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PROPOSED TARONGA INSTITUTE OF SCIENCE AND LEARNING (TISL)

BUILT FORM AND URBAN DESIGN STATEMENT

Issue A	Preliminary 07 11 2105	AL
Issue B	Preliminary 23 11 2105	ES
Issue C	Preliminary 15 12 2105	ES

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"The Taronga Institute of Science and Learning will become a global centre of excellence for the southern hemisphere" Cameron Kerr
Director and Chief Executive, Taronga Conservation Society Australia

Taronga Conservation Society Australia
Taronga Zoo is a Sydney Harbour side icon for 95 years is located on Bradleys Head Road, Mosman, Sydney. Taronga is one of Australia's most popular attractions and together with the open range facilities of Taronga Western Plains Zoo attracts more than 1.6 million visitors annually including 120,000 children who visit the Zoo's education centres.

Renowned for their world class reputation in scientific research, captive breeding programs and endangered species recovery programs, both zoos have set their goals for the future against a platform of Research, Breeding, Education and Recreation. Areas of focus for Taronga are:

- Research projects for the conservation and management of species
- Breeding programs for the preservation of threatened species
- Education, awareness and behaviour change to support species conservation and habitat preservation
- Presentation of animals for environmental, education and recreation purposes

Conservation and preservation of species are core functions of the zoo. Conservation contributes to the management of a species in the wild, while preservation relates to management of species in zoos. Research is about contributing to a better understanding of global biodiversity with positive conservation and animal welfare outcomes.

Animal management activities ensure the animal collection, its presentation and its care, are consistent with our overall animal strategy, education strategy and zoo vision. It covers scientific endeavors that include animal welfare, veterinary care, captive animal management and human/animal interaction.

Vision
Taronga's vision is to secure a shared future for wildlife and people. The Taronga Institute of Science and Learning will directly support this vision by harnessing the power of conservation science and learning to achieve positive outcomes for wildlife and people and engage and inspire future generations to contribute to conservation. More specifically, it will generate, communicate and apply knowledge to secure a shared future for wildlife and people. In this regard, Taronga's vision is also that the Taronga Institute will become a place of national significance and a platform for regional and global leadership in zoo-based conservation science and learning

The Desire by Team – A Centre for Excellence Globally
A new Taronga Institute of Science and Learning [TISL] is an exciting and important project for the zoo. It will weld a wide range of aspirations including the needs of tourism, conservation, education and scientific research. TISL will become a global centre of excellence for the southern hemisphere, a hub of science and learning which will be a new environment of discovery, creating new ideas from a culture of collaboration.

Branding and presence are vital in this project. An innovative presence and style will help to reposition Taronga as a serious zoo, a place where professionals meet to enhance the understanding of the lexicon of science.

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TISL Project Proposal

A new Taronga Institute will enable Taronga to grow and expand conservation science and learning activities including:

- Facilitate the delivery of high quality conservation science and learning programs
- Support real world examples science investigation and application, and facilitate collaboration between science and learning professionals.
- Enable Taronga to expand existing, and develop new partnerships to achieve improved conservation outcomes in Australia and overseas.

Core Project Objectives

The new Taronga Institute will :

- Enhance the **integration** of existing conservation science and learning capabilities
- Expand **capacity** to contribute to conservation science and learning,
- Create a direct and tangible **link between conservation science and learning**
- Create purpose built and **immersive** facilities
- **Influence the community** and partners to act and contribute to wildlife conservation
- Become an **innovative place of international and national significance** for wildlife education and research.

Site Location

Taronga is in the process of a 10 year capital development program for the Taronga Zoo site. The proposed location of the proposed Taronga Institute development will be within the current Education Centre Precinct. This gateway location ultilises existing assets and improves use of adaptive reuse of spaces. (e.g. Lecture Theatre).

The proposed Taronga Institute will be highly functional and support Taronga to consolidate and sustainably grow its Science and Learning activities in accordance with the organisation's mandate to carry out research programs and conduct public education and awareness programs.

