



Core Engineering Group • Fire • Risk • Emergency Management

Our Ref: F201606\_DA\_01

30 June 2021

Taronga Zoo Conservation Society Australia  
Bradleys Head Road  
Mosman NSW 2088

**Attention: Paul De Alwis**

Dear Paul,

**RE: Taronga Reptile & Amphibian Conservation Centre | Development Application Letter**

The purpose of this statement is to provide confidence to the Consent Authority that prior to the issue of any development consent for the above project the building design shall fully comply with the Performance Requirements of the Building Code of Australia (BCA), as applicable within New South Wales.

The new works will include the construction of a three-storey reptile and amphibian conservation centre at Taronga Zoo, which incorporates design elements that do not fully meet the prescriptive Deemed to Satisfy (DtS) provisions of the BCA. As a result of the design not conforming to the DtS provisions of the BCA, the building solution applied shall be performance rather than wholly prescriptively based. As a result CORE Engineering Group has been engaged to develop a fire safety strategy that will satisfy the Performance Requirements.

We trust that the above information is sufficient for Consent Authority's needs with respect to fire safety design and compliance with the relevant building regulations in this regard.

Should any further information be required for a determination to be made please contact the undersigned on 02 9299 6605.

Yours faithfully

Christie Tran  
**Fire Safety Engineer**

**FIRE ENGINEERING STATEMENT FOR DEVELOPMENT APPLICATION**

<b>CERTIFICATE NO. :</b>	F201606_DA_01
<b>PROPERTY DETAILS:</b>	Taronga Reptile & Amphibian Conservation Centre
<b>CLIENT :</b>	Taronga Zoo Conservation Society Australia
<b>DATE :</b>	30 June 2021

**BUILDING DESCRIPTION**

<b>DESCRIPTION OF WORKS:</b>	Construction of a new 3-storey reptile & amphibian conservation centre.
<b>CLASSIFICATION(S):</b>	Class 7b (Storage), Class 9b (Public Assembly)
<b>RISE IN STOREYS:</b>	Three (3)
<b>CONSTRUCTION:</b>	Type A
<b>EFFECTIVE HEIGHT:</b>	Less than 12 m

**BASIS OF STATEMENT**

This statement is to the best of our knowledge and belief, true and accurate and is based upon: –

- Capability Statement for BCA Compliance prepared by Group DLA ref: GDL 210224 dated 30 June 2021.
- DA Drawings prepared by Design Worldwide Partnerships dwp revision C dated 27 May 2021.
- The Environmental Planning & Assessment Regulation 2000.
- Core Engineering's previous experience on similar projects.

**PROPOSED FIRE ENGINEERING ALTERNATIVE SOLUTIONS**

Specifically amongst other matters which may be established in the design development the fire strategy needs to address:-

- Reduction of FRLs on Ground Level to 120 mins in lieu of 240 mins (which is prescriptively required for Class 7b parts), reliant on:
  - Detailed fuel load assessment and use of the area.
  - Presence of trained staff and means of undertaking first line fire attack due to fire hose reels / portable fire extinguishers being provided.
- Presence of the 'green wall' on the southern external wall, which is not considered to be non-combustible, reliant on:
  - Non-combustible structure / trellis frame.
  - Detailed assessment of plant maintenance procedures.
- Extended travel distances, reliant on:
  - Occupant familiarity of the building and location of exits (for staff areas).
  - Similarity to precedence in the BCA as outlined in DtS Provision D1.4, whereby the travel distance to a single exit in a Class 5 or 6 building may be increased to 30 m.
  - Smoke detection and alarm system.
  - On Level 2, majority of the egress paths being uncovered allowing smoke to dissipate into the atmosphere and maintaining visibility.

## PROPOSED FIRE ENGINEERING ALTERNATIVE SOLUTIONS

- Internal stair connecting 3-storeys, reliant on:
  - 60/60/60 FRL fire separation on Ground Level.
  - Degree of openness on rooftop level.
  - Multiple alternative exits provided on each level.
  - Circulation stair for staff use only.
- Afterhours egress via sliding doors on Level 1 that do not automatically open on fire trip for security reasons, reliant on:
  - Push-to-exit buttons on a battery backup.
  - Staff access only afterhours.
  - Occupant familiarity of the building and location of exits.
  - Smoke detection and alarm system.
  - Travel distances within DtS limits on Level 1.

## CONCLUSION

The design which has been proposed in the development application is not considered to compromise the proposed fire safety strategy, nor compromise conformance with the building regulations. In other words, the fire safety strategy will have immaterial impact on the design of the built form presented in the architectural drawings.

We trust that the above information is sufficient for Consent Authority's needs with respect to fire safety design and compliance with the relevant building regulations in this regard. Should any further information be required for a determination to be made please contact the undersigned on 02 9299 6605.

### Author:



Christie Tran

**Fire Safety Engineer**

**MEng (Fire Protection)**

### Verified:



Graham Morris

**Registered Certifier – Fire Safety (3200)**

**CPEng, NER, MIEAust**