

JULY 2024

# Taronga Zoo Sky Safari

Appendix J  
BCA / DDA Report

PREPARED BY

**MSA** MATT SHUTER + ASSOCIATES

PREPARED FOR

**TARONGA**   
CONSERVATION SOCIETY AUSTRALIA

*For the Wild*





**MATT SHUTER + ASSOCIATES**

**Building Code of Australia**


**Design Compliance Report**

**SSDA Design Review**

**Taronga Cable Car Sky Safari at Taronga Zoo**

<b>Report Number &amp; Revision:</b>	<b>MSA2409_BCA_TAR_B_3</b>
<b>Prepared For:</b>	<b>Taronga Zoo</b>
<b>Date of Issue:</b>	<b>22.07.2024</b>

## Revision History & Quality Management

Report Number	Revision	Status	Date
MSA2409_BCA_TAR_B_1	Rev1	Concept Level Design	26.06.2023
MSA2409_BCA_TAR_B_2	Rev2	Draft SSDA Level Design	16.05.2024
MSA2409_BCA_TAR_B_2	Rev 3	Final SSDA Level Design	22.07.2024
ROLE	NAME + SIGNATURES	CREDENTIALS	
Written By:	 Gary Pavlou <b>ASSOCIATE</b>	<b>Accredited BCA Consultant &amp; Certifier (Highest Level)</b> <b>Qualified DDA Accessibility Consultant</b> Building and Development Certifier Registration No. BDC0825 MAIBS, MAAC	
Reviewed By:	 Matt Shuter <b>DIRECTOR</b>	<b>Accredited BCA Consultant &amp; Certifier (Highest Level)</b> <b>Accredited DDA Accessibility Consultant (Highest Level)</b> Building and Development Certifier Registration No. BDC0809 Association of Consultants in Access Australia – ACAA No.0564 MAIBS, MAAC, MACAA	

© Matt Shuter + Associates. All rights reserved.

This document has been prepared solely for the use of our client in accordance with our current professional standards and as per our agreement for providing compliance consulting services. The technical and intellectual content contained within this document is confidential and remains the property of Matt Shuter + Associates. The document is prepared for the express use by the nominated client and Matt Shuter + Associates do not endorse the use of this document by any third party.

This document represents the opinions of Matt Shuter & Associates based on the facts and matters known at the time of preparation of this document. Opinions, judgments and recommendations detailed in this document, which are based on our understanding and interpretation of current statutory and regulatory obligations and standards, should not be construed as legal opinions. No warranty is given, nor liability accepted (except that required by law) in relation to the information contained within this document.

This document has been prepared based on the information provided to our office. Matt Shuter + Associates accepts no liability for information provided by the Client and other third parties used to prepare this document or as the basis of the assessment. Subject to the above conditions, this document may be transmitted, reproduced or disseminated only in its entirety.



<b>Executive Summary .....</b>	<b>4</b>
<b>1.0 Introduction .....</b>	<b>5</b>
<b>2.0 Assessed Information .....</b>	<b>5</b>
<b>3.0 Purpose &amp; Basis of the Report.....</b>	<b>5</b>
<b>4.0 Limitations &amp; Exclusions of the Report.....</b>	<b>8</b>
<b>6.0 BCA Recommendations .....</b>	<b>12</b>
<b>7.0 Conclusion.....</b>	<b>15</b>
<b>Attachment A – Summary of Fire Resistance Levels (Type B).....</b>	<b>16</b>
<b>Attachment A – Summary of Fire Resistance Levels (Type C).....</b>	<b>17</b>
<b>Attachment B – Assessed Plans.....</b>	<b>18</b>



## Executive Summary

This report assesses the **SSDA Level Design** for the proposed **Taronga Cable Car Sky Safari at Taronga Zoo** against the requirements of the National Construction Code (NCC) / Building Code of Australia (BCA).

The primary purpose of the report is to identify any significant non-compliances with the deemed-to-satisfy provision of the BCA and provide recommendations to best comply with the requirements of the BCA. The report is "issued-based" focussed on identifying the critical issues relevant to the stage of design.

Subject to compliance with the recommendations of this report, the development can readily comply with the relevant requirements of the BCA.

Refer to recommendations contained in Table 6.0 of the Report.



## 1.0 Introduction

This report assesses the **SSDA Level Design** for the proposed **Taronga Cable Car Sky Safari at Taronga Zoo** against the requirements of the National Construction Code (NCC) / Building Code of Australia (BCA).



