

REQUEST FOR SECRETARY'S ENVIRONMENTAL  
ASSESSMENT REQUIREMENTS

# **Sumatran Tiger Adventure**

## **TARONGA ZOO**

On behalf of Taronga Conservation Society Australia.  
DECEMBER 2014





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# 1 Introduction

This report has been prepared on behalf of the Taronga Conservation Society Australia ('the applicant') requesting that the Secretary issue requirements for the preparation of an Environmental Impact Statement (EIS) to accompany a State Significant Development Application (SSD DA) for the proposed development of a new tiger exhibit at Taronga Zoo, which is located at Bradleys Head Road, Mosman. The new tiger exhibit will be known as the 'Taronga Zoo Sumatran Tiger Adventure'.

Pursuant to Schedule 2 of *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP) development on the Taronga Zoo site with a capital investment value (CIV) of more than \$10 million is identified as a State Significant Development (SSD). As the proposed development will have a CIV greater than \$10 million, the proposal will be classified as SSD (refer to QS costing provided at **Attachment A**).

The purpose of this report is to request that the Secretary's Environmental Assessment Requirements (SEARs) be issued for the preparation of an EIS. To assist with this request for the SEARs, the following information is provided:

- Site details.
- An overview of the proposed development.
- A summary of the existing statutory planning framework.
- Identification of the key environmental assessment issues associated with the proposal and a brief examination of the likely extent and nature of any potential impacts.
- Details of preliminary consultation.

## 1.1 BACKGROUND

Taronga Zoo is one of Australia's most popular attractions and together with the open range facilities of Taronga Western Plains Zoo attracts more than 1.7 million visitors annually and contributes an estimated \$249 million per annum to the NSW economy.

Taronga has a world class reputation in education and immersion of people with wildlife. A core function of the Zoo is to increase visitor understanding of conservation and change human behaviour to support the conservation and preservation of species.

The existing tiger exhibit (which houses tigers, lions and snow leopards) does not meet local and international tourist expectations. The exhibition is dated and modern husbandry techniques require the facility to be upgraded.

The new Tiger exhibit will improve the visitor experience, by providing improved circulation paths and enriched viewing areas of the carnivores. It will also provide a greater level of interpretation and facilitate increased education opportunities to enable visitors to understand first-hand about humans living with tigers and the vulnerability and conservation of Sumatran Tigers. The new exhibit will not result in an increase in the number of carnivores on-site. However, it will improve the environment for the carnivores by providing larger exhibit areas, including larger holding dens.

In addition, the current facilities have a number of maintenance, access, fire safety, Building Code of Australia (BCA) and Work, Health and Safety (WH&S) issues that are required to be resolved for both animals and staff. The new purpose built facility will allow for functional, best practice and safer day-to-day operations.

During the demolition of construction some of the carnivores will be kept in temporary structures on site. Others will be temporarily sent to Taronga Western Plains Zoo in Dubbo and some will be permanently sent to other Zoos.

## 2 The Site and Surrounds

Taronga Zoo is located at Bradleys Head Road, Mosman and is situated in the Mosman Local Government area (LGA). The site is bounded by Bradleys Head Road to the east, Athol Wharf Road and Sydney Harbour to the south, Little Sirius Cove to the west and Whiting Beach Road to the north.

The legal description of the site is Lot 22 in DP 843294. Taronga Zoo is Crown Land managed by the Taronga Conservation Society Australia (the Zoological Park Board).

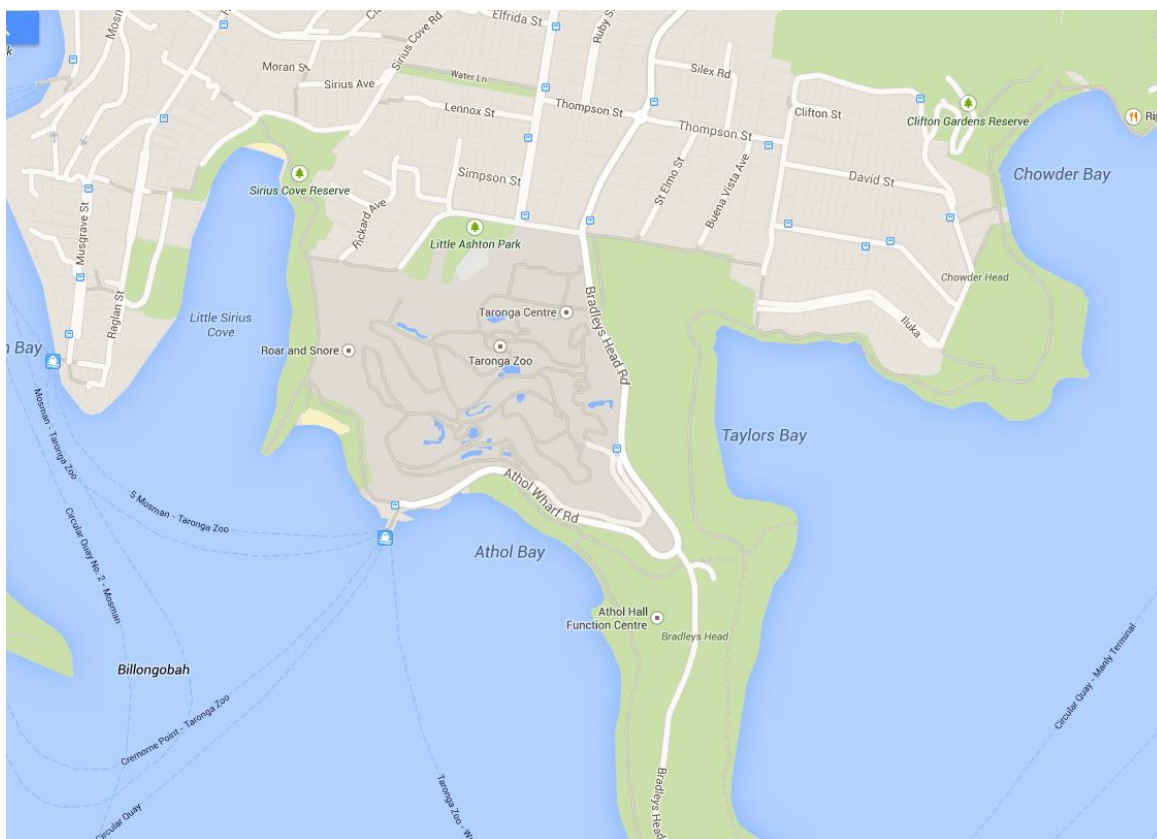
The proposed exhibition site sits on a relatively flat sandstone shelf between a sharply rising cliff to the north and a smaller cliff edge (up to 4metres high) to Birdshow Road to the south. The cliff edge to Birdshow Road changes to a retaining wall at the eastern entry of the site. The cliff and retaining wall are both listed as having heritage significance under the Zoological Parks Board (ZPB) Section 170 Heritage and Conservation Register but are not listed under *Mosman Local Environmental Plan 2012* (MLEP 2012).

Natural rock ledges and cliffs form part of the existing Snow Leopard enclosure and are also listed as heritage items under the ZPB Register of Heritage but are not listed under MLEP 2012. The large mock rock Tahr Mountain exhibit that sits alongside the existing Snow Leopard exhibit dates from 1932 and is also listed under ZPB Register of Heritage but are not listed under MLEP 2012. An extensive accessible ramp (West Ramp) arrives at natural ground between these two features.

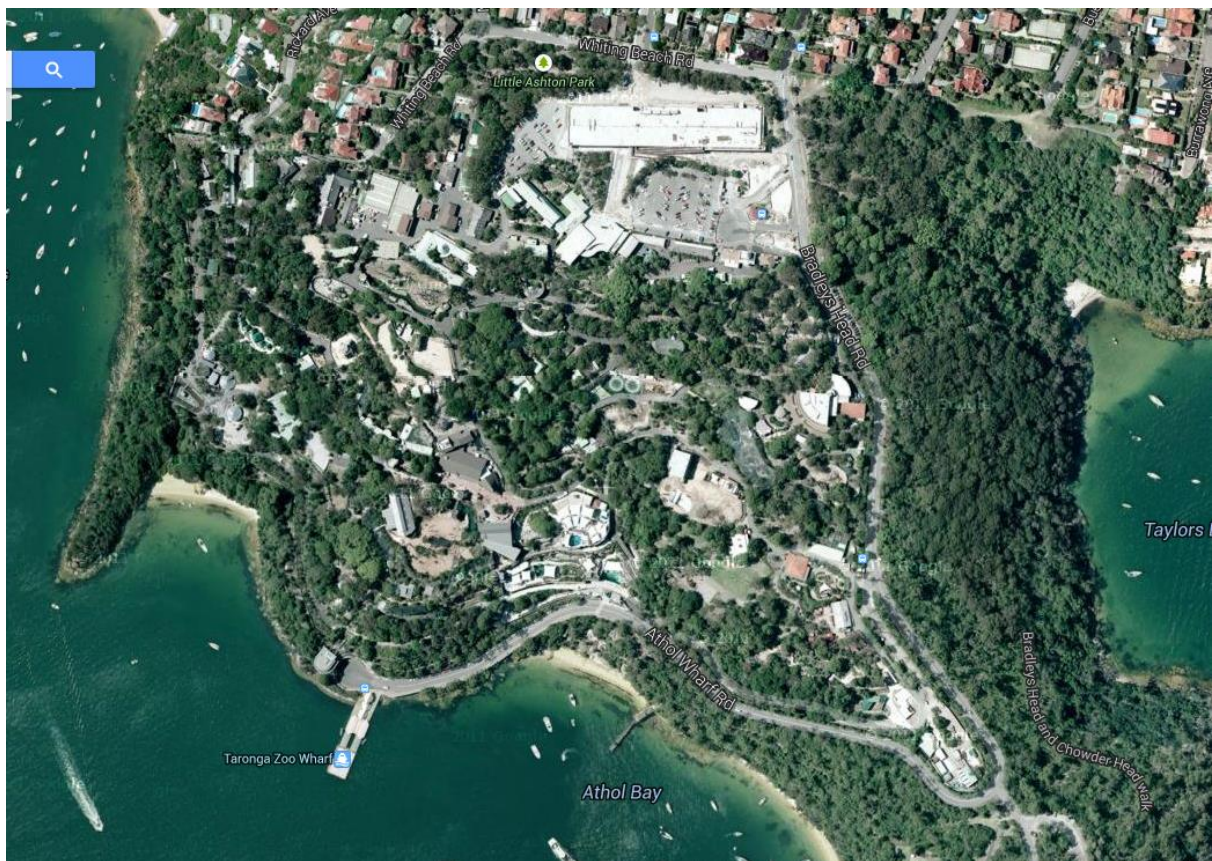
The site has significant mature sub-tropical vegetation, with dense tree canopies and foliage in and surrounding the site.

Immediate neighbouring land uses of Taronga Zoo are limited to single dwellings to the north and to the north-east and west on the other side of Little Sirius Cove. The site of the proposed tiger exhibit is located towards the south-western of the site and is more than 300 metres from the nearest residential boundary.

FIGURE 1 – Site Location



PICTURE 1 – Location Map (Source Google Maps)



PICTURE 2 – Site Aerial (Source Google Maps)



### 3 Development Description

The SSD application will seek approval for the development of a new Tiger exhibit known as the 'Taronga Zoo Sumatran Tiger Adventure' at Taronga Zoo. The development will include:

- Demolition of the existing carnivore exhibit.
- Construction of a new carnivore exhibit for large cats (tiger, lions, leopards, etc.). The new exhibit will include:
  - 3 exhibit areas;
  - interpretative Sumatran Village to facilitate learning about humans living with tigers;
  - new aviary, which is to likely house the Nickobar Pigeon and Metallic Starlings;
  - holding dens;
  - containment fences;
  - landscaping, including new tropical vegetation;
  - generous milling and seating areas;
  - interpretative and directional signage;
  - two new exhibit pedestrian pathways;
  - keeper safe corridors;
  - exhibit enrichment devices and visitor viewing areas;
  - ranger outpost;
  - food cart;
  - office and staff amenities; and
  - animal food preparation area / equipment store.
- It is also proposed to rebuild and re-orientate the end of the existing accessible ramp (as it meets ground level) to align with the two new exhibit pathways. Services will be relocated, upgraded and augmented, where required;

#### 3.1.1 BUILT FORM

- The proposed new buildings will be single storey, with a range of heights proposed. The proposed structures will be designed appropriately to maintain the scenic qualities of the site as viewed from Sydney Harbour.
- A large mature fig tree will form the dramatic centre piece to the introductory Exhibit 1. The fig tree is heritage listed under the ZPB Heritage and Conservation Register. The tree is not listed as a heritage item under MLEP 2012. A mesh enclosure is proposed over the wide canopy of the fig tree to ensure the tigers do not escape the enclosure. The enclosure will have a height of approximately 14m to protect the fig tree. The proposed mesh enclosure will need to consider a whole range of factors such as ZPB heritage listing, tree root and drip zones and solar access for tiger and visitor comfort. The structure will be constructed with finishes and materials that will assist it to blend into the landscape when viewed both from within the zoo's boundaries and from Sydney Harbour.



- It is also proposed to retain the upper service connector road as a primary pedestrian path only. Its use as a service connector and infrastructure corridor will cease. The lower service connector road will be widened to make it trafficable for service vehicles including small mobile cranes, fire and ambulance services. Services will be relocated to the lower service connector road.

Existing and Indicative plans prepared by Lahznimmo Architects are attached at **Appendix B**.

### 3.2 SEPARATE WORKS

Separate to this application, Taronga Conservation Society Australia is undertaking the following associated works:

- Construction of temporary tiger structures as exempt development pursuant to Schedule 2 of MLEP 2012, having a CIV of less than \$1,000,000. These temporary enclosures will house some of the carnivores during the demolition and construction of the new exhibit.
- Taronga have recently received approval from the NSW Office of Environment and Heritage to remove several fig trees and two large paperbark trees at the western end of Birdshow Road. One of the fig trees and the two paperbark trees are heritage listed under the ZPB Section 170 Heritage and Conservation Register. The trees are not listed as heritage items under MLEP 2012. The paperbark trees are required to be removed for operational reasons to enable the road widening to occur. The fig trees are required to be removed to protect and preserve an archeologically significant Aboriginal Rock Shelter site and its artwork.