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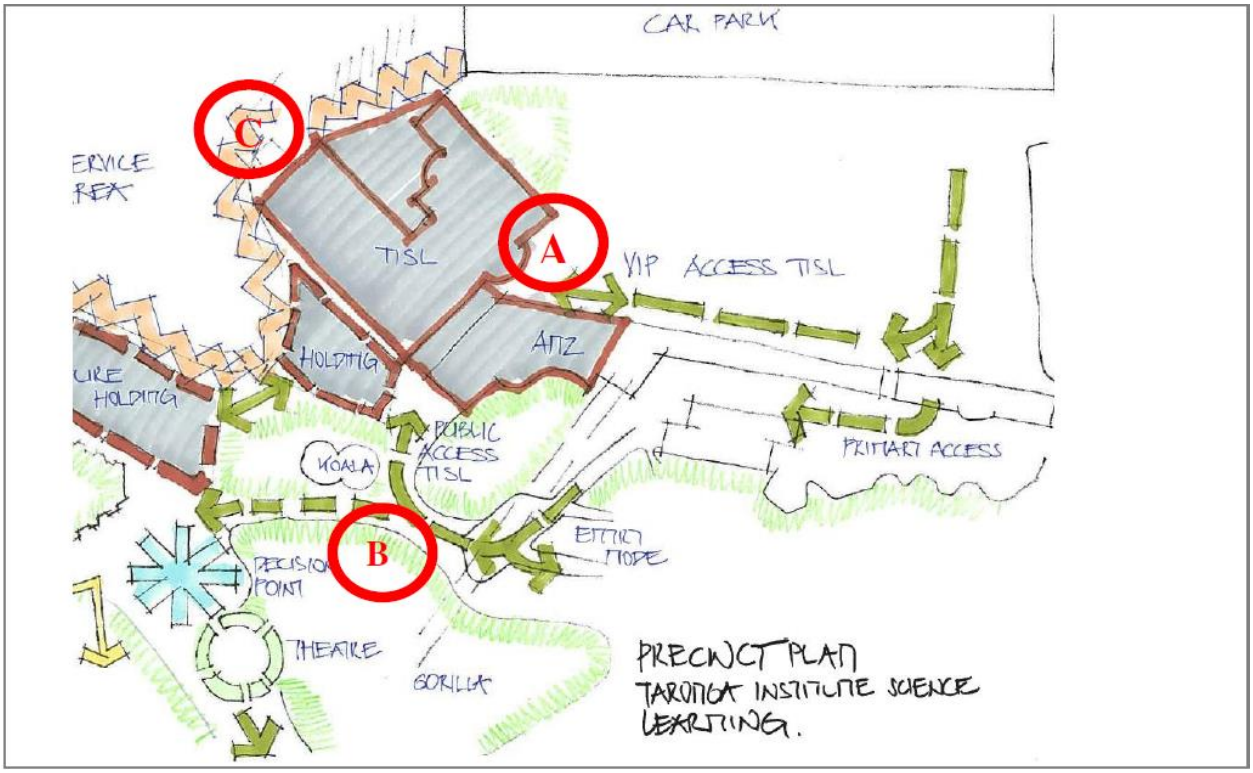

Access to the new precinct is proposed via three entry points: a restricted access point for primary users - students and researchers, a general public access point and a private access point for use by VIPs requiring private access.

Within the structure(s) of the proposed Institute, there will be three core functional components: a Learning Hub, a Science Hub and "The Hub" a shared work and meeting space to foster cross-disciplinary collaboration.

The Learning Hub

The Education Hub delivers formal learning programs and close encounter experiences with animals. Education at the zoo is about creating real engagements, typically a student in Sydney will have four encounters with the zoo during their schooling. Learners of all ages are connecting with the zoo including:

- Early Learning/preschool students and parents
- Primary and Secondary School students [K-12]
- Vocational students
- Tertiary Students including interns and PHD
- Researchers

Early Learning, Pre-School, Primary and Secondary School students [K-12] enjoy programs aligned with NSW DEC curriculum and the programs are funded and staffed by the DEC.

Supporting over 200,000 visits per year the zoo's programs focus on discovery! Teachers and learners engage in interactive learning opportunities which enable students of all ages to actively engage with live animals. Students leave the zoo with a greater appreciation of conservation and the natural world. All programs are conducted by qualified educators who conduct unique, hands-on curriculum based workshops.

Taronga has a strong vocational training and short course program. The Taronga Training Institute [TTI] provides accredited training courses on-site at the zoo.

