



Architect Design Statement

Taronga Reptile & Amphibian Conservation Centre
Bradleys Head Road, Mosman

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Acknowledgement of Country

We acknowledge the Traditional Custodians of Country upon which we live and work throughout Australia, and in relation to this project dwp acknowledges the Borogegal and Cammeraigal people and we pay our respects to Elders, past, present and emerging. We recognise and respect their cultural heritage, beliefs, and relationship to the land. We are committed to our reconciliation journey. We proudly support The Uluru Statement from the Heart and encourage our colleagues and partners to join the support for the statement.

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Issue	Description	Date	Check	Authorised
C	For Development Application Submission	28/06/2021	KD	CM



1. Introduction

This Architect Design Statement has been prepared by dwp, on behalf of Taronga Zoo, to respond to the Planning Secretary's Environmental Assessment Requirement [SEARs] for the State Significant development proposal for the new Taronga Reptile and Amphibian Conservation Centre [RACC] - SSD-17483577.

The statement provides an overview of the architectural design and specifically addresses the following SEARs:

2. Built form and urban design

- that the planning and design of the development has been informed by and responds to Aboriginal cultural connections to Country, having regard to the commitment and principles for action in the Draft Connecting with Country framework, Nov 2020 (Section 3.1)
- how the proposed building or building envelope(s) (layout, height, bulk, scale, separation, setbacks, interface and articulation) address and responds to the context, site characteristics, streetscape and existing and future character of the locality
- how the detailed building design will deliver a high-quality development, including consideration of façade design, articulation, activation, roof design, materials, finishes, colours and integration of services



Figure 01: Render of RACC viewed from South-East on the southern roadway/footpath, looking towards North-West



2. Project Summary and Vision

2.1 Overview of Project

The current Reptile World at the Taronga Zoo Sydney site has reached the end of its useful life and a new facility is required. The RACC project will be a world-class reptile and amphibian exhibition and animal care facility, achieving operational efficiencies and safety improvements.

This project will dramatically increase Taronga’s capability to respond to wildlife emergencies, save endangered species, educate students and visitors, support wildlife volunteers and cement NSW as a global leader in wildlife conservation for future generations.

2.2 Project Aims & Vision

The following are the key Project Visions for RACC, as identified by Taronga:

- Animal Presentation - Innovation in zoo exhibit presentation;
- Animal Welfare - Innovation in welfare and husbandry;
- Commercial - Innovation in commercial offer, return and competitiveness;
- Guest Experience - Innovation in guest engagement and public realm;
- Health, Safety & Efficiency - Designed to keep people safe and spending more time on animal care and conservation.
- Indigenous Culture - Innovation in respecting country and interpreting culture;

2.3 Project Functional Areas

The RACC project contains the following functional areas:

Level	Function	Gross Floor Area [GFA] <small>* as defined by Mosman Council LEP</small>
Ground Floor	- Staff access only [no guest access]	402m ²
	- Staff room including amenities and kitchen facilities	
	- Holding and Conservation rooms	
	- Storage and workshop areas	
	- Plant areas	
	- Waste storage areas	
Level 1	- Loading Dock	672m ²
	- Main guest entry	
	- Animal exhibits	
	- Guest circulation	
	- Back of house staff access to exhibits	
Level 2	- Plant areas	190m ²
	- Main guest exit	
	- Animal exhibits	
	- Guest circulation	
	- Back of house staff access to exhibits	
Total GFA		1264m²
Site Area (approx)		2390m²
Floor Space Ratio		0.52 : 1



3. Aboriginal Cultural Connections to Country

The *Taronga Strategic Plan priority Commitment to Country*, commits to and embeds a way of working that respects and includes Indigenous peoples, cultures and place.

Through ongoing meaningful consultation with Taronga's Aboriginal Advisory Groups [TAAGs] and First Nation Peoples support and guidance is provided in following key areas:

- Building a strong connection, trust and partnership between Taronga and Traditional Custodians,
- Empowering Indigenous peoples and communities,
- Developing a better understanding of Taronga's place in supporting and valuing culture and Community,
- Developing best practice in assessing and reporting on Aboriginal Cultural Heritage;
- Sharing, documenting and interpreting cultural knowledge in a truthful and respectful way,
- Embedding and understanding cultural commitments and protocols across the organisation.

The consultation with TAAGs and First Nation Peoples is an ongoing process, and will continue throughout the design and construction of the project.

Refer to the letter prepared by Taronga Zoo, dated 28th June 2021, summarising the processes undertaken to date by Taronga Zoo with regards to the commitment and principles for action in the *Draft Connecting with Country Framework*.



