only eight generations.

The Aboriginal Heritage Information Management System is the current database of indigenous sites in NSW kept and managed by the NSW NPWS. It contains 51 records of known sites in the Audley and Audley Approaches areas. Half of these are centred on the Temptation Creek and North West Arm catchments of Port Hacking with the remainder (26) found along the Hacking foreshores and slopes from Grays Point to Robertsons Knoll.

These 26 listed sites consist of rock engraving sites (1), shelters with art (2), shelter with deposits (2) or shelters with midden material (16), or midden material alone (5). Within Audley, MacDonald Flat, 2km downstream of Reids Flat, holds 10 of these records.

Reids Flat holds four, Pool Flat and Bridle Track each hold three, Allambie Ridge holds two, and one each found at Grays Pt top track, Grays Point riverside track, Buttenshaw Ridge (Artillery Hill) and another foreshore site near the weir (AHIMS, 2004).

A 1936 archaeological reconnaissance of Port Hacking identified significant sites in the Audley area as "deposits and handmarks" in Allambie Ridge and slopes locations, and many others in the areas of Northwest Arm, Southwest Arm, McDonalds Flat, Grays Pt, Gooseberry Bay (south of Costens Pt) and Fishermen's Bay (Shellshear *et al* 1936).

The Allambie Ridge site is also identified and described in detail in the 1895 Official Guide to the National Park prepared by the Trustees. Interesting and entirely coincident to the naming of Allambie by the early Audley Trustees, "allambee" is also a main character in a traditional story about Aboriginal spiritual beliefs and ancestors, which was later re-interpreted by Illawarra Dharawal People as explaining the European invasion of Australia (the entire text is available in Organ, M. 1990).

Within the wider context of registered sites Audley sits within a diversity of Kangaroo Creek ('lima'), Hacking freshwater ('gurrumboola') and Hacking estuary ('deeban') sites as identified by AHIMS database, and elder Rod Mason (pers comm 2004). The Dharawal identify a species of fish they call 'magadgida' that links the freshwater to the tidal estuary through its life cycle and feeding habits. An interesting link for Audley Fishway proposal.

Contemporary Elders note that vegetation, not the 'midden heaps and other site remnants', is the primary focus of Dharawal traditional land use. Plants were integral for food, fibre and medicine. All song, dance, ceremony and language attest to their significance. For present and future land management purposes it must be realised that the maintenance and protection of vegetation at and around sites, and across entire cultural and natural precincts, is crucial.

The precautionary principle, or telling signal for site significance lies in the conclusion that if an area supports rich natural resources, it will be equally rich and significant culturally.

Site protection can be afforded and attained by planting around a known listed site. Interpretation should link several sites together as they would be linked ecologically, and consequently by Dharawal tradition. (Mason, pers comm 2004).

The ongoing association with the land by the Dharawal People is recognised despite the development of Audley and its approaches, overlying former occupation sites. The interpretative strategy for Audley will reflect the 'shared history' of the precinct. Its prehistory will be entirely honoured as Dharawal, whereas the historic and contemporary uses and values are shared.

2.2.3 Built Form

The built form of Audley has undergone an evolution from a permanent "Camp" to a village of buildings, fenced yards, walls, roads, gardens, bridges and jetty (around the former camping place) to the establishment of extensive areas and facilities for public recreation. The "Camp" at Allambie Flat was elevated to Allambie Slopes to gain views over the confluence of the valleys as well as to avoid potential flooding.

The greatest concentration of pre-1900 built form is in the Allambie and Reid's Flats' precincts. Access over the waterways was provided by a sandstone weir and timber bridges. The force of regular flooding necessitated the constant rebuilding and alteration of the weir structure as well as the rebuilding of the bridges.

The oldest extant built form appear to be the 1880s cottage within the Reid's Slope precinct, the remnant old Audley Road formation threading down the spur (now known as the Bridle Track) and the remnant Wattamolla Road (now known as the Winifred Falls Track).

Buildings were initially constructed on the natural ground of sandstone terraces and later located on level platforms created by sandstone walling. With the clearing of the Loftus Heights and other plateaux for military purposes lateritic ironstone was quarried and added to the retaining structures to build up levels. Evidence of this composite fabric can be seen within the Allambie precinct.

By 1885 the Main Camp consisted a cluster of single storey timber outbuildings and fenced yards servicing a central pavilion structure used as accommodation and dining for the National Park Trustees. A central road linked the village with the National Park railway station. Upstream and adjacent to the weir was a boathouse with a private boathouse further upstream with a jetty attached for use by the Trustees. A corbel timber bridge spanned the Kangaroo Creek arm of the waterbody created by the weir. The bridge linked a secondary road up to the village and across the water, and terminated near an aviary structure located at the southern end of Robertson's Grove (now known as Currawong Flat). On the right bank of the Hacking River Lady Carrington Road was constructed and its alignment adjusted over many years.

In 1885 another single storey cottage existed on the slopes overlooking the present Pool Flat and adjacent to the freshwater stream entering the Hacking River. Documentary evidence suggest that some ephemeral buildings may have been erected on Pool Flat. Certainly an old jetty is shown on an 1881 survey drawing of that area.



from top:

Plate 71:
Site of Lord Audley's 'Camp' on Allambie Ridge, 2003

Plate 72:
Detail of Lateritic and sandstone wall, 2003

Plate 73:
Historic Photo: Timber Bridge in Audley



The building of the Commonwealth Pavilion on the old "horse paddock" (later "Bradley's Flat", now known as "Pavilion Flat") changed the scale of the built form at Audley.

The Trustees accommodation was a single storey cottage referred to as the Trustee's Cottage. It was sited high above the road with excellent views over the Audley Weir Pool and it also grew by gradual extension until its demise (in the 1950's).



The Main Camp Pavilion was extended for public accommodation and became known then as the "Public Pavilion", then extended again and named "The Rest" then again extended and re-named "Allambie House". Allambie House was burnt down in the 1970's as it had insurmountable structural damage from white ants and Park management could not justify the cost of repairs.

With the establishment of Audley as a prime recreation area with road, rail and water access and public accommodation facilities, much redevelopment occurred in the inter-war period, including the full exploitation of the Allambie House site as a hotel with its form responding to the physical constraints of Allambie Ridge. Motor garages replaced the former stables on the same site.



The Long Boathouse was constructed in 1938 and soon after the reinforced concrete retaining walls replaced the earlier preference for sandstone.



Loftus Heights was developed separately to Audley but provided a vital lifeline in the form of roads, railway line, railway station, bus depot and walking tracks to service Audley and the rest of Royal National Park. It is now the location of the Park Headquarters, now known as South Sydney Regional Office, Royal Area and Visitor Centre. It is now the location of the NPWS Sydney South Regional Office, Royal Area Office, Royal Visitors Centre and the Department of Education and Training's Environmental Education Centre.

In the post war period of the 20th century a more rustic approach was taken to the built form at Audley. This is evident in the construction of the two-storey Dance Hall and Kiosk facility (1947) and the earlier (1939) aviary structure located adjacent to the Dance Hall abutting a natural sandstone outcrop at the lower level and ultimately (1940) a rock faced stone and concrete roofed toilet block. Its expression was very rustic with the main support columns simulating natural trees complete with branching patterns set on a base of concrete and bush rocks. Only the toilet block remains.

from top:

Plate 74:
Commonwealth Pavilion, 2003

Plate 75:
The Boathouse at Audley, 2003

Plate 76:
Historic Photo: Allambie House on the site of
the 'Camp'.

Plate 77:
Dance Hall and Kiosk facility, 2003

The fabric of many cottages throughout the study area appear to have changed in this period, but have retained their 19th Century scale.

The introduction of concrete was conspicuous in the study area during the post war period. This includes the construction of a new weir causeway in 1951 and the toilet blocks, change rooms and kiosks built of concrete block construction on the picnic flats. Shelter pavilions were also constructed in this period, notably at Willow Tree Flat and Kookaburra Flat (Wattle Forest). Despite minor alterations these buildings are extant.

Late 20th Century buildings are represented by various toilet blocks (1975), the Park Headquarters and Visitor Centre and the Kiosk at Pavilion Flat. The Kiosk is part of a much larger building proposal as designed c. 1975-78.

Timber wharves were built on the edges of the Audley Weir Pool in the late 1980s and the stone toilet block at Pavilion Flat roofed over with a gable roof in an attempt to harmonise with the other adjacent structures.

In 1993 the Varney Bridge linking Pavilion Flat with Currawong Flat was reconstructed.



from top:

*Plate 78:
Audley Weir, 2003*

*Plate 79:
Timber Wharf structure, 2003*

*Plate 80:
The Varney Bridge connecting Currawong Flat,
2003*

*Plate 81:
Shelter Pavilion on Willow Tree Flat, 2003*

Walls

The following images show the different wall types, from different periods, in and around Audley.



from top:

*Plate 82 to 86:
Audley wall detail, 2003.*



from top:

*Plate 87 to 91:
Audley wall detail, 2003.*

Buildings

The following buildings are extant within the study area;

A. AUDLEY APPROACHES

- B1 Gardener's Cottage complex (1915)
- B2 National Park Railway Station (1886)
- B3 Royal National Park Headquarters and Visitor's Centre (1978-9)
- B4 Education demountable
- B5 Former Superintendent's residence

B. AUDLEY

ALR - Allambie Ridge

- B1 Cottage (1886 +1891 Post Office) and Garage
- B2 Former Trust Office (1956)
- B6 Toilet Block (1934)
- B7 Toilet Block (1934)

ALF - Allambie Flat

- B1 Boatshed (1938)
- B2 Toilet Block (1963)

PAF - Pavilion Flat

- B1 Commonwealth Pavilion (1901)
- B2 Former Dance Hall and Kiosk (1948)
- B3 Toilet Block (1941 +)
- B4 Kiosk (1980)

RAS - Ranger's Slope

- B1 Rangers Cottage (1907-8)

CUF - Currawong Flat

- B1 Toilet Block (1975 +)

WTF - Willow Tree Flat

- B1 Toilet Block (1975 +)
- B2 Shelter Pavilion (1959)

KOF - Kookaburra Flat

- B1 Shelter Pavilion (1958)
- B2 Toilet Block (1975 +)

REF - Reid's Flat

- B1 Cottage (1884)
- B2 Toilet Block (1944 +)

POF - Pool Flat

- B1 Toilet Block (1944 +)

A. AUDLEY APPROACHES

B1 Gardener's Cottage complex consists a fenced compound with a cottage and three corrugated iron sheds all in a neglected condition. The cottage is a brick walled and tiled hipped roof with projecting asymmetrical gable consistent with the influence of the Federation Period. The sheds comprise two small out house buildings and one large shed formerly used as a garage for buses used for conveying people from the National Park Station to Audley. Exotic trees and cleared ground with evidence of former gardens define the site together with a chain mesh fence. The site is the location of an earlier store and coaching accommodation associated with the establishment of the National Park Station.

B2 National Park Railway Station (1886)

Railway platform with formerly brick superstructure now demolished and replaced with steel shelter structure.

B3 Royal National Park Headquarters and Visitor's Centre (1979)

Designed by Leonard Morgan and Bruce Eeles then NPWS staff architects as a centre for the whole of Royal National Park. Steel, part brick and concrete block structure with glazed infill and corrugated iron roof sited at the edge of the plateau to borrow views over the Park generally and into the upper reaches of Port Hacking. Associated with access roads and carparking areas together with demountable classrooms complex used for educational purposes and as a Field Study Centre.



from top:

*Plate 92:
Gardener's Cottage Complex, former garage,
2003*

*Plate 93:
Gardener's Cottage, brick walled and tiled
hipped roof, 2003.*

*Plate 94:
B3 Royal National Park Headquarters and
Visitor's Centre (1979)*

*Plate 95:
B2 National Park Railway Station (1886).
Photo, 2003.*



B4 Education demountable classrooms and office. Grouping of demountable buildings set in heavily planted area yet visible from the Audley Road

B5 Residence (1962) built as the then new Superintendent's residence. Brick and tile building set in cleared open ground and grassed with low sandstone retaining wall.

B6 Former Superintendent's residence (1962)
Brick and tiled single storey building and garage built on the site of a late nineteenth century building used as the former Superintendent's cottage and used from 1962 as the Assistant Superintendent's residence.



from top:

*Plate 96:
B4 Education demountable classrooms and office. Photo, 2003.*

*Plate 97:
B5 (1962) Former Superintendent's Residence, 2003*

*Plate 98:
B6 (1962) Former Superintendent's Residence, 2003*

B. AUDLEY

ALR

B1 Cottage (1886 +1891 Post Office) and Garage

The site is defined by a chain mesh fence containing a single storey painted weatherboard cottage with corrugated iron roof, rear skillion bathroom and partly enclosed veranda apparently adapted as the former Audley Post Office from 1891. The building dates from the earliest phase of the Park's development along with the cottage at Reid's Flat. Located in a garden setting as part of the former Audley Village complex.



B2 Former Trust Office (1956)

A single storey gable roofed building of stained vertical weatherboards, painted timber joinery and cement tile roofing. The design was by R. Harding, Honorary Architect to the National Park Trust and was built to act as a site office for the Trust and it overlooks the site of the former Trustee's Cottage and the former Allambie Guesthouse. The landform between the building and the Post Office Cottage has been modified with the construction of a series of stone retaining walls, grassing and plantings. The southern side has extensive views over the Audley area. Needs conservation, repair and maintenance works.



B6 Toilet Block (1934)

B7 Toilet Block (1934)

A pair of painted brick structures with corrugated iron hipped roofs sited above the flood zone and overlooking Dock Flat. Good condition.



from top:

*Plate 99:
B1 Cottage (1886 +1891 Post Office) and
Garage. View from road, 2003*

*Plate 100:
B2 Former Trust Office (1956)*

*Plate 101:
B6 Toilet Block (1934). Photo, 2003.*



ALF

B1 Boatshed (1938)

The boatshed commemorates the sesqui centenary of European settlement in eastern Australia. It is the last of three previous boatsheds built in the locality on the freshwater pond side of the weir and two on the saltwater side. It is the longest to be built at Audley as a simple single storey timber structure with a hipped tiled roof form. Its length echoes that of the scale of the Commonwealth Pavilion on the opposite Flat. Access to the building was by way of turnstile at the eastern end with an associated office, boat storage and areas for boat building and repairs. The current office and public entry point is now located at the western end where carparking is available. A ramped part concrete and timber slipway gives boat access to the freshwater body. Generally good condition.



B2 Toilet Block (1963)

Painted concrete block structure with corrugated iron roof. Reasonable condition.



PAF

B1 Commonwealth Pavilion (1901 + ongoing repairs)

A long open sided building (45750 mm and 12230mm wide) of timber construction, boarding and corrugated iron gable roof form. It is a major built element within the Audley Core area contributes to the character of Audley as a made place for public recreation. Flooring is concrete of varying qualities. The shelter space has been enclosed by the earthworks and planting to the north and the sandstone drain and retaining wall forming the edge of the road alignment to the south. Reasonable condition. Some knee braces missing.



B2 Former Dance Hall and Kiosk (1948)

A two storey structure of timber, concrete block, concrete posts and asbestos cement with a gable roof and integrated upper level return veranda. The building was designed in the office of the Government Architect Cobden Parkes c.1946.

Conspicuous building elements are the bush pole columns and the concrete replacement poles which contribute to the rustic character of the building.

The building was constructed to provide a Dining room with dance floor on the upper level and a Kiosk at the lower level although the Dining room was never established as such but used for social functions. It was adapted as a Visitor Centre in 1969. Generally reasonable condition.

from top:

Plate 102:
B1 Boatshed (1938). Photo, 2003.

Plate 103:
B1 Commonwealth Pavilion (1901 + ongoing repairs). Photo, 2003

Plate 104 and 105:
B2 Former Dance Hall and Kiosk (1948). Photo, 2003.

B3 Toilet Block (1941)

Built to the design of W.K.Moffat, vice President of the Trust and S.Stringer, the Park manager this sandstone structure has a concrete roof with another pitched and gabled roof built over the top. The structure was designed to blend into the natural rock outcrops and as such the Male toilets are located on a lower level than the rest . This has created access issues.

The external walls are built of rock faced sandstone facing the road and rendered to the remainder and has an assymetriacl plan form with a strong taper to the eastern end. Reasonable condition.



B4 Kiosk (1980)

This timber framed structure with corrugated iron wall sheeting and roofs with verandah and stepped deck areas was constructed in 1980 as part of an original design for a larger facility at Pavilion Flat designed by Leonard Morgan and Bruce Eeles from 1975-1979. It is set within a heavily planted area and access for disabled persons is difficult. Fair condition.



from top:

*Plate 106:
B3 Toilet Block (1941). Photo, 2003*

*Plate 107:
B4 Kiosk (1980). Photo, 2003.*



RAS

B1 Rangers Cottage (1907-8)

Single storey timber weatherboard and corrugated iron gabled roof building with rear veranda filled in to accommodate laundry and bathroom facilities. Much of the fabric has been replaced at different times however the form of the building retains a Victorian period scale similar to earlier constructed residences within the Audley area despite its Federation period construction date.

Reasonable condition. May require conservation works.

CUF

B1 Toilet Block (1975 + recent works)

Concrete block construction with corrugated iron roof.



WTF

B1 Toilet Block (1975 + recent works)

Concrete block walls and corrugated iron gable roof with timber lattice to gable ends. sited on slightly raised mound adjacent to Lady Carrington Road.

B2 Shelter Pavilion (1959)

Sited centrally to both Willow Tree Flat and Fig Tree Flat this open shelter of painted brick piers supporting a simple gable roof form of corrugated iron is built on a raised earth mound



from top:



*Plate 108:
B1 Rangers Cottage (1907-8). Photo, 2003.*

*Plate 109:
Currawong Flat. B1 Toilet Block (1975 + recent works). Photo, 2003.*

*Plate 110:
Willow Tree Flat. B1 Toilet Block (1975 + recent works). Photo, 2003.*

*Plate 111:
Willow Tree Flat. B2 Shelter Pavilion (1959). Photo, 2003.*

*Plate 112:
B1 Rangers Cottage (1907-8). Photo, 2003.*

KOF

B1 Shelter Pavilion (1958)

Simple open gable roof form supported by painted concrete pipes.



B2 Toilet Block (1975 + recent works)

Concrete block walls and flat metal roof with painted corrugated iron screen walls set in a heavily planted context to reduce visual impact.



REF

B1 Cottage (1884)

Remaining cottage of a pair of residential structures dating to the 1883-1890 phase of development of the Park. This single storey cottage is sited on its own terrace with surrounding garden area. The basic Victorian Period form of square plan weatherboard and corrugated iron roof with brick chimney has had many adaptations and extensions with a variety of built fabric both externally and internally.



B2 Toilet Block (1944)

Painted concrete block construction imitating rock face stonework with corrugated iron roof.



POF

B1 Toilet Block (1944)

Painted concrete block construction imitating rock face stonework with concrete tiled roof.



from top:

Plate 113 and 114:
Kookaburra Flat. B1 Shelter Pavilion (1958).
Photo, 2003.

Plate 115:
Kookaburra Flat. B2 Toilet Block (1975 +
recent works). Photo, 2003.

Plate 116:
Reid's Flat. B1 Cottage (1884). Photo, 2003.

Plate 117:
Reid's Flat. B2 Toilet Block (1944). Photo,
2003.

2.2.4 Cultural Landscape

Audley and its approaches are the result of an evolution of interventions by non-indigenous people overlying land associated with indigenous occupation. As such it is a cultural landscape which has evolved from different land uses rather than the implementation of an overall design. Audley's landscape character relies on the contrast and balance between the development of cultivated areas to provide modern visitor facilities with the conservation, protection and enhancement of the endemic natural environment.

The Audley Flats have been extended and cleared of indigenous understorey vegetation and planted with ornamental and often exotic species of grasses, shrubs and trees to form a pleasure ground. Remnants of these reflect the different fashions and approaches to the design of recreational parkland throughout Audley's evolution from natural place to a cultural artefact.

The late 19th Century preference for coniferous trees and rain forest species is represented by the remnant plantings of *Araucaria* spp., *Pinus* spp. and Moreton Bay Figs (*Ficus macrophylla*) extant at Loftus Junction, Gardener's Cottage and Garage, Currawong Flat, Willow Flat, Pavilion Slopes and Pool Flat. Later plantings of deciduous trees such as Lombardy Poplars (*Populus nigra*) and Weeping Willows (*Salix nigra*) are extant at Allambie Flat and Willow Tree Flat.

In the Federation Period further tree planting was undertaken mostly on the plateau to define the approaches to the Park between Sutherland, Loftus and the National Park Stations. The ornamental planting followed the alignments of both rail and road. The plantings were a mixture of Pines and Brush Box (*Lophostemon confertus*) of which some are extant. Many of these trees have been removed systematically to reduce their invasion of the indigenous bushland.

Extant Inter-War years plantings include Cottonwood Poplars (*Populus deltoides*), Washingtonia palms (*Washingtonia robusta*), Hills Fig (*Ficus microcarpa* var *hillii*), Blackbean (*Castanospermum australe*) and Oleander (*Nerium oleander*).

In the post war years of the 20th Century further deciduous trees were added, including London Plane Trees (*Platanus x hybrida*) and the Acer species at Ironbark Flat, Allambie Flat and Currawong Flat as well as Carob (*Ceratonia siliqua*) at Currawong Flat. Rock gardens were built to display native plants however only the partial structure of the rockwork remains. Brush Box trees were planted along Farnell Avenue on the plateau in the mid-1960s. Late twentieth century plantings are represented by the use of indigenous native species in an attempt to restore the remnant riparian forest community. Particularly evident are the mass plantings of Ironbarks and wattles at Ironbark Flat, which reflect the indigenous ecology of the alluvial edges, yet completely change the visual and spatial structure of an established open space recreational facility.



from top:

Plate 118:
Araucaria on Currawong Flat, 2003

Plate 119:
Poplars (Populus nigra) and *Brush Box (Lophostemon confertus)* trees (on right), 2003

Plate 120:
Hills fig (Ficus macrocarpa x 'hillii') and *Black Bean (Castanospermum australe)* trees, 2003

Plate 121:
Poplar (Populus deltoides) and *London Plane (Platanus x hybrida)* on Pavilion Flat, 2003

2.2.5 Historical Archaeology

An historical archaeological survey undertaken for the 1987 Audley Conservation Plan found a number of sites, and a high degree of disturbance. Reasons for the paucity of evidence were the ephemeral quality of many of the structures and site conditions, notably flooding. Although the sites were determined as presenting minimal potential research value, the 'associative' significance of the remaining archaeological sites was recognized as

...evidence of the various functions and facilities provided within the Park for the many people who worked there and visited. They demonstrate a particular philosophy and custom. In particular, they reflect the fact that in the late 19th century and early 20th century the site accommodated a much larger population (associated with the use and management of the Park) than in recent times. (*McDonald et al 1987, p. 42*)

The 1987 report also noted that within the built fabric of Audley there are a variety of construction techniques as well as stylistic variations in the buildings at Audley, and some of these may be associated with historical events and as work relief programs. A second report, undertaken for the Sutherland Shire Heritage Study in 1993, found that the archaeology at Audley highly significant as a representation of European settlement patterns in the area. (*Perumal Murphy Wu, 1993.*)



Figure 16:
Archaeological Site Plan

2.3 Visitor Use, Social Values and Management

2.3.1 Visitor Use at Audley

Audley is the most popular destination point within Royal National Park. This reflects a trend throughout Royal National Park dominated by half-day visits, with the large majority of visitors (94%) arriving by car, mainly from the Southern and Southwestern Sydney suburbs. Use throughout the park is concentrated along the Hacking River, the foreshore of Port Hacking and the coastline. Audley is the largest day use area on the Hacking River.

The most recent data (1987) indicates that approximately 411,000 people visit Audley annually, and casual observation supported by rangers' records, indicates that visitation rates vary widely between weekends and weekdays, and between holidays and non-holidays. Peak visitation occurs on Christmas Day, New Years Day, Australia Day, ANZAC Day, Easter and Mother's Day. On such days when Audley is the primary destination it may often exceed its parking space capacity. In this eventuality, NPWS staff man security gates to deter further crowding to permit access for emergency vehicles. Individual drivers and family groups of cars may be invited to travel on to another day use area in Royal National Park (that internal radio communications have indicated have space available to receive any overflow from Audley).

This scenario occurs vice versa for other sites such as Wattamolla, Garie and Bonnie Vale that experience unsafe overcrowding on hot summer holidays when Audley may not be the primary destination of the visitor.

Also, after heavy rainfall events Audley Weir may get breached by floodwaters and Audley becomes split into disconnected left and right banks. Picnic areas are completely inundated and BBQs rendered inoperable as their electric or gas mechanisms are flooded. In this case visitors are turned away from Audley and encouraged to access other day use areas in Royal National Park via the Waterfall or Otford entrances.

As the RTA and local traffic Police patrol the Farnell Road closure both NPWS and RTA communicate via signage and patrol officers at key locations along the Princes Highway and Farnell Avenue to facilitate visitor access and use.

The ethnic background of visitors is highly varied, and includes Vietnamese, Macedonian, Chinese, Korean and Indian groups, as well as people of Middle Eastern and west European descent. A 'snapshot' survey of 520 visitors over the 2004 Australia Day long weekend revealed 22 ethnic groups - with Greek and Macedonian communities conspicuously absent. This may be circumstantial or may be reflecting a trend shift to other destinations by this community. Non-English languages noted in this 2004 survey (in descending order of frequency); Vietnamese, Arabic, Cantonese, Lebanese Filipino, Italian and Russian (Ross per comm 2004).



from top:

Plate 122:
Boating around the flats, 2003

Plate 123:
The well used Commonwealth Pavilion, 2003

Plate 124:
Group gatherings on Kookaburra Flat, 2003

Activities include mainly barbeques, picnics, walking, bike riding, family gatherings, group gatherings, bird watching, bush walking and boating. Motorboats are gaining popularity, on the saltwater side of the weir.

Groups tend to congregate at the pavilions, with the Commonwealth Pavilion and Wattle Forest Pavilion on Kookaburra Flat well used on the weekends for larger groups. The smaller Pavilion at Willow Tree Flat is used by smaller groups and families. Other facilities include the kiosk, the boat shed (with row-boat, kayak and aqua-bike hire), barbecues, toilets, water, carparking, rubbish and recycling, shelter pavilions and the Dance Hall. The Commonwealth Pavilion is the largest pavilion that can shelter 200 people. The Dance Hall can be formally hired for functions, community meetings and educational sessions.

Although mainly a destination, Audley is also an important through point for traffic to Bundeena (Maianbar) and other parts of the park. It is also an access point for adjacent bush tracks, especially Lady Carrington Drive. The car park at Willow Tree Flat in particular accommodates a significant number of walkers, joggers and cyclists who use the Drive.

The pavilions and other limited ability sites around Audley are focal points for elderly and special needs groups that visit Audley on the relatively quiet week days. The Commonwealth Pavilion especially utilised, as is the Willow Tree Flat picnic area, where access is easily afforded to pavilions and toilet facilities.

Cycling

Audley is a very popular destination for family cycling. It is a quiet, non-destructive, healthy and non-polluting activity that is fully supported and promoted by NPWS. Combined with public transport, cycling provides enjoyable and unintrusive mobility and access to Audley. It is ideal to the precinct's scale to explore the picnic areas and adjoining Lady Carrington Drive.

The 'Sutherland to Audley' route is promoted and adopted in the Bicycle Network Plan of the Sutherland Shire's Local Environment Plan, drafted in 2003 (Doig and Gormley submissions 2004). Maintaining and upgrading bicycle friendly lanes along Rawson Avenue from Sutherland, and its extension into the Royal National Park along the tramline, facilitate this access mode and visitor use.

The hill on Audley Road presents a challenge to family groups. Discussions between NPWS and RTA to reduce motor traffic speeds, and to extend the road's sealed shoulder to provide a cycle path separated from motor vehicles by the existing crash barrier, are on-going on this visitor use issue.

For avid road cyclists who use the Royal National Park as a full circuit ride they statistically prefer riding in an anticlockwise pattern (White submission 2004). In this way Audley Hill presents an 'up challenge' whereas Artillery Hill is a 'down' or 'speed challenge', as the shared vehicle and car lanes are relatively safer that way.

The proposed signage and road treatment works for speed reduction are currently being considered between NPWS and RTA to incorporate the needs and safety issues of cyclists and motorists, including those at maximum allowable speeds (Pace and McNeill submissions 2004).

It is of interest that cycling spokespeople note that it is car traffic speed rather than terrain that is the chief determinant of where and how riders go. They predict, therefore, that with successful speed reduction greater cyclist usage within and through the Audley precinct will be experienced (White and Doig submissions 2004).



Environmental Education

Audley has always been an informal destination by schools, individual students, cadets, scouts and family holiday program activities.

Formal programs under the NPWS Discovery Program (previously the Seasonal Ranger Program) and DET's Environmental Education Centre (previously the Field Studies Centre) have used Audley as a focal point and staging area for a number of activities, especially since 1979 (Gallan pers comm 2004, and Melrose submission 2004).

Environmental education is afforded through both the natural as well as the built forms in Audley, with the Dance Hall and Commonwealth Pavilion frequently used to host teacher training, student enrichment programs, international Teachers forums, and the annual NPWS/DET event 'Envirothon'.

The natural world provides inspiration for lessons in environmental awareness, birdwatching, flora studies, art, macro-invertebrate sampling, streamwatch, aboriginal culture, bushcraft and minimal impact.

Audley is used as the staging area or 'watering hole' for undertaking bushwalks to Port hacking (from Reids Flat), Kangaroo Creek (via Robertsons Knoll), rainforests (via Lady Carrington Dr, Heathcote or Waterfall (via Uloola Track), Muddy Creek (via Winifred Falls track) and most notably the use of the Honeymoon Track / Bridle Track circuit.

2.3.2 Community Values

General Community Perceptions and Values

Values identifiable through the uses mentioned in the preceding section include the tangible and intangible qualities of Audley for recreational, spiritual and educational potential. Further to these, an Open Day was held at RNP to elicit community values and perceptions of Audley in June 2003. The workshop involved an assessment of Audley's "strengths, weaknesses, opportunities and threats". The following discussion of strengths is an extract from a summary report prepared by Carolyn Stone, the facilitator for the session. The complete report is included as Appendix G.

from top:

*Plate 125:
Community workshop, June 2003*



Audley's great strength was seen to lie in its natural beauty, its proximity to and association with water and the nature and variety of views it offers.

Audley was noted as a popular meeting place for a wide variety of users and for a variety of activities, including bird watching. The low-key nature of activities at Audley was appreciated, as were the various programs that had been put in place at Audley, including the ecological restoration [sic].

Some participants considered that Audley had an "oasis" quality, providing a sense of respite and pleasure for visitors. Its amenities and heritage qualities contributed to this. The Aboriginal heritage of Audley and the associated archaeological richness of the site were considered to be highly important. Audley's European heritage, partly expressed in the built elements, including the weir, was also greatly valued. Many people felt an attachment to the buildings on the site, as a result of activities having taken place there in which they were involved. Overall, the layering of the history of the site was seen to be a significant strength.

Aboriginal Community

The value of the land occupied by Royal National to the local Aboriginal community was documented in 'Royal National Park Coastal Cabins Areas Draft Conservation Management Plan' (Brooks *et al* 2001, p. 111). This report identifies two factors which influence the Dharawal's use of the area: the diversity and abundance of marine resources along the south coast and the rugged topography. The latter contributed to localized and small scale fishing activities dispersed along the coast. Although the Dharawal were displaced as the area was resettled, they continue to value coast 'as an important link to the past and in particular the varied fishing practices of the Dharawal people' (Brooks, 2001, p. 111) Oral histories with La Perouse spokespeople, elders and sites officers mention the confluence of the watercourses as a significant fishing and gathering area. The area now known as Audley was the site of family meetings and as a unifying common ground with their Illawarra relations.

Macedonian Community

The NSW NPWS has initiated a study of attitudes towards national parks in a series called 'Studies In The Cultural Construction Of Open Space'. The first publication in the series, A Multicultural Landscape: national parks & the Macedonian experience (by Martin Thomas) published in 2001, broadly sets out to document the diverse cultural perceptions and values related to national parks. Thomas' research reveals the important role that Audley has played in assisting the Macedonians to adjust to a new land and a new culture. Of special interest and note is that from the mid 1970's to its zenith in mid 1990's to tapered decline in 2003 the Macedonian community of Sydney and the Illawarra held a large holiday on Christmas Day at Audley, as well as smaller gatherings at Audley throughout the year.

from top:

Plate 126:
Macedonian Christmas picnic, 1999
(Thomas M., 2001, *National Parks and the Macedonian Experience*, Pluto Press, Aust.)

Plate 127:
Macedonians on Varney Bridge, Christmas 1999
(reference: as above)

Plate 128:
Vietnamese students' barbeque at Royal National Park
(Thomas M., 2002, *National Parks and the Vietnamese Experience*, Pluto Press, Aust.)

Plate 129:
Boating in Royal National Park
(reference: as above)

Vietnamese Community

The second publication in the same series, 'Studies In The Cultural Construction Of Open Space', examined the experience of Vietnamese people in National Parks, but presents quite different findings. For the Vietnamese, Audley and similar park-like landscapes in the national parks often serve as introduction to the Australian landscape. Many Vietnamese arrive in Australia with memories of war, and harbour innate fear of 'wild' areas. The author of this study, Mandy Martin, suggests that picnic and pleasure grounds help these people adjust to their new country by re-presenting these 'wild' areas. Alongside some personal fears expressed, several others noted that the Vietnamese community also locate sacred experiences in nature, and areas in several national parks in the Sydney region, including Royal (but not Audley) are sites of religious worship.

2.3.3 NPWS Management

The Royal National Park, Heathcote National Park and Garawarra State Recreation Area Plan of Management (2000) lists 13 management objectives specific to Royal National Park six of which apply to Audley:

- promote natural and cultural heritage conservation, the work of the Service, and environmental education;
- protect the catchment of the Hacking River;
- conserve the historic recreational settings and cultural landscapes;
- increase public awareness of the history and development of RNP in respect to changes in the philosophy of recreation and conservation management;
- encourage the appropriate use of the park;
- provide outdoor recreation opportunities at existing levels within the established facility areas.

The Plan of Management also contains policies for the conservation of heritage values, and again those that apply to Audley include:

Natural Heritage:

- prioritise the control of soil erosion in heavily used estuarine foreshores;
- seek cooperation and involvement of the Hacking River Catchment Management Committee (disbanded in 2000 and replaced with Southern Catchment Board. NPWS management consult with Councils, DIPNR and other relevant agencies on Hacking catchment issues);
- protect catchment values, including water quality and visual amenity;
- maintain diversity and distribution of native flora and fauna communities;
- protect wildlife corridors;
- control and eradicate weeds, in cooperation with other authorities and neighbours;
- retain exotic plantings of high heritage value without compromise to natural values;
- control and where possible remove introduced species of fauna.

Cultural Heritage:

- prepare conservation plans;
- adhere to Burra Charter in conservation management and planning;
- retain significance of heritage places and items, modify/remove uses/items compromising heritage values;
- develop a complete inventory of heritage items and places, and a curatorial program;
- align heritage inventory with Sutherland Shire Council's Heritage Study;
- interpret the history of the park;
- Aboriginal Heritage;
- adhere to Burra Charter, and conserve all Aboriginal heritage sites;
- pursue joint management arrangements with Land Council;
- develop a complete inventory of Aboriginal sites.

In particular reference to Audley, NSW NPWS management philosophy is to provide a balance between habitat creation and recreational safety, including managing the access to the river edge. Other specialized management tasks at Audley include crowd control and river management which focuses on dredging and removal of snags.

2.4 Landscape Character, Precincts and Condition Assessment

The spatial structure of Audley Pleasure Grounds contrasts with its linear approaches on land and water. The confluence of the two valleys provides the visual and spatial structure to Audley. It is a sense of a clearing in the forest with the reflective waterbody enhancing the open space and extending the once planar quality of the grassed flats as a safe destination for recreation. The seen area of Audley is broken into different spaces as in the sense of different rooms in a house.

The Audley core is centred around the confluence and includes as one unit the following precincts; Allambie Slopes, Allambie Flat, Bus Stop Flat, part of Pool Slopes, Kangaroo Flat, Pavilion Flat and Slopes, Currawong Flat, Currawong Slopes and part of Willow Tree Flat, Willow Tree Slopes and the surrounding National Park lands, forming the landscape setting.

The other rooms are made up of Willow Tree Flat and Kookaburra Flat, Reids Flat and Pool Flat.

Within the Study Area other spatial "rooms" can be considered:

- the Royal National Park railway station / Visitor Centre precinct
- Gardeners Cottage and Garage at Loftus Heights on the plateau
- the staff residence and old workshop site on Audley Road.

The existing area of Audley is further defined and plotted on a series of maps which identify two broad contexts: the Audley Approaches on the Plateau and within the estuary and the Audley Landscape Precincts (See Figure 4 - Audley Approaches, figure 31, 32 and 33).

The extent of the Landscape Precincts were derived from the 1987 Conservation Plan and are identified as follows into: Salt water Body, Freshwater body, Flats, Slopes, Steep Sandstone Slopes and Plateau.



1. Saltwater Body

This is the upper part of the Port Hacking estuary. Its tidal waters are used for active and passive recreation and they contain the remnants of the original stone causeway as well as the stone training walls.



2. Freshwater Body

This is the extent of the body of water backing up the Hacking River and Kangaroo Creek created by the different causeway constructions at Audley. Both the causeway and the waterbody are significant landscape elements as influential in the development of Audley and as a gateway to the larger Royal National Park area.



3. Flats

Grassed alluvial Flats with a mixture of cultural and Indigenous plantings and containing various quantities of built artefacts. These landscape precincts are divided up into recognisable areas of alluvial river deposits of a very gentle slope in contrast to the broken character of the steep sandstone country. They support a different vegetation community and because their form have been developed as picnic flats comprising exotic grasses, trees and shrubs with mixed remnant indigenous species. Most contain roads and parking areas, walls, culverts, signs shelter pavilions and toilets.

The identified Flats in current use are:

- Allambie Flat
- Pavilion Flat
- Currawong Flat
- Dock Flat (Bus Stop)
- Reid's Flat
- Pool Flat
- Willow Tree Flat
- Fig Tree Flat
- Kookaburra Flat (Wattle Forest).

from top:

Plate 130:
Saltwater body. View to Reid's Flat, 2003

Plate 131:
Freshwater body adjacent Audley Weir, 2003

Plate 132:
The grassy and alluvial Willow Tree and Fig Tree Flat, 2003

4. Slopes

Steep sandstone slopes modified by terracing and cultural planting. These are precincts adjacent to the alluvial Flats where clearing and terracing has occurred either for siting buildings, structures, dams, tanks, plantations, roads or pathways. They are generally areas of poor sandy soil and where cultural planting has not been generally as successful as on the Flats. The slopes provided elevated viewing positions as well as protection from cyclic flooding within the valley floors.

The identified Slopes with cultural plantings are:

Allambie Slopes

Reid's Slopes

Pool Slopes

Pavilion Slopes

Rangers Slopes

Currawong Slopes

5. Steep Sandstone Slopes

Steep sandstone slopes with indigenous vegetation

These are areas in a substantially natural state containing mostly indigenous vegetation and walking tracks, roads or former roads. The relatively nutrient-poor soils support a rich and complex diversity of plant species and forms, and together with the natural ruggedness of the slopes contrast with the simpler linear forms of the developed river flats.

