

APPENDIX 1

T H E Z O O L O G I C A L P A R K S B O A R D O F N S W

TARONGA ZOO

BULL ELEPHANT FACILITY PADDOCK & BARN

HERITAGE IMPACT STATEMENT P L A N N I N G N S W (A P R I L 2 0 0 7)

MAJOR PROJECT APPLICATION

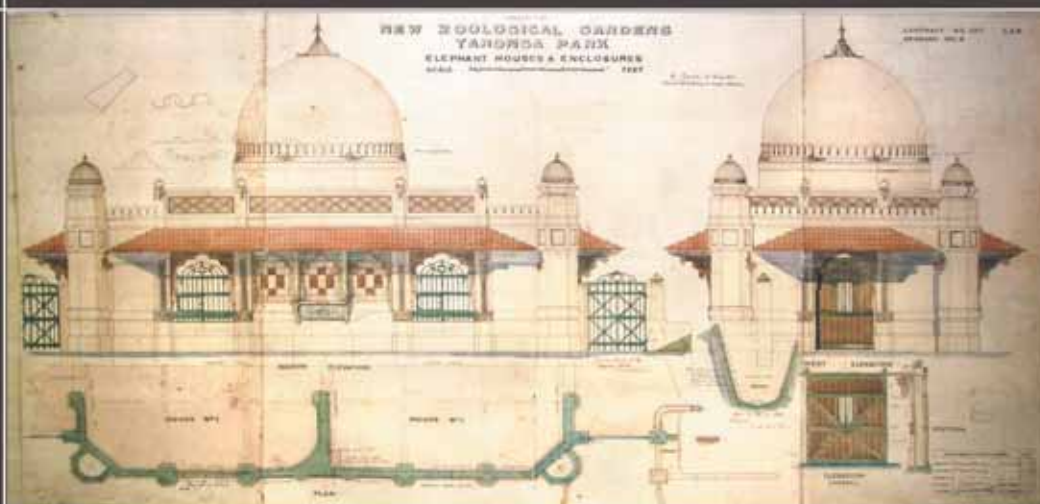
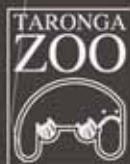


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1. Introduction

1.1 Preamble

This Heritage Impact Statement has been prepared by the CWI Division for the Zoological Parks Board of New South Wales (ZPB), to accompany a Statement of Environmental Effects for the Major Project's Application for the Bull Elephant Facility at Taronga Zoo, Mosman.

The Taronga Zoo site as a whole has been identified as an item of State heritage significance and a number of items within the zoo have been identified as individual heritage items.

This document provides an evaluation of the potential impacts arising from the subject proposal on the heritage values of the individual items in the vicinity of the proposed Bull facility as well as the significance of Taronga Zoo as a whole in accordance with the conservation policies of the Conservation Strategy, July 2002, and the Heart of the Zoo Strategic Heritage Advice, October 2003.

1.2 Background

Master planning

Since the Zoo opened in 1916, the planning of the site has continued to evolve in response to changing zoological philosophies and practices.

Taronga Zoo is currently implementing a redevelopment program for the Zoo based on the Master plan 2000, which provided guidance on the planning, management and design issues for the upgrading of the site as a whole.

Heritage and Conservation Planning

The Taronga Zoo Conservation Strategy, endorsed by the NSW Heritage Office was prepared to provide a policy framework for conservation, interpretation, management and use of the site as part of the implementation of the endorsed Master plan.

The ZPB Section 170 Heritage and Conservation Register identifies over one hundred individual heritage items within Taronga Zoo, including items in the vicinity of the proposed development.

The Zoo is identified in the Mosman Heritage Study as a place of State Significance. The only individual heritage item listed on Schedule 2 (Heritage Items) of the Mosman Local Environmental Plan (LEP) 1998, which is in the vicinity of the proposed development, is the Elephant Temple.

The Elephant Temple is also classified by the National Trust of Australia (NSW) and is identified on the Register of Twentieth Century Items of Significance, which is maintained by the Royal Australian Institute of Architects (RAIA).



Figure 1.1 View of Temple from the New Guinea Bird Aviaries, to the north of the subject site.



Figure 1.2 View across Elephant Yard towards Hallstrom Square.

Elephant Exhibits at Taronga Zoo

The Indian Elephant Temple and Yard were built in 1915, as part of the original infrastructure at the zoo designed by the NSW Government Architect to house Jessie, the female Indian elephant and Moore Park Zoo's most famous exhibit at that time.

At that time, the Zoo's emphasis on the keeping of elephants was for entertainment purposes, with elephant rides a popular highlight of a visit to Taronga (a feature which continued until 1978).

