

Job No: IAC-333

29 August 2016

**SCOTT CARVER PTY LTD  
LEVEL ONE  
ONE CHIFLEY SQUARE  
SYDNEY, NSW 2000**

Reference: JST Accessibility Review – Access Report  
Development Application

Attention: Ms Carole Mahe

Dear Carole,

We have prepared this Access Report for the proposed Joan Sutherland Theatre Accessibility Projects at the Sydney Opera House.

The output of our consultancy is a DDA Report for the purpose of DA submission summarising the design rationale for the Joan Sutherland Theatre Accessibility Project.

Please feel free to contact the writer should you wish to discuss any aspect of this Access Report.

Yours sincerely,



**RICHARD SEIDMAN**

M.PropDev, BArch (Hons),  
ARB Reg No 4700,  
ACAA (Associate No 330)  
Livable Housing Registered Assessor 10041





# ACCESS REPORT DESIGN DEVELOPMENT



## DOCUMENT CONTROL

Project: Sydney Opera House  
Joan Sutherland Theatre Accessibility Projects

Document Type: Access Report – Development Application

Report Number: IAC-333

The following report register documents the development and issue of this and each subsequent report(s) undertaken by iAccess Consultants.

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### Revision History:

Our Reference	Rev	Remarks	Issue Date
IAC-333	-	Access review report prepared and issued to client	25 February 2016
IAC-333	A	Access review report prepared and issued to client	2 March 2016
IAC-333	B	Schematic Design Access review report prepared and issued to client	6 June 2016
IAC-333	C	Schematic Design Access review report revised and issued to client	7 June 2016
IAC-333	D	Development Application Access Report prepared and issued to client	4 August 2016
IAC-333	E	Editorial Changes to report and issued to client	11 August 2016
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### Richard Seidman

ARB Reg No 4700,  
M.PropDev, BArch (Hons),  
ACAA (Associate No 330)



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# ACCESS REPORT DESIGN DEVELOPMENT



## Contents

<b>DOCUMENT CONTROL</b> .....	<b>2</b>
<b>1. EXECUTIVE SUMMARY</b> .....	<b>4</b>
1.1. OVERVIEW .....	4
1.2. LEGISLATIVE FRAMEWORK .....	4
1.3. PREMISES STANDARD.....	5
1.4. ASSUMPTIONS.....	5
1.5. EQUITABLE EGRESS STRATEGY - NCC CLAUSES DP4 & DP6.....	6
1.6. ACCESSIBLE PATH OF TRAVEL.....	6
1.7. RELATIONSHIP WITH OTHER PROJECTS.....	6
1.8. PERFORMANCE SOLUTIONS .....	6
1.9. WORKS TO BE FINALISED .....	7
<b>2. PROJECT 62 JST SEATING UPGRADE</b> .....	<b>9</b>
2.1. OVERVIEW .....	9
2.2. COMPLIANCE WITH NCC CLAUSE D3.9 .....	10
2.3. FLOOR FINISHES.....	10
2.4. BARRIERS .....	11
2.5. AISLE STEPS.....	11
<b>3. PROJECT 1/49 LIFT CORE 8 UPGRADE (EXISTING)</b> .....	<b>13</b>
3.1. OVERVIEW .....	13
3.2. FLOOR FINISHES.....	14
3.3. DOORS AND DOOR HARDWARE .....	15
3.4. BRAILLE TACTILE SIGNAGE (EXIT).....	15
3.5. LIGHTING LEVELS .....	15
<b>4. PROJECT - LIFT 31 NORTHERN FOYERS</b> .....	<b>16</b>
4.1. OVERVIEW .....	16
4.1. LIFT 31 (NEW) - TRAVEL DISTANCE .....	16
4.2. LIFT 31 (NEW) - LIFT CAR DIMENSIONS.....	16
4.2. LIFT 31 - CALL BUTTONS .....	16
4.3. LIFT 31 - COMPLIANCE WITH AS1735.12.....	16
<b>5. PROJECT 1/49 NORTHERN FOYERS LINK</b> .....	<b>19</b>
5.1. OVERVIEW .....	19
5.2. LEVEL 2 PASSAGE .....	19
5.3. LEVEL 3 PASSAGE .....	20
<b>6. PROJECTS 51/52 SANITARY FACILITIES UPGRADE</b> .....	<b>21</b>
6.1. ASSUMPTION .....	21
6.2. OVERVIEW .....	21
6.3. BRAILLE TACTILE SIGNAGE .....	21
6.4. FLOOR MATERIALS SLIP RESISTANCE.....	21
6.5. LIGHTING LEVELS .....	21
6.6. AMBULANT WC FACILITIES .....	21
6.7. ACCESSIBLE WC FACILITIES .....	22
<b>7. PROJECT 37 JST DRESSING ROOM UPGRADE</b> .....	<b>23</b>
7.1. ASSUMPTION .....	23
7.2. SCOPE OF PROPOSED WORKS .....	23
7.3. STATUTORY REQUIREMENTS TO BE SATISFIED – WC FACILITIES .....	24
7.4. SUMMARY OF THE EXISTING WC CONFIGURATION.....	24
7.5. CALCULATION OF NUMBER OF ACCESSIBLE WC FACILITIES TO BE PROVIDED TO SATISFY NCC REQUIREMENTS .....	25
7.6. ASSESSMENT – WC FACILITIES .....	25
7.7. RECOMMENDATION– WC FACILITIES .....	25
7.8. STATUTORY REQUIREMENTS TO BE SATISFIED - SHOWERS .....	26
7.9. CONSTRUCTION OF ACCESSIBLE SHOWERS .....	26
7.10. CALCULATION OF NUMBER OF ACCESSIBLE SHOWERS TO BE PROVIDED .....	26
7.11. ASSESSMENT - SHOWERS.....	26
7.12. BRAILLE TACTILE SIGNAGE .....	27
7.13. UNISEX ACCESSIBLE DRESSING ROOM .....	27
7.14. CONCLUSION.....	27
<b>8. PROJECT 38 JST ORCHESTRA PIT UPGRADE</b> .....	<b>29</b>



# ACCESS REPORT DESIGN DEVELOPMENT



## 1. EXECUTIVE SUMMARY

### 1.1. Overview

This access report has been prepared to accompany the Development Application prepared by Architects Scott Carver on behalf of the Sydney Opera House Trust for the accessibility upgrade project of the Joan Sutherland Theatre.

These works form part of the Accessibility Master Plan (AMP) developed by The Sydney Opera House Trust to address accessibility in and around the Sydney Opera House. This project forms part of a program of projects being developed for the Sydney Opera House Trust to implement the Accessibility Master Plan.

This access report addresses the following projects:

- a) Northern Foyer Access Levels 2 and 3
- b) Dressing Room upgrade
- c) Orchestra Pitt Upgrade
- d) Sanitary Facilities Upgrade
- e) Seating Upgrade
- f) New Lift 31 – Northern Foyers

The architectural plans prepared by Scott Carver identify the scope of works developed for each of these projects.

The Northern Foyer access program provides accessible connectivity from the Southern Foyers to the Northern Foyers. The accessway includes minor ramping to accommodate the changes in level. The new lift 31 located within the Northern Foyers provides accessible connectivity between all levels of the Northern Foyer. The provision of the new accessible Dressing Room provides additional opportunities for the Opera House to meet the needs of performers.

The seating upgrade program increases the number of accessible seating locations within the Joan Sutherland Theatre from 4 to up to 23 spaces. These accessible spaces are provided in accordance with the requirements of the Disability (Access to Premises – Buildings) Standard. The 23 accessible seating locations are not permanently provided in accordance with the concessions of AS1428.1:2009. The number of accessible seat locations can be configured in accordance with patron demand.

Accessible WC facilities are provided in convenient locations to meet the needs of the patrons.

Performance Solutions have been prepared to address the approached to accessibility adopted associated with Northern and Southern Foyers connection pathway and for the provision of ambulant WC facilities.

The works proposed by this Development Application for each of the project areas improves accessibility for the public, performers and the Sydney Opera House personnel to and within the Joan Sutherland Theatre.

The content in the report following demonstrates compliance with the statutory requirements of the Disability (Access to Premises – Buildings) Standard and provides a checklist of compliance for the architects when documenting these works. If the works are constructed in accordance with this proposal accessibility compliance will have been achieved.

### 1.2. Legislative framework

The legislation addressing accessibility is documented in the following Acts, Codes and Standards:

- Disability Discrimination Act 1992



# ACCESS REPORT DESIGN DEVELOPMENT



- Disability (Access to Premises - Buildings) Standards 2010
- National Construction Code (NCC 2015)
- AS1428.1:2009 Design for access and mobility - General requirements for access - New building work
- AS1428.2:1992 Design for access and mobility - Enhanced and additional requirements - Buildings and facilities
- AS1428.4.1:2009 Design for access and mobility - Means to assist the orientation of people with vision impairment - Tactile ground surface indicators
- AS1428.5:2010 Design for access and mobility - Communication for people who are deaf or hearing impaired

### 1.3. Premises Standard

As of 1 May 2011 new buildings and existing buildings being refurbished have to comply with the Disability (Access to Premises – Building) Standards (“Premises Standards”) under the Commonwealth Disability Discrimination Act 1992.