6. Plateau

Sandstone plateau with undulating topography and incised creek lines. Large areas of the plateau were cleared for military purposes in the late 19th Century and have regrown despite regular impact from fires. The plateau also contains existing and former road alignments, a branch of the railway line, the Royal National Park station, the NPWS Regional and Area Offices, the Royal Visitor Centre, and the Environmental Education Centre (of the Department of Environment and Training).



from top:

*Plate 133:
Modified sandstone terracing, 2003*

*Plate 134:
Steep sandstone slopes with indigenous
vegetation, 2003*

*Plate 135:
Sandstone plateau with incised creek lines,
2003*

PART III SIGNIFICANCE

3.1 Introduction

The following assessment of cultural significance is based on the Audley Conservation Plan (1987) by Brian McDonald et al. This assessment extends the 1987 version 3.1 to consider the current criteria of the NSW State Heritage Register (2000). It is also informed by the fifth edition of The Conservation Plan (2000) and relies on an understanding of:

- the fabric as evidence;
- the associations of the place;
- its physical qualities and relationships.

3.1.1 Methodology

The assessment relies on the following guidelines to identify and assess specific aspects of Audley's heritage:

- The Australia ICOMOS Burra Charter (revised 2000) which expresses cultural significance in terms of historical, aesthetic, scientific, and social values;
- The NSW Heritage Office's State Heritage Criteria (SHC) and;
- The Australian Heritage Commission's criteria (AHC), which together with the SHC assess heritage values, levels and themes

A schedule of significance (Section 3.2) documents the level of significance for each area and item.

3.1.2 Comparative Analysis

Public parks in western Europe and the United States emerged in the mid 19th Century in response to intensifying urbanization, and in particular, out of a desire to clean and civilize the cities. Many of these were informed by the romanticism of the 18th Century landscape school, and two of the best examples are Birkenhead Park in Manchester England, and Central Park in New York City. Both feature central city locations, carriage drives, promenades, artificial bodies of water as well as extensive areas of tree plantings, kiosks and limited opportunities for casual sport.

National Parks emerged in the same period, but responded to the growth of cities by focusing on the conservation (rather than transformation) of natural resources and the provision of recreational opportunities. Many of the older National Parks (late 19th Century and early 20th Century like Yosemite, Yellowstone and Arcadia) in the United States featured campgrounds, walking tracks and carriage drives, and were located at great distances from large cities.

Thus, the recreation and pleasure grounds established throughout Sydney in the late 19th Century represent a trend which occurred in Europe, the United States as well as Australia. Early, local prototypes include Sydney Botanic Gardens and the Sir Joseph Banks Hotel. Despite the private development of the hotel and the scientific, institutional pursuits of the Botanic Gardens, both were used for recreation and included a zoological component. In addition, both the National Park and the Sydney Zoological Gardens (established in 1879 in Moore Park) shared a common board of some of its Trustees.

There are several extant historic pleasure grounds in the metropolitan Sydney area. Commonalities include their proximity to water and suburban communities, the deliberate transformation of the bush to a recreational facility-particularly picnic grounds, and their current location within National Parks. They include the following:

- Athol Hall, in the former Ashton Park, Mosman, Sydney Harbour National Park;
- Nielsen Park, Vaucluse, Sydney Harbour National Park;
- Fairylands Pleasure Grounds, Lane Cove National Park;
- Captain Cook's Landing Place, Kurnell, Botany Bay National Park;
- The Dance Hall at Bantry Bay, Garigal National Park;
- Orchard Park, Bobbin Head, Kur-ring-gai Chase National Park;
- Windy Banks Paradise, Waratah Bay, Kur-ring-gai Chase National Park.

Audley is distinctive in this list by its history as an integral precinct within the (Royal) National Park; most, if not all of the other sites listed above existed prior to and independent of the establishment of the current national parks they are now part of. Audley has evolved with sites of permanent occupation from the establishment of the first National Park in Australia in 1879.

The concept of clearing the undergrowth to create extensive grassed areas with remnant and introduced trees to create a parkland setting is a common one. Often the grassed surface was stocked with introduced deer to create familiar northern hemisphere settings yet the grass was often an attraction for indigenous animals such as wallabies, kangaroos and emus. Mr Harris's Ultimo Estate in Sydney was one such setting with the introduced deer sent to other country estates such as Manar, Braidwood. When Parramatta Park was created in 1858, deer from Manar were introduced into the new park. These deer were subsequently sent to the National Park following its establishment in 1879, thereby extending the sense of familiarity and ultimately the use of public pleasure grounds for zoological experimentation and acclimatisation.

Along with Grand Drive in Centennial Park, established in 1888, Lady Carrington Drive is one of the first public 'drives' in New South Wales. In addition, Lord Carrington considered the National Park inaccessible for Sydney-siders and subsequently recommended the creation of a more suburban location. This ultimately resulted in the formation of Centennial Park with the Grand Drive as its first facility. With the expansion of suburban and urban development Audley is now more accessible but mostly dependent on private motor vehicle access.

3.1.3 Historic Themes

Historic themes, set out by the Australian Heritage Commission and the NSW Heritage Office can provide a context with which the cultural and heritage significance of an item can be understood, assessed and compared. This approach provides a useful framework within which significance can be assessed.

The 1987 Conservation Plan for Audley identified conservation and recreation as major heritage themes. Minor themes included access, exploitation of natural resources, scientific uses, military uses and use of unemployed labour.

In addition to conservation and recreation, education is now considered another major theme, as Audley has become an outdoor education centre for learning and research for a wide range of community and institutional environmental education.

The table below is a comparison of the themes in 1987 and 2003.

	1987 Themes	2003 NSW Themes
Major themes	Conservation Recreation	Environment—natural Environment—cultural landscape Education Leisure
Minor themes	Access, Exploitation of Natural Resources, Scientific Uses, Military Uses Use Of Unemployed Labour	Events Labour Defence Government Explorations Aboriginal cultures Persons



from top:

Plate 136:
Environment: Natural landscape in Audley,
2003

Plate 137:
Environment: Grassed flats in Audley Core,
2003

2003 NSW Themes

Environment: Natural

The natural environment of Royal National Park, a coastal landscape of deeply incised Hawkesbury sandstone and a wide variety of vegetation communities, forms the setting of the Audley study area. Today Audley is characterized by the contrast between the cultural landscape of the picnic grounds and the natural landscape of the surrounding slopes, plateaux and waterways. A wide variety of (human) communities have engaged with the natural environment at Audley, in an equally wide variety of ways. Consideration of the nature of these interactions, particularly as a setting for recreation for immigrants to Australia, reveals much about the changing attitudes to the natural environment embedded within broader cultural transformations.

Environment: Cultural

The construction of a causeway across Port Hacking in 1883 had the effect of creating an extensive freshwater body upstream of the Hacking River and Kangaroo Creek confluence. This freshwaterbody became the focus of the development of Audley as a cultural landscape which prioritised non-indigenous values. Audley served initially as a place of acclimatisation of exotic flora and fauna and later as a place of public recreation.

This cultural landscape utilised the contrasting characteristics of the indigenous landscape setting with the cultivated ground mostly adjacent to the Audley Weir Pool or the headwaters of Port Hacking. Alluvial flats and lower slopes were mostly cleared, fenced, grassed and with exotic plantings gradually introduced to create a complex of built form and a mixture of indigenous, non-local native and exotic flora. Today these represent the evolution of Audley since 1788, albeit without an overall structure or plan for the whole.

Aboriginal Cultures

The Audley study area forms part of the territory of the Dharawal people and evidence of their occupation is extant both at Audley and elsewhere within the Royal National Park. The evidence contains different art forms, rock shelter sites, camping sites, axe grinding sites and middens all of which are scattered about the Park and beyond. The Aboriginal sites and their association with the place are important to contemporary Aboriginal communities. They also provide valuable research and education opportunities to gain a wider understanding of the culture of these people within the Sydney Basin.

Events

Specific historical events have had an impact on the Audley study area including;

- the Military Reviews and encampments from 1886 to 1901 at Loftus Heights,
- the construction of the Commonwealth Pavilion at Bradley's Flat in 1901 to celebrate Federation,
- the visit by the Duke and Duchess of York in 1901,
- the visit of the United States Pacific Fleet sailors and marines in 1908 and their entertainment in the Commonwealth Pavilion,
- the construction of the long boatshed in 1938 commemorates the Sesqui-Centenary of European settlement on the east coast of Australia,
- the visit by Her Majesty Queen Elizabeth in 1954 resulting in the prefix "Royal" added to the naming of the Park,
- the building of the NPWS Park Headquarters and Visitors Centre in 1979 to mark the Centenary of the establishment of the National Park.

Audley is also the site of a traditional Christmas day picnic attended by Macedonians.

Explorations

Port Hacking was first surveyed by Europeans in 1827. Audley is named after Lord Audley's camp site at the confluence of Kangaroo Creek and the former tidal waters of the Hacking River during a survey of Port Hacking in 1864. Exploratory surveys were taken in the 1870s to determine possible railway routes for a proposed line to the Illawarra Region.



from top:

Plate 138:
Environment: Contrasting landscape types in Audley. Grassy flats on Allambie Flat looking across to natural bushland, 2003.

Plate 139:
Events: Picnicking on Allambie Flat, 2003

Labour

The supplementary use of unemployed labour has had a major impact on the works carried out on the Park. The works included the construction of roads, culverts, pathways, the underscrubbing of land, clearing, grassing and tree planting. The training walls in Port Hacking were also extended using unemployed labour.

During the Depression of the 1930's a large camp for the unemployed was established in the northern section of the Park near Sutherland. A camp was also located on Artillery Hill. More recently, unemployed work schemes have been used for reconstruction of walking trails such as the Honeymoon Track in 1979 and following intensive bushfire damage in 1994.

Education

The NPWS embraces education as part of its mission, and in many ways, the whole Park can be considered an outdoor classroom, most directly through the establishment of the Environmental Education Centre (EEC), by the NSW Department of Education and Training for public school children, established adjacent to the Visitors Centre. As well, the continued operation of the NPWS Discovery Program (formerly Seasonal ranger program) for private schools and family activities, embody the educational theme of the precinct.



The EEC and discovery programs regularly use the Dance Hall, Commonwealth Pavilion, and each of the riverside flats for educational training activities of primary and secondary schools and teacher training courses. The Honeymoon Track and Bridle Track circuit is most popularly used and Audley is often used as the staging area from which walks and activities step off from as it forms the confluence of several major habitat themes - rainforest (Lady Carrington Drive), estuary (Reids Flat and Riverside Drive), freshwater creeks (Robertsons Knoll/Kangaroo Ck, reedy riverflats), woodlands (Winifred Falls, Muddy Creek, Uloola, and Honeymoon/Bridle Tracks).



There is also a history of smaller scale efforts to use areas in the Audley Precinct for education. In 1924, a 'Scientist's Cabin' was erected near the Upper Causeway off Lady Carrington Drive to allow for wildlife observations by the Royal Zoological Society. In 1943 an experimental plantation of oil-bearing trees was established along part of Lady Carrington Drive. The scheme was sponsored by the Technological Museum and over 5000 trees were planted. The National Park Trustees considered it to be of "educational value".

Recent studies have shown the national parks are an important dimension of the immigrant experience, often serving as an introduction to 'nature' in Australia. These same studies indicate that Audley, in particular, has played an important role in the lives of Macedonian and Vietnamese immigrants living in the Southern Sydney metropolitan area, as an unthreatening environment in which to adjust to their new lives (see Thomas, 2001 and Thomas, 2002).

from top:

Plate 140:
Labour: Road clearing

Plate 141:
Education: Macedonian introduction to the Australian bush
(Thomas M., 2001, National Parks and the Macedonian Experience, Pluto Press, Aust.)

Defence

Military uses of Royal National Park date from its beginning in 1879 and continued into the 1960s.

The formation of review and encampment grounds at Loftus Heights in the 1880s included provision of access roads, watering facilities, signal station, a branch extension of the Illawarra Railway line and enabled the area to be used for military manoeuvres. A road was constructed downslope to allow access for bathing in Kangaroo Creek.

An artillery range was established to the east of Audley at Artillery Hill in 1890 and manoeuvres were carried out here until 1914. This range was used again during World War II.

A camp was set up at Loftus in 1941 and training was carried out all over the Park. During the war, defence measures had an impact on the Park: barbed wire entanglements were placed around the foreshore; boats were removed from the Audley Weir Pool; the Audley Causeway was blocked and Artillery Hill was mined. Also related to WWII, Allambie House was designated as an Emergency Hospital in 1942 and improvements carried out for it to function as such.

Leisure

The National Park was created in 1879 to provide open space for recreation, and the provision of recreational opportunities has been a prime management objective for the park throughout its history. The National Park Trust efforts toward "landscape improvement" is a reflection of the nature of work carried out at Audley: the establishment of a Pleasure Ground, and works and facilities to enable acclimatisation of exotic plants and animals. This was the major progress carried out in the latter half of the 19th Century and the pleasure ground ideal extended well into the 20th Century under the management of the National Park Trust.



By the turn of the 19th Century Audley had taken on the appearance of a small village offering visitor accommodation and a variety of amusements. Associated with these activities were service facilities including staff accommodation, stables, vegetable gardens, paddocks, boatsheds and a school. Access was either by railroad, walking track or water.

Recreation was based on land or water with boating available on both the Audley Weir Pool and the Port Hacking estuary. The creation of land based activities required clearing and grassing of the Flats to use as picnic areas. The Flats were extended and built up with dredged material from the Audley Weir Pool and planted with a variety of shade trees. Today the variety of trees reflects different periods in the evolution of Audley as a cultural landscape. The Flats were also the sites for recreational buildings: shelter pavilions, kiosks and toilets.

Camping and semi-permanent camps became a prominent feature of the saltwater foreshores.

from top:

*Plate 142:
Leisure: Lawn Bowls on Allambie Flat, 2003*

With the growing strength of the conservation lobby from the 1920s on, the recreational objective came under attack. With the advent of the National Parks and Wildlife Service management in 1967 an attempt has been made to balance recreation and conservation functions, but the National Parks and Wildlife Service management of the Royal National Park has continued to recognise the importance of the Park as a recreation space for the urban population.

Nonetheless, late 20th Century changes in attitudes to recreation are evident at Audley: by the late 1970s many Audley buildings were demolished including, Allambie House (guest house), several workers' cottages, a concrete lookout, the kiosk, dressing sheds, swimming enclosure, tennis court, bowling green and the remains of the Kangaroo Creek Bridge. Equally significant was the change in the perception of the landscape: gardens, rockeries, and exotic plantings were no longer maintained. Attempts were made to remove exotic vegetation that did not fit in with the indigenous ecology - Australian plants used as screen planting generally. Work to improve some of the Flats included the extension of car parking areas and wharf structures to improve foreshore access. New facilities such as toilet blocks, kiosk and Park headquarters were designed to blend in with the natural environment.

During 1996-1997 the land form of Ironbark Flat was altered by raising levels with earth and sandstone boulders to create a series of more intimate spaces also defined by mass planting with indigenous species. This has changed the spatial and visual structure of the previously open grassed flat.



from top:

Plate 143:
Persons: Sir John Robertson

Persons

The Audley study area has been associated with several notable people who have influenced the physical formation of the place:

Sir John Robertson (1816-1891) acted as the first Chairman of the National Park Trust and as leader of the Government urged the dedication of the National Park as the lungs of the city. He was premier of the colony 5 times, retiring from politics in 1886.

Charles Moore (1820-1905) Director of Sydney Botanic Gardens 1848-1896 and former National Park Trustee and member of the Zoological Society

J. J. Cahill (c.1959) former NSW premier and Chairman of the National Park in the 1950s.

Varney Parkes (1857-1935) Architect and former National Park Trustee.

J. F. Hennessey (1853-1924) Architect and former National Park Trustee who was also associated with the NSW Zoological Society. Hennessey prepared designs for the Moore Park Zoo, and is thought to have prepared the initial plans for the Audley Kiosk and Dance Hall which did not proceed until 1947 (Foulcher, 1987).

Coben Parkes (1935-1958) Former Government Architect under whose office the design of the Audley Kiosk and Dance Hall is credited.

NPWS managers 1967-2004 - notably Chuck Wilder, Kenneth Ayers, Peter Stevens and Peter Hay - oversaw the rise of status of nature conservation as a significant management ethic. During this time: Allambie House was removed due to terminal white ant damage, bush regeneration works removed invasive species, the kiosk found a new location, Varney Bridge was refurbished, attempts were made (in 1998) to reinstate an assemblage of riparian rainforest species to Ironbark Flat as a recreational levee space, plans to connect sewer and reclaim sea-walls, overseeing completion of plans to construct fishway at the weir, and integrated Conservation Management Plan and Landscape Masterplans were commissioned

3.1.4 Assessment of Significance

The following assessment of significance is based on the current NSW State Heritage Office criteria for assessment of heritage significance. It also extends the 1987 Conservation Plan to refer to both the NSW State Heritage Criteria (SHC) and the national Australia Heritage Criteria (AHC) within the Register of the National Estate.

The NSW State Heritage Office criteria are as follows:

Criterion (a) an item is important in the course, or pattern, of the state's cultural or natural history (or the cultural or natural history of the local area);

Criterion (b) an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the cultural or natural history of the local area);

Criterion (c) an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area);

Criterion (d) an item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons;

Criterion (e) an item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area);

Criterion (f) an item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history of the local area;

Criterion (g) an item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places; or cultural or natural environments (or a class of the local area's cultural or natural places, or cultural or natural environment).

These criteria are exemplified in Audley by the following items: (Refer *Appendix O: Criteria for the Register of the National Estate*).

Criterion (a and b) Historic Significance (AHC Criterion A & H)

Audley, including its built form, its recreation grounds, water bodies and natural environment are historically significant as they demonstrate evidence and an evolving pattern of public recreation and conservation management within Australia's oldest national park.

Audley is associated with significant individuals who assisted in the establishment of the National Park generally, and the development of Audley in particular. These include Lord Audley, Sir John Robertson, Charles Moore, J. F. Hennessy, Varney Parkes, Cobden Parkes, J. J. Cahill, Chuck Wilder, Kenneth Ayers, Peter Stevens and Peter Hay.

Audley contains evidence of the changing attitudes in Australia towards recreation, conservation and education.

Criterion (c) Aesthetic Significance (AHC Criterion F)

In aesthetic terms, the Audley Study area is a landscape of contrasts between the steep sandstone slopes and the recreational riverside flats between the saltwater and the freshwater environments.

Criterion (d) Technical Significance (AHC Criterion C)

The Audley Study Area has the potential to reveal evidence of occupation by indigenous people. The study area is likely to provide a potential archaeological resource for both indigenous and non-indigenous occupants.

Criterion (e) Social Significance (AHC Criterion G)

As a recreational facility, Audley is associated with a wide range of regional communities, both indigenous and non-indigenous. It has had particular significance for the Macedonian community.

Criterion (f) Rarity Value (AHC Criterion B)

The Audley study area contains a rare and substantially intact buildings including the Commonwealth Pavilion, the Dance Hall and the Kiosk. The elongated scale of the Commonwealth Pavilion has no extant equal in NSW. (A similar long structure was erected at Chowder Bay but was demolished.)

Criterion (g) Representative Value

The Audley study area as a recreation facility within the Royal National Park is associated with similar pleasure grounds in other NSW National Parks, such as Bobbin Head in Kur-ring-gai Chase National Park. It is also the oldest of these facilities which have evolved as an integral complex with that of the Park.

3.1.5 Statement of Significance

The Statement of Significance explains the nature of the cultural significance of Audley.

It is based on an understanding of the historical development of Audley and its setting, layers of physical evidence, and landscape.

1987 Statement of Significance

The Audley precinct at the Royal National Park derives its cultural significance from the following sources:

1. The Audley precinct embodies physical evidence of the major recreation and conservation attitudes which influenced the development of the National Park. These evolved here first, and later had broader and significant implications for the management of National Parks resources throughout Australia. The Royal National Park was the forerunner of all the National Parks which have subsequently been dedicated.
2. It derives a high level significance from its historical and social significance as the main point of entry and focal point of the first National Park in Australia and the second national Park in the world. It has provided accommodation for a fluctuating work staff over its period of existence and facilities for generations of picnickers, walkers and others seeking recreational outlet away from the city.
3. The Park has been closely associated with influential public figures and political leaders, including some of the Chairmen of the Trust. The most notable of the influential figures associated with the Park is Sir John Robertson, who is acknowledged as the founder of the Park, and who was its first Trust Chairman.
4. The Audley precinct contains archaeological resources of associational significance related to the use of the site for administrative and recreational purposes. These resources taken together reflect the fact that in the late 19th Century and early this century the site accommodated a much larger population than in recent times.
5. The location is significant as the campsite selected by Lord Audley as a base for his survey of the Port Hacking River, a selection very likely to have been influenced by the particular landscape characteristics of the point where the valley opens out at the junction of Port Hacking River and Kangaroo Creek.

From Statement of Cultural Significance, pp. 41-2 in McDonald, B. 1987, 'Royal National Park Audley Conservation Plan,' Vol 1, Public Works Department, NSW, Sydney.

The statement of significance prepared for the 1987 Audley Conservation Plan referred to the Audley Precinct and the approaches by water and road. To date, two additional statements of significance were prepared for subsequent heritage listings: one for the NSW NPWS Historic Heritage Management System (HHIMS), and the second for the (draft) 2004 Sutherland Shire Local Environmental Plan. (The 1999 listing on the NSW Heritage Register is supported by the NPWS HHIMS documentation, and contains no statement of significance or description of Audley.)

2004 Statement of Cultural Significance
Audley Masterplan and Conservation Management Plan

Audley, including its approaches, is of exceptional cultural significance to Australia, NSW and the Royal National Park because it:

- embodies physical evidence of the major recreation and conservation attitudes which influenced the development of the National Park. These evolved here first and later had broader and significant implications of the management of National Parks resources throughout Australia. The Royal National Park was the forerunner of all the National Parks which have subsequently been dedicated;
- is the main point of entry and focal point of the first National Park in Australia and the second national Park in the world.
- it has provided accommodation for a fluctuating work staff over its period of existence and facilities for generations of picnickers, walkers and others seeking recreational outlet away from the city;
- contains evidence of the natural environment at the confluence of saltwater and freshwater drainage systems and the confluence of three major geological formations of the Sydney basin; Wianamatta Group, Hawkesbury Sandstone and Narrabeen Group;
- is part of the territory of the Dharawal people. The place has high cultural value to indigenous people who continue to participate in the cultural and physical management of the place;
- is the site of acclimatization and zoological experimentation of exotic flora and fauna;
- is the site of continuing recreational use from the establishment of the National Park in 1879 to the present;
- is associated with military use for reviews, encampments, artillery practice, wartime occupation and the development of facilities to cater for military use;
- is a safe reference point from which the natural and cultural environments of the RNP can be visually and/or physically engaged with;
- is associated with diverse community use and particularly the role it continues to play in the adaptation of immigrants to Australian culture and to concepts of the natural environment and education;
- of its substantial surviving fabric (extant and archaeological) documenting its historical development;
- of its association with various individuals and organizations.
- including the Dharawal people, Lord Audley, various Chairmen of the National Park Trust including: Sir John Robertson who is acknowledged as the founder of the Park and it's first Chairman; former NSW Premiers, Sir J See and J J Cahill; Charles Moore (Director Sydney Botanic Gardens); Lord and Lady Carrington; Varney Parkes; J F Hennessy and the former Government Architect Cobden Parkes;
- it is a cultural landmark within the larger environment of the Royal National Park. Originally created as semi-private pleasure grounds, based on Lord Audley's campsite, with a bias on scientific pursuits associated with acclimatization Audley evolved into a major public recreation ground and is associated with the entry into the Royal National Park from the north and as a daytime destination place.
- contains physical evidence of different attitudes towards recreation and conservatiou, reflecting different management practices

3.2 Schedule of Significant Areas and Items

Individual areas and items of the Audley approaches and Audley have been assessed and a level of significance has been applied. This detailed assessment is provided to enable decisions on the future conservation and development.

Grading Significance

A five tier system derived from the 1987 Audley Conservation Plan has been adopted here to assess the level of significance. These categories provide a framework for Conservation Policies, interpretation, recommended treatments and future development.

A Exceptional - Where an individual area or item is assessed to display a strong degree of correlation with the statement of significance for the place. Areas and items display a high degree of intactness and quality, though minor alterations or degradation may be evident.

B High - Where an individual area or item is assessed to display a substantial degree of correlation with the statement of significance yet may have undergone considerable alterations.

C Moderate - Where an individual area or item is assessed to display a moderate degree of correlation with the statement of significance. Fabric of little original intrinsic quality and which may have undergone extensive alteration or adaptation.

D Little - Where an individual area or item is assessed to display a low degree of correlation with the statement of significance. Areas and items of little intrinsic quality that have undergone extensive alteration or adaptation to such an extent that only isolated remnants survive resulting in low degree of intactness and quality.

E Intrusive - Where an individual area or item detracts from the appreciation of cultural significance by adversely affecting or obscuring other significant areas or items.

The schedule contains built elements, landscape elements, archaeological elements and areas, views and known indigenous sites. Each area and/or item is identified by a letter or number and is located on precinct maps (see figures 17-27).

The highly significant areas are Audley Weir Pond; Allambie Ridge, Slope and Flats, and Pavilion Flat.

Highly significant items include five views; the causeway remnants; Audley Weir Pool; the Commonwealth Pavilion; the Dance Hall, the grassed area in Pavilion Flat; the former road alignment in Currawong Flat; Lady Carrington Drive; and the cottages on Reid's Slopes, Rangers Slope and the Post Office Cottage.

3.2.1 Audley Approaches

Item		NSW Criteria	Significance Level
Plateau Lands			
1.1	Gardener's Cottage Complex	a	B
1.2	Rawson Avenue alignment	e	B
1.3	Farnell Avenue alignment	e	B
1.4	Site of former Military Encampment	e,g	C
1.5	Former Military Dam	e	C
1.6	Former Military Road	a	B
1.7	Former Audley Road	a	B
1.8	View from former Audley Road	c	A
1.9	Florence Parade	a	B
1.10	National Park Railway Station	a	B
1.11	Royal National Park Headquarters	a	C
1.12	Artillery Hill	e	C
1.13	Railway Line	a	B
Port Hacking Estuary			
2.1	Stone Training Walls	a	B
Valley			
3.1	Lady Carrington Drive	a	B
3.2	Uloola Tracks Complex	g	B
3.3	Winifred Falls Track	g	B
3.4	Sir Bertram Stevens Drive	g	C

3.2.2 Audley

Item	NSW Criteria	Significance Level
HE Hacking Estuary		
A1	Former Weir / Causeway remnants	A

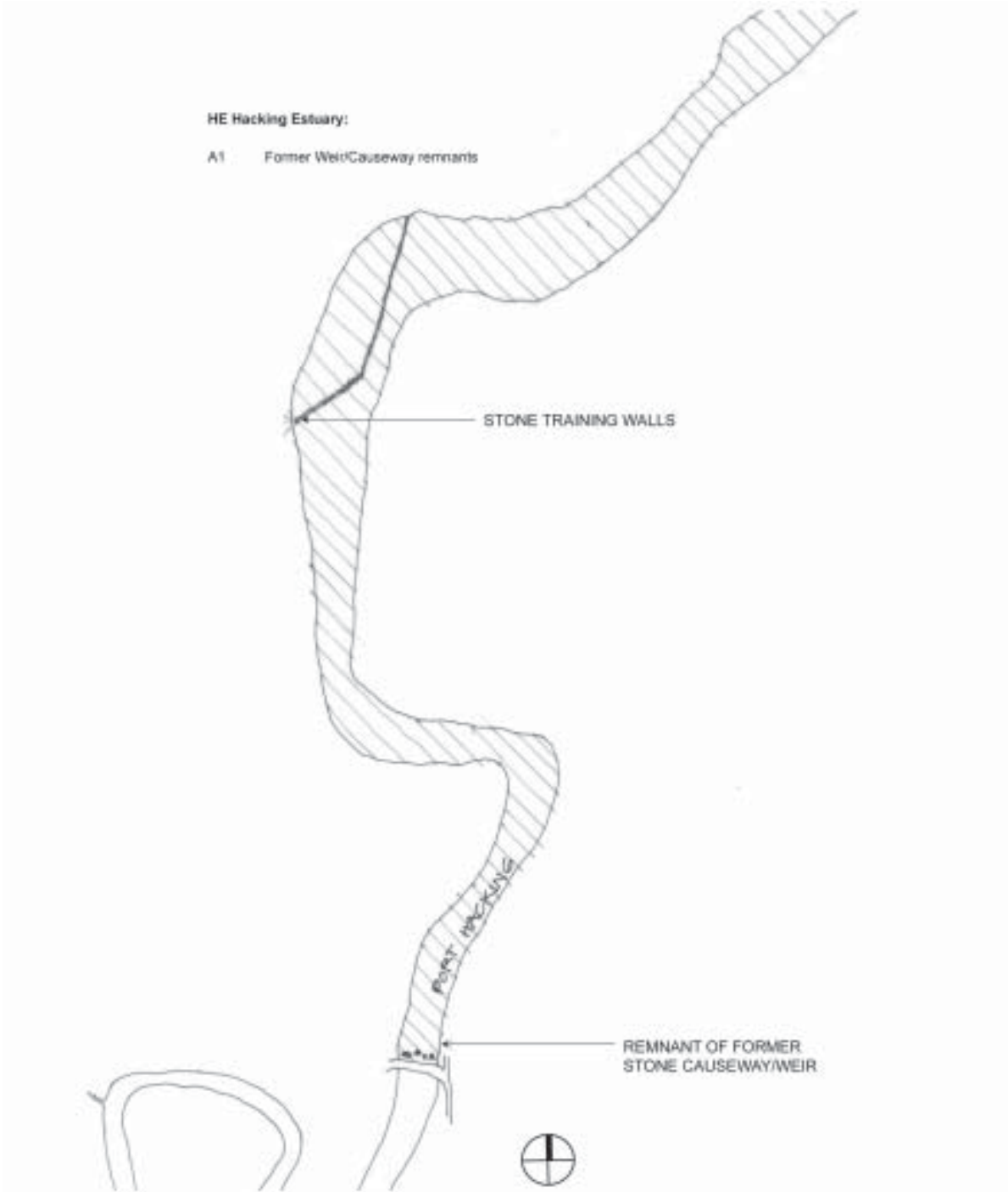


Figure 17:
Port Hacking Estuary

Item	NSW Criteria	Significance Level
AWP Audley Weir Pool	a, b, c, d, e, g	A

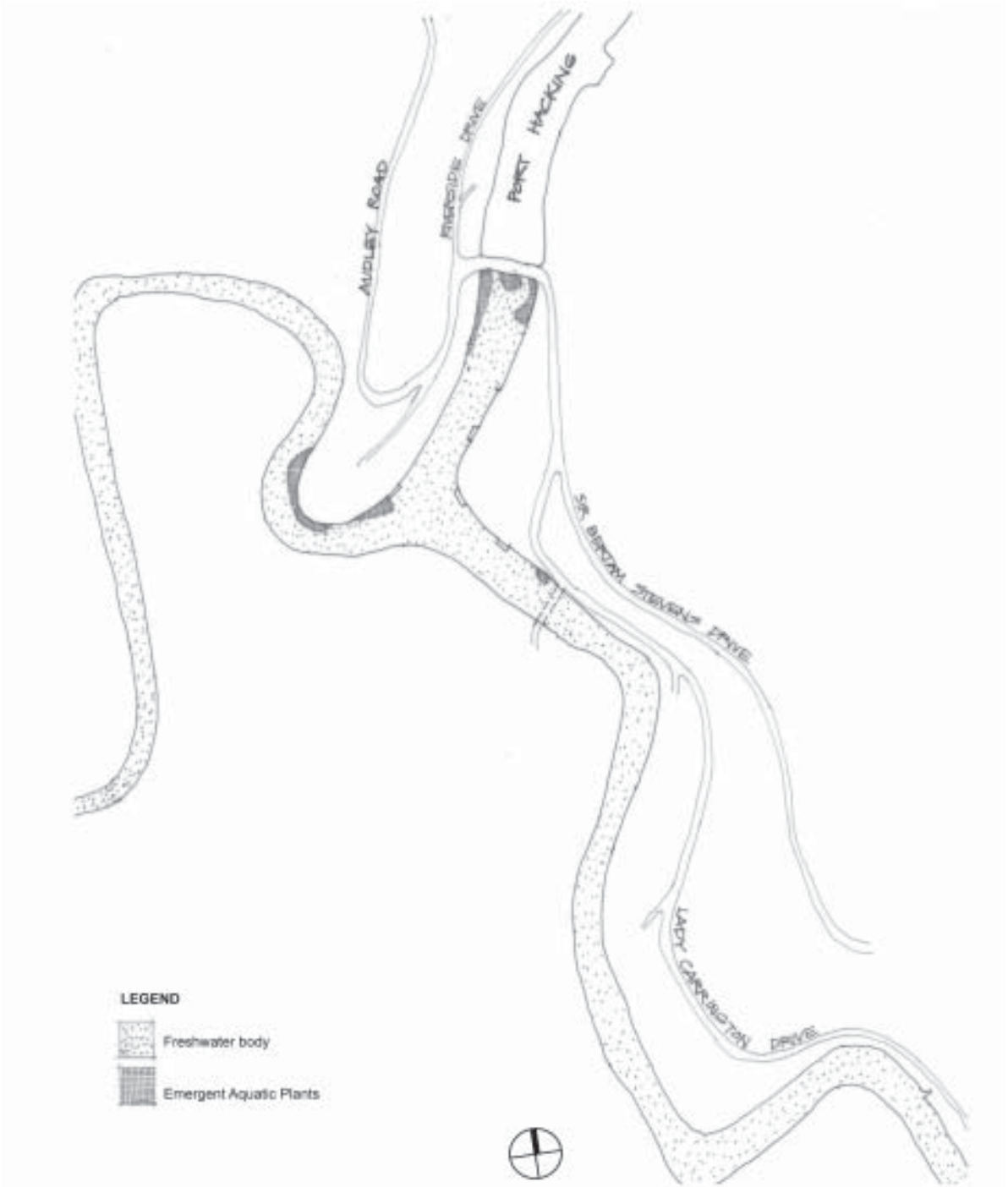


Figure 18:
Audley Weir Pool

Item	NSW Criteria	Significance Level
ALR	Allambie Ridge and Slopes:	
RS1	Rock Shelter Site	
V1	View along road to waterbody	a,c A
V2	View from former Trust Office	a,c B
V3	View from Trustee's Cottage site	a,c A
V4	View from "The Camp" site	a,c A
V5	View from memorial lookout	a,b,c A
B1	Cottage (1886 +1891 Post Office) and Garage	a,b,g B
B2	Former Trust Office (1956)	D
B3	Water Tank	a B
B4	Lookout Terrace (1904)	a,b B
B5	War Memorial (1919)	a,b,g B
B6	Toilet Block (1934)	C
B7	Toilet Block (1934)	C
W1	Stone retaining wall	a B
W2	Stone retaining wall	a B
W3	Stone retaining wall	C
W4	Stone retaining wall	a,c B
W5	Stone retaining wall	a,c B
W6	Stone retaining wall	a,c B
W7	Stone retaining wall and steps	a,c B
W8	Stone retaining wall	C
W9	Stone retaining wall	a,c B
W10	Stone retaining wall	C
W11	Stone retaining wall	C
W12	Stone retaining wall	C
W13	Concrete retaining wall	C
R1	Audley Road	a B
R2	Allambie Flat Road	a B
R3	Former Audley Road	a B
P1	Honeymoon Track	a B
P2	Steps on former Road	C
P3	Allambie House Path and steps	a B
P4	Boatshed Steps and path	a B
P5	Stone steps	C
P6	Stone steps	C
P7	Stone steps	a B
T1-4	<i>Washingtonia robusta</i>	C
T3	<i>Butia capitata</i>	C
T4-6	<i>Brachychiton acerifolium</i>	D
T7	<i>Cupressus species</i>	D
T8	<i>Stenocarpus sinuatus</i>	D
T9-11	<i>Jacaranda mimosifolia</i>	D
T9	<i>Jacaranda</i> (recently removed)	
T10-11	<i>Jacaranda mimosifolia</i>	D
T12	<i>Cinnamomum camphora</i>	D
T13	<i>Backhousia citriodora</i>	C
T14	<i>Syzygium paniculatum</i>	
G1-6	Gardens	a C
g1-2	Grassed areas	D
A1-3	Archaeological zone	a,b,e B

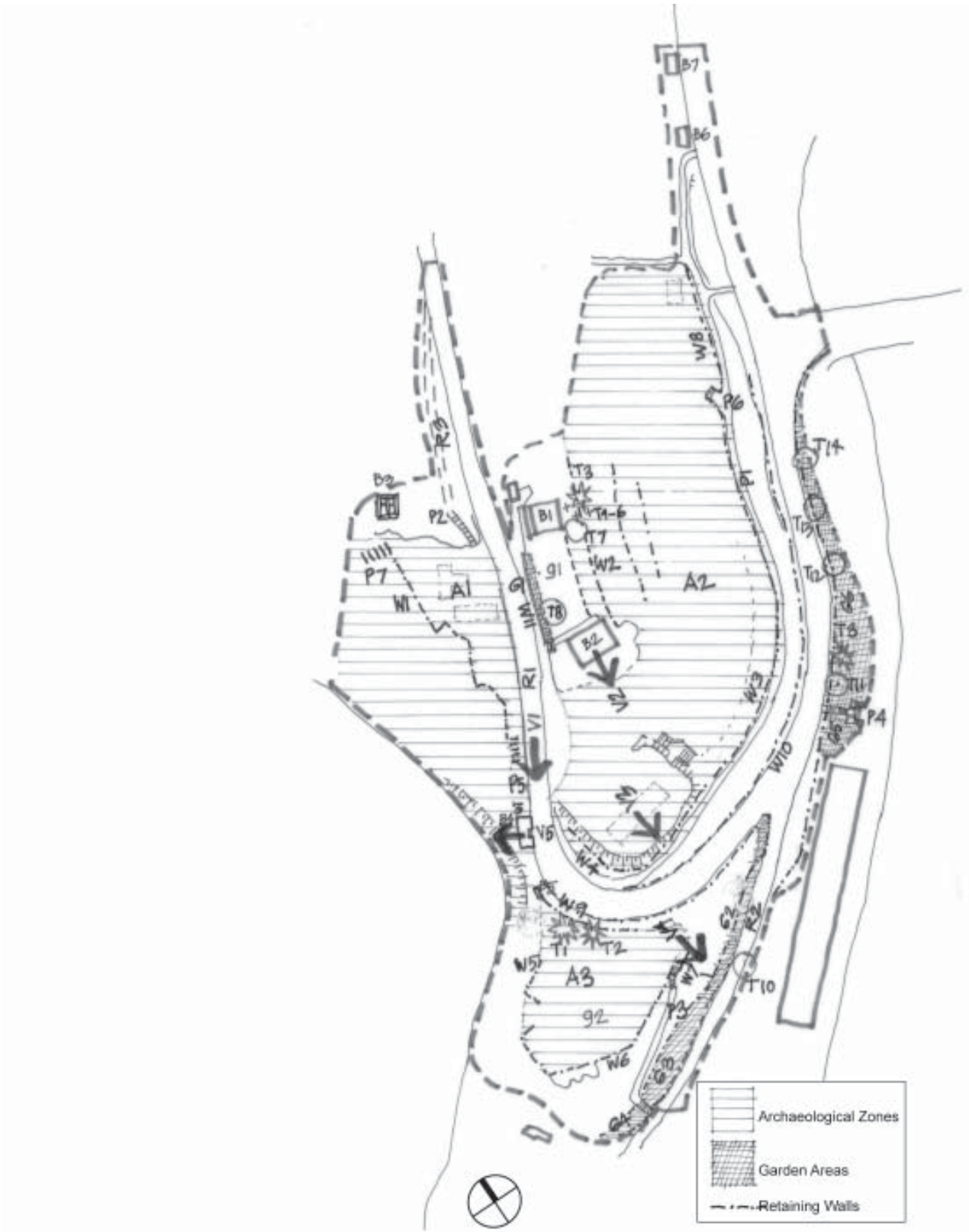


Figure 19:
Allambie Ridge and Slopes

Item		NSW Criteria	Significance Level
ALF Allambie Flat			A
B1	Boatshed (1938)	a,e,g	B
B2	Toilet Block (1963)		D
P1	Path		D
P2	Path		D
P3	Path		D
D1	Timber Ramp	a,e,g	B
D2	Timber Wharf		D
T1	<i>Juniperus chinensis</i> sp.		C
T2-11	<i>Populus nigra</i> 'Italica' sp.		C
T12-16	<i>Acer</i> sp.		C
T17	<i>Salix babylonica</i>		C
T18-23	<i>Lophostemon confertus</i>		C
T24-30	<i>Ficus hillii</i>		C
T31-34	<i>Castanospermum australe</i>		C
T35	<i>Macadamia</i> sp.		D
T36-37	<i>Erythrina x sykesii</i>		E
T38	<i>Prunus</i> sp.		C
T39	<i>Agonis flexuosa</i>		C
T 40	<i>Pittosporum rhombifolium</i>		C
G1B	Garden		D
g1-2	Grassed areas		C