## 2.0 Assessed Information

The following information was specifically relied upon for this assessment:

- Desktop assessment of **SSDA design documentation** and supporting design plans and information prepared by Kay Elliott (refer **Attachment B – Assessed Plans**)
- The Building Code of Australia (National Construction Code) 2022

*Note: BCA 2022 has been utilised on the basis of the invitation to tender to carry out the Crown Building Work falling within the BCA 2022 period of adoption.*

- The Guide to the Building Code of Australia (National Construction Code) 2019 – Amendment 1



## 3.0 Purpose & Basis of the Report

### 3.1 Report Purpose

The purpose of this report is to assess the following:

- Assess the design documentation against the prescriptive requirements of the current BCA, and detail any significant non-compliances and issues (or those which have the ability to affect the current design);
- Provide recommendations to best address any significant BCA non-compliances and to guide the continuing design.

### 3.2 General Basis

The general basis of this report is to assess and address compliance with the significant prescriptive (deemed-to-satisfy) requirements of the Building Code of Australia (BCA) as relevant to the new building works.

The scope of services is limited to assessment against *Sections C - Fire Resistance, Section D - Access & Egress and Section E - Services & Equipment, Section F - Health and Amenity.*

Only high level 'parameter advice' is provided for the following sections of the BCA which must be assessed separately where applicable, *Section B – Structure, Part D4 Access for People with Disabilities, Part I2 Public Transport Buildings and Section J - Energy Efficiency.*

### 3.3 Regulatory Basis (Crown Development)

The following outlines the regulatory basis for assessment for Crown developments and existing buildings.

#### 3.3.1 Crown Development in the Environmental Planning & Assessment Act, 1979

Developments by the Crown, or on behalf of the Crown, are required to be certified under Section 6.28(2) of the Environmental Planning & Assessment Act 1979, as follows:

***Section 6.28 (2) of the EP&A Act:***

*Crown building work cannot be commenced unless the Crown building work is certified by or on behalf of the Crown to comply with the Building Code of Australia in force as at:*

- (a) the date of the invitation for tenders to carry out the Crown building work, or*
- (b) in the absence of tenders, the date on which the carrying out of the Crown building work commences, except as provided by this section.*

*The following definitions are also applicable:*

**Crown** *has the same meaning given to that expression by the regulations.*

**Crown building work** *means development (other than exempt development), or an activity that is subject to environmental impact assessment under Division 5.1, by the Crown that comprises:*

- (a) the erection of a building, or*
- (b) the demolition of a building or work, or*
- (c) the doing of anything that is incidental to the erection of a building or the demolition of a building or work.*

The above is the key regulatory consideration when determining BCA compliance for a Crown development. Effectively stating that Crown Building Work must be certified as meeting the requirements of the Building Code of Australia in force at the time of tender release / prior to commencement of works.

#### 3.3.2 Applicable Legislation, Codes & Standards

In preparing the below advice, the following codes and standards have been considered:

- The Disability Discrimination Act 1992
- Disability Standards for Accessible Public Transport 2002 ("DSAPT")
- Disability (Access to Premises Buildings) Standards 2010
- The Building Code of Australia 2022

- Relevant parts of AS1428.1-2001/2009/2021 "Design for Access and Mobility – Part 1: General Requirements for Access New Building Works"
- Relevant parts of AS1428.2-1992 "Design for Access and Mobility – Enhanced and Additional Requirements – Buildings and Facilities"
- Relevant parts of AS1428.4-1992 "Design for Access & Mobility – Part 4 Tactile Ground Surface Indicators For Orientation of People with Visual Impairment"
- Relevant parts of AS1428.4.1-2009 "Design for Access & Mobility–Part 4.1 Means to Assist the Orientation of People with Vision Impairment – Tactile Ground Surface Indicators"
- AS1680.2.0 - 1990 "Interior lighting - Recommendations for specific tasks and interiors"
- AS1735.12-1999 "Lifts, Escalators & Moving Walkways – Part 12 – Facilities for Persons with Disabilities"
- AS2890.6-2009 "Parking Facilities - Off Street Parking for People with Disabilities"
- AS2890.5-2020 "On-street Parking"
- Disability Standards for Accessible Public Transport Guidelines 2004 (No. 3)
- Australian Human Rights Commission Guideline on the Application of the Premises Standards 2013

*Note: beyond compliance with the above technical standards are the principles of accessibility best practice, universal design, inclusive environments and the overarching objective to reduce discrimination to the greatest extent possible.*