4. Site Analysis

4.1 Site Topography

The following is a summary of the existing site topography:

- The site has significant topographic features that need to be considered in the building design;
- There is a 7.1m height difference between the top [northern] and bottom [southern] footpath/roadways;
- RL 52.70 is the average level at top [northern] footpath/roadway;
- RL 45.60 is the average level at the bottom [southern] footpath/roadway;
- The site is currently terraced with a series of gabion retaining walls running across the site;
- At the southern end of the site there is a relatively level area, which indicates an approximate Ground Floor building level in the vicinity of RL45.70;
- The most difficult aspect of the site is achieving disabled access to the middle and top floors of the building;

4.2 Landscape & Natural Features

The following is a summary of the existing site landscape and natural features:

- The site is flanked by a significant amount of re-vegetated landscape, including a variety of native and introduced species. The site is nestled into this vegetation;
- Located in the centre/top portion of the site is a large rock outcrop proposed for relocation;
- There are several existing trees scattered across the site that are proposed for removal;
- The existing avenue of trees [x4] running down the north-eastern boundary are to be retained;
- There are several existing Palm Trees located centrally within the site proposed for relocation within the Taronga campus;

4.3 Existing buildings and exhibits

The following is a summary of the existing buildings and exhibits within proximity of the site:

- To the west of the site is the existing Gorilla exhibit. Careful consideration needs to be given to the proximity to this exhibits to minimise impacts on animal welfare;
- To the north of the site is the Capybara exhibit, Forest Adventure Playground and Blue Mountains bushwalk. Taronga have indicated a desire to improve connectivity to the Forest Adventure Playground, and any opportunities that may arise from this connection;
- To the east of the site is the Wildlife Retreat;
- To the south of the site is the Camel, Tamarin, Saltwater Crocodile and Seals for the Wild exhibits. The Camel exhibits are very large structures;

4.4 Guest & Staff Circulation

The following is a summary of the existing guest and staff circulation routes surrounding the site:

- The main circulation paths accessing the site occurs on both the northern and southern footpaths/roadways;
- Taronga have advised that their future master planning for the Taronga site will encourage primary guest circulation along the southern side of the site, and then up along the eastern boundary and move on to the Upper Australia exhibit to the north-east;
- The bottom southern footpath/roadway is heavily used by guests accessing the Seals for the Wild exhibit, particularly at peak times during show times [11am & 2pm];



- The top northern footpath/roadway is used by guests gaining access to the Forest Adventure Playground, but is not as frequented as the southern footpath/roadway and is considered a secondary circulation route. Zoo Staff also gain access to the back-of-house Gorilla exhibit from the southern footpath/roadway;

4.5 Entry Locations

The following is a summary of the proposed entry locations to the site:

- The ideal public guest pedestrian entry access point is off the eastern boundary of the site, which is a logical position due to the natural topography and providing disabled accessible access to the first floor exhibit level;
- The ideal public guest pedestrian exit point is off the top northern footpath/roadway, to spill guests out of the building and continue their journey through the zoo campus;
- Staff back-of-house entry and exit access, including delivery vehicle access, is best located off the bottom southern footpath/roadway, to separate from public and guest access;

4.6 Views & Vistas

The following is a summary of the views and vistas both toward and from the site:

- The site has a southerly aspect towards Sydney Harbour, looking onto the natural and re-vegetated landscapes on the downslope to the harbour;
- There are limited physical views of the harbour water from the site. Partial water glimpse views will be achieved at RL 55.360, which equates to the Level 2 floor level. Refer to architectural drawing AA0007 for detailed photographic analysis of views from the site;
- When viewing the site from the nominated key vantage points in the harbour [Sydney Harbour ferry route, Curraghbeena Point and Cremorne Point], the proposed structures of the RACC site will not be visible as they will be obscured from view by existing tree canopies and dense vegetation. Refer to architectural drawings AA0005 and AA0006 for a detailed photographic view analysis from these key vantage points.

4.7 Environmental Conditions

The following is a summary of the environmental conditions experienced on the site:

- Solar sun access to the site is quite limited, with a south facing site along with heavy vegetation to the north. Only level 2 of the site will be able to take full advantage of northern solar sun access. Focus has been placed on locating species that require high levels of natural light and UVB on level 2, to maximise solar gains;
- Prevailing winter winds are expected to come from the south-east. Consideration has been given to minimise impacts of these harsh winter winds, by nestling the building into the topography and limiting openings to this direction;
- Prevailing summer winds are expected to come from the west. The site is considerably sheltered from this direction due to the existing topography and vegetation, and there are no expected impacts.