The Elephant Temple and Yard remained largely as built until 1986, when the zoo's emphasis shifted towards the breeding and conservation of elephants. At this time modifications were made to the Temple and Yard, with a substantial tripling of the paddock area, requiring the remodelling of the original Yard and incorporation of adjoining open space to the west of the exhibit.

As part of the implementation of the Master plan 2000 a new Wild Asia exhibit was opened in late 2005, to the west of the original Indian Temple and Yard, and within the area of the original elephant walk. Wild Asia features state-of-the-art facilities for housing four female and one juvenile male Asian elephants, forming part of an Australasian breeding herd.

The proposed new bull holding facility is to be constructed within the confines of the old Elephant enclosure, as an integral part of the breeding program for Asian Elephants.

The facility is required to manage the new bull elephant "Gung" when he reaches maturity and will need to be separated from the four female elephants. The new facility will be designed as a non-contact facility that can hold 1 x adult male, 1 x juvenile male and 1 x visiting female elephant.

The requirement for a separate facility for the male elephants has been identified in the import application to the Department of Environment and Heritage (DEH) and is a condition of approval from the Administrative Appeals Tribunal (AAT) hearing. The new bull facility also complies with all current ARAZPA (Australasian Regional Association of Zoological Parks and Aquaria) guidelines for elephant management in Australasian Zoos.

1.3 Study Area

Taronga Zoo is located on Sydney Harbour's northern foreshore at the head of Athol Bay. The land is under the ownership of the Zoological Parks Board of New South Wales and is within the municipality of Mosman.

The Elephant Temple is located within the central gully of the site, just to the east of the Zoo's centre.

The study area for this report includes the existing Elephant Temple and Yard, incorporating the original, smaller Yard and is bounded by Taronga Boulevard to the north, the concert lawns to the south, the Tree Tops Café to the east and the Crocodile and Gibbon exhibits to the west.

1.4 Methodology

This HIS has been prepared consistent with the Conservation Strategy recommendation:

A Heritage Impact Statement (HIS) should be prepared for all new developments at Taronga Zoo to identify potential impacts on items in the vicinity, views, setting, original pathway layout,



Figure 1.3 View from Taronga Boulevard towards proposed site for the Holding Facility.

landscape and built elements, archaeology and the site as a whole.

Previous Reports

A number of previous reports for the Zoo have been used as the basis for the assessment of the proposed impacts on the heritage values of the place, including:

- Section 170 Heritage and Conservation Register, April 1998, prepared by the Heritage Group of the New South Wales Department of Public Works and Services;
- Taronga Zoo Conservation Strategy, July 2002, prepared by Godden Mackay Logan, endorsed by the NSW Heritage Office;
- Taronga Zoo Archaeological Management Plan, November 2002, prepared by Godden Mackay Logan, endorsed by the NSW Heritage Office; and
- Taronga Zoo Heart of the Zoo Precinct, Strategic Heritage Advice, October 2003, prepared by Godden Mackay Logan.

Section 2.0 of this report provides a background to the cultural landscape, significance and conservation policies relating to the subject development area.

The proposed development of the Gung Facility is described in Section 3.0.

Section 4.0 assesses the heritage impacts on the items in the vicinity and on the Zoo as a whole.

The Mitigative Measures and Conclusion are in Sections 5.0 and 6.0.

The methodology is based on the guidelines contained in the *NSW Heritage Manual* (DUAP and the Heritage Council of NSW, 1996) and the principles contained in the *Burra Charter* of Australia ICOMOS. .

1.5 Author Identification and Acknowledgements

This report has been prepared by the Capital Works and Infrastructure (CWI) Division of Taronga Zoo.

The personnel involved in the project and their major roles were:

Lance Hogarth, Senior Project Manager reviewed the report; and Jannene Smith, Senior Project Manager, Heritage Specialist, prepared the report.

1.6 Terminology

The terminology used within this report is consistent with the NSW Heritage Manual and the definitions contained in the Burra Charter of Australia ICOMOS. Throughout this report, the terms *place*, *cultural significance*, *fabric*, *conservation*, *maintenance*, *preservation*, *restoration*, *reconstruction*, *adaptation* and *compatible use* are used in accordance with the definitions of the Burra Charter.

The reference number identification for heritage items within the Zoo follows the existing terminology established in the Section 170 Register, Conservation Strategy and AMP.



Figure 1.4 Elephant Temple and Yard.



Figure 1.5 The front facade of the Elephant Temple, from Taronga Boulevard.

2. Background to the Subject Development Precinct

2.1 Preamble

The Conservation Strategy identified five key phases of historical development at Taronga Zoo since its initial construction began in 1913.