The main requirement to come from the Premises Standard relates to the upgrading of the affected part, including the principal pedestrian entrance and the paths to the area of new works. The definition of affected part is limited to the area between (and including) the principal pedestrian entrance and the new work. This may include the requirement to upgrade the following existing areas:

- Entrances
- Accessible sanitary facilities.
- Lifts to upper storeys, either upgrade or provide lifts if they are not existing.
- Passing and turning spaces in corridors.

Various concession or relaxations do apply to certain items mentioned above.

A consideration for upgrade via the Premises Standard is applicable to the following existing building situations:

- Where an application for a Construction Certificate (“CC”) or Complying Development Certificate (“CDC”) has been received and the applicant for the works is the building owner or building manager; or
- Where an application for a CC or CDC has been received and the building is leased & occupied by a single tenant; or
- The works as deemed Crown development.

### 1.4. Assumptions

The Opera House relies on ongoing usher function to provide seating assistance for patrons to and within the Joan Sutherland Theatre.

The doors to the Joan Sutherland Theatre seating areas are operated by the ushers. As a result, there is no requirement to satisfy the latchside clearances to doors or the maximum 20N force requirement to operate these doors required by AS1428.1:2009.

In the event of an emergency the ushers will be responsible for providing assistance to those with mobility needs as part of the evacuation strategy.



# ACCESS REPORT DESIGN DEVELOPMENT



## 1.5. Equitable Egress Strategy - NCC Clauses DP4 & DP6

The strategies for equitable egress to address compliance with the provisions of NCC Clauses DP4 & DP6 are being developed by ARUP.

For the purposes of our access assessment we have relied upon the Equitable Emergency Egress Report and the conclusions noted prepared by ARUP.

## 1.6. Accessible path of Travel

The provision of external accessible paths of travel are achieved as follows:

- Pedestrian accessible paths of travel are provided along the upper and lower concourses from the roundabout at the boundary with Macquarie Street.
- Authorised Vehicle and taxis access is provided from the boundary with Macquarie Street to the designated Principal Pedestrian Entrance,
- The Principal Pedestrian Entrance is located at the area identified as “Under the stairs” from which there are paths of travel to the respective lobbies, theatres, foyers and other facilities of the Sydney Opera House

Accessible paths of travel within the Sydney Opera House are identified in the Accessibility Master Plan.

Accessible paths of travel are provided from the Macquarie Street boundary through to the lobbies connecting to the Joan Sutherland Theatre.

## 1.7. Relationship with other projects

The Accessibility Master Plan developed for the Sydney Opera House identified a number of projects to be undertaken by the Sydney Opera House Trust to address accessibility. The Joan Sutherland Theatre Project is being commenced ahead of the projects including the Concert Hall, Southern Foyers, Education Centre, Function Hall amongst others.

As the Joan Sutherland Theatre Accessibility Project interfaces with other projects including the Southern Foyers and Box Office Projects the topics of accessibility in terms of compliance with the applicable legislation are confined to the projects identified as part of the Joan Sutherland Accessibility Projects program. Accessibility at the interface of projects are addressed in other projects.

As indicated previously all projects form part of the Accessibility Master Plan developed for the Sydney Opera House. On completion of the works outlined in the Accessibility Master Plan accessible access will have been achieved.

## 1.8. Performance Solutions

The application of the access principles within the Sydney opera House poses many challenges. The Codes and Standards nominate prescriptive criteria to achieve accessibility. The project teams have applied those criteria to arrive at a design solution where accessibility is achieved. In some limited instances the ability to satisfy the accessibility criterion requires clever solution to arrive at a solution equal or equivalent to the Deemed to Satisfy approach.

This access report will rely upon the adoption of the following Performance Statements:

1. Fold down grabrail located within the accessible WC facilities fronting the Green Room and the accessible WC facilities located on Level 3
2. Provision of 1:8 ramp sections within the western tunnel connecting the Southern and Northern Foyers at level 2



# ACCESS REPORT DESIGN DEVELOPMENT



## 1.9. Works to be finalised

The following access requirements have yet to be finalised by the project team. It is expected that these elements will be addressed as part of the Design Development phase of the project.

### A. Joan Sutherland Theatre - Interior

- Handrail designs associated with wheelchair seating places
- handrail locations associated with wheelchair seating places
- balustrade designs to platforms associated with wheelchair seating places
- floor finishes associated with wheelchair seating places
- nosing details to stairs in aisle ways associated with wheelchair seating places
- lighting levels to steps associated with wheelchair seating places

### B. Joan Sutherland Theatre – Stairs and ramps (BOH)

There are several stair and ramp locations located within the back of house areas associated with the Joan Sutherland Theatre where the final detailing of the design of the stairs and ramps have yet to be completed.

The detailing of the stairs will need to satisfy Clauses 11 & 12 of AS1428.1:2009. The slip-resistance of floor surfaces to the various stairs will need to satisfy the slip – resistance criteria nominated at NCC Table D2.14 and HB198.

The selection and placement of TGSIs at the top and bottom of the stairs and ramp will need to satisfy the requirements of AS1428.4.1:2009.



# ACCESS REPORT DESIGN DEVELOPMENT



## **C. Concert Hall – Walkways (West Tunnel)**

The detailing of the walkways associated with the West Tunnel will need to satisfy the requirements of Clause 10.2 of AS1428.1:2009.

As a result of the insertion of the West Tunnel the detailing of the handrails to the eastern staircase will require detailed analysis. A separate handrails study is presently underway. The outcome of that study will provide direction to the design of the handrails in this location.

## **D. Northern Foyers – Detailed design**

The focus of the studies undertaken to date relate to the provision of vertical circulation within the Northern Foyers and the provision of access from the Southern Foyers to the Northern Foyers by the West Tunnel.

The detailing of the handrails within this area is the subject of a separate handrail study.

The treatment of the nosing to the staircases and the lighting of the stairs located within the Northern Foyers have yet to be finalised.

The detailing of any bar areas located within the Northern Foyers have yet to be finalised.

## **E. Public Announcements (use of Monitors)**

The Northern Foyer areas and the back of house areas associated with the Concert Hall include monitors broadcasting what is in progress within the Concert Hall. These monitors have the capacity to broadcast general messages.

It will be necessary for the system to be developed to display messages to supplement any public address announcements as required NCC Clause D3.7(4).

## **F. Braille Tactile Signage (Statutory Signs)**

NCC Clause D3.6 and NCC Specification D3.6 provide specify the requirements for the placement of statutory Braille Tactile signs. These signs relate to the nomination of accessible WC and ambulant WC facilities as well as Exit signage.

While this is a small but significant component of the development works the selection and placement of signs especially Exit signs could have significant impact.



## 2. PROJECT 62 JST SEATING UPGRADE

### 2.1. Overview

The Scott Carver documentation identifies the strategies to be adopted in the provision of increased wheelchair seating spaces within the Joan Sutherland Theatre.

The existing total number of seats within the Joan Sutherland Theatre is:

Stalls	883
Circle	466
Boxes	158
Total	1507(inclusive of 4 wheelchair positions)

The Accessibility Master Plan prepared by Scott Carver identified that 23 wheelchair positions are required to satisfy the provisions of NCC Table D3.9. These seats are to be representative of the range of seating provided.

The seating rows within the Joan Sutherland Theatre affected by the works are Stalls Rows A-C and M-P. In this proposal 8 wheelchair seating locations are proposed at Stalls Rows A-C and 15 wheelchair seating locations at Stalls Rows M-P. No wheelchair accessible seating is proposed for the Loge or Circle sections of the theatre.

In this proposal it is proposed to provide the wheelchair seating on demand by the removal of fixed seating.