## 4 Planning Framework

### 4.1 NSW 2021 – A PLAN TO MAKE NSW NUMBER ONE

'NSW 2021 A Plan to Make NSW Number One' is the New South Wales (NSW) State Government's 10 year plan to guide policy and decision making across the State. One of the underlying, central themes of the strategy is to improve the performance of the NSW economy, with a priority action being to increase tourism in NSW with double the visitor expenditure by 2020. The proposal responds to this by providing new facilities at Taronga Zoo to enhance tourism offerings in NSW for the international and domestic market.

### 4.2 DRAFT METROPOLITAN PLAN FOR SYDNEY 2036

The Draft Metropolitan Plan for Sydney 2036 (draft Metropolitan Strategy) provides a framework for sustainable growth and development across Sydney over the next 20 years. The proposed Sumatran Tiger Adventure exhibit will be consistent with various objectives of the draft Metropolitan Strategy, with particular focus on:

- Developing Sydney as a premier visitor destination by enhancing tourist opportunities in Sydney and showcasing educational and cultural facilities.
- Protection of Sydney Harbour and its harbour foreshore through appropriate design of proposed structures.

### 4.3 STATE ENVIRONMENTAL PLANNING POLICY (STATE AND REGIONAL DEVELOPMENT) 2011

Schedule 2 of the *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP) states development on the Taronga Zoo site with a capital investment value (CIV) of more than \$10 million is identified as a State Significant Development (SSD). As the proposed development will have a CIV of \$13,915,984 the proposal will be classified as SSD (refer to QS costing provided at **Attachment A**).

The *Determination of State Significant Applications Planning Circular PS 11-022* issued on 30 September 2011 sets out the delegations of the Minister for Planning and Infrastructure to determine SSD under the *Environmental Planning and Assessment Act 1979* (the EP&A Act). All applications made by or on behalf of a public authority are to be determined by the Minister.

Taronga Conservation Society Australia can be defined as public authority under the EP&A Act and consequently the Minister for Planning and Infrastructure is the determining authority for any SSD lodged by or on behalf of the Taronga Conservation Society Australia.

Section 78A(8A) of the EP&A Act requires that all DAs for SSD must be accompanied by an EIS prepared by or on behalf of the applicant in the form prescribed by the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulations). The form of the EIS is set out in Schedule 2 of the EP&A Regulation and includes that a written application must be made to the Secretary for the environmental assessment requirements with respect to the proposed EIS. Accordingly, this report provides documentation in support of the application for SEARs.

### 4.4 STATE ENVIRONMENTAL PLANNING POLICY NO.55 – CONTAMINATED LAND

Under SEPP 55, prior to the issue of consent, the consent authority needs to be satisfied that the site is suited to its intended use in terms of any potential soil or ground water contamination. Given, the site has been used as a tiger and carnivore exhibit since circa 1930's and the current use is proposed to continue on the site, it is unlikely the site is contaminated. In any case, the relevant provision of SEPP 55 will need to be considered as part of the SSD application.

## 4.5 SYDNEY HARBOUR CATCHMENT REGIONAL ENVIRONMENTAL PLAN 2005

The Sydney Harbour Catchment Regional Environmental Plan 2005 (SHREP 2005) is a deemed State Environmental Planning Policy (SEPP) and applies to the Sydney harbour, foreshores and catchment. The planning instrument provides planning principles to guide future development and a range of matters when considering DAs within the foreshores and waterways of Sydney Harbour, including planning controls for strategic foreshore sites.

The site is identified as a “*Strategic Foreshore site*” and does not have any heritage listing under SHREP 2005.

Development listed in Schedule 2 of the SHREP 2005 is required to be referred to the Foreshores and Waterways Planning and Development Advisory Committee prior to determination. As the development falls within the definition of a “*flora and fauna*” enclosure, listed in Schedule 2, the proposal will require referral to the Foreshores and Waterways Planning and Development Advisory Committee (Foreshore Committee).

However, the proposal is not considered to have any adverse visual, scenic or environmental impacts on Sydney Harbour and its foreshore. Further the design aspects of the proposal will be carefully devised to blend the facility with the surrounding landscape. This will ensure that the proposed works are recessive in nature and maintains the sensitive amenity of the foreshore locality. Accordingly, the Department may not consider it necessary to consult with the Foreshore Committee.

In any case, visual, scenic and heritage impacts, as well as managing construction impacts to mitigate impacts on downstream water bodies will be subject to further assessment and documentation as part of the EIS.

Development consent must not be granted for development on the site, being a strategic foreshore site unless there is a master plan for the site and consideration has been made to this master plan. The Taronga Zoo has an approved master plan “Zoo 2000 – The view to the future”, which provides a basis for the continuing process of renovation, refurbishment and redevelopment of the site.

## 4.6 MOSMAN LOCAL ENVIRONMENTAL PLAN 2012

The MLEP 2012 is the principle local environmental planning instrument applying to the site. Key relevant planning controls are discussed below.

- The site is zoned ‘SP1 Special Activities’ under MLEP 2012 and is identified on the zoning map as “Zoological Gardens”. The only uses permitted on the site with development consent is for the purpose shown on the Land Zoning Map including any development that is ordinarily incidental or ancillary to development for that purpose. The proposed new tiger exhibit is permissible with consent.
- Taronga Zoo site contains several locally listed heritage items, identified as Item I34 being the “Rainforest Aviary”, “Elephant House”, “bus shelter and office”, “floral clock” and “upper and lower entrance gates”. None of these items are located in or directly adjacent to the tiger exhibit site.
- Taronga Zoo site also contains archaeological items listed in MLEP 2012. These items are:
  - Item A494 “*Sites of Curlew and Mia Mia Camps*” at Sirius Cove Road on Bushland between Little Sirius Cove and Whiting Beach. This item is situated on Lot 22 DP 843294 but is located outside of the Zoo’s perimeter fence line.
- Adjacent to the site are:
  - Item A482 “*Former Athol Wharf Tram Terminus, including escarpment and retaining walls*” on Athol Wharf Road and is described as “*Road Reserve adjacent to Taronga Zoo Ferry Wharf*”.
  - Item A483 “*Site of first wharf serving Taronga Zoo*” on Athol Wharf Road and is described as the Taronga Zoo Ferry Wharf.



- None of these items are located in or directly adjacent to the tiger exhibit site.
- There are no building height or floor space ratio controls that apply to the site.
- Pursuant to clause 6.4 of MELP 2012, the site is identified as a “*Scenic Protection Area*”. Development consent must not be granted to any development on land in a Scenic Protection Area unless the consent authority is satisfied that:
  - measures will be taken, including in relation to the location and design of the proposed development, to minimise the visual impact of the development to and from Sydney Harbour, and
  - the development will maintain the existing natural landscape and landform.
- Pursuant to clause 6.4 of MLEP 2012, the preservation and protection of the Moreton Bay Fig tree and other vegetation, as well as the clearing of any vegetation to make way for the new exhibit will require consideration in the EIS. An Arborist Report will be prepared to demonstrate the impact of the proposed development on any significant trees. A Landscape Plan will also be prepared for inclusion in the EIS demonstrating any trees and planting to be removed, as well as any replacement trees which will be planted as part of the proposal

## 5 Key Issues for Consideration

### 5.1 SECRETARY'S REQUIREMENTS

The key issues arising from the proposed development are discussed below. This information has been prepared to assist the Department of Planning & Environment in identifying requirements for preparing the EIS to support the DA. The key considerations associated with the project are as follows:

- Built form, design and visual impact;
- View impacts;
- Heritage and archaeological impacts;
- Car parking and traffic impacts;
- Bushfire;
- Acoustic impacts;
- Stormwater management;
- Utilities and services;
- Building Code of Australia;
- Accessibility;
- Operational Management;
- Construction Management.
- Waste Management.

### 5.2 BUILT FORM, DESIGN AND VISUAL IMPACT

The proposed site plan and, roof plan and site sections prepared by Lahznimmo Architects (included at **Appendix B**) provide an indication of the preliminary proposed built form.

The site is located more than 300m from the nearest residential boundary and has limited visibility from adjoining land uses. Part(s) of the new exhibit, such as the mesh enclosure over the Moreton Bay Fig Tree may be visible from Sydney Harbour.

The EIS will address the height bulk and scale of the proposed development within the context of the locality. The EIS will also address the design quality with specific consideration of the use of colours, materials, finishes and landscaping.

### 5.3 VIEW IMPACTS

The site is situated to the north west of the Taronga Zoo amphitheatre, which provides unimpeded views from the Zoo to the harbour, with the amphitheatre having high visual exposure from Sydney Harbour. As such part(s) of the new exhibit, such as the mesh enclosure over the Moreton Bay Fig Tree may be visible from Sydney Harbour.

An assessment will be made as part of the EIS of the impact on any significant views to, from and through the site. Photomontages will be prepared to demonstrate the impact of the proposal.

## 5.4 HERITAGE AND ARCHAEOLOGICAL IMPACTS

Whilst Taronga Zoo is identified as a heritage item under the Section 170 register of the Zoological Parks Board, it is not listed on the State Heritage Register.

As stated, whilst the site contains a number of locally listed heritage items and archaeological items, none of these items are located on or directly adjacent to the proposed development site.

In accordance with Clause 5.10 of MLEP 2010, a Heritage Impact Assessment (HIA) will be prepared as part of the EIS to assess the impact of the proposed development on European and Aboriginal heritage items on the site. The Taronga Zoo Conservation Strategy July 2002 was endorsed by the NSW Heritage Office and provides the policy framework for the conservation, interpretation, management and use of the site as part of the implementation of the Master plan. This document will be a key consideration for the preparation of the HIA.

## 5.5 CAR PARKING AND TRAFFIC IMPACTS

Local parking and traffic conditions will not be altered by this proposal. Whilst it is anticipated that visitation to the Zoo may increase at the opening of the new exhibit, long term visitation levels are expected to remain as is and additional parking is not required.

All Zoo related circulation will be maintained within the site and will have no impact on surrounding residences or land uses. It is proposed to widen and upgrade part of the lower service connector road to make it trafficable for service vehicles including small mobile cranes, fire and ambulance services.

Foreshore access to the public will not be impacted by the proposal.

A Car Parking and Traffic Impact Assessment will be prepared by a suitably qualified consultant for inclusion in the EIS. It will demonstrate that the existing parking and public transport arrangements and altered servicing arrangements will be sufficient to serve the new exhibit.

## 5.6 BUSHFIRE

The site is designated as bushfire prone land. A bushfire report will be included in the EIS, which will provide details regarding any proposed bushfire management or mitigation measures required for the new exhibit.

## 5.7 ACOUSTIC IMPACT

Carnivore occupation and associated operational noise have been carried out on the site for almost 100 years (100 years in October 2015). The acoustic environment will remain unchanged as the same number of carnivores will be exhibited on the site.

In any case, an Acoustic Report will accompany the EIS, which will assess the potential noise impacts on surrounding residential development and ways in which they may be mitigated.

## 5.8 STORMWATER MANAGEMENT

Stormwater and flooding impacts will be assessed by a qualified consultant and the assessment will be provided with the submission of the EIS. A Stormwater Management Plan will accompany the EIS submission and will provide details regarding proposed on-site stormwater management, as well as any proposed erosion and sediment control measures required to mitigate offsite impacts.

## 5.9 UTILITIES AND SERVICES

All required services for the proposed development are available, with some services being relocated elsewhere on the site. Some augmentation may be required. Further information will be provided as part of the EIS.



## 5.10 BUILDING CODE OF AUSTRALIA

A Building Code of Australia (BCA) Report will be submitted as part of the EIS to confirm that the proposal will be capable of complying with the relevant provisions of the BCA.

## 5.11 ACCESSIBILITY

An Access Statement will be prepared by a qualified accessibility consultant to ensure the proposed development will be capable of providing universal access to all publicly accessible areas in accordance with relevant Australian Standards.

## 5.12 OPERATIONAL MANAGEMENT

The EIS shall provide a summary of animal husbandry policies and guidelines to be met and identify practices to be adopted to satisfy relevant requirements.

## 5.13 CONSTRUCTION MANAGEMENT

A Preliminary Construction and Environmental Management Plan will be submitted with the EIS and will outline the key management measures to be implemented during construction of the proposed development.

## 5.14 WASTE MANAGEMENT

A Waste Management Plan will be submitted with the EIS to outline the management and monitoring of the waste generated as part of the proposed development. The Waste Management Plan will also outline storage, collection points and method for removal.

## 6 Preliminary Consultation

Consultation with Mosman Council and the NSW Heritage Branch has taken place in advance of this request. We trust that this initial consultation has assisted these agencies in familiarising themselves with the proposal, and will provide context when the Department of Planning & Environment formally request their feedback as part of preparing the SEARs.

Further consultation will take place with these agencies following the issue of SEARs to ensure that the EIS responds positively to the key assessment matters. The applicant will also be consulting with the Department of Primary Industries in respect of containment of animals.

In accordance with the Regulations, the EIS will be placed on formal public exhibition once the Department of Planning & Environment review the document as being 'adequate' for this purpose. Following this exhibition period, the applicant will respond to matters raised by notified parties.

## 7 Conclusion

This project represents a significant opportunity to promote and enhance the Taronga Zoo as place of conservation and education, as well as an important tourism facility within Sydney Harbour. This proposal accords with the State, Regional and Local strategic initiatives to promote tourism in NSW whilst preserving the scenic qualities of Sydney Harbour.

The proposal will require the submission of a State Significant Development Application and accompanying EIS. This report has been prepared in support of a request for Secretary's Environmental Assessment Requirements, as set out in Schedule 2 of the *Environmental Planning and Assessment Regulation* 2000.

We would welcome the opportunity to provide a detailed briefing to you and the officers of the Department of Planning and Environment should you consider it warranted.



## Disclaimer

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All surveys, forecasts, projections and recommendations contained in or associated with this report are made in good faith and on the basis of information supplied to Urbis at the date of this report, and upon which Urbis relied. Achievement of the projections and budgets set out in this report will depend, among other things, on the actions of others over which Urbis has no control.

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This report has been prepared with due care and diligence by Urbis and the statements and opinions given by Urbis in this report are given in good faith and in the reasonable belief that they are correct and not misleading, subject to the limitations above.