The key periods and a brief discussion of the work undertaken within the subject development precinct during those periods are described below.

Phase One: Initial Construction 1913-1916 (Designer Albert le Souef)

During this period the basic infrastructure of the Zoo was constructed, including the pathways, New Guinea Bird Aviaries and the Indian Elephant Temple and Yard.

In planning the Zoo, the designer, Albert Le Souef was inspired by the Hagenbeck Zoo in Germany, the most modern zoo at that time. Taronga was designed around the concept of a bar-less zoo, with enclosures for the animals constructed in the most open plan possible, generally with a surrounding concrete wall and moat.

Designed and built by the Public Works Department the Indian Elephant Temple and original Yard remain as one of the earliest animal enclosures at Taronga Zoo.

A Ladies Retiring Room was also constructed in 1916 to the west of the original Elephant Yard area. This building was a timber-framed and weatherboard lined structure.

Phase Two: Consolidation 1916-1940 (Superintendent Albert le Souef)

No substantial works were undertaken within the subject area during this time.

Phase Three: The Hallstrom Era 1941-1967

The Temple underwent some changes including the replacement of the original parapet wall with the current decorative tiling and the construction of concrete bollards to ensure the elephants could not enter the perimeter moat.

A concrete wall was also added to the south side of the original aviaries as a protective measure for the birds.

Phase Four: Restructure 1968-1986

No further works within the subject development area were undertaken during this period.

Phase Five: Planning for the New Millennium 1987-Present

As part of the evolution in the way elephants were exhibited at Taronga, the original Yard was modified, by almost trebling its size.

Additional keeper and public safety measures, such as hydraulic doors and additional bollards and an extension to the exterior perimeter wall, were also added to the Temple.

The Ladies Retiring Room was demolished as part of the extension of the yard.

Original pathway around the moat was either removed or buried also as part of the Yard extension.



Figure 2.1 1916 view of Temple and original Yard configuration.



Figure 2.2 1916 view of Temple and original Yard featuring the round elephant bath.



Figure 2.3 Early view of the New Guinea Bird Aviary prior to the construction of the southern concrete wall.

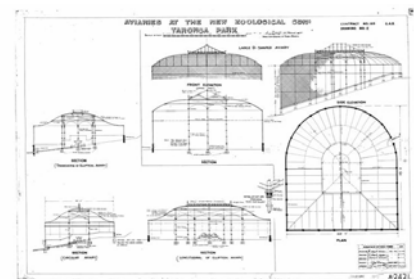


Figure 2.4 Original architectural documentation of the New Guinea Bird Aviaries.

Existing Cultural Landscape Values

As stated in the Conservation Strategy *The cultural landscape of Taronga Zoo reflects the evolution of particular cultural values, norms and attitudes towards both landscape design and the display of animals.*

A discussion of the cultural landscape components within the subject development site are outlined below.

The Natural Landforms

The narrow, linear sandstone terraces of the site determined much of the Zoo's layout and the evolution of 'movement pathways' across it.

Taronga Boulevard was designed as a major east-west pedestrian circulation pathway across the site.

The natural ground levels of the Yard and the area immediately to its west were significantly built up to increase the yard's size in 1987, providing a significant increase in the flat paddock area for the elephants. This work resulted in a five metre high retaining wall along southern boundary of yard.

The Gibbon enclosure, that has been in continuous use as a water feature since the establishment of the Zoo, remains as one of a number of existing water features within the Zoo located in line with the site's natural watercourse and evidencing the former creek line.

Views

Views within the site constitute an important part of the visitors' perceptual experience and create vistas across the site providing orientation for visitors.

One such view, in the vicinity of the subject development site, includes the view from the east of the Elephant Yard looking west towards the mature hoop pines at Hallstrom Square.

Buildings

The Indian Elephant Temple is the only major building in the vicinity of the subject development area. The Temple and Yard functioned continuously from the establishment of the Zoo until 2005 as the area for exhibiting elephants.

The Edwardian Baroque design of the Temple building is typical of the original architectural style of the place and is a significant component of the overall built environment of the place.

The dome of the Temple also acts as a landmark physically locating the Zoo site from across the Harbour.

Animal Enclosures and Aviaries

Since the opening of Taronga the focus of animal collections has gone from a menagerie, where the animals were displayed primarily for the amusement of visitors, to a focus on the animals' well being, to the more recent educational approach.

The New Guinea Bird Aviaries are surviving examples that demonstrate the attempt to present birds and their cages as an aesthetic whole.

Botanic Estate

Of particular importance to the cultural landscape of the Zoo is the botanic estate of ornamental, native and functional vegetation, which establishes the 'natural' visual appearance of the place, particularly when viewed from the harbour.

