

Figure 123 Tree Removal & Transplant Plan A-600 (Courtesy Green and Dale Associates)
This plan needs to be read in conjunction with the Demolition Plan to appreciate the extent of impact from the proposed works.

7 Heritage Impact Assessment

Generally, impacts on the zoo setting and particular zoo elements assessed as having cultural significance will take two basic forms – significance will be potentially affected as a result of the removal or modification of significant items (or even the relocation of significant elements); and significance may be potentially affected by the introduction of new structures or elements in the vicinity. In both cases the setting of the zoo may be affected. Note too, that the following assessment relates wholly to cultural heritage-related issues and does not take into account the underpinning TCSA rationale for these proposals (explained in **Section 6**). (References to GDA zones below relate to the Green and Dale Associates (GDA) Drawing A-607 Vegetation Zones Plan.)

7.1 Potential for Heritage Impact: African Waterhole Precinct

7.1.1 Impact on the Taronga Zoo Setting

Proposed New African Lion Areas (GDA Zones 5 & 6)

A large area at the western end of the proposed African precincts has been allotted as a Kopje Lion area comprising two enclosures and a yard along with various built structures. Of the latter, a large new viewing structure is proposed that would envelop the 1932 octagonal viewing shelter. The following potential impacts have been identified in relation to the setting:-

- The Octagonal Shelter Shed is identified as of high local significance in the Conservation Strategy. Its retention on its traditional site is a positive heritage impact.
- However, there will be an adverse heritage impact on the setting of the Octagonal Shelter Shed from its location wholly within a large steel mesh structure within which visitors will walk through the Lion enclosure. Its stature will be diminished by this juxtaposition and by the large-scale difference between new and old.
- While, in theory, views to the city will be retained via a laminated glass panel set into the steel mesh wall, in reality there will be adverse heritage impacts from the effective loss of existing views from the Octagonal Shelter Shed resulting from the fundamental change in the view experience from that of reflection and pause while walking around the Zoo to a glimpse of the city while experiencing the inside of a lion exhibit cage.
- As the new lion exhibit would encompass the existing Barbary sheep enclosure, loss of the Barbary sheep from their traditional site (since the 1920s) would represent a negative impact.
- Spaces at this end of the site would appear more enclosed – environments reversed (animals in outside spaces/people within enclosures looking out) – so the way the landscape is experienced would change.

Giraffe/Zebra Enclosure (GDA Zone 1)

In relation to setting, there would be a positive heritage impact from the continued use of this enclosure for the original animals for which it was established in the 1920s. In relation to views associated with the giraffe enclosure:-

- The iconic views of giraffes seen against their faux-rock and faux-log houses and Sydney Harbour and the CBD in the background would be significantly impacted. The removal of the 1940s Giraffe House and the removal of part of the 1924 Giraffe House and construction of a large new structure over it would mean that that iconic view would no longer be available without the new structure in the view.
- The scale and height of the new giraffe structure will change the viewscape from the main zoo entry path towards Sydney Harbour and the Sydney CBD.

- The proposed new African Waterhole portal structure (tall timber poles and cross-beam) and associated smaller African-themed structures would likely also impinge on an appreciation of this traditional iconic view over the giraffe precinct to the harbour, CBD and bridge beyond. They may be seen as visually cluttering elements that detract from the view.

There would be a positive heritage response from the retention of zebras in their current area (though this is a relatively recent use – the area formerly held a rhino) and with the extension of space and associated replanting with thematically appropriate vegetation.

Tahr Mountain

While not shown as part of the DA area, Tahr Mountain is included in the scope for the Savannah component of the DA. There is already an adverse heritage impact with recent built elements (such as the large plate roof for the new Sumatran Tiger exhibit) that impinge on an appreciation of the traditional Tahr Mountain setting.

As noted in **Section 6.2**, a key driver for this project is a desire by the TCSA to reflect best practice zoological planning in relation to animal welfare. The TCSA has decided that in the future (but not part of this Development Application) it will discontinue to exhibit the Himalayan Tahr (Mountain Goat) - they are not a recovery or research species and due to limitations in acquisition it is impossible to maintain a fit and healthy population. While this future change will have an adverse heritage impact from the loss of about 80 years of continuous association with Tahr Mountain, the TCSA is committed to retain and conserve the structure of Tahr Mountain itself while it finds an appropriate future adaptive reuse. Associated with this positive approach to retaining this important heritage item, **Section 8.2** contains a mitigative measure to develop and undertake a conservation program for Tahr Mountain.

Although the proposed Cliff Edge Village would provide a viewing platform over Tahr Mountain with its associated views, the overall number and proximity of new Cliff Edge Village structures and associated walkway – all of which are shown to effectively address the opposite direction – would have some adverse impact on the setting of Tahr Mountain. The series of Cliff Edge Village structures would appear as 'back-of-house' elements when (or if) Tahr Mountain is viewed from below.

Proposed Rocky Hillside Area & Cliff Edge Village (GDA Zones 4 & 3)

In relation to the former Pygmy Hippo shelter, there would be a positive heritage impact from the retention of this unusual and iconic structure as a component of the zoo's intact layers of early fabric and layout however, there would be some loss in relation to its setting where neither public nor animal access is planned as part of this development (only as a storage space) thus depriving the structure of its key use and design rationale. This could be ameliorated to some extent by incorporating interpretive and educational material informing visitors of the surprisingly ambitious and esoteric historical connexions of the structure.

Similar to the impacts on the setting of Tahr Mountain, there would be adverse impacts on the setting of this structure by a number of new elements of the Cliff Edge Village including the large visitor walkway that is proposed to be elevated well above this structure, as well as the new 'Meeting Hut' and Zebra Viewing shade structure that together would relegate the retained heritage structure to being a recessive secondary element.

Proposed Waterhole Area (GDA Zone 2)

There would likely be a positive heritage response from the general improvement of the overall waterhole focus through a coordinated, holistic design.

Proposed Central Visitor Path (GDA Zone 8)

There would be a positive heritage response from the retention of major landscape features that strongly contribute to the characteristic landscape setting at the 'Central Visitor Path' (GDA Zone 8) (otherwise known as Hallstrom Square). These features include the grand staircase and the sequence of integral scalloped rustic seating. However another important component of this Park Guell-inspired 'borrowed' landscape is its use of date palms. As these mature plantings have either been removed, or are proposed to be removed (along with other palms that also contribute to the exotic landscape character), this will result in an adverse heritage impact by reducing details intrinsic to this setting.

7.1.2 Impact on Significant Layout

Path Network

Two sections of the original 1910s path network are proposed to be removed (c/- GDA Dwg. A-050) within the waterhole precinct: the main north-south spine currently defining the eastern edge of the giraffe enclosure (and linking the main entry path with the Food Hall); and the path currently linking the western hairpin (near the Barbary sheep) with the current Safari Lodge. The former is proposed to be replaced further to the east whereas the latter path section is proposed to be generally replicated in a more winding form at different levels. These changes of layout will make it more difficult to 'read' the original zoo layout in these areas and, as a consequence, result in an adverse heritage impact.

Removing part of the intrusive ramp structure near the current Barbary sheep enclosure is a positive outcome.

Proposed Giraffe, Zebra and Waterhole Areas

The existing layout of enclosed areas for giraffes and zebras as well as the waterhole area generally is proposed to be modified. The latter two areas have relatively recent layout while that for the giraffes is much older. However, the current plans to extend and incorporate the layout of the areas to achieve more generous thematic spaces carries negligible consequences for heritage significance apart from that noted above for the early public circulation layout.

7.1.3 Impact on Significant Fabric

Proposed New African Lion Areas

Adverse heritage impacts for the western areas of the Waterhole precinct include:-

- * Removal/relocation of the rustic stone seat series (s170 Item 76L) for construction of the proposed lion yard precinct;
- * Subsuming the former Barbary sheep enclosure (implying the necessary removal of the Barbary sheep) and removal of some 1920s faux-rockwork; and
- * Some negative impact would be expected from the construction of a large new viewing structure around the existing steel ramp (as well as other access structures) covering some of the sandstone outcrops.

Positive heritage impacts are the retention of much of the native forest/woodland (though likely still some adverse impact on indigenous flora diversity from having large animals traversing area) and the thematically appropriate *Kigelia pinnata* in this area. Another positive outcome is the removal of sections of recent intrusive ramps as noted above.

Immediately above the lower ramp (currently linking the octagonal shelter with the northern side

of Tahr Mountain) is a section of cambered drystone walling (**Figure 96, Section 4.4.3**) and not, hitherto, noted as a Section 170 item. The ramp section is proposed to be removed (GDA plan A-050) though it is not clear if the stone walling is part of this, however GDA plan A-603 (Grading Plan 01) appears to show a consistent new slope throughout this area implying that the walling has either been removed or graded over. In either case this would represent an adverse impact as the walling would be lost to public view.

Giraffe Enclosure/New Zebra Area

1940s Giraffe House

The following impacts have been identified:-

- A major adverse heritage impact from the complete loss of this imitation log structure that is identified as of Exceptional significance (State level) in the Conservation Strategy
- Loss of historic significance as part of a post war phase of buildings constructed at the Zoo that had an aspect of 'humour' expressed in their construction
- Loss of the only remaining example of imitation log construction remaining at the Zoo
- Loss of an iconic structure of high social significance. Although its social value has not been formally assessed, the 1940s Giraffe House is likely to have high contemporary social significance as a key visitor experience, reflected in the memories of the experience and tangible things such as their photographs of this structure (along with the 1924 Giraffe House) together with the giraffes themselves and Sydney Harbour in the background.

1924 Giraffe House

- Although its original three-dimensional form would still be able to be appreciated, the loss of approximately one-third of the structure would result in the loss of its completeness as a 'house'.
- An adverse heritage impact would result from the new roof structure adjacent to and above the retained part of the structure. This new structure will change an appreciation of the 1924 structure and its setting from a more naturalistic one to a more obviously 'built' one. It is appreciated that the design team sought to create a visual relationship and connexion between the new and old structures and, following heritage advice, cut back the extent of new roofing, however there would still be adverse impacts on the 1924 structure and the giraffe precinct from the new work. While the 1924 shelter is a large structure, it will be diminished by the new (even larger) structure that will also create a strong contrast between the early mock rock vernacular structure with the new, and far more sophisticated structure, that will loom over it. More generally, the new structure will dominate the giraffe precinct and also effectively diminish the apparent size of the giraffes themselves.

Other early fabric affected by the proposal include removal of the Edwardian-period metal handrail and gate (Item 128L) to the north of the 1924 Giraffe House as well as some vegetation listed as s170 items. The metal fence and gate also defines part of the 1910s zoo circulation. Following removal these elements should be reused elsewhere within the zoo where an Edwardian-period landscape character is maintained. Vegetation proposed for removal includes the line of pan-tropical acacias (273L)(a fast growing but weedy species needing to be kept in check), African Tulip tree (251L)¹⁹² and the *Ceiba speciosa* (taxonomically revised and previously known as *Chorisia speciosa*)(271L) though this is thematically out of place as an Asian species.

¹⁹² The tree near the current Fennec Fox enclosure appears to be correctly identified in the GDA documentation as *Spathodea campanulata* and is likely not *Sparmannia africana* as listed on the s170 register.

Proposed Rocky Hillside Area & Cliff Edge Village

A positive impact is the retention of the imitation rock (former Pygmy Hippopotamus) shelter and its adaptive reuse for the Meerkat Keeper and Storage, though the 'marginalisation' of the structure as a secondary feature among the proposed new 'front-line' interpretive structures would represent something of a negative result. As suggested above, this could be ameliorated to some extent by the incorporation of appropriate interpretive material about the history and design provenance of the structure.

Tahr Mountain

While positive that the structure is retained as part of this DA, the lack of a long term use and conservation strategy for Tahr Mountain is a potentially adverse heritage impact, given the poor condition of the structure.

Proposed Waterhole Area

The Safari Lodge Kiosk (1987), while not currently included in the Taronga Zoo s170 heritage register, and not identified as significant in the Conservation Strategy, is a well-designed structure that aptly expresses its role within the African Waterhole Precinct. The removal of this structure would result in the loss of a 'fit for purpose' structure that reflected a relatively recent period of development at the Zoo.

There would be an adverse heritage impact where potentially relocatable/recyclable (and valuable) palms (277L, 255L, 256L and T458a¹⁹³) are removed (for the construction of proposed meerkat areas) even though the species are all thematically appropriate and are even shown on the GDA Landscape Report Plan Schedules (pp. 17, 27-29) as desirable for new exhibits.

There would be a positive outcome for the retained section of early retaining wall defining the old path layout (132L) and a positive outcome with the retention of the mature fig (182L) and the landmark Hoop Pines (53L).

Proposed Central Visitor Path (GDA Zone 8)

Within the current Hallstrom Square area there would be a negative impact with the loss of vegetation –an early Magnolia (161L) planting as well as Silver Date Palms (183L) and (184L), the Bangalow Palm (168L) and Cabbage Tree Palm (278L). The palms are relocatable and are particularly important in the context of this area as they reinforce the underlying design basis of the central grand staircase and scalloped seating inspired by Park Guell (where date palms in particular are a feature – see **Figure 74** but also **Figure 73** for example).

7.1.4 Consistency with Assessed Significance

This section considers the proposal from the perspective of the statement of significance (**Section 5.2**). That is, do any of the proposed works have the potential to compromise the assessed significance of Taronga Zoo. In order to affect the assessed cultural significance of the place the proposed works would need to be clearly in conflict with any of the specific aspects outlined in the statement of significance. For convenience, each relevant paragraph from the statement of significance is repeated below.

¹⁹³ There is some confusion about tree numbers at this point in the GDA tree removal schedule as Tree No. 458a (a Senegal Date Palm) and Tree No. 458c (the African Tulip tree) are both accorded the s170 register number of 251L.

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.

Taronga Zoo's ability to demonstrate its progressive development of "early modern zoo philosophy" would be potentially reduced with the loss of elements of State cultural significance such as the 1940s Giraffe House and substantial components of its original circulation network. The Conservation Strategy notes that Exceptional elements such as these are integral to the retention of Taronga Zoo's cultural significance for current and future generations. The loss of the 1940s Giraffe House (as an example of an "architectural style") along with key components of the original and early path network and other early landscape elements (original fence [128L]) would amount to a negative impact.

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 introduction of more large structures (giraffe enclosure and BOH, lions viewing structure and BOH and 'Africa Place' structure) within the Waterhole precinct would potentially impinge on the setting of parts of the precinct. Part of this impact would be the relationship of the new structures to those being retained such as the 1924 giraffe shelter and 1932 octagonal lookout. Other potential sources of adverse heritage impact would arise from the loss of association between the Barbary sheep with their respective purpose-designed enclosure.