## Appendix A

## QS Costing

[illegible]

# Taronga Zoo - Sumatran Tiger Concept Design CP2



SUMMARY	\$
Site Preparation	519,120
Exhibit 01 'Tiger Enclosure'	613,924
Exhibit 02 'Tiger Enclosure'	638,279
Exhibit 03 'Tiger Enclosure'	749,752
Existing Tiger Exhibit/ BOH rebuild	1,668,462
Hangar Entry Building 01 & 02	1,218,276
Supermarket	223,623
Ranger Outpost	1,179,542
Village Shops & WC	99,581
BOH Counter & Entrance shelter	89,927
Park Office	36,278
Hide Viewing	89,108
Inbound Viewing	311,987
Outbound Viewing	331,122
Village Theming & Signage	126,000
General Landscaping	597,993
Water Feature	299,250
Aviary	126,747
Sun Bear Upgrade	188,899
Site Services	308,197
<b>Subtotal Trade Cost</b>	<b>9,416,068</b>
Contingency (20%)	1,977,375

## MBM

Client: Taronga Conservation Society Australia

Project Code: 1163-0001

Printing Date: 19/11/2014

Report Name: 01.04 Full Rprt - Client-Hdn cost/m2 and GST

# Taronga Zoo - Sumatran Tiger Concept Design CP2



SUMMARY		\$
Subtotal Construction Cost		11,393,443
Extra Over for Overhead Netted Enclosures 'Provisional Sum - awaiting design'		2,522,541
Total Construction Cost		13,915,984
PROJECT TOTAL (Excl GST)		13,915,984

Notes:

## MBM

Client: Taronga Conservation Society Australia

Project Code: 1163-0001

Printing Date: 19/11/2014

Report Name: 01.04 Full Rprt - Client-Hdn cost/m2 and GST



# DETAILED SUMMARY



Client: Taronga Conservation Society Australia  
Project: Taronga Zoo- Sumatran Tiger Adventure

Details: Taronga Zoo - Main Works Concept Design CP2  
MBM1163-0001  
Date: 19/11/2014

Code	Description	Starting Page	Total
<b>1</b>	<b>General Information</b>		
1.1	Introduction	Page 8	0
1.2	Drawings	Page 8	0
1.3	Exclusions	Page 9	0
1.4	Assumptions	Page 9	0
			<b>0</b>
<b>2</b>	<b>Site Preparation</b>		
2.1	Subtotal Site Preparation	Page 11	<b>412,000</b>
2.2	Preliminaries (18%)		74,160
2.3	Costs Associated with Access & Delivery Restrictions (4%)		16,480
2.4	Builders Margin (4%)		16,480
			<b>519,120</b>
<b>4</b>	<b>Exhibit 01 'Tiger Enclosure'</b>		
4.1	Subtotal Exhibit 1	Page 11	<b>417,635</b>
4.2	Preliminaries (18%)		75,174
4.3	Costs Associated with Access & Delivery Restrictions (25%)		104,409
4.4	Builders Margin (4%)		16,705
			<b>613,924</b>
<b>5</b>	<b>Exhibit 02 'Tiger Enclosure'</b>		
5.1	Subtotal Exhibit 2	Page 12	<b>506,571</b>
5.2	Preliminaries (18%)		91,183
5.3	Costs Associated with Access & Delivery Restrictions (4%)		20,263
5.4	Builders Margin (4%)		20,263
			<b>638,279</b>
<b>6</b>	<b>Exhibit 03 'Tiger Enclosure'</b>		
6.1	Subtotal Exhibit 3	Page 13	<b>510,035</b>
6.2	Preliminaries (18%)		91,806
6.3	Costs Associated with Access & Delivery Restrictions (25%)		127,509
6.4	Builders Margin (4%)		20,401
			<b>749,752</b>
<b>8</b>	<b>Existing Tiger Exhibit/ BOH rebuild</b>		
8.1	Subtotal Existing BOH Rebuild	Page 13	<b>1,324,177</b>
8.2	Preliminaries (18%)		238,352
8.3	Costs Associated with Access & Delivery Restrictions (4%)		52,967
8.4	Builders Margin (4%)		52,967

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Code	Description	Starting Page	Total
			<b>1,668,462</b>
<b>9</b>	<b>Hangar Entry Building 01 &amp; 02</b>		
9.1	Subtotal Hangar	Page 16	<b>966,885</b>
9.2	Preliminaries (18%)		174,039
9.3	Costs Associated with Access & Delivery Restrictions (4%)		38,675
9.4	Builders Margin (4%)		38,675
			<b>1,218,276</b>
<b>10</b>	<b>Supermarket</b>		
10.1	Subtotal Supermarket	Page 17	<b>177,479</b>
10.2	Preliminaries (18%)		31,946
10.3	Costs Associated with Access & Delivery Restrictions (4%)		7,099
10.4	Builders Margin (4%)		7,099
			<b>223,623</b>
<b>11</b>	<b>Ranger Outpost</b>		
11.1	Subtotal Outpost	Page 18	<b>936,145</b>
11.2	Preliminaries (18%)		168,506
11.3	Costs Associated with Access & Delivery Restrictions (4%)		37,446
11.4	Builders Margin (4%)		37,446
			<b>1,179,542</b>
<b>12</b>	<b>Village Shops &amp; WC</b>		
12.1	Subtotal Village Shops	Page 19	<b>79,032</b>
12.2	Preliminaries (18%)		14,226
12.3	Costs Associated with Access & Delivery Restrictions (4%)		3,161
12.4	Builders Margin (4%)		3,161
			<b>99,581</b>
<b>13</b>	<b>BOH Counter &amp; Entrance shelter</b>		
13.1	Subtotal BOH	Page 20	<b>71,371</b>
13.2	Preliminaries (18%)		12,847
13.3	Costs Associated with Access & Delivery Restrictions (4%)		2,855
13.4	Builders Margin (4%)		2,855
			<b>89,927</b>
<b>14</b>	<b>Park Office</b>		
14.1	Subtotal Office	Page 21	<b>28,792</b>
14.2	Preliminaries (18%)		5,183
14.3	Costs Associated with Access & Delivery Restrictions (4%)		1,152

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Code	Description	Starting Page	Total
14.4	Builders Margin (4%)		1,152
			<b>36,278</b>
<b>15</b>	<b>Hide Viewing</b>		
15.1	Subtotal Viewing	Page 21	<b>70,721</b>
15.2	Preliminaries (18%)		12,730
15.3	Costs Associated with Access & Delivery Restrictions (4%)		2,829
15.4	Builders Margin (4%)		2,829
			<b>89,108</b>
<b>16</b>	<b>Inbound Viewing</b>		
16.1	Subtotal Viewing	Page 22	<b>247,609</b>
16.2	Preliminaries (18%)		44,570
16.3	Costs Associated with Access & Delivery Restrictions (4%)		9,904
16.4	Builders Margin (4%)		9,904
			<b>311,987</b>
<b>17</b>	<b>Outbound Viewing</b>		
17.1	Subtotal Viewing	Page 22	<b>262,795</b>
17.2	Preliminaries (18%)		47,303
17.3	Costs Associated with Access & Delivery Restrictions (4%)		10,512
17.4	Builders Margin (4%)		10,512
			<b>331,122</b>
<b>18</b>	<b>Village Theming &amp; Signage</b>		
18.1	Subtotal Theming & Signage	Page 23	<b>100,000</b>
18.2	Preliminaries (18%)		18,000
18.3	Costs Associated with Access & Delivery Restrictions (4%)		4,000
18.4	Builders Margin (4%)		4,000
			<b>126,000</b>
<b>20</b>	<b>General Landscaping</b>		
20.1	Subtotal Landscaping	Page 23	<b>474,598</b>
20.2	Preliminaries (18%)		85,428
20.3	Costs Associated with Access & Delivery Restrictions (4%)		18,984
20.4	Builders Margin (4%)		18,984
			<b>597,993</b>
<b>21</b>	<b>Water Feature</b>		
21.1	Water Feature Subtotal	Page 24	<b>237,500</b>
21.2	Preliminaries (18%)		42,750

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Code	Description	Starting Page	Total
21.3	Costs Associated with Access & Delivery Restrictions (4%)		9,500
21.4	Builders Margin (4%)		9,500
			<b>299,250</b>
<b>22</b>	<b>Aviary</b>		
22.1	Subtotal Aviary	Page 24	<b>100,593</b>
22.2	Preliminaries (18%)		18,107
22.3	Costs Associated with Access & Delivery Restrictions (4%)		4,024
22.4	Builders Margin (4%)		4,024
			<b>126,747</b>
<b>23</b>	<b>Sun Bear Upgrade</b>		
23.1	Subtotal SunBear Works	Page 24	<b>149,920</b>
23.2	Preliminaries (18%)		26,986
23.3	Costs Associated with Access & Delivery Restrictions (4%)		5,997
23.4	Builders Margin (4%)		5,997
			<b>188,899</b>
<b>24</b>	<b>Site Services</b>		
24.1	Subtotal Services	Page 25	<b>244,601</b>
24.2	Preliminaries (18%)		44,028
24.3	Costs Associated with Access & Delivery Restrictions (4%)		9,784
24.4	Builders Margin (4%)		9,784
			<b>308,197</b>
<b>26</b>	<b>Contingency (20%)</b>		
26.1	Design Contingency (10%)		941,607
26.2	Construction Contingency (10%)		1,035,768
			<b>1,977,375</b>
<b>28</b>	<b>Extra Over for Overhead Netted Enclosures 'Provisional Sum - awaiting design'</b>		
28.1	Credit back for tiger fences	Page 25	-825,123
28.2	Extra Over for Netted Enclosures 1 & 2 'Provisional Sum - awaiting design'	Page 26	1,861,496
28.3	Extra Over for Netted Enclosure 3 'Provisional Sum - awaiting design'	Page 26	708,123
28.4	Subtotal Enclosure Costs		<b>1,744,496</b>
28.5	Preliminaries (18%)		314,009
28.6	Costs Associated with Access & Delivery Restrictions (4%)		69,780
28.7	Builders Margin (4%)		69,780
28.8	Contingency (15%)		324,476
28.9	Total Overhead Enclosure Cost		<b>2,522,541</b>
			<b>2,522,541</b>

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<b>1</b>	<b>General Information</b>				
<b>1.1</b>	<b>Introduction</b>				
1.1.1	<b>Cost Plan 02 - Main Works</b>				
1.1.2	<i>Project: Sumatran Tiger Adventure &amp; Village</i>				
1.1.3	<i>Client: Taronga Conservation Society Australia</i>				
1.1.4	<u>Measured By: Edward Robins</u>				
1.1.5	<u>Reviewed By: James Larkin &amp; Richard Smith</u>				
1.1.6	<b>Introduction</b>				
1.1.7	This Cost Plan has been developed to determine the estimated project cost of the proposed works for the Sumatran Tiger Adventure/ Village at Taronga Zoo		note		
1.1.8	This estimate is based on our professional opinion and the source material listed below.		note		
1.1.9	Owing to the conceptual nature of the current design we have made various assumptions regarding the construction material and methodology. The estimate should therefore be considered as indicative only		note		
1.1.10	<b>Issue Schedule</b>				
1.1.11	Cost Plan 1 - 19/09/2014		note		
1.1.12	Cost Plan 2 - 19/11/2014		note		
<b>0</b>					
<b>1.2</b>	<b>Drawings</b>				
1.2.1	<u>Drawings Received by Lahznimmo on 2 September 2014</u>				
1.2.2	A-SK-0001 Existing Site Plan Rev P2				
1.2.3	<u>Drawings Received by Lahznimmo on 7th November 2014</u>				
1.2.4	Concept Plan - Overall Plan				
1.2.5	Concept Plan - Part Plan East				
1.2.6	Concept Plan - Part Plan West				
1.2.7	Concept Roof Plan - Overall Plan				
1.2.8	Concept Roof Plan - Part Plan East				
1.2.9	Concept Roof Plan - Part Plan West				
1.2.10	Exhibit Enclosures				
1.2.11	Hangar & Signage - Entry Building 1 & 2				
1.2.12	Hangar & Signage - Entry Building 1 & 2 (Sunbear Viewing)				
1.2.13	Supermarket - Building form & Interactive Display				
1.2.14	Village Petrol Stall				
1.2.15	Village Shops				
1.2.16	National Park Gateway				
1.2.17	Ranger Outpost - Indicative Plan				
1.2.18	Ranger Outpost - Indicative Section				
1.2.19	Ranger Outpost - Indicative Look & feel				
1.2.20	Inbound Viewing - Indicative Section				
1.2.21	Inbound Viewing - Indicative Section (bridge)				

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<b>1.2</b>	<b>Drawings</b>				
1.2.22	Outbound Viewing - Indicative Drawings				
1.2.23	Pathways				
1.2.24	Back-of-House - Staff Areas				
1.2.25	Back-of-House - Dens				
					<b>0</b>
<b>1.3</b>	<b>Exclusions</b>				
1.3.1	Site allowance & enterprise agreements		note		EXCL
1.3.2	Statutory & Authority fees		note		EXCL
1.3.3	Council contributions		note		EXCL
1.3.4	Legal costs		note		EXCL
1.3.5	Out of hours works		note		EXCL
1.3.6	Escalation beyond November 2014		note		EXCL
1.3.7	EPA requirements		note		EXCL
1.3.8	Works beyond extent shown on drawings		note		EXCL
1.3.9	Hazardous materials/ site contamination		note		EXCL
1.3.10	Excavation of rock		note		EXCL
1.3.11	GST (Goods & Service Tax)		note		EXCL
1.3.12	Exclusions as noted in the cost plan		note		EXCL
1.3.13	Fixed Furniture & Equipment		note		EXCL
1.3.14	AV production material		note		EXCL
1.3.15	Undefined hydraulic features		note		EXCL
1.3.16	Shoring/ propping to lower road		note		EXCL
1.3.17	FF&E other than that identified		note		EXCL
1.3.18	Movement / Relocation of Animals		note		EXCL
1.3.19	Early Works (separate cost plan)		note		EXCL
1.3.20	HV & Service Relocations		note		EXCL
1.3.21	AV Equipment (budget to be provided separately)		note		EXCL
1.3.22	Theming to enclosed areas (budget to be provided separately)		note		EXCL
					<b>0</b>
<b>1.4</b>	<b>Assumptions</b>				
1.4.1	<u>General</u>				
1.4.2	Existing structures to southern exhibits assumed masonry walls and concrete slab to floor		Note		
1.4.3	All existing footpath and access roads through site assumed taken up to suit new layout		Note		
1.4.4	Assume timber handrail to exhibit 02 northern side same as exhibit 01		Note		
1.4.5	Note conflicts between Joecoe design and landscape architect GDA - Used GDA rates and specification to rates		Note		
1.4.6	Note Landscaping & exhibit costs where withdrawn from GDA "Indicative landscape costing" dated September 2014		Note		
1.4.7	<u>Contract</u>				
1.4.8	The Contract will be based on a competitive lump sum tender		Note		
1.4.9	Builder to be a second tier builder		Note		