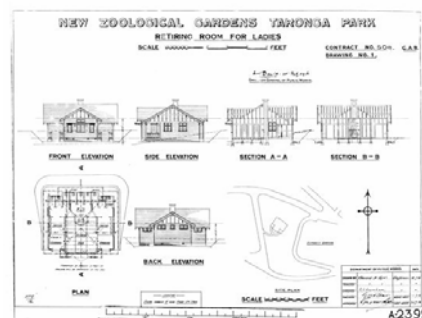


Figure 2.5 Original architectural documentation of the Ladies retiring Room.

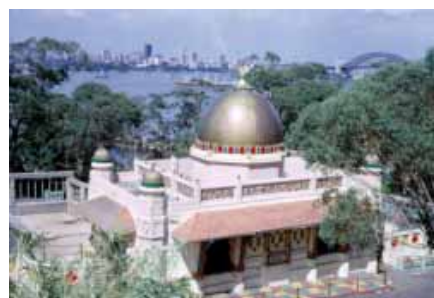


Figure 2.6 1967 view of the Temple and Yard.

Significance of Taronga Zoo

Taronga Zoo is a significant place for the state of New South Wales. The primary significance of Taronga Zoo lies in its unique and powerful cultural landscape; the place's ability to evidence the evolution of zoological approaches throughout the twentieth century at Taronga zoo and in an international context; its continuity of use as a zoo of world-standing; its historic associations with earlier zoos in Australia and Carl Hagenbeck's zoo in Germany; and the iconic sense of place it has for the people of NSW and Sydney in particular.

The significance of Taronga Zoo as a whole is articulated in the Conservation Strategy as follows:

Taronga Zoo is a place of national significance as an urban zoo with unique physical and associative attributes, including links with early modern zoo philosophy, a unique and powerful cultural landscape and a wide range of landscape elements, architectural styles and enclosure designs evidencing the development of zoos in Australia.

Features that contribute to Taronga's cultural landscape include the steeply sloping topography of the site; its location on the northern foreshore of Sydney harbour; the exploitation of the natural stone landforms and complimentary faux rock formations; the circulation layout and associated staircase and seating; the exotic and grand built elements used for public buildings and animal enclosures; the native and introduced vegetation on the site, the internal visual corridors within the site and expansive views from the site across Sydney Harbour to the city skyline.

The original fabric at Taronga demonstrates the earliest example in Australia of Carl Hagenbeck's and early twentieth-century European zoological philosophies. In the differing design and approaches to the animal enclosures and aviaries, Taronga also evidences key aspects of international zoological philosophy that have influenced the Zoo's development throughout the twentieth century.

As an educational, entertainment and recreational facility, Taronga is a highly revered institution within Sydney's social fabric, evoking memories across generations of visitors. The Zoo is also an important keystone in distinguishing Sydney's sense of place. For the zoological community, Taronga is internationally recognised as a leading centre of biodiversity conservation and for the Zoo's educational focus.

Taronga's archaeological resource has some potential to provide information about the Aboriginal community, the early use of the site as a quarantine station and the development of the zoo. In combination, the extensive archive collection, built structures, landscape features and archaeological features at Taronga have great potential for research and community education.



Figure 2.7 Hallstrom period alterations to the original moat included the addition of concrete bollards.



Figure 2.8 1989 view of the modified Yard and newly refurbished Elephant precinct.

Elements of Significance in the Vicinity of the Male Elephant Facility

In addition to the overall values of the Zoo as a whole, there are specific values attached to individual elements, which are recognised in the Section 170 Heritage and Conservation Register and the Conservation Strategy.

The Section 170 Register items in the vicinity of the proposed development area are:

Indian Elephant Temple:

The Statement of Significance for the Indian Elephant Temple (Item 21B) states:

The Elephant Temple is one of the earliest structures built in the Zoo and is still in used for its original function. It is of historical association with 'Jessie', the famous female Indian elephant, and to some extent shed light upon the architectural style of the principal buildings built at the Zoo then.

It demonstrates an unusual diversion of the designers from the contemporary zoo philosophy to imitate an animals' natural surroundings but instead to illustrate the built surroundings found in the animals country of origin. It is part of the Taronga Zoo's unique complex of highly individual structures. It is an economical adaptation of a grand style showing interesting Indian features and is of landmark quality.

Elephant Yard:

The Statement of Significance for the Elephant Yard (Item 23L) states:

As the enclosure is one of the oldest elements on the site, it has historical significance, although the actual fabric – apart from the Elephant Temple itself – is more recent.