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 [planning] philosophy that have influenced the Zoo's development throughout the twentieth century.

With the loss of early fabric and layout there would be a negative impact from the site's subsequent inability to demonstrate a contrast with the current and future development phases and approaches. This would also represent a lost opportunity to better demonstrate the value of the newer approaches to international zoological planning and design as well as a lost opportunity for education and interpretation.

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.

A consequence of sudden, dramatic change to a well-known and highly esteemed public place is that there is likely to be some negative impact arising from a community's difficulty reconciling loss of remembered elements with the new environment. As Taronga Zoo carries a high level of social value, it would be anticipated that there would be a level of negative heritage impact arising from changes to familiar landmarks and collective place memory.

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.

There is likely to be some negative impact arising from the loss of original and early fabric and layout where the site's ability to demonstrate important aspects of its progressive development is reduced.

7.1.5 Reconciliation with Taronga Zoo s170 Register Obligations (Heritage Act, 1977)

Within the proposed new African Waterhole precinct there are 25 items listed on the Taronga Zoo s170 Register and, of these, four items have been assessed as being of cultural significance at a State level. These are the two giraffe houses (two buildings under one item), Tahr Mountain, the network of original and early paths and the overall zoo site (providing broader context for the Waterhole precinct). Another 18 listed items are to be found in the vicinity of the proposed new precinct.

On its website under 'Heritage Registers', the Office of Environment and Heritage indicates that each government agency has an obligation to **conserve** and appropriately manage its s170-listed assets on behalf of the community.¹⁹⁴ Many items listed on s170 registers are of local heritage significance (as is the case with those for Taronga Zoo). Those assessed as having State heritage significance (but hitherto unlisted on the State Heritage Register), are eligible for consideration or listing on the SHR. In the event of an item assessed as having State heritage significance being proposed for demolition then this carries important implications such as precluding any future possibility of the item being listed on the SHR even though this may be warranted.

The present proposal indicates the removal of 9 (36%) of the 25 African precinct items – including two items of State heritage significance. However three of these items are relatively recent (251L, 271L and 273L) and could be replaced readily and the three palms could be relocated and reused while the steel fence could be relocated:-

- * 1940s faux-log giraffe house (Part 61B)(State/Exceptional significance);
- * Original (1910s) and early (1920s) paths (Part 99L)(State/Exceptional significance);
- * Original 1910s steel pipe fence (128L)(Local/Exceptional significance);
- * African Tulip Tree (*Spathodea campanulata*)(251L);
- * Date palm hybrid (*Phoenix x*)(255L) – though this could be relocated/reused within precinct;
- * Date palm hybrid (*Phoenix x*)(256L) – though this could be relocated/reused within precinct;
- * Floss Tree (*Ceiba speciosa*)(271L);
- * Sweet Acacia (*Vachelia farnesiana*)(273L); and
- * Pygmy Date Palm (*Phoenix roebelenii*)(277L) – though this could be relocated/reused within the precinct.

A further 4 items are proposed to be modified (either physically or their setting) – including two items of State heritage significance:-

- * 1924 faux-rock giraffe shelter (part 61B)(State/Exceptional significance) – southern bay removed and a new large structure built adjacent;
- * Buttressed retaining wall (74L) – sections removed for new exhibit expansion;
- * Taronga Zoo as a whole will be affected by the loss/modification of its (African precinct) parts (82A)(State);
- * Octagonal shelter (144B) – structure proposed to be totally enveloped within a large new structure.

The proposed works entail demolition of some items, the relocation of others, modifications to the original form of some items and changes to the setting of other, or the same, items. The Heritage Division of the OEH has helpfully provided a table of pertinent questions to be asked

¹⁹⁴ Bold italics added.

with respect to each of these proposed actions affecting s170 listed items of cultural significance. Guiding questions include:-

Demolition of a building or structure etc.

- * *Have all options for retention and adaptive re-use been explored?*
- * *Can all of the significant elements of the heritage item be kept and any new development be located elsewhere on the site?*
- * *Has the advice of a heritage consultant been sought? Have the consultant's recommendations been implemented? If not, why not?*

Minor partial demolition (including internal elements)

- *Is the demolition essential for the heritage item to function?*
- *Are important features of the item affected by the demolition?*
- *Is the resolution to partially demolish sympathetic to the heritage significance of the item?*
- *If the partial demolition is a result of the condition of the fabric, is it certain that the fabric cannot be repaired?*

Major partial demolition (including internal elements)

- *Is the demolition essential for the heritage item to function?*
- *Are particular features of the item affected by the demolition?*
- *Is the detailing of the partial demolition sympathetic to the heritage significance of the item?*
- *If the partial demolition is a result of the condition of the fabric, is it certain that the fabric cannot be repaired?*

Major additions

- *How is the impact of the addition on the heritage significance of the item to be minimised?*
- *Can the additional area be located within an existing structure? If not, why not?*
- *Will the additions tend to visually dominate the heritage item?*
- *Are the additions sited on any known, or potentially significant archaeological deposits? If so, have alternative positions for the additions been considered?*
- *Are the additions sympathetic to the heritage item? In what way (e.g. form, proportions, materials, design)?*

New development adjacent to a heritage item

- *How is the impact of the new development on the heritage significance of the item or area to be minimised?*
- *Why is the new development required to be adjacent to a heritage item?*
- *How does the curtilage allowed around the heritage item contribute to the retention of its heritage significance?*
- *How does the new development affect views to, and from, the heritage item? What has been done to minimize negative effects?*
- *Is the development sited on any known, or potentially significant archaeological deposits? If so, have alternative sites been considered? Why were they rejected?*
- *Is the new development sympathetic to the heritage item? In what way (e.g. form, siting, materials, proportions, design)?*
- *Will the additions visually dominate the heritage item? How has this been minimised?*
- *Will the public, and users of the item, still be able to view and appreciate its significance?*

New landscape works and features

- *How has the impact of the new work on the heritage significance of the existing landscape been minimised?*
- *Has evidence (archival and physical) of previous landscape work been investigated? Are previous works being reinstated?*

- *Has the advice of a consultant skilled in the conservation of heritage landscapes been sought? If so, have their recommendations been implemented?*
- *Are any known or potential archaeological deposits affected by the landscape works? If so, what alternatives have been considered?*
- *How does the work impact on views to, and from, adjacent heritage items?*

Tree removal or replacement

- *Does the tree contribute to the heritage significance of the item or landscape?*
- *Why is the tree being removed?*
- *Has the advice of an arborist or horticultural specialist been obtained?*
- *Is the tree being replaced? Why? With the same or a different species?*

Relative to the questions for the demolition action: the removal of the 1940s giraffe shelter has been implicitly justified (c/- **Sections 6.2 and 6.3**) on the basis that it occupies much needed space required for the expansion of the popular giraffe exhibit and that it will impede views from the perspective of the new grounds scheme (c/- GDA Dwg. A-050).

Regarding the partial demolition of an item (the 1924 giraffe house for example), justification is to facilitate particular views although the new structure (as proposed) in association with the 1924 building would itself potentially impede similar views. New development adjacent to existing heritage items is proposed for both the 1924 giraffe house and the 1932 octagonal shelter. In each case there appears to be a risk of the new structures overly dominating the respective earlier structures, impeding views or otherwise affecting the overall setting.

The removal of some mature trees is also proposed and arborist reports provide cogent justification for this. The GDA Landscape Report (eg plant schedules) does nominate some of these species as options for consideration in the final exhibit schemes.

7.1.6 Consistency with the Taronga Zoo Heritage Asset Management Strategy 2006

In 2006 the Capital Works & Infrastructure Division of the zoo prepared a brief strategy for the management of its heritage assets (HAMS) on behalf of the Zoological Parks Board (ZPB) of NSW. The strategy states that the “ZPB’s commitment to cultural heritage is embodied in its endorsed Conservation Strategy (CS)(2002) and Archaeological Management Plan (AMP) (2004)”. The following principles for the ongoing management of its heritage assets reflect the key conservation policies identified in these documents:

- (i) ZPB recognises Taronga Zoo as a significant place for the State of NSW and will endeavour to ensure the management of its heritage items is reflective of community values and aspirations for its heritage.
- (ii) The Zoo is to be conserved and adapted in accordance with the best practice heritage management principles outlined in the Australia ICOMOS Burra Charter.
- (iii) The responsibility for the management of the ZPB heritage assets resides with the General Manager of Capital Works & Infrastructure (CWI) division. The Project Manager, Heritage Specialist, will provide specialist input, and build the heritage management capacity within the CWI Division to account for these responsibilities.
- (iv) The retention, conservation and adaptation of items of Exceptional, High and Some significance will be facilitated.
- (v) The preparation of further Management Plans and Heritage Impact Statements will continue to inform future development at the Zoo.

- (vi) The ZPB will actively seek compatible re-use options for the adaptation of items no longer suitable for the original designed use.
- (vii) The CWI Division will be responsible for maintaining those items on the Section 170 Heritage and Conservation Register in accordance with the Minimum Standards of Maintenance and Repair.
- (viii) Heritage asset maintenance requirements will be integrated into the refinement of the Computerised Maintenance Management Strategy (CMMS).
- (ix) Procedures for maintenance works will be updated to incorporate conservation principles.
- (x) The conservation of the heritage assets will be adequately resourced.
- (xi) Where specialist skills or trades, beyond the capacity of the CWI Division, are required, appropriate consultants will be engaged.
- (xii) Archaeological resources will be managed in accordance with the endorsed AMP.
- (xiii) Maintenance records of significant items will be recorded in the CMMS.

The TZ HAMS goes on to state that: "Taronga Zoo has been assessed as a place of State significance. To date neither the site as a whole, or any of its individual elements, have been identified on the State Heritage Register". A specific action was suggested in the Strategy to nominate Taronga Zoo and any State-assessed items on the s170 register for consideration on the State Heritage Register by December 2009. Further to date, there remain neither the zoo nor any of its individual State-assessed assets included on the SHR.

Of particular relevance to the present proposals, is the Strategy's recommended management actions for the demolition of items. The Strategy advises that significance must first be established for an item prior to demolition (or removal) and that such action should only be contemplated where there is no other prudent or feasible option for adaptive reuse of the asset.

With respect to Principle (vi) above and those items proposed for demolition/removal (or relocation), the main reasons given in the DA documentation are that levels are proposed to be changed (affecting vegetation near the current zebra back-of-house structure) or exhibits are being enlarged such that the extension would envelope existing items (walling [Item 74L] and pipe fence [128L] and seats [76L]) or to allow views (1940s giraffe shelter [61B (ii)]). The reasons for the removal of substantial sections of the 1910s path network is not specifically noted in the documentation but is inferred by a combination of changes to levels and extensions to enclosure areas.

Principles (vii) and (x) above imply an appropriate conservation response to the long-term future of the Tahr Mountain structure as well as that, and an alternate location, for the rustic seats (76L) though these are not indicated in the present DA documentation.

7.1.7 Consistency with the TZ African Precinct Strategic Heritage Advice 2006

This strategic heritage advice document (APSHA) acts as a summary of the 2002 Conservation Strategy and the 2004 Archaeological Management Plan with a specific focus on the proposed African precinct. It reiterates general policies from the Conservation Strategy and general recommendations from the Archaeological Management Plan before concluding with opportunities for redevelopment/conservation and specific recommendations for the African precinct (pp. 63-64 of the APSHA).

It advises that: "design development for the African Precinct should be based on an understanding of, and respect for, the significance of the precinct and the historic relationship of the distinctive areas within the Precinct to the development of the Zoo as a whole. Any new design, or concept for, the Precinct should also aim to reduce adverse impacts upon identified aspects of cultural significance". The document continues with "in general, significant buildings, landscape elements and views should be retained and incorporated into a new scheme in a meaningful way that does not compromise their significance or the Masterplan concept:-

- (i) The characteristic exotic cultural plantings and mature landmark trees at Hallstrom Square should be retained.
- (ii) New elements should be sensitively designed to minimise impact on the existing landscape setting of heritage items, iconic views from the precinct, and on the setting of the entire zoo.
- (iii) The heritage values of the African Precinct should be interpreted within the precinct".

Specific recommendations outlined in the APSHA include:-

- (iv) "The specific character of the early landscape elements throughout the precinct, such as the rustic stone seats and sandstone retaining walls, elaborate Edwardian balustrading, and formal cultural plantings should be retained and conserved.
- (v) Retain and conserve elements of Exceptional and High significance, in accordance with heritage advice.
- (vi) Original pathways should be retained, even if they are partly buried by fill.
- (vii) New additions within the precinct should be carefully designed to complement elements of significance. Any new buildings near elements of Exceptional or High significance should be designed in a way that ensures they do not visually compete with or adversely impact upon a significant element (and its setting) or a significance view".

In responding to these recommendations, a review of the current proposals for the new African (Waterhole) precinct indicates that there would likely be some negative heritage impacts with respect to the need to retain and conserve existing historic elements of Exceptional and High cultural significance. Chief among these elements would be the 1940s giraffe shelter (proposed for demolition)[note (ii) and (v) above], the 1924 giraffe house (southern bay partly removed, a new large structure built adjacent and the iconic giraffe/harbour setting affected)[note (ii), (v) and (vii)], the removal of sections of the 1910s path network [note (ii), (v) and (vi)] and relocation of some sequences of Interwar period rustic seating [note (ii), (iv) and (v)].

Additional heritage impacts would result from the proposed removal of the Barbary sheep from their traditional purpose-built 1920s enclosure after about 90 years of continuous association and the potential for serious decay and decline for the purpose-built Tahr Mountain without an appropriate conservation plan.

Recommendation (i) also has relevance with respect to proposed changes to the Hallstrom Square area where significant vegetation has already been (in relation to the new Centenary Theatre project), or is proposed to be, removed. Some of this vegetation (namely date palms) is of great relevance to the intended character of the area as it reinforces the very particular Park Guell aesthetic established by the grand staircase and scalloped rustic seating sequences. In the case of the palms, relocation in the vicinity would be a preferable option though this is not specifically indicated in the documentation (only removal).