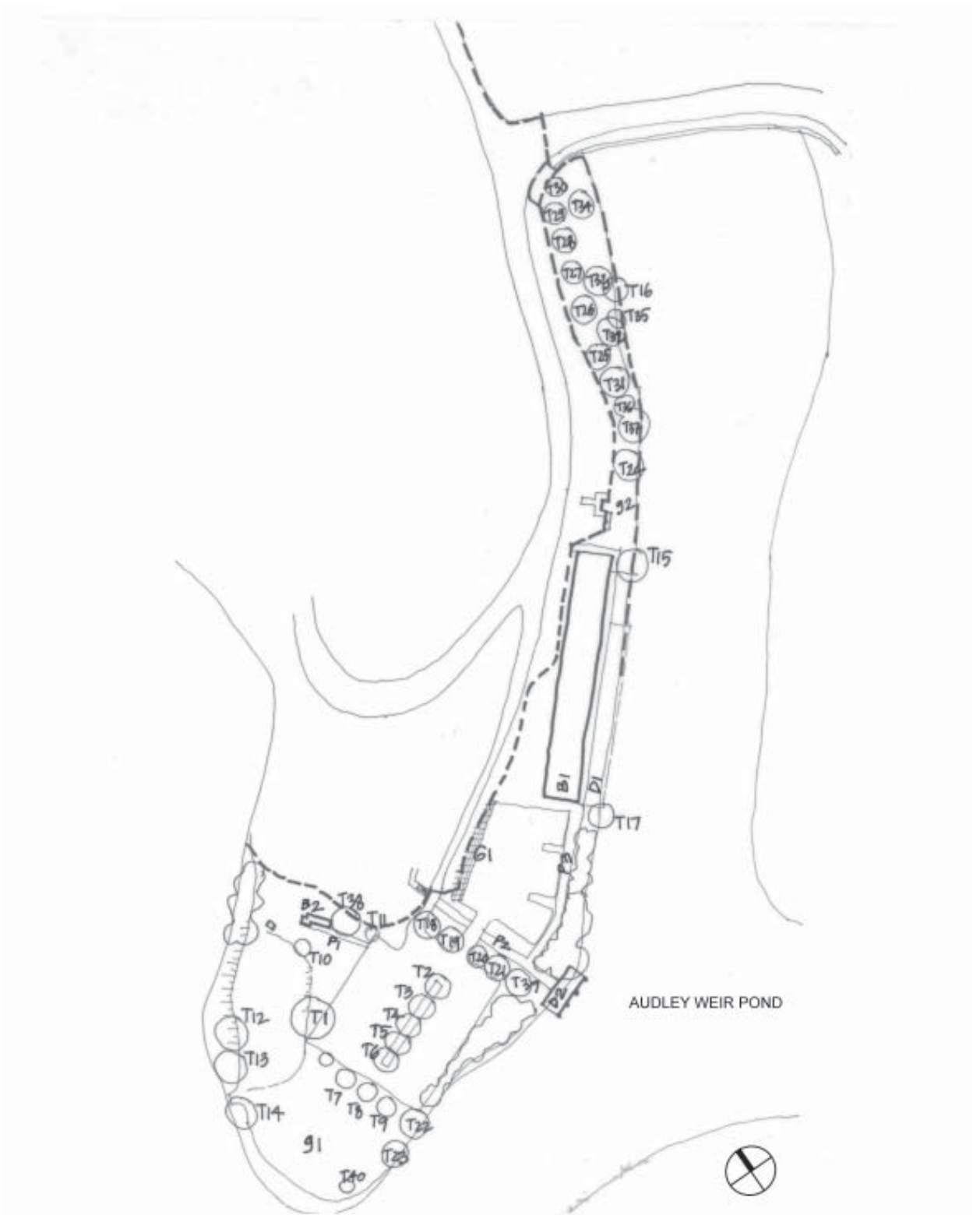


Figure 20:
Allambie Flat

Item		NSW Criteria	Significance Level
DOF Dock Flat / Causeway		a	B
V1	View over estuary	c	B
V2	View over Audley Weir Pool	c	B
B1	Concrete causeway (1951)	a	B
B2	Base of former bus waiting Shed + steps	a	B
W1-2	Stone retaining wall + steps		C
W3	Concrete retaining wall + steps		D
P1	Gravel path		D
P2	Sandstone pavement		C
T1	<i>Meterosiderous excelsa</i>		D
T2-3	<i>Melaleuca styphelioides sp.</i>		D
T4	<i>Platanus x hybrida sp.</i>		D
T5	<i>Eucalyptus saligna sp.</i>		C
T6	<i>Eucalyptus robusta sp.</i>		D
G1-2	Grassed area		C
M1	Inscription (1951)	b	B



Figure 21:
Dock Flat

Item		NSW Criteria	Significance Level
PAF Pavilion Flat		a,b	A
V1	View of Audley Weir Pool from Flat	a, c	A
B1	Commonwealth Pavilion	a,d,f	A
B2	Dance Hall	a	B
B3	Toilet Block		D
B4	Kiosk (1978)		D
D1-3	Timber wharf		D
P1	Path network		D
P2-5	Paved areas		D
T1-12	<i>Washingtonia robusta</i>		C
T13-15	<i>Populus deltoides</i>		D
T16-19	<i>Platanus x hybrida</i>		C
T20	<i>Cinnamomum camphora</i>		C
T21	<i>Ficus macrophylla</i>		D
T22	<i>Melaleuca styphelioides</i>		D
T23	<i>Populus deltoides</i>		D
T24	<i>Cinnamomum camphora</i>		D
t1- 6	<i>Nerium oleander</i>		D
g1	Grassed area	a,d	A
E1	Earthworks (1998)		E
S1	Natural Sandstone outcrop		C
R1	Sir Bertram Stephens Drive		C
R2	Lady Carrington Drive	a	B

PAS Pavilion Slopes		a	B
P1	Winifred Falls Track Entrance		C
P2	Parking Areas (1965)		D
P3	Bitumen Paths		D
P4	Bitumen parking areas		D
R1	Sir Bertram Stevens Drive	a	C

RAS Rangers Slopes		a	B
B1	Rangers Cottage (1907-8)		C
T1	<i>Ficus macrophylla</i>	b	B
T2-3	<i>Lophostemon confertus</i>		C
T4	<i>Washingtonia robusta</i>		C
T5	<i>Ficus macrophylla</i>		D
W1	Sandstone retaining wall	a	B
F1	Timber Fence	a	B

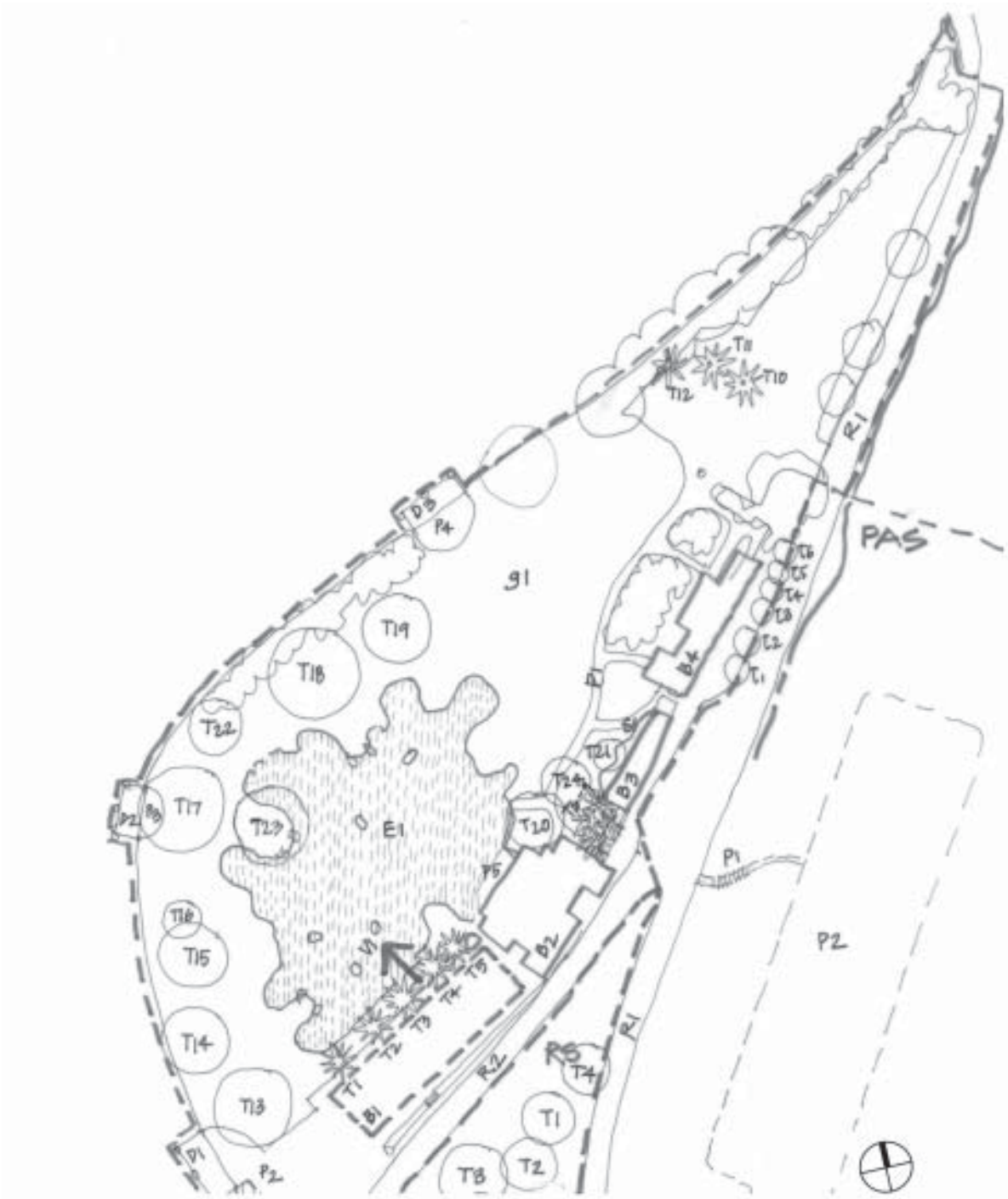


Figure 22:
Pavilion Flat, Pavilion Slope and
Ranger's Slope

Item		NSW Criteria	Significance Level
CUF Currawong Flat		a, b	B
B1	Toilet Block		D
B2	Timber Bridge	a	B
T1-2	<i>Araucaria bidwillii</i>	a,b	B
T3-10	<i>Araucaria cunninghamiana</i>	a,b	B
T11	<i>Ceratina siliqua</i>		C
T12-13	<i>Acer sp.</i>		C
R1	Bitumen road		D
W1	Stone retaining wall	a	C
P1	Former road alignment	a,b,e	A
P2	Path and steps		D
g1-g2	Grassed areas		C

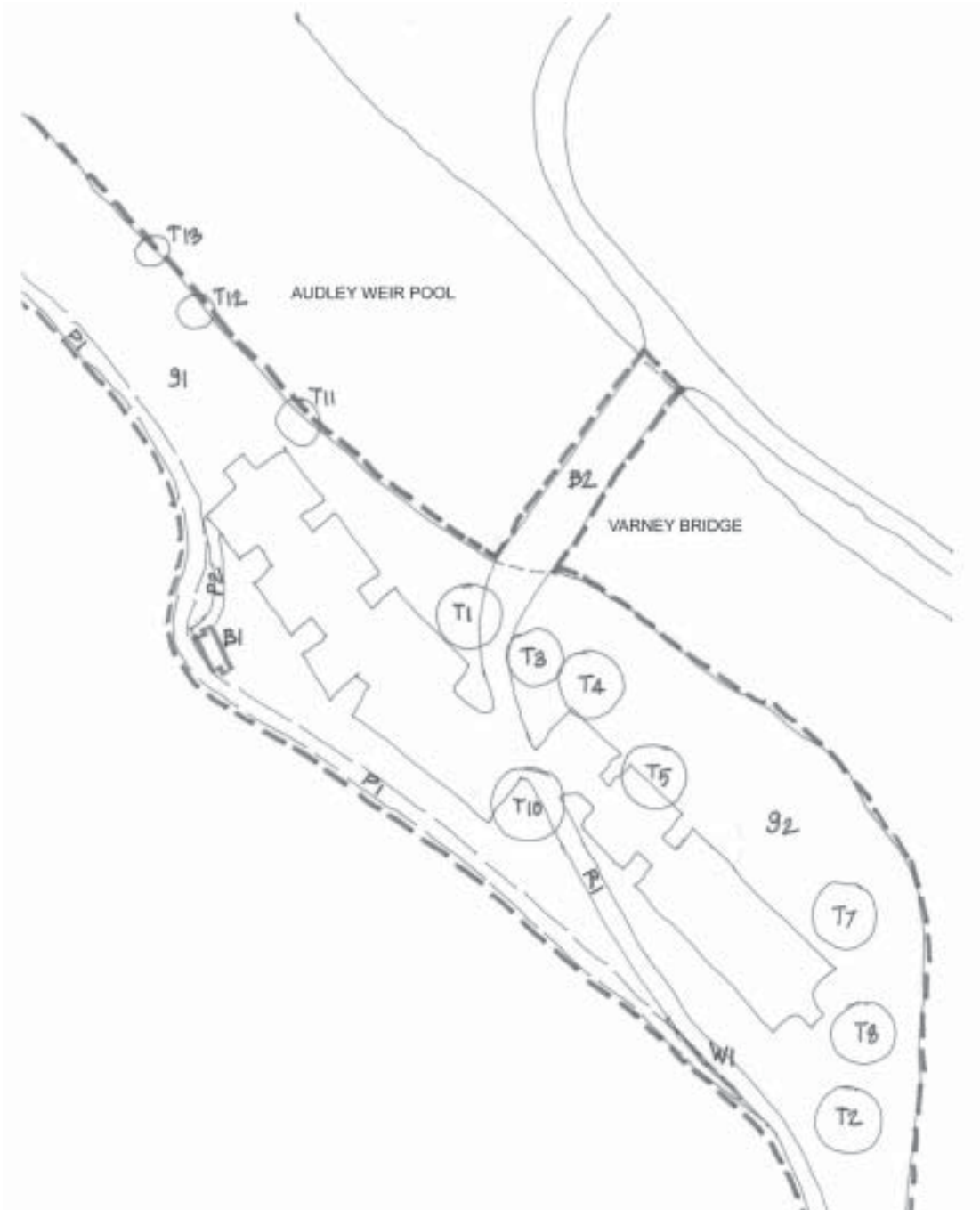


Figure 23:
Currawong Flat

Item		NSW Criteria	Significance Level
WTF Willow Tree Flat		a	B
B1	Toilet block (1962)		D
B2	Shelter pavilion (1953)		D
R1	Lady Carrington Drive including walls and culverts	a,b	A
R2	Gravel road		D
N1	Stone drain		C
T1	Erythrina x sykesii		D
g1	Grassed area of Flat	a	B

FTF Fig Tree Flat		a	B
T1-2	<i>Ficus macrophylla</i>	a	B
T3	<i>Brachychiton acerifolius</i>		C
g1	Grassed area	a	B

KOF Kookaburra Flat		a	B
B1	Shelter Pavilion (1958)		D
B2	Toilet Block (1975)		C
P1	Path and steps		D
g1	Grassed area	a	B

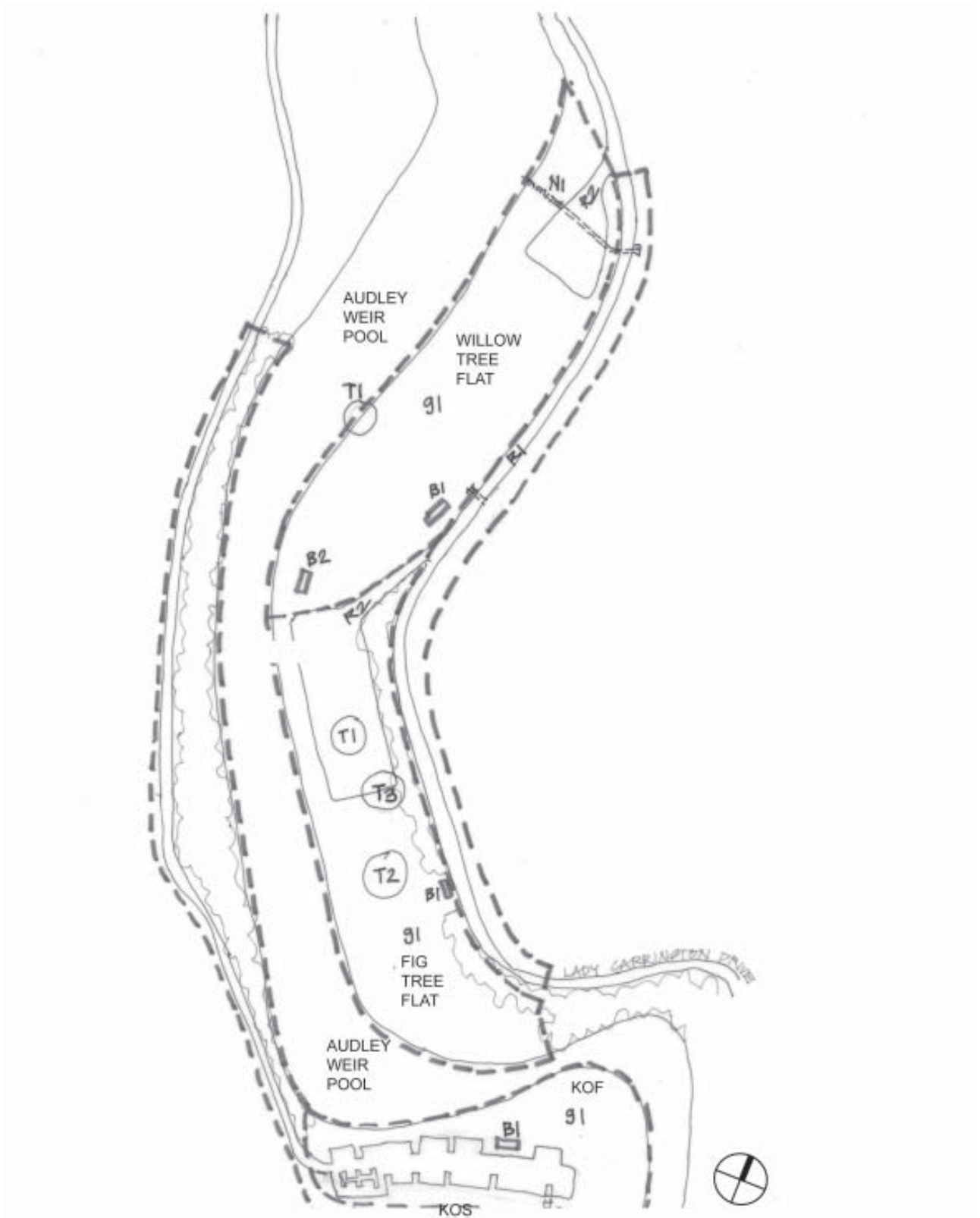


Figure 24:
 Kookaburra Flat, Kookaburra Slopes, Willow
 Tree Flat, and Fig Tree Flat

Item	NSW Criteria	Significance Level
KAF Kangaroo Flat	a	B
W1 Freshwater body	a,e	B
A1 Bridge abutment (1942)	a	B



Figure 25:
Kangaroo Flat

Item	NSW Criteria	Significance Level
REF Reids Flat and Slopes	a	B
B1	Cottage (1884)	A
B2	Toilet block	C
W1	Stone retaining wall	B
W2	Stone retaining wall	B
W3	Stone retaining wall	B
W4	Stone retaining wall	B
W5	Stone retaining wall	B
W6	Stone retaining wall	B
P1	Riverside Road track	B
P2	Steps and former bridge abutment	C
R1	Riverside Road	B
R2	Sealed carpark	C
S1	Wants beach - sand	B
g1	Grassed area	B
A1	Former school site and garden	B



Figure 26:
Reids Flat and Reids Slope

Item		NSW Criteria	Significance Level
POF Pool Flat		a	B
B1	Toilet block (1944)		C
W1	Stone retaining wall	a	B
W2	Stone sea wall and steps to beach	a	B
T1-2	<i>Araucaria heterophylla</i>	a	B
T3-4	<i>Lophostemon confertus</i>		C
T5	<i>Melaleuca styphelioides</i>		C
T6	<i>Acer sp.</i>		C
T7-11	<i>Eucalyptus paniculata</i>	a	B
g1	Grassed area	a	B
P1	Path	a	B
A1	Former Pontoon site		C

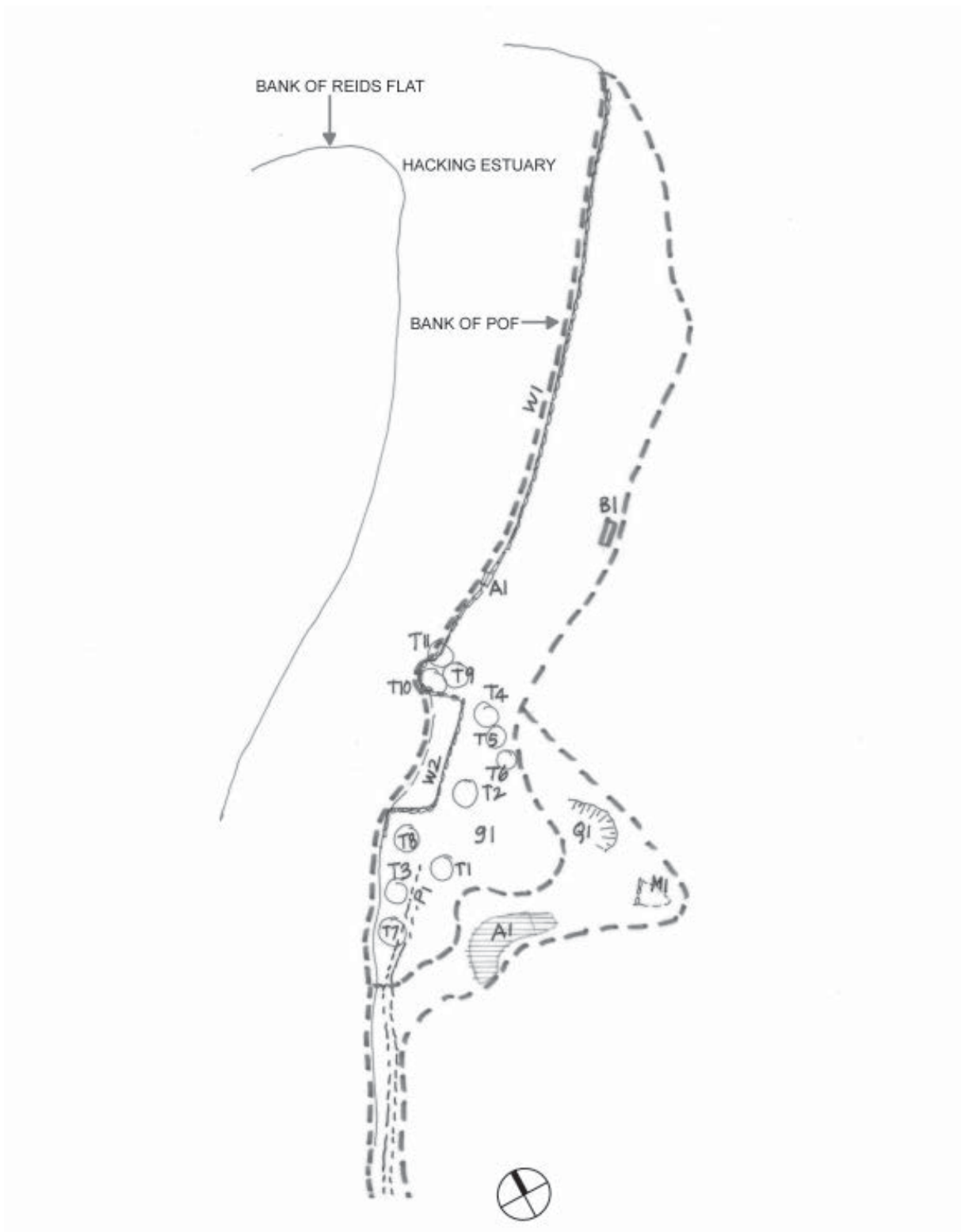


Figure 27:
Pool Flat and Slopes

PART IV CONSERVATION POLICY

4.1 Information for Conservation Policy

Conservation policies and recommendations for their implementation are developed from an understanding of:

- The existing conservation policies as outlined in the 1987 Conservation Plan.
- The cultural significance of the place as a whole and the level of significance of the individual elements and physical fabric including opportunities and constraints arising from the significance of the place;
- The general condition of individual areas and items including the structural adequacy of built items and their settings.
- Possible new uses which are both feasible and compatible with the retention of the cultural significance.
- Client's requirements
- Statutory and other external constraints.

4.2 Existing Conservation Policies

The 1987 Conservation Plan developed a primary Conservation Policy for Audley and a number of detailed conservation policies for specific components of the place, categorized as Built items, Archaeological sites and Landscape items. The stated Primary Conservation Policy is:

.... that it (Audley) be retained as a cultural, natural and recreational resource as an historic place within the Royal National Park. The management will be responsible not only for the significant cultural and natural resources of Audley but also for its interpretation.

These recommendations were based on a thematic historical analysis, detailed inventory and assessment of structures, archaeological sites and landscape items with much of the data remaining valid to the present. The policies arising as part of this report consider the 1987 report whilst reflecting changes in heritage practice since 1987 and the extension of the study area to include the approaches to Audley.



from top:

*Plate 144:
Aesthetic Value: Allambie Flat contrasting
with the surrounding natural landscape, 2003*

4.3 Requirements Arising From Significance

4.3.1 Landscape Setting

Audley and its approaches are of exceptional cultural significance and are integrated with the landscape setting of the Royal National Park. The landscape setting of Audley contains both natural and cultural values of varying levels of significance. The landscape is a composite layering of indigenous and non-indigenous cultures occupation of the place together with the cyclical influence of fire and flood. Today, the natural landscape visually dominates the setting at Audley, a complex recreation grounds created by non-indigenous occupants. The complex includes a freshwater pond, cleared and grassed open space, built facilities for both permanent occupation and short term visitation, gardens and exotic plantations.

Once a primary destination within the Park serviced by a variety of public transportation means the study area is now primarily accessed by private motor vehicle and is not necessarily a primary destination place and is often an experienced landscape at high speed by through traffic moving to other destinations within the Park and beyond.

- The future management of a balance of both natural and cultural values will provide an opportunity to interpret the landscape as the dominant element of the place.
- Paths or roadways will continue to generally define the edges between exotic vegetation and the indigenous vegetation in order to manage their respective contrasting landscape characteristics.
- The scale and significance of the landscape setting provides an opportunity to limit the extent and scale of built intervention and the extent of on site parking as well as to restore a level of public transportation to relieve the physical pressure and general impact of private motor vehicles on the place.
- Integral to the experience of the landscape setting is that of the visual and spatial structure of the place. The identification and conservation of specific view corridors will aid in the reading of both the natural and the cultural landscape.



from top:

*Plate 145:
Aesthetic Value: View from Allambie Flat to
Varney Bridge, 2003*

*Plate 146:
Landscape Setting: A group gathering on
Currawong Flat, 2003*



4.3.2 Built form

Built form within the study area is of a variable nature as well as variable levels of significance and includes those items identified in 3.2 Schedule of Significant Areas and Items. The items can be summarised as buildings, monuments, weir, structures, bridges, wharves, retaining walls, steps, terraces, fences, gates, roads and pathways.



The buildings can be categorised into various functions and periods reflecting different stylistic influences and management practices. Building types include pavilions, kiosks, toilets, residences, former residences, boatshed, Park Headquarters and the National Park Railway station. Pavilions differ from the Federation Period Commonwealth Pavilion to the post war mid-Twentieth century period shelters at Willow tree Flat and Kookaburra Flat. Similarly the extant residential buildings date from the late Victorian period to the post war mid-Twentieth century period. Examples of individual building expression are the former Dance Hall and Kiosk and the Park Headquarters.



The significant buildings should be revitalised by appropriate conservation works and preferably ongoing uses coupled with careful management to enhance public appreciation of their significance. Built fabric must be maintained in a condition consistent with its significance. Any building deterioration must be slowed or halted and major items of repair must be carried out as soon as possible. Intrusive accretions that obscure the significant form and fabric of the buildings must be removed.



Many of the concrete toilet blocks are visually conspicuous and intrusive to the naturalness of the parkland setting of the Flats.

from top:

*Plate 147:
Toilet Block on Allambie Flat, 2003*

*Plate 148:
Gardener's Cottage and Garage, 2003*

*Plate 149:
Picnic Shelter on Willow Tree Flat, 2003*

*Plate 150:
Cottage on Allambie Ridge, former post
office, 2003*



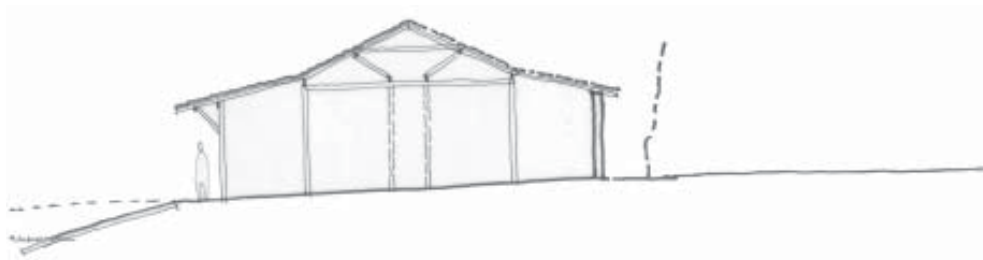
from top:

Plate 151:
Boatshed on Allambie Flat, 2003

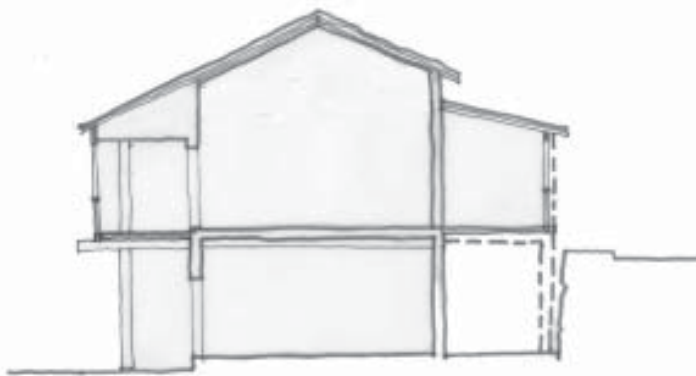
Plate 152:
Dance Hall and kiosk building, 2003

Plate 153:
Commonwealth Pavilion, 2003

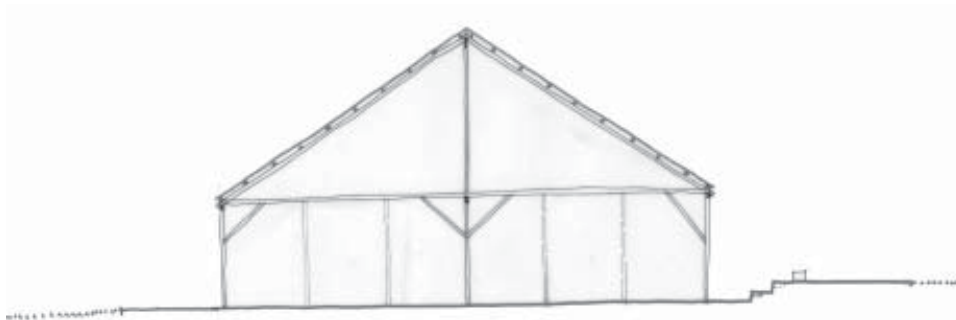
Plate 154:
Commonwealth Pavilion, 2003



AUDLEY BOATSHED 1938
CAB 20/6/03



AUDLEY
DANCE HALL + KIOSK
CAB 2/10/03



AUDLEY
COMMONWEALTH PAVILION 1901
CAB 2/10/03

Figure 28:
Audley Boatshed 1938, (Sketch: CAB Consulting, 2003)

Figure 29:
Audley Dance Hall and Kiosk (Sketch: CAB Consulting, 2003)

Figure 30:
Commonwealth Pavilion, 1901 (Sketch: CAB Consulting, 2003)

4.3.3 Archaeological

The areas of archaeological potential are indicated on Figure 16 Section 2.2.5 and these include known Indigenous and Non-indigenous cultural sites. Very little change has occurred to areas and items identified in the 1987 Conservation Plan. The specific locations of Indigenous sites have not been located in this report due to NPWS policy. In terms of archeology, the 1987 Conservation Plan policy of passive maintenance should remain in place and where applicable and appropriate interpretation should occur.

(Refer Appendix L: Thorp W, 1987, Inventory of Archaeological Items, excerpt from 1987 Audley Conservation Plan).

4.4 Condition of Areas and Items

The Audley Approaches and Audley are analysed in Section 2.4 in terms of landscape character based on broad landform and waterform units; Sandstone plateau, Steep Sandstone slopes with indigenous vegetation, Steep sandstone slopes modified by terracing, Grassed alluvial Flats, Freshwater Body and Saltwater Body. Overlapping these landscape units are the Audley Landscape Precincts. These are more defined areas based on patterns of land use: Flats, Slopes, Ridges, Freshwater Body and Saltwater Estuary.

The Flats have become dominated by car parking except for Pool Flat and Kangaroo Flat which have no regular vehicular access. The 19th century Flats (Allambie, Pavilion, Currawong, Kangaroo, Dock, Reid's and Pool) were extensively cleared to create an open parkland character to cater for recreation uses in association with the adjacent bodies of water. The largely early 20th century Flats (Willow Tree and Fig Tree) were of a more wooded character and all contained exotic tree plantings and various built facilities in the different phases of their development. Kookaburra is the most natural Flat, with the exception of the ground plane of continuous grass surface which continues the parkland tradition of the other Flats. Built facilities located within the low lying Flats were always subject to flood damage and this included bridges, jetties, kiosks, shelter pavilions and the Audley Weir.

Allambie Flat and Kangaroo Flat have a strong association with the development of the Trustee's initial accommodation and supporting village and its ultimate evolution into the more public and commercially orientated Allambie Guesthouse sited upslope. Evidence remains within the Allambie Flat of the former Bowling Green and the former Tennis Court, orchard and vegetable garden of the different forms of accommodation established in the different phases of development. So too at Kangaroo Flat evidence remains of the former signet pond which was also used for water for the milk cows once kept on this cultivated Flat. This Flat is now overgrown with a mixture of mostly indigenous regrowth vegetation.



from top:

Plate 155:
World War I 1914-1918 Roll of Honour,
Allambie Ridge, Audley, 2003

Pavilion Flat is strongly associated with public recreation, games and gatherings of individuals as well as groups and particularly multicultural groups. Its periphery is the site of the Commonwealth Pavilion and the former Dance Hall and Kiosks as well as public toilets. It was the largest open space closest to the point of public transport located over the weir at Dock Flat. The open space here has been dramatically reduced by the introduction of extensive earthworks and mass planting which has changed the open character into a more fragmented one with limited views to the freshwater body and the other Flats within the core of Audley.



The condition of the vegetation within the Flats is variable and is dealt with in more detail in the Appendix of this report.



The Slopes and Ridges provided flood free sites for the development of permanent settlement as well as superior viewing positions to overlook the space of the developed confluence yet are subject to bushfires. This included the original Audley village located upslope of the Rest Pavilion and the Trustee's Cottage on Allambie Ridge as well as residential buildings of a late Victorian character constructed on higher ground at Allambie Ridge, Reid's Slopes, Pool Slopes and Ranger's Slopes. These were often associated with a level terraced platform supported by corbelled sandstone retaining walls and fenced garden allotments. Only three of these early residences remain although their fabric has been much altered to accommodate different facilities. Several sites of former residences remain as archaeological sites with remnant garden plantings and sandstone retaining walls of a variable condition. In some cases walls have been added onto other walls and are a record of change within themselves. The Audley village area on Allambie Ridge also contains a Memorial Lookout over the Kangaroo River and a War Memorial. Both of these elements are difficult to access because of the encroachment due to widening of the Audley Road running along the ridgeline to deal with increased vehicular traffic passing through the Royal National Park.



The Freshwater body was created by the construction a sandstone weir which has been replaced many times due to the intensity of the flooding regime. The present concrete structure was built in 1951. The initial purpose of this water body was the acclimatisation of freshwater fish and the introduction of aquatic birds but it later gained popularity as a boating facility. The provision of a boatshed for the Trustees in the first phase of development stimulated a succession of boatsheds on the northern shoreline for both private and later public use.

One of the greatest maintenance issues since the creation of the Audley pond has been the continual clearing of fallen trees after floods and the continual siltation of the pond. The present pond is very shallow and limits boating. Dredging is required to establish a suitable depth to conserve this recreation facility.

from top:

Plate 156:
Existing carparking facility, Pavilion Flat, 2003

Plate 157:
Existing signage, Currawong Flat, 2003

Plate 158:
Existing barbeque, Willow Tree Flat, 2003

Dredging has also been an issue with the saltwater body of the Port Hacking estuary where siltation has displaced the relocation of the ferry jetty from Dock Flat to Reid's Flat and Pool Flat. Dredging was also necessary to enable a netted swimming area and helped in the creation of a beach area for swimming access from Pool Flat. The jetty structures have been removed and the former dock and boatshed areas at Dock Flat and Reid's Flat filled in to create new level grassed areas.

4.5 Uses

Audley is one of the most intensely used precincts within Royal National Park. Consultation with NSW NPWS staff, a review of the results from the community open day, and input from experts in interpretation and traffic management (see Appendices G, E & D) revealed the following opportunities and constraints for visitors at Audley:

- Retain current uses and the focus on water: picnics, casual sport, boating
- Consider extending use to include fishing
- Audley is poorly 'signed'. Improved signage and associated facilities will strengthen the educational role of Audley and can assist with 'traffic calming'.
- There is an opportunity to vary the experience of Audley by extending picnic facilities and expanding eating and accommodation facilities
- Improve pedestrian safety and circulation
- Improve use as a 'node' for bushwalkers and cyclists, access for boats
- Improve and diversify parking (long term short term)
- Develop alternatives to vehicular access, such as tram and/or shuttle bus to alleviate the congestion at Audley.