*Simple design principles that are identified early on can provide for significantly enhanced function and use of the building for all people, including those with varying ranges of disabilities. Identification of the various occupant needs including the various disability types / groups in consultation with the owner / operator can then drive the decision making for specific additional building features that can be considered in the station and precinct designs.*





## 4.0 Limitations & Exclusions of the Report

The Report does not specifically consider anything beyond the considerations contained in Section 2.0 "Assessed Information" and Section 3.0 "Purpose & Basis of Report" and is otherwise also subject to the following specific limitations:

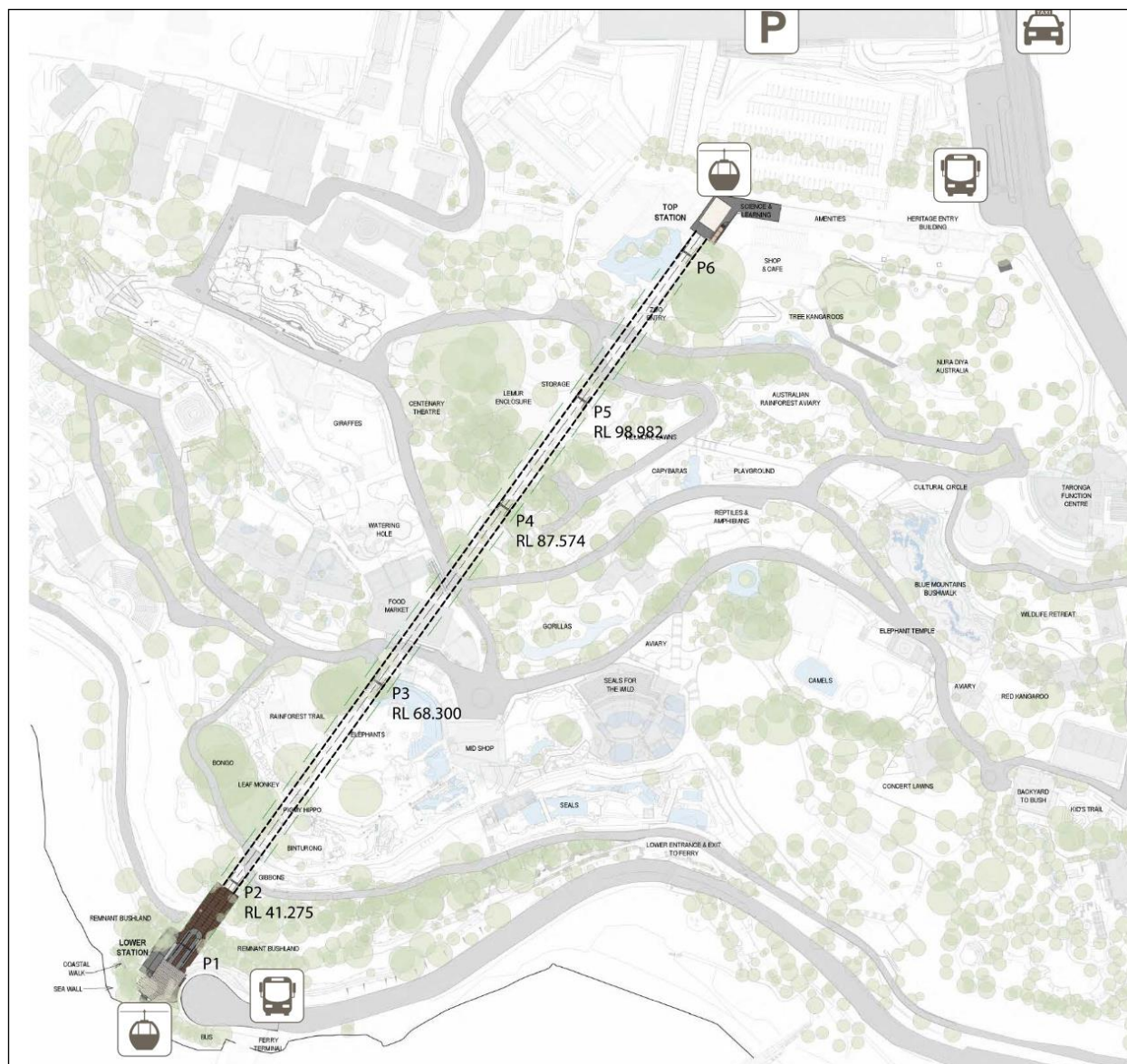
- No assessment has been made of the compliance of the accessibility compliance of the internal or boarding of the cable cars / conveyance against the requirements of the *Disability Standards for Accessible Public Transport 2002* or other accessibility requirements (MSA were instructed to exclude this assessment). It is strongly encouraged this assessment is undertaken at the appropriate time to ensure functional accessible use of the overall transport / cable car system by people with disabilities.
- The report is limited to assessment of the development against the deemed-to-satisfy provisions of the applicable Building Code of Australia. It does not constitute a Fire & Life Safety Assessment which may require separate Fire Engineering review.
- The Report identifies where BCA Performance Solutions or Fire Engineered Solutions may be utilised to support the design but should not be construed as an actual BCA Performance Based Assessment Report or Fire Engineering Assessment Report.
- The information provided to MSA as nominated in Section 2.0 is accepted in good faith as accurate and correct.
- Some requirements of the BCA / Access Regulations are recognised as being interpretive in nature. Where these matters are encountered, interpretations are made in accordance with MSA policy &/or as guided by other standards, guides and industry best practice. Specific relevant interpretations relevant to this assessment are included in Section 5.2 "BCA Assessment Data" of this report.
- Detailed assessment of any engineering matters or Australian Standards– e.g: structural, civil, electrical, hydraulic, mechanical, fire, bushfire protection is beyond the scope of this report.