7.1.8 Consistency with the Taronga Zoo Landscape Management Plan 2006

The 2006 LMP represents the most comprehensive document to date dealing with the detailed landscape elements within Taronga Zoo. Apart from recording its many features and assessing their relative significance, condition and integrity, the LMP provided various policies to guide future development at the zoo. While having regard to the zoo as a whole, there are many policies that are pertinent to the African (Waterhole) precinct. These include:-

* (Policy 2.1.5) *The layout, structure, cultural plantings and built landscape elements surviving from Le Souef's original landscape design for the place should be retained, conserved, respected, managed and maintained so that the character of the early zoo landscape is not lost or overwhelmed by new development.*

* (Policy 2.1.8) *The zoo landscape should continue to evolve and adapt to suit changing zoological management philosophies and practices in order to maintain the zoo's world class standing. However, all changes should respect and accommodate the significant aspects and elements of the existing landscape as identified in this report [ie. the LMP report].*

* (Policy 2.1.9) *In particular, the historic and aesthetic character of the areas identified as significant in fig 5.8 [includes substantial areas within the Waterhole precinct] should be conserved and respected in the design of new site developments (including new exhibits, precincts and/or facilities) within or adjacent to those areas.*

* (Policy 2.1.11) *The original path layout should be conserved and respected. New paths may be introduced, but should be sinuous in form and should continue to respect the natural topography of the site.*

* (Policy 2.1.12) *The natural rock outcrops occurring across the site should be retained and respected, and may continue to be integrated into the design of new exhibits and the general landscaping of the zoo. Surviving early faux rockwork, such as in the bear and big cat pits or Tahr Mountain, should be retained, conserved and respected and new faux rock elements may be introduced to enhance the naturalistic settings of exhibits. The surviving early sandstone walling (both ashlar and rustic walling) should be retained, conserved and respected and sandstone should continue to be used as a building material for landscape walling within the site.*

* (Policy 2.1.13) *Both the cultural plantings and indigenous vegetation communities of the zoo should be conserved, managed and maintained as important components of the zoo landscape.*

* (Policy 2.1.15) *The existing views out from the zoo site across Sydney Harbour should be retained, respected and managed to enhance the zoo's sense of place on the edge of Sydney Harbour. Views of the harbour should continue to be exploited in the development of new areas within the zoo site, maintaining the contextual relationship between the zoo and the harbour.*

* (Policy 2.5.1) *Significant built landscape elements should be conserved in accordance with their significance gradings and the following policies:*

Elements graded Exceptional:

Retain and conserve all elements of exceptional significance in their existing configuration. Removal or demolition of these elements is not permitted.

Retain and conserve the significant qualities of the setting and context of these elements. Changes or alterations to these elements are not encouraged, but if found to be necessary, should be minimal and should only be permitted where the changes will support and strengthen the significance of the elements. The elements should not be obscured nor their significance diminished. The integrity of the elements should be retained and respected. All changes, alterations or repairs must retain and respect as much as possible of the original fabric, detail and significant qualities of the element. These elements should be entered on the Section 170 register for Taronga Zoo.

Elements graded High:

Retention and conservation of all elements of high significance in situ is preferable to their relocation. Demolition and removal of these elements is not permitted. Retain and conserve the significant qualities of the setting and context of these elements. Changes or alterations to these elements may be permitted provided the changes support and strengthen the significance of the elements. The integrity of the original fabric and the original design intent should be respected and if possible strengthened. These elements should be entered on the Section 170 register for Taronga Zoo.

** (Policy 2.5.3) Significant fabric from all periods of the place must be respected, with evidence of all phases of the history and use of the place kept in situ in accordance with the policies in this document.*

** (Policy 2.5.5) Where intervention of significant fabric for non-conservation purposes is unavoidable, the loss of cultural significance should be minimised. Within these areas, fabric of a lower relative significance should be disturbed in preference to fabric with a higher relative value.*

In relation these selective policies from the LMP, there is the potential for some adverse heritage impacts arising from the proposed new African Waterhole development. These chiefly involve the loss of a number of listed s170 items (and especially those of State, exceptional or high cultural significance), the modification of others and through the introduction of new large structures

7.1.9 Consistency with the Mosman Local Environmental Plan 2012

Relevant sections of the Mosman LEP 2012 with respect to heritage considerations at Taronga Zoo are Part 5.9 Preservation of Trees or Vegetation and Part 5.10 Heritage Conservation each of which is now considered below (**Table 7.1**).

Considering Part 5.9 first; although vegetation is proposed to be removed as part of the development of a new African Waterhole precinct, the overall amenity, including biodiversity, is likely to be generally retained.

Particular instances of potentially adverse heritage impact resulting from the proposed removal of specific vegetation will relate mainly to the loss of date palms and other mature vegetation at the current Hallstrom Square area and the loss of distinctive (though younger) vegetation that contribute to the themed setting of the waterhole such as those near the zebras (*Vachellia farnesiana*) and palms near current zebra BOH. The Acacia (*Vachellia farnesiana*) is proposed to be replaced with similarly themed vegetation though the palms near the current zebra BOH and near Hallstrom Square need not be discarded as they have the potential to be transplanted and reused in the vicinity.

Table 7.1 MOSMAN LEP 2012 PART 5.10 HERITAGE CONSERVATION	
	RECONCILIATION AGAINST THE PROPOSAL
<p>(1) The objectives of this clause are as follows:</p> <p>(a) to conserve the environmental heritage of Mosman,</p> <p>(b) to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views,</p> <p>(c) to conserve archaeological sites,</p> <p>(d) to conserve Aboriginal objects and Aboriginal places of heritage significance.</p>	<p>All of the subclauses here have at least some relevance to this proposal.</p>
<p>(2) Requirement for consent</p> <p>Development consent is required for any of the following:</p> <p>(a) demolishing or moving any of the following or altering the exterior of any of the following (including, in the case of a building, making changes to its detail, fabric, finish or appearance):</p> <ul style="list-style-type: none"> (i) a heritage item, (ii) an Aboriginal object, (iii) a building, work, relic or tree within a heritage conservation area, <p>(b) altering a heritage item that is a building by making structural changes to its interior or by making changes to anything inside the item that is specified in Schedule 5 in relation to the item,</p> <p>(c) disturbing or excavating an archaeological site while knowing, or having reasonable cause to suspect, that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed,</p> <p>(d) disturbing or excavating an Aboriginal place of heritage significance,</p> <p>(e) erecting a building on land:</p> <ul style="list-style-type: none"> (i) on which a heritage item is located or that is within a heritage conservation area, or (ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance. 	<p>The proposed new African precincts are included within the area listed as a heritage item under the MLEP 2012 – see Figure 2 – and therefore require comment from Mosman Council.</p>
<p>(3) When consent not required</p> <p>However, development consent under this clause is not required if:</p>	<p>While the African Waterhole and Congo precincts development is classified as a 'State Significant Development' the comment of relevant stakeholders is still required. One such stakeholder is Mosman Council.</p>

<p>(a) the applicant has notified the consent authority of the proposed development and the consent authority has advised the applicant in writing before any work is carried out that it is satisfied that the proposed development:</p> <ul style="list-style-type: none"> (i) is of a minor nature or is for the maintenance of the heritage item, Aboriginal object, Aboriginal place of heritage significance or archaeological site or a building, work, relic, tree or place within the heritage conservation area, and (ii) would not adversely affect the heritage significance of the heritage item, Aboriginal object, Aboriginal place, archaeological site or heritage conservation area, or 	
<p>(4) Effect of proposed development on heritage significance</p> <p>The consent authority must, before granting consent under this clause in respect of a heritage item or heritage conservation area, consider the effect of the proposed development on the heritage significance of the item or area concerned. This subclause applies regardless of whether a heritage management document is prepared under subclause (5) or a heritage conservation management plan is submitted under subclause (6).</p>	<p>This HIA report provides a basis for considering the context of the proposal and make informed decisions.</p>
<p>(5) Heritage assessment</p> <p>The consent authority may, before granting consent to any development:</p> <ul style="list-style-type: none"> (a) on land on which a heritage item is located, or (b) on land that is within a heritage conservation area, or (c) on land that is within the vicinity of land referred to in paragraph (a) or (b), require a heritage management document to be prepared that assesses the extent to which the carrying out of the proposed development would affect the heritage significance of the heritage item or heritage conservation area concerned. 	<p>This HIA report provides a basis for assessing the extent to which the proposal would affect the site.</p>
<p>(6) Heritage conservation management plans</p> <p>The consent authority may require, after considering the heritage significance of a heritage item and the extent of change proposed to it, the submission of a</p>	<p>There have been various heritage studies undertaken of Taronga Zoo that include various components of the proposed African Waterhole and Congo precincts. These include the 2002 Conservation Strategy (GML), Archaeological</p>

<p><i>heritage conservation management plan before granting consent under this clause.</i></p>	<p>Management Plan 2004 (GML) and the Landscape Management Plan 2006 (Design 5) all of which combined would provide a sound basis with which to consider the proposals.</p>
<p><i>(7) Archaeological sites</i></p> <p><i>The consent authority must, before granting consent under this clause to the carrying out of development on an archaeological site (other than land listed on the State Heritage Register or to which an interim heritage order under the Heritage Act 1977 applies):</i></p> <p><i>(a) notify the Heritage Council of its intention to grant consent, and</i></p> <p><i>(b) take into consideration any response received from the Heritage Council within 28 days after the notice is sent.</i></p>	<p>Refer to the Archaeological Management Plan 2004 (GML) and Archaeological report by Dominic Steele 2016.</p>
<p><i>(8) Aboriginal places of heritage significance</i></p> <p><i>The consent authority must, before granting consent under this clause to the carrying out of development in an Aboriginal place of heritage significance:</i></p> <p><i>(a) consider the effect of the proposed development on the heritage significance of the place and any Aboriginal object known or reasonably likely to be located at the place by means of an adequate investigation and assessment (which may involve consideration of a heritage impact statement), and</i></p> <p><i>(b) notify the local Aboriginal communities, in writing or in such other manner as may be appropriate, about the application and take into consideration any response received within 28 days after the notice is sent.</i></p>	<p>Refer to the Archaeological Management Plan 2004 (GML) and Archaeological report by Dominic Steele 2016.</p>
<p><i>(9) Demolition of nominated State heritage items</i></p> <p><i>The consent authority must, before granting consent under this clause for the demolition of a nominated State heritage item:</i></p> <p><i>(a) notify the Heritage Council about the application, and</i></p> <p><i>(b) take into consideration any response received from the Heritage Council within 28 days after the notice is sent.</i></p>	<p>As items of State heritage value are proposed to be demolished or relocated, the Heritage Council of NSW must be notified.</p>

Table 7.1 Reconciliation of the African Precinct proposal against Section 5.10 of the Mosman Local Environmental Plan, 2012

The following tables (**Tables 7.2 to 7.4**) summarise potential heritage impacts likely to arise from the proposal in relation to the African Waterhole precinct.

Table 7.2 ITEM/Significance	Existing Policy Status	Proposal	Likely Heritage Impacts
53L Hoop Pines x 6 State/Exceptional	Conserve & replace if lost	Retention	None
61B Giraffe Houses State/Exceptional	Both structures are State level listed buildings that should be conserved	Demolish 1940s shelter & retain 1924 building with partial demolition + large new building adjacent (GDA A-050)	Severe heritage impact for the 1940s building. Intactness of 1924 building would be compromised by part removal of southern bay; further potential impact depending on nature of new building adjacent
70B Tahr Mountain State/Exceptional	State level listed feature that should be conserved	Not included in the present proposals: structure to be retained	Potential impact if not subject to appropriate conservation actions. Its setting is already compromised
74L Buttressed Wall Local/Some	As an element of the early zoo plan it should be conserved	Most of the wall is proposed to be removed (GDA A-050)	Some impact likely
75L Natural Stone Features Local/Exceptional	As an element of the pre-European landscape it should be conserved	Most of the natural rock outcrops would be retained (GDA A-050)	Little heritage impact apart from some being obscured by new structures
76L Seven rustic stone seats State/High-Exceptional	Conserve	Remove/relocate	Adverse impact
82A Taronga Zoo State/NA	State level listed site that should be managed to conserve key assets	Refer to details	New precincts would result in a substantial area of the zoo site being modified with the loss of early layout and some key structures
98B Pygmy Hippo (Fennec Fox) Encl. Local/Some	A (hitherto) little appreciated structure with excellent pedigree & should be conserved	Retained	Little impact though lack of proposed use by either animals or public reduces its effectiveness as a comic device
99L Original & Early Paths State/Exceptional	State level listed feature that should be conserved	Part retention, part removal (GDA A-050)	Negative impact likely where original alignment removed

128L Steel pipe fence Local/Exceptional	As an element of the original/early zoo plan it should be conserved	Removal (GDA A-050)	Negative impact likely – no alternative location nominated
132L Rendered masonry wall Local/High	As an element of the original/early zoo plan it should be conserved	Retention	Positive result with retention
144B Octagonal Shelter shed Local/High	As an element of the early zoo period (1930s) it should be conserved	Retained though enveloped within a new structure	Positive as far retention is concerned though negative where any context as a former lookout is lost
161L Magnolia grandiflora x 2 Local/Exceptional	Conserve & replace if lost	One tree retained & one removed	Adverse impact with loss of one mature tree
182L Ficus microphylla var Hillii Local/High	High significance at a local level – conservation required	Retained	Little impact potentially though construction in vicinity may have consequences
183L Phoenix sylvestris Local/High	Conserve & replace if lost	Removal	Adverse impact – could be reused
184L Phoenix sylvestris Local/High	Conserve & replace if lost	Removal	Adverse impact – could be reused
189L Indigenous vegetation Local/High	High significance at a local level – conservation required	Retained mostly	Little impact potentially though construction in vicinity may have consequences
247L Aloe ferox x 2 Local/High	An item of individual significance but not necessarily in present location – conservation through relocation and reuse essential	Relocation	Little impact if new location is identified (species noted in proposed GDA Plant Schedule)
248L Aloe excelsa? Local/High	An item of individual significance but not necessarily in present location – conservation through relocation and reuse essential	Relocation	Little impact if new location is identified (species noted in proposed GDA Plant Schedule)
250L Ceratopetalum gummiferum Local/High	High significance at a local level – conservation required	Retained mostly	Little impact potentially though construction in vicinity may have consequences
251L Spathodea campanulata Local/TBC	Probably moderate significance at a local level – conservation advised	To be removed (GDA A-600)	Negative impact (species noted in proposed GDA Plant Schedule)