New Guinea Bird Aviaries:

The Statement of Significance for the New Guinea Bird Aviaries (Item 19B)

The New Guinea Bird Aviaries are among the earliest structures built on site prior to Taronga zoo's opening. Its continuous usage is associated the historical development of the Zoo. The aviaries exhibit interesting and typical early detailing and are fine examples of aviaries built during that period. These aviaries, together with the Nicobar Aviary, display an oriental influence.

Panelled Concrete Wall:

The Statement of Significance for the Panelled Concrete Wall opposite the Elephant Enclosure (Item 20L)

This wall has historical significance for its association with the Hallstrom period of the Zoo's development when priority was made for the welfare of the animals by protecting them from southerly winds by the use of concrete walls.

Additional items

Additional items in the vicinity of the subject development area are:

Gibbon Exhibit (Item 118B), recognised as an area, which has been continuously used as a water feature within the Zoo since 1916.

Original Circulation Layout (Item 99L), which includes the section of Taronga Boulevard to the north of the subject development site, which is recognised as an integral part of the original site's layout.

Archaeological Potential

The survival of archaeological remains at Taronga Zoo is difficult to predict. The Taronga Zoo Archaeological Management Plan, November 2002, provides a detailed discussion of the nature and likelihood of archaeological features.

The AMP identified the following potential Historical Archaeological features, which define evidence of the development of the Zoo, as likely to have survived within the vicinity of the development area:

Archaeological Feature 6 Kiosk 1943 (AF6)

This Kiosk appears on guide maps in 1943.

Archaeological Feature 12 (AF12)

Original Ladies retiring Room built in 1916, likely to have been demolished sometime between 1943 (when it last appeared in guidebooks) and 1986 (when the site was remodelled to incorporate the increased elephant Yard).

Archaeological Feature 32 (AF6)

Original pathway around the Elephant Yard. This feature was utilised as a pathway from 1916 to 1987, after which the original Yard was enlarged to include the existing paddock area.

Significance of Archaeological Features

The archaeological resources identified have the potential to yield information that will contribute to an understanding of the twentieth century development of the Taronga Zoo site. This includes information on the evolution and changing zoological practices of the Zoo itself. They also provide interpretation opportunities for explaining the history of the development of the Zoo to visitors.

Operational and Zoological Requirements of the Zoo

The challenge for the ZPB is to achieve a balance between cultural heritage conservation objectives and the requirements for the physical well being of the animals and their keepers and visitor expectations, to support the economic well being of the Zoo.

The upgrading of Taronga Zoo is consistent with its historical values as a place that was considered a state of the art zoological park at the time of its construction.

Elephants/Keepers

The Tribunal has set specific goals and criteria regarding the importation of the elephants to Taronga Zoo.

The new facility also needs to comply with all current ARAZPA (Australasian Regional Association of Zoological Parks and Aquaria) guidelines for elephant management in Australasian Zoos.

While it is most desirable that the original use of the Indian Elephant Temple as an elephant house be retained, it has been recognised that the size and configuration of this exhibit prevents its ongoing use as an elephant enclosure, thus creating a redundant resource.

The Yard, in its current configuration, also requires modifications in order to meet minimum standards for the exhibiting of elephants.

Physical Assets

The design of the elephant enclosure, aviaries and Gibbon exhibit are a legacy of a changing zoological ideology and approach.

Botanic Estate

Besides providing an overall aesthetic visual character and amenity to the site, the landscaping at the Zoo provides a level of complexity within the exhibit to stimulate the exploratory and territorial behaviour of the elephants.

Heritage Statutory Context

NSW Heritage Act 1977

State Heritage Register

Taronga Zoo is not presently listed on the State Heritage Register, however as the site clearly meets the relevant criteria the site is to be nominated following completion of the current Master plan projects. The Heritage Office endorsed a Conservation Strategy, 2002, which provides an integrated, multi-disciplinary framework for the management of the heritage resources at Taronga.

Similarly an Archaeological Management Plan was endorsed by the NSW Heritage Office in January 2004 as a document to provide management principles and implementation strategies for the site's Aboriginal and historical archaeological resources. Together with the subject Heritage Impact Assessment, these documents form the basis for the assessment of potential impacts arising from the subject proposal on the identified significance of individual heritage items and the site as a whole.

Section 170 Heritage and Conservation Register

The proposal involves development in the vicinity of a number of Section 170 heritage items; however it does not involve the removal of any item from the register; transfer of ownership; or the demolition of any identified heritage item, requiring notice to be given to the Heritage Council of NSW.

Archaeological Relics

The Heritage Act 1977 affords statutory protection to 'relics' that form part of archaeological deposits. Sections 139-145 of the Act prevent excavation of a relic, except in accordance with a gazetted exemption or an excavation permit issued by the Heritage Council of NSW.