## 5.0 Building Characteristics

### 5.1 Building Details

#### 5.1.1 Taronga Zoo

The proposed development is the upgrade of the **Taronga Cable Car Sky Safari** at Taronga zoo. Upgrade works involve the 2 existing cable car stations with associated buildings and structures.



**Site Plan showing Proposed Cable Car Route**

## 5.2 BCA Assessment Data

The following table/s provide information on the key BCA Assessment Data relevant to the development:

The development is considered to contain the following upgraded buildings:

1. 'NATURE' Station
2. 'BOTTOM' Station

**Table 5.2.1 –Use for New Buildings**

BCA Clause		'NATURE' Station	'BOTTOM' Station
<b>A6G1</b>	Classification	Class 9b	Class 5 Class 9b
<b>C2D3</b>	Rise in Stories	1	2
<b>C2D2</b>	Construction Type	Type C Construction (Least Fire Resistant)	Type B Construction (Intermediate Fire Resistance)
<b>C3D3</b>	Floor areas and Fire Compartment Limitations	Type C (Class 5, 9b or 9c) - Max Floor Area 3000m <sup>2</sup> , Max Volume 18000m <sup>3</sup>	Type B (Class 5, 9b or 9c) - Max Floor Area 5500m <sup>2</sup> , Max Volume 33000m <sup>3</sup>
Schedule 1	Effective Height	Less than 12m	Less than 12m

## 5.3 BCA / Access Interpretation

- *Assembly Building* – means a building where people may assemble for transit purposes including a bus station, railway station, airport or ferry terminal
- *BCA Classification* – the public use areas of the building are considered to be a Class 9b "Assembly Building", which by BCA definition includes a building 'where people may assemble for transit purposes including a railway station'.
- *Effective height* - means the vertical distance between the floor of the lowest storey included in the calculation of rise in storeys and the floor of the topmost storey (excluding the topmost storey if it contains only heating, ventilating, lift or other equipment, water tanks or similar service units).
- *Exit* means— any, or any combination of the following if they provide egress to a road or open space—



- a. An internal or external stairway.
- b. A ramp.
- c. A fire-isolated passageway.
- d. A doorway opening to a road or open space, or
- e. A horizontal exit or a fire-isolated passageway leading to a horizontal exit.



## 6.0 BCA Recommendations

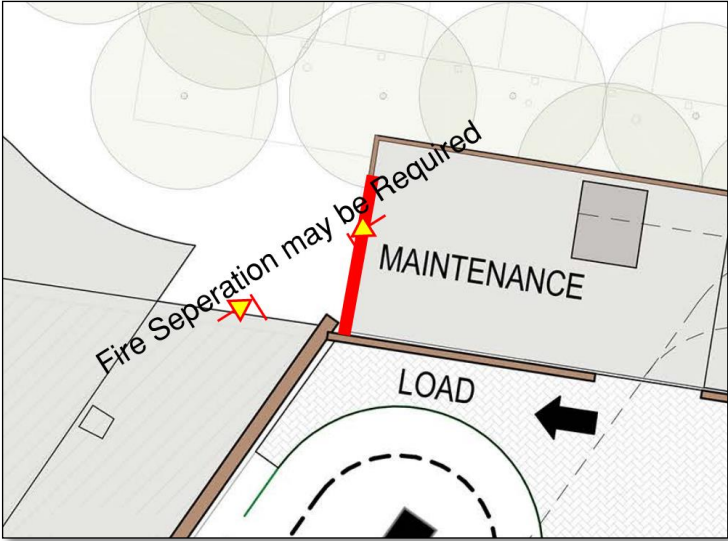
The following Table 6.0 provides a summary of assessment of the architectural plans against the significant requirements of the BCA. The following notations are made in the "Status" column of Table 6.0 for ease of reference.