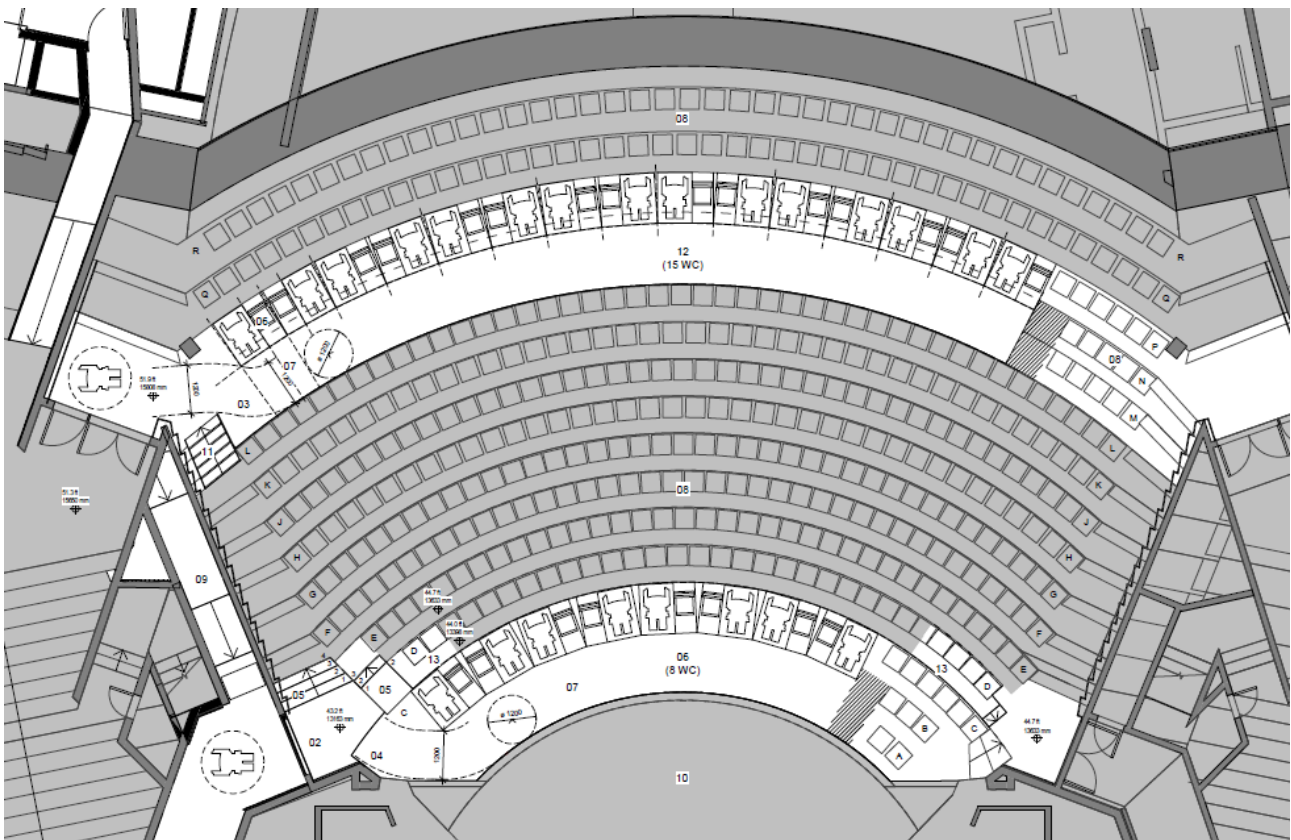


Figure 1 Wheelchair Seating positions within the stalls of the Joan Sutherland Theatre (49-VA-SC021\_DA182\_A)



# ACCESS REPORT DESIGN DEVELOPMENT



## 2.2. Compliance with NCC Clause D3.9

The proposal identifies the proposed design strategy for the provision of wheelchair accessible seating areas to satisfy the requirements of Section D3.9 of the Disability (Access to Premises – Buildings) Standard.

Compliance with Table D3.9 requires that the wheelchair seating provided be representative of a range of seating available. Within the Joan Sutherland Theatre, the range of seating is identified by the prices charged. The plan following illustrates the allocation of seating types by cost of ticket within the Joan Sutherland Theatre.

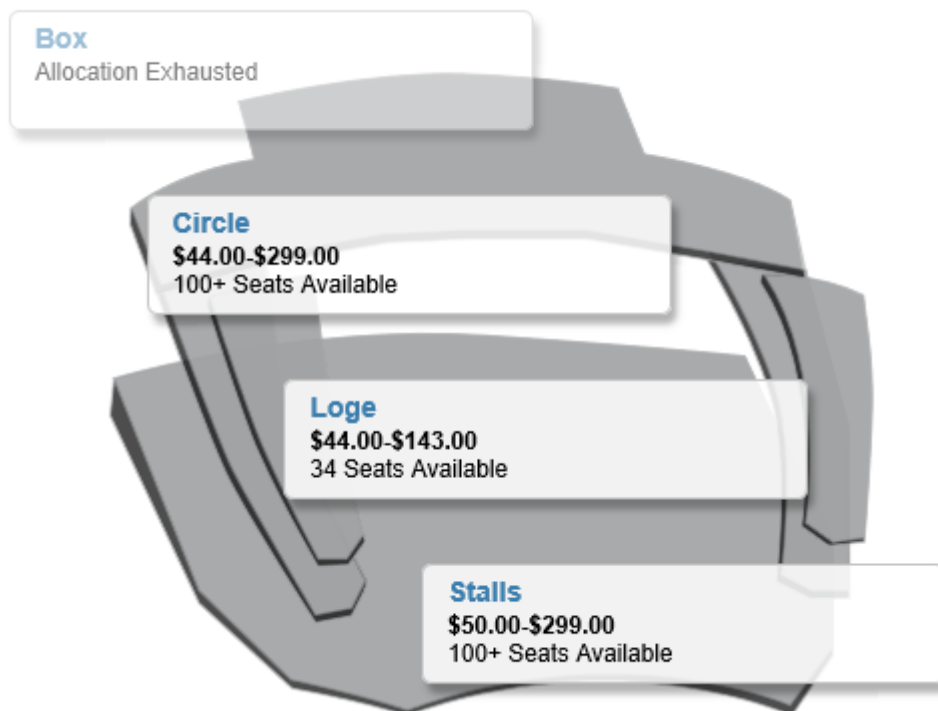


Figure 2 Allocation of seating by cost of ticket.

The spatial arrangements and grouping proposed for the wheelchair seating spaces satisfy the provision of NCC Table D3.9 and Clause 18 of AS1428.1:2009.

The proposal identifies that accessible access to the wheelchairs seating areas is reliant on the completion of a number of interdependent projects.

## 2.3. Floor finishes

The proposal identifies buildability issues. The provision of wheelchair accessible seating in the locations nominated is reliant on personnel configuring the seating for every performance. It will be essential that a checklist be developed to be signed off. As the design relies on the inserting of platforms it will be essential to ensure that the junctions of materials satisfy the tolerances between finishes identified at section 7 of AS1428.1:2009.

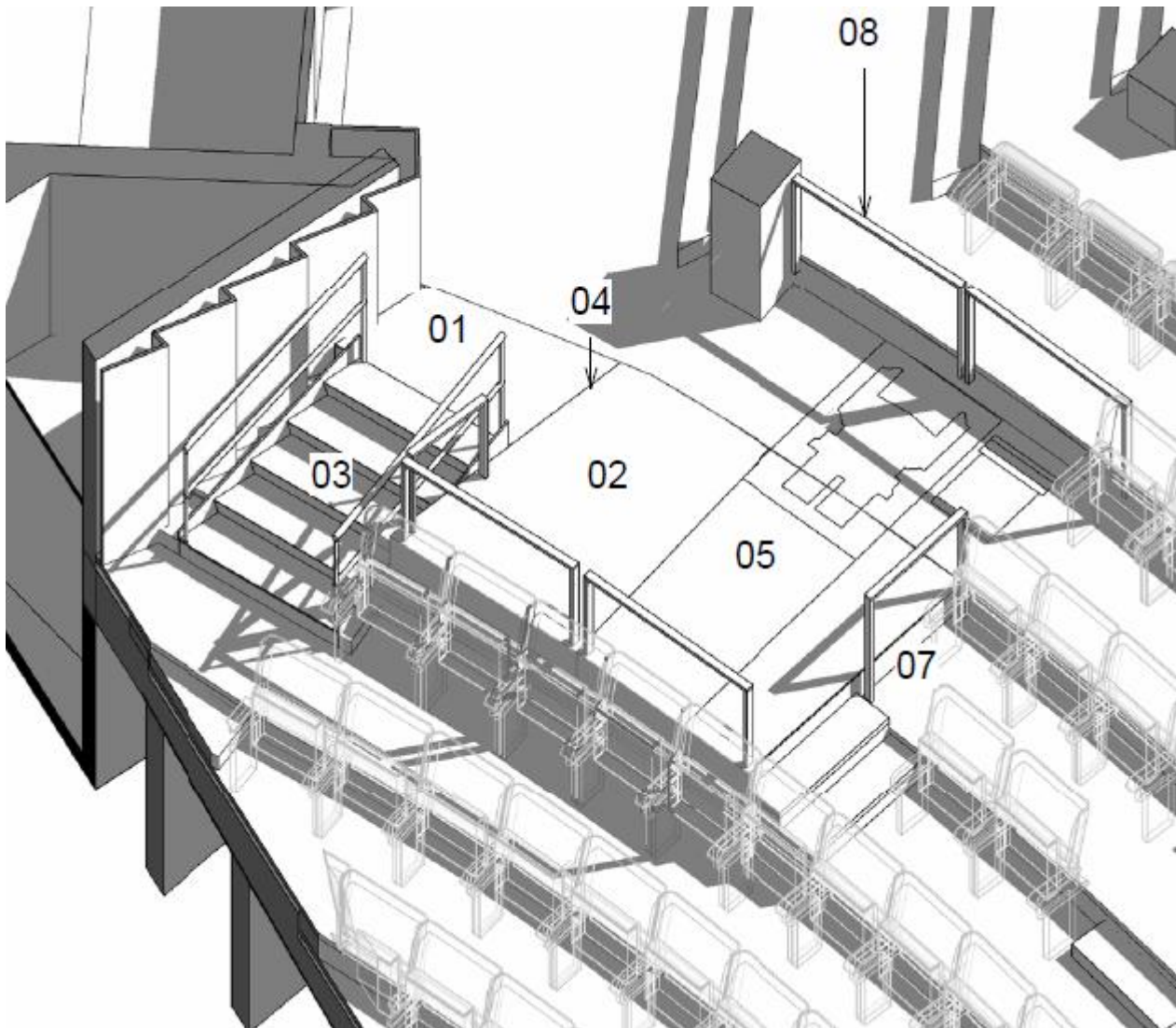
*Abutment of surfaces shall have a smooth transition. Design transition shall be 0 mm.  
Construction tolerances shall be as follows:*