4.8 Existing Site Photography

The following photographs show the existing site conditions and context:



Figure 02: Existing Meerkat Exhibit on site, viewed from south



Figure 03: Existing site, viewed from south



Figure 04: Existing site, viewed from south



Figure 05: Existing site, viewed from south



Figure 06: Existing site and Meerkat exhibit, viewed from south



Figure 07: Adjacent heritage D-shaped Aviaries, viewed from south



5. Design Summary

5.1 Key Design Strategies

The RACC focuses on improving Taronga Zoo's contribution to conservation, science, education and enhancing guest experiences. The project is complex and deals with a number of key design strategies including:

- State of the art and world class animal exhibits, focused on animal welfare;
- Best practice keeper facilities to allow for continued care and conservation of animals;
- Guest and staff safety;
- Provide an enhanced educational guest experience and promoting a call to action;
- Concealing and nestling the building within the existing site context, including topographical and natural features;
- Careful consideration of Aboriginal and European heritage and culture;
- Consideration of both views to and from the site;
- Incorporate interpretation of country through landscape elements.

5.2 Guest Experience

The RACC aims to provide all guests with an immersive and educational experience. Some key strategies employed in the design include:

- Providing separate entrance and exit points;
- Taking guests on a one-way journey through the landscape and building, representing a reptile meandering and morphing through its natural environment;
- Providing a series of break-out spaces along the journey, for guest engagement with interpretive and educational elements and also providing opportunities for rest and relief;
- Limiting guest fatigue, by providing minimal gradient ramping for access between levels;
- Immersing the guests in the building, where-by the building feels like a reptile sitting in nature, concealed, camouflaged and nestled into the site;
- Providing immersive animal exhibits that provide guests with the feeling of being integrated into the animal's environment, and provide meaningful animal and guest connections;
- Breaking down the barriers between animal and guest, with the perception of barrierless viewing;
- Providing viewing opportunities into the back-of-house conservation areas showing guests the great conservation work being undertaken by Taronga Zoo;
- Incorporate interpretation of country through landscape elements, to educate and inform guests.

5.3 Building Layout

The RACC is separated over 3 levels as follows:

- Ground Floor is accessible from the bottom [southern] footpath/roadway only. This level is for staff use and access only;
- Level 1 contains the majority of the animal exhibits and is accessible by Guests from the at-grade pedestrian footpath to the east of the site. Guests enter the RACC at this level;
- Level 2 contains four animal exhibits, and is accessed via a ramp from the level below, running along the southern facade. Guests exit the building at this level onto the top [northern] footpath/roadway.

The following concept sketch [Figure 08], diagrammatically illustrates the sectional relationship between the 3 levels; the distinction between public, exhibits and back of house areas; and illustrates how the building is positioned to take advantage of views and vistas out of the site.

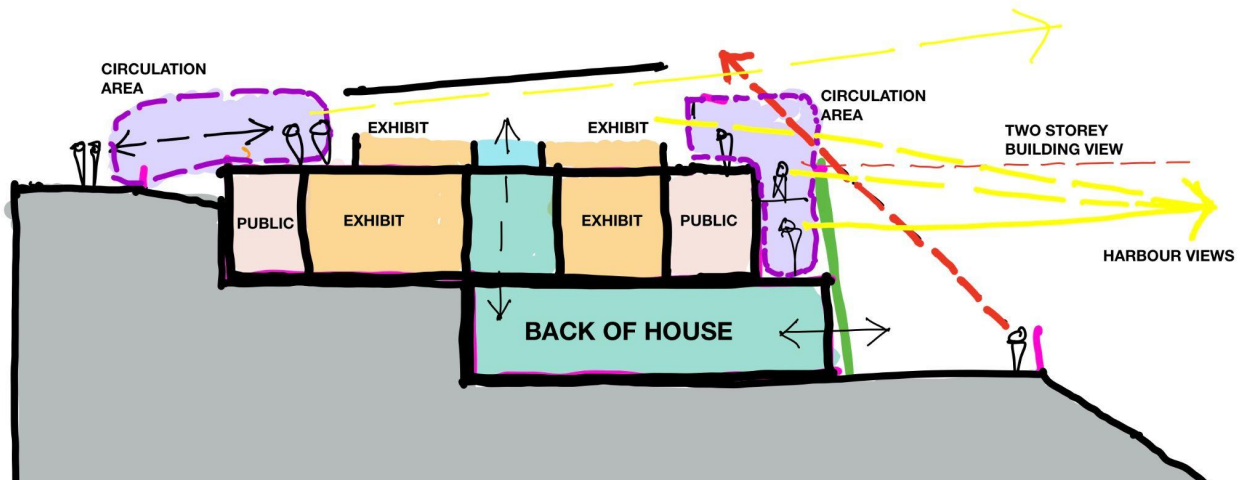


Figure 08: Concept Section

5.4 Height, Bulk and Scale

The RACC is designed to sit within the existing landscape and topography of the site, to create an immersive guest experience, and also limit the impacts upon the existing context. The building is nestled into the site, to lessen the overall bulk and scale of the built form.

