

Taronga Zoo Master Plan Urban Design Principles and Visual Analysis

The Taronga Zoo Master Plan Urban Design Principles and Visual Analysis 2001 (UDAS Guidelines) was prepared to accompany the Taronga Zoo Master Plan ‘Zoo 2000 ‘The View to the Future’. The UDAS Guidelines seek to provide the framework to guide development within Taronga Zoo. The urban design principles relate to land use, public access and linkages, conservation of significant bushland and other natural features, protection of the unique visual qualities of the harbour and local context, and scale and quality of development, as derived from context analysis.

In accordance with the Department of Planning and Environment’s (DPE) Response to Submissions (RtS) letter dated 14 September 2017, a detailed consideration of the Guidelines has been undertaken. It is considered that the proposal (as amended) is generally consistent with these guidelines in that the proposal will:

- Maintain the ongoing operations of the site as a Zoological Park, thus keeping with the existing special use of the site;
- Integrate with the natural bushland setting, items of heritage significance and landscape features of the site and its harbour side location;
- Protect the unique visual qualities of the Sydney Harbour by preserving the present view of “green vegetation from the harbour” and provide vistas over the harbour and Sydney CBD from various public spaces throughout the zoo; and
- Provide well scaled and high quality built form which is compatible with the characteristics of the zoo.

An assessment of the proposal (as amended) against the key guidelines of the UDAS Guidelines is provided at **Table 1** below.

Table 1 – Summary of consistency with the UDAS Guidelines

Guideline	Comment
2.2 Public access and linkages	
<ul style="list-style-type: none"> • Provide clear visual and physical linkages within the zoo, and to and along the foreshore, through emphasising a hierarchical pedestrian movement system. 	<p>The proposal seeks to consolidate and rationalise the visitor circulation throughout the exhibit area, providing clear links and directions of movements. Further the proposal seeks to maintain, internal visual links to, from and within the exhibit areas.</p>
<ul style="list-style-type: none"> • Achieve integrated access for all, including those that are less mobile such as the disabled through to people with strollers, particularly on major pathways through the zoo. Ramps where provided however, should not be visually intrusive. Retention of stairs is acceptable where they provide additional, alternative and varied pathways. Some stairs are acceptable in that they can more readily provide, due to the topography, direct north-south links through the Park. 	<p>A primary objective of the proposal is to provide for an enhanced visitor experience and to ensure DDA compliant site access for all visitors throughout the new exhibit areas. This will require partial removal of existing pathways, re-grading of the site and installation of new accessible pathways. The circulation system has been designed to integrate with the proposed exhibit landscaping so to not be visually intrusive.</p>
<ul style="list-style-type: none"> • Maintain continuous public foreshore access; that is, maintain the link between Bradleys Head Sydney Harbour National Park [SHNP] and Sirius Reserve, Mosman Municipal Council [MMC]. 	<p>The proposed exhibits are located centrally within the zoo. No works are proposed along the foreshore. As such, access will not be inhibited.</p>
<ul style="list-style-type: none"> • Provide clear access through the zoo, so that visitors can easily find their way. This is to be achieved through a hierarchical network of pathways. This hierarchy is to be reflected in terms of path width, materials, public domain furniture, planting and the scale of adjacent buildings, structures and exhibits: <ul style="list-style-type: none"> – a main pathway through the zoo is to act to physically link the key open spaces and attractions within the zoo; 	<p>A key objective of the proposal is to consolidate and rationalise visitor circulation to improve visitor experience and way finding.</p> <p>The exhibit area will connect with the main pathway from the zoo’s primary northern entry at the Giraffe exhibit and provide visitors one of two choices; visit the African Savannah (moving to the west) or towards the Congo exhibit (moving to the east).</p> <p>Significant view corridors within the zoo relate to the location of</p>