255L <i>Phoenix hybrid</i> Local/High	An item of individual significance but not necessarily in present location – conservation through relocation and reuse essential	To be removed (GDA A-600)	Negative impact as relocation & reuse is plausible (species noted in proposed GDA Plant Schedule)
256L <i>Phoenix hybrid</i> Local/High	An item of individual significance but not necessarily in present location – conservation through relocation and reuse essential	To be removed (GDA A-600)	Negative impact as relocation & reuse is plausible (species noted in proposed GDA Plant Schedule)
271L <i>Ceiba speciosa</i> Local/High	High significance at a local level – conservation required	To be removed (GDA A-600)	Negative impact
272L <i>Kigelia pinnata</i> Local/High	High significance at a local level – conservation required	To be retained	Likely little impact
273L <i>Vachellia farnesiana</i> Local/High	High significance at a local level – conservation required – however replacement with a similar fast-growing woodland sp. would be acceptable	To be removed (GDA A-600)	Negative impact until replacement (species noted in proposed GDA Plant Schedule)
277L <i>Phoenix roebelenii</i> Local/High	An item of individual significance but not necessarily in present location – conservation through relocation and reuse essential	To be removed (GDA A-600)	Adverse impact – could be reused elsewhere (species noted in proposed GDA Plant Schedule)
278L <i>Phoenix roebelenii</i> Local/High	Conserve & replace if lost	Removal	Adverse impact – could be reused elsewhere
287L <i>Aloes</i> TBC/TBC	An item of individual significance but not necessarily in present location – conservation through relocation and reuse advised	To be relocated	Little impact if new location is identified (species noted in proposed GDA Plant Schedule)
288L <i>Kalanchoe</i> TBC/TBC	An item of individual significance but not necessarily in present location – conservation through relocation and reuse advised	To be relocated	Little impact if new location is identified (species noted in proposed GDA Plant Schedule)
289L <i>Aloe ferox</i> x 2 TBC/TBC	An item of individual significance but not necessarily in present location – conservation through relocation and reuse advised	To be relocated	Little impact if new location is identified (species noted in proposed GDA Plant Schedule)

Table 7.2 Summary of Heritage Impacts on Significant Items within the Waterhole Precinct

Table 7.3 ITEM/Significance	Existing Policy Status	Proposal	Likely Heritage Impacts
52B Upper Bear Pits Local/High	Conserve	Outside contract area	None
62B Cats of Asia Local/Exceptional	Conserve	Outside contract area	None
69L Natural Rock benches Local/Exceptional	Conserve	Outside contract area	None
71L Melaleuca quinquenervia x 3 Local/Exceptional-High	Conserve & replace if lost	Outside contract area	None
73L Low retaining wall Local/Some-High	Conserve	Outside contract area	None
80L Natural Rock benches Local/Exceptional-High	Conserve	Outside contract area	None
88L Rockwork in Kodiak Bear pits Local/Exceptional	Conserve	Outside contract area	None
100B Chimpanzee Pk Local/Some	Conserve/Adaptive reuse	Outside contract area	None
116M Hallstrom memorial tablet Local/TBC	Conserve	Relocation	Depends on new location options – none nominated in DA
187L Bangalay Local/High	Conserve & replace if lost	Outside contract area	None
243L Piccabeen Local/High	Conserve & replace if lost	Removal	Already removed
254L Bamboo within tiger exhibit Local/High	Conserve	Outside contract area	None

Table 7.3 Summary of Heritage Impacts on Significant Items in the Vicinity of the Waterhole

Table 7.4 VIEWS from 2006 LMP	Existing Policy Implication	Proposal	Likely Heritage Impacts
V12, 13 & 15 From main path to CBD	Retain	Retained	None
V19 From main entry path to harbour, CBD & Bridge over giraffes	Retain	Retained though with different setting	New Giraffe House would dominate view
V20 From path above Tahr Mtn to harbour, CBD & Bridge	Retain	Retained from near Cliff Top Village walk	None from DA but already affected by new Tiger exhibit
V21 From path above Tahr Mtn to harbour, CBD & Bridge	Retain	Remove due to Cliff Top Village buildings in way with no views	Lost
V20 From path above Tahr Mtn to harbour, CBD & Bridge	Retain	Retained from near Cliff Top Village walk	None from DA but already affected by new Tiger exhibit
V40 From existing path east of giraffes	Retain	Remove as path makes way for giraffe exhibit expansion	Lost
V62 From lower path to Tahr Mountain	Retain	Not part of DA but circulation already bypasses this path	Lost
V80 From Octagonal shelter to harbour/CBD	Retain	Through additional 'lenses'	Modified

Table 7.4 Summary of Heritage Impacts on Significant Views

7.2 Potential for Heritage Impact: Congo Precinct

In terms of site area, more listed s170 items would be potentially affected within the new Congo precinct than for the corresponding new Waterhole precinct. This is mainly a result of the proposed removal of more areas of the original path system (virtually all within the precinct) and the removal of the extensive Orang-utan complex as well as the large U-shaped (Bush Birds) aviary to the north. As implied from **Section 6.2**, the reason for this is to achieve as much space as possible for new gorilla and Okapi exhibits.

7.2.1 Impact on the Taronga Zoo Setting

Africa Place (GDA Zones 2 & 8, currently Hallstrom Square)/Congo Forest (GDA Zone 9)

With the proposed new Congo development (and expansion of the giraffe exhibit), the current Hallstrom Square space would be altered. Apart from the removal of particular listed s170 items (also discussed below under 'layout' and 'fabric' although all of these aspects are engaged simultaneously), implications of this would include changes to the way retained s170 items are approached, perceived and experienced.

Chief among these would be the retained sequence of rustic seating flanking the grand staircase. Where the seating forms a line parallel to an original path following the contour, the proposed

scheme retains the flat path between the new Centenary Theatre and the Grand Staircase though removes the remainder of the path and replaces it with a curved descending ramp to connect with a new path that links back to the existing main north-south path next to the Wild Asia restaurant building. The existing sequence of rustic seating (either side of the stairs) and their intrinsic parallel pathway along with the grand staircase and the associated date palms form a remarkably intact concept from the 1920s directly inspired by similar features at Park Guell. The particular way this ensemble responds to the local topographic context – the path and seating following the contours and the stairs traversing them) is part of its significance. The ensemble originally formed a landscape centrepiece for this part of the zoo site.

Design issues with the potential to adversely reflect back on the established character of this area include the way in which the proposed First Aid & Cleaning Store engages with the retained rustic seating east of the stairs as well as the relationship of the northern part of the proposed African Waterhole space with the end of the staircase and rustic seating ensemble. GDA plan A-604 suggests the latter issue may be an awkward one with a difficult triangular 'threshold' and

angled descending steps leading to a new glulam shelter structure, all of which sits directly in line with the axis along the Grand Staircase. The strong, established landscape and architectural character of this area (recognised through previous heritage studies as exceptionally significant) appears not to be compellingly engaged leaving a potential 'collision' of intentions with new work and the existing landscape both sitting reticently with one another. This apparent ambivalence is potentially further compounded at the upper end of the stairs where a cramped flight of steps leads to a new path and the other side is left unresolved.

In these ways the scheme currently presents a number of unresolved aspects with potentially adverse heritage impacts for the setting of retained s170 items of exceptional or high cultural significance. Generally too, paths within the whole proposed Congo precinct appear to respond largely to BCA requirements.

Also within the proposed Congo Forest zone is Turner House. This fine example of the Interwar period 'Mosman cottage' aesthetic (now rare within the zoo site) has evidence of closely associated grounds designed with symmetrical planter beds framing a metal gateway positioned on the former house's main axis. With the proposed removal of Turner House, its integral setting would also be removed.

Gorilla Forest (GDA Zone 10)

The main areas of potential impact on the setting in this area would result from the closure of the Serpentine path to the public and the loss of all of the aviaries from this upper section of the zoo. As the Serpentine path has been accessible to the public for over 100 years, and formed part of the serial experience of views (including impressive panoramas to the harbour) when descending to the former seal pools, it is anticipated that this proposed change will have an adverse impact affecting social value.

7.2.2 Impact on Significant Layout

The main source of potential heritage impact for the layout within the new Congo precinct would be the proposed removal of much of the original 1910s path system. Given this represents a considerable extent of accessways, the level of heritage impact is likely to be severe – and especially so when its consequences additionally impact the setting with a knock-on effect to significant items retained in the precinct. This would also likely contribute to an adverse cumulative heritage impact for the zoo as a whole (Item 82A).

Areas of potentially adverse heritage impact on the historic layout of the zoo include:-

- * Removal of the main north-south spine linking the giraffe enclosure with the Food Hall;

- * Replacing part of the level, straight path feeding the lower entry to the Grand Staircase with a ramped, winding path;
- * Replacing the upper path to the Grand Staircase with a spatially cramped flight of steps that replicate the existing (relatively recent) system and alignment¹⁹⁵ while leaving the other (western) side of the entry unresolved;
- * Halving the width of the Serpentine path at the distinctive hairpin with no public access;
- * Replacing the relatively direct path linking the Serpentine path to the curved sandstone steps, with a winding path in much the same location; and
- * Removing a section of the path to the north of the existing gorilla enclosure (a path linking the new lemur enclosure with the Food Hall).

A further consequence of the removal of the latter path is its proposed replacement as a ramped path traversing the location of the set of three lower rustic seats (Item 55L) necessitating their removal from this location and relocation elsewhere (as yet without a new location being indicated).

A positive outcome in relation to listed heritage items would be the retention of the early curved sandstone stair set (57L) and its incorporation into a new circulation scheme.

7.2.3 Impact on Significant Fabric

Turner House (Item 54B)

Turner House is identified as being of 'Some' significance in the Conservation Strategy. While the reason for, and date of, its construction has yet to be determined, it is most likely that it was constructed for a public use associated with the Lawns and/or Kindergarten Zoo area, as reflected in its high degree of architectural resolution, albeit brickwork imitating a sandstone Mosman style cottage. There are also a large number of other uses that Turner House was used for, including as a residence for senior curator Walter [Harry] Turner and a range of staff and public uses such that there will be a significant adverse heritage impact from the loss of these historic associations.

While the original design intention and use of Turner House is not yet clear, it appears that it was deliberately located and designed within a landscape setting that included its siting between the two earlier Hoop Pines (s170 reference 53L) with paths and garden edging that utilise imitation sandstone elements like Turner House. There will be an adverse impact from the loss of the building and its landscape setting that can be described as the Mosman vernacular that once typified the zoo and linking the zoo with its local urban context.

There will be a significant adverse heritage impact more directly from the loss of a very finely constructed 'cottage' that utilised cement render to imitate the sandstone blocks, typical of a Mosman vernacular cottage. Turner House is one of the few or only imitation sandstone blockwork buildings in the Zoo. Its removal would preclude the otherwise desirable option of restoring and adaptively reusing the building and its grounds.

Orang-utan Rainforest Enclosure (103B)

The Orang-utan enclosure (1993) is significant as an example of the more recent approaches to designing animal enclosures where the structure is secondary to the function of providing a 'natural' setting for the animals. Of particular interest in relation to this function are the two separate but linked open exhibit areas and the (roofed) enclosure components accessed via a tunnel under the visitor path. The complete loss of this structure will have an adverse heritage

¹⁹⁵ The original path at this point was straight and mostly parallel with that at the lower side until being modified with the development of the Orang-utan exhibit. The new scheme proposes to replace most of the straight paths with sinuous paths.

impact resulting from the loss of a recent example of this 'non-architecture' (or 'quiet architecture') approach to animal enclosures albeit, in this case, not successful as animal accommodation.

Rustic Seats (Items 55L) and (unlisted) walling

The proposed relocation of the rustic seats (Item 55L) would represent a loss of important early fabric in locations where the seats were specifically intended, addressing an early path and contributing to the earlier landscape character of the setting.

The long stone/rendered line of walling (unlisted on the s170 register) formerly associated with the aviary benches and ramp off the Serpentine path is not specifically indicated on the documentation but is presumed to be removed to make way for 'cascading' terraces and a water feature within the new gorilla family area, in which case there would be an adverse heritage impact as the walling is at least from the 1930s if not earlier.

Vegetation near Africa Place

Although a substantial amount of the existing vegetation within the new Congo precinct is proposed for retention (including most of the s170 listed plantings), about half (mostly of little heritage value) is shown to be removed. Of this latter vegetation some are s170-listed plantings. These include:-

- * 2 x Silver Date Palms (*Phoenix sylvestris*)(183L & 184L);
- * Pygmy Date Palm (*P. roebelenii*)(278L); and
- * Bull Bay (*Magnolia grandiflora*)(161L).

The date palms, in particular, are valuable as part of the deliberate aesthetic of the Park Guell-inspired central area. Being palms they could also be transplanted and relocated nearby so as to enable them to continue their contribution to the retained stairs/seating ensemble. While the Bull Bay is accepted as needing to be removed for safety reasons, it should be replaced with a similar species (though not necessarily in exactly the same location) in order to maintain the established landscape character of the area. Where the palms are not recycled and the Bull Bay is not replaced there would be an adverse heritage impact.

Other s170 listed items proposed for removal where there is likely to be an adverse heritage impact include the U-shaped aviary (Bush Birds)(97B) and the small aviary (159B) both being the subject of an earlier HIA report (TCSA, March 2016). The site of the former elephant enclosure (95B)(indicated as the site of a new Okapi BOH structure) is regarded as being of minimal heritage significance and its retention is discretionary.

The Hallstrom memorial plate (Item 116M) is also proposed for relocation though options for alternative locations are not provided. There would likely be minimal heritage impact with the relocation of the plate from its present location but an adverse heritage impact where the plate is not returned to a suitable public space within the zoo.

7.2.4 Consistency with Assessed Significance

As with **Section 7.1.4** for the Waterhole precinct, this section considers the proposal from the perspective of the statement of significance (**Section 5.2**). In order to affect the assessed cultural significance of the place the proposed works would need to be clearly in conflict with any of the specific aspects outlined in the statement of significance. For convenience, each of the relevant paragraphs from the statement of significance is repeated below.

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.

The new Congo precinct contains a central area of importance in demonstrating the beginnings of development at the zoo from the 1910s and 1920s with particular reference to its landscape character (including exploitation of the intrinsic landform) through its circulation system and central landscape features. As a fine example of the Interwar-period Mosman cottage aesthetic, Turner House also contributes to Taronga Zoo's impressive collection of architectural styles. The proposed removal of much of the original path system and Turner House along with the consequences of relocating early rustic seating and the implications of these on remnant items would contribute to a cumulative loss of early zoo elements.

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 removal of most of the original circulation system within the new Congo precinct would impinge on an appreciation of the initial responses to the "steeply sloping topography of the site" as well as its "circulation layout and associated staircase and seating" resulting in an adverse heritage impact.