The built form is designed to cascade down the site, which decreases the bulk and scale upon the bottom [southern] footpath/roadway. The roof forms and structures on level 2 are setback from lower two levels, so as to have limited visibility from the bottom [southern] footpath/roadway and beyond. Level 2 contains a mixture of open air trafficable roof areas and semi-enclosed and/or covered animal exhibits.

Summary of building heights:

- The overall height of the green wall screen structure on the southern elevation, that conceals the building beyond, is RL 54.087. This is approximately 8.4m above the bottom [southern] footpath/roadway. The intention of this bulk and scale is to limit the appeared visual height to a maximum two-storey limit from the bottom footpath/roadway;
- The overall height to the very topmost roof element is RL 58.22. This is approximately 12.52m above the bottom [southern] footpath/roadway and 5.53m above the top [northern] footpath/roadway;

5.5 Separation and Setbacks

The RACC is bounded by the existing top and bottom footpath/roadways. The following setbacks have been provided to the building footprint from the following site features:

- | | |
|---|--------------------------------|
| - Setback to bottom [southern] footpath/roadway | = 0m minimum to 3.5m maximum |
| - Setback to top [northern] footpath/roadway | = 0.8m minimum to 4.2m maximum |
| - Setback to side [western] boundary | = 4.8m minimum to 17m maximum |
| - Setback to side [eastern] boundary | = 17.9m minimum to 26m maximum |
| - Setback to large D-Aviary [western edge] | = 1.6m minimum |



5.6 Facade Design and Articulation

To ensure the built form nestles into the existing natural site context, the building facades have been designed to mimic and correspond to both the natural and physical environment surrounding the site. The forms also provide a visual cue to the reptile and amphibian animal species contained within the building.

The southern elevation is the most visually prominent element of the site. A two-storey slanted green wall screen structure is used to camouflage the built forms of the building and ramps beyond. A diagonal structure, derived from the patternation of reptile skin, envelopes the building. Within this structure is a series of diagonal wire-trellis frames, to provide the opportunity for the growth of vine climbing plants. Over time, the vegetation will grow and thicken, providing a constantly evolving facade. This green wall structure can be enjoyed and experienced by guests as they circulate within the building and up the ramp to level 2.

A simple diamond shaped cladding pattern provides a basic skin to the building, which is used to mimic a reptile sitting in its natural environment, concealed by a green wall camouflage element. The built forms are complemented and book-ended with sympathetic timber look batten screens, to hide and conceal the back-of-house areas beyond from guest view [such as loading dock, staff outdoor areas and sunning aviaries].

As guests approach the RACC along the bottom [southern] footpath/roadway, they are given the opportunity to view into the three conservation rooms located centrally within the site. The rooms are shrouded in a white awning hood, to emphasise and draw guests towards the viewing area.

Sitting atop the building on level 2, are two simple single storey glazed forms, containing animal exhibits. The roof forms appear to hover over the exhibits and promote views and connectivity to the southern vistas toward the harbour. The roof elements provide necessary shading and temperature control to the exhibits. Surrounding the exhibits on level 2 is an open air trafficable roof area, which will provide people activation zones and will provide areas for large group gatherings and keeper talks.

Glazed window fenestration is positioned to take advantage of views and vistas out of the building, as well as providing access to natural daylight to internal areas.

5.7 Materiality, Finishes and Colours

The materiality and finishes of RACC has been derived and informed from the surrounding zoo context. It is important that RACC materiality complements the existing built form language and history of the zoo.

The proposed materiality, finishes and colours of RACC are:

- The predominate south facade material is a green wall structure, which consists of a diagonal steel structure, trellis wires and vine climbing plants;
- The main building cladding consists of a diagonal scribed patterned prefinished cladding, in a matte grey finish;
- Accent cladding to the awning hood over the conservation rooms is zinc look cladding;
- Screening devices consist of timber look vertical battens, tying in with the existing timber materiality across the zoo;
- Roofing finishes of level 1 consists of a mixture light grey metal sheet roofing and ETFE finish [a high performance, transparent, high light and UVB transmission material];
- Window frames and accent features are dark monument grey colour;
- Hardscape paving treatments and retaining wall elements are intended to be natural earth-toned coloured elements.



The following photomontage images illustrate the RACC nestled within its natural landscape and context.

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Figure 09: Photomontage of RACC viewed from South-West on the southern roadway/footpath, looking towards North-East



Figure 10: Photomontage of RACC viewed from South-East on the southern roadway/footpath, looking towards North-West