Guideline	Comment
<ul style="list-style-type: none"> - view corridors within the zoo, to the foreshore and harbour are to relate to the location of the main open spaces [typically down the east-west gullies and ridges], as these act as points of orientation, and are integral to the experience of Taronga Zoo; - that minor pathways are to differ from major pathways in terms of character, and should provide a clear link back to the main pathway network; - that service lanes are to provide for “back-of-house” activities, with public movement along these lanes discouraged; and - that there is an opportunity to re-establish the former pattern of movement through the zoo, whereby a major north-south “spine” [primary] through the centre of the zoo is clearly defined, with less major east-west “ribs” [secondary] crossing over, with the “ribs” also linked by a number of minor north-south paths and steps [tertiary]. 	<p>open public spaces for example at the Giraffe enclosure and the proposed lion viewing and keeper talk area. These areas provide iconic views out from the zoo towards Sydney Harbour.</p> <p>The proposed pathway treatment to be further developed during detailed design will ensure the character of major and minor pathways are clearly defined.</p> <p>Back of house areas are proposed to integrate with the existing access system through the zoo as well as the exhibits whilst remaining discreet and discourage public movements.</p> <p>The proposed exhibits seek to retain where possible the former pattern of movement throughout the zoo. However, it is noted that many of the existing pathways are not DDA compliant and are not accessible to all visitors.</p>
2.3 Conservation of significant bushland and other natural features	
<ul style="list-style-type: none"> • Preserve the natural visual character of the zoo, as viewed from the harbour, and as experienced within the zoo. 	<p>The proposal will result in the minor addition of built form elements within the zoo. However, it is considered that due to views towards the site either being distant or obscured by on-site vegetation, the detail of the proposal is not likely to be significantly noticeable and would not be prominent or dominant aspect of the landscape or impact on the existing “well-vegetated view”.</p>
<ul style="list-style-type: none"> • Preserve and regrow locally indigenous vegetation along the foreshore. 	<p>No works are proposed to the foreshore area.</p>
<ul style="list-style-type: none"> • Retain the quiet character of the foreshore bushland areas, in contrast to the more active areas of the defined Taronga Zoological Gardens, through preserving present tree cover and bushland density, and providing and maintaining “low-key” bush tracks. 	<p>No works are proposed to the foreshore area.</p>
<ul style="list-style-type: none"> • Preserve the present character of Sirius Point, particularly the tightly defined and well vegetated track and view corridor. 	<p>No works are proposed within Sirius Point.</p>
<ul style="list-style-type: none"> • Retain the natural landform of the zoo: <ul style="list-style-type: none"> - there is an opportunity to interpret and/or reinstate the north-south watercourse in its former location [this would also give a purpose to the Rustic Bridge]. 	<p>The proposed African Waterhole alludes to the original north-south watercourse through the site. Notably, the proposal does not seek to drastically alter the existing topography of the exhibit area. The design has been driven by a ‘light-touch’ approach, integrating built form and building from the existing landscape e.g. the rocky outcrops present within the lion exhibit.</p>
<ul style="list-style-type: none"> • Retain the mix of indigenous and exotic vegetation throughout the defined Taronga Zoological Gardens, to avoid recognition of distinct precincts of vegetation types when viewed from the harbour, but rather, retain the overall consistent well-vegetated view. 	<p>The overall landscape design seeks to integrate realistic landscape and architecture which depicts the natural habitats of the Serengeti, Kenya and the eastern zone of the Congo, Central Africa. The proposal has been developed around 11 distinct planting zones. These zones are characterised by various vegetation, from tall grasses of the Savannah, low dense shrubland and succulents within the Cliff Edge Village and Rocky Hillside, to dense forest canopy made up of existing ficus species and other evergreen species in the Congo Forest. The Lion exhibit maintains a natural escarpment of existing sandstone which provides an interesting contrast to the flat Savannah (Giraffe and Zebra exhibits) to the east. In total, the proposal (as amended) seeks to revegetate the exhibits with more than 28,000 plants, including 203 trees. Overall, once established the exhibits will maintain a consistent well-vegetated view.</p>