In addition, several specific initiatives and recommendations for improving the recreation experience for visitors were identified and/or validated by Stratcorp Consulting for the Audley Master Plan. The complete Stratcorp Consulting Report is in Appendix H. The opportunities identified by Stratcorp are as follows:

- Improved provision for walking in Audley by establishing new tracks in and around the existing picnic areas and weir wall, and by introducing an improved signage strategy for the identification of walking tracks.
- Improved safety for visitors walking around Audley by formalising the use of the road for both vehicles and pedestrians.
- Provision of a children's playground at Audley which is integrated with the environment and bush setting of Audley.
- Advocate for the cessation of the use of all fibre glass and plastic water craft from the boat hire business, and replace with wooden rowing boats which better reflect the history and character of Audley, and contribute more effectively to the cultural experience of visitors.

- Introduce additional wood barbeques into the designated picnic areas, and phase out gas barbeques, pending an assessment of the risk management and the capacity of the parks services to maintain wood supplies.
- Introduce additional picnic shelters in strategic locations and a bookings system for shelters to better cater for existing and likely future demand for organised group use of Audley, and as a strategy to minimise the impact from group use of picnic areas on smaller groups/individuals.
- Upgrade food and beverage provision through a combination of new kiosk and catering facilities and services.
- Remove the existing kiosk building.

A review of these viewpoints resulted in the following summary of opportunities arising from visitor use:

- Ongoing uses are to be encouraged to conserve the recreation facilities of the parkland character of the Audley Flats and Slopes and the identified significant built fabric of the place.
- The grassed surface of the parkland landscape character can be managed by creating hard edges such as roadways and pathways as well as defining garden areas more clearly to distinguish it from the more upslope bushland character.
- Limit the amount of carparking to allow for more passive and active open space and encourage public transport through the reconstruction of the Audley approaches in the form of walking trails, rail access to the railway station with possible bus service and water access for ferries and private craft by way of the Port Hacking estuary.
- Encourage the former Dance Hall and Kiosk to be used as originally intended subject to access issues and to conform with the Building Code of Australia or as a potential education facility. Encourage ongoing Kiosk use with a more suitable building on a similar location as existing facility for short term usage and integrated with toilet facilities.
- Investigate use of residential buildings for short stay accommodation to continue ongoing use.
- Consider ongoing use of boatshed with partial adaptation of existing facility for boatbuilding.
- Consider adaptation of former Trust Office building as an interpretation centre for Audley village site and the Trust phases of development of Audley as part of the National Park.
- Consider extension of shelter pavilions for ongoing passive recreation and develop an architectural language for both the shelters and toilet blocks which is more harmonious to the landscape setting of Audley and reduces their visual impact.
- Consider clearing Kangaroo Flat to create more open space and interpret former uses and reconstruct bridges to reconnect the Flats with a pedestrian system of paths.

4.6 Client's requirements

The NSW NPWS has identified the following aims for the future management of Audley and its approaches:

- To establish a vision for Audley which is based on an understanding of its heritage values that will also inform its future development and ongoing management as a cultural place;
- To clearly define the natural and cultural landscapes, to apply the appropriate management to conserve the cultural significance of the place and to interpret it for Park users and staff;
- To reconstruct a clear identity for Audley, and to enhance public appreciation of the significance of the area in order to allow the place to become a vital site through appropriate usage.

4.7 Statutory and other external constraints

Land within the National Parks system is managed through a layered system which includes planning instruments, policies and guidelines as well as a collaboration with other relevant community groups and authorities. The NPWS Act requires that a Plan of Management be prepared for all types of land within the system. These plans, which are statutory, synthesize and apply the state and regional level policies to the local level at individual parks. In general, the conservation approach of the NSW NPWS is informed most strongly by the conservation principles outlined in its current Corporate Plan (2000-2003). These principles are as follows:

- Conservation is landscape based, incorporating and integrating natural values, Aboriginal cultural and broader community values, and historic heritage values, both within and beyond the protected area;
- Conservation of nature considers biodiversity, significant landforms and geological heritage and wilderness;
- Conservation is undertaken within the framework of ecologically sustainable development;
- Conservation of Aboriginal cultural heritage incorporates acknowledgement of both traditional and contemporary association of Aboriginal people with environment as well as physical evidence;
- Aboriginal people are the determinants of the cultural significance of Aboriginal heritage;
- Protected areas are comprehensive, adequate and representative;

- Conservation of historic heritage must incorporate the retention and interpretation of both significant historic places and significant past land use evidence in the broader context of the NSW landscape and the settlement history of NSW;
- Natural and cultural heritage is conserved for the benefit and with the support of the community.

NPWS Policy and Management

Other Service-wide policies that inform both the current Royal National Park, Heathcote National Park and Garawarra State Recreation Area Plan of Management and the NSW NPWS Corporate Plan include the NSW NPWS Cultural Heritage Strategic Policy; the NSW NPWS Field Management Policies; the NSW NPWS Weed Management (2003) and NSW NPWS Pest Animal Management (2003).

4.7.1 Royal National Park, Heathcote National Park and Garawarra State Recreation Area Plan of Management

Other Sub-Plans of Management

This report is one outcome of the POM, and other sub-management plans are the Draft Fire Management Plan for Royal National Park, Heathcote National Park and Garawarra State Recreation Area (2002); a deer management plan, a fox management plan, and a trial cycling management plan. The guidelines outlined in each of these bear on the management of cultural heritage of the park, and must be incorporated into the conservation planning for Audley.

The Royal National Park, Heathcote National Park and Garawarra State Recreation Area Plan of Management (2000) lists thirteen management objectives specific to Royal National Park six of which apply to Audley:

Promote natural and cultural heritage conservation, the work of the Service, and environmental education;

- Protect the catchment of the Hacking River;
- Conserve the historic recreational settings and cultural landscapes;
- Increase public awareness of the history and development of RNP in respect to changes in the philosophy of recreation and conservation management;
- Encourage the appropriate use of the park;
- Provide outdoor recreation opportunities at existing levels within the established facility areas.

The Plan of Management also contains policies for the conservation of heritage values, and again those that apply to Audley include:

Natural Heritage:

Prioritise the control of soil erosion in heavily used estuarine foreshores;

- Seek cooperation and involvement of the Hacking River Catchment Management Committee;
- Protect catchment values, including water quality and visual amenity;
- Maintain diversity and distribution of native flora and fauna communities;
- Protect wildlife corridors;
- Control and eradicate weeds, in cooperation with other authorities and neighbours;
- Retain exotic plantings of high heritage value without compromise to natural values;
- Control and where possible remove introduced species of fauna;



Cultural Heritage

Prepare conservation plans;

- Adhere to Burra Charter in conservation management and planning;
- Retain significance of heritage places and items, modify/remove uses/items compromising heritage values;
- Develop a complete inventory of heritage items and places, and a curatorial program;
- Align heritage inventory with Sutherland Shire Council's Heritage Study;
- Interpret the history of the park;

Aboriginal Heritage

Adhere to Burra Charter, and conserve all Aboriginal heritage sites; Pursue joint management arrangements with Land Council; Develop a complete inventory of Aboriginal sites.

In particular reference to Audley, NSW NPWS management philosophy is to provide a balance between habitat creation, recreational safety, including managing the access to the river edge Other specialized management tasks at Audley include crowd control and river management which focuses on dredging and removal of snags.

4.7.2 The Australian ICOMOS Burra Charter

Australia ICOMOS (International Committee on Monuments and Sites) prepares the 'Burra Charter' the standard for conservation philosophy and methodology in Australia. The Burra Charter has shaped many of the NSW NPWS heritage management guidelines, including the Field Management Guidelines. The current edition of the Burra Charter also considers more comprehensively the conservation of natural values.

from top:

*Plate 159:
Allambie Flat, 2003*

*Plate 160:
Ironbark/Pavilion Flat, 2003*

4.7.3 NSW State Government

Consultation with other State Agencies and Groups

Audley is not an isolated heritage landscape: at the confluence of two waterways, and with a main road dissecting it, the management of Audley requires consultation with a number of additional state agencies including the:

- NSW Heritage Council/Office
- NSW Waterways Authority; the NSW
- Road Transport Authority; the NSW
- State Rail Authority, the NSW Rural Fire Brigade; and the
- Hacking River Catchment Management Committee
- La Perouse Land Council
- National Parks Association
- Confederation of Bushwalkers

4.7.4 Sutherland Shire Council Draft LEP 2003

The EP & A Act requires local governments to prepare a Local Environmental Plan (LEP), and as above, this must include a register of local heritage items, places and objects. The LEP is a statutory document. In their current LEP, Sutherland Shire has identified 6 heritage items at Audley:

1. Artillery Hill: stone work on road 300m from the Visitors' Centre, crosses Winifred Falls Track (no. A109);
2. Junction of Audley Road/Sir Bertram Stevens Drive as included in the Audley Conservation Plan (no. A057)
3. The house on the east side of road, on western approach to Audley Weir (no. B001)
4. Rangers' cottage (corner Lady Carrington Drive) (no. B002);
5. Shelter pavilion – B003
6. Lady Carrington Drive from Audley to Sire Bertram Stevens Drive, including the roadway, sandstone cobblestone paving and Mullion Brook, unlocated site of former Ranger's Cottage (no. A058)

The heritage provisions in the Sutherland Shire LEP specify types of work on heritage items which requires development consent.

4.7.5 NSW Heritage Act (1997)

The focus of this act is the identification and protection of items of cultural significance, local, state or national level. The Heritage Act requires the inventory, assessment and conservation planning for items and places of historic, scientific, aesthetic and social value. Section 170 of the Heritage Act also requires local governments and state authorities to maintain registers of heritage items within their jurisdiction. The Heritage Act is administered by the Heritage Council with support from the Heritage Office.

4.7.6 NSW Heritage Register

The Heritage Act also established a statewide register of state significant places, objects and items. The Audley Historic Recreation Complex was listed on the NSW Heritage Register in April 1999. It is listed as a picnic ground/recreation reserve in the group of recreation and entertainment (see Appendix B). The NSW Heritage Register also contains 3 buildings listed separately. All work conducted at Audley must comply with Heritage NSW policy and guidelines.

4.7.7 Environment and Planning Assessment Act (1979)

The Environmental Planning and Assessment Act (1979) guides land use at local, regional and state levels. The Act requires and designated a process for the assessment of development impacts on the environment, both natural and cultural, which includes community consultation. The EP & A Act also requires the inclusion of heritage registers in planning instruments such as Local Environmental Plans. The relevance of the EP&A Act to Audley is the obligation to assessment of the impact of development on both the natural and cultural environment. The EP & A Act also establishes state agencies and authorities as consent authorities for designated development within their jurisdiction, but also requires consultation with relevant and concerned agencies, authorities and community groups.

4.7.8 Additional State Legislation

Additional state legislation must be considered for works relating to the management of water. This includes, but is not limited to the NSW Waterways Act, and the NSW Catchment Management Act 1989 and the Fisheries Management Act 1994.

4.7.9 Register of the National Estate

Audley is not listed on the Register of the National Estate, managed by the Australian Heritage Commission, and nor is it classified by the NSW National Trust. Both agencies play an important advisory role in the conservation of cultural and natural heritage.

4.7.10 International Treaties

Areas within Royal National Park are subject to two international treaties: the Chinese Australian Migratory Bird Agreement and Japanese Australian Migratory Bird Agreement. Additional survey is needed at Audley to determine the applicability of these treaties.

4.7.11 Building Code Of Australia

The buildings should be upgraded to comply with the Building Code of Australia. A BCA assessment is required to assess each of the buildings against the life safety and fire protection objectives and principles of the Building Regulations, to identify aspects of deficiency and recommend the nature and extent of works considered necessary to provide a reasonable and acceptable standard of occupant fire safety and fire protection. However, all works to the buildings must not adversely affect significant fabric nor intrude upon significant interiors.

4.7.12 NSW National Parks and Wildlife Act (1974)

Under this legislation, the Director-General of the NPWS is vested with the responsibility of protecting natural, cultural and Aboriginal heritage. The primary relevance of the NSW NPWS Act is that all work undertaken on land administered by the agency must comply with NPWS Conservation Policy and Field Management Guidelines, including work that may impact archaeological remains.

In accordance with s.170 of the NSW Heritage Act (1997), NSW NPWS administers its own heritage register known as the NSW NPWS Historic Heritage Information Management System or HHIMS, and the Aboriginal Heritage Information Management System (AHIMS) a database of indigenous sites in NSW. (See Section 2.2.2) Currently HHIMS lists Audley Village, consisting of 14 items, as a complex of state level of significance. Audley Village consists of 14 items: the Dance Hall/Kiosk; Walls and Steps; Sheltered; Guest House Sites; Commonwealth Pavilion; Allambie House; Lower Causeway; Shark Net; Boatshed; Wharf; Cleared Areas; Garden/Landscaping; Toilet Block; and Bridge.

The HHIMS also contains 18 entries for separate items, four of which are not currently included in the Audley Village listing. These are the Audley Shack sites; the Audley Heights Cottage; the Audley Post Office Cottage; and the War Memorial and Lookout. All of these have potential for listing as separate items on the State Heritage Register.

4.7.13 NSW Threatened Species Conservation Act (1995)

The purpose of this act to conserve and protect threatened and vulnerable species and communities; to ensure appropriate assessment of impact on threatened species, populations and ecological communities. The TSCA is administered by the NSW NPWS, and is the Service's main vehicle for the protection of natural heritage values. NPWS maintains the NPWS Atlas of Wildlife as the official register of endangered species. The TSC is relevant to the Audley Master Plan in that the powerful owl is occasionally spotted at Wattle Forest (Anyon-Smith, 2002). Proposals must be assessed for their impact on the powerful owl.

4.7.14 Rural Fires Act 1997

Under this Act, the NSW NPWS is a fire authority, and is responsible for preventing and managing fires occurring on its land. A Fire Management Plan for Royal and Heathcote National Parks and Garawarra State Recreational Area was prepared in 2001. The Plan established zones of fire management for Royal National Park, and four of these surround Audley. The Plan also identifies historic assets within the Audley Precinct that require fire protection.

4.7.15 Occupational Health and Safety Act

All buildings, structures and sites should be assessed in accordance to the Occupational Health and Safety Act with respect to maintaining a safe workplace. The managements maintenance and design of new and existing structures and environments should be coordinated with park management to implement the appropriate workplace safety procedures.

4.8 Statement of Conservation Policy

4.8.1 Introduction

Audley and its approaches is a place of exceptional cultural significance for many people. Underlying its changing patterns of non-indigenous occupation is a strong sense of aboriginality, often superficially interpreted as a natural environment, but rather a significant indigenous cultural landscape informed by millennia of occupation.

This coupled with its role as a destination for recreation and as an integral development with the formation of the first national park in Australia places it as of national significance. Its ability to express through its extant fabric the changes towards recreation and nature conservation and their management places it at both national and state levels of cultural significance.

Audley and its approaches as the subject study area for this project is currently an area which has become somewhat overlooked with a contemporary society more focused on the coast and the opportunities of other destinations given a more mobile society.

The formulation of conservation policies is the starting point for managing heritage significance and providing a sound framework for future planning and design actions. The overall purpose of conservation policies is to preserve and enhance appreciation of the heritage significance of the whole place; the natural setting, the built forms and their cultural landscape setting. The purpose of this combined conservation plan and masterplan document is to more clearly define Audley as a distinctive cultural landscape consisting of many layers and multicultural associations, and assure that it continues to serve as an attractive and safe environment for visitors with adequate facilities for passive recreation. The following conservation policies for Audley outline courses of action to be followed in the consideration and development of long-term use and maintenance plans for the complex of built forms, archaeological sites and landscape setting such that the cultural significance is retained and enhanced and not diminished. The policies have been formulated to:

- Preserve the cultural significance of the fabric of the whole place;

- Retain and enhance the character and quality of the built form and their settings;
- Facilitate introduction of uses, elements or built form compatible with the character and quality of the existing buildings and the different areas;
- Nominate intrusive components in need of modification or removal.

This document is based on an understanding of the natural and cultural heritage values of Audley, safe accessibility for humans, contemporary recreation needs and environmental issues; the intent is to articulate a masterplan which will create a new layer and further enrich the quality of life to ensure the ongoing vitality of Audley.

4.8.2 General Conservation Policies

The conservation of the study area can best be achieved by:

- Conservation of the setting of Audley and approaches, and the associated landscapes both natural and cultural.
- Conservation and adaptive re-use of the significant buildings and structures.
- Accommodation of on-going uses or uses which will enhance public appreciation of the cultural significance of the place and ensure the conservation of significant built fabric, landscape and archaeological items.
- Minimization of intervention to significant fabric.
- Implementation of fire safety measures and safe access to comply with the intent of the Building Code of Australia while not damaging significant fabric in any way.
- Implementation of a regular maintenance programme.
- Regular heritage management training for staff.

4.9 Detailed conservation Policies

The following policies are recommended for the conservation of the study area referred to as Audley and its approaches. The policies are presented under various headings seen to be of critical importance to the preservation of the cultural heritage of Audley as a cultural landscape containing a complex of built form, archaeological sites, made landscapes and borrowing from the natural environment.

4.9.1 Adoption of the Conservation Management Plan Review

Policy 1.1

This Conservation Management Plan Review should be adopted by NSW National Parks and Wildlife Service as part of the process to inform the Master Plan for Audley and its approaches. It should become a standard requirement for works contemplated within the study area to be in accordance with its recommendations.

Policy 1.2

The management of the study area should be informed by an understanding of the cultural significance of the place as described in this Conservation Management Plan Review.

Policy 1.3

A management structure should be implemented that:

- Integrates conservation into the overall management of Audley and approaches;
- Provides for the long term conservation of significant fabric;
- Disseminates the aims and intentions of this Conservation Management Plan Review to appropriate officers.

Policy 1.4

Heritage management expertise should be incorporated into the management of the place or should be imported from appropriate sources.

4.9.2 Statutory Considerations

Policy 1.5

Upgrading of buildings to comply with the requirements of the Building Code of Australia and the Disability Discrimination Act should be undertaken in a way which does not damage the cultural significance of the buildings and their setting.

4.9.3 Approach to maintenance of the fabric.

Policy 1.6

All work done to the historic fabric of the significant items and their setting should be done in accordance with the principles of the Burra Charter.

4.9.4 Approach to changes to the fabric

Policy 1.7

While recognising the need for change, the approach to the fabric should be one of minimal intervention.

4.9.5 Integrity of design

Policy 1.8

Retain evidence of the important phases of historical development of the place including:

- Indigenous occupation
- National Park Trust phase
- NPWS phase

4.9.6 Recording of changes

Policy 1.9

All changes to the fabric of the place should be carefully recorded according to Heritage Office Guidelines relating to archival recording for Sites of State Significance.

4.9.7 Conservation Advice

Policy 1.10 Prior to undertaking any conservation, maintenance or upgrading works on any part of the significant fabric a Conservation Actions Schedule shall be prepared. The Schedule will be a succinct document which:

- Augments the assessment of cultural significance, by undertaking more detailed investigation, recording and assessment of the documentary and physical evidence.
- Determines the appropriate conservation policies.
- Sets out a comprehensive schedule of conservation actions, based upon the conservation policies.

4.9.8 Archaeology

Policy 1.11

An excavation permit must be obtained from the Heritage Council of NSW, in accordance with the relics provisions of the Heritage Act, prior to the commencement of works in any area identified as having archaeological potential.

Policy 1.12

Evidence of Aboriginal occupation will be identified, conserved and interpreted in conjunction with local Aboriginal groups by establishing an Aboriginal Steering Group.

Policy 1.13

A Section 87 permit is required if investigations are required to establish that no Aboriginal object will be disturbed by the proposed works program. It should be noted in the staging of works that Section 87 Applications can take up to 6-8 weeks to process.

Policy 1.14

A Section 90 permit is required when a known Aboriginal object will be disturbed, destroyed or removed as part of the proposed works program. It should be noted for staging of works that Section 90 Applications can take up to 6-8 weeks to process.

4.9.9 Interpretation

Policy 1.15

The interpretation of the whole of the study area as a cultural landscape, including the buildings, landscaped setting, archaeological evidence, structures and artefacts found on sites should be seen as an important element of the conservation of the place.

Policy 1.16

Audley's landscape will be managed to recognise all periods of its use and to enhance and interpret its cultural significance.

Policy 1.17

Interpretation of Aboriginal history should be undertaken in consultation, and where possible developed and delivered by Aboriginal people.

Policy 1.18

Historically appropriate nomenclature for existing items and other features will be promoted in terms of low- key signage, publicity and education.

Policy 1.19

Avoid a plethora of signage.

Policy 1.20

A comprehensive schedule of existing moveable heritage items will be developed and a conservation, management, display and interpretation strategy drawn up to preserve the integrity of the moveable heritage collection.

Policy 1.21

Any future management plan for the study area should examine the need for accommodating visitors to the area whilst protecting the significant cultural fabric of the place.

4.9.10 Future use and development

Policy 1.22

The preferred new uses for the significant buildings are uses which enhance the appreciation of the significance of the place and ensure the conservation of the built elements and landscape items. The spatial configuration of the significant areas and buildings should also be considered.

Policy 1.23

The management of the area should include careful siting of any future development so it will enhance appreciation of the cultural significance of the place with special care to preserve the fabric and views identified as significance level A, B or C as outlined in Section 3.2 Schedule of Significant Areas and Items.

4.9.11 Conservation works

Policy 1.24

The significant fabric and elements of the study, identified as significance level A, B or C in Section 3.2 Schedule of Significant Areas and Items should be conserved.

Policy 1.25

Conserve, reconstruct and reuse elements which provide useful functions, evidence of the historical layering and do not adversely effect significant fabric.

Policy 1.26

New development or construction of new additions to the existing building envelopes is not recommended.

Policy 1.27

The installation of new services is permissible where new service routes or locations cause minimal damage to existing locations or to significant fabric, or where old service routes and locations are re-utilised.

Policy 1.28

Remove intrusive elements to regain significant fabric including:

- Earthworks and associated plantings in the centre of Pavilion Flat
- Kiosk complex at Pavilion Flat (PAF: B4)
- Cottage at Reid's Slopes (REF: B1)
- Siltation on bed of Audley Weir Pond
- Vegetation within significant view line corridors on approach to and within Audley

Policy 1.29

Repair elements in need of urgent attention. Retain and patch/repair existing fabric in situ, rather than replicate original material. Areas where this will have to be considered are in particular:

- Stone retaining walls generally
- All significant buildings
- Roads and paths together with their edging.

Policy 1.30

Adaptive reuse to ensure that significant fabric is conserved and that inappropriate intervention will not occur to built items including:

- Former Trust office building (ALR: B2)
- Former Dance Hall and Kiosk (PAF: B2)
- Original Audley Road as a walking track
- Road surfaces along Audley road and Sir Bertram Stevens Drive to accommodate safe pedestrian access
- Former paths to swimming place on Kangaroo Flat and track to former aviary on Currawong Flat
- Former Gardeners Cottage and Garage, Loftus Heights (A :B1)

Policy 1.31

Reconstruct the following elements:

- Bridge structures over Kangaroo Creek
- Open grassed area adjacent to the Commonwealth Pavilion on Pavilion Flat
- Safe swimming area in Port Hacking adjacent to Pool Flat
- Jetties in Port Hacking for ferry access
- Zig Zag track

Policy 1.32

Amenities and facilities will be provided so as to ensure that use does not compromise the natural and cultural heritage values of Audley.

Policy 1.33

Occupancies of historic buildings will be subject to special lease conditions to ensure proper care of the building fabric to prevent unauthorised work.

Policy 1.34

Where significant trees have failed in a particular location, they may where appropriate, be interpreted by replacement with a different tree species otherwise replacement plantings shall be of the same or similar species.

Policy 1.35

Remove areas and individual plantings considered to be weeds including:

- Self-seeded Camphor laurels generally
- Self-seeded Brush Box generally
- Self-seeded *Melaleuca armillaris*, particularly from Allambie Ridge area generally.

Policy 1.36

The site of Allambie house should be conserved as open space and its history interpreted insitu.

4.9.12 Review of Conservation Management plan

Policy 1.37

This Conservation Management Plan is to be reviewed at 5 yearly intervals as specified in the Heritage Office Guidelines for the Preparation of Conservation Management Plans. The results of studies should be kept up to date, regularly reviewed and revised as necessary.

PART V LANDSCAPE MASTER PLAN

5.1 Introduction

The Statement of Cultural Significance generates fundamental landscape principles.

They relate to the significance of the:

- Natural environment to both indigenous and non-indigenous people
- Cultural environment to both indigenous and non-indigenous people
- National Park period and its strong links to military use, acclimatization, zoological experimentation and recreation
- Different attitudes to recreation and conservation and their influence on the National Park.

The landscape design principles are:

- Ecological Systems
- Conservation of Recreational Parkland
- Contrast
- Connectivity

5.1.1 Ecological Systems

Audley and its approaches are located within a diversity of ecological systems derived from freshwater drainage of terrestrial landforms and the estuarine tidal environment of Port Hacking. Both are influenced by the underlying geological formations, resultant soil formations and vegetation type, structure and associations.

Conservation of these systems will ensure the continuity of the complexity of the natural landscape as the predominant setting of Audley and its approaches which has supported both indigenous and non-indigenous cultures.

5.1.2 Conservation of Recreational Parkland

The creation of a central freshwater body such as the Audley Pool and the development of adjacent alluvial flats as grassed parkland demonstrates a cultural response to the natural landscape.

This imposed landscape structure within the flood zone at the confluence of two major freshwater drainage systems has evolved to include a variety of built forms to accommodate changing patterns of recreation. The recreational parkland landscape character has been extended to overlap the areas of permanent accommodation located on adjacent slopes and ridges to avoid flooding damage but not fire damage. These sites form to collectively present a village character and are often associated with isolated gardens for both practical and aesthetic functions. Many of these sites are now in an archaeological condition and the remnant gardens, often created by stone retaining walls and disturbed ground are the only extant indicators of a once extensive permanent settlement.



from top:

Plate 161:
The Fish Ladder by Audley Weir, 2003

Plate 162:
Audley Weir, 2003

Conservation of these sites and their interpretation will ensure the continuity of the complexity of the cultural landscape of Audley.

The Audley approaches provide a diversity of terrestrial and aquatic linkages to gain access to Audley by means of evolving transportation methods. The motor vehicle is one of the greatest physical impacts to Audley yet provides the most common means of visitation.

The principle of recreational parkland should ensure that the visual impact of car parking is minimized.

5.1.3 Contrast

The quality of contrast is evident at both macro and micro scales. Contrast in landforms, waterforms, edges, colour, texture and spatial enclosure is and has been evident at Audley and within its approaches.

A major contrast is that between the cultivated ground and the surrounding natural landscape.

Conservation of this quality by well defined precincts will ensure the continuity and clarity of reading the obviously cultural landscape against the indigenous.

5.1.4 Connectivity

This principle refers to both the physical and visual connectivity that existed within Audley and has been partly obscured.

Preference has been given to pedestrian connectivity to link a series of seemingly isolated areas so that the whole place is capable of being experienced on foot as opposed to a number of vehicular movements. This is effected by creating new bridge structures on the site of previously known forms over the Audley Pool and connected to a system of old as well as new paths.

Visual connectivity is related to the spatial structure of Audley as an open recreational parkland with particular views directed towards the focal water bodies from both the slopes and flats of the valleys and from approach roads and tracks.



from top:

*Plate 163:
Road Approach to Audley, Audley Road, 2003*

*Plate 164:
Contrasting steep and flat landforms, contrasting natural and cultivated landscapes, Allambie Slopes, 2003.*

5.1.5 Landscape Design Guidelines

Landform

- There must be no further dramatic alteration to the natural landform.



Waterform

- Maintain suitable depth for water-based recreation.
- Keep soft edges to freshwater bodies (Audley Pool, Hacking River and Kangaroo Creek).
- Keep existing hard edges to estuarine waterbody (Port Hacking) and conserve natural rock edges.

Vegetation

- Conserve identified significant vegetation.
- Conserve parkland character to Flats with generally open grassed surface.
- Contrast grassed areas with indigenous areas by path, track or road edges.
- Use vegetation as an interpretive tool to understand both the natural and the cultural values of the Park.
- Avoid overplanting large areas of identified picnic flats with trees and shrubs.
- Conserve identified view corridors by selective thinning of post-fire regrowth of short-lived wattles on Allambie Slopes.
- Reinstate identified and significant exotic plants with species of similar significance, ideally indigenous or at least native, that are not invasive to bushland.



Built Form

- Use historic appreciation of Audley's built form for any new buildings/ structures/walls and built landscape elements in regard to scale, siting, shape character and materials.
- Where possible, use the footprints of former buildings to add to the interpretation of the landscape if/where new buildings are required.
- Except where interpreting or reconstructing former elements new buildings should be rectangular in shape.
- Avoid proliferation of new built forms.
- New bridges to reflect the character of Audley in their scale, form and materials but not necessarily reconstructions of earlier known forms.
- Roads within Audley to be reduced in scale and provided with a surface to encourage traffic calming.

Materials

- Stone, timber and steel should be used for any new built elements.
- Avoid treated pine logs generally.

Signage and Furniture

- New signage and furniture should be sympathetic to the cultural significance of the place.
- Avoid "off the shelf" signage and furniture.

from top:

Plate 165:
Vegetation: Culturally significant plantings:
Washingtonia robusta palms at the entry to
Pavilion Flat, 2003

Plate 166:
Waterform: Audley Weir Pool, view from Pa-
villion Flat to Allambie Flat and boatshed,
2003

Plate 167:
Materials: A stone wall on the estuary side
of Audley, 2003

Plate 168: (opposite)
Audley and Port Hacking Estuary within the
Royal National Park, 2003

5.2 Actions

This plan identifies specific actions to both conserve and interpret significant fabric and to propose new works to enhance the facilities and provide greater connectivity within the complex that is Audley.

It is based on the established heritage values of Audley and its approaches.

The recognition of these values is reflected in the proposed new works including adaptation of existing built forms, new built forms to effect greater visual and physical connectivity and to encourage a diversity of recreation, educational uses alongside conservation of the natural and cultural environment.

The actions are listed by the 14 precincts (A-N) that follow, and are organised by conservation works relating to extant fabric and new works.

The new works attempt to aid in the interpretation of the place as well as enhance public appreciation of the cultural significance of the place and to assist in the vitality of the place through appropriate usage.

The actions are located and described on the Master Plan Drawing as well as in Appendix P "Action Plan - Costings" on p. 253 of this report.



Hacking Estuary



The Hacking Estuary comprises the saltwater body downstream of the Audley Weir. The estuary is a popular destination for kayaking and fishing. It contains highly significant heritage items, such as the sea walls, remnants of former weir structures and training walls which are in degraded condition. The following recommendations focus on the conservation of these items and provide for the anticipated increase in boating, swimming and fishing activity in this area.

Actions:

Existing Facilities - Conservation, Interpretation and Adaptation

- A1 Interpret former weir (link with Dock Flat)
- A2 Restore sea walls to stabilise bank erosion (including Pool and Reids Flat).
- A3 Interpret former netted swimming enclosure with new saltwater swimming area designated (See Dock Flat and Pool Flat actions)
- A4 Conserve training walls and interpret.



New Works

- A6 Reconstruct jetties on sites of former jetty structures.
- A7 Reinstate and interpret fishway.
- A8 Install interpretative and directional signage along water's edge visible from land, road and water.

Audley Weir Pool

Audley Weir Pool constitutes the ponded freshwater body upstream of the weir incorporating water from the Kangaroo Creek and Hacking River catchments. It is the focus of activity at Audley, and forms the water body middle ground within Audley. Recommendations are based on the need to conserve the pool for its high biodiversity, aesthetic and social values. The master plan recommendations also anticipate the continued high demand for physical access to the pool from various points, and for various purposes, mainly boating and birdwatching.

from top:

*Plate 169:
Hacking Estuary: Boating up the estuary,
2003*

*Plate 170:
Audley Weir Pool: Rowboats in the freshwa-
ter, 2003*

Actions:

Existing Facilities - Conservation, Interpretation and Adaptation

- B1 Consolidate and stabilize boat landing points along river edge.
- B2 Conserve soft edge condition habitat at non-landing points.

Removal Works

- B3 Dredge to maintain adequate boating activity.
- B4 Periodically reduce aquatic plants that may inhibit adequate boating activity.

New Works

- B5 Consider permissibility and practicality of fishing in this precinct (only after the Fishway is reinstated).
- B6 Improve accessibility to waterbody.

Allambie Ridge and Slopes

The left bank of the confluence is associated with known Aboriginal occupation sites and handmarks in caves below the ridgeline of unknown age (Shellshear et al 1930).

This area above the confluence was later chosen as the best vantage point by Lord Audley in 1860s and became the initial site of development by the Park Trustees. At this time it was known as "The Camp" with structures evolving from pavilion known as "The Rest" to a major public facility as "Allambie House".

As a precinct, Allambie has exceptional heritage value because it contains a number of existing heritage buildings and plantings along with archaeological remnants, such as the sites of the former Trustee's cottage, post office cottage (in situ), former district office, terraces, car park (former stable site), lookout, war memorial, garage site, and many associated cultural plantings dating from the inter-war period (1920-1938). The rich physical evidence at Allambie, including the archaeology make it an important location for interpretation of the history of Audley and associated approaches. The recommendations are aimed at developing this potential. They also address the associated issues of wayfinding and visitor access and safety in this precinct.



from top:

Plate 171:
Allambie Ridge and Slopes: Former Allambie House and 'The Rest' site, 2003

Plate 172:
Allambie Ridge and Slopes: Sandstone steps by lookout to former stables and garage site, 2003

Plate 173:
Allambie Ridge and Slopes: Lookout, 2003

Actions:

Existing Facilities - Conservation, Interpretation and Adaptation

- C1 Adapt Post Office cottage, garden, street frontage, and footprint (c. late 1800's as per CMP). Explore possible adaptive reuses including researcher accommodation, field studies, displays.
- C2 Interpret Post Office cottage site.
- C3 Adapt former administration office. For example, as a Trust and rangers administration office as a classroom/ research/ interpretation facility.
- C4 Interpret former stables site with seating and surface treatments
- C5 Interpret former Trustees' cottage site.
- C6 Conserve lookout area and monument and maintain steps and track along ridge
- C7 Conserve war memorial 'Roll of Honour' and maintain steps and track along ridge.
- C8 Interpret former Audley Road and Bridle Track such as with images along the walking track.
- C9 Interpret line of old road and military track.
- C10 Interpret water tanks. For example, create a lookout with images of past use.
- C11 Interpret terraced rockery gardens. Encourage indigenous species and selectively remove invasive exotic species.
- C12 Reinstatement of significant views to river and vistas by selectively thinning some post-fire wattle regrowth.
- C13 Adapt fabric of ranger's cottage/former office to new use for interpretation of Audley Village

New Works

- C14 Install traffic calming and new surface treatment from outside of the Post Office on Audley road, as the northern entrance to Audley precinct, through to the extremity of the Rangers Slope on Sir Bertram Stevens Drive, as the southern entrance to the precinct.
- C15 Include short-stay parking areas and access to cottage and possible researcher's residence.
- C16 Reconstruct an interpretation of 'The Rest' Pavilion as open pavilion structure.
- C17 Interpret former uses and locations along new and old paths and provide new paths.
- C18 Include long-stay parking (with a connecting walking track) in the disused workshop site, midway up Audley Road.
- C19 Develop entry marker/statement on Audley Road north of Post Office Cottage
- C20 Upgrade furniture and signage facilities
- C21 Install traffic calming and new surface treatment between, and associated with, the entrance's statements.
- C22 Relocate public telephone to Dance Hall or other suitable location e.g. near Allambie Flat turn-off.
- C23 Include roundabout at the weir for traffic calming and improve safe vehicular access to Allambie Flat.
- C24 Install 40 km and/or 50 km speed signs in precinct with "caution pedestrian" symbols and clear "pedestrian rights-of-way".



*Plate 174: Allambie Ridge and Slopes:
Terraced slopes with former views to the
water, 2003.*

Allambie Flat

Allambie Flat contains the 1938 boatshed, timber wharf and ramp, stairways, stone and concrete retaining walls, toilets, constructed paths, and formed garden beds. The existing car park was constructed on the area of the former bowling green, tennis court, vegetable garden, and orchard sites. The modified Flat has a built up levy on the former bridge site to Kangaroo Flat. Exotic evergreen and deciduous plantings exist within Allambie Flat.



Today Allambie Flat has important recreational value associated with the activity generated by the historic boatshed. The recommendations include the conservation of the boatshed and focus on the recreational value of Allambie Flat by concentrating on improved access and safety.

Actions:

Existing Facilities - Conservation, Interpretation and Adaptation

- D1 Adapt and conserve boathouse shed (1938), explore possible options for part of structure (such as restaurant, open pavilion, or boat building facility)
- D2 Interpret former bowling green/tennis court/orchard/vegetable garden such as new grid planting to carpark.
- D3 Conserve and adapt walking tracks along the waters edge and the stairway leading to boatshed from Audley Road down to the "Weir Flat" part of Allambie Flat.
Conserve and adapt stairway to boatshed from road.
- D4 Conserve a balance of non invasive exotic and indigenous plantings.

New Works

- D5 Provide pedestrian connections to Allambie Ridge
- D6 Improved pedestrian access integrated with weir (designs to consider flood debris, pedestrian safety, fishway and traffic issues).
- D7 Reconstruct bridge to Currawong Flat designed to withstand flooding.
- D8 Reconfigure carparking adjacent to boatshed
- D9 Upgrade furniture, signage and facilities

from top:

Plate 175:
Beside Audley Wier, 2003.

Plate 176:
Allambie Flat: boatshed and former terraced rockeries, 2003

Plate 177 : (left)
Allambie Flat: view from former Allambie House and 'The Rest' site, 2003

Plate 178: (right)
Pavilion Flat: from across Audley Weir Pool, 2003



Pavilion Flat

Pavilion Flat was simply known as 'the paddock' when it was first used as a horse paddock. It has been a major focus of public recreation for Audley since the establishment of the weir. This Flat was later named 'Bradley's Flat', then 'Pavilion Flat' and more recently 'Ironbark Flat'. Commonwealth Pavilion (1901) and the former Dance Hall/Kiosk (1945-48) are culturally significant built elements and the formed landscape contains culturally significant exotic and indigenous tree species such as *Platanus*, *Washingtonia* and *Eucalyptus* species. Grey Ironbark, *Eucalyptus paniculata*, was promoted here from the late 19th Century which led to the more recent naming of the flat.



Along with Allambie Ridge and Slopes, Pavilion Flat is one of two exceptionally significant precincts at Audley. The landscape and structures at Pavilion Flat represent changing attitudes toward both recreation and conservation, and continues to be heavily used by visitors. The recommendations focus on conserving the heritage values and at the same time improving and expanding visitor facilities.