**Table 6.0 – BCA Compliance 'Status' Key**

Status	Description
<b>Complies</b>	The design documentation for the development demonstrates compliance with the BCA deemed-to-satisfy (DTS) provisions as relevant to the new building works &/or the existing level of compliance is maintained.
<b>Can Readily Comply or Detail Required</b>	Though strict & full compliance can't necessarily be ascertained on the current level of documentation detail, compliance can be readily achieved within the constraints of the design and must be ensured in the developing design (&/or prior to Final BCA Design Certification).
<b>NA / Informational</b>	The matter is not applicable to the item of the project scope or the clause is informational only.
<b>Does Not Comply</b>	There is an apparent non-compliance with the BCA deemed-to-satisfy provisions indicated on the design documentation that will require re-design or further consideration.
<b>Fire Engineering</b>	The matter doesn't comply with the BCA deemed-to-satisfy provisions and (if it is not to be redesigned) will likely require a Fire Engineering Report to support compliance with the fire safety performance requirements of the BCA (or to determine that the existing fire protection afforded to the occupants will not be reduced).
<b>BCA Performance Solution</b>	The matter doesn't comply with the non-fire safety deemed-to-satisfy provisions of the BCA and a BCA Performance Solution Report will likely be required to support the compliance with the non-fire safety related BCA Performance Provisions.
<b>Confirmation by Others</b>	Detailed assessment and confirmation is required from the relevant design engineer, designer or specialist to confirm compliance with the specified requirements of the BCA &/or referenced Australian Standards. This may be technical advice at early design stages or design certification at detailed design stages.

Table 6.0 provides a summary of key BCA considerations only and should always be read in conjunction with the full terms, wording and requirements of the Building Code of Australia.

Table 6.0 – Significant BCA Recommendations

#	BCA Compliance Issue	Compliance Status
Fire Engineering Summary		
1.	<p><b>Fire Engineering</b></p> <p>The below is a summary list of the matters unlikely to comply with the fire safety deemed-to-satisfy (DTS) fire safety provisions of the BCA requiring a Fire Engineering Report to support them (see later recommendations for further detail on each):</p> <ul style="list-style-type: none"><li>• <i>BCA Clause D1.9</i> - Travel Via Non-Fire Isolated Stairs - '<b>Bottom' Station Platform Level</b> – Egress via the non-fire-isolated ramp from platform level exceeds 80m to a road or open space and will require to be performance justified via a fire engineered performance solution.</li></ul>	Fire Engineering
BCA Section C "Fire Resistance"		
2.	<p><b>Type of Construction &amp; Fire Ratings – <i>BCA Specification 5</i></b></p> <p>The proposed buildings are required to be benchmarked to Type B &amp; C Construction, requiring fire resistance levels in accordance with BCA Specification C1.1 and as summarised in Attachment A. The following observations are noted:</p> <ul style="list-style-type: none"><li>• <b>'NATURE' Station</b><ul style="list-style-type: none"><li>- Works seem to involve alterations and additions to the existing station. Further details will be necessary to understand whether the 'Nature' Station is considered a separate building from the adjacent 'Taronga Institute of Science &amp; Learning Building', although it appears to be the case</li><li>- In the event the 'Nature' Station is considered a separate building from the adjacent 'Taronga Institute of Science &amp; Learning Building' the new proposed maintenance and storage area of the 'Nature' Station will be required to be fire separated from the 'Taronga Institute of Science &amp; Learning Building', refer to extract below:</li></ul></li></ul> <div></div> <ul style="list-style-type: none"><li>• <b>'BOTTOM' Station</b> – Works seem to involve major upgrade works to 'Bottom' station. The proposed building will have a rise in storey of 2 and therefore would require to achieve Fire Rating Levels (FRL) of Type B construction which generally requires an FRLs of 2hours.</li><li>• A <b>survey / site plan</b> is required to be provided which indicates the location of each new building in relation to site allotment boundaries and to other existing buildings on the same allotment.</li></ul>	Further Detail Required
3.	<p><b>Fire Hazard Properties – <i>BCA Specification C2D11</i></b></p> <p>All floor, wall and ceiling linings must comply with the early fire hazard properties of BCA Clause &amp; Specification C1.10 "Fire Hazard Properties". Test reports from a registered testing authority will be required confirming compliance for all specified linings.</p> <ul style="list-style-type: none"><li>• <b>Where</b> materials are intended as a floor, wall and ceiling linings they are required to comply with the early fire hazard properties of BCA Clause &amp; Specification C1.10 "Fire Hazard Properties"</li></ul>	Further Detail Required
4.	<p><b>Non-Combustible Elements – <i>BCA Clause C2D10 &amp; C2D14</i></b></p> <p>The following elements must generally be non-combustible:</p> <ul style="list-style-type: none"><li>• External walls and common walls, including the covering, columns/framing and insulation.</li><li>• The flooring and floor framing of lift pits.</li><li>• Non-loadbearing internal walls where they are required to be fire-resisting.</li><li>• An ancillary element must not be fixed, installed or attached to the internal parts or external face of an external wall that is required to be non-combustible unless it is non-combustible or otherwise specified (given concession) in this clause</li><li>• Canopies &amp; Roofs</li></ul> <p>Test reports from a registered testing authority will be required for all materials confirming non-combustibility per AS1530.1</p>	Further Detail Required