Guideline	Comment
2.4 Protection of the unique visual qualities of the harbour and local context	
<ul style="list-style-type: none"> • Views to the zoo from the harbour: <ul style="list-style-type: none"> – preserve the present view of “green vegetation” from the harbour, through minimising built form protrusions through the tree canopy, particularly on the prominent or exposed ridges; preserve the natural bushland character of the foreshore, responding to specifically to the characters of the three different foreshore bushland areas: <ul style="list-style-type: none"> – the area between Athol Wharf Road and the Whaling Station beach; – the area between the Zoo Wharf and Little Sirius Point, extending south down to Whiting Beach, and defined to the north by the defined Taronga Zoological Gardens wall; – and the area between Little Sirius Point and the Rickard Avenue steps, addressing the contained Little Sirius Cove. 	<p>The proposal will result in the addition of minor built form elements to the existing landscape, resulting in a low visual effect on views to the zoo from Sydney Harbour and key vantage points. Due to views towards the site either being distant or obscured by on-site vegetation, the detail of the proposal is not likely to be significantly noticeable and would not be prominent or dominant aspect of the landscape. The proposed exhibits have been designed to integrate with the existing zoo landscape, being of a scale and bulk that is consistent with surrounding built form and located so not to protrude above the ridgeline. The proposal maintains the visual connection between Taronga Zoo and Sydney Harbour without becoming overly dominant. The structures have been designed to a scale that with integrate with the existing natural landscape. Additionally, natural landform features have been used in the design of the exhibits.</p> <p>It is considered that the proposal remains consistent with the objectives and guidelines of the UDAS Guidelines, in that it: The proposal seeks to protect views to the zoo from the harbour, integrating built form within the landscape and includes substantial landscaping to minimise visual intrusions on and contribute to the “well vegetated view”;</p> <ul style="list-style-type: none"> • The proposed built form is consistent with the locality and existing built form within the zoo complementing the scenic character of the area; • The proposed built form does not protrude above the existing tree canopy or prominent ridgelines of Bradleys Head and the zoo; and • The proposal seeks to reduce the cumulative impact of built form on views to the zoo.
<ul style="list-style-type: none"> • Views to the harbour from the zoo: <ul style="list-style-type: none"> – maintain views to the harbour, particularly as concentrated through the two primary gullies, through minimising intrusions to these view corridors, and where appropriate, define these views through vegetation, and low built form elements [lower than the predominant tree canopy]; – maintain the ridge-point panoramic views to the harbour through retaining low vegetation and minimising built form intrusions; and – continue to concentrate views at key public open spaces. 	<p>The proposal is consistent with the objectives and guidelines of the UDAS Guidelines in that:</p> <ul style="list-style-type: none"> • The proposal aims to protect views to the harbour from the zoo and retain the important cultural views of animals, specifically the giraffes, with the unique harbour and city backdrops; • No works are proposed within the key view corridors and sensitive areas (refer to Figure 15), with views being protected across these gullies from Cliff Village above Tahr Mountain; • The proposal minimises built form intrusions within significant views providing low vegetation and low built form elements such as fencing; • The proposal will maintain views at key public open spaces, and contribute to the creation of new viewing opportunities at the proposed lion viewing and keeper talk area.
<ul style="list-style-type: none"> • Views to the zoo from the surrounding locality, and views from the surrounding locality to the zoo: <ul style="list-style-type: none"> – ensure that development at the edge of the zoo addresses public streets, and reflects the character of the local built form, particularly in terms of height and setback; and – provide clear views to zoo entry points; and – minimise views to car parking associated with the zoo from public streets. 	<p>The proposed exhibits are located centrally within the zoo and are not visible from surrounding roads. The proposal will not alter the existing entry points or views to car parking.</p>
<ul style="list-style-type: none"> • Staging of development is to be managed such that impact on the visual appearance of the zoo, particularly as viewed from the harbour, is minimised. 	<p>Development will be staged to manage the impact on the visual appearance of the zoo.</p>