Actions:

Existing Facilities - Conservation, Interpretation and Adaptation

- E 1 Conserve and interpret Commonwealth Pavilion (1901)
Improve / restore picnic furniture to the pavilion
- E 2 Modify earthworks and thin out selected plantings to reinstate views to water from Dance Hall, Commonwealth Pavilion, grassed areas, and road.
- E 3 Modify road and parking around southern edge of the Commonwealth Pavilion to improve curtilage and pedestrian circulation
- E 4 Retain Winifred Falls Track and make safe the pedestrian crossing. Interpret its importance as the original track to the coast. Conserve remnant fabric and reconstruct alignment.
- E 5 Adapt and conserve Dance Hall to accommodate a café/ kiosk with accessible toilet facilities (on lower level) and adapt external pavement for new uses such as an outdoor café terrace.
- E 6 Consider adaptive reuse potential of top floor of Dance Hall (for example functions/conferences/workshops/stalls and fairs/theatre performance space/indoor classroom/displays/exhibitions).
- E 7 Modify angle parking to parallel, east of the toilet block for safer access
- E 8 Improve existing edges and provide suitable access to water body

Removal Works

- E 9 Remove temporary kiosk.
- E 10 Remove senescing poplars and replace with appropriate deciduous species.
- E 11 Consider adaptive reuse and partial removal of existing toilet block to open up views to water from road

New Works

- E 12 Carpark reconfigured to include bus and disabled access.
- E 13 New paving treatments for pedestrian and vehicle safety as part of Sir Bertram Stevens Drive improvements.
- E 14 Provide new and accessible toilets in new structure on site of temporary kiosk
- E 15 Demolish existing toilet block and provide deck and viewing areas
- E 16 Upgrade signage/entry markers.
- E 17 Upgrade furniture and facilities.
- E 18 Promote program of uses for Dance Hall



from top:

*Plate 179:
Pavilion Flat: toilet block and Dance Hall and
Kiosk building, 2003*

*Plate 180: (right)
Ranger's Slope: Southern approach from road
with Rangers Cottage, 2003*

Rangers Slope

Rangers Slope contains indigenous bushland, a cottage and a shed, cultural tree plantings and fencing associated with its nineteenth century setting. Rangers slope has steep landform and access is limited. The recommendations for Rangers Slope focus on maintaining limited access, conserving the historic building and its landscape setting as important evidence of the evolution of the park, and managing the vegetation to reduce fire hazards and weed infestation.

Actions:

Existing Facilities - Conservation, Interpretation and Adaption

- F 1 Conserve and interpret cottage and garden setting - re-adapted for use such as ranger's residence, education/exhibition/club facilities.
- F 2 Conserve and reconstruct fencing, retaining walls and plantings
- F 3 Conserve remnant cultural plantings
- F 4 Conserve bushland character beyond cottage curtilage.

Removal Works

- F 5 Remove shed and replace with sympathetic structure and setting

New Works

- F 6 Reduce visual impact of shed with screen planting



Currawong Flat



Currawong Flat has formerly been associated with zoological experimentation and previously known as Robertsons Grove. It was the site where fauna research, acclimatisation and species introduction occurred including an aviary (later relocated onto Pavilion Flat). *Araucaria* tree species were planted around the entry to the aviary and have cultural significance making the general site of zoological experimentation. Varney Bridge, built in 1935 and rebuilt in 1993, connects Currawong Flat to Pavilion Flat over the Hacking River and Lady Carrington Drive and allow vehicular access to the left bank of the Audley Weir Pool.



Currawong Flat presents an important opportunity to interpret the historical association of the park with the Acclimatisation Society; to integrate pedestrian circulation throughout Audley and to articulate the historic parkland character of Audley. The recommendations address these opportunities as well as the need to improve parking and picnic facilities. Weed infestation, fire and flood hazards are also addressed.

Actions:

Existing Facilities - Conservation, Interpretation and Adaptation

- G 1 Interpret site of former aviary as part of earlier acclimatisation attempts and encourage 'wildlife encounters' with emphasis on birds.
- G 2 Conserve parkland character.
- G 3 Conserve existing edges and provide suitable access to water body.
- G 4 Conserve and maintain Varney Bridge
- G 5 Reconstruct former track to proposed bridge to Allambie Flat, link and use as walking track.
- G 6 Integrate and link walking tracks from Audley to Heathcote, Waterfall, Wattle forest and Robertsons Knoll loop track with other tracks, flats and roads.
- G 7 Conserve *Araucaria* plantings and replace senescent specimens with same or similar species.

Removal Works

- G 8 Continue to remove invasive weed species.

New Works

- G 9 Reconfigure northern carpark.
- G 10 Reconfigure southern carpark.
- G 11 Upgrade furniture and signage facilities.
- G 12 Install new gas barbecues.
- G 13 Install picnic shelters.

from top:

Plate 181:
Currawong Flat: view from Allambie Flat
across Kangaroo Creek, 2003

Plate 182:
Currawong Flat: view from Pavilion Flat across
Audley Weir Pool, 2003

Willow Tree Flat And Fig Tree Flat

This Flat was planted with exotic vegetation of which the Willows and Figs are remnants. Willow Flat and Fig Tree Flat contain a pavilion structure, gravel car park, open grassed areas with mature predominantly native tree plantings, views to Hacking River, wood barbeques and a toilet block. Willow Tree Flat is now the pedestrian entry to Lady Carrington Drive (9.6kms), the original 1880's road which winds its way south along the river. The northern part of Willow Tree Flat contributes to the visual and spatial structure of the Audley Core area.

Like Currawong Flat, these areas are characterized by a parkland setting and offer the potential to improve pedestrian circulation through Audley. They are also quiet areas well used for picnicking. The recommendations aim to conserve this character, improve the poor condition of Willow Tree Flat, and develop a stronger identity for Willow Tree Flat as the access point to Lady Carrington Drive.

Actions:

Existing Facilities - Conservation, Interpretation and Adaptation

- H 1 Maintain/restore soft edges to water and reduce selected shrub plantings for better accessibility to water
- H 2 Adapt 'Parkland' quality of formed flats to reduce ponding and drainage issues by grading landform and improving soil quality where possible

Removal Works

- H 3 Remove selected invasive and senescent foreshore trees and shrubs

New Works

- H 4 Reconfigure carparking to maximize open space and screen car parking areas as seen from Allambie Flat and Slopes.
- H 5 Upgrade entrance, signage, bicycle, and pedestrian access to Lady Carrington Drive.
- H 6 Upgrade furniture, facilities and signage.
- H 7 Install gas barbecues.
- H 8 Construct footbridge linking to Kookaburra Flat at lowest terrain points.

Kangaroo Flat

Kangaroo Flat was accessible via a pedestrian bridge to Allambie Flat in the early to late 1900s. Kangaroo Flat was the site of a dairy and aquatic bird breeding ground during the Trust period. The former "cygnet ponds" are noted on the masterplan diagrams. Bridge and path access led on past these ponds to the Trustees' bathing place in Kangaroo Creek.



from top:

Plate 183:
Willow Tree and Fig Tree Flat: view over Willow Tree Flat carpark to Audley Weir Pool

Plate 184:
Willow Tree and Fig Tree Flat: view over carpark, 2003

Plate 185:
Willow Tree and Fig Tree Flat: grassy flats



Today, Kangaroo Flat has been recolonised by indigenous riparian vegetation over formerly cleared areas and tracks. Habitat for waterbirds has developed, and the footbridge from Allambie Flat long-gone after floodwaters swept it away. There is little justification and support to reinstate the footbridge to this flat nor clear the regenerated area for recreational usage. The natural values of this flat will remain comfortably isolated from human interference.

Section 2.2.1 describes the waterbirds that find tranquil breeding habitat in the reeds in the right bank of Kangaroo Creek.

Kangaroo Flat once played an important role in the history of Audley but will remain excised from the rest of the picnic flats, accessible still for passive pursuits such as boating and birdwatching. The revised action for this masterplan is to conserve, protect and remotely interpret the natural and cultural features of this Flat.

Actions:

Existing Facilities - Conservation, Interpretation and Adaptation

- I 1 Maintain/restore soft edges to waters edge and encourage regeneration of waterbird habitat by deliberate non-promotion of pedestrian visitor access.

Dock Flat (Causeway Flat/ Bus Stop Flat)

Dock Flat, modified significantly since the late 1800s, was formerly a ferry dock (later filled in) and formed one of the early landing points to access Audley. Sandstone sea walls, sandstone stairs and platforms, and evidence of retaining walls suggest this area was highly modified particularly following storm and flooding damage. A bus stop/waiting shed structure was located on the left bank of Audley Weir. This flat also contained a boatshed at its downstream extremity. The trackhead for the Honeymoon Track is located here, leading to and from the Royal National Park rail station and Visitor Centre above, providing the main safe pedestrian route to Audley.



from top:

Plate 186:
View to steep terrain between Currawong Flat and Kangaroo Flat, from Allambie Flat, 2003.

Plate 187:
Kangaroo Flat: view of Kangaroo Creek bend from Lookout on Allambie Ridge, 2003

It is a very significant and well-trod path for walkers, joggers, and school students. Joggers use this track as part of a circuit from Sutherland and/or Grays Point. Tram users use this path to access Audley, and beyond, into the Park. The Environmental Education Centre and NPWS Discovery Rangers regularly lead large groups through natural bushland to the river via this Track, and use Dock Flat as a regrouping area and staging post for their activities and focus upon Audley's natural and cultural assets. (EEC submission, 2004).

On the Flat, some remnant cultural plantings of ornamental species are evident and a London Plane Tree (*Platanus x hybrida*) dominates the carpark area, affording shade to picnickers. Other less friendly species of invasive 'garden escapees' are systematically removed by bush regeneration volunteers and staff. Visitor circulation and pedestrian safety near the weir are important concerns at Dock Flat.

Actions:

Existing Facilities - Conservation, Interpretation and Adaptation

- J 1 Interpret former Dock and Bus Stop waiting shed/pavilion. For example, paving, clues to former use, or seating
- J 2 Conserve sandstone seawall and stairs
- J 3 Construct ferry wharf associated with former Dock as previously identified item number
- J 4 Redefine connection to Honeymoon Track

New Works

- J 5 Construct a platform near the former bus stop designed to withstand flooding and structural stability for appropriate number of viewers (as per A 6)
- J 6 Introduce paving treatment for pedestrian crossing points for road traffic calming
- J 7 Upgrade toilet block facilities including pathway connections
- J 8 Upgrade furniture, signage and facilities
- J 9 Improve carpark area and introduce screen / shade planting



from top:

Plate 188:
Dock Flat: by Audley Weir, 2003

Plate 189:
Dock Flat: view of carpark, 2003

Plate 190:
Dock Flat: from the weir section of Allambie Flat, 2003

Pool Flat and Slopes



Pool Flat is the earliest developed area prior to the establishment of the National Park. During the late 1800s Pool Flat contained many house sites. The creek from Pool Slopes was dammed, waiting sheds constructed, a fish ladder to the freshwater was installed as were toilet facilities, a number of jetties, a formed beach, sandstone sea walls, open grassland, a bridge to Reid's Flat, and a netted swimming enclosure. Today Pool Flat is most popular for people arriving in boats and for fishing, picnics, and walking.



Conservation work at Pool Flat encompasses the interpretation of archaeological remains and reconstruction of missing elements as a means of re-introducing historic recreational activities. The recommendations also consider the improvement of visitor access and facilities.

Actions:

Existing Facilities - Conservation, Interpretation and Adaption

- K 1 Interpret archaeological sites including former dressing sheds, cottage sites and existing dam
- K 2 Partial reconstruction of swimming enclosure and associated beach area, including shark net

Reconstruction and Restoration

- K 3 Reconstruct pontoon for ferry access as per item number A1 (Hacking Estuary)
- K 4 Reconstruct stone seawall

Removal Works

- K 5 Remove and replace senescent trees
- K 6 Improve pedestrian access from weir

New Works

- K 7 Upgrade signage, furniture and picnic facilities

from top:

Plate 191:
Pool Flat and Slopes: grassy flat, 2003

Plate 192:
Pool Flat and Slopes: sea wall detail, 2003

Plate 193:
Pool Flat and Slopes: view from former house sites on Pool Slopes, 2003



Reids Flat and Slopes

Reids Flat and Slopes contain two culturally significant house sites, open grass, car parking, formed sandstone seawalls and rubble sea walls, a track to Riverside Flat and Gray's Point, gas barbeques, and toilet facilities. It previously contained various boatsheds and a public jetty. Reid's Flat is currently a popular picnic area and provides good access for upstream kayaks, boats and a popular walking track to Wants Beach.



The recommendations address Reids Flat's current popularity for water based access and activity as well as the opportunity to extend the experience of Audley from day visits to overnight stays.

Actions:

Existing Facilities - Conservation, Interpretation and Adaptation

- L 1 Adapt existing cottage for possible short-stay accommodation or as staff residence. Interpret other former cottage site
- L 2 Interpret former jetty
- L 3 Conserve natural parkland landscape character
- L 4 Consider reconstruction of jetty to enhance recreation access to left bank

New Works

- L 5 Stabilise beach and sea walls
- L 6 Upgrade of signage, furniture and picnic facilities
- L 7 Improve carpark area and introduce screen / shade planting



from top:

Plate 194:
Reid's Flat: view over Hacking Estuary from
Carpark, 2003

Plate 195:
Reid's Flat: grassy flats, 2003

Kookaburra Flat And Wattle Forest

Kookaburra Flat, Audley's southern most recreational Flat has an informal parkland character and contains a toilet block, wood barbeques, picnic tables, car parking, a picnic shelter, and open space along the Hacking River. At Wattle Forest there is an informal path along the river within a Cabbage Tree Palm forest. Kookaburra Flat is popular for large groups in the picnic shelter with informal games on the flat grassy area, and smaller, quieter picnics along the riverbanks.



Recommendations here are derived from a concern to protect the biodiversity of Wattle Forest while retaining the use of Kookaburra Flat as a picnic area.

Actions:

Existing Facilities - Conservation, Interpretation and Adaptation

- M 1 Reduce car parking adjacent to pavilion to increase recreational space and scenic amenity
- M 2 Conserve woodland character adjacent to Flats

New Works

- M 3 Upgrade furniture, facilities, signage, and pavilion
- M 4 Consider new pavilion/toilet facilities
- M 5 Construct footbridge across to Fig Tree Flat at lowest point in terrain, designed to endure flood waters and debris
- M 6 Encourage bird watching activities through improved signage and facilities - promote with local birdwatching club
- M 7 Install gass barbecues

from top:

Plate 196:
Kookaburra Flat: grassy picnic area, 2003

Plate 197:
Kookaburra Flat: view from Lady Carrington Drive, 2003



AUDLEY APPROACHES

The approaches were integral to the development of Audley and the Royal National Park as a whole. One can approach Audley by road, rail, walking/cycle tracks or waterways, including:

1. Road access - north via Farnell Avenue, south via Sir Bertram Stevens Drive
2. Train access from Sutherland or Loftus stations on Illawarra line
3. Tram access from Sydney Tram Museum into Royal National Park station
4. Cycle tracks along Rawson Avenue, Florence Parade, Riverside Drive, Loftus Trig Fire-trail and Lady Carrington Drive
5. Walking Tracks - from Engadine, Uloola, Robertsons Knoll, Winifred Falls, and all cycle-routes mentioned
6. Water - Port Hacking estuary, or from upstream heads-of-naivagation on both Kangaroo Creek and Hacking River



Actions

Of these approaches, the following require specific management focus and action:



Rawson Avenue

As the earliest access road into Audley from Sutherland Railway Station there is an opportunity to conserve its alignment, and use as the main walking and cycling approach to Audley and other areas of Royal. It is the safest non-car access and is part of a circuit of tracks in the Temptation Creek and Grays Point reaches of the Park. Rawson Avenue also functions as a fire management trail and requires 4WD vehicular access and lockable gates at each end.

Actions:

- N 9 Interpret as early access road to Audley
- N 10 Conserve alignment and adapt as walking track
- N 11 Conserve and interpret non-invasive ornamental plantings

Rail Link into Royal National Park

Originally set out for Military access onto Loftus Heights the current rail/tram link was used as a suburban branch line off the main Illawarra line until 1980s. In 2004, access to the Royal National Park is afforded via the private Sydney Tram Museum (at Loftus) that operates regular weekend rides into the Park.

Gardeners Cottage, Garage and Tram-Sheds

This remnant group of buildings is associated with transportation from the National Park to Audley, as the site where shuttle buses departed from and were stored and serviced. They are currently in a dilapidated and unstable state and require immediate attention to fully document and remove.

from top:

*Plate 198:
Audley Approaches: rail link, 2003*

*Plate 199:
Audley Approaches: Gardener's cottage and
garage, 2003*

Terminus Precinct

The station was originally a further 200m beyond the current site but was contracted with the 1987 construction of the NPWS Headquarters. It previously serviced suburban trains, initially a separate motor rail branch line then later was electrified.



Its platform height reflects this use which ceased operation in the 1980s. The platform now is effectively defunct as it services much smaller trams, and remains at an unusable height. Tram travellers require assistance to exit the carriage safely on the grassy knoll on the non-platform side. There is an opportunity to readdress this.

The previous Park Headquarters are now the Sydney South Regional Office and Royal Area Office for the NPWS. The Royal Visitors Centre is also sited here, since it's shift from the Dance Hall in 1996. The Department of Education and Training are also housed here for their Environmental Education Centre (previous Field Studies centre) and have been since 1988.



Zig Zag Track

The Zig Zag track was formed to create an access between the National Park Station and Port Hacking Estuary. It requires reconstruction and interpretation.

Actions:

- N 4 Interpret branch line to service past military use
- N 5 Jointly upgrade features with Sydney Tramway Museum (e.g signal boxes, culverts, platform)
- N 6 Review condition of Gardeners Cottage, Garage and Sheds with the view to documentation and removal
- N 7 Conserve identified landscape features in Gardeners precinct
- N 8 Consider adaptive reuse of site as a carpark facility with 'Park and Ride' opportunity for reinstated shuttle bus service and links with tram ride
- N 9 Upgrade signage and facilities at the station
- N 10 Restore fabric of terminus to original configuration consistent with entrance experience by car; interpret including signage, arrival message, directional markers to visitor centre, furniture design, vegetation management, pathway to visitor centre
- N 11 Improve links to existing walking tracks (to Grays Pt, Honeymoon Track, Zig Zag Track)
- N 12 Integrate Environmental Education Centre and the Visitors centre with the rail approach
- N 13 Reconstruct the Zig Zag Track and interpret

From top:

Plate 200:
Audley Approaches: Farnell Avenue entry statement, 2003

Plate 201:
Audley Approaches: Royal National Park Railway Station showing tram usage, 2003

Farnell Avenue

Farnell Avenue was created for better access into the park without conflicting with the railway easement. Its name commemorates a prominent Trustee who advocated the extension of the avenue of trees (Brush Box and Radiata Pine's) to mirror that along Rawson Avenue from Sutherland. Other plantings of Moreton Bay Figs were strategically positioned along the rail and road easements.

Farnell Avenue receives the brunt of traffic entering the Royal and access traffic for residents and visitors to Bundeena, Maianbar, and the Port Hacking Conference Centres on Warumbul Point. It requires a general rethink for traffic flow enhancement. It also requires notification space for flood waters across the Audley weir, and advance notice of day-use areas being at full capacity - with each providing turn-around options for drivers to re-assess alternative access. Farnell Avenue is the point of entry for all NPWS staff as well as for heavy plant and fire management vehicles.

Military Grounds

A 19th century military encampment, review ground, and dam were established on Loftus Heights plateau. The encampment was west of Farnell Avenue and the review ground east of Farnell Avenue.

- N 14 Replace avenue plantings using indigenous trees
- N 15 Conserve significant vegetation
- N 16 Better traffic management - relocate the 'flood indicator and boom-gate' to nearer the Princes Highway end of Farnell Avenue and construct a roundabout at this point for Loftus Oval users wishing to head north and for Park visitors when weir is flooded
- N 17 Better traffic management - relocate the 'day-use area notice-board' to 100m short of works depot turnoff and construct a second roundabout at this point for traffic to chose alternative access to their destination (and for unimpeded workshop access via a slip road as per current entrance station configuration)
- N 18 Interpret former entry to military encampment

Port Hacking Estuary

The approach via Port Hacking is popular with visitors by motorised and manual watercraft. Access terminates at Audley Weir. This approach precinct includes the weir, the estuarine landscape, culturally significant training and sea walls, Reids Flat and Wants Beach, Pool Flat, Riverside Drive and Riverside Flat. It is an important aspect of the visual setting and requires conservation. In addition tracks, signage require attention to improve pedestrian access and circulation.



Actions:

- N 19 Conserve natural landscape setting of Port Hacking valley.
- N 20 Improve signage and entry approaches
- N 21 Conserve tracks and flats
- N 22 Recover former tracks
- N 23 Conserve training walls

From top:

Plate 202:
*Audley Approaches: Hacking River Estuary
and training walls, 2003*

Plate 203:
*Audley Approaches: Hacking River Estuary
by Riverside Track, 2003*



Lady Carrington Drive

Originally starting at Audley Weir, Lady Carrington Drive was the earliest access through to Bulli, Wollongong and the South Coast. Today it is contracted to a 9.6km stretch parallel to the Hacking River from near the Commonwealth Pavilion to Bola Creek and the Forest Island.. It contains heritage listed features such as formed sandstone walls, kerbing, paving, water troughs and entry pillars in a scenic setting of tall forest merging into rainforest along the Hacking River. It is exceptionally significant and linked to Audley and requires conservation work and interpretation.

Actions:

- N 24 Conserve and interpret features of Drive including Jersey Springs, boxed culverts, sandstone retaining walls, Palona Cave track marker, Walumarra track marker, gravel borrow pit
- N 25 Conserve southern entry and gateway and upgrade signage and fixtures
- N 26 Reconfigure and define carparking arrangements at both ends and ensure safe bus access and parking
- N 27 Integrate with other tracks and features including Palona Cave, Walumarra Track, Forest Path, Couranga, and Uloola Track
- N 28 Clearly define northern entrance (refer action H5)



Winifred Falls Track (to former Wattomolla Road)

Significant historic access from Audley to the coast, this track requires conservation works, integration and interpretation.

Actions:

- N 29 Conserve and reconstruct track entry at Audley as for Pavilion Flat (refer action E4)
- N 30 Integrate with other tracks
- N 31 Integrate walk with probable destinations including Winifred Falls, Anise Falls, Maianbar, Bonnie Vale, Bundeena, Marley, Wattamolla.
- N 32 Make safe pedestrian access to trackhead

From top:

*Plate 204:
Audley Approaches: Lady Carrington Drive,
southern entry, 2003*

5.3 Masterplan

(see A3 fold outs)

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APPENDIX A: OUTLINE HISTORY

- Circa 8000 years bp Aboriginal occupation.
- 1796 Mathew Flinders publishes an account of Port Hacking.
- 1864 First accurate survey of Hacking River by Lord Audley.
- 1874 Surveys for proposed Illawarra Railway line.
- 1879 National Park dedicated 26 April.
- 1879 First meeting of Trustees 25 September.
- 1883 Dam at Main Camp (Audley) Dock and Training Walls Port Hacking below dam.
- 1883 Pavilion, Caretaker's Cottage, stables, outhouses, Smithy and Forge, Boat house and Jetty.
Roads, Clearing Flats, Clearing Loftus Heights for Military Ground.
- 1884 Audley adopted as name for the Main Camp area.
Exotic freshwater fish introduced.
Serpentine walk from Loftus Heights to the estuary (zig zag walk)
Ornamental tree planting
- 1885 Deer introduced
- 1886 Loftus (National Park) Railway Station opened
- 1886 Lady Carrington Road opened 2 October (named Drive in 1916)
- 1887 Dam and Reservoir at Loftus Heights.
Hotel at Loftus
Road from Loftus Junction to Loftus Station
Cottages for rangers, working overseer, carpenter and labourers.
- 1888 Military Road completed between Loftus Junction and Loftus Heights.
3,700 trees planted some in groups and as an avenue between sutherland and Loftus Junction to create a drive.
- 1891 Death of John Robertson
- 1891 Windmill erected at Audley
Kangaroo Creek Bridge built to link the Camp with Robertson Grove
Recreation grounds (flats and points) grassed and fenced.
Four cottages built for park employees.
Kitchen added to Public Pavilion.
- 1892 Jersey Spring Troughs on Lady Carrington Road
- 1893 Aviary built at Robertson Grove (150ft x 200ft x 12ft)
Boatshed built
Stone retaining wall built to front of Pavilion
- 1894 Windmill removed to the Aviary and replaced by a boiler and engine.
New Stables built
- 1895 Varney bridge built
Brick and concrete reservoir built to supply the Pavilion.
- 1897 7 acres of Fruit trees (400) planted at Audley.
- 1898 New Varney bridge built.
Concrete pond for birds built
Road from Station to Audley widened and improved
- 1899 Telephone line opened
- 1900 School built at Wauf's Beach (Reids Flat)
- 1901 Pavilion Shelter at Bradley's Flat Audley (Commonwealth Pavilion)
- 1902 Stone sea wall constructed below the dam.
- 1903 Wharf built below dam.
- 1904 Pathway from Railway Station to Audley
Launches co-ordinated with trains to give access to Deer Park and Warumbul
Boatshed at Reid's Flat
- 1906 Land cleared at Loftus for cricket and football field.

- 1907 Avenue plantation of 900 trees planted between Loftus and National Park Stations and 1200 trees planted on the upper road between National Park and Loftus Stations.
- 1908 Bathing Sheds and enclosures for swimmers in salt water at Audley and new road called River Parade.
Four octagonal shelters erected at Reid's Flat.
- 1913 Flower beds made and enclosed.
Ranger's Cottage
Picket fences enclose Stables and yard.
- 1914 Army Camps discontinued
- 1915 Garage at Loftus built to transport passengers from national park Station to Audley.
- 1916 "The Rest" opened 18 March.
- 1916 Lady Carrington Road renamed as Lady Carrington Drive.
- 1931 Dead trees in Lady Rawson Avenue replaced by Flame Trees.
- 1934 Dredging of estuary and fill enabled extension of Flats.
Honeymoon Track commenced.
- 1935 New bridge over Hacking River and road to Kookaburra Flat with new pavilion.
- 1938 Tennis courts, bowling green and putting green constructed at Audley.
New Boatshed built
"The Rest" renamed "Allambie House".
Road widened approaching Allambie House.
Plant Nursery established at Audley
- 1939 New Aviary on Pavilion Flat.
Rockery gardens formed below Allambie House.
- 1941 New stone toilet block constructed
New shop in Allambie House
New bridge over estuary
- 1942 Sharkproof net provided.
- 1948 New two storey pavilion completed with a shop on the lower ground floor with a Restaurant and Social Hall on the upper floor.
- 1950 New Causeway constructed.
City Water supply provided.
- 1954 Park now called Royal National Park 30 April.
Willow trees planted on picnic areas (Flats)
- 1956 Tramways Museum established.
Children's playground installed at Reid's Flat.
- 1957 Trustee's Office constructed (Mr R.I. Harding Architect)
- 1959 New Shelter Shed and Toilets at Wattle Flat
- 1961 Concrete retaining wall between Bus Waiting Shed and Salt water Boat Shed.
- 1962 New Superintendent's residence built near the National Park Railway Station and new cottage for the Assistant Superintendent on the site of the old Superintendent's cottage.
- 1963 Toilet block at Willow Tree Flat.
- 1965 Brush Box and Silky Oak trees planted as an entrance avenue to the Park along Farnell Avenue.
Removal of Trust Cottage.
- 1967 NSW National Parks and Wildlife Service established.
- 1975 Demolition of Allambie House
- 1978 New Kiosk at Ironbark Flat (design by Leonard Morgan)
- 1978 Visitor Centre on plateau edge (design by Leonard Morgan/ Bruce Eales)
- 1987 Audley Conservation Plan
- 1988 Rip rap stone edging to Ironbark Flat (formerly Pavilion Flat)
Timber wharf structures
New parking areas to Flats
- 1998 Earth works to Ironbark Flat

APPENDIX B:

Previous Statements of Significance

SHR, listing number 00976, April 1999. *HHIMS Historic Heritage Management System* (NPWS), 1998?

Name: Audley Village; Item ID 2125; Type=Complex;

'Audley Village contains physical evidence of the major phases of recreational and conservation management practices which have influenced the development of the Royal National Park. It retains its traditional role as the focal point of visitation to the Park, and its buildings and structures reflect and symbolise the historic development of the Park, such that associations with historical events and people are commonly focussed on this area. It also contains remains and archaeological sites of associational significance to the Park. It has scenic qualities both and built and riverside flats have a high recreational utility and popularity.

APPENDIX C

Brian McDonald *et al*, Statement of Significance from Audley Conservation Plan published report prepared for NSW NPWS (1987).

McDonald, B. 1987, 'Royal National Park Audley Conservation Plan,' vol 1, Public Works Department, NSW, Sydney.

From section 6, Statement of Cultural Significance, pp. 41-42

The Audley precinct at the Royal National Park derives its cultural significance from the following sources:

1. The Audley precinct embodies physical evidence of the major recreation and conservation attitudes which influences the development of the National Park. These evolved here first, and later had broader and significant implications for the management of National Parks resources throughout Australia. The Royal National Park was the forerunner of all the National Parks which have subsequently been dedicated.
2. It derives a high level significance from its historical and social significance as the main point of entry and focal point of the first National Park in Australia and the second national Park in the world. It has provided accommodation for a fluctuating work staff over its period of existence and facilities for generations of picnickers, walkers and others seeking recreational outlet away from the city.
3. The Park has been closely associated with influential public figures and political leaders, including some the Chairmen of the Trust. The most notable of the influential figures associated with the Park is Sir John Robertson, who is acknowledged as the founder of the Park, and who was its first Trust Chairman.
4. The Audley precinct contains archaeological resources of associational significance related to the use of the site for administrative and recreational purposes. These resources taken together reflect the fact that in the late 19th century and early this century the site accommodated a much larger population than in recent times.
5. The location is significant as the campsite selected by Lord Audley as a base for his survey of the Port Hacking River, a selection very likely to have been influenced by the particular landscape characteristics of the point where the valley opens out at the junction of Port Hacking River and Kangaroo Creek.

APPENDIX D

Masson Wilson Twiney, *Audley Master Plan Traffic Review*, unpublished report prepared for NSW NPWS (August 2003).

Facsimile

To:	Cc:	Name:	Company:	Facsimile:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Michael Milligan	Context Landscape Design	9380 8666
<input type="checkbox"/>	<input type="checkbox"/>			
From:	Total Pages:	Job Number:	Date:	
Jason Rudd		03-2020	15 May 2006	
Subject:	Audley Conservation Management and Master Plan - Traffic Study			

Message:

Michael,

The following provides an overview of the traffic investigations undertaken to date in relation to the Audley Conservation Management and Master Plan.

This overview comments on the strategic issues involved in the master planning for Audley in relation to:

- traffic flow
- car parking; and
- pedestrian movements

This overview also reviews and comments on the design proposals for Audley developed by Context Landscape Design.

Strategic Issues

Traffic Flow

- Audley is located on a designated main road (MR 393) which is named in various sections as Farnell Avenue, Audley Road and Sir Bertram Stevens Drive.
- MR 393 provides access to the areas of the Royal National Park (the Park) such as Audley, Wattamolla and Garie beaches and to the township of Bundeena.
- As such MR 393 provides a dual function, namely:
 - Main road access for through traffic
 - Lower order access for to the recreational areas within the Park such as Audley.

- MR 393 is generally a two lane road (one lane in each direction).
- The provision of two lane roads through the Park is considered to provide sufficient capacity for the levels of traffic using these roads. Any traffic congestion that occurs within the Park is typically associated with the demand for parking at key sites during peak periods.
- Traffic flows through the Park along MR 393 vary significantly between week days (low) and weekend days (high). Weekend traffic flows are also typically higher on public holidays and fine summer days.
- The circuitous route through the Park acts as a deterrent to through traffic other than traffic accessing the residential areas of Bundeena and Maianbar. As such the roads through the Park do not suffer from typical commuter peak hour traffic congestion.
- The key issue with regard to traffic flows through Audley is not one of road capacity but rather control of vehicle speeds.
- Currently, there are two different types of traffic flow through Audley, namely:
 - Through traffic
 - Traffic accessing the various parking areas at Audley
- The two different types of traffic generate a degree of conflict as through traffic is perceived to be associated with relatively high vehicle speeds while Audley traffic is perceived to be slower and characterised by turning movements onto and off MR 393.
- In designing the various road facilities along MR 393 the two road functions need to be taken into consideration.
- In preparing a Master Plan for Audley it would be considered inappropriate to design the road to cater exclusively for the low frequency Audley based peak traffic events at the expense of through traffic functions. Conversely it is considered inappropriate to design the road to accommodate higher speed through movements at the expense of amenity of Audley precinct users.
- It is considered that the Master Plan road design should aim to accommodate through traffic flows in a manner which vehicle speed can be managed so as to minimise the amenity and safety implications to all road users in the Audley precinct during the low frequency peak periods.

Audley Precinct

- There is currently a lack of definition of the Audley Precinct. That is there is no sense of arrival at Audley when approaching from both the north and the south.
- This lack of definition is considered to be one reason why vehicle speeds are perceived to be relatively high.
- It is suggested that gateway treatments at both the northern and southern entrances to the Audley Precinct are required in order to provide drivers with the visual cue that they have left the “open road” and are about to enter a higher activity area and need to adjust speed accordingly.

Parking Strategies

- There are considered to be two different parking strategies that could be considered in the Audley Master Plan. These are:
 - Centralised Parking
 - Dispersed Parking
- A centralised parking strategy would provide larger parking areas in fewer areas. This would have the advantages of:
 - Reduced traffic movements through the precinct
 - Allows better definition of parking areas and would be easier to direct people to parking.
 - Promote increased pedestrian movements between recreational areas within the Audley precinct.
 - However, it is noted that this strategy would not be compatible with the current recreational user type at Audley which is dominated by “car boot picnickers”.
- A dispersed parking strategy would:
 - Provides parking nearer to separate recreational areas
 - Compatible with existing user types and existing parking layout (minimal changes required)
 - Reduce potential pedestrian flows within the Audley precinct
 - Requires improved directional signage at gateways to inform drivers of the parking opportunities at Audley.

Measures for Speed Control

- The following are various speed control mechanisms which are worth considering when developing the Audley Master Plan:
 - Provide gateway treatments at both the northern and southern road entrances to the Audley Precinct. This would include:
 - Signage or landscape feature at entrance
 - Road narrowing
 - Reduced speed limits (consider 50km/h) with signs and pavement markings
 - Highlight Audley activities such as the boat shed rather than hide them amongst vegetation to promote the perception that you are interacting with a high activity area and not simply a road through the bush.
 - Introduce pedestrian crossings or threshold treatments to emphasise the activity precinct. Note: speed humps are not considered appropriate given the through road function.
 - Utilise the geometry of the Audley Weir (ie. road curve) to facilitate reduced speed. The proposal to provide a roundabout at the northern side of the weir is supported and discussed further below. The proposal to reduce the carriageway to provide wider pedestrian facilities is also supported.

Comments on Design Proposals

Car Parking Areas at Former Stables & South of Existing Cottages

- Both these areas would yield a small number of additional car parking (approximately 10 spaces in each area)
- However, the cost associated with earthworks, road widening and realignment to facilitate turn bays and drainage would be relatively high.
- The small size of the parking area would not be considered appropriate for visitor (public) parking as it would have the potential to generate a relatively high volume of turning movements to and from MR 393 at a location where sight distances are not ideal.
- It is suggested that an entry / exit could be provided at the existing turn bay near the telephone booth for access to staff parking located between the existing cottages (Figure 1).

Right Turn Lane to Allambie Flat

- The existing road width at this location would be insufficient to provide an appropriate right turn bay facility from MR 393 to Allambie Flat.
- It is considered that a right turn bay is required due to poor sight distances for south bound vehicles approaching a vehicle stopped in MR 393 turning right.
- Recommend that roundabout at Weir be used to facilitate access to Allambie Flat.

Audley Weir Treatments (Figure 2)

- A roundabout at the northern end of the weir would facilitate access to both Allambie Flat and Reids Flat and function as a speed control device.
- The roundabout design needs to consider turning requirements of heavy vehicles (ie. coaches)
- Narrowing of the road pavement over the Weir and on the approaches is recommended. This will reduce travel speed, provide a separation between traffic and pedestrian flows and allow pedestrian facilities to be improved to encourage increased pedestrian use of the weir as a crossing point.

Pavilion Flat Car Park

- Separate entry only and exit only driveways are recommended for this car park. The entry and exit points are to be located at opposite ends of the car park to facilitate one way traffic flow through the car park. One way flow will reduce internal traffic flow conflicts within the car park.
- Designated turn bays from MR 393 to the car park are not recommended, as turning traffic will assist in reducing traffic speeds. Some queuing may occur as vehicles wait to turn right (and potentially Left) into the parking area. However, this will force through vehicles to slow or stop. Queuing is not expected outside of peak periods of activity at the Audley precinct.

- Road pavement narrowing in this section of MR 393 would provide an opportunity to provide a pedestrian refuge facility to link the car park to walking tracks on the eastern side of the road.
- The proposals prepared by Context to re-arrange parking in the Lady Carrington Drive / Currawong Flat area can be accommodated with adversely impacting safety or traffic flow.

Should you have any queries relating to the above overview, please do not hesitate to contact the undersigned.

Regards,

A handwritten signature in black ink that reads "Jason Rudd". The signature is written in a cursive style with a large, looped initial 'J'.

Jason Rudd
Associate

Email: jason.rudd@mwtraffic.com

APPENDIX E

3-D Projects, *Audley Interpretation Strategy*, unpublished report prepared for NSW NPWS (August 2003).

AUDLEY INTERPRETATION STRATEGY 3-D PROJECTS – DECEMBER 2003

EXECUTIVE SUMMARY

Since the dedication of the Royal National Park precinct in 1879, the site has been a battleground where the competing forces of conservation and utilisation have clashed time and time again.

Despite the prominent purpose of the park as a place for public recreation within a natural setting - a constant throughout the site's post-contact history - the changing policies and practices of park management and utilisation have dramatically transformed its natural flora, fauna and landscape.

This process has seen much of the park mutate from rugged and dense native bushland to a cleared ornamental English parkland; has led to the construction of numerous cottages, roads and structures to facilitate public access, recreation and introduction of European flora and fauna; and in more recent decades has seen introduced species and structures removed and demolished in an attempt to return the site to its pre-contact appearance.

The place today bears the layered physical marks of these competing regimes of conservation and utilisation, and indeed it is the place itself which constitutes the overriding interpretive theme for exploring the site's past. Within the key theme of 'place' numerous over-lapping sub-themes are possible through which related issues, site remnants, histories and practices can be explored in detail.

Given the imperative for visitors to experience the historic physical place – both natural and cultural - this strategy recommends that interpretation at Audley is interwoven with necessary visitor infrastructure wherever possible – picnic tables, car park bollards, seating, rubbish bins, etc. This approach is intended to reduce the amount of physical signage and visual clutter at Audley, but also to draw the casual park visitor into the layered history of the place while going about their social and recreational activities.

THEMES

Key Theme

- Place – Audley/Royal National Park

Sub-Themes

- Conservation & Utilisation
- Natural Environment – flora/fauna/geology
- Indigenous Occupation
- Disease & Environment – understanding disease & healthy recreation initiatives
- Rest & Recreation
- Landscape Modification
- Introduction of European Plants & Animals

- Acclimatisation
- Exploitation of Natural Resources
- Military Occupation
- Quarrying, Dredging & Reclamation
- Depression & Labour
- Park Accessibility
- Fire & Flood
- Recreation & Multiculturalism

METHODS OF INTERPRETATION

Multiple Histories

No matter what the actual media and methods of interpretation, it is recommended that themes and opinions expressed through interpretation are clearly based on and presented as multiple perspectives. While visitors can learn much from site-based interpretation, it is important to reiterate that a place with such a complex history can not be simply explained through a logical, concise narrative of what happened, where and when. Rather, a more open-ended, critical and plausible view of history demands that history is told from the disparate viewpoints of the site's various past and present stakeholders – Park Trustee/administrator, scientist, Aboriginal occupant, conservationist, soldier, heritage practitioner, multicultural park visitor, etc.

Place as Artefact

The Royal National Park is not an untouched natural wilderness, but a layered cultural landscape, much of which retains native flora and fauna within its natural geological setting. The site contains discreet Aboriginal rock-art sites and rock shelters, while even the native bushland was likely shaped by millennia of Aboriginal intervention, as well as the more apparent remnants of European building, landscaping, roads, and introduced flora and fauna. All of these elements are culturally significant to various groups and individuals, though of course not to the same extent.

Given that the entire place can be considered an artefact, it is recommended that physical interpretation be integrated with significant elements in ways which encourage visitors to explore the wider site and consider its many histories.