- (a) *0 ±3 mm vertical*
- (b) *0 ±5 mm, provided the edges have a bevelled or rounded edge to reduce the likelihood of tripping*





# ACCESS REPORT DESIGN DEVELOPMENT



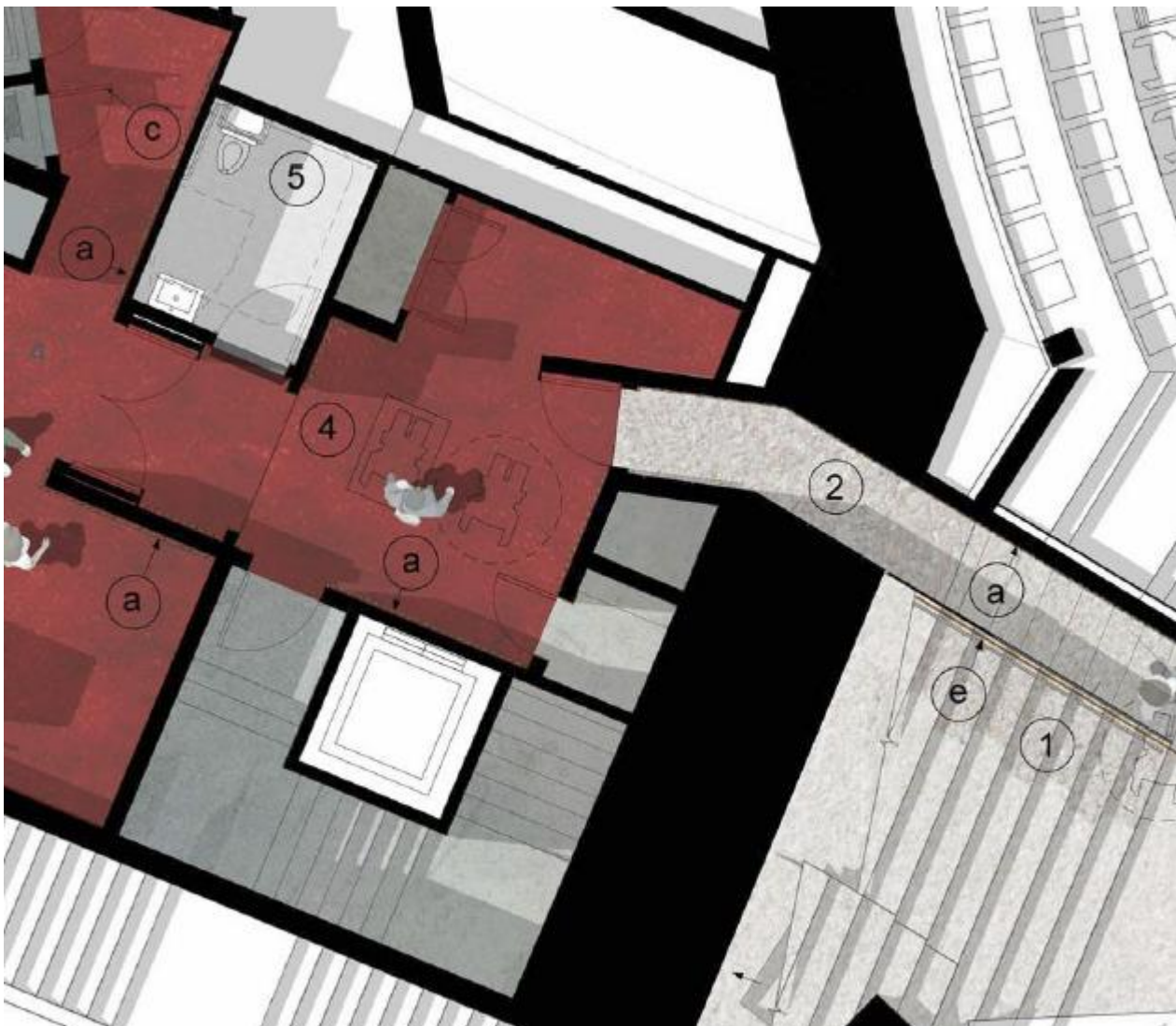


## 3. PROJECT 1/49 LIFT CORE 8 UPGRADE (EXISTING)

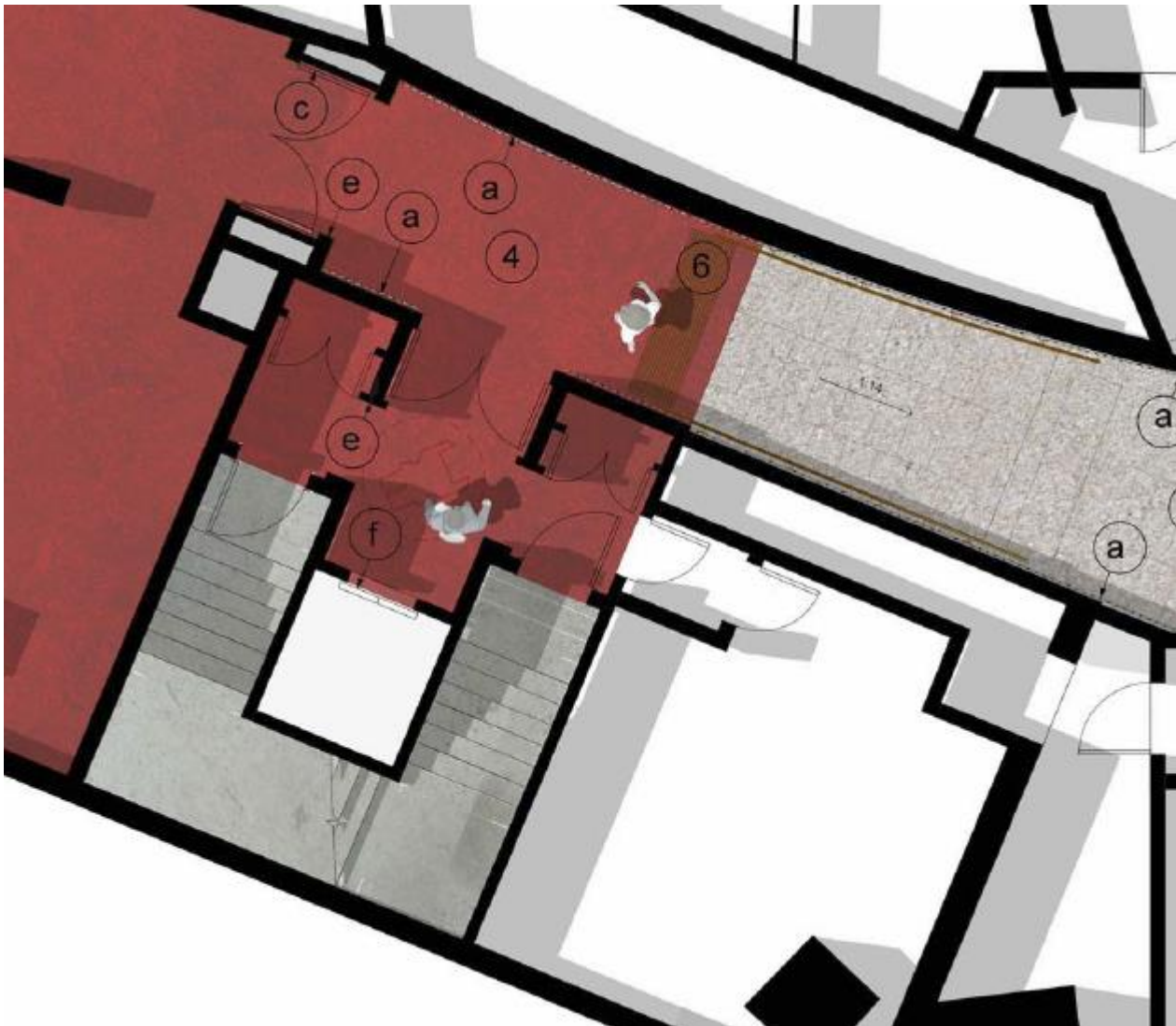
### 3.1. Overview

The lobby interface of the western tunnels connecting to the Northern Foyers occurs adjacent to the existing Lift 8 and Fire Stair at levels 2 and 3. The extracts from the plans following indicate the proposed modifications to both these lobby zones.