Guideline	Comment
2.5 Scale and quality of development, as derived from context analysis	
<ul style="list-style-type: none"> • Relate built elements to the character of that precinct of the zoo, and in particular respond to <ul style="list-style-type: none"> - nearby desirable built elements and heritage items; - existing vegetation; 	<p>The proposed built form elements of each exhibit have been designed with consideration to the existing characteristics of the zoo precinct.</p> <p>Multiple items of heritage significance including the 1924 Giraffe House, Grand Staircase, rustic stone seats and Original / Early Pathways have been retained within the exhibit area. Further, the design of the exhibits (i.e. the reduction in the scale of Cliff Village) responds to items of significance outside the exhibit boundary including Tahr Mountain.</p> <p>As noted above, the proposal has been developed around eleven distinct planting zones. These zones have been informed by existing vegetation i.e. the sandstone escarpment within the lion exhibit, flat plain of the giraffe exhibit and dense vegetation throughout the gorilla exhibit.</p>
<ul style="list-style-type: none"> • Minimise built elements: <ul style="list-style-type: none"> - on exposed ridges; - within the gullies, so that development does not impinge on view corridors and is lower than the predominant tree canopy; 	<p>The proposal will result in the addition of minor built form elements within the existing zoo landscape. These elements have been located, as far as practically possible, away from exposed ridges or within the gullies. However, where existing exhibit footprints or other site constraints have resulted in the location of built form on ridges or within gullies (i.e. the giraffe exhibit) visual impacts have been mitigated through the reduction of the scale of built form to ensure they do not protrude above the predominant tree line and by selecting natural materials to reduce visibility.</p>
<ul style="list-style-type: none"> • Minimise the extent of building footprints and stepped building forms so as to reduce the extent of building bulk, particularly as viewed from the water. 	<p>As far as practically possible, the extent of building footprints has been minimised. However, it is noted that back of house areas (i.e. gorilla, lion and giraffe) are required to meet certain sizing and operational requirements in order to meet modern exhibit standards and maintain a high level of animal welfare and to ensure animal and staff safety.</p>
<ul style="list-style-type: none"> • Locate and design built elements so that they permit the retention of: <ul style="list-style-type: none"> - desirable view corridors crossing through the site, enabling views through to the harbour and thereby aiding orientation within the zoo. 	<p>As noted above, the proposal seeks to maintain desirable view corridors through the site, protecting views from the zoo to Sydney Harbour and CBD, including the iconic view across the giraffe exhibit. Cumulatively, the proposal will result in a minor but acceptable impact on views to, from and within the proposed exhibit areas.</p>
<ul style="list-style-type: none"> • Locate buildings that are close to the zoo boundary so that align with and address public streets and thoroughfares. The scale of these buildings should reflect the scale of the surrounding two-storey development. 	<p>The proposed exhibits are located centrally within the zoo and therefore do not have a frontage to surrounding residential development.</p>
<ul style="list-style-type: none"> • Site bulkier buildings on the flatter upper slopes, to the north of the site, thereby: <ul style="list-style-type: none"> - minimising impacts on views to the zoo from the harbour through minimising built element protrusions on ridges; and - minimising impacts on views from the zoo within the gullies, located in the lower southern, and south western slopes. 	<p>The proposed exhibits are located centrally within the zoo.</p>
<ul style="list-style-type: none"> • Design back-of-house built elements, where they are required in the central public portion of the zoo, in a manner so that they are integrated with landscape, and accessible from service paths. Blank facades to public paths are strongly discouraged. 	<p>The proposed back of house facilities have been designed to integrate with the existing topography (i.e. the gorilla back of house), exhibit areas (i.e. the fennec fox exhibit) and are accessible via service pathways.</p>
<ul style="list-style-type: none"> • Design shade cloths to open spaces such that they: <ul style="list-style-type: none"> - do not impact on the line of view from areas above [to the north] and below [to the south]; and - are made from lightweight fabrics with a colour and 	<p>No shade cloths are currently proposed as part of the development. Should shade cloths and structures be required following detailed design or construction consideration will be given to the relevant guidelines.</p>

Guideline	Comment
degree of transparency sufficient to permit shading as well as optimal camouflaging.	
<ul style="list-style-type: none"> Design built elements, especially publicly accessible buildings and exhibits, so that they have active interfaces with public paths and open spaces, that is, provide windows, defined views, entries and viewing platforms to buildings and exhibits adjacent to public paths and spaces. 	A primary objective of the proposal is to provide an enhanced visitor experience. As such, exhibit areas have been designed to be interactive, with windows, multiple well defined entries and several viewing platforms and areas throughout the exhibit areas, connected by the primary visitor circulation pathway.
<ul style="list-style-type: none"> Avoid long blank walls more than 1.2m high, adjacent to public paths and spaces, rather, design buildings that are expressive, and where possible, provide a sequence of views through to adjacent exhibits. 	The proposed buildings have been positioned and designed to avoid blank walls. Further consideration will be given to this guideline during detailed design.
<ul style="list-style-type: none"> Site buildings so that they align with pathways, open spaces or view corridors, so that define and give character to these contained spaces. 	Buildings and structures have been aligned with the visitor pathways and exhibit boundaries to define and give character to these areas.
<ul style="list-style-type: none"> Select materials that reflect the natural character of the zoo; and that relate to heritage items. Use of a palette of materials that relates to a particular precinct is encouraged to enhance the specific character of that precinct. Avoid the use of reflective materials, particularly to roofs. 	The proposal incorporates a natural material palette that compliments the existing character of the established precincts. Highly reflective materials are not proposed. Further refinement of the material palette will occur during detailed design.
<ul style="list-style-type: none"> Use colours found in the natural colours of the vegetation and landform of the zoo. These colours include muted greys, greens and grey/beiges. Stronger earthy tones are appropriate for feature elements and trims. 	The proposal incorporates a natural material and colour palette which complements the existing character of the zoo and the individual exhibits. Further refinement of the colour palette will occur during detailed design.
<ul style="list-style-type: none"> Object elements: <ul style="list-style-type: none"> Avoid the development of “object-type” built elements. The exception to object-type elements includes highly valuable, public landmarks such as the iconic Elephant Temple. 	The proposal seeks to avoid the development of “object-type” built form by integrating the proposed structures with the surrounding topography, landscape features and other built form.
<ul style="list-style-type: none"> Natural integrated elements: <ul style="list-style-type: none"> Design “natural-type” built elements for precincts throughout the zoo, particularly on the lower more exposed portion of the zoo, integrating with the surrounding environment through the use of natural materials. 	The proposed development seeks to provide “natural-type” built form elements which integrate with the surrounding environment and incorporate natural materials.
<ul style="list-style-type: none"> Contemporary modern elements: <ul style="list-style-type: none"> Confine “contemporary modern-type” elements to the northern flat portion of the site. 	The proposed exhibits are located centrally within the zoo.