- Certificate II in Animal Studies – training for work in the animal care industry
- Certificate III in Captive Animals – training pathways to zoo, aquarium & wildlife parks
- Internships – TTI offers learning and experience internships

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- Short Courses – experience providing knowledge, skills and insight into how experts care for animals.
-

The Science and Research Hub

The Zoo desires to achieve a globally recognised cohesive research unit where all departments can connect seamlessly and sharpen each endeavour

The desire of the Science team is to be in a position to present the science [scientists] and research capability to education, Australian public, the region and globally.

The vision for a Science Hub is to create a global meeting place which focuses on bringing together the team improving collaboration and understanding. The new centre would create accidental collaboration areas to establish a unit which is part of the whole zoo enterprise. Creating an interface that is co-dependent; science and education working together.

Capacity required is 9 staff plus 13 PhDs. 10-20 places would be optimal. A future design would create a layering of spaces; inspiring and inviting guests walk in and go deeper.

The Science Hub will build connections with all universities allowing Taronga to connect with new collaborators. This revitalized Sydney base would be large enough to encourage scientists to feel welcome particularity encouraging visiting international PhD's on sabbatical.

For education:

- Big opportunity to bring to life learning conservation learning
- Create problem based learning platform with the education team
- A job ready business case will bring education together with the Science team
- Visualize more activities, particularly in the preparation laboratories

The Visitor Hub

The Visitor Hub's Animal Management team provides animals which are suitable for contact for close encounters:

- School programs
- Overnight experiences
- VIP visits including diplomatic level visitors
- Resources for students of science
- Newsworthy beacon for the Zoo [vis-a-vis San Diego Zoo]

Current animals for learning activities and handling are native to Australia. Animals are located both within the centre and brought to the centre as required. Education centre creates and encourages close and hands on encounters.

The Zoo noted that they have limited capacity for students and holding and management of animals for the encounters. The Centre is at capacity, over 200000 kids experience the centre annually in multiple sessions. At least 5000 students per week experience the centre with an animal encounter.

The Visitor Hub is a key gateway for diplomats, dignitaries and celebrities. It provides access which enhances the Australian experience by providing a discrete learning experience and one-on-one time with zoo guides and Australian native animals.

The zoo wishes to improve access to animals and enhance the quality of the experience for VIPs. The desired outcome is to improve the branding and profile of the zoo, in particular with international visitors and major donors. An improved VIP visitor experience would be achieved by creating greater immersion and contact with the animals.

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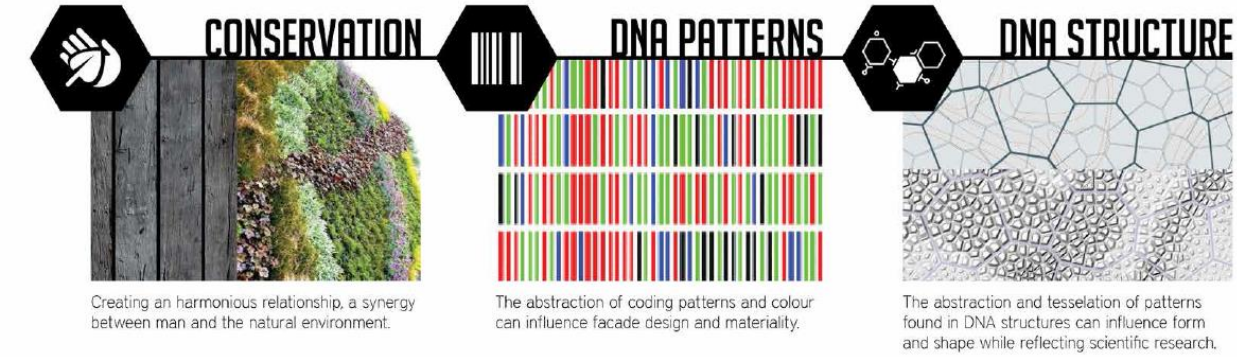
Design Themes

The following design themes form the basis of an approach to the built form, materials and treatments.

Conservation: creating an harmonious relationship, a synergy between man and the natural environment

DNA Patterns :the abstraction of coding patterns and colour to influence façade design and materiality.

DNA Structure: The abstraction and tessellation of patterns found in DNA structures can influence forma and shape while reflecting scientific research.



Built Form

Although the building is comprised of three levels, the building is predominantly two levels and the appearance is typically of a two storey building with the lower level of the building cut into the site. The built form is designed to step down the site and is of a scale that is sympathetic to the surrounding site and existing building heights.