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<b>1.4</b>	<b>Assumptions</b>				
1.4.10	<u>Financial</u>				
1.4.11	No allowance for delay costs		Note		
1.4.12	No allowance for liquidated damages		Note		
1.4.13	Builder to provide security by form of bank guarantees and/or bonds in accordance with Australian standard policy		Note		
1.4.14	No allowance for payment of Section 94 Contributions, Long Service Levy or any other development fees nominated in the DA conditions of Consent		Note		
1.4.15	No allowance for any costs associated with the S73 Notice of Requirements or RRC charges (Reticulation Recovery Charges)		Note		
1.4.16	No allowance for utility upgrade costs associated with gas service		Note		
1.4.17	No allowance for upgrade costs associated with Telstra or NBN service		Note		
1.4.18	No allowance for any costs associated with legal or agents fees		Note		
1.4.19	The Principal accepts that the construction cost estimate could escalate from end 2014		Note		
1.4.20	Builder to hold relevant insurances for the site works		Note		
1.4.21	No allowance for relocation and holding costs of animals and staff		Note		
1.4.22	No temporary Building costs for staff		Note		
1.4.23	<u>Authorities</u>				
1.4.24	Builder to obtain Construction Certificate(s)		Note		
1.4.25	Principal to obtain DA (f required) and any Section 96 modifications if required		Note		
1.4.26	Builder to comply with BASIX, Nathers etc requirements as documented		Note		
1.4.27	No allowance for temporary construction easements to adjoining land or S88K requirements		Note		
1.4.28	No allowance for engaging a Sydney Water project manager or coordinator		Note		
1.4.29	No allowance for any unreasonable delay or stoppages by the Principal or other third parties		Note		
1.4.30	<u>Design</u>				
1.4.31	No allowance for design consultant fees		Note		
1.4.32	No allowance for any future design code changes or retrospective compliance issues not documented		Note		
1.4.33	No allowance for any future fire engineering design unless specifically documented		Note		
1.4.34	<u>Construction</u>				
1.4.35	No allowance to find and/or remove contaminated or hazardous material from site		Note		
1.4.36	No allowance for piling, temporary shoring requirements, rock bolts or shotcrete wall stabilization unless specifically documented		Note		
1.4.37	No allowance for noise and vibration monitoring unless specifically documented		Note		
1.4.38	No allowance for external drenchers or other fire requirements unless specifically documented		Note		
1.4.39	No allowance for sewer extension unless specifically documented		Note		
1.4.40	No allowance for enlargement, amplification, diversion, relocation or encasement of authority services mains (including council stormwater) unless specifically documented		Note		

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<b>1.4</b>	<b>Assumptions</b>				
1.4.41	No allowance for any works outside the site boundary unless specifically documented		Note		
1.4.42	No allowance for any future purchaser changes		Note		
1.4.43	Allowance for dilapidation survey before and after construction works		Note		
1.4.44	NO allowance for loose furniture and table seating etc		Note		
<b>0</b>					
<b>2</b>	<b>Site Preparation</b>				
<b>2.1</b>	<b>Subtotal Site Preparation</b>				
2.1.1	<b>Demolition</b>				
2.1.2	Demolition of existing enclosure/ structure to southern exhibits	402	m2	90.00	36,202
2.1.3	Demolish and remove existing asphalt access road including kerb and gutter	1,448	m2	40.00	57,920
2.1.4	Demolish and remove existing concrete footpaths	54	m2	55.00	2,995
2.1.5	Take down and remove existing fencing to enclosures	223	m	25.00	5,575
2.1.6	Demolish and remove 2000mm high masonry wall	182	m2	60.00	10,920
2.1.7	Demolish and remove 500mm high masonry wall	63	m2	60.00	3,780
2.1.8	Take down and remove existing timber handrail to exhibit fronts	38	m	35.00	1,330
2.1.9	Demolish and remove existing snow leopard steel roof structure	259	m2	35.00	9,056
2.1.10	Demolish and remove concrete ramp to suit new layout	19	m2	65.00	1,249
2.1.11	Demolish and remove Tahr mountain fence	28	m2	25.00	694
2.1.12	Allowance disconnect and cap off all existing services and potential diversions;TBA (provisional allowance)	1	item	50,000.00	50,000
2.1.13	<b>Site Preparation</b>				
2.1.14	Cut & fill to site area including tiger exhibits to level site and suit new layout	5,807	m2	25.00	145,175
2.1.15	Allow to prepare site for construction including removal of rubbish	5,807	m2	15.00	87,105
<b>412,000</b>					
<b>4</b>	<b>Exhibit 01 'Tiger Enclosure'</b>				
<b>4.1</b>	<b>Subtotal Exhibit 1</b>				
4.1.1	<b>Restraint Fencing</b>				
4.1.2	SS Cable 1/8 blackened SS Mesh 40 x 40mm openings (extend mesh supply \$146/m2), 5.5m high, including 1m 45 degree overhand	416	m2	300.00	124,800
4.1.3	Posts 5500mm high including footing	6	no	15,000.00	90,000
4.1.4	Stainless steel anti-dig apron fixed to base of fence	90	m2	300.00	27,084
4.1.5	Concrete upstand edge/plinth to fence	60	m	160.00	9,600
4.1.6	Hot wire rails (qty based on GDA landscape estimate)	88	m	65.00	5,720
4.1.7	Extra over for electrical supply	1	item	6,000.00	6,000
4.1.8	Timber handrail to front of exhibit	32	m	200.00	6,334
4.1.9	Owner exit double doors	1	no	3,500.00	3,500
4.1.10	Owner exit single door	1	no	2,500.00	2,500
4.1.11	Solid block wall 3000mm high including reinforcement	34	m2	300.00	10,200
4.1.12	Concrete footing to block wall including reinforcement	11	m	450.00	5,000

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<b>4.1</b>	<b>Subtotal Exhibit 1</b>				
4.1.13	<b>Landscape</b>				
4.1.14	Allowance for external over cut & fill to water feature (as per Laz Nimmo comments)	13	m2	45.00	576
4.1.15	Soil treatment	589	m2	7.00	4,124
4.1.16	Soft landscaping to tiger exhibit	516	m2	41.00	21,172
4.1.17	Soft landscaping to tiger exhibit (thick density)	73	m2	133.00	9,676
4.1.18	Rockwork	1	item	5,000.00	5,000
4.1.19	Irrigation	650	m2	80.00	52,000
4.1.20	Deadfall	1	item	1,850.00	1,850
4.1.21	Feature Enrichment Devices	1	item	21,650.00	21,650
4.1.22	Exhibit heat pads	1	item	850.00	850
4.1.23	Allowance to retain and protect existing fig tree	1	item	5,000.00	5,000
4.1.24	Additional allowance for formation of soil, ground and uneven foundations	1	item	5,000.00	5,000
					<b>417,635</b>

<b>5</b>	<b>Exhibit 02 'Tiger Enclosure'</b>				
<b>5.1</b>	<b>Subtotal Exhibit 2</b>				
5.1.1	<b>Restraint Fencing</b>				
5.1.2	SS Cable 1/8 blackened SS Mesh 40 x 40mm openings (extend mesh supply \$146/m2), 5.5m high, including 1m 45 degree overhand	453	m2	300.00	135,900
5.1.3	Posts 5500mm high including footing	7	no	15,000.00	105,000
5.1.4	Stainless steel anti-dig apron fixed to base of fence	117	m2	300.00	35,244
5.1.5	Concrete upstand edge/plinth to fence	59	m	160.00	9,445
5.1.6	Hot wire rails (qty based on GDA landscape estimate)	88	m	65.00	5,720
5.1.7	Timber handrail (assume required)	36	m	200.00	7,106
5.1.8	Extra over for electrical supply	1	item	6,000.00	6,000
5.1.9	Solid block wall 3000mm high including reinforcement	41	m2	300.00	12,300
5.1.10	Concrete footing to block wall including reinforcement	14	m	450.00	6,107
5.1.11	Owner exit double doors	1	no	3,500.00	3,500
5.1.12	<b>Landscape</b>				
5.1.13	Soil treatment	504	m2	7.00	3,527
5.1.14	Soft landscaping to tiger exhibit	377	m2	41.00	15,440
5.1.15	Soft landscaping to tiger exhibit (thick density)	127	m2	133.00	16,932
5.1.16	Rockwork	1	item	5,000.00	5,000
5.1.17	Irrigation	500	m2	80.00	40,000
5.1.18	Deadfall	1	item	1,850.00	1,850
5.1.19	Feature Enrichment Devices	1	item	21,650.00	21,650
5.1.20	Exhibit heat pads	1	item	850.00	850
5.1.21	Additional allowance for formation of soil, ground and uneven foundation	1	item	5,000.00	5,000
5.1.22	Provisional allowance old bus/ vehicle feature; As advised by GDA	1	item	70,000.00	70,000
					<b>506,571</b>

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Code	Description	Quantity	Unit	Rate	Amount
<b>6</b>	<b>Exhibit 03 'Tiger Enclosure'</b>				
<b>6.1</b>	<b>Subtotal Exhibit 3</b>				
6.1.1	<b>Restraint Fencing</b>				
6.1.2	Cyclone mesh tiger fence 5500mm high	534	m2	110.00	58,740
6.1.3	Posts 5500mm high including footing	7	no	15,000.00	105,000
6.1.4	Stainless steel anti-dig apron fixed to base of fence	127	m2	300.00	38,166
6.1.5	Concrete upstand edge/plinth to fence	76	m	160.00	12,139
6.1.6	Hot wire rails (qty based on GDA landscape estimate)	88	m	65.00	5,720
6.1.7	Extra over for electrical supply	1	item	6,000.00	6,000
6.1.8	Cyclone mesh partially over exhibit 3	172	m2	110.00	18,934
6.1.9	Solid block wall 3000mm high including reinforcement	48	m2	300.00	14,400
6.1.10	Concrete footing to block wall including reinforcement	16	m	450.00	7,065
6.1.11	Keeper exit double doors	2	no	3,500.00	7,000
6.1.12	<b>Landscaping</b>				
6.1.13	Soil treatment	518	m2	7.00	3,626
6.1.14	Soft landscaping to tiger exhibit	457	m2	41.00	18,727
6.1.15	Soft landscaping to tiger exhibit (thick density)	61	m2	133.00	8,137
6.1.16	Rockwork	1	item	5,000.00	5,000
6.1.17	Irrigation	500	m2	80.00	40,000
6.1.18	Deadfall	1	item	1,850.00	1,850
6.1.19	Feature Enrichment Devices	1	item	21,650.00	21,650
6.1.20	Exhibit heat pads	1	item	850.00	850
6.1.21	Additional allowance for formation of soil, ground and uneven foundations	1	item	5,000.00	5,000
6.1.22	<b>New Viewing Station</b>				
6.1.23	Timber viewing deck	19	m2	250.00	4,688
6.1.24	Timber bamboo walls with steel wire fencing between	22	m2	500.00	11,000
6.1.25	Double glazed viewing panels to tiger enclosure (as per GDA rate)	15	m2	7,500.00	112,500
6.1.26	Timber thatched roof	19	m2	180.00	3,375
6.1.27	Extra over for feature finish internally to roof members	19	m2	25.00	469
					<b>510,035</b>
<b>8</b>	<b>Existing Tiger Exhibit/ BOH rebuild</b>				
<b>8.1</b>	<b>Subtotal Existing BOH Rebuild</b>				
8.1.1	<b>Demolition</b>				
8.1.2	Demolish and remove existing masonry walls and doors	976	m2	80.00	78,080
8.1.3	Demolish and remove existing sheet metal roof or similar	434	m2	40.00	17,360
8.1.4	Demolish and remove dividing wall between tiger exhibits	104	m2	60.00	6,240
8.1.5	Demolish and remove existing Snow Leopard cages	37	m2	40.00	1,480
8.1.6	Demolish and remove existing cages to Fennec Fox exhibition	121	m2	40.00	4,840
8.1.7	Demolish and remove existing cages to Tiger dens	154	m2	40.00	6,160
8.1.8	Demolish and remove existing viewing panels to tiger exhibit	50	m2	75.00	3,750