Role of the Royal National Park

The primary public role of the Royal National Park is rest and recreation within a relatively natural setting. Interpretation and education are secondary functions of the park and, in any case, are unlikely to attract the current visitor demographic in their own right. Assuming people visit the Royal National Park to bushwalk, picnic, browse, row boats, observe nature, play games, meet friends and family, etc, rather than to read signs and learn facts about the natural and cultural history of the place, it is imperative that if future interpretive elements are to be successful they should be imaginatively integrated with popular rest and recreation infrastructure wherever possible.

A visitor to the Royal National Park should not have to be spoon-fed with facts and figures or subjected to wordy history and science lessons. However, what if visitors were to collect vignettes of the place's extraordinary history all the while going about their preferred recreational activities? Indeed, this is the preferred approach recommended in this report.

Traditional Signage

While traditional media such as signage will have an important role to play in orientating visitors and providing useful information across the park, its predicability in such a context sometimes diminishes its potential interpretive power. No matter how well it is written, typical text and image based interpretive signage is so common nowadays that it can deter as many people as it attracts. As such, it is recommended that traditional signage be kept to a minimum for interpretive purposes.

Besides functional signage at key infrastructure locations at Audley Core, orientation signage should be located throughout the Honeymoon Track – the main pedestrian route extending from the princess highway to Audley Core – which brings visitors past as many natural and cultural interpretive points as possible.

Interpretive Installations

Given that many of the historic sites and structures have either been demolished or are difficult to locate or visualise, there exists opportunities to both define something of the form and function of these invisible elements while exploring their significance to the story of the Royal National Park.

Interpretive installations might take on all manner of forms – from inlays tracing the former footprints of demolished structures, to ghost furniture or artefacts which recall the uses of sites, to more practical visitor infrastructure such as picnic tables, seating, pathways, bollards, visitor route markers, etc – all of which contain pictorial and text information which provide clues to unlocking the particular site's histories.

While interpretive installations can range from the direct to the cryptic, if well conceived and designed they can have the power to actively engage the viewer's imagination in the process of exploring, questioning and unravelling the site.

Materials & Media

No interpretive sign or structure can fully resist the attacks of nature or vandals. As such, whether conventional signage or interpretive installations, all interpretive media should be constructed of tough, durable materials which can be readily replaced if damaged. Final material selection and design approaches should be considered in light of available knowledge of bushfire effects, termite/inspect activity, flora/fauna activity, vandal behaviour, effects of general visitation and any other significant factors.

Interpretation Centre

While interpretation of the site is important, people are unlikely to visit specifically for interpretive reasons, but rather, to enjoy the landscape. Furthermore, as the landscape itself is an artefact, it is arguably more interesting and useful to view these artefacts firsthand in their environmental setting rather than reproduced artificially within an interpretive centre exhibit which would be just as effective in Sydney's CBD as it would on-site at Audley.

Unless a vulnerable artefact collection related to the site is available for display, it is recommended that a new interpretation centre is unwarranted at the Royal National Park.

However, should such a collection become available, it is recommended that either the existing Post Office Cottage (AR 1) or Dance Hall building (PF 2) could be adaptively reused as an interpretation centre.

Park Entry Statement

It is recommended that major signage/interpretive installations be located on Farnell Avenue at the northern and southern approaches to Audley Core – one just south of the Visitors Centre and railway station, and the other just south of Willow Tree Flat.

The purpose of these installations is to communicate to visitors that they are entering a zone of special cultural significance and to give them an impression of what that significance is. While entry installations should be located where visitors can park their cars, bicycles, etc, to consider the installations in detail, they will also need to impart a tangible, albeit fleeting, statement about Audley to the majority who will not or can not stop for a closer look.

While installations might take on any format or medium they must simply express that Audley is a layered and significant cultural and historical landscape. By way of comparison, the public sculpture *Edge of the Trees* at Museum of Sydney is particularly successful in that it tells us something general about the historical and contemporary landscape of Sydney from a distance, yet gives visitors a more personal insight into Sydney people and their perspectives when examined up close.

Likewise, the proposed Audley entry statement installations might comprise an array of timber poles/trunks located on the road verge which have been cut, marked and finished to represent various natural and cultural episodes at Audley – trees burnt by bushfires; cut for toe-holds, shields and canoes by Aboriginal stone axes; felled by European saws, steel axes and chainsaws for landscape clearing, boatbuilding and firewood. Interpretive text could be integrated into the poles for detailed examination for a more comprehensive reading of the site.

Whatever the final approach, the Audley entry statement should be an original artwork which responds to the unique qualities and significance of the place. A

full brief for this installation should be developed as part of the site Interpretation Plan proposed below.

IDENTIFIED INTERPRETIVE SITES

AR 1 – Post Office Cottage

The high significance and interesting aesthetics of this cottage are such that the building should be conserved and interpreted for public inspection. While the Post Office Cottage could be utilised for various non-intrusive educational or commercial activities, it is recommended that it is made available for regular public access and its layers of use and abuse conserved so the building can be presented as a simple 'museum of itself'.

AR 2 - Rangers Building

Possible adaptive reuse for educational/commercial facility, or similar.

AR 3 – Trustees Cottage Site

Define Trustees Cottage floor plan with inlaid footings. Partially furnish some rooms with functional tables and chairs and other appropriate ghost furniture which exhibit interpretive information. A symbolic long board-room table and chairs would be a suitable piece of metaphoric ghost furniture for this site. Interpretation to focus on Trustees original charter for park management and development.

Key Quotations

... we do hereby empower the Trustees of the National Park in their discretion to set apart and use such portions of the said Park as they may from time to time think necessary for the purposes following ... first, ornamental plantations, lawns and gardens; second, zoological gardens; third, race-course; fourth, cricket, or any other lawful game; fifth, rifle butt or artillery range; sixth, exercise or encampment of Military or Naval forces; seventh, bathing places; eighth, for any public amusement or purpose which the Governor for the time being may from time to time, by notification in the Government Gazette, declare ... (National Park Trust Deed of Grant, 1887)

It is obvious that this Park possesses many aspects of wild grandeur, and when subdued to the hands of man, may add the charms of landscape treatment to the beauties of wild nature. (Sydney Morning Herald, 2 April 1879)

AR 4 - Stable Site

Define outline of former Upper Stables. Interpretation elements to explore the relationship between horses and site access prior to motor transport, and consider the function of the nearby water tanks. Possible surface treatment might include numerous horseshoes set into footprint of the former stables structure.

AR 6 – Lookout & Trustees Memorial

Signage element(s) to frame natural views and interpret natural and indigenous history of site. Depict photographs of rock art in nearby rock shelter site and historic views of indigenous people of the area.

AR 9 – Allambie House Site

Define Allambie House floor plan with inlaid footings. Reinstate ghost windows at original location of former windows which frame current park views, while depicting historical images of the park. Provide modern seating adjacent ghost windows for visitor rest and perusal.

Interpretation to focus on competing park management attitudes - transformation of the site as an ornamental garden and tourist resort, and conservation of the natural environment which led to the demolition of Allambie House and other associated structures.

Key Quotations

Improvements taking place at the National Park will make this naturally beautiful area one of the greatest tourist resorts and show places in Australia ... (HC Whiddon, National Park Trust Chairman, 1938)

The Park will be managed primarily for recreation and the promotion of public understanding and enjoyment of the scenic and natural values without impairment of these values. (National Parks & Wildlife Service, 1975)

AR 10 – Stables & Garage Site

Define former floor plan with inlaid footings. Similar horseshoe surface treatment as AR 4.

AR 11 – Honeymoon Track

Interpret Honeymoon Track and Cottages using a series of small rectangular image and text panels attached to the coursed stone retaining wall blocks at the northern edge of the Honeymoon Track. Focus on the variety and workmanship of substantial stone retaining walls at Audley.

AR 12 – Cottage Site

Define floor plan via inlaid footings. Domestic ghost furniture to interpret building's function as a house and identifies past occupants.

AR 13 – Former Road

Interpret former road and military track/stairway, and explore the development of the park's road and track network. Key photographs to depict former roads, bridges, paths and military presence at Audley. Clear section of road immediately north of AR 5 watertanks.

AF 2 – Bowling Green/Tennis Court/Garden Site

Interpretation to focus on the development of sport and recreation at Audley including boating, tennis, bowling, etc, and explore the form, evolution and function of the various demolished and existing recreational facilities. Interpretive material recalling site's various uses to be incorporated in car park infrastructure such as bollards and barriers.

Key Quotation

As a preliminary step to making the Park a centre of popular attraction, Riverside flats have been cleared of useless undergrowth to provide additional picnic areas. On what was hitherto swampy land a bowling green is being built ... new courts are being laid out. The area around Audley where the picnic crowds congregate is being turfed and ornamental rock gardens will add to the natural beauty. (HC Whiddon, National Park Trust Chairman, 1938)

CF 3 – Aviary Site

Partial reconstruction of the aviary based on historic photograph, perhaps comprising timber post elements defining the scale and shape of the former aviary. Its function as an acclimatisation aviary and the site's use as a zoological garden might be interpreted on and within the ghost-aviary structure. Interpretation could also consider use of the park by various ethnic groups that are likewise acclimatising to Australian cultural and environmental conditions.

Key Quotation

*When I came back to Australia, I remember my friend taking me to a park ... I felt extremely lonely and depressed. Somehow there was just too much space, I felt alone and even frightened of so much silence and inactivity. (Thao, Vietnamese migrant, *Moving Landscapes: National Parks & the Vietnamese Experience*, 2002)*

DOF - Stone Dock

Interpret the former wharf dock structures and the evolution of the adjacent weir and the former fish ladder structure. Interpretation to focus on transformation of the waterway for introduction of freshwater fish and boating activity.

POF – Dressing Sheds

Construct ghost dressing shed enclosures which contain interpretive text and images exploring the evolution of water-based recreational activity in the immediate area and associated historic structures such as the dressing sheds, shark net, training walls, jetties, etc.

Partially reconstruct former jetty structure. Interpretive images on glass blades or similar material may be located in Hacking River to be read by pedestrians on river bank and jetty, or by visitors in boats and kayaks.

KAF – Swimming Hole

Interpretive installation to explore former swan pond, dairy paddock and Trustees pool at this site. Possible water-based or floating installation.

AWP – Kangaroo Creek & Hacking River

It is proposed that a series of interpretive installations are located within the freshwater section of the Audley Weir Pool as part of a water-based interpretive route accessible by kayaking and boating visitors. Interpretation might include images, text or installations at key points of interest to recall past river users and

episodes – flood-poles to record previous flood levels, images/sculptures of indigenous canoes/fishing activities, memorials to recall tragic drownings.

IMPLEMENTATION RECOMMENDATIONS

Following the adoption of the Interpretation Strategy and allocation of necessary funds, it is recommended that suitable consultants are briefed and engaged to research, design and develop Audley interpretive elements in conjunction with the nominated landscape architects. The project should be undertaken as a single project with 3 distinct stages. If suitable funding cannot be allocated in the short term, it is recommended that Stage 1 is implemented immediately in order that accurate cost estimates for proposed works can be ascertained and presented in the Interpretation Plan.

Stage 1

Using this Interpretation Strategy as a starting point, the consultant team undertakes detailed historical, pictorial and on-site research, and develops design proposals for all interpretive signage and installations. Interpretive content, schematic designs and cost estimates to be documented in an Interpretation Plan.

Stage 2

The consultant team prepares interpretive text, acquires images and reproduction permission, undertakes graphic design and 3-D design documentation. Quantity surveyor to verify cost estimates.

Stage 3

The consultant team procures fabricators/printers/builders and oversees fabrication and installation of interpretive elements.

APPENDIX F

Morton, A. (*Earthscape Horticultural Services*) *Tree Hazard Assessment Royal National Park, Audley*, unpublished report prepared for NSW NPWS (August 2003).



EARTHSCAPE HORTICULTURAL SERVICES
Arboricultural, Horticultural and Landscape Consultants

ABN 36 082 126 027

TREE HAZARD ASSESSMENT

ROYAL NATIONAL PARK

Audley Road, Audley, NSW

August 2003

Prepared for: Context Landscape Design
Level 2
52-58 William Street
EAST SYDNEY NSW

Ph: 9380 8800

Prepared by: Andrew Morton
B.App.Sci (Horticulture),
Ass. Dip.App.Sci. (Landscape)

EARTHSCAPE HORTICULTURAL SERVICES
Ph: - 0402 947 296



Member of the National Arborist's Association of Australia

INTRODUCTION

This report was commissioned by Context Landscape Design to assess the health and condition of approximately 120 trees located within Royal National Park, Audley Road, Audley NSW. The assessment has been primarily undertaken to ensure the detection of defects or other problems that may constitute potential hazards and to ensure effective remedial treatment where appropriate. The assessment has been limited to nominated trees considered to be representative of important 'Cultural Plantings' and forms part of the Conservation Plan Review and Masterplan prepared by Context Landscape Design in association with CAB Consulting Pty Ltd. It is understood that this report may be used to determine priorities for remedial treatment or removal of hazardous or senescent trees where appropriate.

This Report comprises three parts, as follows:-

- This report
- Tree Assessment Schedule (Appendix A)
- Location Plans (Appendix B)

THE SITE

This assessment concentrated on passive recreation areas in the vicinity of Audley Weir. The site has been divided into several precincts for management purposes as follows:-

- Hacking Estuary (HE)
- Audley Weir Pool (AWP)
- Allambie Ridge & Slopes (ALR)
- Allambie Flat (ALF)
- Dock Flat/Causeway (DOF)
- Pavilion Flat (PAF)
- Pavilion Slopes (PAS)
- Rangers Slopes (RAS)
- Currawong Flat (CUF)
- Willow Tree Flat (WTF)
- Fig Tree Flat (FTF)
- Kookaburra Flat (KOF)
- Reid's Flat & Slopes (REF)
- Pool Flat (POF)
- Pool Slopes (POS)

The above precincts (and the relevant alpha codes) have been referred to in the Tree Assessment Schedule (Appendix A)

SUBJECT TREES

The subject trees were inspected by Earthscape Horticultural Services (EHS) on the 6th August 2003. The inspection was conducted from the ground with the aid of binoculars where required. Aerial inspection was not undertaken.

Each tree has been given an identification number for the purposes of this report as shown on the attached plans (Appendix B) prepared by CAB Consulting Pty Ltd and correlating

with the Tree Assessment Schedule (Appendix B). The alpha prefix refers to the Precinct/ Area Code.

The site has been planted with both exotic and non-indigenous native tree species. The predominant species include the following:-

- *Populus nigra* 'Italica' (Lombardy Poplar)
- *Castanospermum australe* (Blackbean)
- *Lophostemon confertus* (Brushbox)
- *Araucaria heterophylla* (Norfolk Island Pine)
- *Araucaria cunninghamii* (Hoop Pine)
- *Araucaria bidwillii* (Bunya Bunya Pine)
- *Populus deltoides* (Cottonwood)
- *Ficus macrophylla* (Moreton Bay Fig)
- *Ficus macrocarpa* 'hillii' (Hills Weeping Fig)
- *Washingtonia robusta* (Cotton Palm)
- *Erythrina x sykesii* (Indian Coral Tree)
- *Cinnamomum camphora* (Camphor Laurel)
- *Platanus x hybrida* (London Plan)

Most of these species (apart from Lombardy Poplars) are large park/shade trees and were typically planted as specimen trees in large properties and parks in the late 1800's and early 1900's. This is consistent with the size and estimated age of the majority of the trees assessed. The Lombardy Poplars (confined to Allambie Flat) appear to be a more recent planting. Also assessed were some *Eucalyptus paniculata* (Grey Ironbark) and *Melaleuca styphelioides* (Prickly-leaved Paperbark). It is not certain whether these have been planted or are remnant locally indigenous species.

HAZARD ASSESSMENT:-

The health and condition of each tree has been assessed and the information tabulated in Schedule A - Tree Health and Condition Assessment (Appendix A). This schedule also contains recommendations for remedial works where required.

The Assessment included the following parameters for each tree:-

- Tree Reference Number to correlate with the above mentioned Plan;
- Tree Species (Botanical & Common Name);
- Approximate height, canopy spread and trunk Diameter measured at Breast Height (DBH) of each tree;
- General description, age class, and form/habit of each tree. (Age & Form Class);
- Health & Condition Assessment of each tree (Condition Class), including any evidence of disease or pest infestation;
- Estimated Life Expectancy;
- Specific Issues or damage; and
- Recommended remedial works.

A Hazard Rating has also been provided as an indication of the relative importance of the remedial work.

SPECIFIC ISSUES

Due to the nature of the site, there are a number of specific or recurring issues, which have been discussed in detail in order to provide information for on-going and future management. They are not listed in any specific order.

Bark Inclusions

Many of the trees were noted to contain Bark Inclusions. Bark inclusions vary in severity. They are a natural phenomenon, which develop in some trees as they grow. However, branches that grow at very acute angles to the trunk or another branch are the most susceptible. Essentially a Bark Inclusion develops when the bark of the tree starts to become entrapped or "included" in the junction between two limbs. During the development of a normal branch, the wood fibres of each branch grow concurrently, overlapping and meshing together to form a strong union. If bark becomes included, the two limbs grow independently, forming a weak union. In severe cases, bark inclusions represent a structural defect, which is prone to failure under high wind or storm conditions, or even over time as the tree ages.

In some instances, the best treatment is to remove the less dominant limb at the branch junction. This avoids a large wound, which would be created if the branch were to tear away and removes the defective part and therefore any hazard. In many instances however, this treatment would involve removing a substantial portion of the canopy, which may be unacceptable from an aesthetic perspective. In this instance an acceptable alternative may be to reduce the overall weight and wind loading on the affected branch by selectively thinning. This removes a portion of the foliage and branches, still retaining the natural form and shape of the tree. Again, whilst this does not guarantee safety, it will substantially reduce the probability of failure under storm conditions.

Trees noted to have bark inclusions should be inspected regularly to check whether the branch junctions are moving apart. Such branches should be removed as soon as practicable.

Many of the Hills Figs and Blackbeans in Allambie Flat were noted to have varying degrees of Bark Inclusions. These trees are probably too old for effective remedial treatment, but should be monitored on a regular basis for evidence of failure (obvious fractures or splits about the included branch junctions)

Moisture Stress

Many of the trees within the site are suffering severe moisture stress due to the recent drought conditions, particularly those species preferring good levels of soil moisture (such as Brushbox, Blackbeans and Hills Figs). These species are suffering partial defoliation and dieback. Other species are succumbing to foliar insect or borer infestation as secondary problems. Whilst extended dry conditions may result in the demise of some of the trees, most should recover following a reasonable period of rainfall. Supplementary watering is probably impractical for the larger specimens, although the installation of a composted mulch material (where appropriate) beneath the canopies may be of benefit in reducing stress

Fire Injury

Many of the trees have wounds and cambial dieback around the basal area of the trunk & buttress and lower branches caused by previous fire injury. These vary in severity. In some instances, the injuries may lead to secondary fungal infection and decay. Some older fire injuries show evidence of decay and their removal is warranted from a safety perspective.

Compaction

A number of established trees show evidence of compaction within the Primary Root Zone (PRZ) due to intensive foot traffic. In some instances the PRZ is completely devoid of vegetative cover and soil erosion has occurred, leading to exposure of the root crown. This may lead to severe moisture stress in dry conditions and lead to the demise of some trees in the long term. In the worst cases, consideration should be given to restricting pedestrian access beneath the tree canopy and installing a mulch layer to reduce soil erosion and improve moisture retention. Mulch zones beneath the tree canopies in other areas may be appropriate in other areas where constant foot traffic is occurring.

Previous Pruning Practices

During the inspection it was noted that all of the *Populus deltoides* (Cottonwoods) , some up to 25 metres tall, have been previously lopped or topped. It appears that this was undertaken in order to reduce the height and spread of the trees and keep them to 'manageable' dimensions. The work appears to have been undertaken within the last 15 to 20 years.

The majority of these trees have produced epicormic regrowth, resulting in elite epicormic sprouts arising from immediately below the old wounds. Most elite epicormic sprouts are inherently weak and are prone to failure under high wind or storm conditions. The production of epicormic growth is a natural response to many forms of stress, such as drought, fire damage, storm damage or even mechanical or chemical damage to the canopy or root system. Epicormic sprouts arise from dormant buds just beneath the outer bark of the tree. Their function is to rapidly restore energy to the tree following stress. Most sprouts arising from the mid-point in branches or on the trunk are relatively short lived and do not represent any hazard. However, those arising from just below wounds, such as branches which have been lopped or broken in storm conditions, may become dominant and are often persistent. These "elite" sprouts grow only on the outer edge of the cambial tissue and do not make a strong union with the branch they arise from. As a result, when they become sufficiently large they can tear away from the tree under windy conditions, creating a hazard. This is exacerbated in this instance by the development of decay in the branch stubs near the site of the original pruning cut. Some stubs show evidence of extensive decay and formation of cavities. This increases the incidence of failure of elite sprouts.

The area beneath the canopies of these trees is actively and intensively used. As the trees are aged and nearing senescence, it is recommended that consideration be given to their removal in the short term and replacement with a more appropriate species.

CONCLUSIONS:-

1. Most of the trees within the subject site are in fair to good health and condition, however, specific issues have been identified which require a treatment over the longer term.
2. Remedial works have been listed in the attached schedule.

RECOMMENDATIONS:-

1. Recommendations for remedial works are provided in the attached schedule (Appendix A).
2. Trees with suspected termite activity should be thoroughly inspected by a Pest Control Technician and treated as required.
3. Where pruning work is specified, such work should be carried out in accordance with Australian Standard No 4373-1996 – Pruning of Amenity Trees.

Andrew Morton

EARTHSCAPE HORTICULTURAL SERVICES

8th August 2003

DEFINITIONS

'Tree' A usually tall woody perennial plant, distinguished from a shrub by having comparable greater height and single woody trunk, usually with many self supporting branches arising at an appreciable distance from the ground, forming an elevated canopy.

'Palm' Woody monocotyledon plants, usually with a single trunk and distinctive crown, with all new foliage (fronds) arising from the apex.

'Epicormic Growth' stems or branches formed from dormant buds beneath the bark of a tree, usually activated into growth in response to some form of stress, injury or severe environmental condition.

'Copse' A small group or stand of trees

'Transplanted' The relocation of plant material from one place to another.

'Mass Planting' A group of plants in a garden area or mulched bed.

'Dieback' death of foliage and upper branchlets in the tree canopy.

'Bark Inclusion' A weak branch union formed when bark becomes entrapped in the crotch/junction during subsequent growth.

'Branch Bark Ridge' (BBR) Branch Bark Ridges are formed at the junction of two branches or the branch and the trunk. They are characterised by "areas, rings or lines of bulging bark that may be rougher or darker in colour than surrounding bark" (Harris, 1983).

'Branch Collar' trunk tissue which forms at the base of a branch, usually slightly raised or larger than the branch base.

'Co-dominant leading stems' Two stems or trunks of approximately equal size developing at the same time and rate, which may lead to a weak branch structure.

'Formative Pruning' Pruning to remove growth defects in young trees to promote good form and structure.

'Canopy Thinning' The selective removal of crowded inner canopy branches to promote greater air circulation, better form and structure and reduce canopy density, thereby reducing wind resistance.

'Deadwooding' removal of dead and or dying limbs and branches

'Canopy Lifting' removal of the lower limbs of the tree to improve sightlines or improve pedestrian or vehicle access beneath the canopy.

'Natural Target Pruning' a pruning technique that involves identifying the correct angle and alignment for proper pruning cuts by forming "targets" between the commencement of the cut at the outer edge of the Branch Bark Ridge (BBR) and the end of the cut at the point where the lower part of the branch meets the branch collar. Such a cut will not leave a stub or cause damage to the remaining trunk or branch, leading to better wound closure and healing. This alignment approximates the 'natural' alignment that the tree forms when shedding the branch, enhancing the tree's natural defence mechanisms against pathogenic disease and decay. The 'targets' are the two points that are aimed at to execute a proper pruning cut.

APPENDIX G

Stone, C. *Summary of Participant Discussion*, unpublished report prepared for NSW NPWS (July 2003).



52-58 William Street
East Sydney NSW 2011
PO Box A866
Sydney South NSW 1235
Australia
Tel +61 2 9380 8800
Fax +61 2 9380 8666
context@context.net.au
www.context.net.au

AUDLEY OPEN DAY 1 JUNE 2003

SUMMARY OF PARTICIPANT DISCUSSION

Introduction

As part of the Open Day discussion, participants were asked to apply a “SWOT” analysis to the current situation in Audley, involving an assessment of Audley’s “strengths, weaknesses, opportunities and threats”. This paper summarises the output of that discussion.

Strengths

Audley’s great strength was seen to lie in its natural beauty, its proximity to and association with abundant water and the nature and variety of views it offers. Views of the cliffs and ridgelines and the sense of enclosure and protection that these provide were thought to be particularly important. The quality of the natural landscape and native flora and fauna, considered to be of World Heritage value, were part of the reason why people have developed a strong attachment to the area. Many participants held the view that Audley was an enduring, “feel good” place.

Audley was noted as a popular meeting place for a wide variety of users and for a variety of activities, including bird watching. The low-key nature of activities at Audley was appreciated, as were the various programs that had been put in place at Audley, including the ecological restoration.

Some participants considered that Audley had an “oasis” quality, providing a sense of respite and pleasure for visitors. Its amenities and heritage qualities contributed to this. The Aboriginal heritage of Audley and the associated archaeological richness of the site were considered to be highly important. Audley’s European heritage, partly expressed in the built elements, including the weir, was also greatly valued. Many people felt an attachment to the buildings on the site, as a result of activities having taken place there in which they were involved. Overall, the layering of the history of the site was seen to be a significant strength.

Weaknesses

Audley was seen to have a number of weaknesses, many of which had to do with the way in which the locality, or passage through the locality, was managed, rather than with the inherent nature of the site.

Traffic management through Audley was considered a significant problem. While it was recognised that Audley was inevitably subject to through-traffic to Bundeena (which was thought to be growing) and other destinations, it was felt that traffic speeds through Audley and the associated noise could be better controlled. Traffic volumes, and the noise associated with traffic generally, were noted as the general problem. The lack of policing of traffic and the absence of an obvious “ranger presence” were also part of the problem.

It was suggested that there was a lack of “planning coordination” with the planning of Bundeena and adjoining developments.

Traffic volumes and speeds were seen to create dangerous conditions for pedestrians and cyclists. The nature and alignment of the road and the absence of any special provision for cyclists contributed to the hazardous situation for cyclists. (On the other hand, cyclists were considered by some to be careless in their behaviour.)

Accessibility to Audley by public transport and accessibility at Audley for people with disabilities, including vision impairment, were thought to be issues of concern. The loss of public transport services (tram and ferry) was noted. Some considered there to be a lack of parking near the Dance Hall and Pavilion. The lack of connectivity to the flats (and the concentration of uses on only a few flats) and the provision of walking tracks generally were also discussed.

The signage around the site was generally thought to be insensitive and unsatisfactory. Kiosk signage and the plastic boat tricycles were considered particularly unsightly.

The lack of heritage information and interpretation was raised by a number of participants. They considered that the historic layering of the site and its archaeological values should be more evident. It was noted that there had been some loss of records of the area. The 1986 Conservation Management Plan was criticised for its “lack of vision” but it was noted that, in any case, this plan had not been implemented to any great extent.

Generally, there were seen to be “management conflicts” involved in the determination of whether Audley was a “historical” or “natural” park. The quality of maintenance was also considered a general issue. Other particular issues noted included:

- The flooding of the weir and of walking tracks and facilities
- Introduced species
- Potential fire hazards
- The fact that the weir was an ecological barrier
- The management of the food concession
- The legibility of the site
- The variety of uses that the site was expected to accommodate
- The lack of a specific function for the Dance Hall
- Vandalism

Opportunities

The opportunities for the site were seen to lie mainly in addressing the weaknesses identified above or in building on the strengths. They may be summarised as follows:

Accessibility

- Improving public transport access by re-establishing the ferry service and by other means
- Providing occasional disabled access to Lady Carrington Drive
- Improving connectivity generally and the walking tracks in particular
- Providing bridge connections to other flats
- Linking Lady Carrington Drive to bike hire place

Legibility and services

- Improving signage to an on the site and the legibility of the site generally
- Improving the café

Tourism and information

- Improving publicity about and the tourism marketing of the site, including the mounting of memorabilia exhibits
- Using Audley as an venue
- Providing accommodation on the site
- Using the water as a drawcard

Environmental management

- Providing a natural weir to restore the river
- Emphasising the eco-diversity of Audley
- Recognising the World Heritage values of Audley

Traffic management

- Restricting Bundeena expansion
- Considering an Audley by-pass (This was not generally thought to be feasible)
- Enforcing speed limits
- Improving pedestrian safety

Heritage interpretation and education

- Revealing, emphasising and celebrating the conservation, heritage and recreation values of the site and providing information and education about them
- Emphasising the Aboriginal significance of the site
- Recognising the use of Audley by a wide variety of cultural groups, including Chinese Macedonian and Vietnamese people
- Making Audley the training ground for Australian bush/natural heritage education
- Re-locating the Interpretative Centre in Audley

Management of the site

- Providing a clearer direction for the management of Audley in the future
- Improving the coordination of planning amongst Government agencies
- Focusing on the wider Audley area

Threats

Similarly, the noting of “threats” generally emphasised what were considered to be the current weakness, noted above:

Traffic management

- The impacts of traffic
- Increased traffic and noise associated with travel to Bundeena and the Bonnievale camp ground

Disaster management

- The possibility of fires, floods and overburning

Development

- Pressures associated with increased population in the metropolitan area and subsequent increased pressure on places such as Audley
- The impact on conservation of increased activity
- Over use and overdevelopment of the site
- The “modernisation” of facilities
- The generation and collection of rubbish
- Security
- Pollution of the catchment due to development
- The impact of watercraft

Environmental management

- Introduced species; deer, cats and dogs
- Siltation
- Freshwater weeds
- A loss of eco-diversity
- Road kill associated with traffic

Heritage

- Losing the past
- The “Old English factor” being replaced by the “Aussie BBQ”

Management of the site

- The possible lack of funding
- Inadequate marketing

APPENDIX H

Stratcorp Consulting, *An Assessment of Recreational Uses in Audley—Research and Recommendations*, unpublished report prepared for NSW NPWS (August 2003)



An Assessment of Recreational Uses in Audley – Research and Recommendations

August 2003

Prepared for CONTEXT Landscape Design Pty Ltd

Prepared by Stratcorp Consulting Pty Ltd
2 / 148 Longueville Road Lane Cove NSW 2066
Phone 02 9420 9981 Fax 02 9420 1533
Email: stratcorp@stratcorp.com.au
www.stratcorp.com.au

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1. INTRODUCTION

The National Parks and Wildlife Service engaged CONTEXT Landscape Design in 2003 to prepare a Master Plan to guide the future development and management of Audley, a key existing recreation node within the Royal National Park, one of the most important and environmentally significant natural open space areas within NSW.

Stratcorp Consulting was sub-contracted by CONTEXT to assist with the research associated with the public's recreational use of Audley, and where appropriate, provide direction and input into the master plan design process.

The specific research tasks carried out by Stratcorp Consulting included:

1. Review of project background notes emanating from previous project meetings and design team workshops.
2. Site review (in conjunction with CONTEXT staff).
3. Facilitation of a workshop with staff from the Audley management team, National Parks & Wildlife Service and the CONTEXT project team.

This Report describes and documents the key outcomes from the processes undertaken during our research, and outlines a series of possible directions and recommendations to assist CONTEXT to develop the Audley Master Plan.

Richard Simon (Senior Consultant, Stratcorp Consulting) visited Audley on 19th August 2003 to conduct the site review and to also facilitate the stakeholder workshop. The broad recreation-based issues and opportunities identified during the day have been formalised in this report, whilst others relating to general landscape improvements, management and embellishments were recorded by CONTEXT.

2. AUDLEY - RECREATIONAL USES / FACILITIES

This section provides a summary of:

1. Existing provision of recreational facilities within Audley and associated assessment of their appropriateness, or otherwise.
2. Ideas and suggestions to enhance the visitor experience to Audley from a recreational use perspective.

Recreation Experience	Issues / Opportunities
<p>1. Pedestrian Circulation</p>	<ul style="list-style-type: none"> • Pedestrian access is not clearly defined in and around the Pavilion Flat and Allambie Flat zones. • It is clear from our observations (validated by Park staff) that visitors currently utilise road edges and car park edges as pedestrian ways to move around Audley. Two key issues with this informal approach to circulation are: <ul style="list-style-type: none"> ◇ The inherent personal risk to the safety of pedestrians as they share a roadway with vehicles, a roadway which does not currently separate or provide for dual vehicle and pedestrian usage. ◇ There is little encouragement for people to move around Audley, as people do not readily identify a designated pedestrian circulation network. • The provision of dedicated and clearly defined (and promoted) pedestrian access zones or paths through the Pavilion Flat and Allambie Flat zones is likely to encourage visitors to “explore” different areas within Audley. As a result, visitors will be encouraged to move beyond the zone into which they have arrived or parked. This has the potential to not only improve the visitor experience as people walk to the various places of interest scattered across Audley, but will also assist in ensuring that the current and possible future commercial areas (e.g. boat hire, kiosk) are readily accessible by all visitors to maximise the “commercial viability” of the respective leases. • Little opportunity exists to construct a dedicated pedestrian path which would be separated from the road circuit (except at the weir crossing). Therefore, road surface treatments to accommodate dual uses should

be investigated. Options could include the use of line markings and/or use of coloured surfaces to denote vehicle and pedestrian zones, or installation of bollards – although these have the potential to create a vehicle crash hazard and could be high maintenance items.

- Any introduced mediums to facilitate the shared use of roadways between vehicles and pedestrians is likely to have a secondary benefit of slowing traffic down, due partly to the sight of additional traffic markings and partly due to the likely increased number of people actually moving about the precinct.

Recommendations:

1. *Investigate options to introduce an on-road (and where possible, off-road) pedestrian thoroughfare which links all areas of the Audley precinct between Lady Carrington Drive and Allambie Ridge.*
2. *Promote and encourage visitors to walk around the Audley precinct through strategic use of signage and associated information brochures.*

2. Walking Tracks

- The “sign posting” of the commencement point of existing walking tracks originating within Audley appears to be unclear and not well defined.
- An opportunity exists to integrate the commencement point of existing walking tracks with the improved pedestrian network around Audley proposed by CONTEXT.
- The existing walking tracks into and out of the Audley precinct offer a reasonable physical challenge for people who use the tracks. Such a challenge might not suit people with restricted mobility or poor physical fitness, or those people who have time constraints.
- An opportunity exists to provide some shorter walks contained within the Audley precinct, which would be relatively flat and short in distance. Such walks could capitalise on the flat spaces available in the existing picnic areas and the vistas across the water. The proposed new pedestrian bridges at Allambie Flat and Wattle Forest will help facilitate the establishment of “circuit walks” around the Audley precinct.
- When planning and designing any proposed new tracks, a variety of trail distances should be allowed for, where possible. It is suggested that tracks should not be formed but be denoted by use of unobtrusive and

narrow bollards or markers to show direction rather than an actual route, i.e. a rambling track.

- In some instances, consideration should be given to providing some “rest stops” (as simple as a bench seat) to further encourage those people who might otherwise be challenged by having to complete a full circuit with no obvious opportunity for some respite.

Recommendations:

1. *Improve the prominence of the start/finish points of the existing walking tracks within the Audley precinct through an integrated and well communicated signage strategy.*
2. *Establish new opportunities for short distance walking trips around Audley which utilise existing assets (such as picnic areas, places of interest and views), and which capitalise on the proposed new bridges across the river at Allambie Flat and Wattle Forest.*

3. Playground

- No formal children’s playground is currently available.
- The issue of whether a formal playground is appropriate or necessary will forever stimulate debate.
- An opportunity exists to provide a uniquely different playground appropriate for the setting and overall experiences offered at Audley. Any proposed playground should not be a traditional plastic-form structure but rather value-add to children’s “day in the bush”. Such a playground could take the form of a couple of tree-houses constructed just above ground level around the trunks of existing trees interconnected by a series of rope/wooden bridges and Tarzan swings. Possible location would be Willow Flat.
- The site of any new playground should ideally be away from the Pavilion Flat and Allambie Flat zone to preserve the peaceful ambience gained from river views and mountainous back drops.

Recommendation:

1. *Investigate the feasibility of establishing a new playground at Audley.*
2. *Identify options for the design and location of any proposed new playground, having consideration for the natural setting, the need to separate active and passive areas, and any potential risk management/liability factors.*

4. Sporting Facility(s)

- No formal sporting areas are currently available, and it is not appropriate, or necessary, to provide formal sporting areas. Such use is not consistent with the aims, objectives and history of Audley.
- Audley does provide many areas suitable for informal and unstructured games of sport, such as rugby, AFL, soccer and cricket. Whilst the participation in such activities should not be encouraged due to the likelihood of potential conflict with other visitors, it must be recognised that family and/or social groups may from time to time wish to start up a “friendly matches” as part of their day out. (Similar to how some groups/families use beaches).

Recommendations:

1. *Retain passive open space setting of Audley by not developing any formal sporting areas or facilities.*

5. Boating



- Existing boat hire business operating out of the Boat Shed comprises fibre glass rowing boats, three wheel water bikes, and a limited number of heritage-style, wooden rowing boats.
- If possible, the existing business should be encouraged to cease use of the fibre glass and plastic boats/bikes, mainly to improve the visual amenity and setting that authentic wooden boats will provide (see examples from Studley Park, Kew, Vic).
- Suggested during the workshop that in future this enterprise could incorporate a working boat building business, whereby, public access to the Boat Shed and its operations could be improved.

Recommendations:

1. *Phase out/cease the use of the fibre glass rowing boats and water bikes and replace with wooden rowing boats.*
2. *Investigate the feasibility of introducing a working boat building operation in the Boat Shed as part of the redevelopment and review of this commercial enterprise.*

6. Visitor Facility(s)

- Audley features a variety of recreational areas and facilities for visitors. These include the numerous BBQ/picnic areas and picnic shelters (including Commonwealth Pavilion), boat hire, kiosk and associated outdoor area, and the riverside jetties.
- Most designated picnic areas have a toilet block, picnic tables, bins and associated car parking area (exception being the Pool Flat area).
- The BBQs comprise a combination of wood BBQs and gas BBQs. Some of the gas BBQs are poorly located within picnic areas, being situated centrally in the open space areas rather than on the perimeter, which would make them less obtrusive and invasive on the setting (e.g. Reids Flat).
- Consideration should be given to phasing out all gas BBQs in the designated picnic areas outside of the more intensively used Pavilion Flat and Allambie Flat zone. This will enhance the bush experience of those visitors using the more remote picnic areas. Two factors that will need to be assessed with such a move would be the level of increased risk (or otherwise) of the potential for surrounding bush to set fire, and the capacity of park rangers to keep the wood up to the wood stacks adjacent to the BBQs.
- The gas BBQs should be retained within the more intensively used Pavilion Flat and Allambie Flat zone due to the high numbers of people using this zone, and the need to provide visitors with a “soft” (or more efficient) option to cook meat.
- A suggestion explored during the workshop to improve the management of large groups visiting Audley is to introduce a bookings system for designated picnic shelters. If introduced, it is recommended that such picnic shelters be “at the end of the picnic area” and have a dedicated car parking area adjacent. This should help to improve traffic management into and out of picnic areas (particularly on high-use days) and will also assist in containing large groups in areas able to cater for their needs, with reduced inconvenience to other park users. Current example of this opportunity is evident at Kookaburra Flat, with further opportunities possible at Reids Flat and Fig Tree Flat, through the construction of new/additional

picnic shelters, and minor modifications to the car parking bays.