The building is designed to centre around a new atrium space and vertical core that links different functions of the building together and serves as a key orientation point. The main building entry is at lower ground level and with the integration of a landscape plaza area weaves the proposed redevelopment in with the Zoo proper. The existing education precinct is isolated from the public areas of the Zoo and the proposed physical and visual accessibility of the Taronga Institute with the greater site reinforces and highlights the educational aspect of Taronga's activities.

Functionality

The Taronga Institute contains multiple functions and the building has been designed to bring together the existing research and learning activities that are fragmented in isolated buildings throughout the Zoo. The Taronga Institute incorporates the existing lecture theatre (at reduced seating capacity, new learning and training facilities, science research and teaching labs and office administration space. The Taronga Institute precinct incorporates external landscape areas that include existing Animal Encounters enclosures and an upgraded off exhibit animal holding area.

The science research and teaching spaces are strategically located at the arrival zone, with day to day activities of the research labs on display to the public. Such passive interaction is critical to the functional intent of the Taronga Institute providing opportunities for visiting students to realise possibilities and aspire to vocational pathways that are relative to the zoological activities of the Taronga Institute.

The location of the science zone at the base of the building also provides functional benefits such as; ensuring more consistent temperatures to rooms, reduce microscope vibration from elevated floor structure and provides convenient access to the service road.

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The lecture theatre space crosses between lower ground and ground floor level with access to both levels of the atrium space. The existing lecture theatre lobby will be converted to office space and is integrated with the proposed multipurpose collaborative space that is the active heart of the atrium. This space is intended to allow for casual and formal meeting spaces that promote interaction of the multiplicity of the people and ideas that are to be fostered in the Taronga Institute.

The lift core and service area separates this dynamic area from the learning and training classrooms, which have been designed to view animal enclosures for an immersive learning experience.

The first floor level comprises office space and meeting rooms that support the tasks undertaken within the Taronga Institute, the plan is orientated to capture filtered views of the harbour and Zoo surrounds through the tree canopy.

3 Section - Atrium/Office
1 : 200

Siting and Topography

The proposed new facility is located in the existing education precinct at the top end of the Zoo site. The site was chosen because of the proximity to the main Zoo entry, access to transportation and because many of the proposed Taronga Institute functions are currently accommodated within the education precinct. The proposed building is situated partly on the site of the current education building and is typically of similar height with only a portion of the building exceeding existing education building ridge level.

The proposed TISL building sits on a site with a distinct change in level and has a dramatic rock cliff face to the north. The northern portion of the site is generally level around the VIP visits and holding areas, the southern portion of the site rises from south to north in line with the generally site levels.

Whilst the upper level of the building will enjoy a Sydney Harbour outlook to the south and west these views will be filtered by existing canopy trees in close proximity to the building and by proposed new tree planting when mature. When viewed from some positions in the harbour only the upper sections of the building's façade will be visible through the sites trees. There is nil impact when viewed from the harbor at Taylor Bay to the East. The flat roof, façade treatments and colours all help to ensure minimal visual impact. The proposed development is not visible from whiting beach road.

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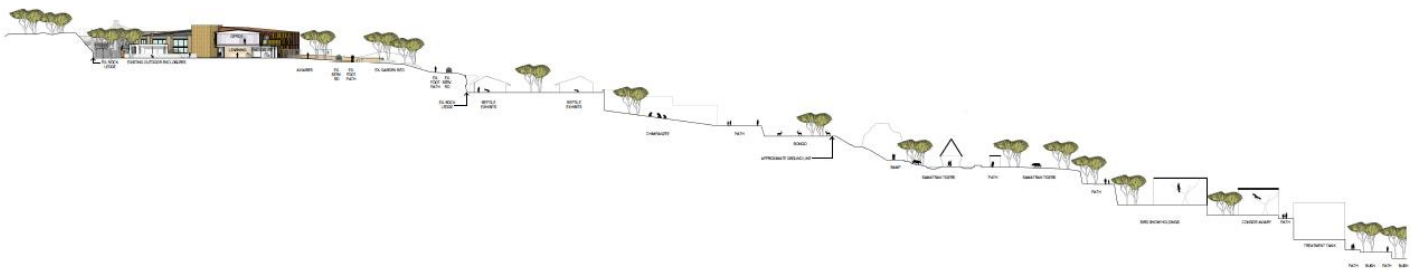
View from Carrughbeena Park

Views From whiting beach road



Site Section

Scale

A three storey building that has a two storey appearance from the north, cut into the ground embracing the existing fall in topography of the site to the South. The proposed building is further from the site boundary and adjacent residential properties than the existing carpark structure, has a lower top of building RL, and is smaller in size. While parts of the proposed building exceed the height of the existing education building the North West end of the proposed building closest to the site boundary is of similar height.