The proposed works relate to the modification of the walls that separate the Lift 8 lobby from the fire stairs that wrap around Lift 8 and the proposed fitout of the new public lobby. It is proposed to extend the Northern Foyer finishes into these new public lobbies.



Level 3 – Lift 8 – Western Tunnel interface



Level 2 – Lift 8 – Western Tunnel interface

### 3.2. Floor Finishes

The plan proposes to extend the carpeted floor finish of the Northern Foyers into the new public foyers.

The selection of the carpet has yet to be finalised. The specification provided as to the construction of the carpet satisfies the provisions of NCC Clause D3.3(g) and (h).

*(g) clause 7.4.1(a) of AS 1428.1 does not apply and is replaced with 'the pile height or pile thickness shall not exceed 11 mm and the carpet backing thickness shall not exceed 4 mm'; and*

*(h) the carpet pile height or pile thickness dimension, carpet backing thickness dimension and their combined dimension shown in Figure 8 of AS 1428.1 do not apply and are replaced with 11 mm, 4 mm and 15 mm respectively*

The interface of differing floor finishes will need to satisfy the provisions of Clause 7 of AS1428.1:2009. It may be necessary to feather the floor finishes to satisfy these requirements and provided a step free transition between finishes.



# ACCESS REPORT DESIGN DEVELOPMENT



### 3.3. Doors and Door Hardware

The doors located within these areas are generally associated with the fire compartmentalisation of the building. Doors in these areas other than the fire doors associated with the fire stairs will be generally held open and connected to the fire system of the building.

The existing door hardware to public areas do not comply with the provision of Clause 13 of AS1428.1:2009. The detailing of the door hardware will be addressed as part of the design development phase of the project.

### 3.4. Braille Tactile Signage (Exit)

NCC Clause D3.6(a)(ii) requires the installation of Braille Tactile Signage as follows:

*Braille and tactile signage complying with Specification D3.6 must identify each door required by E4.5 to be provided with an exit sign and state—*

- (A) "Exit"; and
- (B) "Level" and either
  - (aa) the floor level number; or
  - (bb) a floor level descriptor; or
  - (cc) a combination of (aa) and (bb)

The detailing of the braille tactile signage required for this project will be developed as part of the Construction Documentation phase of the project.

### 3.5. Lighting levels

Clause 19 of AS1428.2:1992 - Lighting nominates lighting level to passageways, walkways and stairs areas to be a minimum of 150 lx.

Details indicating compliance with this requirement will need to be demonstrated as part of the Design Development phase.



## 4. PROJECT - LIFT 31 NORTHERN FOYERS

### 4.1. Overview

It is proposed to construct a new lift within the Northern Foyer of the Joan Sutherland Theatre. The lift will connect all level of the Northern Foyer.

### 4.1. Lift 31 (new) - Travel Distance

This lifts connects all levels between Level 2 (+042) and Level 4 (+061).

### 4.2. Lift 31 (new) - Lift Car Dimensions


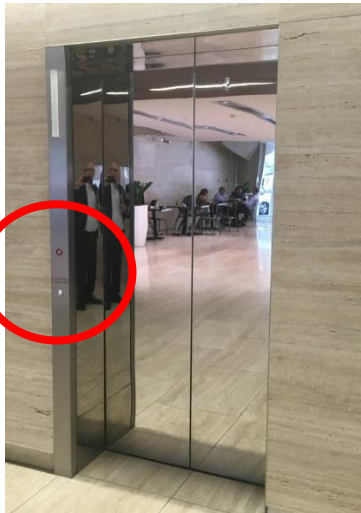
The minimum lift car dimension to satisfy the requirements of NCC Part E is 1100 x 1400 mm.

### 4.2. Lift 31 - Call buttons

The detailing of the lift car will need to satisfy the requirements of NCC Clause E3.6, the provisions of AS1735.12 and the placement of call buttons to comply with Clause 14 of AS1428.1:2009.

Attention is directed to the placement of the lift call button at each level. Many lift suppliers are locating the call button for single lift car installations in the jamb of the lift door assembly. If this surface is not flush with the adjoining wall the position of the button is not complainant with the provisions of Clause 14 of AS14281:2009. This clause requires switches not to be located within 500mm of an internal corner.

Should the lift call buttons be located in the lift car jamb it will be necessary to rely upon a Performance Solution

	
Figure 3 image of non-compliant lift call button installation	Figure 4 image of compliant lift call button installation

### 4.3. Lift 31 - Compliance with AS1735.12

The design of the new lift will need to satisfy the requirements of AS1735.12.



# ACCESS REPORT DESIGN DEVELOPMENT



The following table when referenced with the requirements of AS1735.12 provides a checklist of elements to be satisfied in the lift installation.

CLAUSE	REQUIREMENT TO BE SATISFIED	STATUS	COMMENT / ACTION
Section 2	The minimum lift car internal dimensions shall be 1100 mm wide by 1400 mm deep between the inside of the closed car doors to the inside back wall of the car.		
	The minimum clear width of car door openings shall be not less than 900 mm.		
3.1	Any carpet shall have a pile length above the carpet substrate of not more than 6 mm. NOTE: Car floor surfaces should be firm and slip resistant.		
3.2	Where Type C safety gear as classified by AS 1735.2 is used, it shall be possible for a lift mechanic to gain access to the release mechanism of the safety gear while the lift car is occupied by a person in a wheelchair.		
4.1	Lift car doors and landing doors shall be of the horizontally sliding type, power- operated, and automatically controlled.		
4.2	Lift car doors shall be fitted with a passenger-protection system which, while activated, will hold the doors in the open position. The system shall not be nullified by objects with a reflective surface		
4.3	When the doors are responding to a landing button, they shall remain fully open for a minimum of 6 s		
5.1	Surfaces (including button cover plates), within 300 mm of car control buttons, that are parallel to the face of the buttons and the button cover plate shall have a finish that reduces glare and reflection.		
5.2	Protruding edges		
5.3	Handrails		
5.4	Seat		
Section 6	Lift car levelling		
7.1	Each landing served shall be provided with one or more control buttons to call a lift		
7.2.1	Number of control panels		
7.2.2	Control Buttons on Control Panels		
7.2.3	Key Pads		
7.3.1	Height above floor		
7.3.2	Distance from corners		
7.3.3	At lift landings		
7.3.4	Security system operating devices		
7.4.1.1	Control button movement		
7.4.1.2	Force to operate call button 5N		
7.4.2	Size of button (19mm)		
7.4.3	Separation		
7.4.4	Projection		
7.4.5	Surface		
7.4.6	Edges & Corners		
7.4.7	Inclination		
7.4.8	Highlight		
7.4.9	Identification of control Buttons		
8.1	Audible Information		
8.2	Visible Information		
8.3	Tactile information		



# ACCESS REPORT DESIGN DEVELOPMENT



CLAUSE	REQUIREMENT TO BE SATISFIED	STATUS	COMMENT / ACTION
8.4	Shape of Characters		
8.5	Indication of direction of travel		
8.6.1	Car position Indicator		
8.6.2	Acknowledgement of floor calls		
9.1	Communication system		
9.2	Communication system		
9.3	Lift Identification system		
9.4	Permanently attended location		
9.5	Lift Car		
10.1	Compliance with AS1680		
10.2	General Lighting		
10.3	Lighting of lift car controls		



## 5. PROJECT 1/49 NORTHERN FOYERS LINK

### 5.1. Overview

It is proposed that new connections be provided to connect the Southern and Northern Foyers be provided at levels 2 and 3.