There are two known potential historical archaeological features within the subject area, the 1916 Ladies Retiring Room (AF 12) and the original perimeter visitor pathway around the elephant yard (AF32).

The site is also adjacent to a former Kiosk 1943 (AF6).

In accordance with the management processes in the endorsed Archaeological Management Plan an application for an Excavation Permit will be made to the NSW Heritage Office prior to disturbance of the ground.

MOSMAN LOCAL ENVIRONMENTAL PLAN

Only a small number of individual items within Taronga Zoo are identified as Items of Environmental Heritage on Schedule 2 of the Mosman LEP, including the Indian Elephant Temple, which is in the vicinity of the proposed development.



Figure 2.9 Aerial view of the existing elephant temple and old Elephant Exhibit, November 2005. The configuration of the original moat can be seen within the extended elephant Yard.

3. Development Proposal

3.1 Introduction

The proposed bull elephant holding facilities will be an integral part of Taronga Zoo's Regional Asian Elephant breeding program and are required as part of the AAT decision handed down in February 2006 to complement the newly constructed elephant breeding facilities located in the "Wild Asia" precinct.

The facility comprises a Barn (night house) and adjacent external paddock and yard. The documentation relating to the Statement of Environmental Effects for the Major Projects Application has been prepared by Jackson Teece, Architects.

The outcome has been the end product of an ongoing process of consultation between Godden Mackay Logan, Taronga Zoo CWI Senior Project Manager and CWI Heritage Specialist and the project's architects.

The Statement of Environmental Effects for the Major Projects Application documentation has also been informed and guided by the conservation planning processes of the Taronga Zoo Conservation Strategy, the Taronga Zoo Archaeological Management Plan and the Taronga Zoo, Heart of the Zoo Strategic Heritage Advice report.

These conservation processes have worked together to minimise potential adverse impacts on the heritage values of the individual items in the vicinity of the development as well as on the Zoo as a whole, by providing specific heritage input into the design with the aim of achieving the best outcome, in heritage terms while having regard for relevant constraints, such as the requirement to address the importation regulations.

3.2 Major Projects Application Documentation

This HIS is based on the following Major Projects Application documentation for the Male Elephant Facility, prepared by Jackson Teece Architects:

- DA-01 Site location
- DA-02 Site Survey
- DA-03 Site Plan
- DA-04 Barn Plan + Roof Plan
- DA-05 Elevations
- DA-06 Sections
- DA-07 Proposed & Existing Trees
- Montage View towards Hallstrom Square.
- View from harbour A1.
- View from harbour A2.
- View from harbour B1.
- View from harbour B2.

3.3 Key Major Projects Application Components

The proposal for the new male Elephant Facility at the original Elephant Temple and Yard site involves the following main components:

- Retention of the area's continuous association with the display of elephants since the Zoo's opening in 1916;
- Retention of all heritage items in the vicinity;
- Conservation and adaptive reuse of the Indian Elephant Temple, identified as having Exceptional significance;
- Modifications to the existing Elephant Yard (extended and modified previously in 1987), identified as having High significance;
- Retention of the existing New Guinea Bird Aviaries, identified as having Exceptional significance;
- Retention of the concrete wall to the aviaries, identified as having Some significance;
- Retention of the landmark qualities of the Temple and its dome within the Zoo and along Taronga Boulevard;
- Retention of the existing original; pathway layout, identified as having Exceptional significance;
- Retention of the existing view looking west across yard to Hallstrom Square pines;
- Erection of a new male elephant holding barn, to the west of the subject development site;
- Retention of existing landscaping, and the removal of one existing fig tree and introduction of new mature plantings within the subject development area; and
- Ground disturbance relating to the construction of the Elephant Holding facility and modifications to the Yard.

3.4 Proposed Works

Elephant Temple (Item 21B)

The Indian Elephant Temple has been recently refurbished, including waterproofing the roof; render repairs and a new colour scheme. The Temple is now open to the public and is used as an interpretation space, telling the story of Taronga's elephants and the zoological evolution of their display at Taronga.

This adaptive reuse did not require any physical works to the original fabric other than essential maintenance.

No further specific works are proposed to the Temple as part of the current proposal.

Elephant Yard (Item 23L)

Modifications to the existing Yard, including the already modified original Yard and 1987 enlarged yard area will be undertaken.

Proposed new super advanced palms and fig trees will supplement the existing trees to be retained on site and will substantially add to the dense screening of the building. These trees will not only provide screening but are also required to provide animal and visitor shade amenity.