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6 West Elevation/Section
1 : 200

Urban Design and Landscape

The history of the zoo has not just been about the display of animals but of the development of gardens throughout the site. As a result the zoo and its buildings are well integrated to the adjoining foreshore park lands when viewed from the harbor. The TISL development will continue this history of the built form having a string connection to a garden surround.

The building is designed to be well connected to existing pedestrian pathways and nodes. The minor northern entry will fit seamlessly to the existing paved plaza a direct extension of the entry to the existing lecture theatre.

The southern entry forecourt joins a main pedestrian spine with a clear statement of broad entry steps and integrated access ramp and landscape features, all of which compliment the adjoining Koala House, alligator exhibit entry and ticket plaza, whilst providing an “identity” piece for the TISL facility.

Please refer to the separate landscape design statement prepared by NBRS+Partners and accompanying landscape plan.

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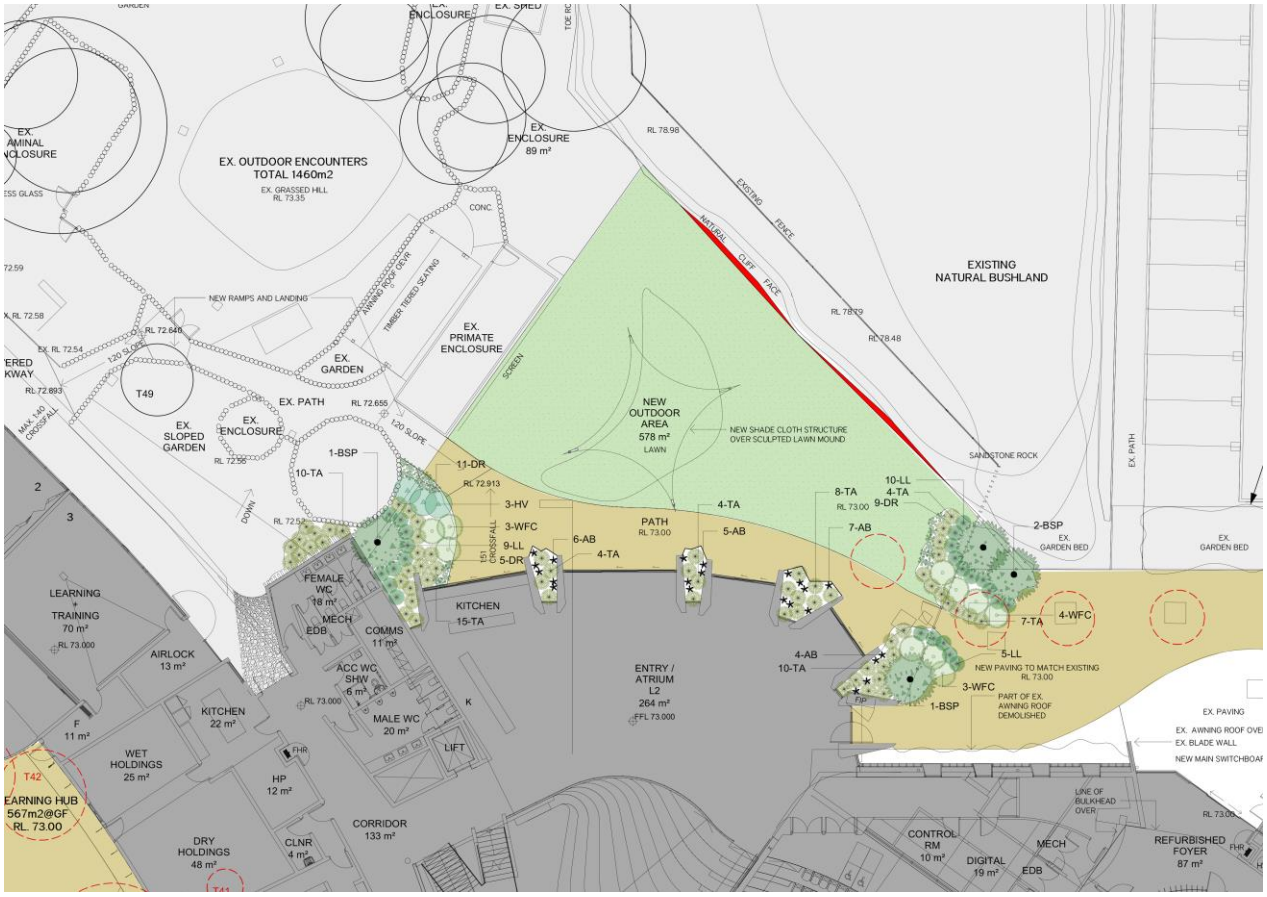