### 5.2. Level 2 Passage

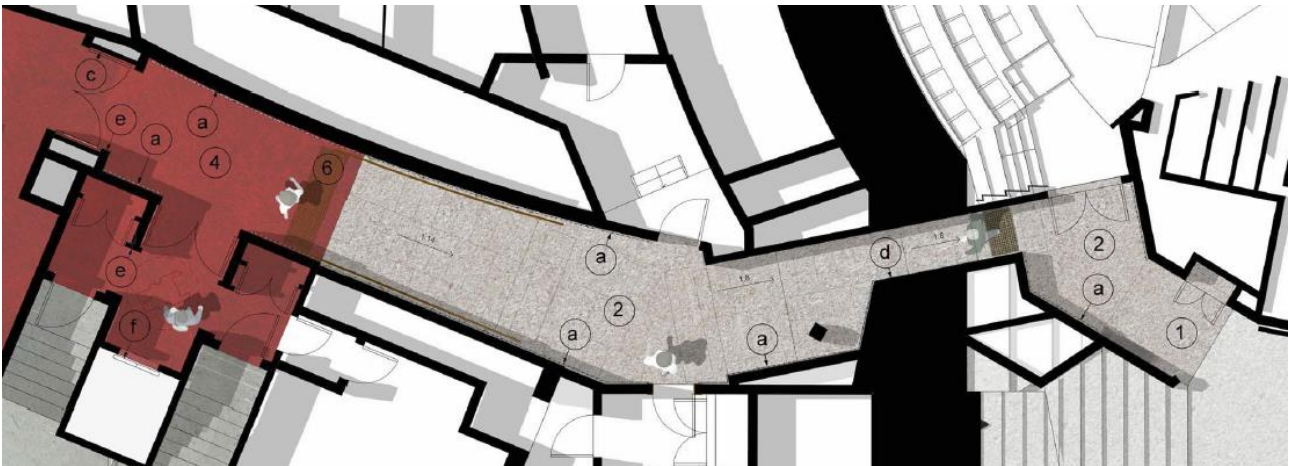


Figure 5 Extract from plan indicating Level 2 passage connection to Northern Foyer (49-VA-SC021\_DA130\_A)

The new western tunnel connecting the southern and northern foyers at level 2 incorporates a 1:14 ramp at the northern end of the tunnel and two 1:8 ramps separated by a 2.4m mid landing to the southern side of the tunnel.

The passage varies in width along its length. A passing zone is provided at the landing between the 1:14 and 1:8 ramps.

The tunnel narrows to 1010mm at the southern end where the tunnel passes through a major structural element of the building.

The width between any handrails along the 1:14 ramp section is to be a minimum of 1m clear.

The 1:8 ramp sections will incorporate a single handrail located along the eastern side of the tunnel. Where the tunnel passes through the main structural element of the building the clear width of the aisle way will be less than the required 1m (approx.920mm). A performance Statement has been prepared to address this site condition.

The detailing of these ramps will need to satisfy the requirements of Clause 10.3 of AS1428.1:2009 as far as handrail and handrail extension design, the installation of TGSIs at the top and bottom of each ramp and the provision of a non-slip floor surface achieving a slip resistance of P3 / R10 in accordance with NCC Table D2.14.

There are a number of doors along the passage. These will generally be held open by magnetic locks connected to the fire system.

The operation of the doors is by way of a door assist device which will open both doors simultaneously. The specific detail of the operation of the doors has yet to be finalised.

Suitable wayfinding and signage will need to be provided.



## 5.3. Level 3 Passage

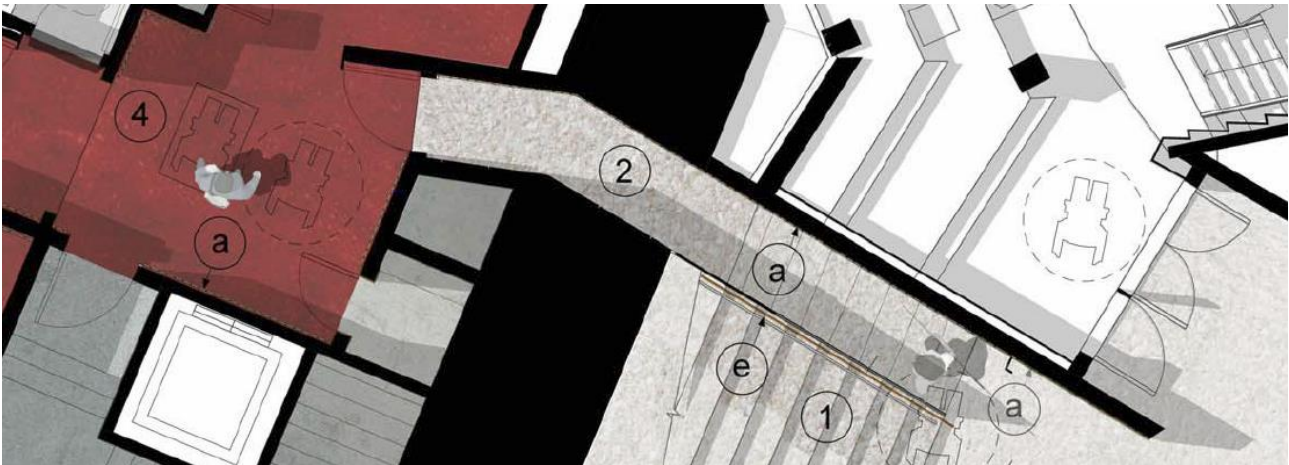


Figure 6 Extract from plan indicating Level 3 passage connection to Northern Foyer (49-VA-SC021\_DA240\_A)

The passage has a minimum width of 1m and is not straight. It is recommended that a mirror be installed at the change in direction so as to provide assistance to patrons negotiating this passage at this level.

The connection at this level incorporates a single 1:20 walkway at the southern end of the passage.

The door at the northern end of the passage will be held open by a magnetic lock connected to the fire system.

The width of the door along this passage will need to be a minimum of 850mm clear. The door will be operated by a door assist device due to the absence of latchside clearance at the door.

Suitable wayfinding and signage will need to be provided.



## 6. PROJECTS 51/52 SANITARY FACILITIES UPGRADE

### 6.1. Assumption

The following assumptions have been considered in the undertaking of this review:

- (a) The number of WC facilities provided satisfies the population demands of the JST. This assumption will need to be confirmed by the BCA consultant.
- (b) The slip resistance of the floor finishes to the existing WC facilities will be able to be treated to satisfy the slip resistance requirements of HB198.
- (c) The lighting levels of the existing WC facilities will achieve a minimum 200 lx as required by AS1428.2:1992.

### 6.2. Overview

The plan proposes to provide new accessible WC facilities to the existing level 3 amenities. The scope of the works includes for:

- a. No works are proposed to the existing Male or Female WC amenities,
- b. The provision of accessible WC facilities adjacent to each of the entry doors to the male and female amenities. The detailing and configuration of each of these accessible WC facilities will need to comply with the provision of Clause 15 of AS1428.1:2009. This proposal relies upon the introduction of a fold down grabrail within the accessible WC facilities to satisfy the requirements of NCC Clause F2.4. A Performance statement addressing this approach will need to be prepared.

### 6.3. Braille Tactile Signage

Braille tactile signage will need to be provided to the various locations.

The detailing of the braille tactile signage will need to satisfy the requirement of NCC Clause D3.6 and NCC Specification D3.6.

These signs will need to be incorporated in to the signage package developed for the upgrade works.

Compliance will need to be demonstrated in subsequent stages of the development process.

### 6.4. Floor Materials Slip Resistance

The selection of the floor finishes to the wet areas associated with the change room facilities will need to satisfy the provisions of HB198. The slip resistance levels to be achieved are P3 (Wet pendulum test) and R10 (Oil-wet inclining platform Test).

### 6.5. Lighting levels

Clause 19 of AS1428.2:1992 - Lighting nominates lighting level to wet areas to be a minimum of 200 lx.

Details indicating compliance with this requirement will need to be demonstrated as part of the design development phase.

### 6.6. Ambulant WC Facilities

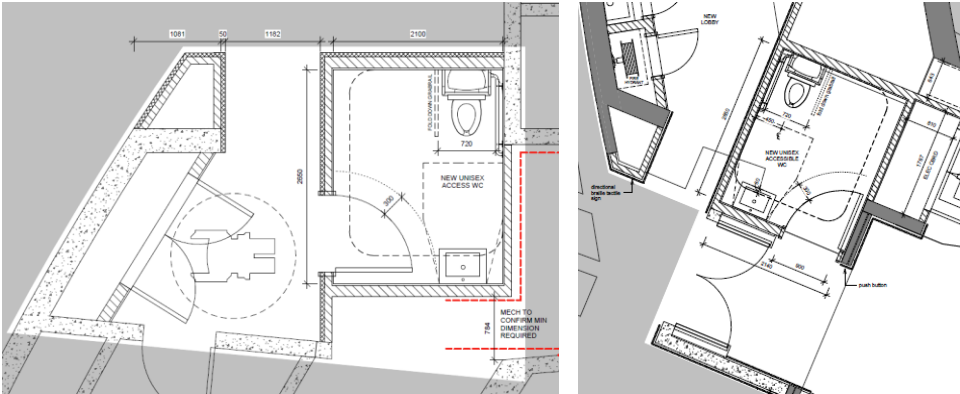
The approach adopted to satisfy the requirements of NCC Clause F2.4 concerning the provision of ambulant WC facilities has been to incorporate a fold down grabrail within the accessible WC



# ACCESS REPORT DESIGN DEVELOPMENT



facilities located at this level. A performance statement will need to be prepared to address this approach.



## 6.7. Accessible WC Facilities

The plan as presented proposes the introduction of two new accessible WC facilities which have been proposed to be located adjacent to the entry doors to the male and female WC facilities.

The detailing of these facilities will need to satisfy the requirements of Clause 15 of AS1428.1:2009.

Appended to this document is a checklist indicating the elements to be incorporated into accessible WC facilities.