#	BCA Compliance Issue	Compliance Status
5.	<p><b>Protection of Openings in External Walls</b> – <i>BCA Clause C4D3 &amp; C4D5</i></p> <p>Openings in an external wall that is required to have an FRL must be protected against the spread of fire (drenchers, fire rated glazing, fire shutters) if they are not less than:</p> <ul style="list-style-type: none"> <li>3m from a side or rear boundary of the allotment, or</li> <li>6m from the far boundary of a road, river lake or the like adjoining the allotment (except for ground level openings), or</li> <li>6m from another building on the same allotment</li> <li>If required to be protected, must not occupy more than 1/3 of the area of the external wall of the storey in which it is located.</li> </ul> <p>The following is required in order to determine compliance with this clause:</p> <ul style="list-style-type: none"> <li>A <b>survey / site plan</b> is required to be provided which indicates the location of each new building in relation to site allotment boundaries and to other existing buildings on the same allotment.</li> </ul>	Further Detail Required
BCA Part D2 “Provision for Escape”		
4.	<p><b>Number of Exits</b> – <i>BCA Clause D2D3</i></p> <p>The following areas are not provided with access to a sufficient amount of exits to meet BCA D2D3:</p> <ul style="list-style-type: none"> <li><b>‘NATURE’ Station</b> - exits are not particularly defined or illustrated on the SSDA plans provided for the <i>‘NATURE’ Station</i>. Updated plans illustrating defined egress points from this part is required to determine compliance with this clause.</li> <li><b>‘BOTTOM’ Station</b> – is expected to accommodate more than 50 occupants therefore a minimum of 2 exits is required to be provided from each storey. Updated plans illustrating defined egress points from the building are required to determine compliance with this clause.</li> </ul>	Further Detail Required
5.	<p><b>Dimensions of Exits &amp; Paths of Travel to Exits</b> – <i>BCA Clause D2D8</i></p> <p>The following areas do not comply with the minimum dimensions of exits &amp;/or aggregate exit width required under BCA <i>D2D8</i>:</p> <ul style="list-style-type: none"> <li><b>‘BOTTOM’ Station Platform Level</b> - Egress from the platform area only appears possible via 1 non-fire-isolated ramp. Further details/clarification from the design team will be necessary to determine adequate Exit Width vs Population load from this area.</li> </ul>	Further Detail Required
6.	<p><b>Travel Via Non-Fire Isolated Ramp</b> – <i>BCA Clause D2D14</i></p> <p>The following areas do not comply with the requirements of BCA Clause D2D14 as:</p> <ul style="list-style-type: none"> <li><b>‘BOTTOM’ Station Platform Level</b> – Egress via the non-fire-isolated ramp from platform level exceeds 80m to a road or open space and will require to be performance justified via a fire engineered performance solution.</li> </ul>	Fire Engineering
Part D4 “Access for People with Disabilities”		
7.	<p><b>External Accessway Connecting Buildings</b> – <i>BCA Part D4</i></p> <p>The external path connecting each building must be fully accessible in accordance with AS1428.1-2009, including:</p> <ul style="list-style-type: none"> <li>Walkways not steeper than 1:20 with landings no greater than 15m apart (preferred)</li> <li>Landings no steeper than 1:40 are required at each change of direction on the walkway</li> <li>Note the total RL served by <u>ramps</u> should be less than 3600mm to satisfy BCA D4D12(a) to avoid undue fatigue.</li> <li>Notably, the 3.6m maximum total RL change requirement doesn’t apply to walkways (1:20 or shallower), however every effort should be made to minimise the total RL change served by the external pathway to promote ease of use by those with disabilities.</li> <li>It is recommended that regular rest points are provided along the external pathway that are to the side / clear of the main pedestrian path and contain landing of sufficient size to accommodate a wheelchair (1300mm x 800mm) as well as an accessible seat with armrests (per AS1428.2).</li> <li>Existing survey levels required for full assessment.</li> </ul>	Further Detail Required
8.	<p><b>Ramps</b> - <i>BCA Clause D4D12 and I2D3</i></p> <p>The proposed ramps serving the buildings contain the following accessibility compliance issues:</p> <ul style="list-style-type: none"> <li><b>‘BOTTOM’ Station Total RL Change</b> - incorporates a series of ramps which exceeds the maximum permitted combined vertical rise of 3.6m under BCA D4D12 (Approx 6.5m total RL change). Ramps are required to be designed to ensure that they do not cause undue fatigue for a user to the point where the ramp becomes unusable. Mindful of the above, we note that the SSDA Plans have been modified and illustrates a proposed lift that may assist in providing an accessible path of travel. Further details are necessary to understand its purpose and operation (ie is it intended to act as an alternative accessible path to the series of ramps for those who need it, is it for public use for all passengers and how is it accessed / who is allowed to access it etc).</li> <li><b>Ramp Landing Spacings</b> – The proposed landing spacings for the ramps were not clearly indicated on the plan. According to AS1428.1, up to 9m spacing is allowed, with 6m recommended for best practice as intended under BCA Part I2 (DSAPT). Further design discussions will be necessary as the design progresses.</li> </ul>	<p>DOES NOT COMPLY</p> <p>Further Detail Required</p>