New Elephant Holding Facility

The proposed new holding barn is a single storey building located along the western perimeter of the site, adjacent to the Gibbon and Crocodile exhibits. The new barn is proposed to be constructed of faceted precast concrete slab walls that are designed to evoke a stylized landform set in the landscape. The pre-cast concrete slabs will be angled and coated with an applied finish that is coloured to assist the

building to blend into the landscape. Differing colour shades and textured finishes on the buildings external surface will be designed to mimic the shadows of vegetation. The angled concrete slabs that form the building's walls will be designed with ventilation penetrations so that natural airflow through the building can be controlled. These penetrations will be able to be opened and closed so that staff can regulate the temperature of the building for animal welfare and husbandry purposes.

New Guinea Bird Aviaries and Concrete Wall (Item 19B and 20L)

No works are proposed to these items.

Gibbon Exhibit (Item 118B)

No works are proposed to these items.

Original Pathway Layout, including Taronga Boulevard (Item 99L)

Taronga Boulevard will remain in its existing layout. No works are proposed for this pedestrian pathway.

4. Heritage Impact Assessment

4.1 Heritage Impact Assessment

The following report section provides an assessment and evaluation of the heritage impacts of the described development proposal on the heritage significance of the zoo as a whole, the individual heritage items and archaeological potential within the subject area.

A discussion of measures that may be taken to reduce negative impacts and/or recommendations for additional actions that could assist in mitigating assessed impacts is in the following section.

4.2 Impacts of Proposal on Cultural Landscape

Natural Landforms

The proposal includes some modifications to the existing Yard area, however these changes will have no impact on the overall existing landform of the subject area has been designed to retain and minimise the impact.

Views

The built form of the Holding facility will have no impact on the western view of the top of the pines at Hallstrom Square.

The proposal will not impact on the existing views of the Temple from along Taronga Boulevard.

The new development will not impact on the existing views to the temple dome from the Harbour.

Buildings

The new holding facility has been located to the west boundary of the subject area providing the maximum distance between the new development and the exiting built form of the Temple building.

Animal Enclosures and Aviaries

The proposal does not impact on any of the existing New Guinea Bird Aviaries.

A small area of the Gibbon Exhibit, along its eastern boundary will be used as part of the new holding facility building, however, there are no works proposed to the central water feature within the Gibbon Exhibit.

Botanic Estate

No heritage items associated with the significant botanic estate will be affected by the proposal. One damaged fig tree is proposed to be removed from within the paddock. Retention of all other landscape items along the east boundary of the Gibbon Exhibit.

4.3 Evaluation of Heritage Impacts

The following design features have been incorporated into the new Bull Holding Facility to mitigate any potential impacts arising from its necessary size and bulk:

- Natural colours and mature vegetation have been used to reduce the visual impact on internal views and views of the site from the harbour;
- Location of the built form away from the Temple in order to retain the visual dominance of the Temple building in key views from Taronga Boulevard;



Figure 4.1 The Elephant Temple in its setting along Taronga Boulevard.



Figure 4.2 The Elephant Temple in its setting from the Harbour.

- Retention of mature landscape elements excepting the fig tree; and
- Management of the potential archaeological resources within the subject site, in accordance with the conditions of an Excavation Permit (subject to NSW Heritage Council approval), of the ground disturbance.

Evaluation of Positive Impacts

The implementation of the proposal will ensure the retention of the area's historic association with the display of elephants at Taronga Zoo. This association is an important part of the visitors' experience of the Zoo and of the collective long-term social memory of Taronga.

The proposal retains all items of significance in the vicinity of the development area.

The retention of the Temple as a public interpretation space will ensure an appreciation of the heritage value's associated with the evolution of the display of elephants.

The location of the new holding facility, the choice of materials and the use of landscaping will ensure the new built element is recessive and that the landmark values of the Temple and its dome are retained, both from views within the Zoo and from the Harbour.

The modification to the Yard, in its current configuration, will ensure that the original moat fabric is buried and retained.

The proposal will result in the retention of the identified view across the gully to Hallstrom Square.

Evaluation of Negative Impacts

The scale, size and height of the new holding facility have been designed to ensure the bulk of the building has been kept to its minimum dimensions in order to meet animal, keeper and public welfare conditions, while also minimising any potential impact on the heritage items in the vicinity arising from a change to their setting.

While it is inevitable that the setting of the heritage items in the vicinity of the new facility will be modified, the choice of materials, landscaping and siting of the new works has ensured that any potential impact has been minimised.

4.4 Impact of Proposal on Potential Archaeological Features

The proposed scheme would require excavation of the existing ground surfaces within the Elephant Yard to various depths.

As the subject area is unlikely to contain any Aboriginal archaeological material, these works would have no impact on Aboriginal archaeological resources.

The development area has the potential to contain historical archaeological evidence associated with the development of the Zoo, which if discovered would require their destruction.