## 7. PROJECT 37 JST DRESSING ROOM UPGRADE

We have been previously asked to provide advice as to the number of accessible shower facilities are to be provided for the dressing rooms.

### 7.1. Assumption

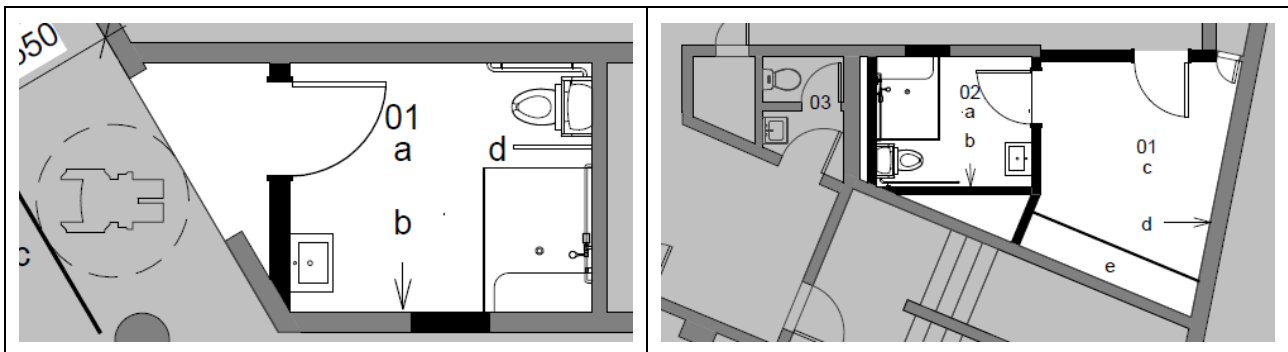
The following assumptions have been considered in the undertaking of this review:

- (d) The number of WC facilities provided satisfies the population demands of the JST. This assumption will need to be confirmed by the BCA consultant.
- (e) The modification of the existing WC and shower facilities including the circulation spaces to these facilities is not proposed to be upgraded by these works.
- (f) The ensembles provided to the private dressing rooms are not considered for the determination of ambulant or accessible facilities as the program proposes the provision of a new accessible dressing room.

### 7.2. Scope of proposed works

The design proposes the following

- The provision of an accessible change room (DR#65) including an accessible WC/shower facility located on the eastern side of the JST.
- The existing 14 individual change rooms remain unaltered by these works
- The WC/Shower facilities associated with Dressing Rooms DR#48& DR#51 remain unaltered by these works. The accessible circulation spaces associated with the WC/SHR facilities do not comply with the provisions of Clause 13 of AS1428.1:2009.
- The WC/SHR facilities associated with Dressing Rooms DR#42 & DR#43 remain unaltered by these works. The accessible circulation spaces associated with the WC/SHR facilities do not comply with the provisions of Clause 13 of AS1428.1:2009.
- The male and female WC facilities located at rooms 1515 and 1524 remain unaltered by these works. The accessible circulation spaces associated with the WC facilities do not comply with the provisions of Clause 13 of AS1428.1:2009.





# ACCESS REPORT DESIGN DEVELOPMENT



## 7.3. Statutory Requirements to be satisfied – WC facilities

The need for the provision of showers in facilities is identified in Part F2 of the National Construction Code (NCC).

- NCC Clause F2.3(d) permits employees and public to share the same facilities in Class 9b buildings
- NCC Clause F2.4 requires the following to be satisfied:
  - (a) accessible unisex sanitary compartments must be provided in accessible parts of the building in accordance with Table F2.4(a); and
  - (c) at each bank of toilets where there is one or more toilets in addition to an accessible unisex sanitary compartment at that bank of toilets, a sanitary compartment suitable for a person with an ambulant disability in accordance with AS 1428.1 must be provided for use by males and females; and
  - (d) an accessible unisex sanitary compartment must contain a closet pan, washbasin, shelf or bench top and adequate means of disposal of sanitary towels; and
  - (e) the circulation spaces, fixtures and fittings of all accessible sanitary facilities provided in accordance with Table F2.4(a) and Table F2.4(b) must comply with the requirements of AS 1428.1; and
  - (f) an accessible unisex sanitary facility must be located so that it can be entered without crossing an area reserved for one sex only; and
  - (g) where two or more of each type of accessible unisex sanitary facility are provided, the number of left and right handed mirror image facilities must be provided as evenly as possible; and
  - (h) where male sanitary facilities are provided at a separate location to female sanitary facilities, accessible unisex sanitary facilities are only required at one of those locations; and
  - (i) an accessible unisex sanitary compartment or an accessible unisex shower need not be provided on a storey or level that is not required by D3.3(f) to be provided with a passenger lift or ramp complying with AS 1428.1
- Table F2.4(a) nominates for Class 9b buildings that WC facilities be provided as follows:
  - (a) *1 on every storey containing sanitary compartments; and*
  - (b) *where a storey has more than 1 bank of sanitary compartments containing male and female sanitary compartments, at not less than 50% of those banks*

## 7.4. Summary of the existing WC configuration

The table following identifies the configuration of existing WC facilities associated with the Joan Sutherland Theatre dressing rooms.

WC Facility	Bank of WC	Ambulant facility provided
RM1524 male WC (located off Green Room)	1 x WC Pan 2 x Urinals 2 x Handbasin	No
RM1524 female WC (located off Green Room)	2 x WC Pans 2 x Handbasin	No
RM DR#42 Shared dressing rooms (female existing)	4 x WC Pans 4 x Handbasin	No



# ACCESS REPORT DESIGN DEVELOPMENT



WC Facility	Bank of WC	Ambulant facility provided
RM DR#43 Shared dressing rooms (male existing)	2 x WC Pan 3 x Urinals 4 x Handbasin	No
RM DR#48 Shared dressing rooms (female existing)	2 x WC Pans 2 x Handbasin	No
RM DR#51 Shared dressing rooms (male existing)	2 x WC Pan 2 x Handbasin	No

## 7.5. Calculation of number of accessible WC facilities to be provided to satisfy NCC requirements

The table following identifies the number of WC facilities to be provided associated with the Joan Sutherland Theatre dressing rooms to satisfy the numerical requirements of the NCC:

WC Facility	Ambulant facility provided	Accessible WC to be provided to satisfy NCC
RM1524 male & female WC (located off Green Room)	1 ambulant facility located within each of the WC blocks	1 accessible WC facility to be provided
RM DR#42 Shared dressing rooms (female existing)	1 ambulant facility located within WC blocks	1 accessible WC facility to be provided
RM DR#43 Shared dressing rooms (male existing)	1 ambulant facility located within WC blocks	1 accessible WC facility to be provided
RM DR#48 Shared dressing rooms (female existing)	1 ambulant facility located within WC blocks	1 accessible WC facility to be provided
RM DR#51 Shared dressing rooms (male existing)	1 ambulant facility located within WC blocks	1 accessible WC facility to be provided

## 7.6. Assessment – WC Facilities

The literal application of the numerical requirements of the NCC to the WC facilities provided to the JST dressing rooms will result in a significant impact on available floor area.

## 7.7. Recommendation– WC Facilities

It is therefore proposed that the following approach for the provision of accessible WC facilities be adopted:

- The ensuites to the existing private dressing rooms are excluded from this assessment
- The WC facilities provided as part of the troupe dressing rooms are considered as a single bank of facilities. Subject to site confirmation it would appear that the compliance with the ambulant provisions could be achieved with the re-handing of doors to the WC cubicles and the installation of compliant grabrails to 1 cubicle in Rooms 1513F, 1513Q, 1514F and 1514B.
- The WC facilities (RM 1524) fronting the Green Room be considered as a single bank of toilets. Subject to site confirmation it would appear that the compliance with the ambulant provisions could be achieved with the re-handing of doors to the WC cubicles and the installation of compliant grabrails.
- It is suggested that a new accessible WC be provided in Room 1524A fronting the green room



# ACCESS REPORT DESIGN DEVELOPMENT



- The new unisex accessible dressing room incorporating a compliant accessible WC/SHR will satisfy the requirements of Table F2.4(a)(a)
- The provision of a unisex accessible WC/SHR facility located off a general corridor and not within a specific dressing room to satisfy the needs of the various functions associated with the Dressing Room Level. This unisex accessible facility would need to include a fold down grabrail to satisfy ambulant facility requirements.

## 7.8. Statutory Requirements to be satisfied - Showers

The need for the provision of showers in facilities is identified in Part F2 of the National Construction Code (NCC).

- NCC Part F2.3(h) identifies that Class 9b theatres must be provided with one shower for each 10 participants.
- NCC Part F2.4 identifies the requirements to be satisfied for the provision of accessible sanitary facilities.
- NCC Clause F2.4(b) states *accessible unisex showers must be provided in accordance with Table F2.4(b)*.
- NCC Table 2.4(b) identifies for Class 9b buildings that accessible showers are to be provided at the rate of not less than 1:10 showers or part thereof.