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Code	Description	Quantity	Unit	Rate	Amount
<b>8.1</b>	<b>Subtotal Existing BOH Rebuild</b>				
8.1.9	Demolish and remove deck to front of lunch room	17	m2	60.00	1,042
8.1.10	Demolish brick retaining wall to garden beds	50	m2	175.00	8,750
8.1.11	Demolish and remove existing concrete staircase	40	m2	250.00	10,000
8.1.12	Demolish and remove suspended concrete slab	288	m2	80.00	23,040
8.1.13	Breakup and remove existing slab/pavers to ground floor	531	m2	75.00	39,825
8.1.14	Demolish and remove glazed window to offices/deck	21	m2	45.00	945
8.1.15	Allowance disconnect and cap off existing services (provisional allowance)	1	item	10,000.00	10,000
8.1.16	Allowance to take out and remove existing furniture to offices	1	item	1,500.00	1,500
8.1.17	Provisional sum Interface works between new and old areas	1	item	125,000.00	125,000
8.1.18	<u>Site Preparation</u>				
8.1.19	Cut & fill softscaped areas including tiger exhibits to level site	360	m2	110.00	39,600
8.1.20	Allow to prepare site for construction	659	m2	20.00	13,174
8.1.21	<u>Office Areas</u>				0
8.1.22	<u>Superstructure</u>				
8.1.23	Concrete slab on ground to offices	179	m2	220.00	39,380
8.1.24	Suspended concrete slab	22	m2	350.00	7,700
8.1.25	Allowance for propping of first floor external wall	1	item	5,000.00	5,000
8.1.26	<u>Columns</u>				
8.1.27	Allowance for structural steel roof	100	m2	140.00	14,000
8.1.28	<u>Roofing &amp; Roof Plumbing</u>				
8.1.29	Colorbond trimdek roof sheeting including insulation, mesh & flashing	100	m2	220.00	22,000
8.1.30	Terracotta tiled roof including insulation & flashing	142	m2	170.00	24,113
8.1.31	Roof plumbing	242	m2	20.00	4,837
8.1.32	<u>External Walls</u>				
8.1.33	Steel framed external walls including sheet metal facade	252	m2	160.00	40,320
8.1.34	<u>Windows</u>				
8.1.35	Allowance for windows	50	m2	450.00	22,680
8.1.36	<u>Staircases</u>				
8.1.37	New concrete staircase including reinforcement	4	m/rise	3,500.00	14,000
8.1.38	<u>Internal Walls</u>				
8.1.39	Timber stud partitions to offices including plasterboard lining and paint	81	m2	160.00	12,960
8.1.40	<u>Doors &amp; Hardware</u>				
8.1.41	Single timber door including hardware & paint	13	no	1,500.00	19,500
8.1.42	Gate to loading & garbage	1	no	3,500.00	3,500
8.1.43	<u>Wall Finishes</u>				
8.1.44	Extra over for moisture resistant plasterboard lining	42	m2	45.00	1,890
8.1.45	Wall tiles to WC & Shower	42	m2	180.00	7,560
8.1.46	<u>Floor Finishes</u>				
8.1.47	Floor tiles laid to falls	11	m2	175.00	1,860
8.1.48	Vinyl flooring to offices & store	118	m2	75.00	8,850

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Code	Description	Quantity	Unit	Rate	Amount
<b>8.1</b>	<b>Subtotal Existing BOH Rebuild</b>				
8.1.49	<u>Ceiling Finishes</u>				
8.1.50	Plasterboard lining to office ceilings including painting	118	m2	105.00	12,390
8.1.51	Extra over for moisture resistant plasterboard lining to ceiling of WC including painting	11	m2	95.00	1,010
8.1.52	<u>Fixed Furniture &amp; Equipment</u>				
8.1.53	Allowance for kitchenette including freezer	1	Item	8,000.00	8,000
8.1.54	Allowance for Office furniture	1	Item	25,000.00	25,000
8.1.55	Allowance for lockers	1	Item	7,500.00	7,500
8.1.56	<b>Tiger Dens</b>				0
8.1.57	<u>Superstructure</u>				
8.1.58	Concrete slab on ground to animal dens and other general areas	191	m2	220.00	41,943
8.1.59	<u>Columns</u>				
8.1.60	Allowance for structural steel roof	235	m2	140.00	32,837
8.1.61	<u>Roofing &amp; Roof Plumbing</u>				
8.1.62	Colorbond trimdek roof sheeting including insulation, mesh & flashing	235	m2	220.00	51,601
8.1.63	Combination solid and translucent roof sheeting to keeper access ways	154	m2	220.00	33,871
8.1.64	Roof plumbing	389	m2	20.00	7,770
8.1.65	<u>External Walls</u>				
8.1.66	External concrete core- filled Bessa block animal den walls, including render & paint	140	m2	120.00	16,800
8.1.67	External concrete core- filled Bessa block enclosure separating walls, including render & paint	133	m2	120.00	15,960
8.1.68	<u>Staircases</u>				
8.1.69	Sunbear access stair to dens	3	m/rise	2,750.00	8,250
8.1.70	<u>Internal Walls</u>				
8.1.71	Concrete Core-filled Bessa block animal den walls, including render and paint	109	m2	250.00	27,250
8.1.72	Steel framed animal den cage fronts	91	m2	300.00	27,300
8.1.73	Steel framed keeper access cages	33	m2	300.00	9,900
8.1.74	<u>Doors &amp; Hardware</u>				
8.1.75	Full size keeper door with industrial type cremeone bolts	4	no	2,000.00	8,000
8.1.76	Single steel framed door to animal dens	8	no	3,000.00	24,000
8.1.77	Double steel framed door including hardware & paint to animal dens	1	no	5,000.00	5,000
8.1.78	Pushrod operated horizontal heavy sliding polypropylene sliding gates (500 x 800mm high) including steel cover plates	19	no	4,000.00	76,000
8.1.79	<u>Wall Finishes</u>				
8.1.80	Epoxy paint finish		note		INCL
8.1.81	<u>Floor Finishes</u>				
8.1.82	Epoxy floor finish to dens	168	m2	45.00	7,538
8.1.83	Allowance for grated drain to cage fronts	38	m	110.00	4,153
8.1.84	<u>Ceiling Finishes</u>				
8.1.85	Allowance for ceiling finishes generally		note		EXCL
8.1.86	<u>Miscellaneous</u>				

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Code	Description	Quantity	Unit	Rate	Amount
<b>8.1</b>	<b>Subtotal Existing BOH Rebuild</b>				
8.1.87	Sleeping dens (1500 x 800mm high) including radiant heat in raised floor	8	no	1,200.00	9,600
8.1.88	Install steel food drop feature from store	8	no	1,000.00	8,000
8.1.89	Triangular elevated sleeping dens with steel frames built into wall	8	no	3,500.00	28,000
8.1.90	<u>External Works</u>				
8.1.91	Landscaping including mass planting to existing enclosures		note		EXCL
8.1.92	<u>Electrical Services</u>				0
8.1.93	Allowance for new lighting & power to offices	128	m2	150.00	19,253
8.1.94	Allowance for new security system (provisional)	1	item	30,000.00	30,000
8.1.95	<u>Mechanical Services</u>				0
8.1.96	Allowance for ventilation system	128	m2	250.00	32,088
8.1.97	<u>Hydraulic Services</u>				0
8.1.98	Allowance for WC	2	no	800.00	1,600
8.1.99	Allowance for Shower	1	no	750.00	750
8.1.100	Allowance for basin	2	no	650.00	1,300
8.1.101	Plumbing reticulation	5	item	1,800.00	9,000
8.1.102	Hot water unit	1	item	2,200.00	2,200
8.1.103	Hot water supply	1	item	1,800.00	1,800
8.1.104	Allowance for plumbing generally	1	item	25,000.00	25,000
8.1.105	Allowance for central trench drain with fiberglass grate in keeper aisle	36	m	300.00	10,908
8.1.106	Allowance for automatic waterer for tiger	1	item	10,000.00	10,000
8.1.107	<u>Fire Services</u>				
8.1.108	Allowance for fire protection	389	m2	30.00	11,670
8.1.109	<u>External Services</u>				
8.1.110	Allowance for new lighting & power to external (provisional)	1	item	30,000.00	30,000
					<b>1,324,177</b>
<b>9</b>	<b>Hangar Entry Building 01 &amp; 02</b>				
<b>9.1</b>	<b>Subtotal Hangar</b>				
9.1.1	<u>Superstructure</u>				
9.1.2	Concrete slab on ground to visitor experience	143	m2	220.00	31,506
9.1.3	Allowance for structural steel roof	143	m2	140.00	20,049
9.1.4	<u>Roofing &amp; Roof Plumbing</u>				
9.1.5	Corrugated Colorbond trimdek roof sheeting including insulation, mesh & flashing	166	m2	600.00	99,600
9.1.6	Roof plumbing	166	m2	20.00	3,320
9.1.7	<u>External Walls</u>				
9.1.8	Steel framed external walls to hangar including sheet metal facade		note		INCL
9.1.9	Extra over for aged building theming	168	m2	200.00	33,600
9.1.10	<u>Windows</u>				
9.1.11	Allowance for windows	34	m2	450.00	15,300
9.1.12	<u>Internal Walls</u>				

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Code	Description	Quantity	Unit	Rate	Amount
<b>9.1</b>	<b>Subtotal Hangar</b>				
9.1.13	Metal stud partitions including plasterboard lining and paint	30	m2	160.00	4,800
9.1.14	<u>Doors &amp; Hardware</u>				
9.1.15	Single timber door including hardware & paint	4	no	1,500.00	6,000
9.1.16	<u>Wall Finishes</u>				
9.1.17	Metal cladding & paint finish to inside of external walls	168	m2	180.00	30,240
9.1.18	<u>Floor Finishes</u>				
9.1.19	Allowance for floor finishes	143	m2	35.00	5,012
9.1.20	<u>Ceiling Finishes</u>				
9.1.21	Allowance for ceiling finishes generally	143	m2	75.00	10,741
9.1.22	<u>Fixed Furniture &amp; Equipment</u>				
9.1.23	Allowance for signage	1	item	10,000.00	10,000
9.1.24	Allowance for fitout/theming (Budget TBC by Taronga Zoo)	143	m2	4,500.00	644,445
9.1.25	Provisional budget allowance for AV		note		EXCL
9.1.26	<b>Services</b>				
9.1.27	Allowance for lighting & power	143	m2	160.00	22,914
9.1.28	Allowance for Air-conditioning	143	m2	180.00	25,778
9.1.29	Allowance for sprinklers	143	m2	25.00	3,580
					<b>966,885</b>
<b>10</b>	<b>Supermarket</b>				
<b>10.1</b>	<b>Subtotal Supermarket</b>				
10.1.1	<u>Superstructure</u>				
10.1.2	Concrete slab on ground to visitor experience	92	m2	220.00	20,315
10.1.3	<u>Roofing &amp; Roof Plumbing</u>				
10.1.4	Tiled roof including structure	150	m2	250.00	37,505
10.1.5	Extra over for feature finish internally to roof members	150	m2	25.00	3,751
10.1.6	Roof plumbing	150	m2	20.00	3,000
10.1.7	<u>External Walls</u>				
10.1.8	Assumed masonry external walls including render finish externally	124	m2	180.00	22,320
10.1.9	<u>Windows</u>				
10.1.10	Allowance for windows	21	m2	450.00	9,450
10.1.11	<u>Internal Walls</u>				
10.1.12	Metal stud partitions including plasterboard lining and paint	29	m2	160.00	4,640
10.1.13	<u>Doors &amp; Hardware</u>				
10.1.14	Single timber door including hardware & paint	1	no	1,500.00	1,500
10.1.15	Double timber door including hardware & paint	1	no	2,250.00	2,250
10.1.16	Automatic glass sliding door to entry & exit including hardware & accessories	2	no	3,500.00	7,000
10.1.17	<u>Wall Finishes</u>				
10.1.18	Plasterboard lining & paint finish to external walls	124	m2	45.00	5,580
10.1.19	<u>Floor Finishes</u>				

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Code	Description	Quantity	Unit	Rate	Amount
<b>10.1</b>	<b>Subtotal Supermarket</b>				
10.1.20	Allowance for floor finishes	92	m2	85.00	7,849
10.1.21	<u>Ceiling Finishes</u>				
10.1.22	Allowance for ceiling finishes generally	92	m2	75.00	6,926
10.1.23	<u>Miscellaneous</u>				
10.1.24	Allowance for signage	1	item	20,000.00	20,000
10.1.25	Allowance for fitout (Budget TBC by Taronga Zoo)		note		EXCL
10.1.26	Provisional budget allowance for AV		note		EXCL
10.1.27	<b>Services</b>				
10.1.28	Allowance for lighting & power	92	m2	250.00	23,085
10.1.29	Allowance for sprinklers	92	m2	25.00	2,309
10.1.30	Allowance for Air-conditioning		note		EXCL
					<b>177,479</b>
<b>11</b>	<b>Ranger Outpost</b>				
<b>11.1</b>	<b>Subtotal Outpost</b>				
11.1.1	<u>Superstructure</u>				
11.1.2	Concrete slab on ground 'Deck'	68	m2	220.00	14,949
11.1.3	Concrete slab on ground to BOH keeper access	74	m2	220.00	16,302
11.1.4	Timber flooring to function area	144	m2	95.00	13,686
11.1.5	Allowance for timber structure roof	356	m2	140.00	49,897
11.1.6	Suspended Tiger raceway concrete slab	12	m2	350.00	4,200
11.1.7	Concrete stairway to tiger raceway including reinforcing	6	m/rise	3,500.00	21,000
11.1.8	<u>Roofing &amp; Roof Plumbing</u>				
11.1.9	Metal deck roof with recycled 'rusty' corrugated roof sheeting battened over, including insulation, mesh & flashing	356	m2	220.00	78,410
11.1.10	Extra over for feature finish internally to roof members	149	m2	25.00	3,713
11.1.11	Roof plumbing	356	m2	20.00	7,128
11.1.12	<u>External Walls</u>				
11.1.13	Concrete core-filled bessa block walls, including render & epoxy paint finish to tiger exhibits	90	m2	250.00	22,500
11.1.14	Timber framed external walls to visitor side including sheet metal facade	74	m2	160.00	11,840
11.1.15	<u>Windows</u>				
11.1.16	Allowance for windows/ Louvres	13	m2	450.00	5,850
11.1.17	Double glazed viewing panels to tiger enclosure (as per GDA rate)	25	m2	7,500.00	187,500
11.1.18	Timber shutters	9	m2	150.00	1,388
11.1.19	<u>Internal Walls</u>				
11.1.20	Timber stud partitions to visitor side	48	m2	160.00	7,680
11.1.21	Concrete core-filled bessa block walls, including render & epoxy paint finish to dens	86	m2	250.00	21,500
11.1.22	Steel framed animal den cage fronts	30	m2	300.00	9,000
11.1.23	Steel framed access keeper cage	15	m2	300.00	4,500
11.1.24	<u>Doors &amp; Hardware</u>				