The proposed exhibit area falls across three of the landscape precincts identified within the UDAS Guidelines. These being:

- Upper West landscape precinct;
- West Gully landscape precinct; and
- North South Ridge landscape precinct.

An assessment of the proposal (as amended) against the key guidelines of the UDAS Guidelines is provided at **Table 2** below.

Table 2 – Summary of consistency with UDAS Character Statement and Built Form Guidelines

Guideline	Comment
Upper West	
<ul style="list-style-type: none"> Optimise future development opportunities to reorganise back-of-house facilities such that they contribute to a well-defined precinct, with a clear layout of pathways, and have a public address to the adjacent suburb of Mosman. 	<p>The proposed lion back of house is located within the Upper West area adjacent existing back of house and office facilities. The lion back of house building has been designed to integrate with existing built form and existing topography. However, it is noted that the building does not seek to address the adjacent suburb of Mosman rather orientates internally towards the zoo to mitigate noise impacts.</p>
<ul style="list-style-type: none"> Focus building development in the north-eastern portion of the Upper West precinct, so that buildings and structures are set well back from the more exposed ridges and cliff-lines. 	<p>The lion back of house and other exhibit structures are positioned so to not inhibit views, however, it is noted that these structures are partially visible from Sirius Cove and Curraghbeena Point. Mitigation measures including compatible materials and vegetation will assist with the integration of these structures into the headland.</p>
<ul style="list-style-type: none"> Development close to the western zoo boundary should define the public stair access and view corridor with a clear public address, and alignment to these public thoroughfares. 	<p>The proposed development is not located on the western boundary of the zoo.</p>
<ul style="list-style-type: none"> Utilise a palette of materials that seek to support the specific character of this precinct. Heavier weight materials may be more appropriate to the north, where structures are likely to be less exposed, with lighter structures closer to the south. 	<p>The proposed exhibit structures have been designed to incorporate a natural palette of materials to further integrate the built form with the surrounding landscape.</p>
<ul style="list-style-type: none"> Utilise structures in developing and defining view corridors to the harbour and other key orientating zoo elements. 	<p>The proposed lion viewing and keeper talk area has been positioned to capture key views to the harbour, and Sydney Harbour Bridge. This enhances existing viewing opportunities, further defining existing view corridors.</p>
West Gully	
<ul style="list-style-type: none"> Avoid built form along the length of the gully, particularly where it is steep, so as to permit continuous views through to the harbour. 	<p>The proposal limits built form within the West Gully so to protect views from the zoo, particularly the view from the Giraffe exhibit to Sydney Harbour. Built form will consist of pathways/boardwalks and the zebra and ostrich back of house. These structures have been scaled and positioned to ensure they integrate with the landscape and do not protrude above the existing tree line.</p>
North South Ridge	
<ul style="list-style-type: none"> Minimise built form along the length of the ridge, due to its high visual exposure as viewed from the harbour. 	<p>The proposed exhibits areas are primarily located within the NS Ridge area. Due to this consideration has been given to the positioning, scale and bulk of proposed built form. The proposed gorilla exhibit viewing structures and back of house have been purposefully integrated within existing topography and the vegetated surroundings to ensure view impacts are minimised when viewed from the harbour. Further, green roofs are proposed to minimise the impact of the structures when viewed from the Cable Car overhead.</p> <p>The amended proposal has reduced the number of structures within Cliff Village and the African Waterhole, reducing visual impacts of the proposal and maintaining views out from the zoo to the harbour. In addition, the design amendments have resulted in the relocation and reduction in height of the new Giraffe, further to the west, outside the boundary of the north south ridge.</p>