## 7.9. Construction of Accessible Showers

The construction and spatial arrangements of the accessible showers will need to comply with Clause 15 of AS1428.1:2009.

The accessible shower may be free standing or incorporated with an accessible WC module. The attached checklist identifies the elements of the Standard to be satisfied for these facilities.

## 7.10. Calculation of number of accessible showers to be provided

The table following identifies the configuration of shower facilities identified for the Joan Sutherland Theatre dressing rooms.

Dressing Room Type (existing)	No of showers provided
Private dressing rooms (existing)	14
Shared dressing rooms (male existing)	5
Shared dressing rooms (female existing)	5
<b>Total shower facilities provided (existing)</b>	<b>24</b>
<b>Number of accessible showers to be provided (ratio of 1:10 or part thereof)</b>	<b>3</b>

## 7.11. Assessment - Showers

NCC Clause F2.2(c) nominates that where calculating the number of sanitary facilities to be provided under F2.3, a unisex facility required for people with a disability may be counted once for each sex. NCC Clause F2.2(d) nominates a unisex facility as one that comprises a WC pan and a washbasin.

It is our contention that if a shower were incorporated into such a unisex facility that the provisions of F2.2(c) would also apply.



# ACCESS REPORT DESIGN DEVELOPMENT



The proposed plan includes for an accessible dressing room to be provided at DR#65 located on the eastern side of the building and located immediately adjacent to the eastern stage entrance. This dressing room would account for 2 shower facilities.

It was suggested that Room 1524 (adjacent to the Green Room) could be a possible alternative to provide an additional accessible dressing room with accessible facilities.

## 7.12. Braille Tactile Signage

Braille tactile signage will need to be provided to the various locations where accessible facilities (audio and WC facilities) are provided. The signs will need to indicate:

- Male / Female / Unisex facilities
- Handing of WC pans
- Ambulant facilities
- Installation of a hearing augmentation system

The detailing of the braille tactile signage will need to satisfy the requirement of NCC Clause D3.6 and NCC Specification D3.6.

These signs will need to be incorporated in to the signage package developed for the upgrade works.

Compliance will need to be demonstrated in subsequent stages of the development process.

## 7.13. UNISEX accessible dressing room

The requirements for the detailing of the accessible WC / shower facilities have been previously discussed.

The circulation at doorways to the accessible dressing room will need to satisfy the requirements of Clause 13 of AS1428.1:2009. Specifically, the following features will need to be addressed:

- Luminance contrast at doorways
- Lever hardware
- If the door is fitted with a door closer the maximum force to operate the door is to be no greater than 20N.

The detailing of the change area will need to take into consideration the following clauses of AS1428.2:1992:

- Clause 19 Lighting (nominates lighting level to be a minimum of 200 lx)
- Clause 22 Reach Ranges
- Clause 24 Furniture and Fitments
- Clause 25 Viewing Ranges

## 7.14. Conclusion

### ACCESSIBLE WC FACILITIES

In this design an accessible change room incorporating accessible WC and shower facilities is proposed to be provided on the eastern side of the JST.

An accessible WC and shower facility is proposed to be provided fronting the Green Room.

It is recommended that an Alternative Design Solution be prepared to detail the proposed approach to the provision of accessible WC facilities for the entire JST Dressing Room Level.

It is recommended that the approach for the provision of accessible WC facilities identified in this section of this report be adopted.



# ACCESS REPORT DESIGN DEVELOPMENT



## **ACCESSIBLE SHOWERS**

We have inspected and identified the existing shower arrangements for the Joan Sutherland dressing rooms. Based on the number of shower facilities provided compliance with the applicable legislation requires 3 accessible shower facilities (or equivalent) to be provided.

Applying the method of calculation identified at NCC Clause F2.3 and assuming that a single accessible change room incorporating accessible WC and shower facilities and a single free standing unisex accessible WC/shower facility was provided it can be concluded that the number of required accessible shower facilities required by the NCC will have been satisfied.

Appended to this document is a checklist indicating the elements to be incorporated into accessible WC/shower facilities.

## **FLOOR MATERIALS SLIP RESISTANCE**

The selection of the floor finishes to the wet areas associated with the change room facilities will need to satisfy the provisions of HB198. The slip resistance levels to be achieved are P3 (Wet pendulum test) and R10 (Oil-wet inclining platform Test).

## **LIGHTING LEVELS**

Clause 19 of AS1428.2:1992 - Lighting nominates lighting level to wet areas to be a minimum of 200 lx.

Details indicating compliance with this requirement will need to be demonstrated as part of the design development phase.



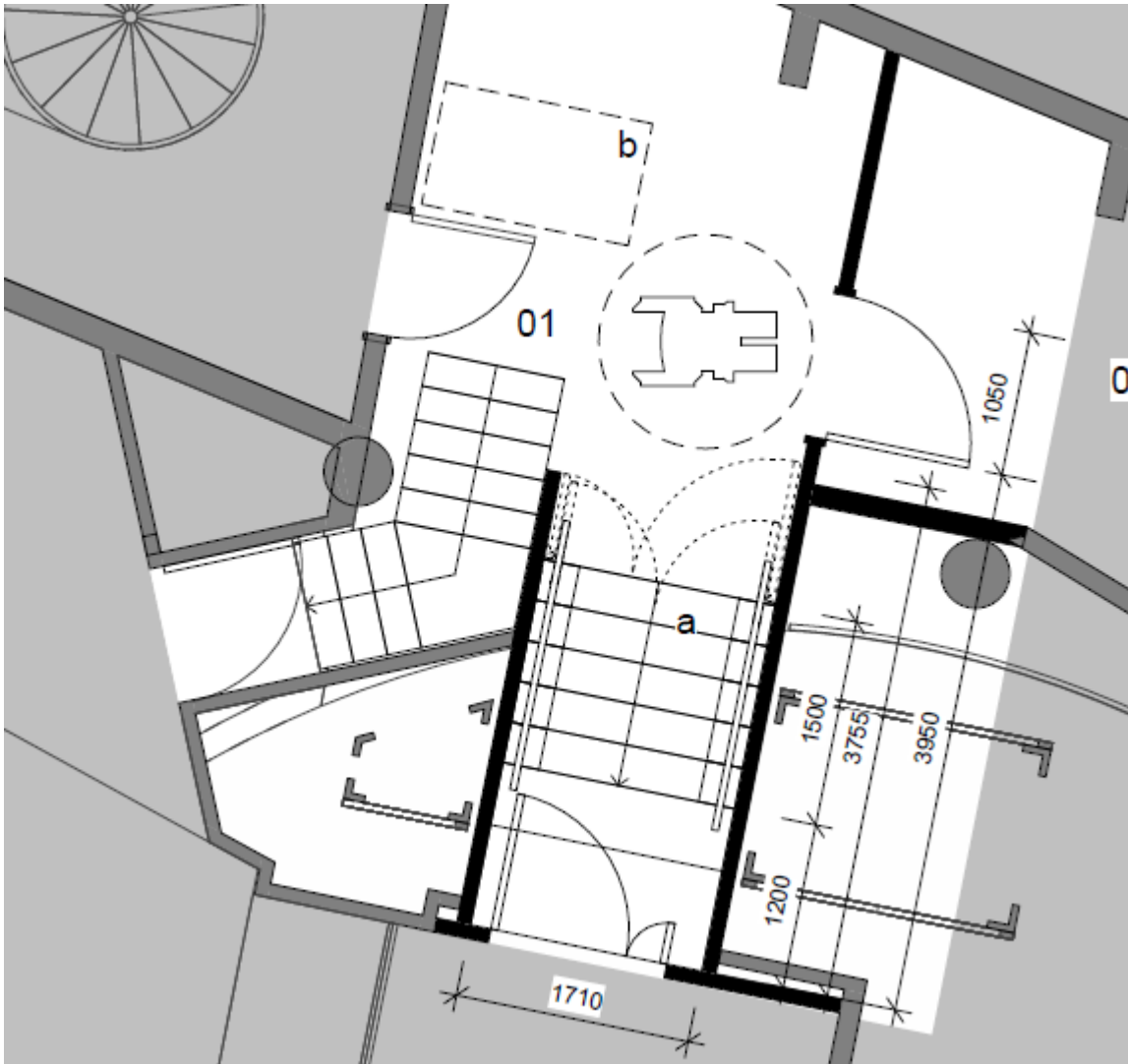
# ACCESS REPORT DESIGN DEVELOPMENT



## 8. PROJECT 38 JST ORCHESTRA PIT UPGRADE

The plan as presented proposes new stair arrangements to access the orchestra pit from the eastern side of the JST.

Accessible access is proposed to be provided by a “Sesame Stair” where the stair converts to a platform lift to provide accessible access between levels.



The minimum length of the landing at the top of the AS1735.7 Stairway is to be not less than 1200mm.

The detailing of the stairs will need to satisfy the requirements of Clause 11 & 12 of AS1428.1:2009.

It is understood that a dumbwaiter is proposed to also be introduced into this location.