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Code	Description	Quantity	Unit	Rate	Amount
<b>11.1</b>	<b>Subtotal Outpost</b>				
11.1.25	Single timber door including hardware & paint finish	2	no	1,500.00	3,000
11.1.26	Double timber door including hardware & paint finish	1	no	1,800.00	1,800
11.1.27	Large double timber door including hardware & paint finish to main entrance	2	no	3,500.00	7,000
11.1.28	Full size keeper door with industrial type cremeone bolts	6	no	2,000.00	12,000
11.1.29	Single steel framed door to animal dens	4	no	3,000.00	12,000
11.1.30	Pushrod operated horizontal heavy sliding polypropylene sliding gates (500 x 800mm high) including steel cover plates	13	no	4,000.00	52,000
11.1.31	<u>Wall Finishes</u>				
11.1.32	Plasterboard lining & paint finish	91	m2	45.00	4,095
11.1.33	<u>Floor Finishes</u>				
11.1.34	Allowance for floor finishes to visitor areas	149	m2	35.00	5,198
11.1.35	Floor finishes to BOH		note		INCL
11.1.36	Allowance for grated drain to cage fronts	12	m	110.00	1,359
11.1.37	<u>Ceiling Finishes</u>				
11.1.38	Ceiling finishes		note		INCL
11.1.39	<u>Fixed Furniture &amp; Equipment</u>				
11.1.40	Allowance for raised bed to tiger den	2	no	1,500.00	3,000
11.1.41	Allowance for radiant heat in raised floor to dens	2	no	1,200.00	2,400
11.1.42	Allowance for signage	1	item	10,000.00	10,000
11.1.43	Allowance for bus/Landrover feature	1	item	300,000.00	300,000
11.1.44	Allowance for fitout/theming (Budget TBC by Taronga Zoo)		note		EXCL
11.1.45	Provisional budget allowance for AV		note		EXCL
11.1.46	<b>Services</b>				
11.1.47	Allowance for lighting & power to Visitor areas	149	m2	160.00	23,763
11.1.48	Allowance for lighting & power to BOH	74	m2	160.00	11,856
11.1.49	Allowance for sprinklers throughout	225	m2	25.00	5,631
11.1.50	Allowance for Air-conditioning		note		EXCL

**936,145**

<b>12</b>	<b>Village Shops &amp; WC</b>				
<b>12.1</b>	<b>Subtotal Village Shops</b>				
12.1.1	<u>Superstructure</u>				
12.1.2	Concrete slab on ground	18	m2	220.00	3,960
12.1.3	Allowance for timber structure roof	45	m2	140.00	6,349
12.1.4	<u>Roofing &amp; Roof Plumbing</u>				
12.1.5	Concrete tiled roof including insulation, mesh & flashing	45	m2	220.00	9,977
12.1.6	Extra over for feature finish internally to roof members	45	m2	25.00	1,134
12.1.7	Roof plumbing	45	m2	20.00	907
12.1.8	<u>External Walls</u>				
12.1.9	Timber framed external walls to shops including sheet metal facade	43	m2	160.00	6,880
12.1.10	Steel stud framed walls to WC including sheet metal facade	21	m2	160.00	3,360

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Printing Date: 19/11/2014  
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Code	Description	Quantity	Unit	Rate	Amount
<b>12.1</b>	<b>Subtotal Village Shops</b>				
12.1.11	Extra over for aged building theming	64	m2	200.00	12,800
12.1.12	<u>Doors &amp; Hardware</u>				
12.1.13	Single timber door including hardware & paint finish	3	no	1,500.00	4,500
12.1.14	<u>Wall Finishes</u>				
12.1.15	Moisture resistant plasterboard lining to WC	28	m2	45.00	1,260
12.1.16	Allowance for wall tiling to WC	28	m2	120.00	3,360
12.1.17	<u>Floor Finishes</u>				
12.1.18	Allowance for floor finish to shops	11	m2	35.00	387
12.1.19	Allowance for tiling to WC	7	m2	110.00	760
12.1.20	<u>Ceiling Finishes</u>				
12.1.21	Plasterboard ceiling finish to WC	7	m2	75.00	518
12.1.22	<u>Fixed Furniture &amp; Equipment</u>				
12.1.23	Allowance for signage/ artwork	1	item	10,000.00	10,000
12.1.24	Allowance for fitout/theming (Budget TBC by Taronga Zoo)		note		EXCL
12.1.25	<u>Sanitary Plumbing</u>				
12.1.26	WC	1	no	2,500.00	2,500
12.1.27	Wash hand basin	1	no	2,500.00	2,500
12.1.28	Allowance for fittings	1	item	5,000.00	5,000
12.1.29	<b>Services</b>				
12.1.30	Allowance for lighting & power	18	m2	160.00	2,880
12.1.31	Allowance for Air-conditioning		note		EXCL
					<b>79,032</b>
<b>13</b>	<b>BOH Counter &amp; Entrance shelter</b>				
<b>13.1</b>	<b>Subtotal BOH</b>				
13.1.1	<u>Superstructure</u>				
13.1.2	Concrete slab on ground	32	m2	220.00	6,956
13.1.3	Allowance for timber structure roof	75	m2	140.00	10,517
13.1.4	<u>Roofing &amp; Roof Plumbing</u>				
13.1.5	Metal deck roof with recycled 'rusty' corrugated roof sheeting battened over, including insulation, mesh & flashing	75	m2	220.00	16,526
13.1.6	Extra over for feature finish internally to roof members	75	m2	25.00	1,878
13.1.7	Roof plumbing	75	m2	20.00	1,502
13.1.8	<u>External Walls</u>				
13.1.9	Timber framed external walls to shops including sheet metal facade	65	m2	160.00	10,400
13.1.10	Extra over for aged building theming	65	m2	200.00	13,000
13.1.11	<u>Doors &amp; Hardware</u>				
13.1.12	Single timber door including hardware & paint finish	1	no	1,500.00	1,500
13.1.13	<u>Wall Finishes</u>				
13.1.14	Allowance for wall finish internally	65	m2	45.00	2,925
13.1.15	<u>Floor Finishes</u>				

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Code	Description	Quantity	Unit	Rate	Amount
<b>13.1</b>	<b>Subtotal BOH</b>				
13.1.16	Allowance for floor finish	32	m2	35.00	1,107
13.1.17	<u>Fixed Furniture &amp; Equipment</u>				
13.1.18	Allowance for fitout/theming (Budget TBC by Taronga Zoo)		note		EXCL
13.1.19	<b>Services</b>				
13.1.20	Allowance for lighting & power	32	m2	160.00	5,059
13.1.21	Allowance for Air-conditioning		note		EXCL
					<b>71,371</b>
<b>14</b>	<b>Park Office</b>				
<b>14.1</b>	<b>Subtotal Office</b>				
14.1.1	<u>Superstructure</u>				
14.1.2	Concrete slab on ground	13	m2	220.00	2,851
14.1.3	<u>Roofing &amp; Roof Plumbing</u>				
14.1.4	Timber thatched roof	33	m2	180.00	5,931
14.1.5	Roof plumbing	33	m2	20.00	659
14.1.6	<u>External Walls</u>				
14.1.7	Masonry external walls to including render finish	34	m2	160.00	5,440
14.1.8	<u>Windows</u>				
14.1.9	Allowance for windows	9	m2	450.00	4,050
14.1.10	<u>Doors &amp; Hardware</u>				
14.1.11	Single timber door including hardware & paint finish	1	no	1,500.00	1,500
14.1.12	<u>Wall Finishes</u>				
14.1.13	Plasterboard lining internally	43	m2	45.00	1,935
14.1.14	<u>Floor Finishes</u>				
14.1.15	Allowance for floor finish	13	m2	35.00	454
14.1.16	<u>Ceiling Finishes</u>				
14.1.17	Plasterboard ceiling finish	13	m2	75.00	972
14.1.18	<u>Fixed Furniture &amp; Equipment</u>				
14.1.19	Allowance for signage	1	item	5,000.00	5,000
14.1.20	Allowance for fitout/theming (Budget TBC by Taronga Zoo)		note		EXCL
14.1.21	<b>Services</b>				
14.1.22	Allowance for lighting & power		note		EXCL
14.1.23	Allowance for Air-conditioning		note		EXCL
					<b>28,792</b>
<b>15</b>	<b>Hide Viewing</b>				
<b>15.1</b>	<b>Subtotal Viewing</b>				
15.1.1	<u>Superstructure</u>				
15.1.2	Concrete slab on ground including basecourse	29	m2	220.00	6,479
15.1.3	<u>Roofing &amp; Roof Plumbing</u>				
15.1.4	Suspended reinforced concrete roof	29	m2	210.00	6,185

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Code	Description	Quantity	Unit	Rate	Amount
<b>15.1</b>	<b>Subtotal Viewing</b>				
15.1.5	Allowance for roof membrane, plumbing & drainage	29	m2	35.00	1,031
15.1.6	Allowance for mass planting to roof	29	m2	75.00	2,209
15.1.7	<u>External Walls</u>				
15.1.8	Mesh viewing to Aviary	9	m2	85.00	765
15.1.9	Concrete core-filled bessa block walls, including render & epoxy paint finish to tiger exhibits	6	m2	250.00	1,500
15.1.10	<u>Windows</u>				
15.1.11	Double glazed viewing panels to tiger enclosure (as per GDA rate)	4	m2	7,500.00	28,875
15.1.12	<u>Wall Finishes</u>				
15.1.13	Bamboo lining internally	6	m2	120.00	720
15.1.14	<u>Floor Finishes</u>				
15.1.15	Timber decking over concrete slab	29	m2	110.00	3,240
15.1.16	<u>Ceiling Finishes</u>				
15.1.17	Bamboo ceiling finish	29	m2	120.00	3,534
15.1.18	<u>Miscellaneous</u>				
15.1.19	Allowance for camouflaged exterior finish to tiger enclosure	1	item	10,000.00	10,000
15.1.20	<b>Services</b>				
15.1.21	Allowance for new lighting & power	29	m2	210.00	6,185
					<b>70,721</b>
<b>16</b>	<b>Inbound Viewing</b>				
<b>16.1</b>	<b>Subtotal Viewing</b>				
16.1.1	<u>Superstructure</u>				
16.1.2	Allowance for suspended timber deck	38	m2	250.00	9,425
16.1.3	Allowance for timber hardwood structure	38	m2	190.00	7,163
16.1.4	<u>Roofing &amp; Roof Plumbing</u>				
16.1.5	Timber thatched roof	170	m2	180.00	30,600
16.1.6	Extra over for feature finish internally to roof members	170	m2	25.00	4,250
16.1.7	<u>Windows</u>				
16.1.8	Double glazed viewing panels to tiger enclosure (as per GDA rate)	25	m2	7,500.00	187,500
16.1.9	<u>Floor Finishes</u>				
16.1.10	Timber decking over concrete slab	38	m2	110.00	4,147
16.1.11	<u>Ceiling Finishes</u>				
16.1.12	Bamboo mated ceiling finish	38	m2	120.00	4,524
16.1.13	<u>Fixed Furniture &amp; Equipment</u>				
16.1.14	Allowance for signage		note		EXCL
16.1.15	<b>Services</b>				
16.1.16	Allowance for lighting & power		note		EXCL
					<b>247,609</b>
<b>17</b>	<b>Outbound Viewing</b>				
<b>17.1</b>	<b>Subtotal Viewing</b>				

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Code	Description	Quantity	Unit	Rate	Amount
<b>17.1</b>	<b>Subtotal Viewing</b>				
17.1.1	<u>Superstructure</u>				
17.1.2	Concrete slab on ground	29	m2	220.00	6,380
17.1.3	Allowance for timber structure	29	m2	140.00	4,060
17.1.4	<u>Roofing &amp; Roof Plumbing</u>				
17.1.5	Metal deck roof with recycled 'rusty' corrugated roof sheeting battened over, including insulation, mesh & flashing	29	m2	220.00	6,380
17.1.6	Extra over for feature finish internally to roof members	29	m2	25.00	725
17.1.7	Roof plumbing	29	m2	20.00	580
17.1.8	<u>External Walls</u>				
17.1.9	Bamboo Wall including tiger mesh between both bamboo linings	61	m2	500.00	30,500
17.1.10	<u>Windows</u>				
17.1.11	Double glazed viewing panels to tiger enclosure (as per GDA rate)	25	m2	7,500.00	187,500
17.1.12	<u>Floor Finishes</u>				
17.1.13	Timber decking over concrete slab	29	m2	110.00	3,190
17.1.14	<u>Ceiling Finishes</u>				
17.1.15	Bamboo ceiling finish to tiger tunnel	29	m2	120.00	3,480
17.1.16	<u>Miscellaneous</u>				
17.1.17	Allowance for forming bamboo viewing holes	1	item	20,000.00	20,000
17.1.18	<b>Services</b>				
17.1.19	Allowance for lighting & power		note		EXCL
					<b>262,795</b>
<b>18</b>	<b>Village Theming &amp; Signage</b>				
<b>18.1</b>	<b>Subtotal Theming &amp; Signage</b>				
18.1.1	Allowance for theming to village areas (Budget TBC by Taronga Zoo)		note		EXCL
18.1.2	Way-finding signage	1	item	100,000.00	100,000
					<b>100,000</b>
<b>20</b>	<b>General Landscaping</b>				
<b>20.1</b>	<b>Subtotal Landscaping</b>				
20.1.1	<u>Hard Landscaping</u>				
20.1.2	Pitted & coloured concrete pathway outbound path (2.5m wide)	236	m2	110.00	25,961
20.1.3	Crushed gravel concrete pathway or similar to discovery trail (1.5m wide)	164	m2	95.00	15,537
20.1.4	Timber edging to crushed gravel pathway	129	m	35.00	4,526
20.1.5	Kerb & gutter to asphalt pathways & garden beds	184	m	90.00	16,552
20.1.6	New asphalt footpath to experience entry	205	m2	95.00	19,504
20.1.7	New asphalt footpath to village hardstand	303	m2	95.00	28,806
20.1.8	Redirected ramp around Tahr Mountain	15	m2	120.00	1,775
20.1.9	Mock Rock retaining wall (1m high) to outbound pathway	61	m2	280.00	17,175
20.1.10	Footing to retaining wall	61	m	200.00	12,268
20.1.11	Allowance to make good existing path to southern side of exhibit 01	78	m2	55.00	4,290
20.1.12	<u>Soft Landscaping</u>				