- Any proposal to upgrade the kiosk function should take into consideration the following:
 - ◊ The desirability to reduce the actual number of buildings on Pavilion Flat, that is, remove the existing kiosk building and relocate the function into the Dance Hall (as per draft plan prepared by CONTEXT).
 - ◊ The need to provide a range of high quality foods and beverages. A visitor segment likely to continue to increase in numbers, particularly during the week, is that of retirees who are tourists and who might typically stay for a short period to purchase some refreshments and to have a quick walk around.
 - ◊ The options possible to consolidate infrastructure required to accommodate a kiosk function on the ground floor of the Dance Hall, and a reception/fine dining output on the first floor.

Recommendations:

1. *Where possible consolidate, the built forms in the designated picnic areas to maximise the sense of open space.*
2. *Introduce wood BBQs into all of the picnic areas outside of the Pavilion Flat and Allambie Flat zone, and remove the gas BBQs, pending an assessment of the viability.*
3. *Introduce a bookings system for the use of designated picnic shelters by large groups, as well as the use of specific areas of adjacent car parks.*
4. *Remove the existing kiosk building and provide a new kiosk and catering enterprise in the Dance Hall building.*
5. *Ensure that the provision of service by the contractor engaged to operate the kiosk and proposed functions area in the Dance Hall is of a high quality, commensurate with the general changing expectations of visitors.*

3. SUMMARY

A range of recreational pursuits is currently enjoyed by visitors to Audley. These include social gatherings in the form of picnics and BBQs, boating, hiking, walking, informal games in the open space areas, a variety of nature-based activities, swimming and fishing. The underlying appeal of each activity in the Audley setting, is the sense of attachment and association with nature. This quality should be maintained and enhanced through the current master planning process for Audley currently being undertaken by CONTEX for the National Parks and Wildlife Service.

Several initiatives and recommendations for improving the recreation experience for visitors have been identified and/or validated by Stratcorp Consulting as part of our involvement with the Project Team. These include:

- Improved provision for walking in Audley by establishing new opportunities for tracks in and around the existing picnic areas and weir wall, and by introducing an improved signage strategy for the identification of walking tracks.
- Improved safety for visitors walking around Audley by formalising the use of the road for both vehicles and pedestrians.
- Provision of a children's playground at Audley which is integrated with the environment and bush setting of Audley.
- Advocate for the cessation of the use of all fibre glass and plastic water craft from the boat hire business, and replace with wooden rowing boats which better reflect the history and character of Audley, and contribute more effectively to the cultural experience of visitors.
- Introduce additional wood BBQs into the designated picnic areas, and phase out gas BBQs, pending an assessment of the risk management and the capacity of the parks services to maintain wood supplies.
- Introduce additional picnic shelters in strategic locations and a bookings system for shelters to better cater for existing and likely future demand for organised group use of Audley, and as a strategy to minimise the impact from group use of picnic areas on smaller groups/individuals.
- Upgrade food and beverage provision through a combination of new kiosk and catering facilities and services.
- Remove the existing kiosk building.

APPENDIX I

Audley Open Day Questionnaire

Audley Masterplan - Visitor Values Survey

National Parks and Wildlife (NPWS) is preparing a Masterplan for Audley. This plan will guide its protection and conservation for the future. As part of the initial phase of the Masterplan, we invite you to have your say about what you value about Audley and what you would like to see happen there.

NB: You can email comments to audleymasterplan@npws.nsw.gov.au



What do you like and value most about Audley?

.....
.....
.....
.....

Is there anything you don't like about Audley or that you feel needs improving?

.....
.....
.....
.....

What opportunities are there to improve Audley?

- Reinstatement and/or embellishment of the grassed flats for picnicking/recreation
- Reinstatement of significant views from vantage points on the Allambie Slopes
- Interpretation of Audley's history
- More/improved boating facilities
- Improved: access car parking signage
- Upgraded facilities: toilet blocks food services playground
 concession(s) educational picnic/BBQ areas
- Reintroduction of camping facilities and/or weekend accommodation
- Reinstatement of netted swimming area in the Port Hacking River
- Construction of a water's edge walkway along the Audley Flats connected via reinstated bridge(s) at Allambie Flat
- A variety of connected walking tracks (from 30 mins to 4 hours) to further discover and appreciate Audley and its environs

Other (specify).....
.....

Comments.....
.....P.T.O.

APPENDIX J

NPWS Staff Forum, Friday June 20th 2003, *Audley Masterplan Community Consultation*,

Audley Masterplan Community Consultation

NPWS Staff Forum, Friday June 20th 2003

Attendees:

1. Patsy Ross
2. Sue Aston-Metham
3. Helena Ladds
4. Peter Young
5. Julie Gallan
6. Pam Melrose
7. Tony English
8. Andrew Lawless
9. Carolyn Orschell
10. Paul Evans
11. Neil Hazelton
12. Mike Patrick

Apologies:

1. Peter Hay (proxy comment given)
2. Mike Patrick (additional comments given)
3. Greg Tedder (proxy comment given)
4. Geoff Kalwy
5. Matthew Jones
6. Tony Dowd
7. Mike Vader
8. Steve Shorten
9. Kate Stephens
10. Carolyn Hadlow
11. Phil Bryant

Commencement Time: 10.20a.m

Discussion

Introduction and Background to Audley Masterplan (Patsy Ross)

Masterplan process and update given. Answer given to “Why we need the practical working knowledge from Audley staff as input?”

Community Consultation to date:

NPWS Client Group and Reference Group meetings

Regional Advisory Committee briefed

Media Releases – print, radio

Open Day June 1 2003 for general community and targeted stakeholders

Aboriginal community interviews

Visitor Surveys (SWOT analysis) coming in still

Public exhibition of Draft Masterplan – feedback opportunities and timeframe discussed.

Website and Email addresses

Facilitated Session (Sue Aston-Metham to facilitate)

Recollections of personal stories shared to highlight varied attachments, activities and perspectives on the place.

e.g long-term site of annual family picnic of Illawarra Steelworkers

swimming and jumping from footbridge at Pool Flat

Whites Bus Company linking up with trams and trains

Past gateway to Royal re-instated with pedestrian focus in mind

Suburban teenage haunt – able to get to by public transport (i.e without “the olds”)

Child’s perspective very different from the adult view now

Strengths and Weaknesses overviewed (see below)

LENS session on the Focus question:

“What facilities/improvements require upgrade/installation to improve the visitor experience at Audley?”

i.e “What is needed at Audley?”

Each person jotted down several issues or ideas to address this question.

90 responses were made and analysed into the following categories:

1. Infrastructure and Facilities
2. Walking Tracks
3. Kiosk/Café
4. Cultural Heritage – Aboriginal and non-Aboriginal
5. Environmental Education
6. Interpretation / Signage
7. Natural Environment
8. Traffic
9. Rubbish/Recycling
10. Adaptive Re-use of Dance Hall

Details of **Strengths** identified:

- Recreational space within the suburbs where no other similar space is available
- Withstood the test of time and pressures of urban development – feelings of being cloistered/protected/timeless/safe
- Diverse activities to do – both passive and active
- Waterway noted as a highly attractive and emotive theme for activities

Details of **Weaknesses** perceived:

- All were Traffic related points:
 - congestion at toll box
 - dangers of Audley Rd bend
 - congestion at weir
 - congestion at Lady Carrington Rd juncture
 - Motorbikes speeding
 - Day users and local through-traffic mix puts pressures on drivers to go faster than ideal
 - Noise
- Pedestrian dangers – from highway (Loftus) crossing, first Audley bend (getting to Bridal Track), on westside of weir (getting to boatshed from Honeymoon Track), eastern side of weir (getting to kiosk/Triangle CP from Pool Flat)

Details of **Opportunities** noted:

- Traffic calming devices
 - Greater Highway patrol by police re traffic
- ...session shifted tack at this point as we decided to do a LENS session - Details of each category (not listed in any particular order):

Infrastructure and Facilities

- Overnight cabin accommodation possibility – adaptive re-use of existing staff cottages
- Another shelter/weather shed (like the Pavilion) but up at ‘Audley Heights’, for Park Entrance Interpretation, Educational use, Big Groups, sense of welcome
- Disabled access (which doubles as pram access) to another area closer to river where one can engage with bush (e.g Reids or Willow Tree Flat)
- Improved car park facilities at Ironbark Flat
- Gas BBQs
- More BBQs and maintenance of BBQs
- Electric BBQs
- Consider children and children’s perspective in facilities e.g slippery dip and diving board at Pool Flat,
- swim enclosure and bridge re-established on saltwater side, near Pool Flat
- Disabled toilets
- Composting toilets
- Unobtrusive toilet blocks to merge into environment as in other national parks – remove current one and relocate sandstone blocks
- New entry station
- Better entrance experience
- Sense of arrival

Walking Tracks

- Reinstatement of walking tracks
- Bridal Track upgraded
- Connections between walkways
- Circular loop walks (circuits) of easy grade
- 1-2 small loop tracks for families esp with younger children (like the Currawong Flat return walk or from Wattle/Willow Tree Flat)

Environmental Education

- Permanent location for Dept of Ed and Training’s Environmental Education Centre

Kiosk/Café Operation

- At least two more kiosks – maybe over Varney Bridge
- Coffee shop and up-market food outlet with take away facility
- A better kiosk facility catering for elderly community who come in hired minibuses and other coach-based groups
- Permanent site for kiosk
- Removal of current kiosk

Cultural Heritage

- Aboriginal Education
- Restoration of Post Office
- Address the limited interpretive boards of the cultural layers within the precinct – not just at Audley riverflats
- Historic Interpretation needed
- Name the area appropriately “pleasure grounds” is ridiculous, what about “meeting place” in local Dharawal/La Pa language if approval given for such
- Visible acknowledgment of Aboriginal occupation and significance
- Interpretive signs at historic sites
- Dual Aboriginal / Historic names of picnic areas
- Interpretation of Aboriginal sites
- Aboriginal Tour Guides

Interpretation

- Better signage – quality and quantity
- Better / Some interpretation of Royal as significant to Conservation Movement history
- Multi-lingual signage and interps
- Self-serve Interps (self-guided)
- VC / Discovery and Enviro Ed Centre merged at Audley Heights for whole-of-Royal visitor info, Classroom at Audley for Audley precinct info.
- Rangers and VSO's (visitor service officers) more visible and involved
- Track head information
- Interpretive centre of world class standard
- Commercial Tour guides
- Changing (dynamic) Interps and displays

Natural Environment

- Immediate removal of highly invasive and toxic weeds (esp Camphor Laurel)
- Boat landings (on freshwater side) more controlled and hardened off to protect riparian vegetation (and visitors from mud!)
- Re-visit / install Fish Ladder (x2 comments on this made)
- Interactive displays for biodiversity, outdoor lab space
- Phase out non-indigenous and non-providence plants
- Address siltation in Hacking Rv
- More Cabbage Tree Palms
- Remove snags from river to areas of bank damage to promote reveg of riparian veg
- Retain landscape planting at Ironbark Flat. Keep the ‘Peter Stevens garden’
- Clean up of old riverside camping ground down-stream from Reids Flat, near ‘Fishtrap’
- Evict Gambusia
- Adjust mowing regime to shrink volume of grassland area to encourage more discrete areas for picnic/play and more natural vegetation in groups of trees/shrubs/herbs/grass
- Establish prominent deer fencing around a substantial area to demonstrate their environmental impact

Rubbish and Recycling

- Recycling bins installed, as well as signs to explain their use
- Aesthetically designed recycling bins, not just colour-coded Sulo bins
- Better rubbish and recycling management
- Organic waste composted at dump site (as per Taronga Zoo model)
- Improve rubbish removal facilities

Traffic

- Discourage speeding cyclists
- Encourage passive cycling
- Motor bikes speeding through are a big issue
- Consider an alternative car access for Bundeena residents
- Supply bus and coach parking areas
- Pedestrian safety a big issue for families / Discovery / Env Ed school groups. Better signage to consider pedestrians and safe crossing signs for pedestrians to note – issue from Loftus highway crossing, Bridle Track access, both sides of weir and Lady Carrington/Dance Hall junction
- Two lanes in along Farnell Ave from Highway
- Multi entrance station facility to operate for 4 lots of vehicles at one time
- Great idea to link pedestrian access via reinstated bridges
- Close Sir Bert Stev Dr from Audley Heights to Bundeena turnoff at night
- Install sound mounds into landscaping works to dull traffic noise
- Public transport to be stepped up – buses on weekends for a trial period to start with
- Access issues (unclarified)
- Reduce no. of cars by providing parking outside of the riverflat precinct / shuttle bus
- Install traffic calming devices e.g shacanes, slalems, shared zones, cobbled surfaces

Adaptive reuse of Dance Hall

- Audley info centre
- Tea house for older folk
- Backpackers' accommodation
- Double-glazing required to sound-proof from road noise
- Environmental education site
- Educational facility
- EEC in to top or bottom level
- Unspecified better use
- Function centre
- Function centre at night / Ed centre in day
- Multifunctional community facility

Other Comments from Mike Patrick (Regional Manager)

- Check statutory requirements about what is permissible under Plan of Mngt and other NPWS provisions
- e.g accommodation at Reids Flat or Pool Flat camping, cricket ground, new roads, bridges?, closing weir)politically unlikely solution to anything)
- Make sure what is proposed is feasible and possible otherwise Masterplan is unrealistic and wasteful

APPENDIX K

NPWS, Fauna species list for species found at Audley.

BIRDS

- * Little shearwater (*Puffinis assimilis*): V
- * Osprey (*Pandion haliaetus*): V
- * Broad-billed Sandpiper (*Limicola falcinellus*): V
- * Powerful Owl (*Ninox strenua*): V
- * Sooty Owl (*Tyto tenebricosa*): V
- ** Australian Painted Snipe (*Rostratula australis*): V
- ** Swift Parrot (*Lathamus disolor*): E
- ** Regent Honeyeater (*Xanthomyza phrygia*): E

REPTILES

- ** Broad-headed Snake (*Hoplocephalus bungaroides*): V

MAMMALS

- * Grey Headed Flying Fox (*Pteropus poliocephalus*): V
- * Common Bent-wing Bat (*Miniopterus schreibersii*): V
- * Large-eared Pied Bat (*Chalinolobus dwyeri*): V
- * Large-footed Myotis (*Myotis adversus*): V
- * Koala (*Phascolarctos cinereus*): V
- ** Spotted-tail Quoll (*Dasyurus maculatus*): V
- ** Brush-tailed Rock Wallaby (*Petrogale penicillata*): V
- ** Long-nosed Potoroo (*Potorous tridactylus*): V

FROGS

- * Giant Burrowing Frog (*Heleioporus australiacus*): V
- * Red Crowned Toadlet (*Pseudophryne australis*): V
- ** Littlejohns Tree Frog (*Litoria littlejohni*): V
- ** Green and Golden Bell Frog (*Litoria aurea*): V

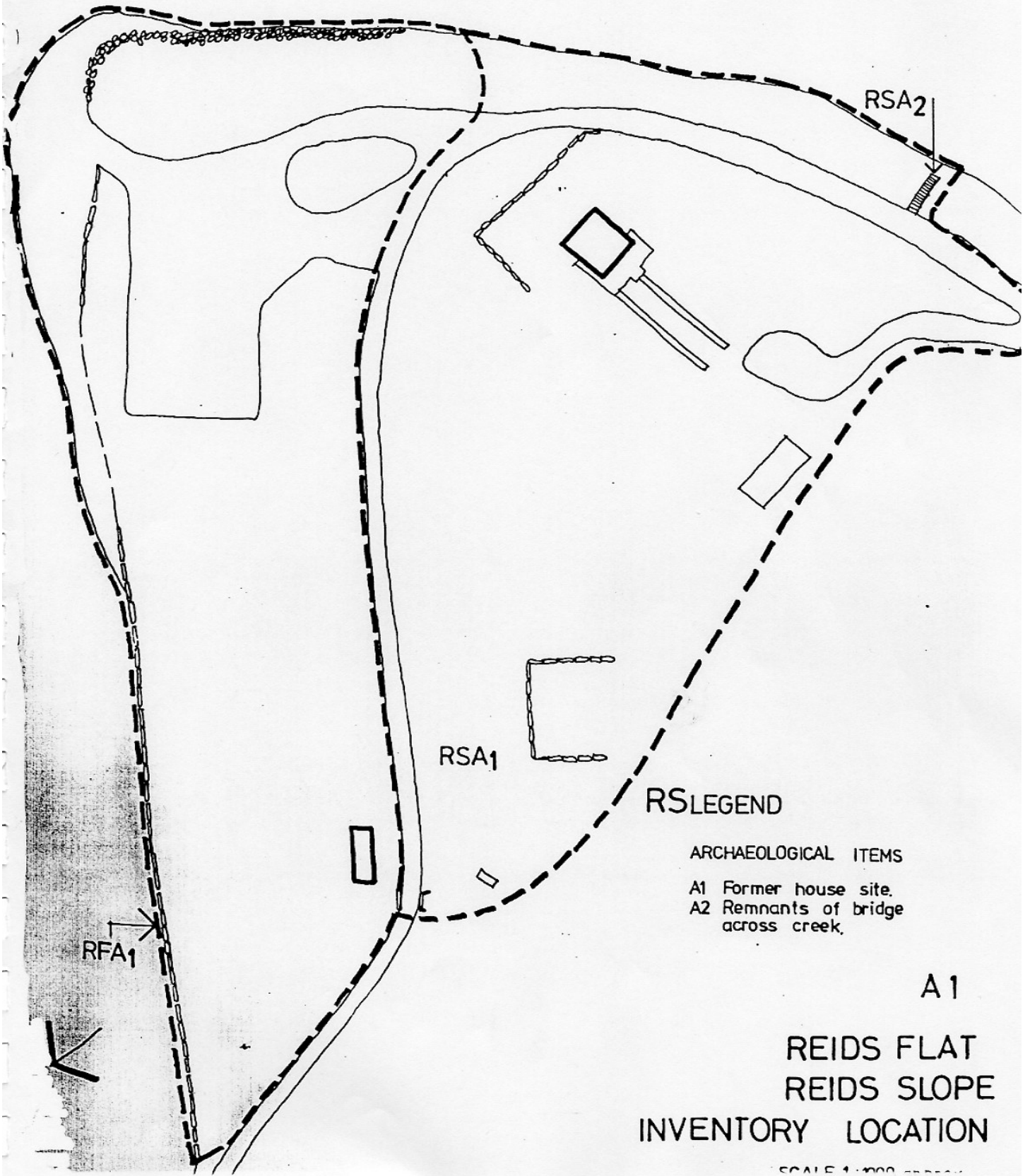
APPENDIX L

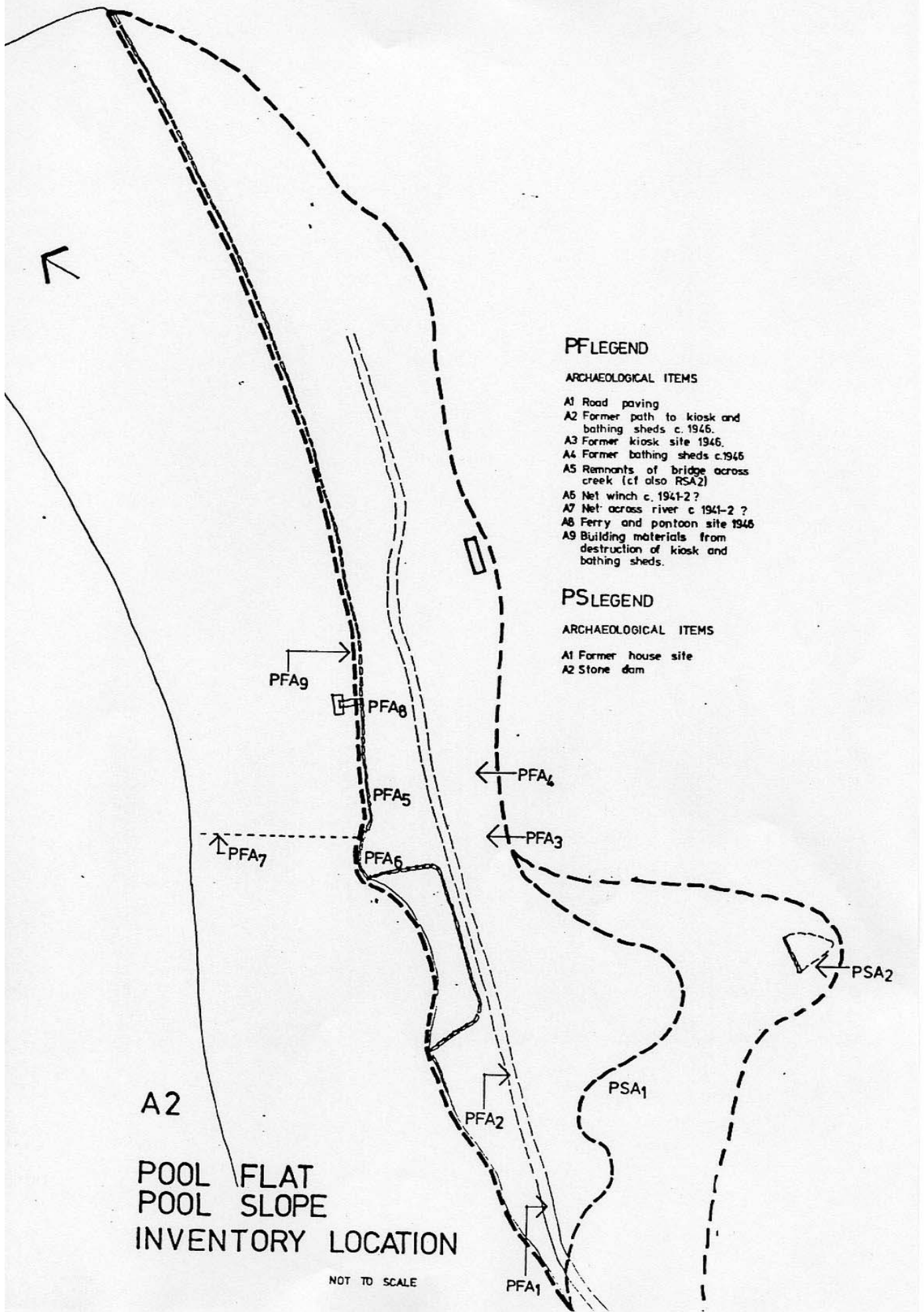
Thorp Wendy, 1987, Inventory of Archaeological Items, from 1987 Conservation Plan for Audley.

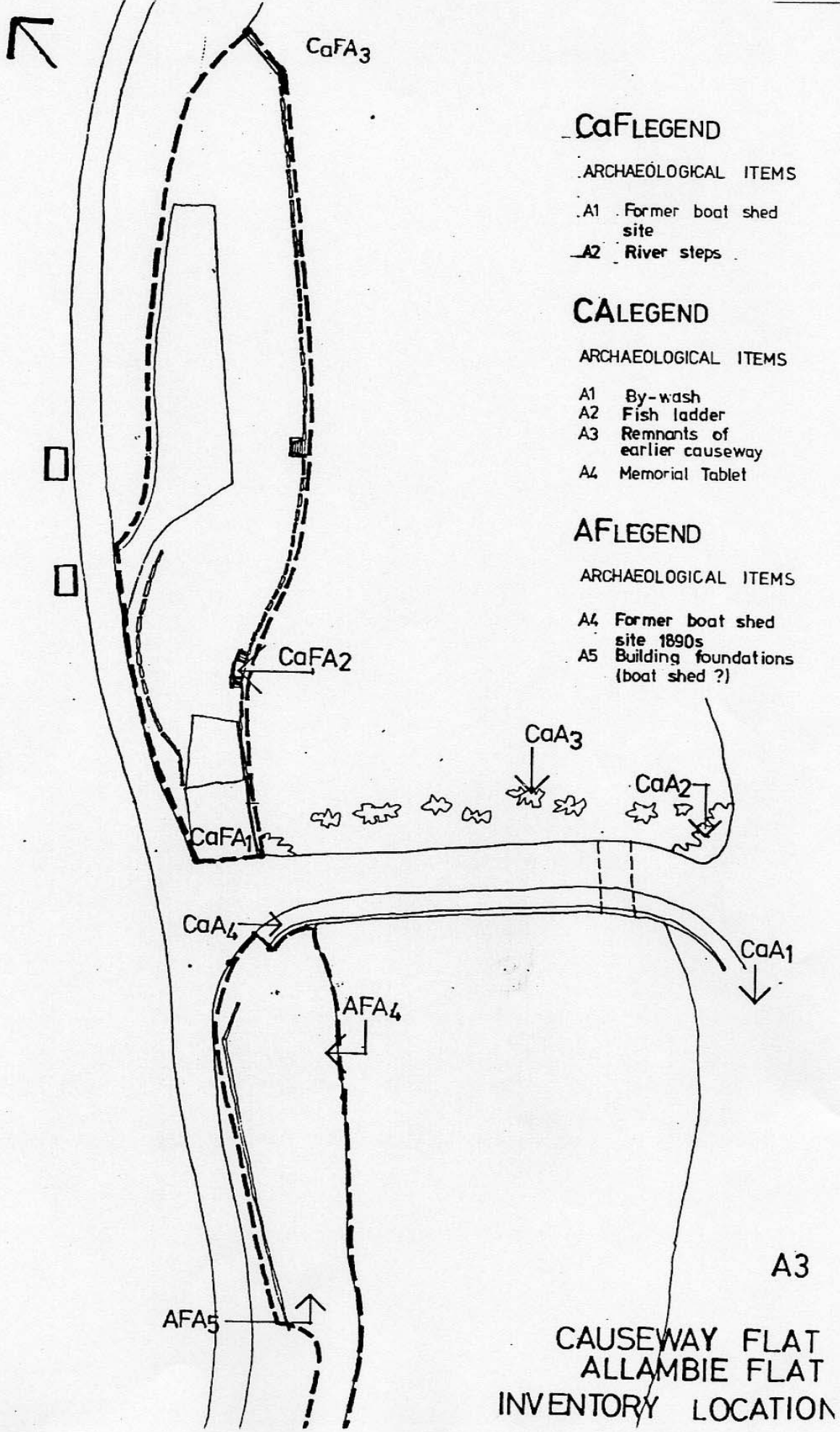
RF LEGEND

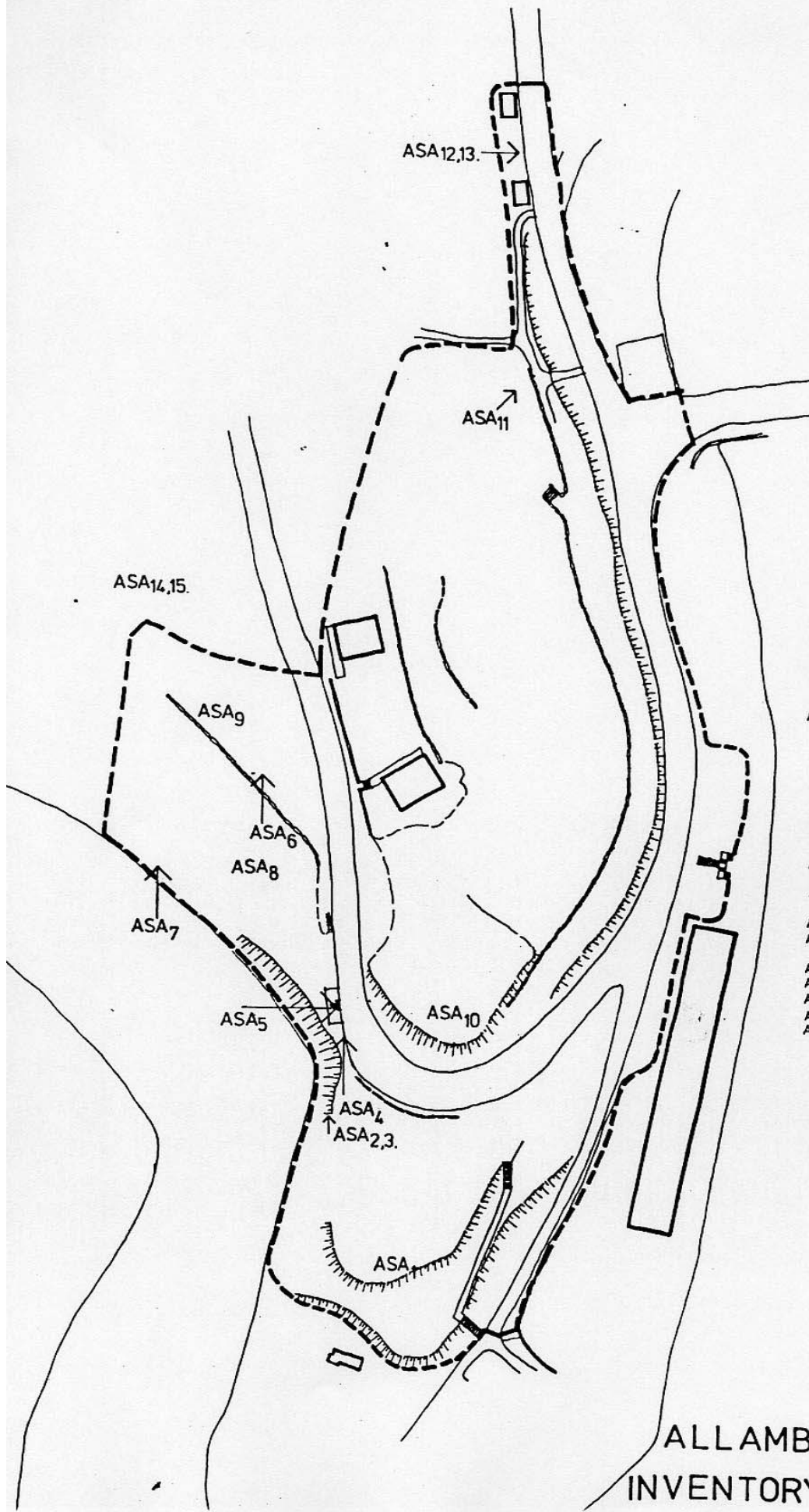
ARCHAEOLOGICAL ITEMS.

A1 Former boat shed site
c. 1906.









AS LEGEND

ARCHAEOLOGICAL ITEMS

- A1 Site of Allambie House c.1916
- A2 Dump associated with Allambie House.
- A3 Former river path?
- A4 WWI Honour Roll
- A5 Drinking Fountain 1903
- A6 Boiler tank (for water supply) c. 1894?
- A7 Water pipe associated with ASA6 c. 1894.
- A8 Walling in tiers (may be associated with ASA5-7)
- A9 Former stables site 1863
- A10 Former Trustees Cottage site 1880-90s
- A11 Former house site
- A12 Explosive shed site 1889/99
- A13 Unidentified foundations.
- A14 Iron water tank
- A15 Brick water reservoir c.1895?

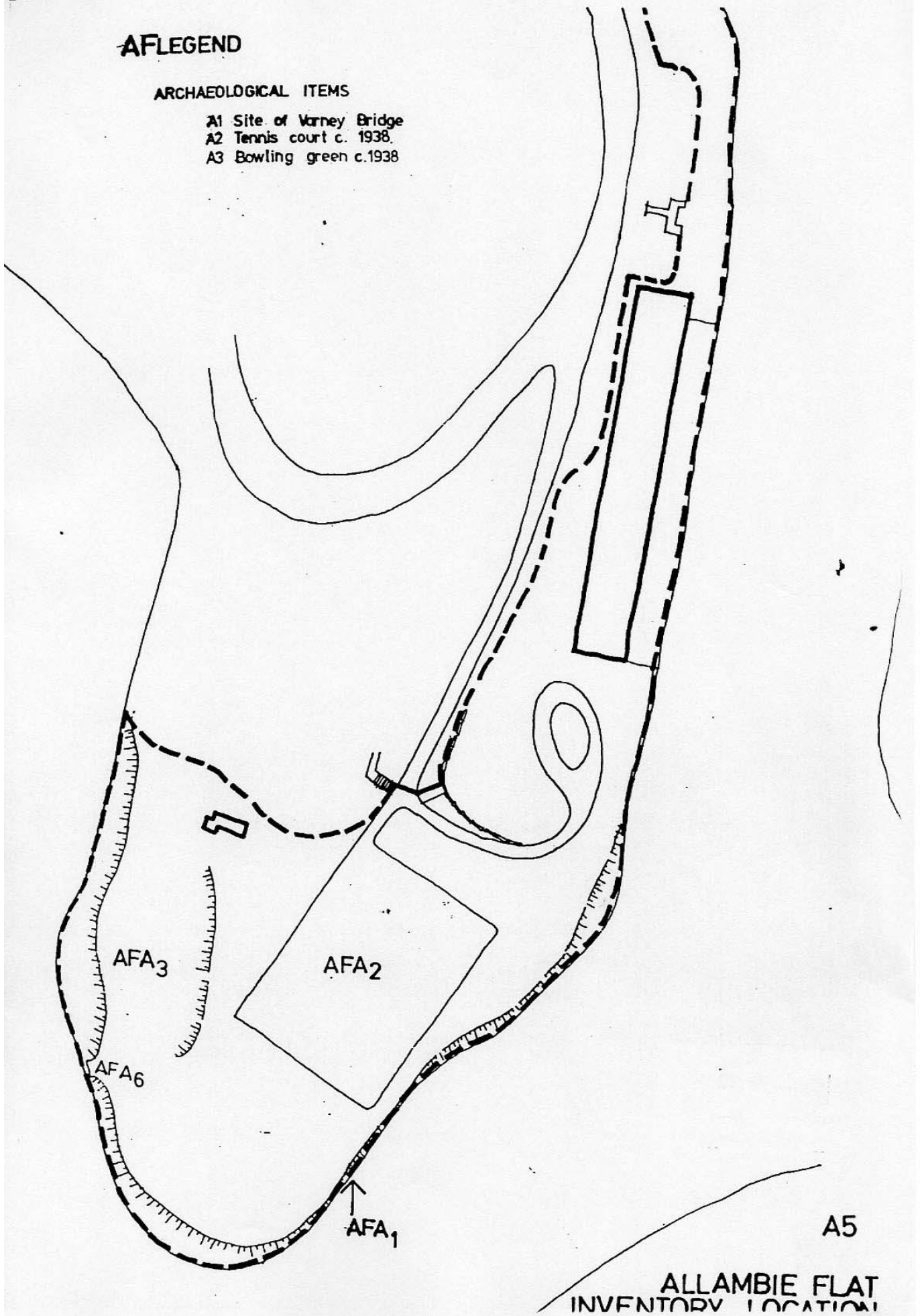
A4

ALLAMBIE SLOPE
INVENTORY LOCATION

AFLEGEND

ARCHAEOLOGICAL ITEMS

- A1 Site of Varney Bridge
- A2 Tennis court c. 1938
- A3 Bowling green c.1938

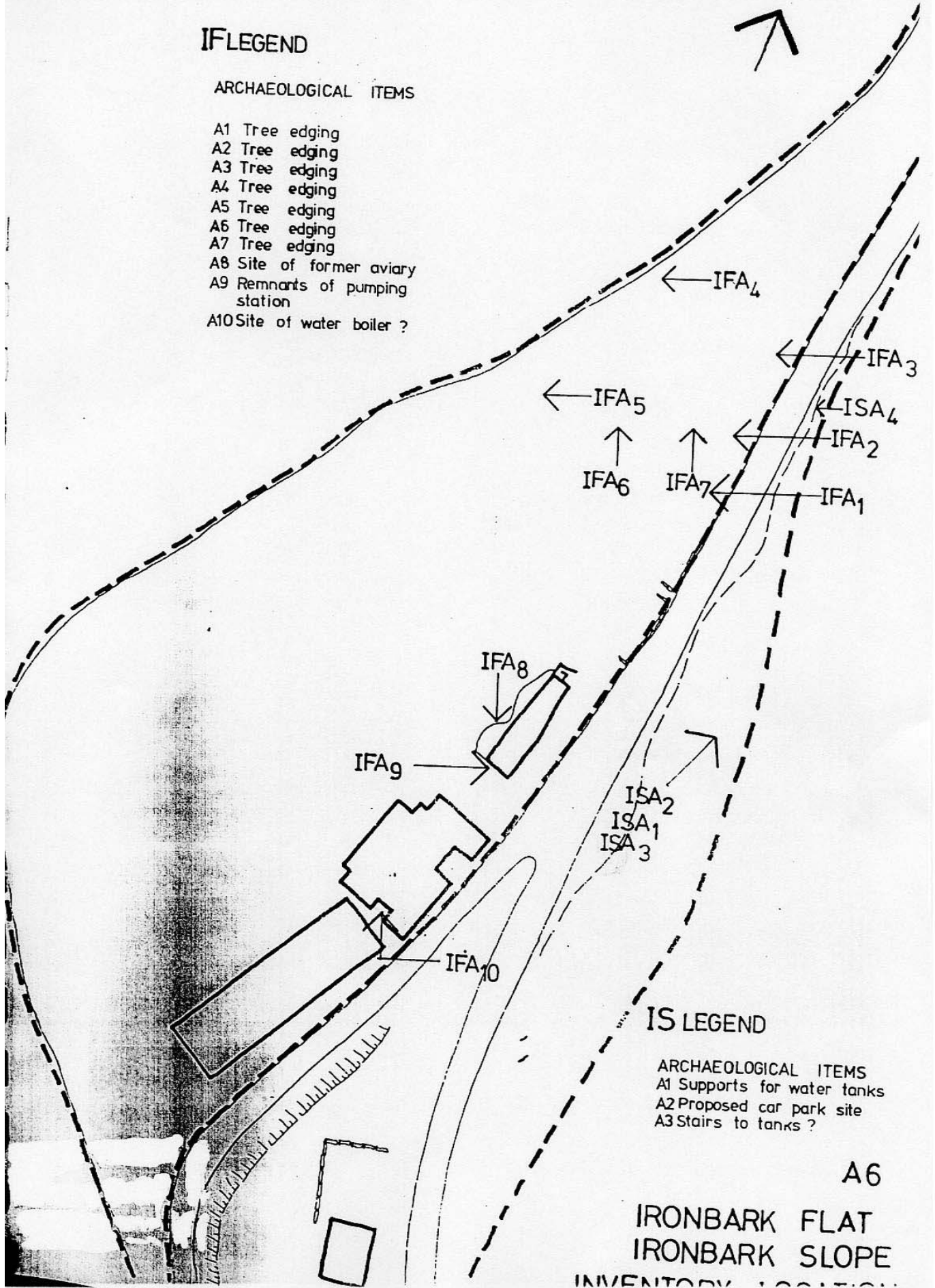


ALLAMBIE FLAT
INVENTORY LOCATION

IF LEGEND

ARCHAEOLOGICAL ITEMS

- A1 Tree edging
- A2 Tree edging
- A3 Tree edging
- A4 Tree edging
- A5 Tree edging
- A6 Tree edging
- A7 Tree edging
- A8 Site of former aviary
- A9 Remnants of pumping station
- A10 Site of water boiler ?