The opportunity to investigate and record these remains in conjunction with the proposed works would reduce the impact of any required destruction of these remains.

4.5 Summary of Heritage Impacts of Proposed Male Elephant Facility

The proposal for the new Male Elephant Holding Facility importantly retains the area's historic association with the display of elephants at Taronga.

While necessarily large, the new built holding facility has been designed to the minimum size requirements and the choice of materials, colour and landscaping will assist in blending the new development into the landscape.

While the siting of the building along the most western boundary of the Yard will have some impact, albeit minor on the Gibbon exhibit, the location ensures any visual impact on the Elephant temple is kept to a minimum in order to retain the visual dominance of this significant architectural element within the Zoo.

While there will be minimal loss of view across the gully from the Yard to Hallstrom Square albeit minor, views along Taronga Boulevard have been retained and views of the Temple dome from the Harbour will also be retained. (Refer to the photomontage documentation). Redesign of the barn to reduce its footprint and intrusion into the cone of view has resulted in retention of this identified view.

5. Mitigative Measures

5.1 Preamble

The Male Elephant Holding Facility represents an integral part of Taronga's Asian Elephant breeding program and the implementation of the elephant husbandry requirements in accordance with the ARAZPA guidelines for the management of elephants in Australasian zoos.

The area in the vicinity of the new facility contains a number of early animal enclosures and items identified in the Zoo's Section 170 Heritage and Conservation Register. Therefore, the proposed scheme, although not making any direct physical impact on individual heritage items, has the potential to impact on the setting of these items and the Zoo as a whole.

5.2 General Mitigative Measures

The following general recommendations are made in relation to mitigative actions associated with the proposed development.

Conservation Advice

Appropriate conservation advice should be available throughout the works program. This should include availability for response to unforeseen circumstances that may arise during construction.

Archival Recording

The history of the site is well documented and extensive material is available. However, as the Zoo's current Master plan implementation represents an important stage in the evolution of approach to animal exhibit design at Taronga, a record has already been made of the subject area in its current condition.

Additional recording should be made during the works, paying attention to individual heritage items, their respective settings and views to and from the subject development area.

Archaeology

Approval from the Heritage Council of NSW under Section 140 of the *Heritage Act 1977* (NSW) is required to undertake proposed excavation works within the existing Elephant Yard. An Archaeological Research Design report, outlining the proposed methodology and research framework for the proposed investigation of the site, in accordance with the policies and recommendations outlined in the Taronga Zoo AMP, is currently being prepared by Godden Mackay Logan as part of the permit application.

Archaeological Research Design

Suitable clauses should be included in all site contractor and subcontractor contracts to ensure that on-site personnel are aware of their obligations and requirements in relation to the *Heritage Act 1977* (NSW).

Specifically, relevant on-site personnel should be made aware of the procedure to be followed for notification and stopping works should items of heritage significance be found during site works.

Unexpected Remains

In the event of unexpected historical archaeological relics are encountered during site works, works will cease immediately and the NSW Heritage Office notified, pursuant to Section 146 of the *Heritage Act 1977* (NSW).



Interpretation

An important obligation arising from the historic significance of Taronga Zoo is that its cultural heritage values should be interpreted, on site, to the visiting public.

Interpretive media explaining the historic zoological development of the display of elephants at Taronga has already been placed within the original Temple elephant barns.

In the medium to long-term, the opportunity exists to also use this historic space for the display of the Zoo archives' collection of movable heritage items and other stories of the Zoo's evolution over the past century.

Removal of Intrusive Elements

The opportunity exists for the removal of the current intrusive elements in the vicinity of the development site, including the intrusive pool fencing along Taronga Boulevard and obsolete signage and replacement with new barriers, which are more consistent with the heritage values of the Temple.

Protection of Heritage Items during Works

Adequate signage should be erected in the vicinity of the subject heritage items alerting contractors and subcontractors to their existence and fragile nature.

6. Conclusion

The proposed development of the Male Elephant Facility within the original elephant precinct at Taronga Zoo maintains the area's important association with the display of elephants, retaining the site's historic framework of significant elements and ensuring the aesthetic, historic and social context of Taronga Zoo is maintained as a whole.

The use of the redundant Indian Elephant Temple as a publicly accessible interpretation centre provides the opportunity to increase public understanding and appreciation of the cultural heritage values of the individual item as well as a background to the zoological evolution and historic changes at Taronga Zoo as a whole.

Overall, the proposal satisfies the objectives of the Conservation Strategy and Archaeological Management Plan and does not have any negative impacts arising from its implementation on the heritage values of the individual items or the place as a whole while facilitating Taronga's obligations as a breeding centre for Australia's Asian elephant herd.