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<b>20.1</b>	<b>Subtotal Landscaping</b>				
20.1.13	<u>As per GDA Landscaping Estimate dated September 2014</u>				
20.1.14	Discovery trail (heavy foliage)	525	m2	75.00	39,386
20.1.15	Soft landscaping (light)	535	m2	60.00	32,116
20.1.16	Irrigation to landscaped areas	1,060	m2	80.00	84,833
20.1.17	Advanced tree stock	1	item	20,000.00	20,000
20.1.18	Bamboo Groves/ planting upgrade	1	item	15,000.00	15,000
20.1.19	Enrichment devices	1	item	25,000.00	25,000
20.1.20	<b><u>Furniture &amp; Fixtures</u></b>				
20.1.21	New Fence to Tahr mountain enclosure	28	m	180.00	4,995
20.1.22	Boom Gate to vehicle entry	1	no	5,000.00	5,000
20.1.23	Landscape seating (incl 4 No. Timber seats)	22	m	850.00	18,692
20.1.24	Southern BOH hand rail	18	m	200.00	3,582
20.1.25	Bamboo screen to village exit	13	m2	200.00	2,600
20.1.26	New Way Kambats Gate to village entrance	1	item	50,000.00	50,000
20.1.27	Allowance for timber bench seating generally	40	m	300.00	12,000
20.1.28	Allowance for new Tahr shade structure as per discussion with Laz Nimmo 10/11/14	1	item	15,000.00	15,000
					<b>474,598</b>
<b>21</b>	<b>Water Feature</b>				
<b>21.1</b>	<b>Water Feature Subtotal</b>				
21.1.1	<b>Shallow rock filled creek</b>				
21.1.2	Water Exhibit 01 'Tiger Enclosure'	13	m2	2,500.00	32,500
21.1.3	Water Exhibit 03 'Tiger Enclosure'	43	m2	2,500.00	107,500
21.1.4	Water general area	17	m2	2,500.00	42,500
21.1.5	Pump/Filtration	1	item	55,000.00	55,000
					<b>237,500</b>
<b>22</b>	<b>Aviary</b>				
<b>22.1</b>	<b>Subtotal Aviary</b>				
22.1.1	<u>Aviary allowance for new mesh cages, mesh roof, landscaping, access doors, steel framed 4-5m high</u>				
22.1.2	Allowance for Aviary wire mesh structure as per GDA estimate	1	item	94,000.00	94,000
22.1.3	Allowance for light steel framed bird shelter structure & roofing	14	m2	455.00	6,593
					<b>100,593</b>
<b>23</b>	<b>Sun Bear Upgrade</b>				
<b>23.1</b>	<b>Subtotal SunBear Works</b>				
23.1.1	<u>Demolition</u>				0
23.1.2	Demolish and remove existing asphalt access road including kerb and gutter	295	m2	40.00	11,782
23.1.3	Demolish and remove existing mock rock to front of Sun Bear exhibit	76	m2	110.00	8,360
23.1.4	Take down and remove existing timber handrail to exhibit fronts	52	m	35.00	1,820

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<b>23.1</b>	<b>Subtotal SunBear Works</b>				
23.1.5	Demolish and remove existing landscaped area including mock rock, trees, shrubs and ground covers	457	m2	30.00	13,708
23.1.6	<u>New Works</u>				0
23.1.7	New stone paving	88	m2	120.00	10,523
23.1.8	New timber balustrade to Sun Bear enclosure	28	m	200.00	5,608
23.1.9	Timber pergola	88	m2	220.00	19,362
23.1.10	Removable queuing bollards	10	no	350.00	3,500
23.1.11	Timber wall to raised planter	61	m2	190.00	11,590
23.1.12	Allowance to make good existing mock rock	1	item	10,000.00	10,000
23.1.13	<u>Soft landscaping</u>				
23.1.14	Mass planting to garden beds	21	m2	75.00	1,567
23.1.15	Mass planting to timber planter	29	m2	75.00	2,146
23.1.16	Palms	11	no	650.00	7,150
23.1.17	Vertical vines	23	m2	45.00	1,035
23.1.18	Allowance for new landscaping to sunbear exhibit	457	m2	75.00	34,270
23.1.19	Allowance for irrigation & garden beds	1	item	7,500.00	7,500
					<b>149,920</b>
<b>24</b>	<b>Site Services</b>				
<b>24.1</b>	<b>Subtotal Services</b>				
24.1.1	<u>Electrical Services</u>				
24.1.2	Allowance for external bollard lighting and power to footpaths generally	16	no	1,500.00	24,000
24.1.3	Allowance for new security / monitoring system including video/ CCTV (provisional)	1	item	75,000.00	75,000
24.1.4	Mechanical Services		note		EXCL
24.1.5	<u>Fire Services</u>				0
24.1.6	Allowance for fire protection across site; i.e. sprinklers, extinguishers etc	8,052	m2	6.00	48,311
24.1.7	<u>Hydraulic Services</u>				0
24.1.8	Allowance for hydraulic services to landscaping and general areas; hoses, drinking fountains etc.	2,162	m2	45.00	97,290
					<b>244,601</b>
<b>28</b>	<b>Extra Over for Overhead Netted Enclosures 'Provisional Sum - awaiting design'</b>				
<b>28.1</b>	<b>Credit back for tiger fences</b>				
28.1.1	Restraint Fencing (Exhibit 1)				
28.1.2	SS Cable 1/8 blackened SS Mesh 40 x 40mm openings (extend mesh supply \$146/m2), 5.5m high, including 1m 45 degree overhand	416	m2	300.00	-124,800
28.1.3	Posts 5500mm high	6	no	15,000.00	-90,000
28.1.4	Stainless steel anti-dig apron fixed to base of fence	90	m2	300.00	-27,084
28.1.5	Concrete upstand edge/plinth to fence	60	m	160.00	-9,600
28.1.6	Hot wire rails (qty based on GDA landscape estimate)	88	m	65.00	0
28.1.7	Extra over for electrical supply	1	item	6,000.00	0
28.1.8	Timber handrail to front of exhibit	32	m	200.00	0

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Code	Description	Quantity	Unit	Rate	Amount
<b>28.1</b>	<b>Credit back for tiger fences</b>				
28.1.9	Owner exit double doors	1	no	3,500.00	0
28.1.10	Owner exit single door	1	no	2,500.00	0
28.1.11	Solid block wall 3000mm high including reinforcement	34	m2	300.00	-10,200
28.1.12	Concrete footing to block wall including reinforcement	11	m	450.00	-5,000
28.1.13	<b>Restraint Fencing (Exhibit 2)</b>				
28.1.14	SS Cable 1/8 blackened SS Mesh 40 x 40mm openings (extend mesh supply \$146/m2), 5.5m high, including 1m 45 degree overhand	453	m2	300.00	-135,900
28.1.15	Posts 5500mm high	7	no	15,000.00	-105,000
28.1.16	Stainless steel anti-dig apron fixed to base of fence	117	m2	300.00	-35,244
28.1.17	Concrete upstand edge/plinth to fence	59	m	160.00	-9,445
28.1.18	Hot wire rails (qty based on GDA landscape estimate)	88	m	65.00	0
28.1.19	Timber handrail (assume required)	36	m	200.00	0
28.1.20	Extra over for electrical supply	1	item	6,000.00	0
28.1.21	Solid block wall 3000mm high including reinforcement	41	m2	300.00	-12,300
28.1.22	Concrete footing to block wall including reinforcement	14	m	450.00	-6,107
28.1.23	Owner exit double doors	1	no	3,500.00	0
28.1.24	<b>Restraint Fencing (Exhibit 3)</b>				
28.1.25	Cyclone mesh tiger fence 5500mm high	534	m2	110.00	-58,740
28.1.26	Posts 5500mm high	7	no	15,000.00	-105,000
28.1.27	Stainless steel anti-dig apron fixed to base of fence	127	m2	300.00	-38,166
28.1.28	Concrete upstand edge/plinth to fence	76	m	160.00	-12,139
28.1.29	Hot wire rails (qty based on GDA landscape estimate)	88	m	65.00	0
28.1.30	Extra over for electrical supply	1	item	6,000.00	0
28.1.31	Cyclone mesh partially over exhibit 3	172	m2	110.00	-18,934
28.1.32	Solid block wall 3000mm high including reinforcement	48	m2	300.00	-14,400
28.1.33	Concrete footing to block wall including reinforcement	16	m	450.00	-7,065
28.1.34	Keeper exit double doors	2	no	3,500.00	0
					<b>-825,123</b>
<b>28.2</b>	<b>Extra Over for Netted Enclosures 1 &amp; 2 'Provisional Sum - awaiting design'</b>				
28.2.1	<u>Structure</u>				
28.2.2	Allowance for structural steel ribs including concrete footings, attached connections & treatment 'Provisional Sum - awaiting design'	1,432	m2	1,000.00	1,431,920
28.2.3	<u>Netting</u>				
28.2.4	Allowance for tiger mesh netting to structure 'Provisional Sum - awaiting design'	1,432	m2	300.00	429,576
					<b>1,861,496</b>
<b>28.3</b>	<b>Extra Over for Netted Enclosure 3 'Provisional Sum - awaiting design'</b>				
28.3.1	<u>Structure</u>				
28.3.2	Allowance for structural steel posts including concrete footings, attached connections & treatment 'Provisional Sum - awaiting design'	545	m2	1,000.00	544,710
28.3.3	<u>Netting</u>				

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Date: 19/11/2014

Code	Description	Quantity	Unit	Rate	Amount
<b>28.3</b>	<b>Extra Over for Netted Enclosure 3 'Provisional Sum - awaiting design'</b>				
28.3.4	Allowance for tiger mesh netting to structure 'Provisional Sum - awaiting design'	545	m2	300.00	163,413
					<b>708,123</b>

## MBM

Client: Taronga Conservation Society Australia  
Project Code: 1163-0001  
Printing Date: 19/11/2014  
Report Name: 01.04 Full Rprt - Client-Hdn cost/m2 and GST

## Appendix B

## Existing and Indicative Plans





1 LOCATION PLAN  
1:1250

REV DESCRIPTION		DATE	REV DESCRIPTION		DATE	LANDSCAPE ARCHITECT	MECHANICAL ENGINEER	ELECTRICAL / COMMS ENGINEER	ESD CONSULTANT	LEGEND	NORTH	CLIENT	PROJECT TITLE	TITLE			
A	ISSUED FOR PLANNING REPORT	06/12/14				<b>Green &amp; Dale Associates</b> PO Box 351 Warrandyte Victoria 3113 tel: 03 9844 5422	<b>Shelmardines</b> 55 Hume St, Crows Nest NSW 2065 tel: 02 9436 3021	<b>Shelmardines</b> 55 Hume St, Crows Nest NSW 2065 tel: 02 9436 3021	<b>Surface Design</b> Suite 11.03, 68 York Street Sydney, NSW 2000 tel: 02 9249 1400					LOCATION PLAN			
						STRUCTURAL ENGINEER	CIVIL ENGINEER	HYDRAULIC / FIRE ENGINEER						DRAWN	PLOT DATE	SCALE @A1	
						<b>Taylor Thomson Whitting</b> Level 3, 48 Chandos St St Leonards, NSW 2065 tel: 02 9439 7288	<b>SDA Structures</b> 48 Alfred St, Milsons Point Rozelle, NSW 2039 tel: 02 9810 6911	<b>Whipps Wood</b> 48 Alfred St, Milsons Point NSW 2061 tel: 02 8923 8444						HC	6/12/2014	1:1250	
														CHECKED	PROJECT NO.	DRAWING NO.	REV. NO.
														AN	14/07	<b>A - S D - 1 1 0 0</b>	<b>A</b>



[illegible]

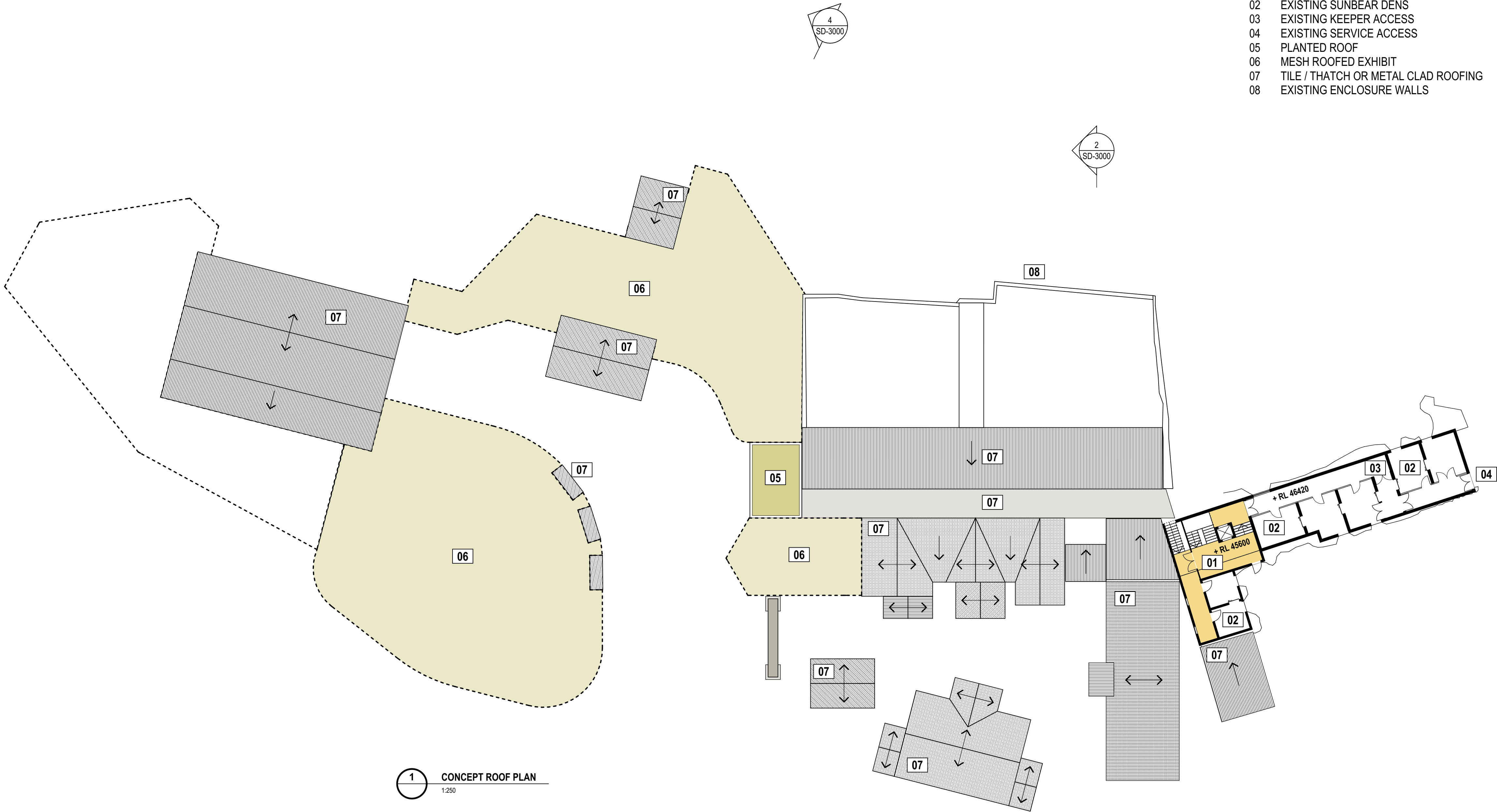
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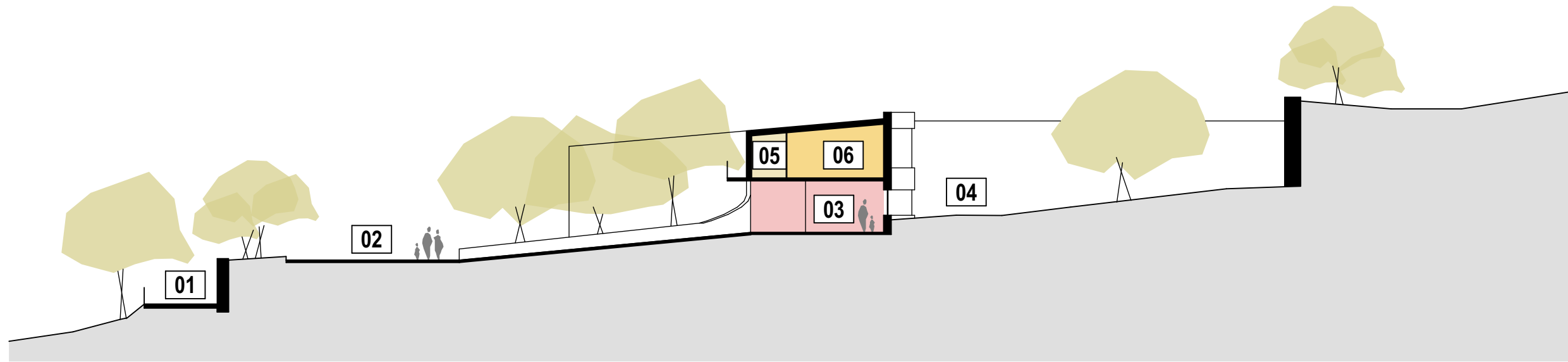