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 [planning] philosophy that have influenced the Zoo's development throughout the twentieth century.

This aspect of significance is not relevant in considerations for the new Congo precinct.

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.

The central part of the new Congo precinct holds an important place in the history of Taronga Zoo as it functioned as a major circulation and passive recreational node with its Park Guell-inspired landscape feature as the centrepiece. The central feature would likely hold social value as a place where successive generations of visitors have taken a moment of repose from the excitement of enjoying the zoo's many attractions. It would have contributed to the experience of visiting the zoo reinforcing it as "an important keystone in distinguishing Sydney's sense of place".

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.

There is likely to be negative impact arising from the loss of original and early fabric and layout where the site's ability to demonstrate important aspects of its progressive development is reduced.

In addition to these summary aspects of significance, there could be added that Taronga Zoo is an important early example in Australia of the direct aesthetic influence of the radical and internationally famous work of architects Antoni Gaudi and Josep Maria Jujol – particularly from Park Guell in Barcelona. This is demonstrated in the construction of the grand staircase; numerous series of scalloped, rustic seating; the robust, rustic character given to many other structures (including the rustic bridge) and the general use of textured foliage plants and palms in particular (especially date palms).

Proposed changes to the central part of the new Congo precinct would have an impact on an appreciation of this key example in the zoo and Sydney of the influential work of Gaudi and Jujol at Park Guell. The early adaptation of Gaudi and Jujol's Barcelona masterpiece at the zoo likely inspired a further replication of the rustic featured, palm-embellished character throughout Sydney (particularly municipal parks) over subsequent decades. The proposed removal of date palms (without careful recycling) from this area would further weaken the integrity of its design and adversely affect its particular landscape character.

7.2.5 Reconciliation with Taronga Zoo s170 Register Obligations

Within the proposed new Congo precinct there are 25 items¹⁹⁶ listed on the Taronga Zoo s170 Register and, of these, four items have been assessed as being of cultural significance at a State level. These are the early group of landmark Hoop Pines (*Araucaria cunninghamii*), the rustic stone seats, the network of original and early paths and the overall zoo site (providing broader context for the Congo precinct). Another 23 listed items are to be found in the vicinity of the proposed new precinct.

On its website under 'Heritage Registers', the Office of Environment and Heritage indicates that each government agency has an obligation to **conserve** and appropriately manage its s170-listed assets on behalf of the community.¹⁹⁷ Many items listed on s170 registers are of local heritage significance (as is the case with those for Taronga Zoo). Those assessed as having State heritage significance (but hitherto unlisted on the State Heritage Register), are eligible for consideration or listing on the SHR. In the event of an item assessed as having State heritage significance being proposed for demolition then this carries important implications such as precluding any future possibility of the item being listed on the SHR even though this may be warranted.

The present proposal indicates the loss of 11 (44%) of the 25 Congo precinct items – including one item of State heritage significance as well as the removal and relocation of another:-

- * Turner House (54B)(Local/Some, but more likely at least Moderate, significance);
- * Original (1910s) and early (1920s) paths (Part 99L)(State/Exceptional significance);
- * Orang-utan rainforest (103B)(Local/High significance);
- * Half of the Serpentine path (126L)(Local/Exceptional significance);
- * Former elephant enclosure (1940)(95B)(Minimal value);
- * Bush birds aviary (97B)(Local/High value);
- * Small aviary (159B)(Local/Some? value);
- * 2 x Silver Date Palms (*Phoenix sylvestris*)(183L & 184L)(Local/High value) – though these could be relocated/reused within the precinct.
- * Pygmy Date Palm (*Phoenix roebelenii*)(278L)(Local/High value) – though this could be relocated/reused within the precinct;
- * Bull Bay (*Magnolia grandiflora*)(161L)(Local/Exceptional significance); and
- * Rustic stone seats (possibly 1930s)(55L)(Local/High significance) are also proposed to be relocated though no alternate location is nominated in the DA.

¹⁹⁶ Of these 25 listed items, the Finch Aviaries (60B) and the Guenon enclosure (117B) have already been removed, the remaining aviaries (97B and 159B) are programmed for removal and evidence of the former elephant enclosure (95B) is minimal.

¹⁹⁷ Bold italics added.

Taronga Zoo (Item 82A)(State significance) as a whole will be affected by the loss/modification of its (Congo precinct) parts.

The proposed works therefore entail demolition of some items, the relocation of others, modifications to the original form of some items and changes to the setting of other, or the same, items. The Heritage Division's table of pertinent questions to be asked with respect to each of these proposed actions is given at **Section 7.1.5** and is not repeated here. Again, the overriding rationale for the proposed actions lies in the stated TCSA objectives quoted in **Section 6.2**. Chief among these objectives is the need to expand exhibit areas as much as possible in order to provide more suitable conditions for the animals that are the subject of focus.

7.2.6 Consistency with the Taronga Zoo Heritage Asset Management Strategy 2006

At **Section 7.1.6** various key principles of the TZ HAMS were cited with respect to Taronga Zoo's commitment to managing its listed heritage assets. A specific action suggested in the Strategy was to nominate Taronga Zoo and any State-assessed items on the s170 register for consideration on the State Heritage Register by December 2009. To date, none of the assets within the new Congo precinct have been nominated for inclusion on the SHR.

As with the Waterhole precinct, the proposed actions within the new Congo precinct (demolition, removal, relocation and modification) carry direct implications in relation to the principles stated in the TZ HAMS. The proposals appear not to be consistent with the following TZ HAMS principles though the broader TCSA context and objectives are also relevant:-

- (i) ZPB recognises Taronga Zoo as a significant place for the State of NSW and will endeavour to ensure the management of its heritage items is reflective of community values and aspirations for its heritage.
- (ii) The Zoo is to be conserved and adapted in accordance with the best practice heritage management principles outlined in the Australia ICOMOS Burra Charter.
- (iv) The retention, conservation and adaptation of items of Exceptional, High and Some significance will be facilitated.

7.2.7 Consistency with the TZ African Precinct Strategic Heritage Advice 2006

The TZ APSHA reiterates general policies from the Conservation Strategy and general recommendations from the Archaeological Management Plan before concluding with opportunities for redevelopment/conservation and specific recommendations for the African precinct (pp. 63-64 of the APSHA).

It advises that: "design development for the African Precinct should be based on an understanding of, and respect for, the significance of the precinct and the historic relationship of the distinctive areas within the Precinct to the development of the Zoo as a whole. Any new design, or concept for, the Precinct should also aim to reduce adverse impacts upon identified aspects of cultural significance". The document continues with "in general, significant buildings, landscape elements and views should be retained and incorporated into a new scheme in a meaningful way that does not compromise their significance or the Masterplan concept:-

- (i) The characteristic exotic cultural plantings and mature landmark trees at Hallstrom Square should be retained.
- (ii) New elements should be sensitively designed to minimise impact on the existing landscape setting of heritage items, iconic views from the precinct, and on the setting of the entire zoo.
- (iii) The heritage values of the African Precinct should be interpreted within the precinct".

Specific recommendations outlined in the APSHA include:-

(iv) "The specific character of the early landscape elements throughout the precinct, such as the rustic stone seats and sandstone retaining walls, elaborate Edwardian balustrading, and formal cultural plantings should be retained and conserved.

(v) Retain and conserve elements of Exceptional and High significance, in accordance with heritage advice.

(vi) Original pathways should be retained, even if they are partly buried by fill.

(vii) New additions within the precinct should be carefully designed to complement elements of significance. Any new buildings near elements of Exceptional or High significance should be designed in a way that ensures they do not visually compete with or adversely impact upon a significant element (and its setting) or a significance view".

The "characteristic exotic plantings...at Hallstrom Square" are the mature date palms that are proposed for removal. The removal of the 1910s circulation system is in direct conflict with APSHA recommendations (v) and (vi) and also impinges on those of (i), (ii), (iv) and (vii). The proposed works appear not to be consistent with some of the key recommendations of the TZ APSHA.

7.2.8 Consistency with the Taronga Zoo Landscape Management Plan 2006

Apart from recording Taronga Zoo's many features and assessing their relative significance, condition and integrity, the 2006 LMP provided various policies to guide future development at the zoo. While having regard to the zoo as a whole, there are many policies that are pertinent to the African (Congo) precinct. These are given at **Section 7.1.8** and not repeated here.

A review of these selective policies indicates that there would be adverse heritage impacts arising from the proposed new Congo development. These chiefly involve the loss of a number of listed s170 items (and especially those of State, exceptional or high cultural significance), the modification of others and changes to the characteristic setting of the central area.

7.2.9 Consistency with the Mosman Local Environmental Plan 2012

Relevant sections of the Mosman LEP 2012 with respect to heritage considerations at Taronga Zoo are Part 5.9 Preservation of Trees or Vegetation and Part 5.10 Heritage Conservation. In relation to Part 5.9, although vegetation is proposed to be removed as part of the development of a new Congo precinct, the overall amenity, including biodiversity, is likely to be generally retained. Particular instances of potential adverse heritage impact resulting from the proposed removal of specific vegetation will relate to the loss of date palms and other mature vegetation at the current Hallstrom Square area (including the mature *Magnolia grandiflora*).

Congo precinct issues relevant to Part 5.10 have been considered under **Table 7.1** of **Section 7.1.9**.

The following tables (**Tables 7.5 to 7.7**) summarise potential heritage impacts likely to arise from the proposal in relation to the Congo precinct.

Table 7.5 ITEM/Significance	Existing Policy Status	Proposal	Likely Heritage Impacts
53L Hoop Pines x 6 State/Exceptional	Conserve	Retention	None
54B Turner House Local/Some	Conserve/restore and interpret	Demolition	Major adverse heritage impact
55L Rustic stone seats Local/High	Conserve	Retention	Little
57L Curved Stone stairs (89L in CS) Local/High-Exceptional	Conserve	Retention	None
58L Rustic stone seats State/Exceptional	Conserve as part of ensemble	Retention	None directly, but setting potentially affected
60B Finch Aviaries Local/High [Partly DEMOLISHED]	N/A	N/A	N/A
82A Taronga Zoo State/NA	State level listed site that should be managed to conserve key assets	Refer to details	New precincts would result in a substantial area of the zoo site being modified with the loss of early layout and some key structures
91L Kigelia africana Local/TBC	Conservation preferable	Retention	None
95B Elephant encl. site Local/Some	Discretionary	Removal not indicated but Okapi BOH shown on site	Negligible impact
97B Australian Bush Birds Aviary (U-shape) Local/High	Conserve/Adaptive reuse	Removal	Adverse impact
99L Original & Early Paths State/Exceptional	State level listed feature to be conserved	Almost all for removal (GDA A-050)	Adverse impact likely especially where other original elements remain are former connexions are lost or confused
103B Orang-utan rainforest exhibit Local/Some-High	Conserve/Adaptive reuse	Removal	Adverse impact
117B Guenon encl. (former aviary) [DEMOLISHED]	N/A	N/A	N/A
126L Serpentine path Local/Exceptional	Conserve	Half removed (narrowed)	Adverse impact (loss of original width & loss of access to public after 100 years of use; also loss of view prospects from area)

<i>I 30L Steel pipe fence</i> Local/Some	Conserve	Retention	None
<i>I 34B Rendered wall</i> Local/High	Conserve	Retention	None
<i>I 43M Carved stone bollards/piers</i> Local/High	Conserve	Relocation	Unknown as new location not nominated as yet
<i>I 59B Small Aviary</i> Local/High	Conserve/Adaptive reuse	Removal	Adverse impact
<i>I 68L Brown Pine</i> Local/Exceptional	Conserve	Retention	None
<i>I 70L Cypress Pine</i> Local/Exceptional	Conserve	Retention	None
<i>I 86L Brush Box</i> Local/High	Conserve	Retention	None
<i>266L Elaeagnus triflora</i> Local/High	Conserve	Retention	None
<i>274L Ficus longifolia?</i> Local/High	Conserve	Retention	None

Table 7.5 Identification of Heritage Impacts on Significant Items within the Congo Precinct

Table 7.6 ITEM/Significance	Existing Policy Status	Proposal	Likely Heritage Impacts
<i>03M Cast iron post</i> Local/TBC	Conserve	Outside contract area	None
<i>I 11L Natural rock at former seal pool</i> Local/Exceptional	Conserve	Outside contract area	None
<i>I 2B Lemur forest (fmr sea pool)</i> Local/Exceptional		Outside contract area	None
<i>24B Moore Park Aviary</i> State/High	Conserve	Outside contract area	None
<i>25L Central stone stair</i> Local/High-Exceptional	Conserve	Outside contract area	None

56L Concrete stair Local/High-Exceptional	Conserve	Outside contract area	None
58L Rustic seats State/Exceptional	Conserve	Retention	None directly, but setting potentially affected
59L Double stairs Local/Exceptional	Conserve	Retention	None directly, but setting potentially affected
77B Koala House State/Exceptional-High	Conserve	Outside contract area	None
116M Hallstrom memorial tablet Local/TBC	Conserve	Relocation	Depends on new location – not indicated in DA
118B Ponds & islands Local/Exceptional-High		Outside contract area	None
123L Australian landscape section Local/High	Conserve	Outside contract area	None
138L Stone stair Local/Exceptional	Conserve	Outside contract area	None
146L Stone drains Local/Exceptional	Conserve	Outside contract area	None
148L Stone garden walls Local/Exceptional	Conserve	Outside contract area	None
160L Ficus macrophylla State/Exceptional	Conserve & replace if lost	Retention	None
161L Magnolia grandiflora x 2 Local/Exceptional	Conserve & replace if lost	Removal of one tree	Adverse impact from removal of tree
183L Phoenix sylvestris Local/High	An item of individual significance but considerable value as part of stair/seat ensemble – in context of threat, conservation through relocation and reuse essential	Removal (GDA A-600)	Adverse impact as relocation & reuse is plausible (species noted in proposed GDA Plant Schedule)
184L Phoenix sylvestris Local/High	An item of individual significance but considerable value as part of stair/seat ensemble – in context of threat, conservation	Removal (GDA A-600)	Negative impact as relocation & reuse is plausible (species noted in proposed GDA Plant Schedule)

	through relocation and reuse essential		
187L Bangalay Local/High	Conserve	Outside contract area	None
193L Alexandra palm Local/High	Conserve	Outside contract area	None
194L Strelizia reginae Local/High	Conserve	Outside contract area	None
243L Piccabeen Local/High	Conserve & replace if lost	Gone	N/A
265L Scolopia braunii Local/High	Conserve	Outside contract area	None
278L Phoenix roebelenii Local/High	An item of individual significance – in context of threat, conservation through relocation and reuse essential	Removal (GDA A-600)	Adverse impact as relocation & reuse is plausible (species noted in proposed GDA Plant Schedule)

Table 7.6 Identification of Heritage Impacts on Significant Items in the Vicinity of the Congo Precinct

Table 7.7 VIEWS from 2006 LMP	Existing Policy Implication	Proposal	Likely Heritage Impacts
V1 From main path above lemurs	Retain	Retained	None
V14 From Serpentine path to harbour	Retain	No public access	Lost
V22 Along main north-south path to harbour	Retain	Retained	None
V40 Along main north-south path	Retain	Replaced as part of expanded giraffe area	Lost
V63 From main path along aviaries to Koala House	Retain	Path and view to Koala House retained; aviaries gone	Modified

Table 7.7 Summary of Heritage Impacts on Significant Views

7.3 Evaluation of Impacts

7.3.1 Heritage Impacts on Landscape Elements

The Taronga Zoo landscape comprises substantial built elements as well as an extensive botanical estate – both of which include many items of considerable cultural significance. Tables

in **Section 5** of this report show that a number of these items are within the area that is the subject of this DA. Overall, the proposal has the potential to affect the established zoo landscape by removing components of the zoo's original and early circulation layout; removing early rustic stone seating from original locations; modifying or removing traditional views; and removing some mature plantings.