## 7.0 Conclusion

This report assesses the **SSDA Level Design** for the proposed **Transport Accessibility Program (TAP) Station Upgrade of Taronga Zoo Station and surrounding precinct** against the requirements of the National Construction Code (NCC) / Building Code of Australia (BCA).

The primary purpose of the report is to identify any non-compliances with the deemed-to-satisfy provision of the BCA that would be caused by the proposed accessibility upgrade works.

Please note that this is an assessment of the proposed development works and does not constitute a full BCA upgrade assessment of the existing station (Refer to Section 3.3.2 "*Development in Existing Buildings*" of this report for more information).

Subject to compliance with the recommendations of this report, the development can readily comply with the relevant requirements of the BCA. Recommendations have been identified as follows:

- Significant BCA matters, being those with the ability to affect the design have been included in Table 1.0 in the Executive Summary.
- A BCA Compliance Schedule suitable for the current level of design is also contained in Table 6.0 of this report.



## Attachment A – Summary of Fire Resistance Levels (Type B)

The following is a summary of the required fire resistance levels of buildings elements for **Type B Construction** (refer to BCA Specification 5 for full requirements & concessions):

Table 4 Type B construction: FRL of building elements

Building element	Class of building—FRL: (in minutes)			
	<i>Structural adequacy/Integrity/Insulation</i>			
	2, 3 or 4 part	5, 7a or 9	6	7b or 8
<b>EXTERNAL WALL</b> (including any column and other building element incorporated within it) or other external building element, where the distance from any <i>fire-source feature</i> to which it is exposed is—				
For <i>loadbearing</i> parts—				
less than 1.5 m	90/ 90/ 90	120/120/120	180/180/180	240/240/240
1.5 to less than 3 m	90/ 60/ 30	120/ 90/ 60	180/120/ 90	240/180/120
3 to less than 9 m	90/ 30/ 30	120/ 30/ 30	180/ 90/ 60	240/ 90/ 60
9 to less than 18 m	90/ 30/—	120/ 30/—	180/ 60/—	240/ 60/—
18 m or more	—/—/—	—/—/—	—/—/—	—/—/—
For non- <i>loadbearing</i> parts—				
less than 1.5 m	—/ 90/ 90	—/120/120	—/180/180	—/240/240
1.5 to less than 3 m	—/ 60/ 30	—/ 90/ 60	—/120/ 90	—/180/120
3 m or more	—/—/—	—/—/—	—/—/—	—/—/—
<b>EXTERNAL COLUMN</b> not incorporated in an <i>external wall</i> , where the distance from any <i>fire-source feature</i> to which it is exposed is—				
For <i>loadbearing</i> columns—				
less than 18 m	90/—/—	120/—/—	180/—/—	240/—/—
18 m or more	—/—/—	—/—/—	—/—/—	—/—/—
For non- <i>loadbearing</i> columns—				