- KEY
- 01 RECONFIGURED ACCESS
  - 02 EXISTING SUNBEAR DENS
  - 03 EXISTING KEEPER ACCESS
  - 04 EXISTING SERVICE ACCESS
  - 05 PLANTED ROOF
  - 06 MESH ROOFED EXHIBIT
  - 07 TILE / THATCH OR METAL CLAD ROOFING
  - 08 EXISTING ENCLOSURE WALLS



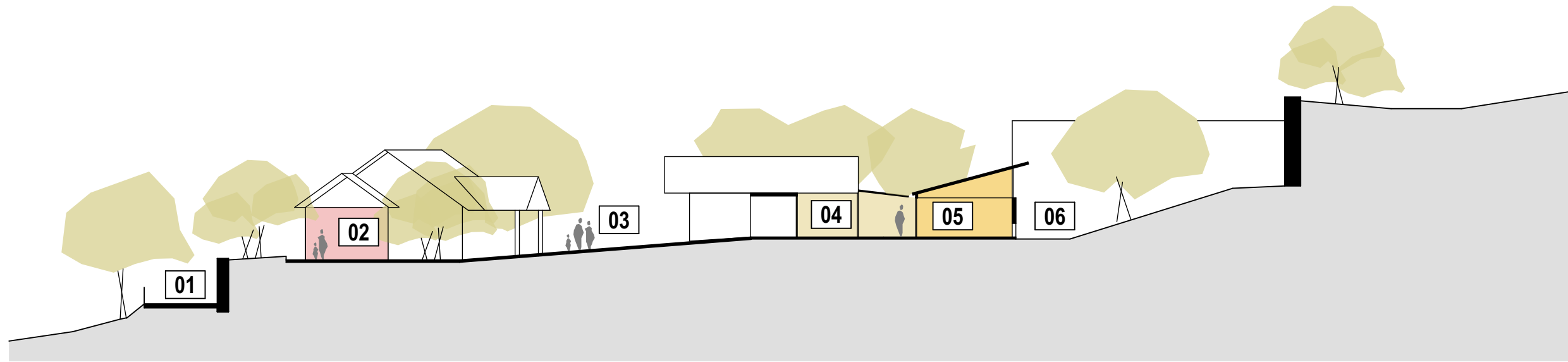
1 CONCEPT ROOF PLAN  
1:250

REV DESCRIPTION		DATE	REV DESCRIPTION	DATE	LANDSCAPE ARCHITECT	MECHANICAL ENGINEER	ELECTRICAL / COMMS ENGINEER	ESD CONSULTANT	LEGEND	NORTH	CLIENT	PROJECT TITLE	TITLE			
A	ISSUED FOR PLANNING REPORT	06/12/14			Green & Dale Associates PO Box 351 Warrandyte Victoria 3113 tel: 03 9844 5422	Shelmerdines 55 Hume St, Crows Nest NSW 2065 tel: 02 9436 3021	Shelmerdines 55 Hume St, Crows Nest NSW 2065 tel: 02 9436 3021	Surface Design Suite 11 03, 68 York Street Sydney, NSW 2000 tel: 02 9249 1400			TARONGA CONSERVATION SOCIETY AUSTRALIA	TARONGA ZOO - SUMATRAN TIGER	PROPOSED ROOF PLAN			
					STRUCTURAL ENGINEER	CIVIL ENGINEER	HYDRAULIC / FIRE ENGINEER						DRAWN HC	PLOT DATE 6/12/2014	SCALE @A1 1:250	
					Taylor Thomson Whitting Level 3, 48 Chandos St St Leonards, NSW 2065 tel: 02 9439 7288	SDA Structures Studio 2, Victoria Rd Rozelle, NSW 2039 tel: 02 9810 6911	Whipps Wood 48 Alfred St, Milsons Point NSW 2061 tel: 02 8923 8444						CHECKED AN	PROJECT NO. 14/07	DRAWING NO. A - S D - 1 4 0 1	REV. NO. A



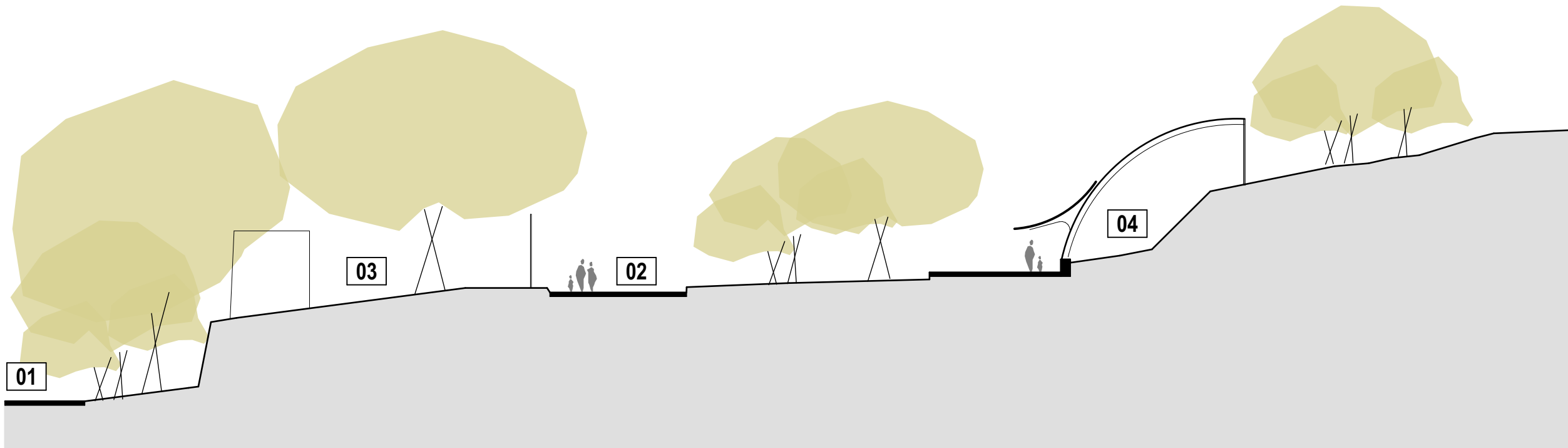
- KEY
- 01 BIRDSHOW ROAD
  - 02 UPPER ROAD
  - 03 EXISTING PUBLIC VIEWING AREA
  - 04 EXISTING TIGER EXHIBIT
  - 05 EXISTING KEEPER ACCESSWAY
  - 06 EXISTING TIGER DENS

1 SECTION 01 - EXISTING  
1:250



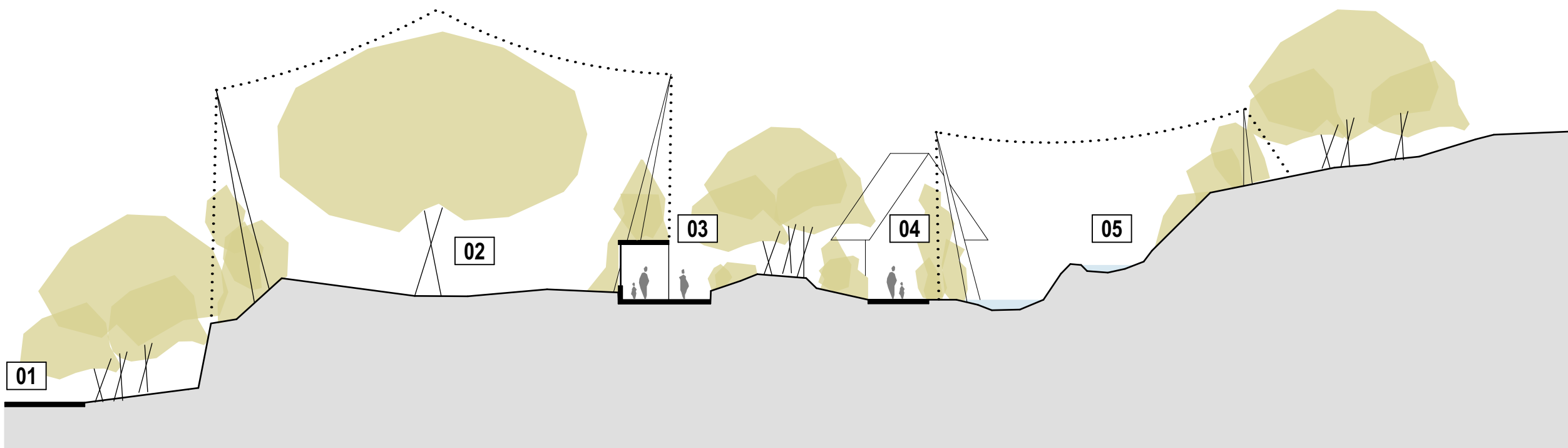
- KEY
- 01 BIRDSHOW ROAD
  - 02 INTERPRETIVE DISPLAY - EXIT
  - 03 INTERPRETIVE DISPLAY - 'VILLAGE'
  - 04 KEEPER ACCESS / LOADING AREA
  - 05 PROPOSED NEW TIGER DENS
  - 06 OFF- EXHIBIT EXTERNAL HOLDING AREA

2 SECTION 01 - PROPOSED  
1:250



- KEY
- 01 BIRDSHOW ROAD
  - 02 UPPER ROAD
  - 03 EXISTING Dhole EXHIBIT
  - 04 EXISTING SNOW LEOPARD EXHIBIT

3 SECTION 02 - EXISTING  
1:250

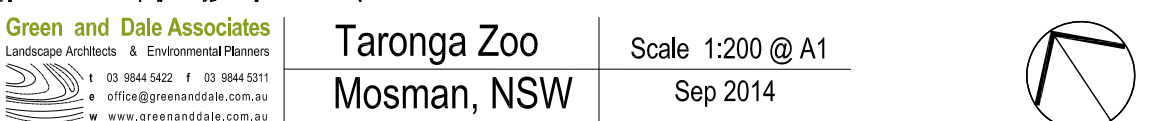


- KEY
- 01 BIRDSHOW ROAD
  - 02 TIGER EXHIBIT 01
  - 03 EXHIBIT TRAIL - OUTBOUND PATH
  - 04 EXHIBIT TRAIL - INBOUND PATH
  - 05 TIGER EXHIBIT 03

4 SECTION 02 - PROPOSED  
1:250

REV DESCRIPTION		DATE	REV DESCRIPTION		DATE	LANDSCAPE ARCHITECT	MECHANICAL ENGINEER	ELECTRICAL / COMMS ENGINEER	ESD CONSULTANT	LEGEND	NORTH	CLIENT	PROJECT TITLE	TITLE			
A ISSUED FOR PLANNING REPORT		06/12/14				Green & Dale Associates PO Box 351 Warrandyte Victoria 3113 tel: 03 9844 5422	Shelmerdines 55 Hume St, Crows Nest NSW 2065 tel: 02 9436 3021	Shelmerdines 55 Hume St, Crows Nest NSW 2065 tel: 02 9436 3021	Surface Design Suite 11.03, 68 York Street Sydney, NSW 2000 tel: 02 9249 1400					SITE SECTIONS			
						STRUCTURAL ENGINEER	CIVIL ENGINEER	HYDRAULIC / FIRE ENGINEER						lahznimmo architects  Suite 404, Flourmill Studios 3 Gladstone St Newtown NSW 2042 Australia  T 02 9550 5200 F 02 9550 5233 www.lahznimmo.com			
						Taylor Thomson Whitting Level 3, 48 Chandos St St Leonards, NSW 2065 tel: 02 9439 7288	SDA Structures 48 Alfred Rd Rozelle, NSW 2039 tel: 02 9810 6911	Whipps Wood Studio 2, Milsons Point NSW 2061 tel: 02 8923 8444						SCALE CHECK 1 2 3 4 5 6 7 8 9 10			







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