Of the latter, very few plantings of assessed high (or exceptional) significance are proposed for removal; chief among these being the removal of an early *Magnolia grandiflora* planting near Hallstrom Square. Some of the palms noted for removal are also mature and play an important role in reinforcing the exotic landscape aesthetic inspired by Park Guell in Barcelona. While some palms are noted for relocation, others are not; yet all of these are potentially capable of being reused elsewhere within the precincts in a way that supports the thematic emphasis of exhibits or reinforces the traditional landscape character. Other plantings noted for removal are recent and are easily replaced if required: *Spathodea campanulata*, *Vachellia farnesiana* and *Ceiba speciosa*.

In relation to the African Waterhole precinct in particular, there are a number of important views that have long been recognised as quintessentially representative of Taronga Zoo and reinforce that the zoo belongs to Sydney and no other city in the world. These include the various views from along the main entry path towards, and across, the giraffe exhibit and views of the harbour, Sydney CBD and Harbour Bridge from behind Tahr Mountain and from the Octagonal Shelter. All of these views would be potentially affected in some way by the present proposal.

A reconciliation of GDA plans A-050 (Existing and Demolition Plan)(**Figure 122**) and A-601 (Proposed Landscape Plan)(**Figure 121**) indicate that the changes between existing and proposed elements point towards the establishment of a new landscape aesthetic (in concert, of course, with the proposed new structures). This is not necessarily a negative outcome as such. The difference though is that the proposed new work is not being applied to a cultural vacuum. There is already a strongly established – and highly valued – landscape aesthetic in various parts of the subject precincts at Taronga Zoo; in some cases going back between 80 and 100 years.

Examples of these 'character nodes' include the Grand Staircase ensemble where broad double stairs, flanking rustic seat sequences, contour-hugging paths and lush, palm-dominated plantings provide a major functional and aesthetic focus within the Congo precinct; the broad viewing edge to the giraffe enclosure facilitating a range of postcard-apposite prospects featuring the eponymous iconic animals and their shelters in the foreground and Sydney's geographic icons in the background; the Tahr Mountain (probably unique in NSW if not Australia) and its related animals forming a striking feature of the lower Waterhole precinct with its scenic panoramic views across Sydney in the background; and the western (octagonal) lookout shelter with similar, yet different, views.

A consistent issue that is evident in reconciling such impressionable and traditional landscape features with the intent of the proposed new landscape aesthetic is the way the new work is shown to engage with the existing elements. In many cases the point of engagement appears ambivalent. In seeking to establish particular thematic aesthetics across the two principal precincts, the new work appears not to compellingly address the existing key character nodes. If built as suggested in this DA, the result would be that the earlier elements are either relegated to the sidelines (the former Pygmy Hippo shelter, Tahr Mountain) or ignored (such as the Grand Staircase's established axial geometry), their inherent rich language is reduced (by removing palms from around the Grand Staircase) or views are either compromised, modified or lost.

An important consideration in the successful integration of new work within the context of established earlier elements, is understanding and respecting the associated curtilages of the various acknowledged heritage items. A consequence of not understanding and respecting such curtilages is that the cultural significance of the items will likely be compromised.

7.3.2 Heritage Impacts on Architectural Styles and Types within Taronga Zoo

Taronga Zoo is a designed urban landscape that has evolved over more than a century. The vegetation in this landscape includes natural elements that either predate the Zoo, reflect the general cultural norms in style at different times, or are in response to a precinct theme relevant to the animals located there – an example being the *Vachellia farnesiana* along the path next to the Zebras.

Similarly, the buildings introduced around the Zoo at different times reflect either a general architectural style, were responses to the philosophical approach to animal management and presentation at different times, or reflect the theme of the precinct in which the animals were enclosed.

The Taronga Zoo Conservation Strategy, 2002, identifies a range of architectural types in the Zoo; some relating to architectural style and some relating to the changing approaches to animal management and presentation.¹⁹⁸

Many of the early functional public building at the Zoo reflect the Edwardian Baroque architectural style (the Upper Entrance, Aquarium and Indian Elephant). Another example of architectural style is the 1970s modern Sydney School style of architecture, with examples being the Koala House and Platypus House. Within the area of these DAs the Octagonal Shelter Shed is the only structure of this type and its conservation is a positive effect. The Octagonal Shelter Shed was located and designed to reflect a strong public recreation role that the first zoos unashamedly embraced. In this case, it was deliberately sited to provide views to the new Sydney Harbour Bridge and the Harbour generally. The architectural style of structures for visitors of the early period of the Zoo formed a strongly contrasting juxtaposition with the naturalistic animal enclosures. Such an example is the traditionally designed Octagonal Shelter Shed (now demolished), originally of dark brown face-brick, located nearby the naturalistic (1924) Giraffe House.

Other architectural types noted in the Conservation Strategy reflect different approaches to animal management and presentation over the century. The first is the naturalistic approach (with the earlier Stellingen Zoo in Germany as the model) where the enclosures were constructed to look like part of a natural environment, with examples in these DA areas being the Tahr Mountain and 1924 Giraffe House. The 1924 Giraffe House is a good example of this 'naturalistic' appearance — because of its visibility and size it, in a way, provides a non-architectural architectural statement. The former Pygmy Hippo exhibit is from this period and reflects this approach, but it also expresses a sense of humour and historic references with its 'human face' arrangement of openings.

The second approach to animal enclosures is described as Functional Design in the Conservation Strategy and reflects a desire during the Hallstrom period to place the animal needs above other issues, often with stark results. The 1940s Giraffe House is from this period and is a both a pragmatic structure but also more self-conscious with a bit of deliberate humour expressed in the 'log' construction and 'ruler' measurements to the side of an opening that the giraffes would stand next to. The loss of the 1940s Giraffe House will mean that there are no remaining examples of this type of imitation 'log wall' structure in the Zoo.

Another type noted in the Conservation Strategy is the Mosman Architectural Character where the strong connection between the Mosman residential suburb and Taronga Zoo is noted in the use of sandstone and Federation detailing. Turner House is a very good example of this approach and the use of cement render to appear as sandstone blocks and Federation cottage detailing on a early 1940s structure reflects a sophisticated appreciation of its Mosman location.

¹⁹⁸ GML, *Taronga Zoo Conservation Strategy*, 2002, Section 9.3.2, p. 111.

The last architectural type noted in the Conservation Strategy is the Contemporary Modern style that de-emphasised architectural expression to once again create a highly functional enclosure. The Orang-utan enclosure is a good example of this style.

Not included in the types noted above, are structures that are designed to reflect a precinct theme, such as the 1980s Safari Lodge Kiosk that exhibits aspects of Sydney School style but also reflects in its timber pole construction its location thematically in the African Waterhole precinct. Ironically, it would be replaced by a structure offering visitor amenities and that also responds to an African waterhole setting.

Overall, these DAs will result in heritage impacts from a loss or the alteration of fabric or use of structures from each of the types noted above, with some overall heritage impact on the range of architectural styles reflected in the collection as a whole, particularly the Interwar and immediate post-war periods that is expressed in the use of various forms of imitation finishes that in turn generally reinforced the sandstone landscape character of the place as a whole.

7.3.3 Heritage Impacts of Proposed New Buildings

Overall, the extent of built form in the two DA areas would change significantly, including the way that the built form is distributed. While many smaller structures would be removed to create larger open spaces for the thematically based enclosures (African Savannah and African Congo landscapes), there would be a 'drawing together' of some larger animal accommodation and back of house areas such that there would be several new large built elements, in particular the lion, giraffe and gorilla exhibits.

The largest new visible element would be the Giraffe enclosure that would incorporate most of the retained 1924 structure while replacing a recent giraffe back of house area. A large curved glue-laminated timber frame roof structure will span over these elements with articulated 'leaves' of roofing creating a 'vernacular' imagery to fit within the savannah theme. As noted above, the bulk of the new structure will be quite visible in the 'iconic' views from the main entry path to the Harbour and from views with the giraffes in the foreground and the Harbour in the background. The new structure would effectively diminish the scale not only of the large 1924 Giraffe House but also the giraffes themselves.

The large Lion enclosure would have three components: an open area (with high fences) where the lions will 'roam'; a steel mesh enclosure through which visitors will walk through the Lion enclosure and a large back of house area, also with a steel mesh face. The open lion area will include the former Barbary sheep area that contains natural sandstone 'steps' and so while there will be a loss of original animal association, the natural landscape elements will be emphasised. There would be some impacts from the scale and height of the steel mesh enclosures on the landscape experience of this part of the Zoo. However, the enclosure will be in an area that is already negatively impacted by recent ramping and the inclusion of such ramping inside the new steel mesh structure will have a more positive effect by reducing the visibility of the ramps.

As noted above, the retention of the Octagonal Shelter Shed is positive, however, it would be visually diminished by its inclusion within a large steel mesh structure. In addition, the experience of Harbour views that were a key part of the rationale for its construction would be of a fundamentally different and less reflective character, if they are available at all.

The series of structures forming the Cliff Edge Village are relatively large and high and would have impacts on the setting of Tahr Mountain and the former Pigmy Hippo/Fennec Fox enclosure. These structures and the associated elevated walkway, while providing interpretive information on the exhibits, would also increase the overall extent of built elements that visitors would need to walk through or around.

The new African Waterhole visitor amenities area is proposed to include a number of curved walled structures and a roofed area over a deck constructed between retained large trees. The roof components are shown as segmented in plan and, while the glulam beams are intrinsically heavy visually, the overall structures would sit reasonably comfortably within the landscape setting.

Similarly, the new Gorilla visitor viewing and back of house structures are broken up into smaller components with the open space and retained large trees remaining the strongest elements.

Overall, the new structures together with the animal enclosures would create a noticeable change in the landscape of the Zoo that has previously been typified by a series of discrete enclosures and associated structures. The grouping in two large Savannah and Congo precincts would change that aesthetic to be of a broader landscape, but also one of fewer but larger and more visibly dominant structures associated with these precincts, in particular the African Savannah precinct. The most visible new form in the setting of the Zoo would be the new Giraffe enclosure that this report considers would have adverse impacts on the setting of the retained 1924 Giraffe House, on the 'iconic' views and the setting of the giraffe/zebra exhibit and the giraffes (and zebras) themselves.

The curved steel visitor enclosure in the Lion precinct would have some impact on the retained Octagonal Shelter Shed and would have some impacts from its height and scale on an experience of the natural landscape in this part of the Zoo. While a relatively large structure, the African Waterhole amenities structure and roof would fit reasonably within its setting and similarly the structures within the new Congo precinct would sit well within that landscape area. Although it is not clear how the proposed new First Aid/Store structure would engage with the retained rustic stone seats that form part of the grand staircase ensemble.

7.4 Statement of Heritage Impact

7.4.1 African Waterhole Precinct

The following aspects of the proposal provide positive responses to the Taronga Zoo site by retaining items or areas assessed as having cultural heritage significance:

- * Substantial retention of the inherent natural landforms across the precinct.
- * Retention of use – giraffes and zebras in same general area.
- * Retention of the 1924 Giraffe House (though integrity affected with a section of the southern upper structure proposed to be removed).
- * Retention of natural sandstone outcropping throughout much of the western section of the precinct (including within the existing Barbary sheep enclosure).
- * Retention of an area of the remnant locally indigenous woodland community along the western part of the precinct.
- * Retention of Tahr Mountain.
- * Retention of the former Pygmy Hippo shelter.
- * Retention of the 1932 Octagonal Viewing Shelter.
- * Retention of the early rendered stone wall (Item 132L) near the existing Safari Lodge.
- * Retention of the original zoo path circulation between the giraffe and bongo enclosures and the Chimpanzee Park.
- * Retention of existing mature trees in situ near the existing Safari Lodge and south of the Barbary sheep and bongo enclosures.
- * The stated intention to relocate (reconstruct) the rustic stone seats (Item 76L) north of the Barbary sheep enclosure.
- * The stated intention to relocate (replant) various valuable plants near Tahr Mountain and the existing Safari Lodge and the mature palm near the Centenary Theatre.
- * Retention of some key significant views especially to the harbour.
- * Part of the recent intrusive steel access ramp to be removed.

The following aspects of the proposal could detrimentally impact on heritage significance. Measures recommended to reduce these impacts are discussed in the following report section (**Section 8**).