For non- <i>loadbearing</i> columns—	—/—/—	—/—/—	—/—/—	—/—/—
<b>COMMON WALLS and FIRE WALLS—</b>	90/ 90 / 90	120/120/120	180/180/180	240/240/240
<b>INTERNAL WALLS—</b>				
<i>Fire-resisting</i> lift and stair <i>shafts</i> —				
<i>Loadbearing</i>	90/ 90/ 90	120/120/120	180/120/120	240/120/120
<i>Fire-resisting</i> stair <i>shafts</i> —				
Non- <i>loadbearing</i>	—/ 90/ 90	—/120/120	—/120/120	—/120/120
Bounding <i>public corridors</i> , public lobbies and the like—				
<i>Loadbearing</i>	60/ 60/ 60	120/—/—	180/—/—	240/—/—
Non- <i>loadbearing</i>	—/ 60/ 60	—/—/—	—/—/—	—/—/—
Between or bounding <i>sole-occupancy units</i> —				
<i>Loadbearing</i>	60/ 60/ 60	120/—/—	180/—/—	240/—/—
Non- <i>loadbearing</i>	—/ 60/ 60	—/—/—	—/—/—	—/—/—
<b>OTHER LOADBEARING INTERNAL WALLS and COLUMNS—</b>	60/—/—	120/—/—	180/—/—	240/—/—
<b>ROOFS</b>	—/—/—	—/—/—	—/—/—	—/—/—

The above should be read in conjunction with the remainder and further concessions contained within Specification 5.





## Attachment A – Summary of Fire Resistance Levels (Type C)

The following is a summary of the required fire resistance levels of buildings elements for **Type C Construction** (refer to BCA Specification 5 for full requirements & concessions):

Table 5 Type C construction: FRL of building elements

Building element	Class of building—FRL: (in minutes)			
	<i>Structural adequacy/Integrity/Insulation</i>			
	2, 3 or 4 part	5, 7a or 9	6	7b or 8
<b>EXTERNAL WALL</b> (including any column and other building element incorporated within it) or other external building element, where the distance from any <i>fire-source feature</i> to which it is exposed is—				
Less than 1.5 m	90/ 90/ 90	90/ 90/ 90	90/ 90/ 90	90/ 90/ 90
1.5 to less than 3 m	—/—/—	60/ 60/ 60	60/ 60/ 60	60/ 60/ 60
3 m or more	—/—/—	—/—/—	—/—/—	—/—/—
<b>EXTERNAL COLUMN</b> not incorporated in an <i>external wall</i> , where the distance from any <i>fire-source feature</i> to which it is exposed is—				
Less than 1.5 m	90/—/—	90/—/—	90/—/—	90/—/—
1.5 to less than 3 m	—/—/—	60/—/—	60/—/—	60/—/—
3 m or more	—/—/—	—/—/—	—/—/—	—/—/—
<b>COMMON WALLS and FIRE WALLS—</b>	90/ 90/ 90	90/ 90/ 90	90/ 90/ 90	90/ 90/ 90
<b>INTERNAL WALLS—</b>				
Bounding <i>public corridors</i> , public lobbies and the like—	60/ 60/ 60	—/—/—	—/—/—	—/—/—
Between or bounding <i>sole-occupancy units</i> —	60/ 60/ 60	—/—/—	—/—/—	—/—/—
Bounding a stair if <i>required</i> to be rated—	60/ 60/ 60	60/ 60/ 60	60/ 60/ 60	60/ 60/ 60
<b>ROOFS</b>	—/—/—	—/—/—	—/—/—	—/—/—



## **Attachment B – Assessed Plans**

**Architectural SSDA Design Drawings prepared by Scott Carver, as contained in presentation slides provided to MSA.**