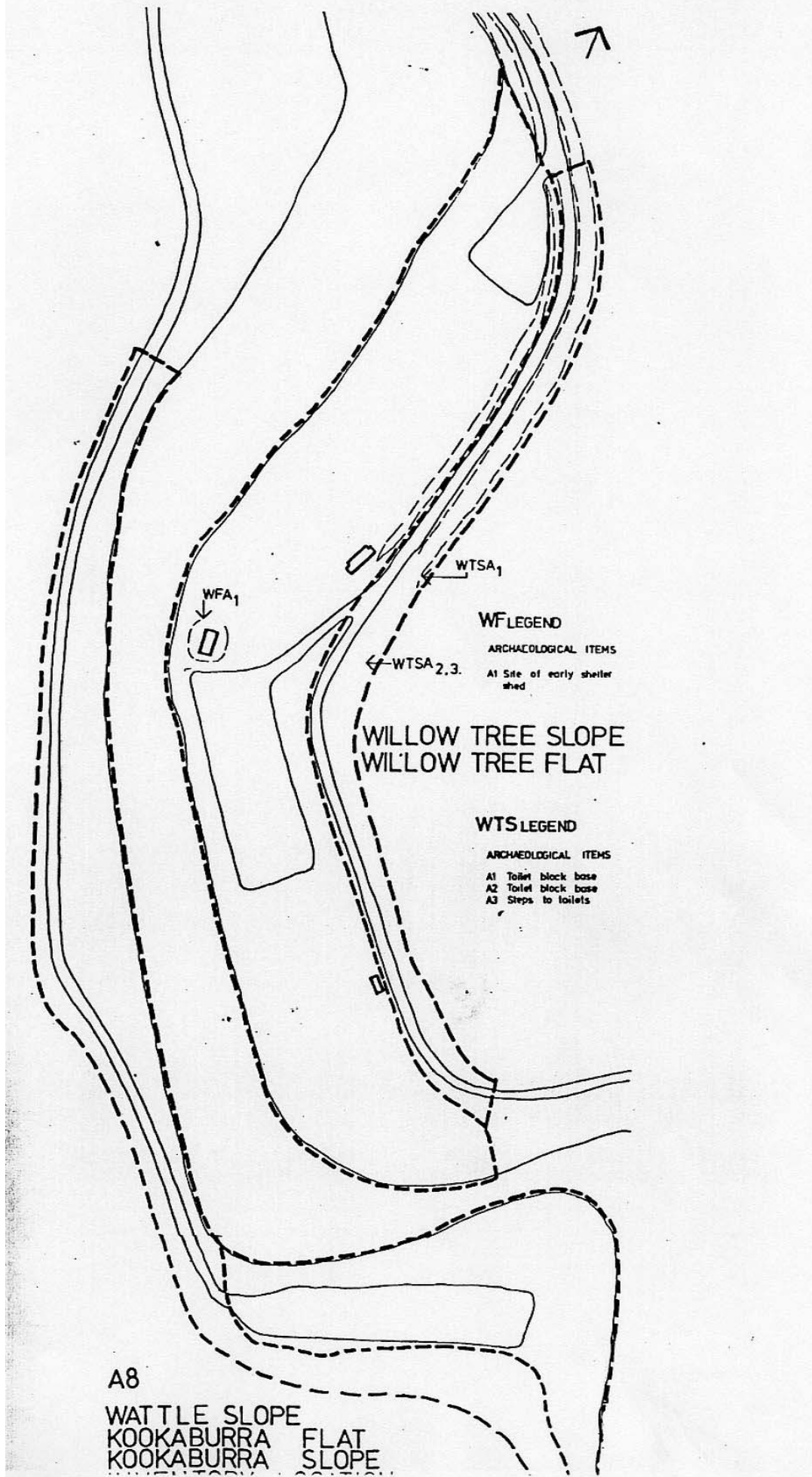
IS LEGEND

- ## ARCHAEOLOGICAL ITEMS
- A1 Supports for water tanks
 - A2 Proposed car park site
 - A3 Stairs to tanks ?

A6

IRONBARK FLAT
IRONBARK SLOPE

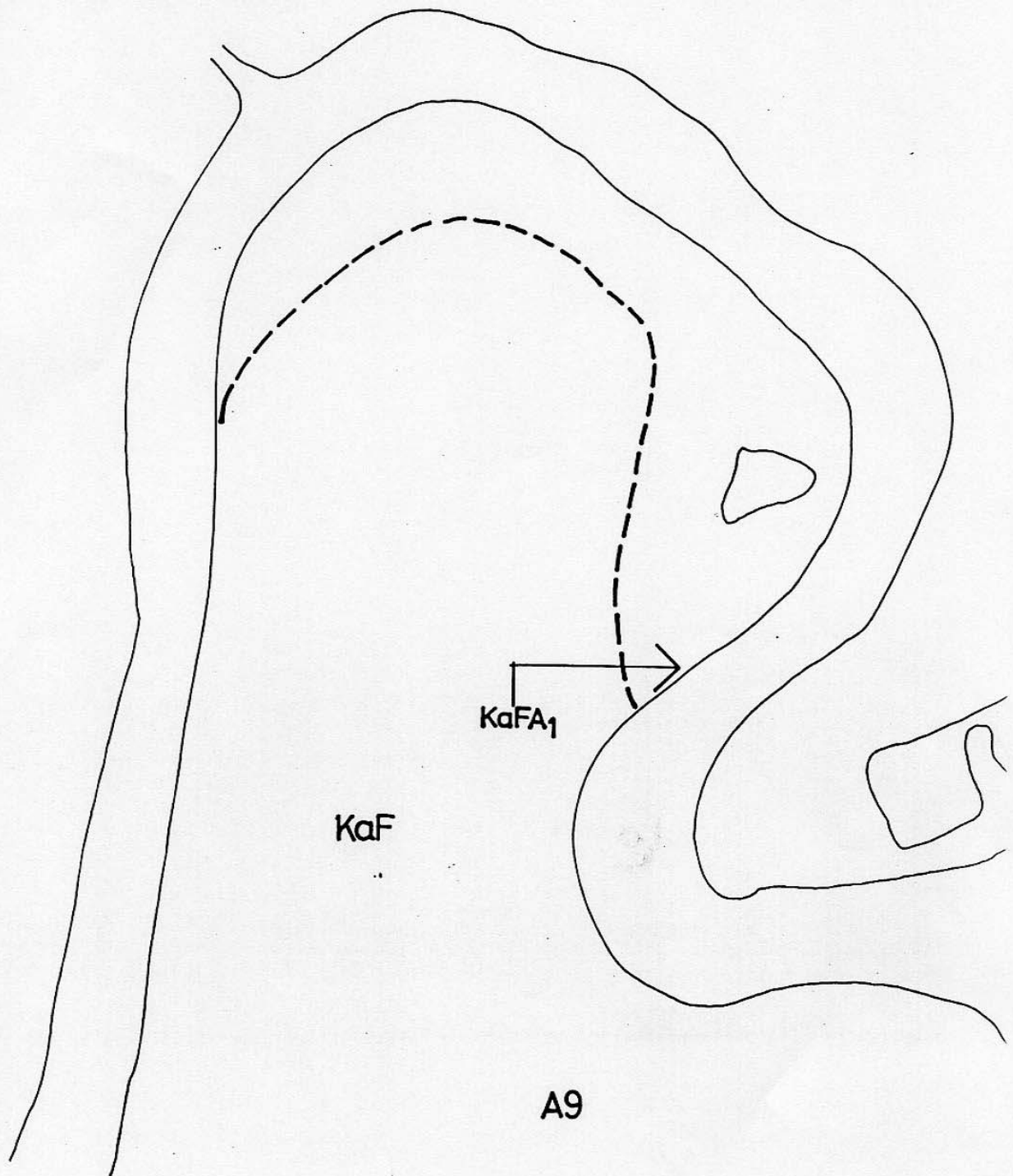
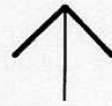
INVENTORY LOCATION



KaF LEGEND

ARCHAEOLOGICAL ITEMS

A1 Bridge abutment 1941-2.



**KANGAROO FLAT
INVENTORY LOCATION**
NOT TO SCALE

APPENDIX M

NPWS, April 2004, List of Submissions Received during Public Exhibition Period of Draft Audley Masterplan.
February 22 - April 18, 2004.

1. Maree Pateman – childhood memories
2. Caroline Staples – childhood memories
3. Lauraine and Ivan Martinus – interested visitors
4. R.Melor – Tramway enthusiast
5. Deryk Engel – Bundeena resident, traffic impacts
6. Jenni Gormley – Bicycle interests
7. Robin Aitken – NPWS Ref Gp member – Dharawal heritage
8. Neil de Nett – Bundeena resident, traffic impacts
9. John Gawthorne - Bundeena resident, traffic impacts
10. Marilyn Gawthorne - Bundeena resident, traffic impacts
11. Greg Gawthorne - Bundeena resident, traffic impacts
12. Robert Gawthorne - Bundeena resident, traffic impacts
13. J.A and A.J Leishmann - Bundeena resident, traffic impacts
14. Maurice Boyce – interested visitor
15. Keith Godfrey – Interpretive guiding
16. Dawn Emerson – President of the Sutherland Shire Historic Society
17. Pam Melrose – Environmental Education Centre (DET)
18. Jim Callaway – Ref Gp member and NPA concerns
19. Bill Dowling – NPA concerns
20. Andrew Cox & Gary Schoer – NPA concerns
21. Michael Griffiths – interested visitor from Caringbah
22. Michael Kiddle – environmental education of high school students
23. Jonathan Doig – bicycle issues
24. Miriam Verbeek – Ref Gp member, Regional Advisory Committee, Bundeena resident
25. Geoff Hughes – Boatshed Lessee, and long term Audley commentator on boating and waterway issues
26. Rod White – cycling issues
27. Howard Clark – tram issues and opportunities
28. Mike Fursland – Sutherland Shire Council heritage planner
29. Scott Renwick – DIPNR Fishway Project

Other inputs via:

Open Day (1 June 2003)

NPWS staff forum

Weekend surveys (Australia Day 28 Jan 2004)

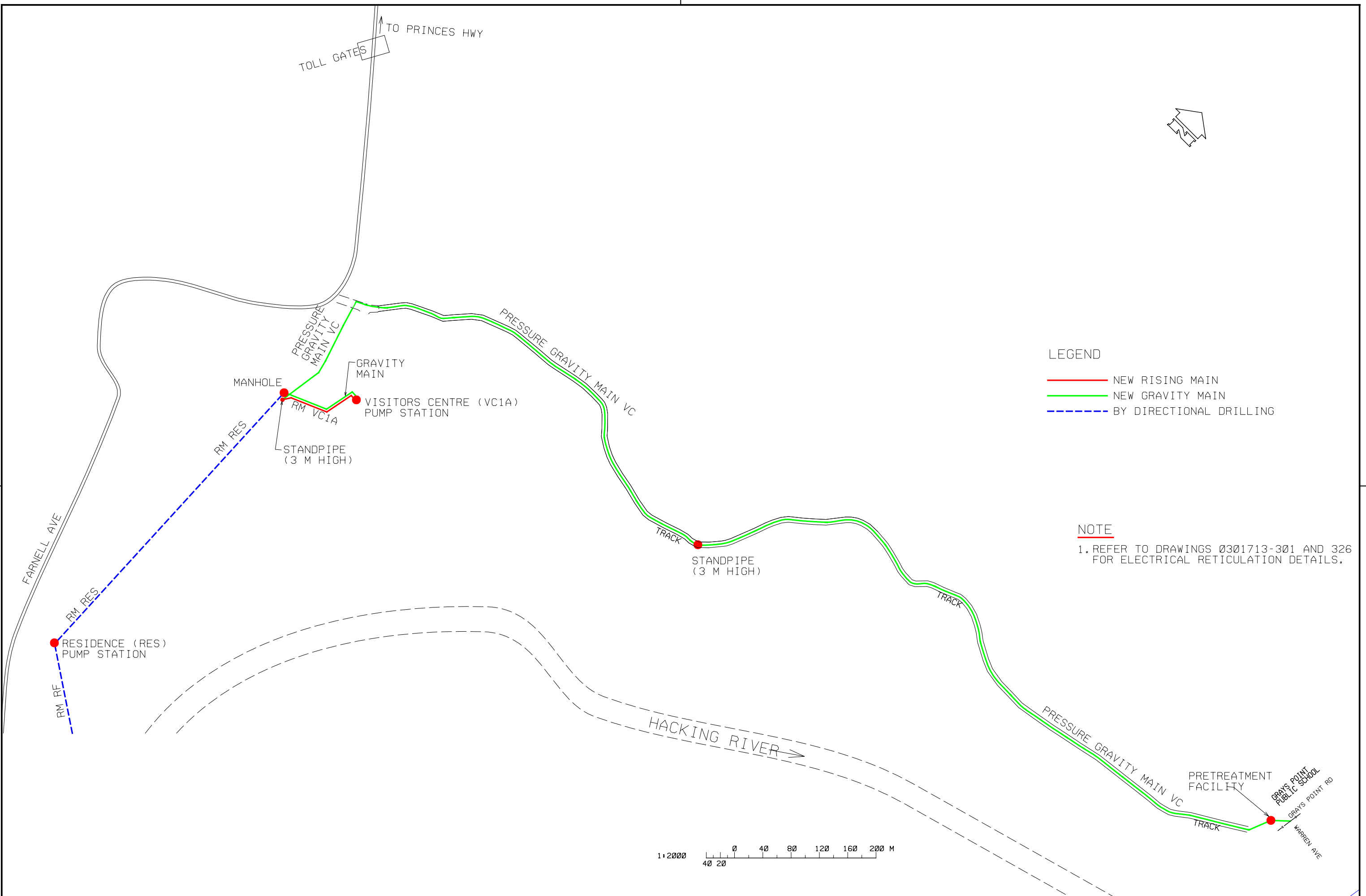
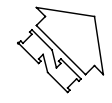
Royal National Park 125th birthday (26 April 2004)

Royal Visitor Centre surveys/comments

APPENDIX N

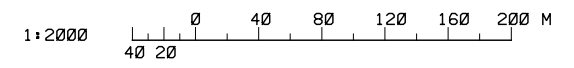
NSW Department of Commerce, 2004, Audley Sewerage Scheme - Audley Precinct Sewer Transfer, NSW National Parks & Wildlife Service (2 plans).

TOLL GATES
↑ TO PRINCES HWY



- LEGEND**
- NEW RISING MAIN
 - NEW GRAVITY MAIN
 - - - BY DIRECTIONAL DRILLING

NOTE
1. REFER TO DRAWINGS 0301713-301 AND 326 FOR ELECTRICAL RETICULATION DETAILS.



\$FILES
\$TIMES
\$DATES
B1

679	MK	DETAILS OF AMENDMENTS	APPROVED	DATE
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KATE MCKENZIE
DIRECTOR-GENERAL DEPARTMENT OF COMMERCE
SUSTAINABLE WATER SOLUTIONS - WASTEWATER SERVICES
LEVEL 14, MCKELL BUILDING
2-24 RAWSON PLACE
SYDNEY 2000
PHONE (02) 93727972 (02) 93727933

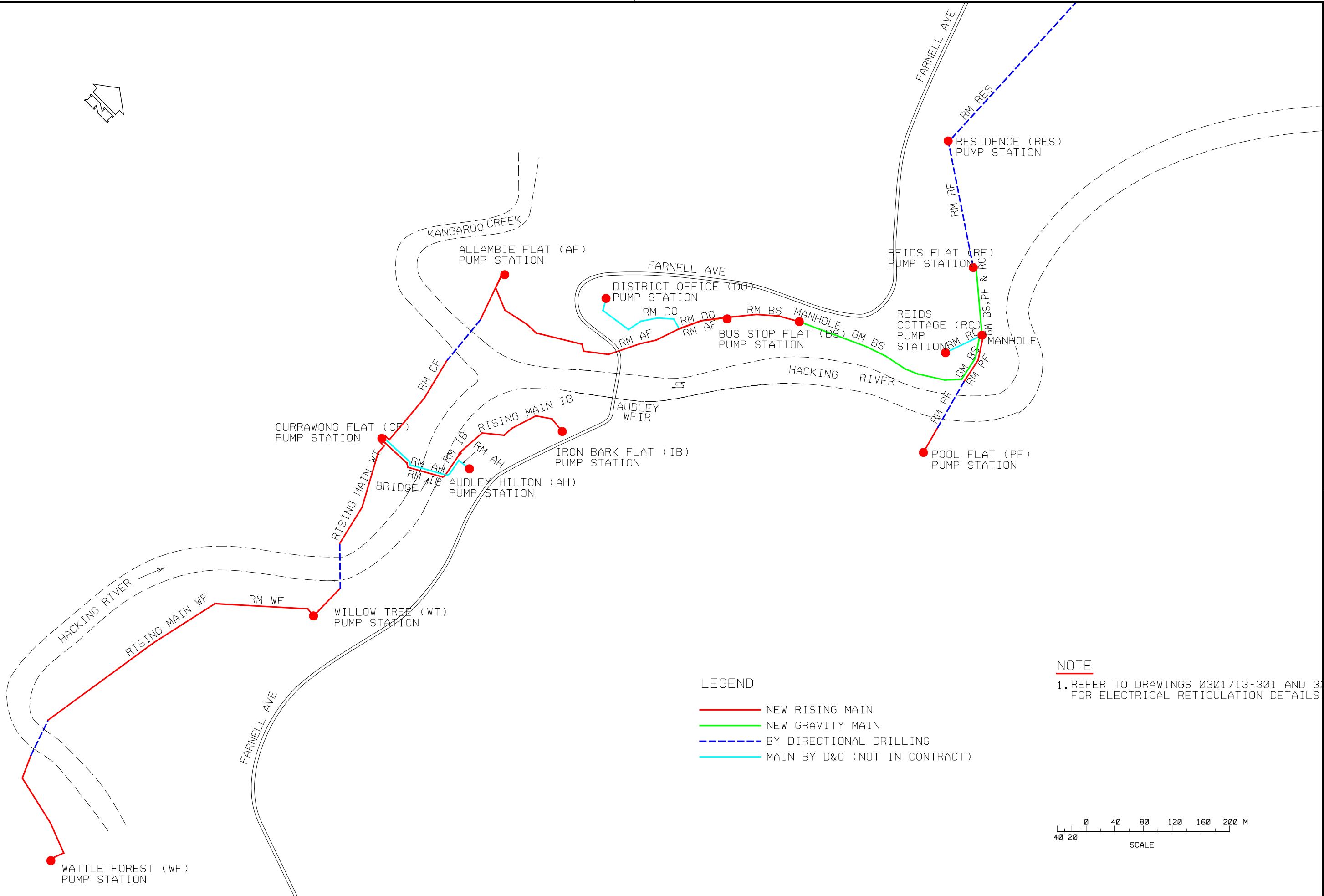
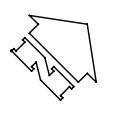
PLAN RM NO	
DESIGNED	M. SHIVACHANDRAN
CHECKED	M. DECHNIK
DRAFTED	P.E. WASTEWATER SERVICES
	M.K. DABROWSKI



AUDLEY SEWERAGE SCHEME
AUDLEY PRECINCT-SEWAGE TRANSFER

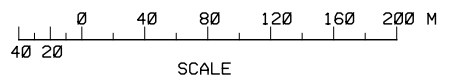
COMPILATION PLAN
SHEET 2 OF 2

DRAWING NO. **0301713-302**



- LEGEND**
- NEW RISING MAIN
 - NEW GRAVITY MAIN
 - - - BY DIRECTIONAL DRILLING
 - MAIN BY D&C (NOT IN CONTRACT)

NOTE
 1. REFER TO DRAWINGS 0301713-301 AND 326 FOR ELECTRICAL RETICULATION DETAILS



71301713-301

679	MK	DETAILS OF AMENDMENTS	APPROVED	DATE
B1	960	CROWN COPYRIGHT NSW MINISTER FOR NSW DEPARTMENT OF COMMERCE		



1200

KATE MCKENZIE
 DIRECTOR-GENERAL DEPARTMENT OF COMMERCE
 SUSTAINABLE WATER SOLUTIONS - WASTEWATER SERVICES
 LEVEL 14, MCKELL BUILDING
 2-24 RAWSON PLACE
 SYDNEY 2000
 PHONE (02) 93727932 (02) 93727933

PLAN RM NO	
DESIGNED	M. SHIVACHANDRAN
CHECKED	M. DECHNIK
DRAFTED	M.K. DABROWSKI
	P.E. WASTEWATER SERVICES



AUDLEY SEWERAGE SCHEME
 AUDLEY PRECINCT-SEWAGE TRANSFER SYSTEM
 COMPILATION PLAN
 SHEET 1 OF 2

NO. OF SET
 FILE NO. 0301713-301
 DRAWING NO.
0301713-301

APPENDIX O

Criteria for the Register of the National Estate.

CRITERION A:

ITS IMPORTANCE IN THE COURSE, OR PATTERN, OF AUSTRALIA'S NATURAL OR CULTURAL HISTORY

- A.1 Importance in the evolution of Australian flora, fauna, landscapes or climate.
- A.2 Importance in maintaining existing processes or natural systems at the regional or national scale.
- A.3 Importance in exhibiting unusual richness or diversity of flora, fauna, landscapes or cultural features.
- A.4 Importance for association with events, developments or cultural phases which have had a significant role in the human occupation and evolution of the nation, State, region or community.

CRITERION B:

ITS POSSESSION OF UNCOMMON, RARE OR ENDANGERED ASPECTS OF AUSTRALIA'S NATURAL OR CULTURAL HISTORY

- B.1 Importance for rare, endangered or uncommon flora, fauna, communities, ecosystems, natural landscapes or phenomena, or as a wilderness.
- B.2 Importance in demonstrating a distinctive way of life, custom, process, land-use, function or design no longer practised, in danger of being lost, or of exceptional interest

CRITERION C:

ITS POTENTIAL TO YIELD INFORMATION THAT WILL CONTRIBUTE TO AN UNDERSTANDING OF AUSTRALIA'S NATURAL OR CULTURAL HISTORY

- C.1 Importance for information contributing to a wider understanding of Australian natural history, by virtue of its use as a research site, teaching site, type locality, reference or benchmark site.
- C.2 Importance for information contributing to a wider understanding of the history of human occupation of Australia.

CRITERION D:

ITS IMPORTANCE IN DEMONSTRATING THE PRINCIPAL CHARACTERISTICS OF: (I) A CLASS OF AUSTRALIA'S NATURAL OR CULTURAL PLACES; OR (II) A CLASS OF AUSTRALIA'S NATURAL OR CULTURAL ENVIRONMENTS

- D.1 Importance in demonstrating the principal characteristics of the range of landscapes, environments or ecosystems, the attributes of which identify them as being characteristic of their class.
- D.2 Importance in demonstrating the principal characteristics of the range of human activities in the Australian environment (including way of life, philosophy, custom, process, land use, function, design or technique).

CRITERION E:

ITS IMPORTANCE IN EXHIBITING PARTICULAR AESTHETIC CHARACTERISTICS VALUED BY A COMMUNITY OR CULTURAL GROUP

- E.1 Importance for a community for aesthetic characteristics held in high esteem or otherwise valued by the community.

CRITERION F:

ITS IMPORTANCE IN DEMONSTRATING A HIGH DEGREE OF CREATIVE OR TECHNICAL ACHIEVEMENT AT A PARTICULAR PERIOD

- F.1 Importance for its technical, creative, design or artistic excellence, innovation or achievement.

CRITERION G:

ITS STRONG OR SPECIAL ASSOCIATIONS WITH A PARTICULAR COMMUNITY OR CULTURAL GROUP FOR SOCIAL, CULTURAL OR SPIRITUAL REASONS

- G.1 Importance as a place highly valued by a community for reasons of religious, spiritual, symbolic, cultural, educational, or social associations.

CRITERION H:

ITS SPECIAL ASSOCIATION WITH THE LIFE OR WORKS OF A PERSON, OR GROUP OF PERSONS, OF IMPORTANCE IN AUSTRALIA'S NATURAL OR CULTURAL HISTORY

- H.1 Importance for close associations with individuals whose activities have been significant within the history of the nation, State or region.

<http://www.ahc.gov.au/register/furtherinfo/criteria.html#topoff> 3/09/2004 2:21 PM

APPENDIX P

Action Plan - Costings

AUDLEY MASTERPLAN – Action Priorities Plan

Management Area	Item Action	Stages of Works	Anticipated Funding	Comments
Actions: Precinct by Precinct				
The Hacking Estuary				
Existing Facilities - Conservation, Interpretation and Adaption				
A1	Reconstruct wharf and pontoon Dock Flat (for small craft) and Pool Flat (for ferries)	C	\$200,000	
A2	Restore sea walls to stabilise bank erosion (including Pool and Reids Flat)	A	\$100,000 - 50 metres \$150,000	
A3	Interpret netted swimming enclosure. For example, by reinstating part of structure, or with interpretive clues	C	\$50,000	
A4	Conserve training walls and interpret.	C	\$150,000	
A5	Interpret remnant fish ladder	C	\$5,000	
A6	Interpret former weir (link with Dock Flat) with new decking structure and conserve remnants of former weir	B	\$80,000 - (12 x 3 m) \$100,000	
New Works	A7 New Fishway	B	?	Separate funding from DLWC and Fisheries budget
	A8 Interpretive and directional signage	A	\$35,000	
Audley Weir Pool				
Existing Facilities - Conservation, Interpretation and Adaption				
B1	Consolidate Boat landing points along river edge	B	\$15,000	Co-ordinate with Waterways. Study needed
Conservation	B2 Conserve soft edge condition	M	\$15,000	
Removal Works	B3 Dredging – to maintain adequate boating activity	C	\$500,000	

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Stage **A** = 1 - 2 years
 Stage **B** = 3 - 4 years
 Stage **C** = 5 - 6 years
M = Maintenance Works

Management Area	Item Action	Stages of Works	Anticipated Funding	Comments
	B4	M	\$750,000	4.5km long x 20m wide = 45,000sq x 0.5m deep x 50
New Works	B5	B		Co-ordinate with Fisheries
Allambie Ridge and Slopes				
Existing Facilities - Conservation, Interpretation and Adaption				
	C1	A	\$110,000	HAMP Funding. NPWS supplied figure
	C2	B	\$80,000	
	C3	B	\$30,000	Allowance for study
	C4	B	\$30,000	Figure supplied by client
	C5	C	\$10,000	
	C6	B	\$15,000	
	C7	B	\$10,000	
	C8	C	\$50,000	
	C9	C	\$20,000	
	C10	C	\$25,000	
	C11	M	\$20,000	Figure supplied by client
Conservation	C12	C	\$30,000	
	C13	M	\$10,000	NPWS staff. Figure provided by NPWS
	C14	C	\$50,000	

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Stage A = 1 - 2 years

Stage B = 3 - 4 years

Stage C = 5 - 6 years

M = Maintenance Works

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Management Area	Item	Action	Stages of Works	Anticipated Funding	Comments
New Works	C15	Short term parking areas and access to cottage and possible researcher's residence	C	\$30,000	Gravel car park and retaining wall structure
	C16	Reconstruct an interpretation of 'The Rest' Pavilion as open pavilion structure	B	\$150,000	Allow for pavilion size 12m x 40m
	C17	Interpret former uses and locations along new and old paths and provide new paths	C	\$30,000	
	C18	New longer term parking area and connecting track on disused workshop north of former stables site	C	\$60,000	
	C19	New entry marker/statement on Audley Road north of Post Office Cottage	A	\$25,000	
	C20	Upgrade furniture and signage facilities	A	\$50,000	
	C21	Install traffic calming and new surface treatment to Audley Road from Allambie Ridge entrance to Audley village to the southern extremity of Pavilion Slopes (Sir Bertram Stephens Drive). Introduce traffic calming treatments associated with entry statement.	A	\$500,000 50% NPWS	Check EQS, RTA. Allow 8km x 6m wide, based on \$100sqm
	C22	Relocate public telephone (relocation to Dance Hall or other location)	A		Telstra
	C23	Include new roundabout for traffic calming and improve safe vehicular access to Allambie Flat	A		RTA cost included in item C21
	C24	Install 40 km and 50 km speed signs in Audley Core areas	A		RTA
Allambie Flat					
Existing Facilities - Conservation, Interpretation and Adaption					
Conservation	D1	Adapt and conserve boathouse shed (1938), explore possible options for part of structure (such as restaurant, open pavilion, or boat building facility)	B	\$30,000	HAMP Potential Design Study Funding only
	D2	Interpret former bowling green/tennis court/orchard/vegetable garden such as new grid planting to carpark.	C	\$50,000	
	D3	Conserve and adapt walking tracks along waters edge.	M	\$15,000	
New Works	D4	Conserve and adapt stairway to boatshed from road.	B	\$30,000	
	D5	Conserve a balance of non invasive exotic and indigenous plantings. Provide pedestrian connections to Allambie Ridge	M	\$5000	
			B	\$100,000	Footpath improvements

Stage A = 1 - 2 years

Stage B = 3 - 4 years

Stage C = 5 - 6 years

M = Maintenance Works

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Management Area	Item Action	Stages of Works	Anticipated Funding	Comments
	E10	M	\$25,000	Remove senescing poplars and replace with appropriate deciduous species. If using arborist to cut and remove
	E11	C	\$120,000	Consider adaptive reuse and partial removal of existing toilet block to open up views to water from road
New Works	E12	B	\$200,000 - Design \$300,000 Development	Carpark reconfigured to include bus and disabled access. Design Development required
	E13	A	\$95,000	New paving treatments for pedestrian and vehicle safety as part of Sir Bertram Stevens Drive improvements. Paved thresholds 750 sqm @ 130/m ²
	E14	B	\$200,000	Provide new and accessible toilets in new structure on site of temporary kiosk. Allow approx 600sqm of building
	E15	C	\$40,000	Demolish existing toilet block and provide deck and viewing areas
	E16	A	\$10,000	Upgrade signage/entry markers.
	E17	A	\$25,000	Upgrade furniture and facilities.
	E18	A		Promote program of uses for Dance Hall. Sutherland Shire Tourism
Rangers Slope				
Existing Facilities - Conservation, Interpretation and Adaption				
	F1	C	\$40,000	Conserve and interpret cottage and garden setting - re-adapted for use such as ranger's residence, education/exhibition/club facilities. Client provided figure
Conservation	F2	C	\$70,000	Conserve and reconstruct fencing, retaining walls and plantings
	F3	M	\$5,000	Conserve remnant cultural plantings
	F4	M	\$5,000	Conserve bushland character beyond cottage curtilage.
Removal Works	F5	M	\$20,000 - \$30,000	Remove shed and replace with sympathetic structure and setting
New Works	F6	M	\$5,000	Reduce visual impact of shed with screen planting

Stage **A** = 1 - 2 years

Stage **B** = 3 - 4 years

Stage **C** = 5 - 6 years

M = Maintenance Works

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Management Area	Item Action	Stages of Works	Anticipated Funding	Comments
Currawong Flat				
Existing Facilities - Conservation, Interpretation and Adaption				
	G1	B	\$40,000	Subject to interpretation. Allowance for steel frame structure 5m2
	G2	M	\$15,000	
	G3		\$10,000	
Removal Works	G4	M	\$5,000	
Conservation	G5	M	\$10,000	
	G6	B	\$25,000	
	G7	M	\$60,000	Signage/steps and constructions of loops
	G8	M	\$15,000	
New Works	G9	C	\$30,000	
	G10	C	\$25,000	
	G11	A	\$15,000	
	G12	A	\$15,000	
	G13	A	\$60,000	To be sited
Willow Tree Flat and Fig Tree Flat				
Existing Facilities - Conservation, Interpretation and Adaption				
	H1	M	\$15,000	
Conservation	H2	M	\$35,000 - \$40,000	

Stage A = 1 - 2 years

Stage B = 3 - 4 years

Stage C = 5 - 6 years

M = Maintenance Works

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Management Area	Item	Action	Stages of Works	Anticipated Funding	Comments	
Removal Works New Works	H3	Remove selected invasive and senescent foreshore trees and shrubs	M	\$15,000		
	H4	Reconfigure carparking to maximize open space and screen car parking areas as seen from Allambie Flat and Slopes.	B	\$30,000	Client provided figure	
	H5	Upgrade entrance, signage, bicycle, and pedestrian access to Lady Carrington Drive.	B	\$15,000		
	H6	Upgrade furniture, facilities and signage	A	\$25,000		
	H7	Consider new gas barbeques	A	\$10,000		
	H8	New footbridge to Kookaburra Flat				
	Kangaroo Flat					
	Existing Facilities - Conservation, Interpretation and Adaption					
	I1	Maintain/restore soft edges to waters edge and encourage regeneration of waterbird habitat				
Dock Flat (formerly Bus Stop Flat)						
Existing Facilities - Conservation, Interpretation and Adaption						
New Works	J1	Interpret former Dock and Bus Stop waiting shed/pavilion. For example, paving, clues to former use, or seating	B	\$15,000		
	J2	Conserve sandstone seawall and stairs	A	\$50,000		
	J3	Construct ferry wharf associated with former Dock as previously identified item number A1	B			
	J4	Redefine connection to Honeymoon Track	M	\$5,000		
	J5	Construct platform near former bus stop, designed to withstand flooding as per item A6 (Hacking Estuary)	B	\$200,000	Engineer's Study required	
	J6	Introduce paving treatment for pedestrian crossing points for road traffic calming	A		Co-ordinate with RTA. Figure part of item C23 re: traffic calming	
	J7	Upgrade toilet block facilities including pathway connections	A	\$30,000		
	J8	Upgrade furniture, signage and facilities	A	\$25,000		
	J9	Improve carpark area and introduce screen / shade planting	A	\$10,000		

Stage A = 1 - 2 years

Stage B = 3 - 4 years

Stage C = 5 - 6 years

M = Maintenance Works

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Management Area	Item Action	Stages of Works	Anticipated Funding	Comments
Pool Flat and Slopes				
Existing Facilities - Conservation, Interpretation and Adaption				
	K1 Interpret archaeological sites including former dressing sheds, cottage sites and existing dam	C	\$10,000	
	K2 Partial reconstruction of swimming enclosure and associated beach area, including shark net	C	\$100,000	Co-ordinate with Waterways
Restoration	K3 Reconstruct pontoon for ferry access as per item number A1 (Hacking Estuary)	B	\$80,000	Co-ordinate with Waterways
	K4 Reconstruct stone seawall	A	\$50,000	
Removal Works	K5 Remove and replace senescent trees	M	\$15,000	
New Works	K6 Improve pedestrian access from weir	M	\$10,000	NPWS staff. Client provided figure
	K7 Upgrade signage, furniture and picnic facilities	A	\$25,000	
Reid's Flat and Slopes				
Existing Facilities - Conservation, Interpretation and Adaption				
	L1 Adapt existing cottage for short stay accommodation and interpret other former cottage sites	B	\$10,000	Study required
	L2 Interpret former jetty	C	\$10,000	
Conservation	L3 Conserve natural parkland landscape character	M	\$10,000	
	L4 Consider reconstruction of jetty to enhance recreation access to left bank	C	\$100,000 - \$150,000	
New Works	L5 Stabilise beach and sea walls	A	\$15,000	Additional Study Required
	L6 Upgrade of signage, furniture and picnic facilities	A	\$25,000	
	L7 Improve carpark area and introduce screen / shade planting	B	\$10,000	
Kookaburra Flat and Wattle Forest				
Existing Facilities - Conservation, Interpretation and Adaption				
	M1 Reduce car parking adjacent to pavilion to increase recreational space and scenic amenity	B	\$10,000	

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Stage A = 1 - 2 years
Stage B = 3 - 4 years
Stage C = 5 - 6 years
M = Maintenance Works

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Management Area	Item Action	Stages of Works	Anticipated Funding	Comments
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Conservation	M2	Conserve woodland character adjacent to Flats	M	\$15,000	
New Works	M3	Upgrade furniture, facilities, signage, and pavilion	A	\$30,000	Client identified budget
	M4	Consider new pavilion/toilet facilities	B	\$120,000	
	M5	Footbridge to Fig Tree Flat	C	\$180,000	Engineer's Study required
	M6	Encourage bird watching activities through improved signage and interpretation - promote with local birdwatching club	B	\$10,000	
	M7	New gas barbecues			

AUDLEY APPROACHES

Rail link between Sutherland and National Park Station					
	N1	Interpret rail link	C	\$25,000	
	N2	Consider eventual replacement avenues using indigenous trees.	B		NPWS staff
Loftus Junction					
	N3	Conserve significant vegetation.	M	\$30,000	Study
Railway line from Loftus Junction to National Park Station					
	N4	Construct traffic improvements to Farnell Avenue			
	N5	Interpret branch railway line off the main Illawarra line to service the Military Grounds	B	\$5,000	Sydney Tramway Museum
	N6	Upgrade features (e.g. signal boxes, culverts)	B	\$10,000	Sydney Tramway Museum
	N7	Conserve railway line and avenue plantations.	B	\$20,000	Study
	N8	Consider extending rail line to original terminus, closer to Visitor Centre			
Gardeners' Cottage and Garage					
	N9	Review buildings and condition.	A	\$20,000	Refer heritage study. Consultant Fees for Feasibility Study

Stage **A** = 1 - 2 years

Stage **B** = 3 - 4 years

Stage **C** = 5 - 6 years

M = Maintenance Works

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Management Area	Item	Action	Stages of Works	Anticipated Funding	Comments
	N10	Conserve identified landscape features	A	\$100,000	Refer heritage study on Gardeners Cottage area for recommendation
	N11	Consider construction of carpark facility to link tram, car, shuttle bus and pedestrian opportunities			
Rawson Avenue	N12	Interpret as early access road to Audley	C	\$20,000	Refer items N9 – N11 NPWS staff inhouse work
	N13	Conserve alignment and adapt as walking track			
	N14	Conserve and interpret non-invasive ornamental plantings	M	\$10,000	
National Park Station					
	N15	Upgrade signage and facilities	A	\$15,000	Consultant study required. Fees allocated
	N16	Restore fabric of terminus to original configuration consistent with entrance experience by car; interpret including signage, arrival message, directional markers to visitor centre, furniture design, vegetation management, pathway to visitor centre.	B	\$25,000	Sydney Tramway Museum. Consultation study required. Fees allowed
	N17	Improve links to existing walking tracks and restored Zig Zag Track.	C		NPWS staff
NPWS Headquarters/Visitor Centre and Environmental Education Centre					
	N18	Integrate Environmental Education Centre with the NPWS Visitors Centre and National Park Station	B	\$25,000	Feasibility Study Linked with National Park Station. Consultant Fees
Military Grounds					
	N19	Interpret former use such as by uncovering former track and providing clues to former use.	C	\$30,000	
	N20	Adapt entry, incorporate relocated floodgate signage and interpret former entry to Military encampment.	C	\$25,000	NPWS staff
Hacking Estuary Approach					
	N21	Conserve natural landscape setting of Port Hacking valley.	M	\$50,000	
	N22	Improve signage and entry approaches	A	\$15,000	NPWS staff

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Stage A = 1 - 2 years

Stage B = 3 - 4 years

Stage C = 5 - 6 years

M = Maintenance Works

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Management Area	Item Action	Stages of Works	Anticipated Funding	Comments
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	N23	Conserve tracks and flats	M	\$100,000	NPWS staff
	N24	Recover former tracks	M	\$100,000	NPWS staff
	N25	Conserve training walls	C		NPWS staff
Lady Carrington Drive					
	N26	Conserve and interpret features of Drive including Jersey Springs, boxed culverts, sandstone retaining walls, Palona Cave track marker, Walumarra track marker, gravel borrow pit.	B	\$30,000	Internal NPWS. NPWS supplied figure
	N27	Conserve southern entry and gateway and upgrade signage and fixtures	B	\$15,000	
	N28	Reconfigure and define carparking arrangements at Southern end	B	\$10,000	Regrade and stabilise
	N29	Integrate with other tracks and features including Palona Cave, Walumarra Track, Forest Path, Couranga, and Uloola Track.	M	\$50,000	NPWS staff
	N30	Clearly define northern entrance (refer action H5)	B	\$15,000	
Winifred Falls Track					
	N31	Conserve and reconstruct track entry at Audley as for Pavilion Flat (refer action E4)	C		Items N28-N30 NPWS staff
	N32	Integrate with other tracks	C		
	N33	Integrate walk with probable destinations including Winifred Falls, Anise Falls, Maianbar, Bonnie Vale, Bundeena, Marley, Wattamolla.	C		
Zig Zag Track					
	N34	Reconstruct Zig Zag track and interpret	C		NPWS staff

Stage A = 1 - 2 years
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