- * Loss of the 1940s faux-log Giraffe House (the only remaining structure of this aesthetic type remaining at Taronga Zoo) because the giraffe enclosure area is to be expanded with a new water feature introduced.
- * Siting, scale and design of the new Giraffe House would impinge on an appreciation of the 1924 Giraffe House (refer to **Section 8** for mitigatory measures).
- * Integrity of the 1924 Giraffe House affected with a section of the southern upper structure proposed to be removed.
- * Loss of a section of the original (1910s) main north-south access path because the giraffe enclosure area is to be expanded into the existing Hallstrom Square area.
- * Loss of a long section of original access circulation south of the Barbary sheep, bongo, zebras and (existing) meerkats because of the introduction of a new lion area requiring a new layout although part of the path alignment would be approximated in the new layout but at different ground levels.
- * Loss of some views to Tahr Mountain and Sydney Harbour from the new southern path access on account of the design and orientation of the proposed Cliff Top Village built assemblage.
- * Loss of access around Tahr Mountain to appreciate its full scale as originally intended because a lower access path is not part of this scheme nor of the adjacent Sumatran Tiger exhibit.
- * No associated strategy for the conservation of Tahr Mountain.
- * Loss of the purpose-built Safari Lodge as it is proposed to be replaced with a new purpose-built structure.
- * Loss of mature and valuable palm species not proposed to be transplanted.
- * Loss of the *Ceiba speciosa* and *Spathodea campanulata* because of layout and level changes.
- * Relocation of the rustic seat sequence (76L) away from its traditional location to an (as yet) unspecified location.
- * Loss of historic use and association of Barbary sheep with their site-specific exhibit because this area is proposed as part of the new lion exhibit.
- * Loss of the Edwardian-period fence and gate north of the 1924 Giraffe House because of the giraffe enclosure expansion (refer to **Section 8** for mitigatory measures).
- * Loss of integrity and relationship to its landscape setting of the Octagonal Shelter because it is proposed to be enveloped in a new steel-framed structure within the lion exhibit.
- * Change to the way views are appreciated from the Octagonal Shelter on account of its proposed new context within the large new lion viewing structure.
- * Changes to the traditional iconic views across the giraffe enclosure with the 1940s faux-log structure removed and the 1924 faux-rock structure dwarfed by the proposed new Giraffe House over and beyond it.
- * Lack of information (as part of an interpretive program) about retained elements that testify to the zoo's early history and enable visitors to understand how these elements were formerly used.

7.4.2 Congo Precinct

The following aspects of the proposal provide positive responses to the Taronga Zoo site by retaining items or areas assessed as having cultural heritage significance:

- * Substantial retention of the inherent natural landforms across the precinct.
- * Retention of the Grand Staircase.
- * Retention of the remaining rustic seating sequences either side of the Grand Staircase.
- * Retention of the original path along the western section of rustic seats.
- * Retention of the curved sandstone steps and their inclusion in the proposed new circulation layout.
- * Retention of part of the Serpentine path layout (1910s).

- * Retention of remaining components of the former Birds of Prey aviary.
- * Retention of existing mature trees in situ north of the Centenary Theatre, within the middle of the proposed Congo precinct, within Hallstrom Square and east of the Wild Asia food hall.
- * The stated intention to relocate (reconstruct) the rustic stone seats (Item 55L) north of the current gorilla enclosure.
- * The stated intention to relocate (replant) the mature palm near the Centenary Theatre.

The following aspects of the proposal could detrimentally impact on heritage significance. Measures recommended to reduce these impacts are discussed in the following report section (**Section 8**).

- * Loss of four sections of the original (1910s) path circulation to maximize the area for the new gorilla exhibit and allow for BCA-compliant pathways.
- * Loss of the 1910s Serpentine path access (126L) to public use because it is proposed as a back-of-house zone with staff access only.
- * Halving of the Serpentine path access in order to expand the proposed gorilla area.
- * Loss of Turner House (54B) (a fine intact example of the Mosman aesthetic cottage) because it is proposed to use this area as part of a new Okapi exhibit.
- * Loss of the innovative wrap-around 'U-shaped' aviary (97B) in order to maximize the proposed gorilla exhibit.
- * Loss of the small aviary (159B) in order to maximize the proposed gorilla exhibit.
- * Loss of the entire Orang-utan exhibit (103B) (including the iconic animals) from the zoo as it is the intention of the TCSA to withdraw this exhibit altogether.
- * Loss of the stone and render retaining wall (behind the aviary group) associated with the early aviary benching.
- * Loss of one early mature *Magnolia grandiflora* planting for safety reasons.
- * Loss of mature and valuable palm species not proposed to be transplanted.
- * Relocation of the rustic seat sequence (55L) away from its traditional location to an (as yet) unspecified location.
- * Unresolved design issues in relation to the upper and lower entries to the axial Grand Staircase.
- * Interpretive program omits intention to include information about retained elements that identify and explain the zoo's early history and enable visitors to understand how these elements were formerly used.

Additionally, there is likely to be an adverse impact on social value relative to the combined African Waterhole/Congo precincts where iconic structures (eg 1940s Giraffe House), and even the remaining aviaries, are removed or iconic views affected (views across giraffe enclosure, views from the Octagonal Shelter and views associated with Tahr Mountain and the harbour). The closure to public access of the Serpentine path after 100 years of use as well as the loss of the serial view experience along this well known route is also likely to result in an adverse impact on social value. The actual extent of adverse impact on social value is an aspect of significance that this HIA report was unable to include in detail and it is probable that there would also be some measure of compensation provided by the new precincts when completed.

8 Conclusions, Recommendations & Mitigatory Measures

8.1 Conclusions

Taronga Zoo is like many complex heritage places where significance is also a result of its ongoing use and where the changing nature of the place reflects the changes as society and its values change. Inevitably, there is a dynamic relationship between retention of use, and its physical expression, and with the need to adapt to changing circumstances. In this case, Taronga Zoo is in state of constant flux as a result of implementing best practice zoological planning for the wellbeing of animals in captivity. The need for more space for larger animals and the need for environmental complexity and group/family structures for the animals is a key project driver that will result in heritage impacts on the existing Taronga Zoo landscape. As noted in **Section 6.2**, the need for change and a key driver for this project, is also related to visitor education and an aim to 'turn guests into custodians for the wild'. As noted in the report, the built elements associated with visitor education will impact the overall visitor experience as will its more 'choreographed' nature.

Notwithstanding the extent of change that will result from this development, TCSA has been mindful in planning the development to retain as far as it can the overall topography and landscape nature and form, such that while there will be substantial changes in circulation and with impact on elements that are part of this circulation, the morphology, or evolution, of the landscape will still be able to be appreciated (such as the landscape outcropping in the Lion area) and that original uses will be retained in some areas, such the Giraffe precinct with its associated iconic views.

In some cases the decision by TCSA to retain heritage elements will also mean a difficult new context for these retained elements, such as the Grand Staircase and the Octagonal Lookout structure. TCSA believes that retaining these elements, even though the physical context changes, is better than removal. The positive effect from these retentions is that the overall landscape morphology is retained. Notwithstanding this positive effect, this report recommends that in design development and prior to implementation, that further detail be provided on the incorporation of these elements in their new contexts including through the provision of heritage interpretation (see Mitigatory Measures below).

As a case in point, are the impacts noted in **Section 7.1.1** for Tahr Mountain. In the longer term, it is likely that TCSA will, for various compelling reasons, remove the Himalayan Tahr population from Tahr Mountain (although this is *not* part of this DA). However, TCSA recognises the importance of Tahr Mountain and rather than leaving it out of the DA, it has been positively included so that its poor physical condition is noted and the investigations and conservation actions recommended in this report can be carried through.

Notwithstanding the project rationale and positive approaches noted above, the resultant development would likely result in a significant change in both the cultural experience and landscape and built form of Taronga Zoo. Where the visitor experience and itinerary was, traditionally, largely self-directed, this proposed development is based on the idea of a more directed experience (with relatively less individual choice) to improve learning – as noted above — including more built structures through which to navigate. The result is a scheme that will have heritage impacts through the loss of a number of important heritage items, the loss or impact on important traditional views and a change in the nature of the zoo experience (from self-directed with numerous pause points to that of a circuit) and from the extent and scale of new building structures.

Of the s170-listed items for Taronga Zoo, the present DA proposal indicates the loss of 9 (36%) of the 25 items located within the Savannah/Waterhole precinct – including two items of State heritage significance as well as the removal and relocation of another – and the loss of 11 (44%)

of the 25 Congo precinct items – including one item of State heritage significance as well as the removal and relocation of another. Overall, of the total of 50 s170-listed items relevant to the proposal, 40% of these would be removed. These losses would include the 1940s faux-log Giraffe House (part 61B)(State/Exceptional significance); Turner House (54B)(Local/Some, but more likely at least Moderate, significance); about half a dozen original (1910s) and early (1920s) paths (Part 99L)(State/ Exceptional significance); half of the Serpentine path (126L)(Local/ Exceptional significance); an early planting of Bull Bay (*Magnolia grandiflora*)(161L)(Local/ Exceptional significance); and the two 1930s aviaries including the Bush birds aviary (97B)(Local/ High value).

Many of the s170-listed items are found in combination or association such that they collectively reinforce a strongly established – and highly valued – landscape and/or architectural aesthetic in various parts of the subject precincts at Taronga Zoo: in some cases going back between 80 and 100 years. Where these elements are retained and proposed new work is shown in proximity, in some cases the point of engagement is either ambivalent or unconvincing such that the new work misses the opportunity to address or engage compellingly with the existing aesthetic character. A consequence of not understanding and respecting the prevailing aesthetic character of existing curtilages is that the cultural significance of the items will likely be compromised. An example is the Park Guell-inspired Grand Staircase/rustic seating/palm ensemble.

There is likely to be an adverse impact on social value where iconic structures are removed or iconic views affected resulting in changes to familiar landmarks and collective place memory. The closure to public access of the Serpentine path after 100 years of use as well as the loss of the serial view experience along this well known route is also likely to result in an adverse impact on social value.

The proposed DA would result in some overall heritage impact on the range of architectural styles reflected in the collection as a whole, particularly the Interwar and immediate post-war periods that is expressed in the use of various forms of imitation finishes that in turn generally reinforced the sandstone landscape character of the place as a whole. Together with the outright losses and modifications cited above – along with the removal of accessways (especially within the Congo precinct) – the heritage impact is likely to be cumulative with implications for Taronga Zoo as a whole (Item 82A)(State significance).

As much as this report is required to identify and describe potential heritage impacts – especially adverse ones – there are, of course, many identified heritage items within the precincts that are proposed for retention and therefore of a more positive nature. These are noted in the initial lists at **Sections 7.4.1** and **7.4.2**. As also noted previously, the proposal has a broader context that is underscored by the TCSA objectives in **Section 6.2**.

Section 8.2 identifies recommendations for heritage planning generally and **Section 8.3** recommendations for specific mitigation measures arising from this DA.

8.2 Recommended Heritage Planning

This review notes that, despite the Zoological Parks Board's recognition of Taronga Zoo as a significant place for the State of NSW (c/- Taronga Zoo Heritage Asset Management Strategy 2006) and having previously nominated the site for inclusion on the NSW State Heritage Register, the overall Taronga Zoo site (and various individual components of demonstrated State significance) remains unlisted as an item of State environmental significance on the SHR.

The completion of this African precincts project, including the preparation of this HIA report, has shown that given the scale and complexity of the Taronga Zoo site that more work is needed to finalise several heritage planning documents that underpin the identification of significance and the processes required for addressing heritage values in planning development.

As a result of a recommendation in the Taronga Zoo Conservation Strategy 2002, TCSA nominated Taronga Zoo for inclusion on the NSW State Heritage Register. It is understood that finalisation of this nomination is pending the identification of relevant site-specific exemptions available under Section 57 (2) of the Heritage Act. It is recommended that TCSA work with the Heritage Division of NSW OEH to finalise the SHR listing (including the identification of individual components of demonstrated State significance). There would also be considerable value in the TCSA directly briefing the Heritage Division on the broader, underpinning animal welfare and visitor education issues that now provide the principal zoo planning and design drivers for the future.

Under Section 170 (s.170) of the NSW Heritage Act, Government agencies are required to maintain a Heritage and Conservation Register. TCSA has a draft s.170 register. In association with finalising the SHR listing, it is recommended that TCSA finalise and adopt its Heritage and Conservation Register. In managing the Heritage and Conservation Register s170 register TCSA should, in addition to complying with the management guidelines issued by both the NSW Treasury and the Heritage Council of NSW, make the Heritage and Conservation Register freely and publicly available for perusal.

8.3 Recommended Mitigatory Measures

With respect to the findings of this heritage impact assessment in this report in relation to the combined African Savannah/Waterhole and Congo Development application, the following recommendations are given as a means of mitigating anticipated impacts on the heritage values of the zoo and the various components within it:-

Future Design Development

NB. These recommended mitigatory measures under Future Design Development should be included as part of the DA Conditions of Consent and where the Design Development phase precedes the Construction Certificate.

- 1 During ensuing Design Development work ensure the visibility of the former Pygmy Hippopotamus structure (98B) and provide interpretation of its history, including its unusual association with 16th century Italian Renaissance landscape antecedents.
- 2 During ensuing Design Development work ensure the retention of views to the city from the Octagonal Shelter Structure (144B).
- 3 Ensure that retained elements such as the rustic stone seating (58L) beside the Grand Stairs and the Grand Stairs themselves (59L) are as integrated as possible in the new landscape and not left as isolated heritage 'objects'.
- 4 The scale and form of the roof of the new Giraffe enclosure structure should be reconsidered in total to reduce impacts on the setting of the giraffe enclosure, the 1924 Giraffe House, key views and the giraffes themselves. This should include, but not be limited to, removal of the last 'bay' of the roof over the 1924 structure and the visitor feeding area.
- 5 Given the overall extent of new built form within the African Waterhole precinct it is recommended that, where possible, the number of built structures and their 'footprint' in the Cliff Edge Village, in particular, be reduced and where feasible their heights also be reduced.
- 6 As part of the Design Development phase for the Cliff Edge Village, ensure there remain opportunities for traditional views in the opposite direction to Sydney Harbour.

- 7 Plan replacements for the two *Magnolia grandiflora* trees (161L) with new advanced-size plantings in a similar location to maintain the traditional landscape character of this precinct.
- 8 Ensure all existing mature or valuable plantings that are capable of relocation are reused through transplanting to new locations within the DA area where they reinforce the intended thematic character of the respective landscapes.

Relocated Items

- 9 Ensure the relocated rustic stone seats (55L and 76L) are given new locations within the DA area that are, where possible, appropriate to their current form, geometry and condition.
- 10 The two sandstone piers (Item 143M) formerly behind the Finch Aviaries (60B and 97B) should be reused, where possible, within the Taronga Zoo grounds in an appropriate context (eg where there is already similar early work intact) or, at least, stored safely under proper conditions so they may be used for future conservation purposes.
- 11 The Edwardian-period metal handrail and gate (128L) north of the 1924 Giraffe House should be relocated and reused within the Taronga Zoo grounds where there is already an established Edwardian-period landscape or architectural character.

Archival recording

- 12 Ensure full measured drawing and photographic archival recordings of both Giraffe Houses (61B), Turner House (54B), the Orang-utan Enclosure (103B) and the Safari Lodge Kiosk prior to any new works commencing.
- 13 For Turner House, there should be a fully researched history developed in a package with plans/drawings and archival photographs to fully capture the history, design and use of the building and its setting.