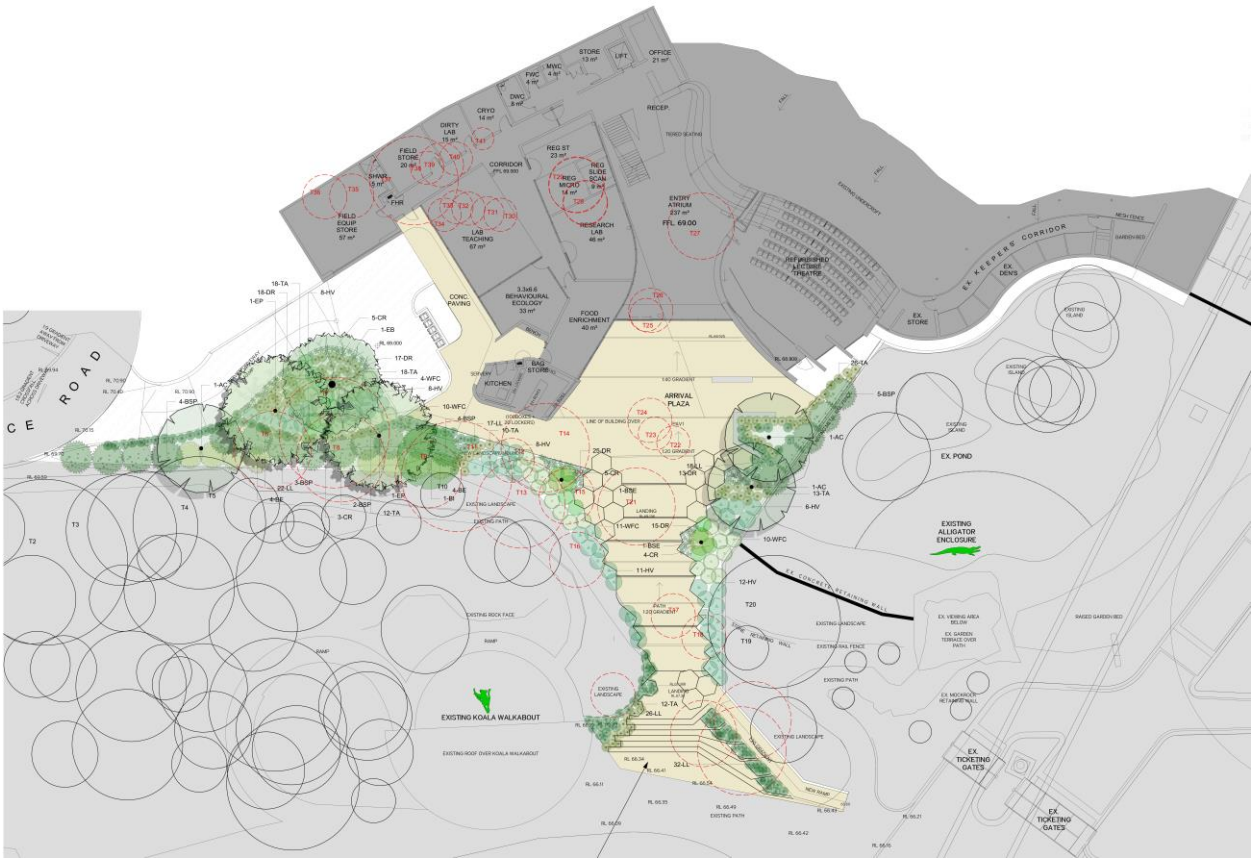

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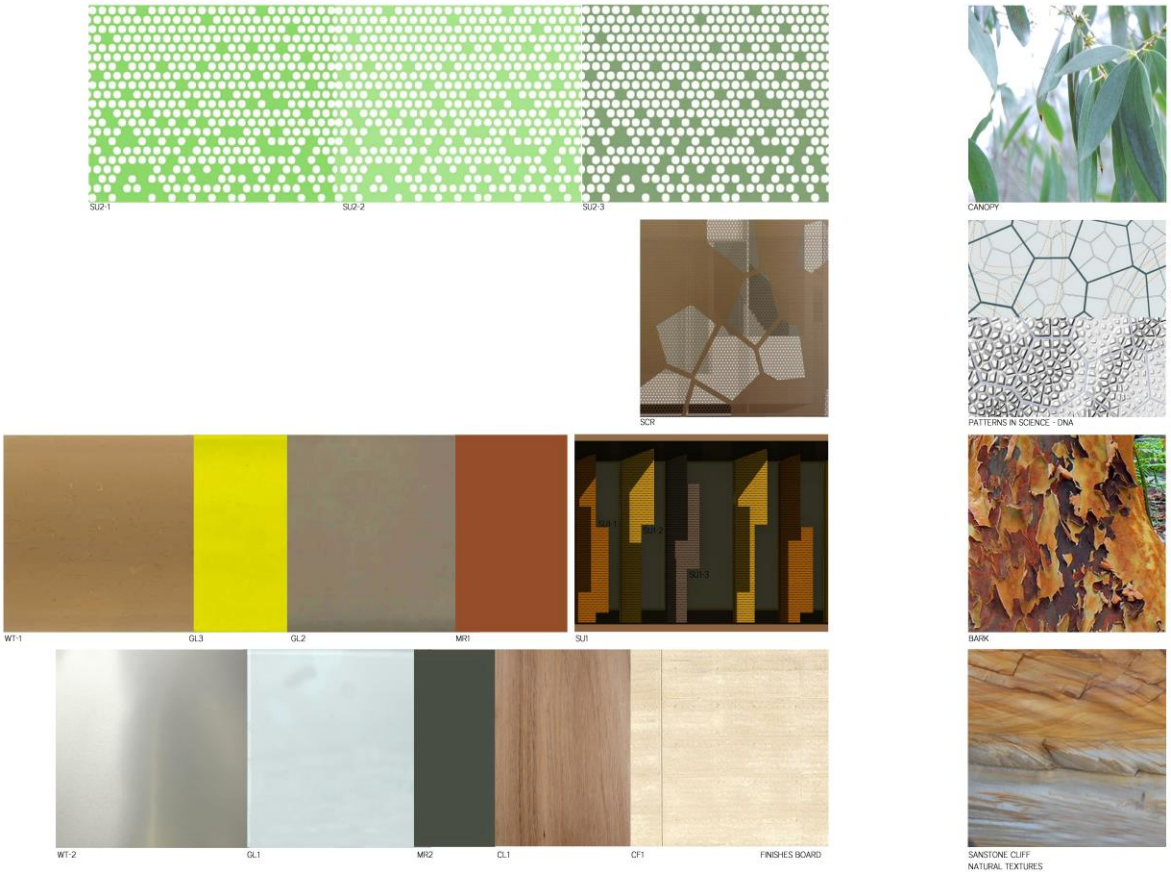
Materiality

The proposed material palette ties the building with dominant natural landscape elements at Taronga such as the neighbouring remnant indigenous vegetation and sandstone cliffs. The façade treatment in pattern and colour has been inspired from the buildings bushland setting mimicking the colour and pattern of the bark on the surrounding Angophora and Eucalyptus trees. The building has been designed to blend into the Zoo surroundings to enable a greater experience of the building within the site and its visual impact from surrounding external view points.



Environmental Sustainable Design (ESD)

The building has been designed according to best practice Environmental Sustainable Design (ESD) principles and incorporates ESD initiatives that the Zoo hopes to show case for education purposes.

The building has been orientated to maximise passive design elements including natural ventilation, glare reduction and minimise heat load. The 13m wide office floor plate is an ideal width for natural light penetration, external views and cross ventilation.

It is envisioned that the implementation of mixed mode ventilation systems, low energy lighting and efficient sanitary fixtures will improve the efficiency and consumption of water and energy.

Please refer to separate Sustainable Design Report prepared by Wood and Grieve Engineers

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