Social Value Research

- 14 A visitor and community research project should be undertaken to capture the social values associated with the 1940s Giraffe House and other iconic zoo structures and precincts from the memories, photographs, memorabilia etc retained within the community.

Conservation Works Program

- 15 A comprehensive conservation works program should be developed for Tahr Mountain (70B)(with reference to the recent structural engineering report) during this project (with completion before 'occupation') and be implemented so that Tahr Mountain is capable of an appropriate future use.

Interpretation

- 16 Include as part of the proposed new interpretation program, information about the history of the zoo within these precincts that enables visitors to understand how these retained components and elements of the early zoo were formerly used. Particular examples of focus would be the retained 1924 Giraffe House, the retained former Pygmy Hippo shelter and the Park Guell-inspired Grand Staircase/rustic seating/palm ensemble.

Memorials

- 17 Generally, throughout Taronga Zoo and particularly within these precincts, the commitment to memorialisation should be carefully considered. Where a commitment to memorialise people has already been made (eg. Hallstrom family, Harry Turner, Gemma Bialoguski and Stella Amelia Packham) it should be honoured in an appropriate way.

Appendices

Appendix A Turner House Photographs (Courtesy: Geoff Ashley, Ashley Built Heritage)



Figure A1 Southeastern corner of Turner House.



Figure A2 Detail of the front entry to Turner House with detached gates beyond and built-in verandah.



Figure A3 Detail of the enclosing wall to Turner House.



Figure A4 Rear view of Turner House showing the retained access road behind it and the heavily shaded setting.



Figure A5 Interior view showing the built-in verandah with otherwise exterior cladding and detailing.



Figure A6 View of interior joinery and tiling.

Appendix B Turner House - Additional Information

(Courtesy: Jean Rice and Pam Burgoyne, TCSA Archives)

SSD 8008 African Savannah and Congo Exhibits Additional Heritage Information – Turner House 54B

The building known as Turner House (54B) is proposed to be demolished for this project. Little is known about the building and additional research has been undertaken to establish more detail about its history. Pam Burgoyne has researched the TZ board minutes and Jean Rice has made enquiries with former staff and researched newspaper articles and printed sources.

Historical Background

The Board minutes do not clearly identify the construction of the building now known as Turner House. The 1921 minutes mention that "Mr Miller's cottage" (the overseer) needed to have sewerage accommodation and it is mentioned again in 1922 where arrangements are being made to have it painted. It could be the house now known as Turner House or some other cottage on site as there were several houses and cottages on site in the past.

The area of Turner House and the vicinity was shown as lawn in the 1929 Zoo guide map. An aerial photo believed to date from about 1930 does not show Turner House. In a newspaper report on 17 July 1932 a Zoo Kindergarten was announced:

ZOO KINDERGARTEN

Colonel Spain announced last night that a kindergarten zoo is to be created. Young rabbits, lambs, goats, kangaroos, wallabies and any pets presented to the Zoo will be kept together in a large open yard. "We will allow the children to play with the animals, which will be thoroughly tame," he said.

Charles Camp was recorded as having "established" the Kindergarten. He was the Head Keeper but was appointed Overseer on 27 June 1932. It was not a Kindergarten as we now know it, rather for children to pet baby animals which had been hand reared and were tame. Newspapers in June reported on what could be found at the Children's Kindergarten and in 1933 the Board Minutes mention that 'asphalting of kindergarten' was to take place. On the 1933 guide map a Kindergarten Zoo was shown on the site that is now (2015) the parents rooms and toilets with the Turner House site still shown as lawn except for a small refreshment kiosk at the southwest corner of the lawn.

The Board minutes mention the "Kindergarten" frequently, including a kindergarten shop which had electricity and where a fridge was installed in 1939. The area continued to be shown as Kindergarten until the 1940s when the name changes to Childrens Zoo and part of the site is shown as a reptile exhibit. An Ambulance Station is also shown in an area of lawn north of what is now Hallstrom Square. The minutes record that in 1942, "a new ambulance room and enclosure for baby chimp (Keefi), situated in the Kindergarten area". Photos believed to date from c1950 show women keepers with baby animals in the vicinity and one shows Turner House in the background.

In the 1956 guide plan the site of Hallstrom House is shown as Kindergarten but no building is shown. Note that guide plans typically do not show back-of-house structures, rather they show exhibits and public facilities. The 1960 plan shows a First Aid Room in part of the area of the Childrens Zoo. Former staff members remember the building being used as part of the Childrens Zoo in the 1960s and that two women keepers lived there while hand raising animals. Later in the 1960s it was used as a residence including briefly by the Soden family. Turner House is visible in 1962 aerials photos and is also shown on a 1966 sewer plan with sewer lines to a toilet, basin and floor waste (PT FW) but no kitchen sink (KS).

Walter H Turner (Harry) lived in the cottage briefly. In 1968, "distraught over personal family matters", he committed suicide there, using the Zoo's .22 rifle, and was found by a fellow Zoo staff member. The building was then known as Turner House in memory of

him. Harry Turner was a long time Zoo staff member, referred to in some sources as a zoo keeper, a zoologist and as a Zoo official. He was working at the Zoo by 1947 when newspapers photograph him feeding penguins at the Zoo. There are also detailed articles about extensive overseas buying trips - accompanying animals including a giraffe from Africa and monkeys from New Guinea in 1947. Further reports detail trips in 1951 accompanying Australian animals and birds to England and in 1954 accompanying Australian animals to the USA and assembling a shipment of animals from Zoos in the United States or America and bringing them to Australia. A letter written by him to Hallstrom is held in Taronga Zoo archives. It is from Johannesburg in 1947 reporting on an incident involving the death of a giraffe.

Turner House is shown on the 1986 guide plan which also shows buildings more distinctly than previous plans and the Childrens Zoo is no longer shown. The Kiosk, parents room and toilets was built in 1986 on the Childrens Zoo site.

It was left vacant for some time after Harry's death. At some time in the mid 60's, it was apparently used as a facility where insects were bred (to be used as animal food) but it is not clear for how long. Staff remember it was used as the St Johns Ambulance First Aid Station in the 1970s. In the early 1980's it was a female staff change room (which likely ended when a female staff change room was built elsewhere in the Zoo in 1982). It was then used briefly for Koala quarantine prior to their shipment to Japan in 1984.

From the mid 1980s Turner House was used as an office shared by security and the head keeper and it was still in this use in the early 1990s. Later it was an OH&S staff office and it then was used by the Animal Enrichment (Animal Behaviour Unit) researchers as an office, until today.

Summary

It seems most likely that what is now known as Turner House was built in association with the "Kindergarten Zoo" in the 1930s. It was probably initially used as a residence or staff office for women keepers who ran the Kindergarten and Children's Zoo. It was later a residence and now offices and is named in memory of Harry Turner who shot himself in the building in 1968.

Jean Rice
24th March 2017

Following pages include:
Staff comments
Historical photos
Newspaper Articles

NOTE: The newspaper articles referred to above, and more of the archival photos, are held in the TCSA Archives and not included in this Appendix. They shed further light on the personality of Mr Turner and his roles at the zoo up to the 1960s.

Memories from long term / former staff

"I can remember Turner House as Graham Button's office (he was Head Keeper then). It also turned into the quarantine facility for the Koalas awaiting export to Tama Zoo and Nagoya Higashiyama Zoo, Japan in 1984. I seem to recall once the Koalas had vacated Turner House that it became the office for the behavioural enrichment team (including volunteers)."

"I remember Carol Inkson had an office in there at some stage as well & that Friendship Farm was where Zoofari Lodge Food Outlet is now. There was a small building in front of it that was the first aid unit"

"First aid centre in the 80s, then a Koala Quarantine centre for the Koalas going to Japan. Became the Head Keepers Office in the early 90s until Grahame Buttons left then was turned into an Office for the OH&S staff. Eventually into the Animal enrichment office"

Yes I heard Turner House was the grounds keepers and apparently there's still a hole in the roof where a bullet went. Zoo rumours!!! Would love to know.
Merryn Wigger

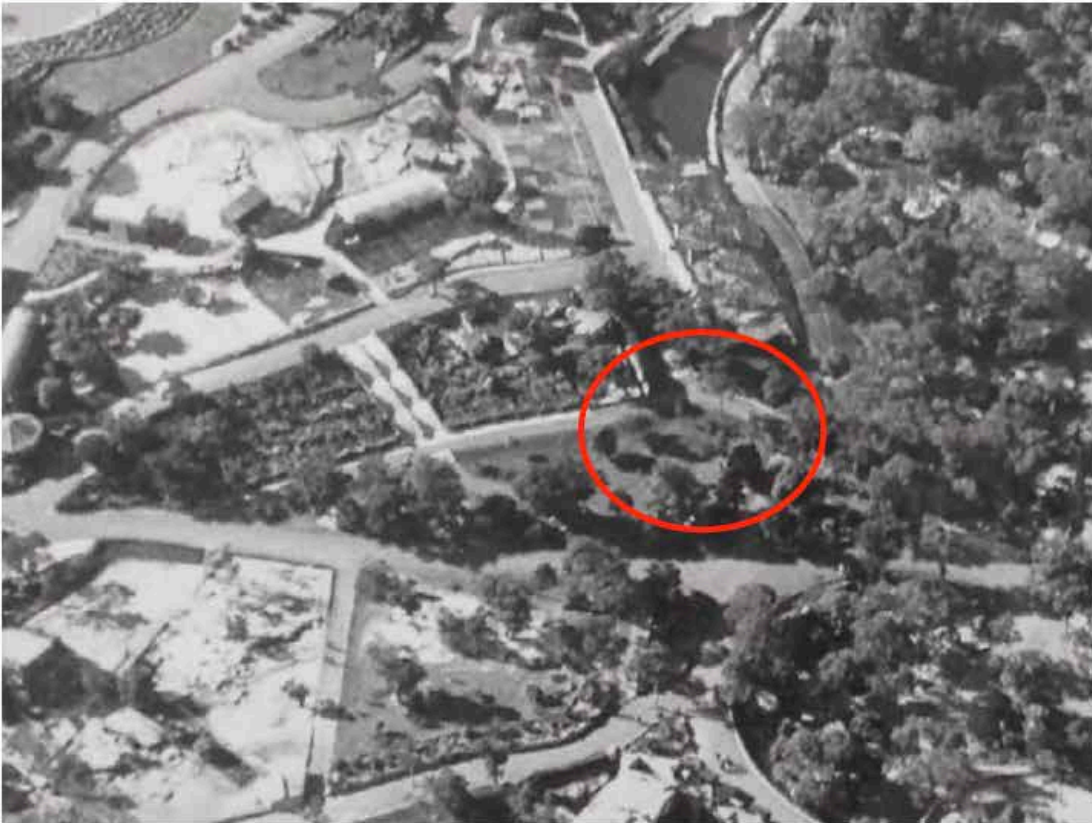
The bullet hole was still there when I retired some 13 years ago. You have heard about the resident ghost. I can give you the facts re: the suicide. Some ghost stories. Geoff Kidd and Margaret Hawkins can give better ghost stories. Both spent a lot of time in the building.
David Pepper

Geoff [Kidd] says that it was originally Harry Turner's residence - he was the ground keeper. When Geoff started in March 1976 it was used by St Johns Ambulance as a first aid station. It then became the female change room in the early 80s. Mid to late 80's it was shared by Security & Graham Button. Graham was around when Harry was alive and he told Geoff about Harry's death in the house and yes, the bullet hole story is true. Geoff took over from Graham in Turner House and has many stories of Harry's pranks particularly with women & Security. Tracey Rogers can tell you some stories too. I can recall sitting in a meeting with Geoff & the toilet kept flushing but there was no-one else in the office. I thought it was just bad plumbing. Geoff is happy to share more stories.....
Karen Edwards

No [original purpose not known], according to Graham Turner House was part of the Children's Farm in the early 60s when he started. Two female Keepers lived in there while they hand raised animals for the farm. He remembers that your family [Soden family] lived there for a period of time before the Tea House was turned into accommodation (your place) [now demolished] then Harry moved into Turner House. He was not in the house very long before he took his life. It remained vacant for a number of years before the St. John's etc. Graham also suggested that maybe old zoo maps might give you some hints. I don't know if this helps but.....
Karen Edwards



Margaret Lovett with 'Bambi', Dec 1951. In front of Turner House



Detail of c1930 aerial photo. The approximate site of Turner House is circled. It does not appear to be there.

Appendix C Information Board showing Visiting Celebrities/Dignitaries
(Courtesy TCSA)



An information board (shown at the Safari Lodge) recording some of the many celebrities and dignitaries who have visited Taronga Zoo over many decades indicating something of the high profile the zoo has in an international context.

Appendix D Memorials

1 Hallstrom Square monument

This monument consists of a sandstone pier with a large metal plate to the top, a large metal relief sculpture bust to the front and a small metal plate above the relief. It is located at 'Hallstrom Square' along the main north-south path facing the Safari Lodge. The top plate reads:-

HALLSTROM SQUARE

THIS SQUARE IS DEDICATED TO THE HALLSTROM FAMILY WHO HAVE GIVEN SO MUCH OF THEMSELVES TO THE BENEFIT OF TARONGA ZOO AND THE CHILDREN OF NEW SOUTH WALES.

Sir Edward Hallstrom Kt, FRZS
TRUSTEE OF TARONGA ZOOLOGICAL PARK TRUST 1944 – 1959
PRESIDENT OF THE TRUST 1948 – 1959
HONORARY DIRECTOR 1959 – 1965

John Hallstrom MBE
TRUSTEE AND TARONGA ZOOLOGICAL PARK BOARD MEMBER 1948 – 1985
PRESIDENT 1959 – 1972

The small metal plate fixed to the front of the sandstone pier (above the relief) reads:-

Sir Edward Hallstrom Kt, FRZS
Modelled by his daughter JEAN HILL

2 Gemma Bialoguski memorial

This memorial is located near the curved sandstone steps close to Turner House. Metal plate fixed to a small plinth reads:-

Gemma's Garden

The Zoological Parks Board of NSW
acknowledges the generous
bequest of

Gemma Bialoguski

This hibiscus garden
Is dedicated to her memory
June 1992

3 SA Packham memorial

This memorial is located near the curved sandstone steps close to Turner House. Metal plate fixed to a small plinth reads:-

The Zoological Parks Board of NSW
acknowledges the generous
bequest of

Stella Amelia Packham

This garden Is dedicated
to her memory
September, 1992